

RE: Q2001105  
South Scan

Trenco  
818 Soundside Rd  
Edenton, NC 27932

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

Design Code: IRC2018/TPI2014

Design Program: MiTek 20/20 8.3

Wind Code: N/A

Wind Speed: 125 mph

Roof Load: 40.0 psf

Floor Load: N/A psf

This package includes 19 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date
1	E14708194	A01	8/6/2020
2	E14708195	A02	8/6/2020
3	E14708196	A03	8/6/2020
4	E14708197	B01	8/6/2020
5	E14708198	B02	8/6/2020
6	E14708199	B03	8/6/2020
7	E14708200	C01	8/6/2020
8	E14708201	C02	8/6/2020
9	E14708202	D01	8/6/2020
10	E14708203	D02	8/6/2020
11	E14708204	D03	8/6/2020
12	E14708205	E01	8/6/2020
13	E14708206	E02	8/6/2020
14	E14708207	E03	8/6/2020
15	E14708208	P01	8/6/2020
16	E14708209	P02	8/6/2020
17	E14708210	P03	8/6/2020
18	E14708211	P04	8/6/2020
19	E14708212	P05	8/6/2020

The truss drawing(s) referenced above have been prepared by  
Truss Engineering Co. under my direct supervision  
based on the parameters provided by Carolina Structural Systems, LLC.  
Truss Design Engineer's Name: Gilbert, Eric  
My license renewal date for the state of North Carolina is December 31, 2020.  
North Carolina COA: C-0844



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 TRENCO. Any project specific information included is for TRENCO customers file reference purpose only, and was not taken into account in the preparation of these designs. 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	South Scan	E14708194
Q2001105	A01	PIGGYBACK BASE SUPPO	1	1		

Carolina Structural Systems, LLC, Ether, NC - 27247, 8.330 s Jul 22 2020 MiTek Industries, Inc. Thu Aug 6 08:36:13 2020 Page 1  
 ID:PYoLvpb2kdHre42jX6wj?dyqyd5-z5v?Fywn0k7TVwgsQCvSkpim0gjbN4xCu9Tk7yqdCm  
 32-0-0 32-10-8  
 12-6-9 0-10-8

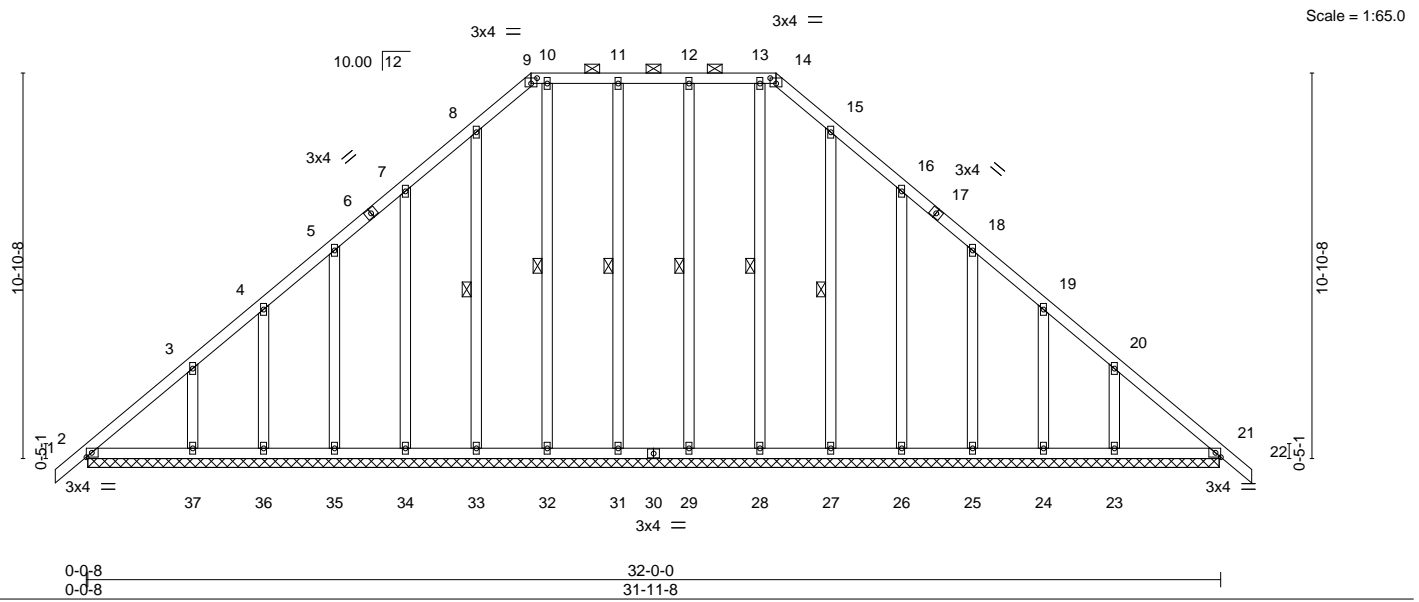


Plate Offsets (X,Y)-- [9:0-2-0,0-1-13], [14:0-2-0,0-1-13], [21:0-1-13,Edge]

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.09	Vert(LL)	0.00	22	n/r	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.00	BC 0.06	Vert(CT)	0.00	22	n/r		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.13	Horz(CT)	0.01	21	n/a		
BCDL 10.0	Rep Stress Incr YES	Matrix-S						
	Code IRC2018/TPI2014						Weight: 257 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, except 2-0-0 oc purlins (6-0-0 max.): 9-14.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.  
 WEBS 1 Row at midpt 11-31, 10-32, 8-33, 12-29, 13-28, 15-27

**REACTIONS.** All bearings 31-11-0.  
 (lb) - Max Horz 2=-231 (LC 10)  
 Max Uplift All uplift 100 lb or less at joint(s) 2, 31, 33, 34, 35, 36, 37, 29, 27, 26, 25, 24, 23  
 Max Grav All reactions 250 lb or less at joint(s) 2, 31, 32, 33, 34, 35, 36, 29, 28, 27, 26, 25, 24, 23, 21 except 37=250(LC 17)

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

- 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=32ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Corner(3E) -0-10-8 to 2-3-14, Exterior(2N) 2-3-14 to 12-6-9, Corner(3R) 12-6-9 to 15-8-15, Exterior(2N) 15-8-15 to 19-5-7, Corner(3R) 19-5-7 to 22-7-14, Exterior(2N) 22-7-14 to 32-10-8 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.
  - Provide adequate drainage to prevent water ponding.
  - 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 31, 33, 34, 35, 36, 37, 29, 27, 26, 25, 24, 23.
  - Non Standard bearing condition. Review required.
  - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
  - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



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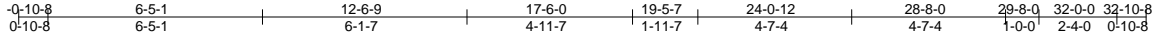


Job	Truss	Truss Type	Qty	Ply	South Scan	E14708196
Q2001105	A03	PIGGYBACK BASE	5	1		

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ID:PYoLvpb2kdHre42jX6wj?dyqyd5-oFHGW0\_YcaudDr8?nTc6h?3Y4RWF?\_dqbqcoynqdcg



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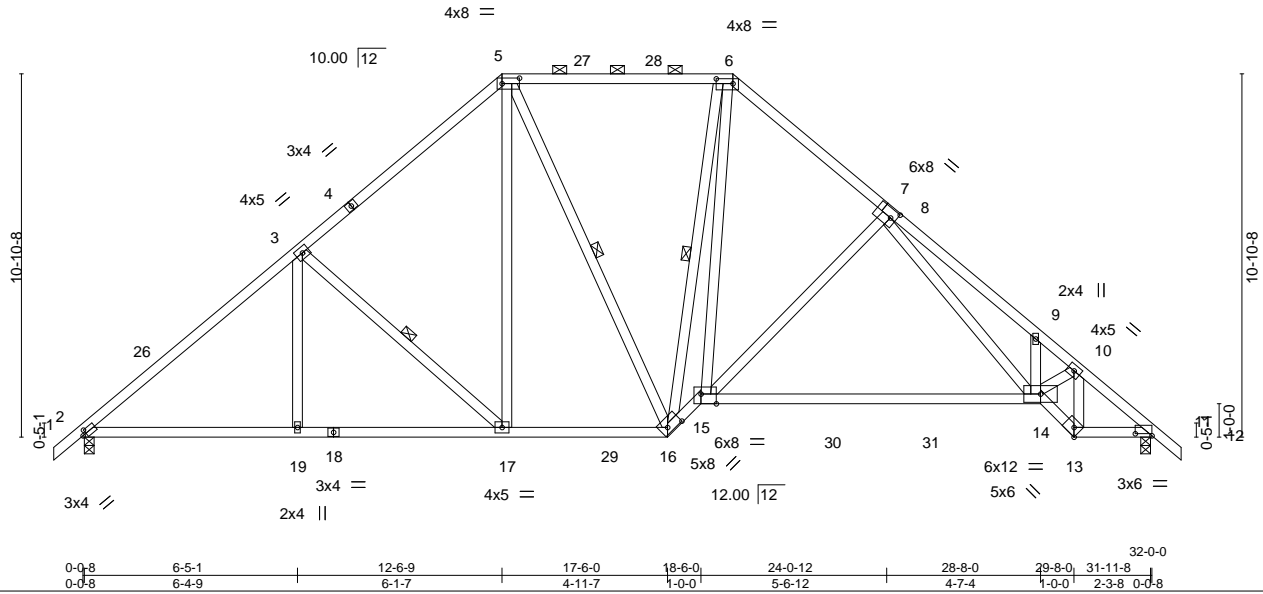


Plate Offsets (X,Y)-- [2:0-1-6,0-1-8], [5:0-6-4,0-2-0], [6:0-6-0,0-1-12], [7:0-2-0,0-3-0], [7:0-0-0,0-1-12], [11:0-6-0,0-0-12], [13:0-2-8,Edge], [15:0-5-8,Edge], [16:0-5-4,0-2-0]

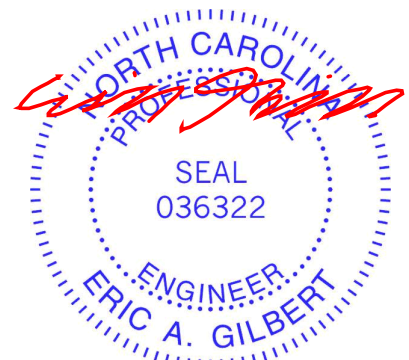
LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL 1.00	TC 0.87	Vert(LL) -0.47	14-15	>822	240	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.86	Vert(CT) -0.86	14-15	>445	180		
BCLL 0.0 *	Rep Stress Incr YES	WB 0.64	Horz(CT) 0.18	11	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014	Matrix-MS					Weight: 222 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 3-0-12 oc purlins, except
BOT CHORD 2x4 SP No.2 *Except*	2-0-0 oc purlins (3-2-2 max.): 5-6.
WEBS 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
	WEBS 1 Row at midpt 3-17, 5-16, 6-16

**REACTIONS.** (size) 2=0-3-8, 11=0-3-8  
 Max Horz 2=231(LC 11)  
 Max Uplift 2=-67(LC 12), 11=-67(LC 12)  
 Max Grav 2=1491(LC 17), 11=1508(LC 18)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-1927/94, 3-5=-1481/165, 5-6=-1084/167, 6-8=-1541/149, 8-9=-3210/142,  
 9-10=-3136/29, 10-11=-2031/67  
 BOT CHORD 2-19=0/1563, 17-19=0/1563, 16-17=0/1158, 15-16=0/1989, 14-15=0/1501, 13-14=0/2109,  
 11-13=0/1500  
 WEBS 3-19=0/273, 3-17=-547/124, 5-17=-9/571, 6-15=0/1948, 10-14=0/1284, 10-13=-1567/0,  
 6-16=-1288/0, 8-15=-576/133, 8-14=-16/1524

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-16; Vult=125mph (3-second gust) Vasd=99mph; TCCL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=32ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 2-3-14, Interior(1) 2-3-14 to 12-6-9, Exterior(2R) 12-6-9 to 17-0-13, Interior(1) 17-0-13 to 19-5-7, Exterior(2R) 19-5-7 to 24-2-8, Interior(1) 24-2-8 to 32-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 3) Provide adequate drainage to prevent water ponding.
  - 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - 5) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
  - 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 11.
  - 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.
  - 8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



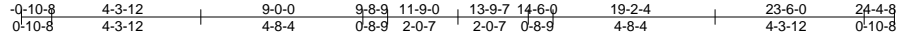
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Job	Truss	Truss Type	Qty	Ply	South Scan	E14708197
Q2001105	B01	GABLE	1	1		

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ID:PYoLvpb2kdHre42jX6wj?dyqyd5-h0WnMN13gpO3iSRn0Jh2srDDa2tOxHPWRa?5YyqdcC



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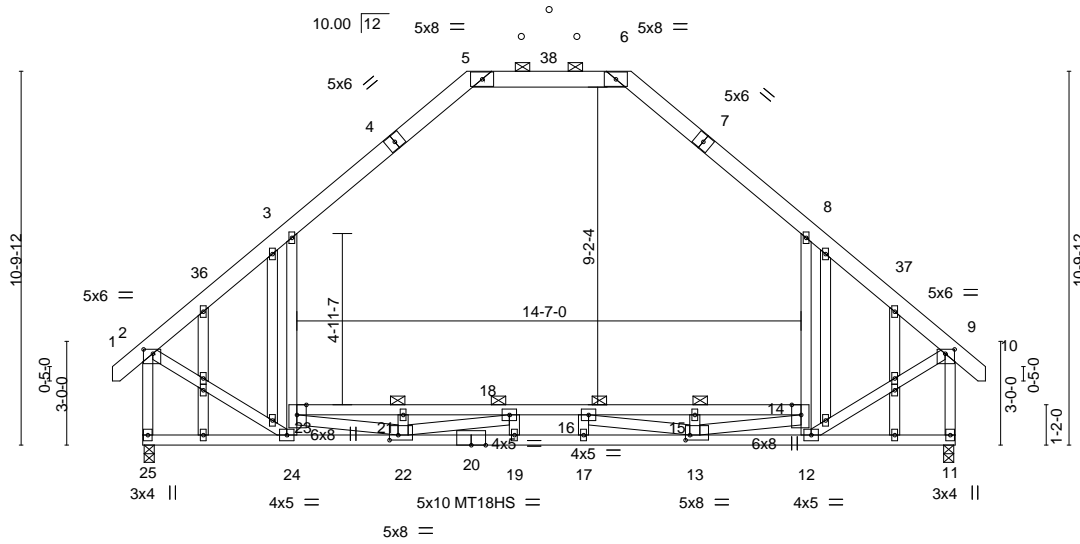


Plate Offsets (X,Y)-- [2:0-3-4,0-1-8], [9:0-3-4,0-1-8], [13:0-1-8,0-1-12], [14:Edge,0-3-4], [22:0-3-0,0-1-12], [23:Edge,0-3-4]

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL 1.00	TC 0.84	Vert(LL)	-0.46 17-19	>604	240	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.94	Vert(CT)	-0.87 17-19	>320	180	MT18HS	244/190
BCLL 0.0 *	Rep Stress Incr YES	WB 0.85	Horz(CT)	0.06 11	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014	Matrix-MS	Attic	-0.22 14-23	810	360		
							Weight: 217 lb	FT = 20%

**LUMBER-**

TOP CHORD 2x6 SP No.2 \*Except\*  
1-4,7-10: 2x6 SP DSS  
BOT CHORD 2x4 SP DSS  
WEBS 2x4 SP No.2  
OTHERS 2x4 SP No.2

**BRACING-**

TOP CHORD Structural wood sheathing directly applied or 2-9-12 oc purlins, except end verticals, and 2-0-0 oc purlins (5-1-10 max.); 5-6.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except: 3-2-0 oc bracing: 14-23

**REACTIONS.**

(size) 25=0-3-8, 11=0-3-8  
Max Horz 25=247(LC 10)  
Max Grav 25=1730(LC 18), 11=1730(LC 19)

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

TOP CHORD 2-3=-1367/0, 3-5=-927/109, 6-8=-927/109, 8-9=-1367/0, 2-25=-1670/0, 9-11=-1670/0, 5-6=-805/120  
BOT CHORD 24-25=-211/273, 22-24=0/1194, 19-22=0/4938, 17-19=0/4938, 13-17=0/4938, 12-13=0/1013, 21-23=-3078/0, 18-21=-3078/0, 16-18=-4263/0, 15-16=-3078/0, 14-15=-3078/0  
WEBS 12-14=-489/0, 8-14=0/704, 23-24=-488/0, 3-23=0/704, 2-24=0/947, 9-12=0/948, 22-23=0/3018, 21-22=-420/0, 18-22=-1229/0, 13-16=-1229/0, 13-15=-420/0, 13-14=0/3018

**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; BCDL=6.0psf; h=25ft; B=45ft; L=24ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Corner(3E) -0-9-3 to 2-2-13, Exterior(2N) 2-2-13 to 9-5-8, Corner(3R) 9-5-8 to 12-5-8, Exterior(2N) 12-5-8 to 14-0-8, Corner(3R) 14-0-8 to 17-0-8, Exterior(2N) 17-0-8 to 24-3-3 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- Ceiling dead load (5.0 psf) on member(s). 3-5, 6-8, 5-6; Wall dead load (5.0psf) on member(s). 8-14, 3-23
- Bottom chord live load (40.0 psf) and additional bottom chord dead load (10.0 psf) applied only to room. 21-23, 18-21, 16-18, 15-16, 14-15
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and continues to conform to Standard ANSI/TPI 1.



August 6, 2020

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 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, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	South Scan
Q2001105	B01	GABLE	1	1	E14708197

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8.330 s Jul 22 2020 MiTek Industries, Inc. Thu Aug 6 08:36:23 2020 Page 2  
 ID:PYoLvpb2kdHre42jX6wj?dyqyd5-h0WnMN13gpO3iSRn0Jh2srDDa2tOxkHPWRa?5YyqdCc

**NOTES-**

- 13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 14) Attic room checked for L/360 deflection.

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 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, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



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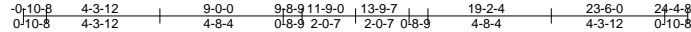


Job	Truss	Truss Type	Qty	Ply	South Scan	E14708198
Q2001105	B02	ATTIC	8	1		

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MTHNH18

Scale = 1:87.6

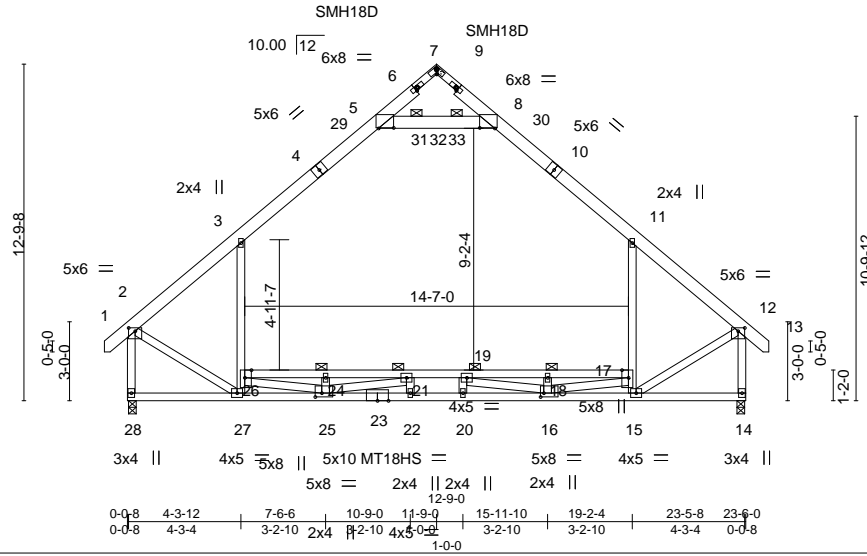


Plate Offsets (X,Y)-- [2:0-3-0,0-1-8], [5:0-6-14,0-0-4], [6:0-1-0,0-1-0], [7:0-1-7,0-1-12], [8:0-6-14,0-0-4], [9:0-1-0,0-1-0], [12:0-3-0,0-1-8], [16:0-1-8,0-1-12], [17:Edge,0-3-0], [25:0-3-0,0-1-12], [26:Edge,0-3-0]

<b>LOADING</b> (psf)	<b>SPACING-</b>	2-0-0	<b>CSI.</b>	<b>DEFL.</b>	in (loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL	1.00	TC 0.94	Vert(LL)	-0.44	20-22	>627	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.91	Vert(CT)	-0.81	20-22	>343	MT18HS	244/190
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.84	Horz(CT)	0.06	14	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-MS	Attic	-0.21	17-26	815		
								Weight: 202 lb	FT = 20%

**LUMBER-**  
**TOP CHORD** 2x6 SP No.2 \*Except\*  
 1-4,10-13: 2x6 SP DSS, 6-7,7-9: 2x4 SP No.2  
**BOT CHORD** 2x4 SP DSS  
**WEBS** 2x4 SP No.2

**BRACING-**  
**TOP CHORD** Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (2-2-0 max.): 5-8.  
**BOT CHORD** Rigid ceiling directly applied or 10-0-0 oc bracing. Except: 3-2-0 oc bracing: 17-26

**REACTIONS.** (size) 28=0-3-8, 14=0-3-8  
 Max Horz 28=-286(LC 10)  
 Max Grav 28=1938(LC 19), 14=1952(LC 18)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
**TOP CHORD** 2-3=-1604/0, 3-5=-1251/136, 8-11=-1266/136, 11-12=-1610/0, 2-28=-1926/0, 12-14=-1931/0, 5-8=-992/152  
**BOT CHORD** 27-28=-258/307, 25-27=0/1360, 22-25=0/4948, 20-22=0/4948, 16-20=0/4948, 15-16=0/1195, 24-26=-3004/0, 21-24=-3004/0, 19-21=-4195/0, 18-19=-3004/0, 17-18=-3004/0  
**WEBS** 15-17=-600/0, 11-17=-92/661, 26-27=-568/0, 3-26=-62/661, 2-27=0/1230, 12-15=0/1237, 25-26=0/2978, 24-25=-422/0, 21-25=-1264/0, 16-19=-1233/0, 16-18=-422/0, 16-17=0/2978

- 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; BCDL=6.0psf; h=25ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-9-3 to 2-1-13, Interior(1) 2-2-13 to 11-9-0, Exterior(2R) 9-5-8 to 12-5-8, Interior(1) 12-5-8 to 14-0-8, Exterior(2R) 11-9-0 to 14-9-0, Interior(1) 14-9-0 to 24-3-3 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - Provide adequate drainage to prevent water ponding.
  - All plates are MT20 plates unless otherwise indicated.
  - Attach MiTek MTHNH18 (Half and Half Plate) on each face of truss with USP NA11 nails (0.131" x 1.5") in pre-punched holes provided. All nail holes must be filled (6 Nails per side 12 nails total).
  - See HINGE PLATE DETAILS for plate placement.
  - Provisions must be made to prevent lateral movement of hinged member(s) during transportation.
  - 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Ceiling dead load (5.0 psf) on member(s). 3-5, 5-7, 7-8, 8-11, 5-8; Wall dead load (5.0psf) on member(s). 11-17, 3-26
  - Bottom chord live load (40.0 psf) and additional bottom chord dead load (10.0 psf) applied only to room. 24-26, 21-24, 19-21, 18-19, 17-18
  - 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.



August 6, 2020

Continued on page 2. **Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 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, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



818 Soundside Road  
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	South Scan	E14708198
Q2001105	B02	ATTIC	8	1	Job Reference (optional)	

Carolina Structural Systems, LLC, Ether, NC - 27247,

8.330 s Jul 22 2020 MiTek Industries, Inc. Thu Aug 6 08:36:28 2020 Page 2  
 ID:PYoLvpb2kdHre42jX6wj?dyqyd5-1\_JgP45CULoLoDKkpsGDZvw3j3ayc\_h8fjHmmyqdCX

**NOTES-**

- 13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 14) Attic room checked for L/360 deflection.

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 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, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



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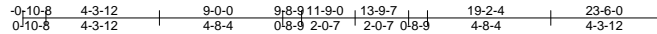


Job	Truss	Truss Type	Qty	Ply	South Scan	E14708199
Q2001105	B03	ATTIC	2	1		

Carolina Structural Systems, LLC, Ether, NC - 27247,

8.330 s Jul 22 2020 MiTek Industries, Inc. Thu Aug 6 08:36:32 2020 Page 1

ID:PYoLvpb2kdHre42jX6wj?dyqyd5-wlZBES8iYaWnHqdV2l9j5lyhX\_YoikaLF\_vWYqdCT



MTHNH18

Scale = 1:87.6

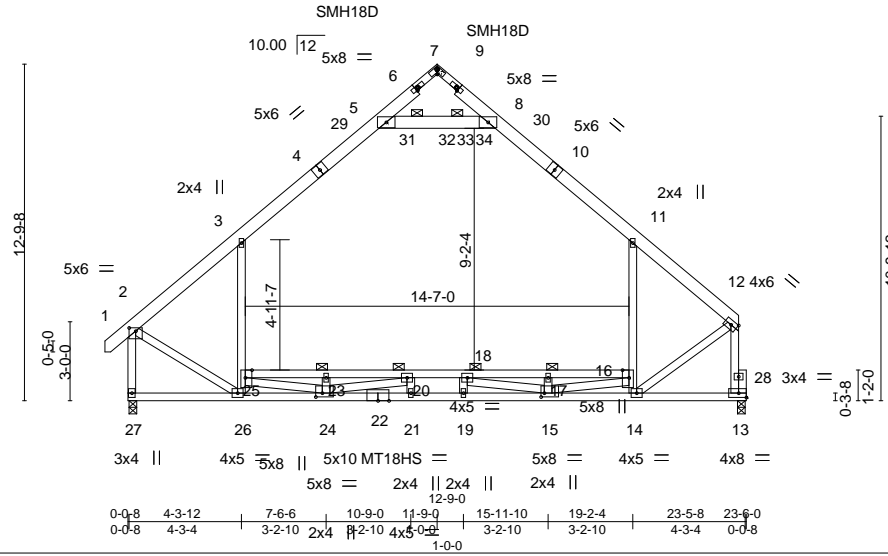


Plate Offsets (X,Y)-- [2:0-3-0,0-1-8], [6:0-1-0,0-1-0], [7:0-1-7,0-1-12], [9:0-1-0,0-1-0], [15:0-1-8,0-1-12], [16:Edge,0-3-0], [24:0-3-0,0-1-12], [25:Edge,0-3-0]

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL 1.00	TC 0.92	Vert(LL) -0.44	19-21	>635	240	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.91	Vert(CT) -0.80	19-21	>348	180	MT18HS	244/190
BCLL 0.0 *	Rep Stress Incr YES	WB 0.84	Horz(CT) 0.06	13	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014	Matrix-MS	Attic -0.21	16-25	817	360		Weight: 200 lb FT = 20%

**LUMBER-**

TOP CHORD 2x6 SP No.2 \*Except\*  
 1-4,10-12: 2x6 SP DSS, 6-7,7-9: 2x4 SP No.2  
 BOT CHORD 2x4 SP DSS  
 WEBS 2x4 SP No.2  
 OTHERS 2x4 SP No.2

**BRACING-**

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (2-2-0 max.): 5-8.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except: 3-2-0 oc bracing: 16-25

**REACTIONS.**

(size) 27=0-3-8, 13=0-3-8  
 Max Horz 27=-256(LC 10)  
 Max Grav 27=1926(LC 20), 13=1909(LC 18)

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

TOP CHORD 2-3=-1587/0, 3-5=-1234/130, 8-11=-1260/136, 11-12=-1554/0, 2-27=-1906/0, 5-8=-980/152  
 BOT CHORD 26-27=-188/277, 24-26=0/1346, 21-24=0/4925, 19-21=0/4925, 15-19=0/4925, 14-15=0/1193, 23-25=-3022/0, 20-23=-3022/0, 18-20=-4183/0, 17-18=-2957/0, 16-17=-2957/0  
 WEBS 14-16=-642/0, 11-16=-129/624, 25-26=-574/0, 3-25=-66/657, 2-26=0/1214, 24-25=0/2977, 23-24=-422/0, 20-24=-1217/0, 15-18=-1270/0, 15-17=-423/0, 15-16=0/2954, 12-13=-1904/0, 12-14=0/1205

**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; BCDL=6.0psf; h=25ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-9-3 to 2-2-13, Interior(1) 2-2-13 to 11-9-0, Exterior(2R) 9-5-8 to 12-5-8, Interior(1) 12-5-8 to 14-0-8, Exterior(2R) 11-9-0 to 14-9-0, Interior(1) 14-9-0 to 23-0-12 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
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- Attach MiTek MTHNH18 (Half and Half Plate) on each face of truss with USP NA11 nails (0.131" x 1.5") in pre-punched holes provided. All nail holes must be filled (6 Nails per side 12 nails total).
- See HINGE PLATE DETAILS for plate placement.
- Provisions must be made to prevent lateral movement of hinged member(s) during transportation.
- 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- Ceiling dead load (5.0 psf) on member(s). 3-5, 5-7, 7-8, 8-11, 5-8; Wall dead load (5.0psf) on member(s). 11-16, 3-25
- Bottom chord live load (40.0 psf) and additional bottom chord dead load (10.0 psf) applied only to room. 23-25, 20-23, 18-20, 17-18, 16-17
- 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.



August 6, 2020

Continued on Page 2. Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.

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818 Soundside Road  
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Job	Truss	Truss Type	Qty	Ply	South Scan	E14708199
Q2001105	B03	ATTIC	2	1	Job Reference (optional)	

Carolina Structural Systems, LLC, Ether, NC - 27247,

8.330 s Jul 22 2020 MiTek Industries, Inc. Thu Aug 6 08:36:32 2020 Page 2  
 ID:PYoLvpb2kdHre42jX6wj?dyqyd5-wlZBES8iYaWnHqdV2iL9jI5lyhx\_YoikaLF\_vWyqdCT

**NOTES-**

- 13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 14) Attic room checked for L/360 deflection.

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.**

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Job	Truss	Truss Type	Qty	Ply	South Scan	E14708201
Q2001105	C02	GABLE	9	1		

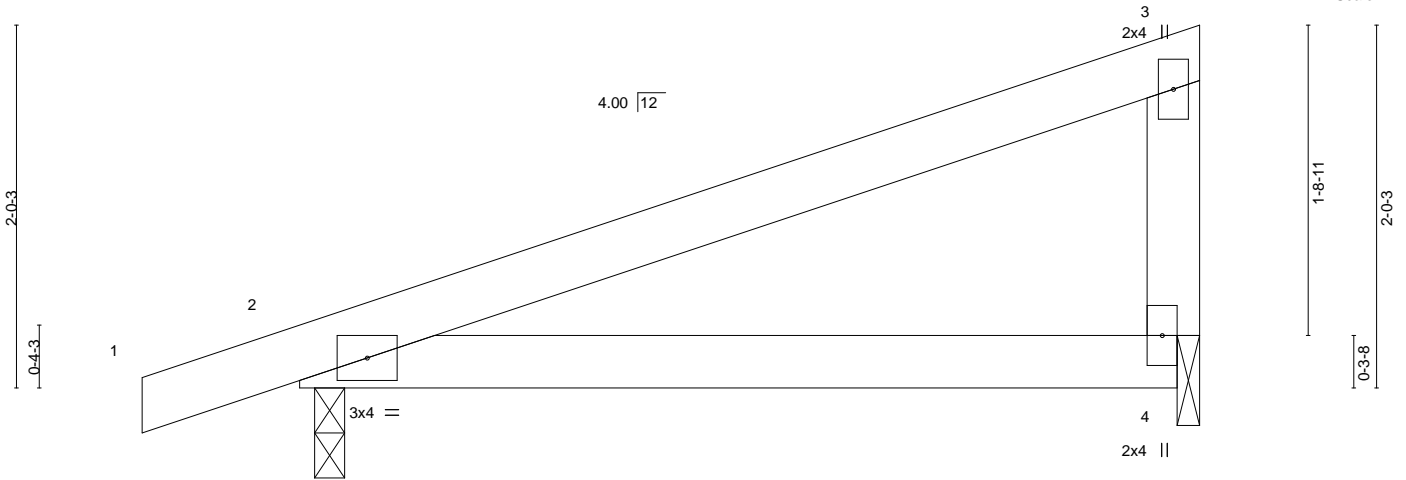
Carolina Structural Systems, LLC, Ether, NC - 27247,

8.330 s Jul 22 2020 MiTek Industries, Inc. Thu Aug 6 08:36:38 2020 Page 1

ID:PYoLvpb2kdHre42jX6wj?dyqyd5-lvwSVVD7QHw?15fOzSZz0Lwk58JyjldyHil7AyqdCN



Scale = 1:12.8



LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.00	TC 0.33	Vert(LL)	0.05	4-7	>999	240	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.27	Vert(CT)	-0.06	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: 19 lb	FT = 20%

**LUMBER-**

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

**BRACING-**

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

**REACTIONS.**

(size) 2=0-2-0, 4=0-1-8  
 Max Horz 2=57(LC 11)  
 Max Uplift 2=77(LC 12), 4=50(LC 12)  
 Max Grav 2=251(LC 1), 4=189(LC 1)

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

**NOTES-**

- 1) Wind: ASCE 7-16; Vult=125mph (3-second gust) Vasd=99mph; TC DL=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 4-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- 4) 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.
- 5) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 2, 4.
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 4.
- 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.



August 6, 2020

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818 Soundside Road  
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	South Scan	E14708202
Q2001105	D01	PIGGYBACK BASE SUPPO	1	1		

Carolina Structural Systems, LLC, Ether, NC - 27247, 8.330 s Jul 22 2020 MiTek Industries, Inc. Thu Aug 6 08:36:43 2020 Page 1  
 ID:PYoLvpb2kdHre42jX6wj?dyqyd5-5sjLYDHcyvD5XzdBW2kg32qC6wkdyVM6ZQ3oOyqdCI  
 0-10-8 12-6-9 19-5-7 32-0-0 32-10-8  
 0-10-8 12-6-9 6-10-15 12-6-9 0-10-8

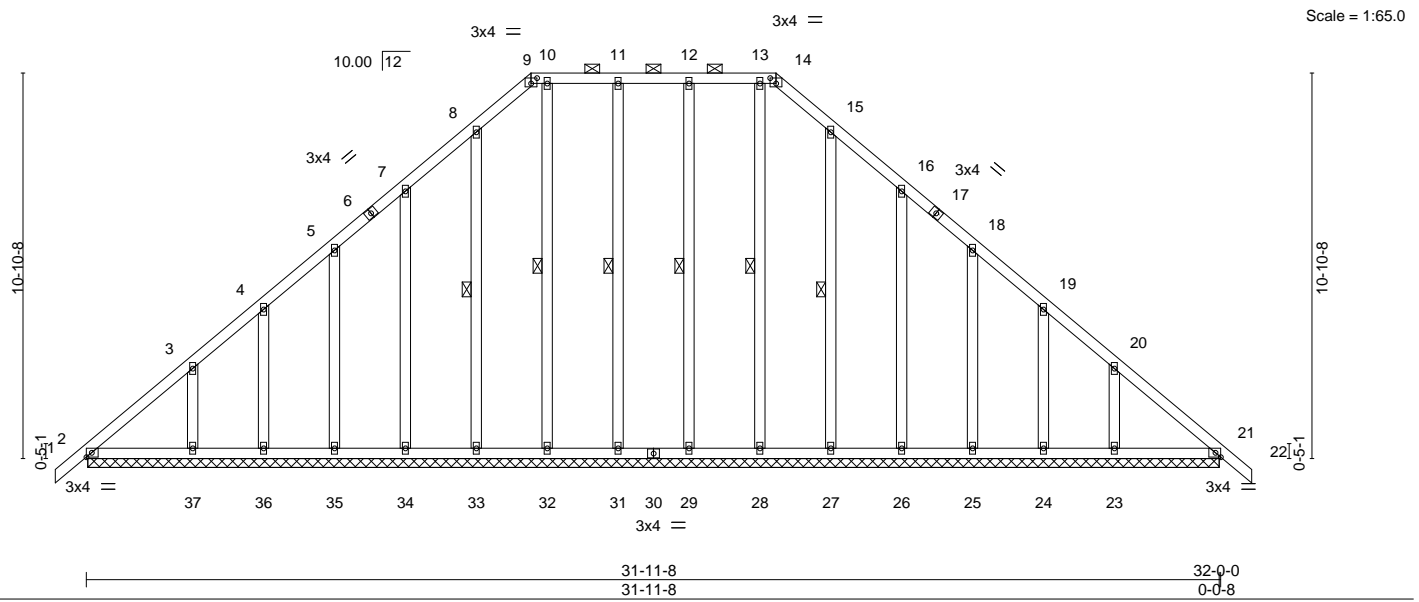


Plate Offsets (X,Y)-- [9:0-2-0,0-1-13], [14:0-2-0,0-1-13], [21:0-1-13,Edge]

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.09	Vert(LL)	0.00	22	n/r	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.00	BC 0.06	Vert(CT)	0.00	22	n/r		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.13	Horz(CT)	0.01	21	n/a		
BCDL 10.0	Rep Stress Incr YES	Matrix-S						
	Code IRC2018/TPI2014						Weight: 257 lb	FT = 20%

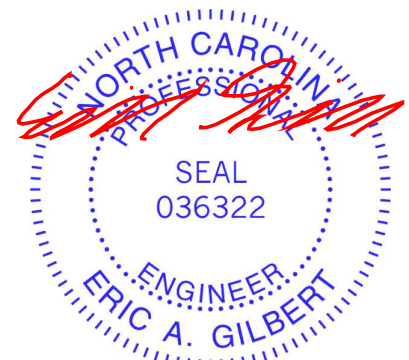
**LUMBER-**  
 TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x4 SP No.2  
 OTHERS 2x4 SP No.2

**BRACING-**  
 TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 9-14.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.  
 WEBS 1 Row at midpt 11-31, 10-32, 8-33, 12-29, 13-28, 15-27

**REACTIONS.** All bearings 31-11-0.  
 (lb) - Max Horz 2=-231 (LC 10)  
 Max Uplift All uplift 100 lb or less at joint(s) 2, 31, 33, 34, 35, 36, 37, 29, 27, 26, 25, 24, 23  
 Max Grav All reactions 250 lb or less at joint(s) 2, 31, 32, 33, 34, 35, 36, 29, 28, 27, 26, 25, 24, 23, 21 except 37=250(LC 17)

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

- 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; BCDL=6.0psf; h=25ft; B=45ft; L=32ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Corner(3E) -0-10-8 to 2-3-14, Exterior(2N) 2-3-14 to 12-6-9, Corner(3R) 12-6-9 to 15-8-15, Exterior(2N) 15-8-15 to 19-5-7, Corner(3R) 19-5-7 to 22-7-14, Exterior(2N) 22-7-14 to 32-10-8 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.
  - Provide adequate drainage to prevent water ponding.
  - 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 31, 33, 34, 35, 36, 37, 29, 27, 26, 25, 24, 23.
  - Non Standard bearing condition. Review required.
  - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
  - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



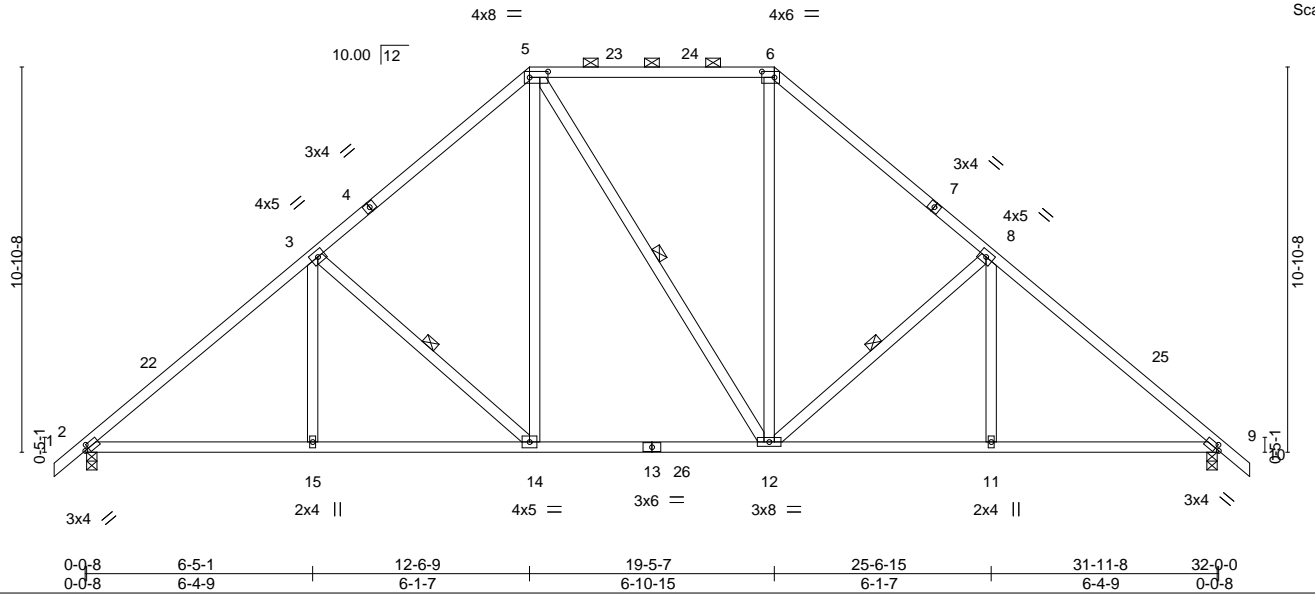
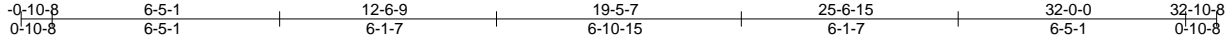
August 6, 2020

Job	Truss	Truss Type	Qty	Ply	South Scan	E14708203
Q2001105	D02	PIGGYBACK BASE	9	1		

Carolina Structural Systems, LLC, Ether, NC - 27247,

8.330 s Jul 22 2020 MiTek Industries, Inc. Thu Aug 6 08:36:49 2020 Page 1

ID:PYoLvpb2kdHre42jX6wj?dyqyd5-w05cpGMNYofMpSRmXm99vKlgmXqU1fOEUutN01yqdCC



Scale = 1:65.0

Plate Offsets (X,Y)-- [2:0-1-6,0-1-8], [5:0-6-4,0-2-0], [6:0-4-4,0-2-0], [9:0-1-6,0-1-8]

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL 1.00	TC 0.85	Vert(LL) -0.12	12-14	>999	240	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.62	Vert(CT) -0.20	12-14	>999	180		
BCLL 0.0 *	Rep Stress Incr YES	WB 0.17	Horz(CT) 0.06	9	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014	Matrix-MS						
							Weight: 198 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 3-10-7 oc purlins, except
BOT CHORD 2x4 SP No.2	2-0-0 oc purlins (3-4-13 max.): 5-6.
WEBS 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
	WEBS 1 Row at midpt 3-14, 5-12, 8-12

**REACTIONS.** (size) 2=0-3-8, 9=0-3-8  
 Max Horz 2=231(LC 11)  
 Max Uplift 2=67(LC 12), 9=67(LC 12)  
 Max Grav 2=1488(LC 17), 9=1483(LC 18)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-1918/95, 3-5=-1483/164, 5-6=-1074/170, 6-8=-1475/164, 8-9=-1911/95  
 BOT CHORD 2-15=0/1557, 14-15=0/1557, 12-14=0/1159, 11-12=0/1392, 9-11=0/1392  
 WEBS 3-15=0/264, 3-14=-538/126, 5-14=-3/623, 6-12=-3/578, 8-12=-538/126, 8-11=0/263

**NOTES-**

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=125mph (3-second gust) Vasd=99mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=32ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 2-3-14, Interior(1) 2-3-14 to 12-6-9, Exterior(2R) 12-6-9 to 17-0-13, Interior(1) 17-0-13 to 19-5-7, Exterior(2R) 19-5-7 to 23-11-12, Interior(1) 23-11-12 to 32-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Provide adequate drainage to prevent water ponding.
- 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 5) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 9.
- 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.
- 8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



August 6, 2020

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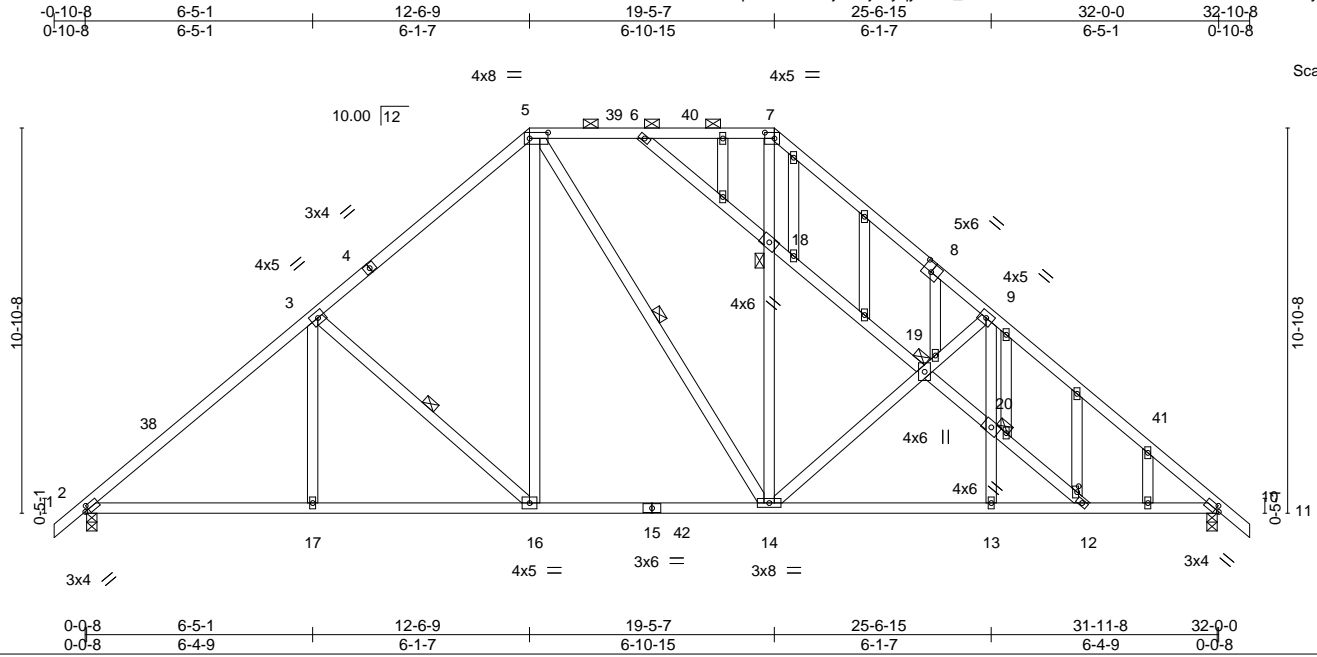


Job	Truss	Truss Type	Qty	Ply	South Scan	E14708204
Q2001105	D03	GABLE	1	1		

Carolina Structural Systems, LLC, Ether, NC - 27247,

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ID:PYoLvpb2kdHre42jX6wj?dyqyd5-H\_uVszPVMKlfwDjKkKkKcO?dsYXbis2zema8hFyqdC7



Scale = 1:65.0

Plate Offsets (X,Y)--	[2:0-1-6,0-1-8], [5:0-6-4,0-2-0], [7:0-3-4,0-2-0], [8:0-3-0,0-3-0], [10:0-1-6,0-1-8], [12:0-2-0,0-0-8]
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LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.51	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.00	BC 0.62	Vert(LL) -0.12 14-16 >999 240		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.40	Vert(CT) -0.20 14-16 >999 180		
BCDL 10.0	Rep Stress Incr YES	Matrix-MS	Horz(CT) 0.06 10 n/a n/a		
	Code IRC2018/TPI2014			Weight: 248 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 3-10-9 oc purlins, except
BOT CHORD 2x4 SP No.2	2-0-0 oc purlins (5-6-3 max.): 5-7.
WEBS 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
OTHERS 2x4 SP No.2	WEBS 1 Row at midpt 3-16, 5-14
	JOINTS 1 Brace at Jt(s): 18, 19, 20

**REACTIONS.** (size) 2=0-3-8, 10=0-3-8  
 Max Horz 2=-231(LC 10)  
 Max Uplift 2=-67(LC 12), 10=-67(LC 12)  
 Max Grav 2=1488(LC 17), 10=1483(LC 18)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-1919/95, 3-5=-1483/164, 5-6=-1106/177, 6-7=-994/151, 7-9=-1366/142, 9-10=-1913/90  
 BOT CHORD 2-17=0/1558, 16-17=0/1558, 14-16=0/1157, 13-14=0/1454, 12-13=0/1407, 10-12=0/1387  
 WEBS 3-17=0/264, 3-16=-541/126, 5-16=-3/626, 14-18=0/558, 7-18=0/549, 14-19=-571/135, 9-19=-579/136, 9-20=0/314

- 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=32ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 2-3-14, Interior(1) 2-3-14 to 12-6-9, Exterior(2R) 12-6-9 to 17-0-13, Interior(1) 17-0-13 to 19-5-7, Exterior(2R) 19-5-7 to 23-11-12, Interior(1) 23-11-12 to 32-10-8 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.
  - Provide adequate drainage to prevent water ponding.
  - 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 10.
  - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
  - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



August 6, 2020

Job	Truss	Truss Type	Qty	Ply	South Scan	E14708205
Q2001105	E01	PIGGYBACK BASE SUPPO	1	1		

Carolina Structural Systems, LLC, Ether, NC - 27247,

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ID:PYoLvpb2kdHre42jX6wj?dyqyd5-2WNXXjWXUoIWtSwGo?uCx4L4pnPZaYC9TOWZzynyqdC?

0-10-8 10-7-13 17-6-11 28-2-8 29-1-0  
 0-10-8 10-7-13 6-10-15 28-2-8 10-7-13 0-10-8

Scale = 1:55.7

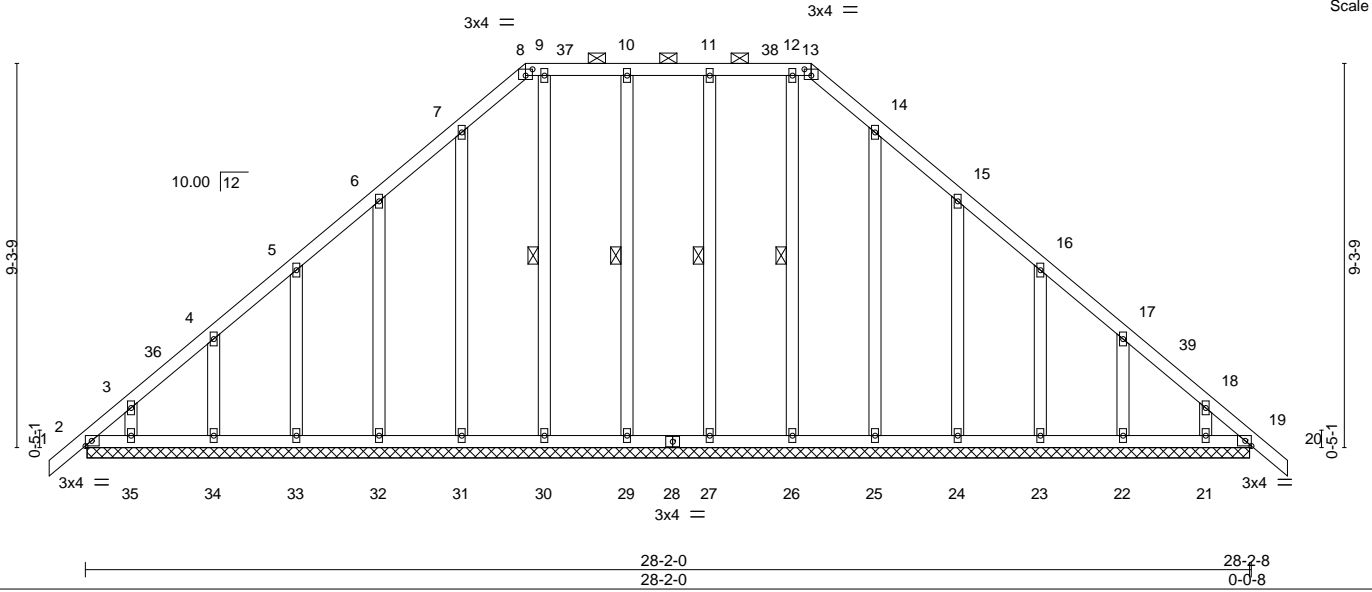


Plate Offsets (X,Y)-- [8:0-2-0,0-1-13], [13:0-2-0,0-1-13], [19:0-1-13,Edge]

LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.00	TC 0.07	Vert(LL)	-0.00	20	n/r	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.04	Vert(CT)	-0.00	20	n/r		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.13	Horz(CT)	0.01	19	n/a		
BCDL 10.0	Code	IRC2018/TPI2014	Matrix-S						
								Weight: 211 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, except 2-0-0 oc purlins (6-0-0 max.): 8-13.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.  
 WEBS 1 Row at midpt 10-29, 9-30, 11-27, 12-26

**REACTIONS.** All bearings 28-1-8.  
 (lb) - Max Horz 2=194(LC 10)  
 Max Uplift All uplift 100 lb or less at joint(s) 2, 29, 31, 32, 33, 34, 35, 27, 25, 24, 23, 22, 21, 19  
 Max Grav All reactions 250 lb or less at joint(s) 2, 29, 30, 31, 32, 33, 34, 35, 27, 26, 25, 24, 23, 22, 21, 19

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

- 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; BCDL=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 10-7-13, Corner(3R) 10-7-13 to 13-7-13, Exterior(2N) 13-7-13 to 17-6-11, Corner(3R) 17-6-11 to 20-6-11, Exterior(2N) 20-6-11 to 29-1-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
  - Provide adequate drainage to prevent water ponding.
  - 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 29, 31, 32, 33, 34, 35, 27, 25, 24, 23, 22, 21, 19.
  - Non Standard bearing condition. Review required.
  - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
  - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



August 6, 2020

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 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, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

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

Job	Truss	Truss Type	Qty	Ply	South Scan	E14708206
Q2001105	E02	ROOF TRUSS	6	1		

Carolina Structural Systems, LLC, Ether, NC - 27247,

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ID:PYoLvpb2kdHre42jX6wj?dyqyd5-wlc2N4Z1X0pyM3E11ry85wVi3OaZWFgkOeUn5YyqdBx

-0-10-8 5-5-11 10-7-13 17-6-12 22-8-13 28-2-0 29-0-8  
0-10-8 5-5-11 5-2-1 6-10-15 5-2-1 5-5-3 0-10-8

Scale = 1:55.7

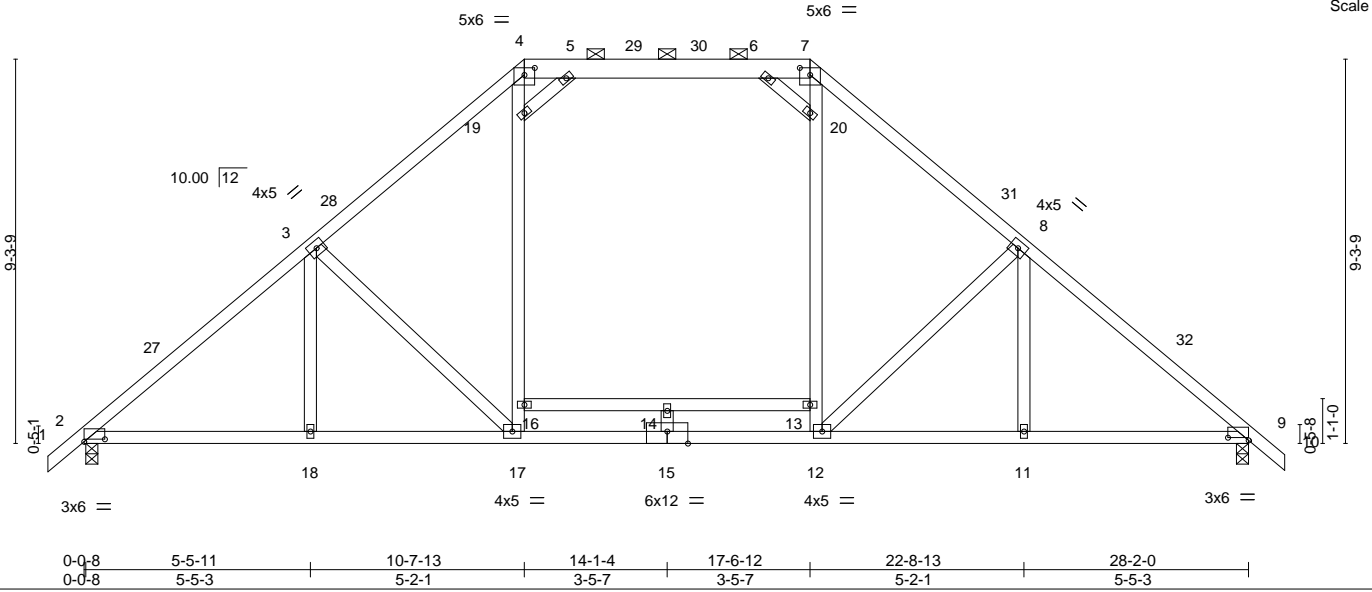


Plate Offsets (X,Y)-- [2:0-6-0,0-0-12], [4:0-3-0,0-2-1], [7:0-3-0,0-2-1], [9:0-6-0,0-0-13], [15:0-6-0,Edge]

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.37	Vert(LL)	-0.20 14-16	>999	240	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.00	BC 0.80	Vert(CT)	-0.36 14	>931	180		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.57	Horz(CT)	0.04 9	n/a	n/a		
BCDL 10.0	Rep Stress Incr YES	Matrix-MS	Attic	-0.17 13-16	519	360	Weight: 177 lb	FT = 20%
	Code IRC2018/TPI2014							

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2 *Except* 4-7: 2x6 SP No.2	TOP CHORD Structural wood sheathing directly applied or 3-11-11 oc purlins, except
BOT CHORD 2x4 SP DSS *Except* 13-16: 2x4 SP No.2	2-0-0 oc purlins (6-0-0 max.): 4-7.
WEBS 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS.** (size) 2=0-3-8, 9=0-3-8  
Max Horz 2=193(LC 10)  
Max Grav 2=1514(LC 18), 9=1515(LC 19)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 2-3=-2036/0, 3-4=-1788/0, 4-5=-1236/0, 5-6=-1312/0, 6-7=-1233/0, 7-8=-1786/0, 8-9=-2024/0  
BOT CHORD 2-18=0/1629, 17-18=0/1629, 15-17=0/1338, 12-15=0/1338, 11-12=0/1473, 9-11=0/1473  
WEBS 3-17=-367/122, 16-17=0/522, 16-19=0/793, 4-19=0/961, 12-13=0/518, 13-20=0/783, 7-20=0/960, 8-12=-353/123, 14-15=-385/0, 5-19=-290/36, 6-20=-293/36

- 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; 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 10-7-13, Exterior(2R) 10-7-13 to 14-10-11, Interior(1) 14-10-11 to 17-6-12, Exterior(2R) 17-6-12 to 21-9-10, Interior(1) 21-9-10 to 29-0-8 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
  - Provide adequate drainage to prevent water ponding.
  - All plates are 2x4 MT20 unless otherwise indicated.
  - 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Wall dead load (5.0psf) on member(s).16-19, 4-19, 13-20, 7-20
  - Bottom chord live load (40.0 psf) and additional bottom chord dead load (10.0 psf) applied only to room. 14-16, 13-14
  - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
  - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
  - ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.



August 6, 2020

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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, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

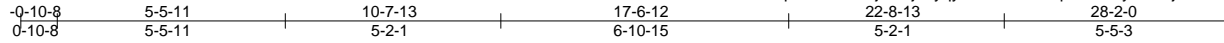


818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	South Scan	E14708207
Q2001105	E03	ROOF TRUSS	5	1		

Carolina Structural Systems, LLC, Ether, NC - 27247,

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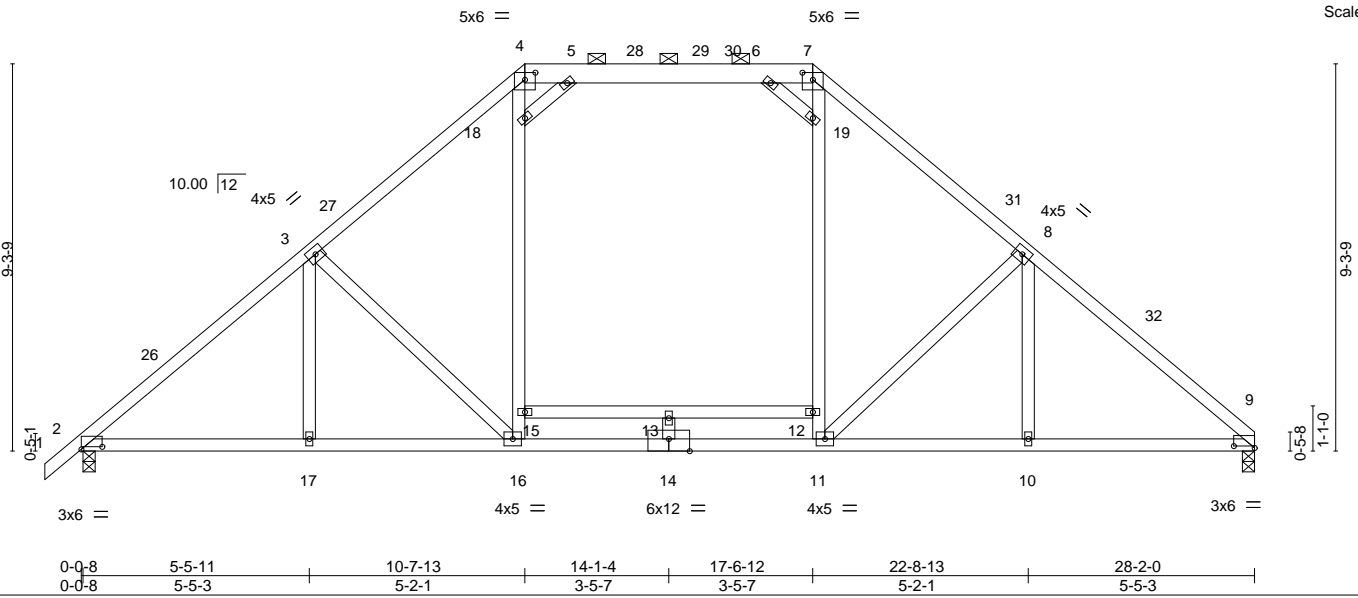


Plate Offsets (X,Y)-- [2:0-6-0,0-0-12], [4:0-3-0,0-2-1], [7:0-3-0,0-2-1], [9:0-6-0,0-0-9], [14:0-6-0,Edge]

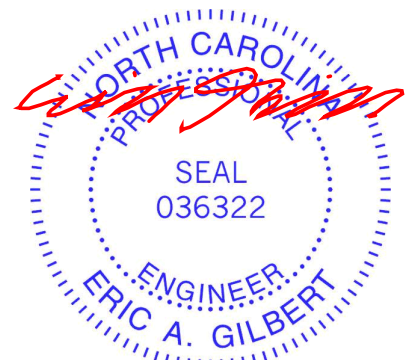
LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL 1.00	TC 0.37	Vert(LL)	-0.20 13-15	>999	240	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.80	Vert(CT)	-0.36 13	>930	180		
BCLL 0.0 *	Rep Stress Incr YES	WB 0.57	Horz(CT)	0.04 9	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014	Matrix-MS	Attic	-0.17 12-15	519	360		
							Weight: 176 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2 *Except* 4-7: 2x6 SP No.2	TOP CHORD Structural wood sheathing directly applied or 3-11-11 oc purlins, except
BOT CHORD 2x4 SP DSS *Except* 12-15: 2x4 SP No.2	BOT CHORD 2-0-0 oc purlins (6-0-0 max.): 4-7. Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.2	

**REACTIONS.** (size) 9=0-3-8, 2=0-3-8  
Max Horz 2=188(LC 11)  
Max Grav 9=1467(LC 19), 2=1515(LC 18)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 2-3=-2037/0, 3-4=-1790/0, 4-5=-1236/0, 5-6=-1313/0, 6-7=-1235/0, 7-8=-1788/0, 8-9=-2029/0  
BOT CHORD 2-17=0/1622, 16-17=0/1622, 14-16=0/1331, 11-14=0/1331, 10-11=0/1482, 9-10=0/1482  
WEBS 3-16=-367/121, 15-16=0/522, 15-18=0/787, 4-18=0/962, 11-12=0/520, 12-19=0/785, 7-19=0/961, 8-11=-359/128, 13-14=-385/0, 5-18=-291/37, 6-19=-293/36

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-16; Vult=125mph (3-second gust) Vasd=99mph; TCCL=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 10-7-13, Exterior(2R) 10-7-13 to 14-10-11, Interior(1) 14-10-11 to 17-6-12, Exterior(2R) 17-6-12 to 21-9-10, Interior(1) 21-9-10 to 28-2-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 3) Provide adequate drainage to prevent water ponding.
  - 4) All plates are 2x4 MT20 unless otherwise indicated.
  - 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - 6) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - 7) Wall dead load (5.0psf) on member(s).15-18, 4-18, 12-19, 7-19
  - 8) Bottom chord live load (40.0 psf) and additional bottom chord dead load (10.0 psf) applied only to room. 13-15, 12-13
  - 9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
  - 10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
  - 11) ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.



August 6, 2020

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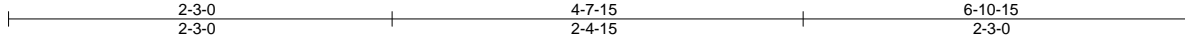
**ENGINEERING BY**  
**TRENCO**  
A MiTek Affiliate  
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	South Scan	E14708208
Q2001105	P01	GABLE	1	1		

Carolina Structural Systems, LLC, Ether, NC - 27247,

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ID:PYoLvpb2kdHre42jX6wj?dyqyd5-HFQxQodAMZRFsq6?qOYJozCbUPQWBeTTYvCYnmyqdBs



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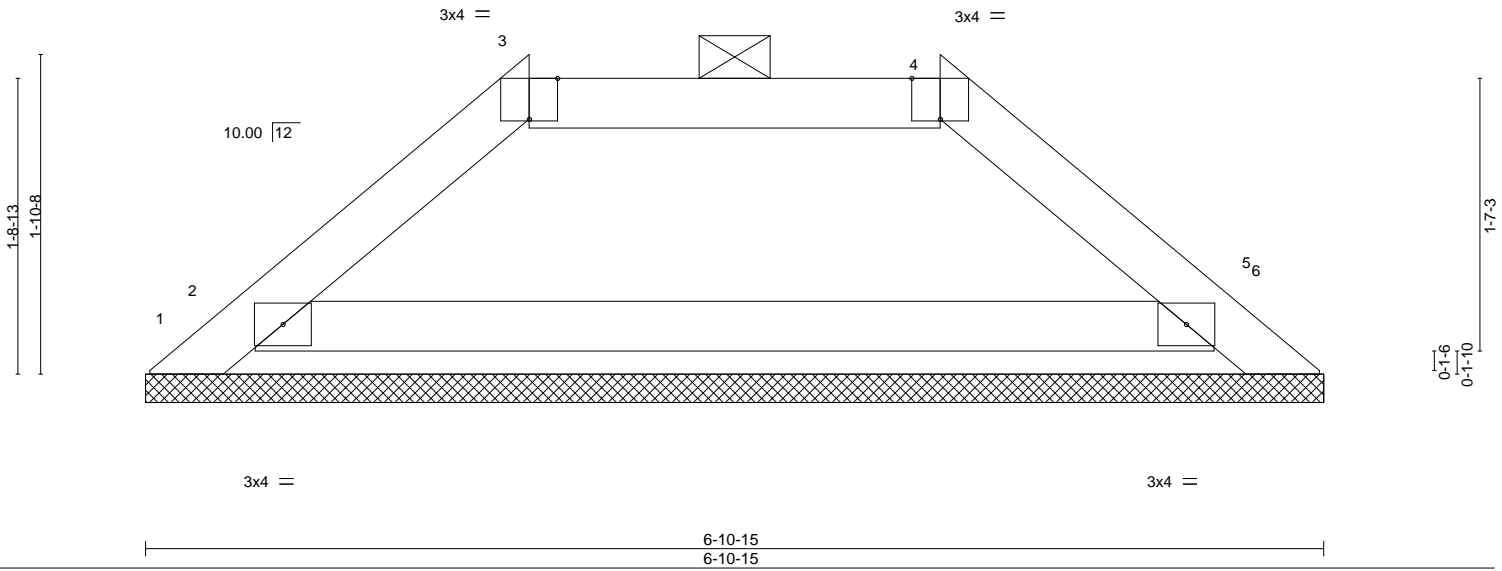


Plate Offsets (X,Y)--	[3:0-2-0,Edge], [4:0-2-0,Edge]
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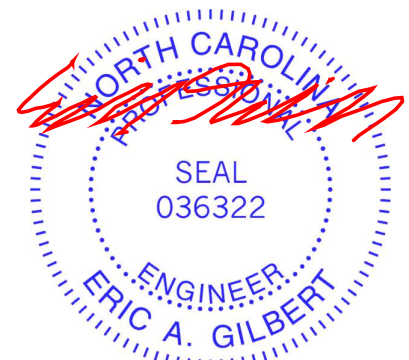
LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.13	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.00	BC 0.24	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.00	Horz(CT)	0.00	6	n/a		
BCDL 10.0	Rep Stress Incr YES	Matrix-R					Weight: 21 lb	FT = 20%
	Code IRC2018/TPI2014							

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except
BOT CHORD 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS.** (size) 1=6-10-15, 6=6-10-15, 2=6-10-15, 5=6-10-15  
 Max Horz 1=-31(LC 10)  
 Max Uplift 1=-140(LC 3), 6=-140(LC 3)  
 Max Grav 2=362(LC 23), 5=362(LC 24)

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

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) 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) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
  - 4) Provide adequate drainage to prevent water ponding.
  - 5) Gable requires continuous bottom chord bearing.
  - 6) Gable studs spaced at 2-0-0 oc.
  - 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - 8) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 1=140, 6=140.
  - 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
  - 11) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.
  - 12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



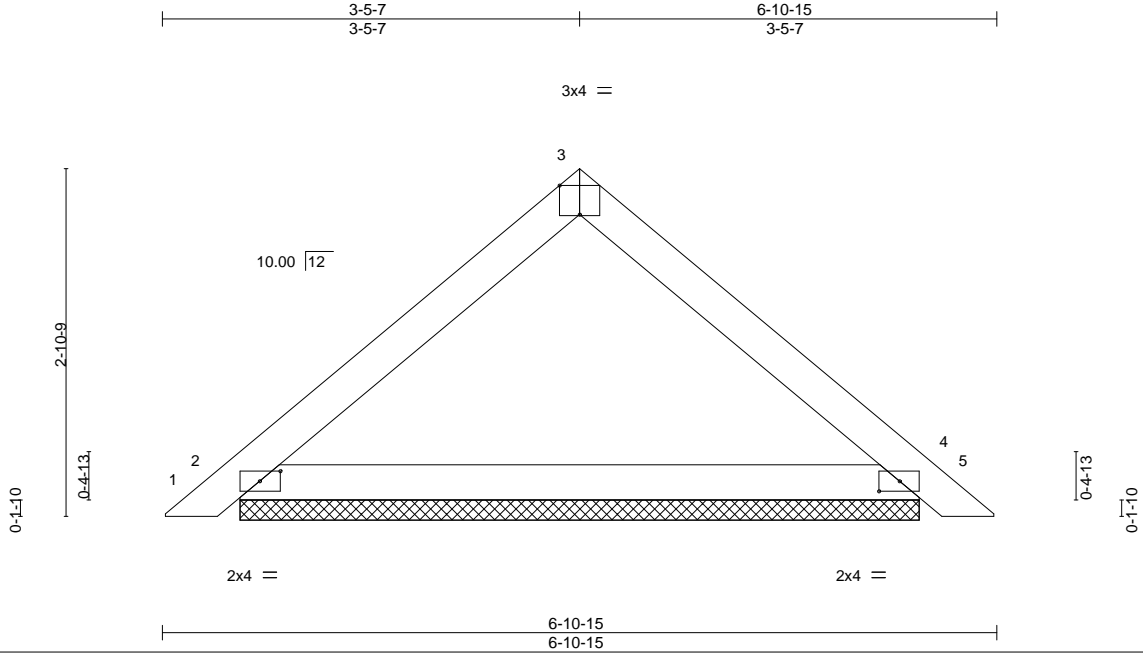
August 6, 2020



Job	Truss	Truss Type	Qty	Ply	South Scan	E14708209
Q2001105	P02	Piggyback	7	1		

Carolina Structural Systems, LLC, Ether, NC - 27247,

8.330 s Jul 22 2020 MiTek Industries, Inc. Thu Aug 6 08:37:13 2020 Page 1  
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Plate Offsets (X,Y)-- [2:0-2-1,0-1-0], [3:0-2-0,Edge], [4:0-2-1,0-1-0]

LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.00	TC 0.16	Vert(LL)	0.00	5	n/r	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.41	Vert(CT)	0.01	5	n/r		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.00	Horz(CT)	0.00	4	n/a		
BCDL 10.0	Code	IRC2018/TPI2014	Matrix-P					Weight: 22 lb	FT = 20%

**LUMBER-**  
 TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x4 SP No.2

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

**REACTIONS.** (size) 2=5-7-8, 4=5-7-8  
 Max Horz 2=-52(LC 10)  
 Max Uplift 2=-19(LC 12), 4=-19(LC 12)  
 Max Grav 2=249(LC 1), 4=249(LC 1)

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

- 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; BCDL=6.0psf; h=25ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - Gable requires continuous bottom chord bearing.
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 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.
  - See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.



August 6, 2020

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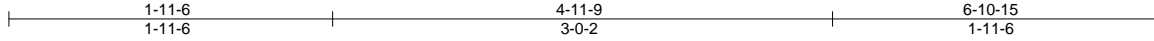


Job	Truss	Truss Type	Qty	Ply	South Scan	E14708210
Q2001105	P03	Piggyback	2	1		

Carolina Structural Systems, LLC, Ether, NC - 27247,

8.330 s Jul 22 2020 MiTek Industries, Inc. Thu Aug 6 08:37:14 2020 Page 1

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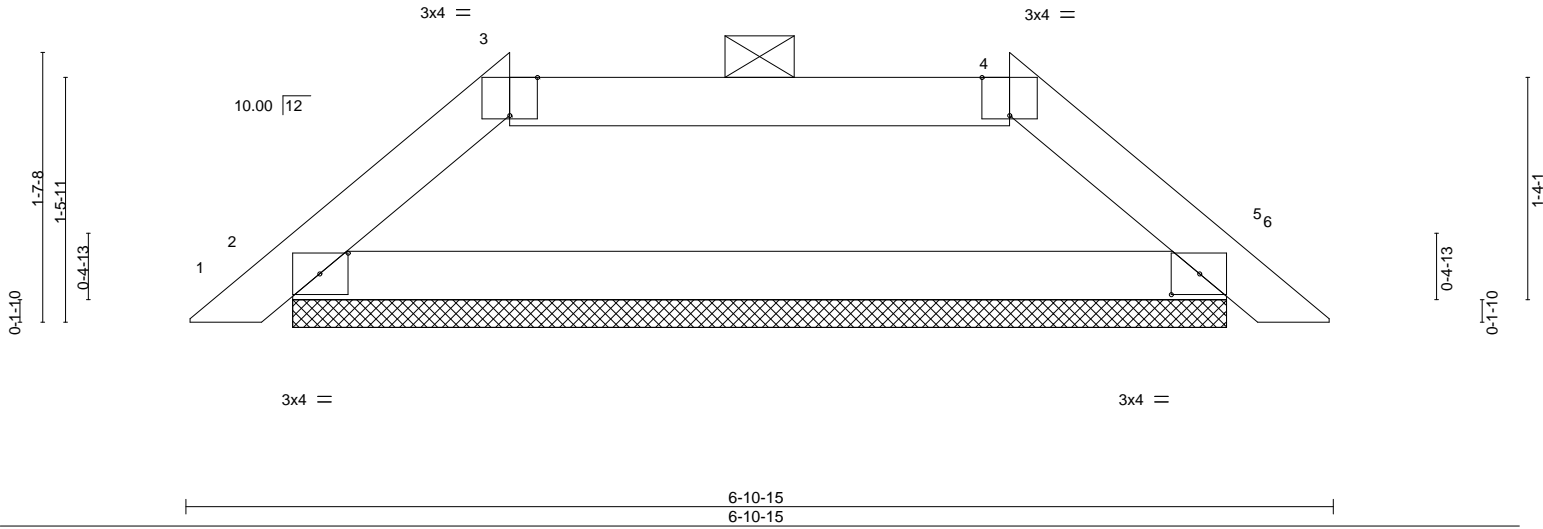


Plate Offsets (X,Y)-- [2:0-2-1,0-1-8], [3:0-2-0,Edge], [4:0-2-0,Edge], [5:0-2-1,0-1-8]

LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.00	TC 0.12	Vert(LL)	0.00	5	n/r	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.27	Vert(CT)	0.00	6	n/r		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.00	Horz(CT)	0.00	5	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-R					Weight: 20 lb	FT = 20%

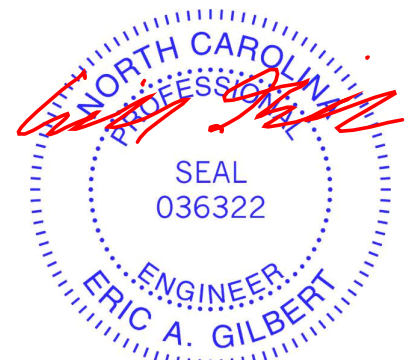
**LUMBER-**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2

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

**REACTIONS.** (size) 2=5-7-8, 5=5-7-8  
Max Horz 2=-26(LC 10)  
Max Uplift 2=-19(LC 12), 5=-19(LC 12)  
Max Grav 2=249(LC 1), 5=249(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 2-3=-261/146, 4-5=-261/148

- 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=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - Provide adequate drainage to prevent water ponding.
  - Gable requires continuous bottom chord bearing.
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 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.
  - See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.
  - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



August 6, 2020

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

Job	Truss	Truss Type	Qty	Ply	South Scan	E14708211
Q2001105	P04	Piggyback	20	1		

Carolina Structural Systems, LLC, Ether, NC - 27247,

8.330 s Jul 22 2020 MiTek Industries, Inc. Thu Aug 6 08:37:16 2020 Page 1  
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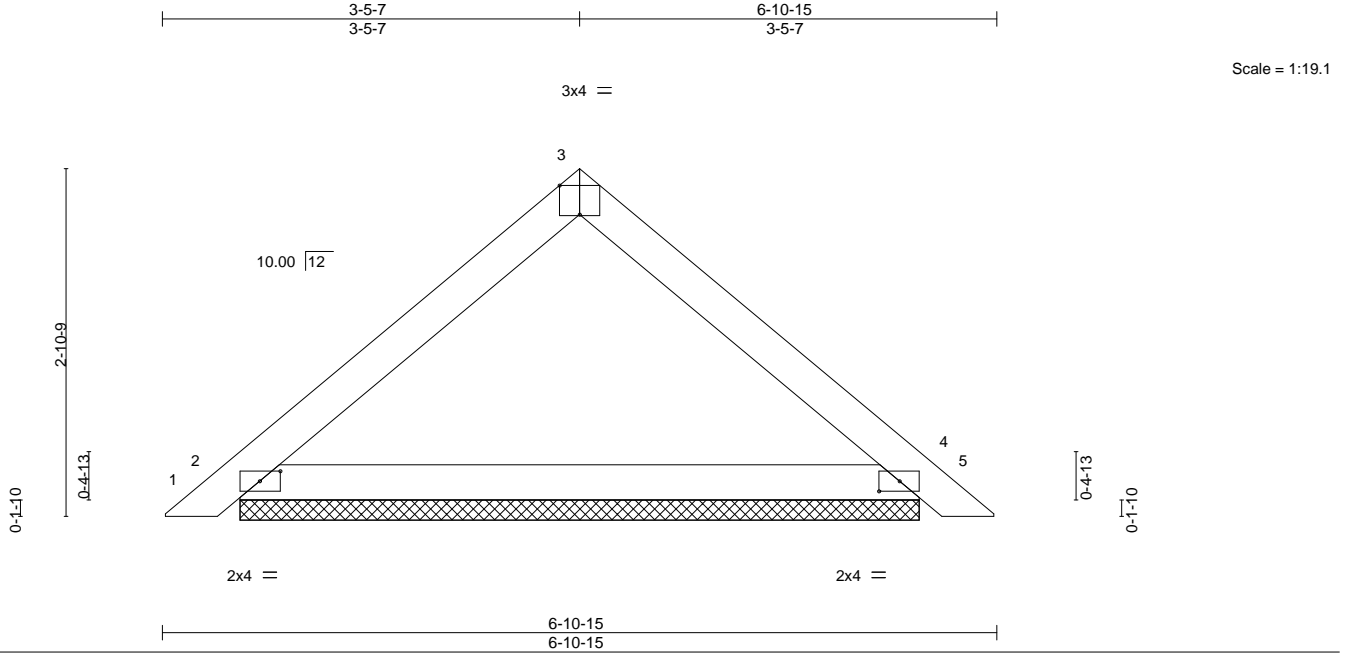


Plate Offsets (X,Y)-- [2:0-2-1,0-1-0], [3:0-2-0,Edge], [4:0-2-1,0-1-0]

LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.00	TC 0.16	Vert(LL)	0.00	5	n/r	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.41	Vert(CT)	0.01	5	n/r		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.00	Horz(CT)	0.00	4	n/a		
BCDL 10.0	Code	IRC2018/TPI2014	Matrix-P					Weight: 22 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS.** (size) 2=5-7-8, 4=5-7-8  
 Max Horz 2=-52(LC 10)  
 Max Uplift 2=-19(LC 12), 4=-19(LC 12)  
 Max Grav 2=249(LC 1), 4=249(LC 1)

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

- 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; BCDL=6.0psf; h=25ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - Gable requires continuous bottom chord bearing.
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 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.
  - See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.



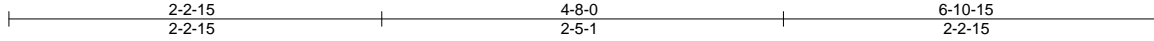
August 6, 2020

Job	Truss	Truss Type	Qty	Ply	South Scan	E14708212
Q2001105	P05	Piggyback	1	1		

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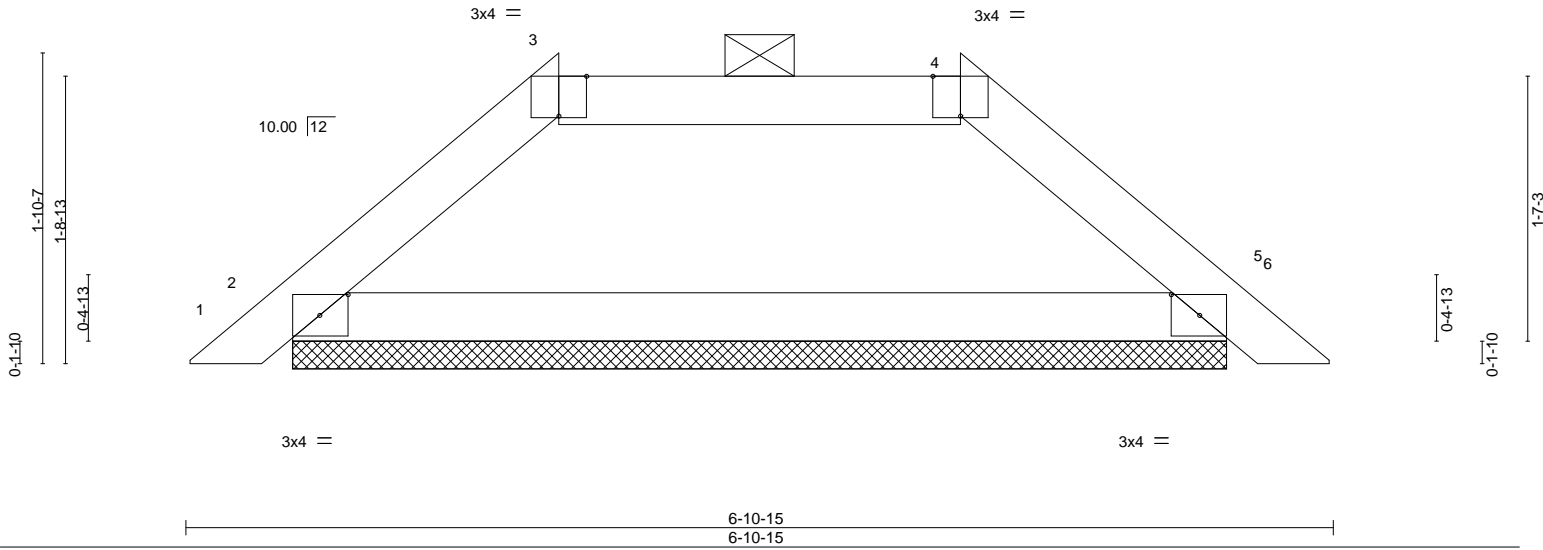


Plate Offsets (X,Y)-- [2:0-2-1,0-1-8], [3:0-2-0,Edge], [4:0-2-0,Edge], [5:0-2-1,0-1-8]

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.12	Vert(LL)	0.00	5	n/r	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.00	BC 0.27	Vert(CT)	0.00	6	n/r		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.00	Horz(CT)	0.00	5	n/a		
BCDL 10.0	Rep Stress Incr YES	Matrix-R					Weight: 21 lb	FT = 20%
	Code IRC2018/TPI2014							

**LUMBER-**

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

**BRACING-**

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

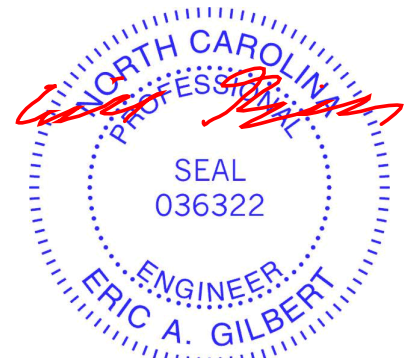
**REACTIONS.**

(size) 2=5-7-8, 5=5-7-8  
Max Horz 2=-31(LC 10)  
Max Uplift 2=-19(LC 12), 5=-19(LC 12)  
Max Grav 2=249(LC 1), 5=249(LC 1)

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

**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; BCDL=6.0psf; h=25ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Provide adequate drainage to prevent water ponding.
- Gable requires continuous bottom chord bearing.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 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.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



August 6, 2020

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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 20/20 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



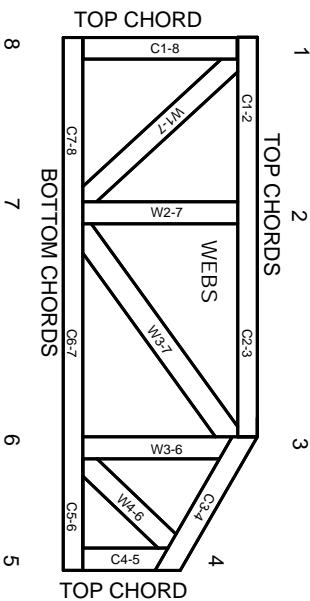
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

### Industry Standards:

ANSI/TP1: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-89: Design Standard for Bracing, Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate  
BCSI: Connected Wood Trusses.

# Numbering System

6-4-8  
dimensions shown in ft-in-sixteenths  
(Drawings not to scale)



**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-1311, ESR-1352, ESR1988  
ER-3907, ESR-2362, ESR-1397, ESR-3282

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

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

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MITek Engineering Reference Sheet: Mill-7473 rev. 5/19/2020



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