

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: SP190830
RAUER 30X40

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

Pages or sheets covered by this seal: E13458793 thru E13458794

My license renewal date for the state of North Carolina is December 31, 2019.

North Carolina COA: C-0844



August 28, 2019

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 SP190830	Truss T1	Truss Type COMMON	Qty 9	Ply 1	RAUER 30X40	E13458793
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Truss Builders, Inc., Morrisville, NC

8.240 s Jul 14 2019 MiTek Industries, Inc. Wed Aug 28 14:12:01 2019 Page 1
 ID:nZvO3V_00rE83hmAESydA8yjL5C-JICr41jB1hS66dlrgr4LrfuNqlyfyygWWaD73yjIDy



Scale = 1:51.3

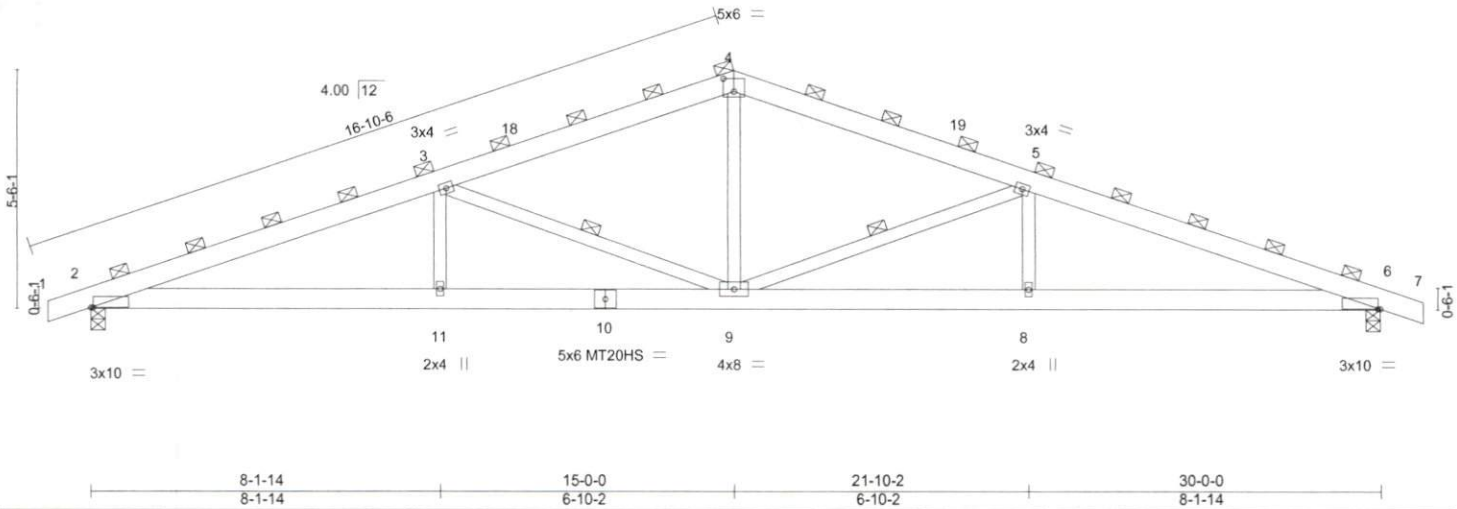


Plate Offsets (X,Y)--	[2:0-0,10,0-0-0], [4:0-3,0,0-3-8], [6:0-0,10,0-0-0]
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LOADING (psf)	SPACING-	CSI.	DEFL.	DEFL.	DEFL.	DEFL.	DEFL.	PLATES	GRIP
TCLL (roof) 20.0	4-0-0	TC 0.78	in (loc) l/defl L/d	in (loc) l/defl L/d	in (loc) l/defl L/d	in (loc) l/defl L/d	in (loc) l/defl L/d	MT20	244/190
Snow (Pf) 15.0	Plate Grip DOL 1.15	BC 0.73	Vert(LL) -0.21 9 >999 240	Vert(LL) -0.21 9 >999 240	Vert(LL) -0.21 9 >999 240	Vert(LL) -0.21 9 >999 240	Vert(LL) -0.21 9 >999 240	MT20HS	187/143
TCDL 5.0	Lumber DOL 1.15	WB 0.48	Vert(CT) -0.32 9-11 >999 180	Vert(CT) -0.32 9-11 >999 180	Vert(CT) -0.32 9-11 >999 180	Vert(CT) -0.32 9-11 >999 180	Vert(CT) -0.32 9-11 >999 180		
BCLL 0.0	Rep Stress Incr NO	Matrix-MR	Horz(CT) 0.09 6 n/a n/a	Horz(CT) 0.09 6 n/a n/a	Horz(CT) 0.09 6 n/a n/a	Horz(CT) 0.09 6 n/a n/a	Horz(CT) 0.09 6 n/a n/a		
BCDL 5.0	Code IBC2015/TPI2014							Weight: 184 lb	FT = 6%

LUMBER-
 TOP CHORD 2x6 SP No.2
 BOT CHORD 2x6 SP No.1D
 WEBS 2x4 SP No.3

BRACING-
 TOP CHORD 2-0-0 oc purlins (2-8-12 max.)
 (Switched from sheeted: Spacing > 2-8-0).
 BOT CHORD Rigid ceiling directly applied or 8-2-7 oc bracing.
 WEBS 1 Row at midpt 5-9, 3-9

REACTIONS. (lb/size) 2=1580/0-4-0, 6=1580/0-4-0
 Max Horz 2=139(LC 16)
 Max Uplift 2=-537(LC 8), 6=-537(LC 9)
 Max Grav 2=1900(LC 2), 6=1900(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 2-3=-4310/1076, 3-4=-3025/750, 4-5=-3025/750, 5-6=-4310/1078
 BOT CHORD 2-11=-1005/4022, 9-11=-1005/4022, 8-9=-894/4022, 6-8=-894/4022
 WEBS 4-9=-196/1152, 5-9=-1426/524, 5-8=0/454, 3-9=-1426/521, 3-11=0/454

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-10; Vult=115mph (3-second gust) Vasd=91mph; TCDL=3.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.33 plate grip DOL=1.33
 - 3) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pf=15.0 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
 - 4) Unbalanced snow loads have been considered for this design.
 - 5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.0 psf on overhangs non-concurrent with other live loads.
 - 6) Dead loads shown include weight of truss. Top chord dead load of 5.0 psf (or less) is not adequate for a shingle roof. Architect to verify adequacy of top chord dead load.
 - 7) All plates are MT20 plates unless otherwise indicated.
 - 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 1-0-0 wide will fit between the bottom chord and any other members.
 - 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=537, 6=537.
 - 11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



August 28, 2019

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 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, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.

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

Job SP190830	Truss T1GE	Truss Type GABLE	Qty 2	Ply 1	RAUER 30X40	E13458794
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Truss Builders, Inc., Morrisville, NC
 8,240 s Jul 14 2019 MiTek Industries, Inc. Wed Aug 28 14:12:03 2019 Page 1
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 6-10-2 8-1-14 1-0-0
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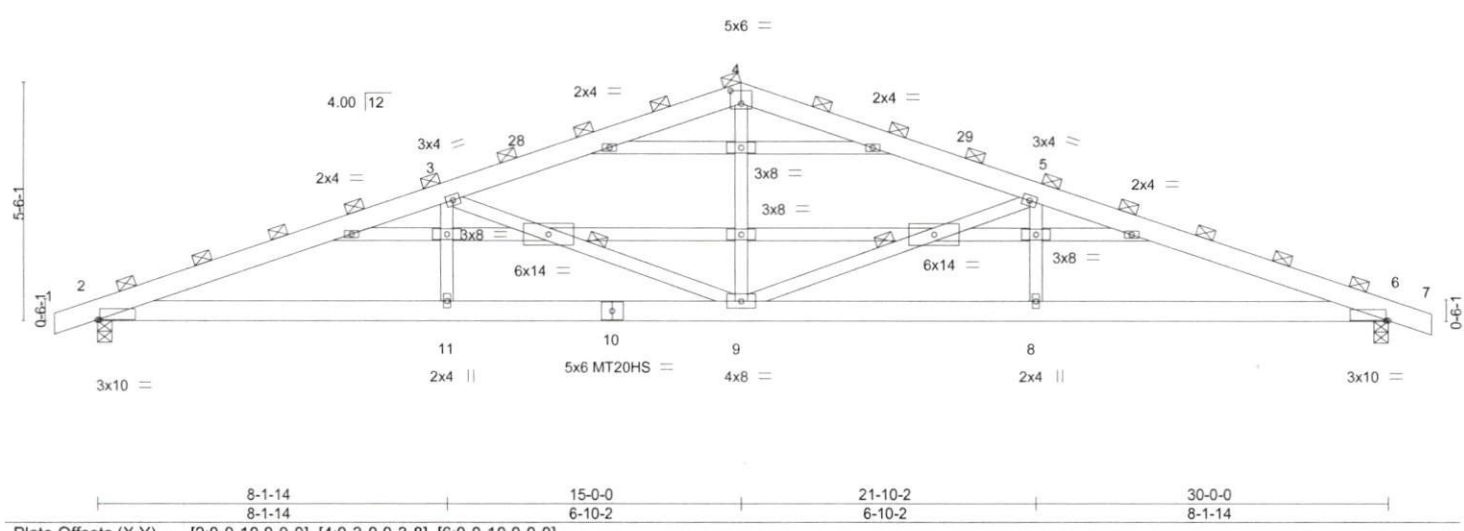


Plate Offsets (X,Y)--	[2:0-0-10,0-0-0]	[4:0-3-0,0-3-8]	[6:0-0-10,0-0-0]		
LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL (roof) 20.0	4-0-0	TC 0.78	in (loc) l/defl L/d	MT20	244/190
Snow (Pf) 15.0	Plate Grip DOL 1.15	BC 0.73	Vert(LL) -0.21 9 >999 240	MT20HS	187/143
TCDL 5.0	Lumber DOL 1.15	WB 0.48	Vert(CT) -0.32 9-11 >999 180		
BCLL 0.0 *	Rep Stress Incr NO	Matrix-MR	Horz(CT) 0.09 6 n/a n/a		
BCDL 5.0	Code IBC2015/TPI2014			Weight: 221 lb	FT = 6%

LUMBER-	BRACING-
TOP CHORD 2x6 SP No.2	TOP CHORD 2-0-0 oc purlins (2-8-12 max.)
BOT CHORD 2x6 SP No.1D	(Switched from sheeted: Spacing > 2-8-0).
WEBS 2x4 SP No.3	BOT CHORD Rigid ceiling directly applied or 8-2-7 oc bracing.
OTHERS 2x4 SP No.3	WEBS 1 Row at midpt 5-9, 3-9

REACTIONS. (lb/size)	2=1580/0-4-0, 6=1580/0-4-0
Max Horz	2=139(LC 16)
Max Uplift	2=-537(LC 8), 6=-537(LC 9)
Max Grav	2=1900(LC 2), 6=1900(LC 2)

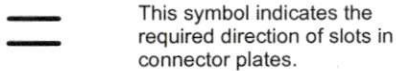
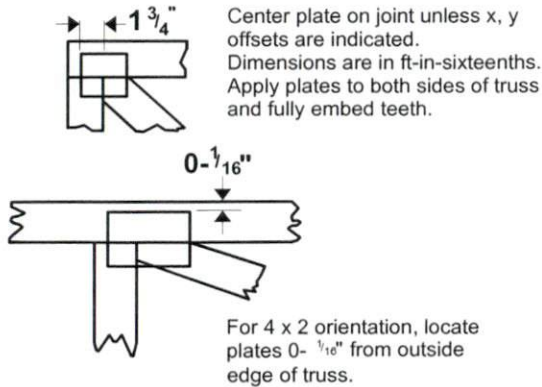
FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-4310/1076, 3-4=-3025/750, 4-5=-3025/750, 5-6=-4310/1078
BOT CHORD 2-11=-1005/4022, 9-11=-1005/4022, 8-9=-894/4022, 6-8=-894/4022
WEBS 4-9=-196/1152, 5-9=-1426/524, 5-8=0/454, 3-9=-1426/521, 3-11=0/454

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-10; Vult=115mph (3-second gust) Vasd=91mph; TCDL=3.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.33 plate grip DOL=1.33
 - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pf=15.0 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
 - Unbalanced snow loads have been considered for this design.
 - This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.0 psf on overhangs non-concurrent with other live loads.
 - Dead loads shown include weight of truss. Top chord dead load of 5.0 psf (or less) is not adequate for a shingle roof. Architect to verify adequacy of top chord dead load.
 - All plates are MT20 plates unless otherwise indicated.
 - Horizontal 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 1-0-0 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) except (jt=lb) 2=537, 6=537.
 - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



Symbols

PLATE LOCATION AND ORIENTATION



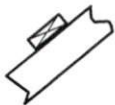
* Plate location details available in MiTek 20/20 software or upon request.

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

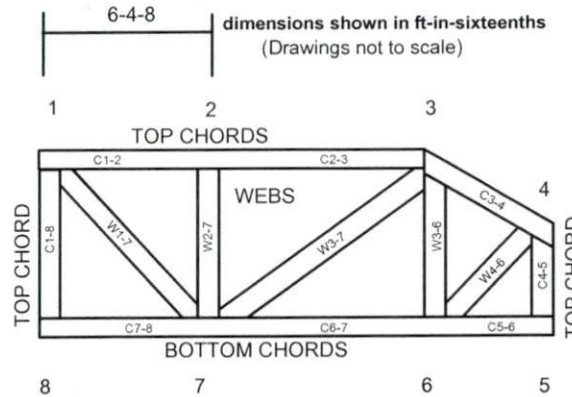


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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

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

PRODUCT CODE APPROVALS

ICC-ES Reports:

ESR-1311, ESR-1352, ESR-1988
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/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

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MiTek Engineering Reference Sheet: MII-7473 rev. 10/03/2015

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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