ENGINEERING BY TRENCO
A MiTek Affiliate

Lumber design values are in accordance with ANSI/TPI 1 section 6.3
These truss designs rely on lumber values established by others.

RE: 4340608 - 176 Travelers Way

Trenco
818 Soundside Rd
Edenton, NC 27932

Site Information:
Project Customer: THE ASCOT CORPORATION   Project Name:
Lot/Block: 357   Subdivision: OAKMONT
Address: 176 TRAVELERS WAY
City: LILLINGTON   State: NC

Name Address and License # of Structural Engineer of Record, If there is one, for the building.
Name: License #:
Address:
City, County: State:

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

Design Code: IRC2015/TPI2014   Design Program: MiTek 20/20 8.8
Wind Code: ASCE 7-10   Design Method: MWFRS (Directional)/C-C hybrid Wind ASCE 7-10
Wind Speed: 120 mph
Roof Load: 40.0 psf   Floor Load: N/A psf

This package includes 1 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Job ID#	Truss Name	Date
1	I72318209	4340608	F05	3/27/25

The truss drawing(s) referenced above have been prepared by
Truss Engineering Co. under my direct supervision based on the parameters
provided by Builders FirstSource-Sumter,SC.

Truss Design Engineer's Name: Gilbert, Eric
My license renewal date for the state of North Carolina is December 31, 2025.

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

NORTH CAROLINA
PROFESSIONAL
SEAL
036322
ENGINEER
ERIC A. GILBERT

March 27,2025

Gilbert, Eric

ENGINEERING BY TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

RE: $JOBNAME - $JOBDESC

Site Information:

Project Customer: $SI_CUSTOMER   Project Name: $SI_JOBNAME
Lot/Block: $SI_LOTNUM   Subdivision: $SI_SUBDIV
Address: $SI_SITEADDR
City, County: $SI_SITECITY   State: $SI_SITESTATE

Trenco
818 Soundside Rd
Edenton, NC 27932

RE: $JOBNAME - $JOBDESC

Site Information:
Project Customer: $SI_CUSTOMER   Project Name: $SI_JOBNAME
Lot/Block: $SI_LOTNUM   Subdivision: $SI_SUBDIV
Address: $SI_SITEADDR
City, County: $SI_SITECITY   State: $SI_SITESTATE

Job	Truss	Truss Type	Qty	Ply	176 Travelers Way	
						I72318209
4340608	F05	Floor	4	1	Job Reference (optional)	

Builders FirstSource (Sumter, SC), Sumter, SC - 29153,
Run: 8.83 S Mar 11 2025 Print: 8.830 S Mar 11 2025 MiTek Industries, Inc. Wed Mar 26 15:46:01   Page: 1
ID:L8t9NeMXCi1KoPMPaITvCry9nIH-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

REPAIR:
0-0-12 DIAMETER HOLE CENTERED IN TOP CHORD CENTERED 6-4-0 FROM LEFT END
NO REPAIR REQUIRED

LUMBER MUST BE DRILLED CLEANLY AND ACCURATELY
AND THE REMAINING WOOD MUST BE UNDAMAGED
NO LUMBER DEFECTS ARE TO BE LOCATED WITHIN 12" OF HOLE
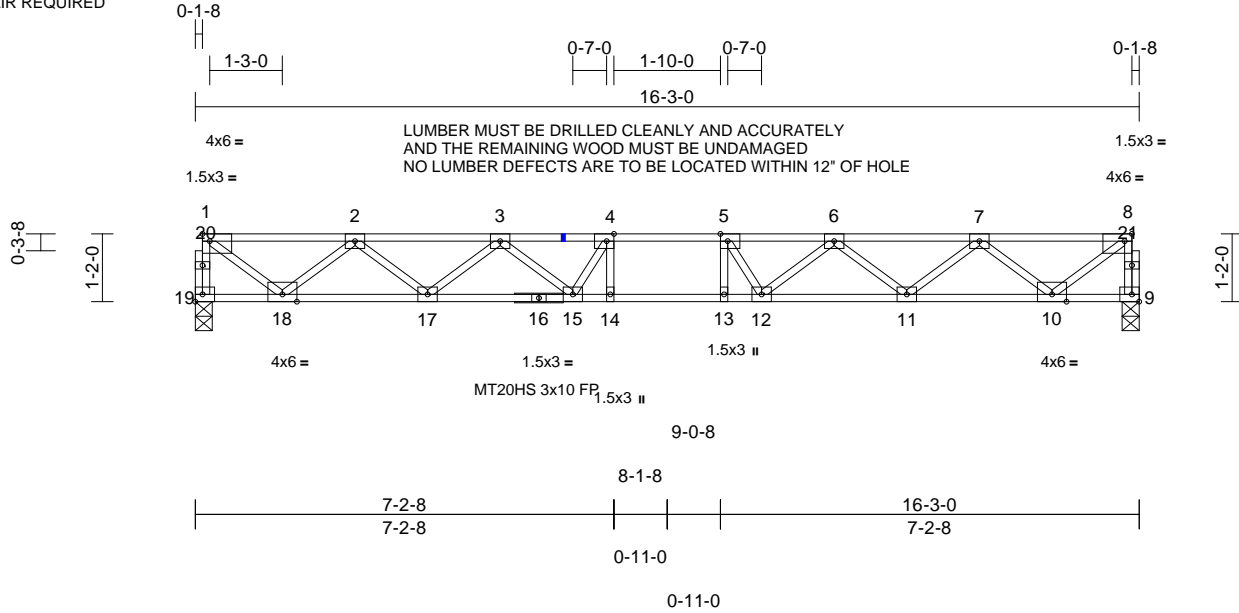
Scale = 1:39.7

Plate Offsets (X, Y): [1:Edge,0-1-8], [4:0-1-8,Edge], [5:0-1-8,Edge], [8:0-1-8,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	0.54	Vert(LL)	-0.21	13-14	>909	480	MT20	244/190
TCDL	15.0	Lumber DOL	1.00	BC	1.00	Vert(CT)	-0.32	13-14	>604	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	NO	WB	0.64	Horz(CT)	0.06	9	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 82 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD   2x4 SP No.2(flat)
BOT CHORD   2x4 SP No.2(flat) *Except* 16-9:2x4 SP No.1
                        (flat)
WEBS   2x4 SP No.3(flat)
OTHERS   2x4 SP No.3(flat)

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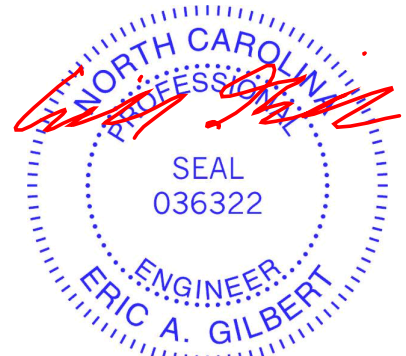   bracing.

REACTIONS (size)   9=0-3-8, 19=0-3-8
                      Max Grav   9=953 (LC 1), 19=953 (LC 1)

FORCES   (lb) - Maximum Compression/Maximum
                      Tension
TOP CHORD   1-19=-948/0, 8-9=-948/0, 1-2=-1107/0,
                        2-3=-2672/0, 3-4=-3511/0, 4-5=-3646/0,
                        5-6=-3511/0, 6-7=-2672/0, 7-8=-1107/0
BOT CHORD   18-19=0/57, 17-18=0/2083, 15-17=0/3230,
                        14-15=0/3646, 13-14=0/3646, 12-13=0/3646,
                        11-12=0/3230, 10-11=0/2083, 9-10=0/57
WEBS   4-14=-213/234, 5-13=-213/235, 1-18=0/1340,
                        2-18=-1271/0, 2-17=0/767, 3-17=-726/0,
                        3-15=0/496, 4-15=-523/84, 8-10=0/1340,
                        7-10=-1271/0, 7-11=0/767, 6-11=-726/0,
                        6-12=0/496, 5-12=-524/84

NOTES (6)
1) Unbalanced floor live loads have been considered for
     this design.
2) All plates are MT20 plates unless otherwise indicated.
3) All plates are 3x4 (=) MT20 unless otherwise indicated.
4) The Fabrication Tolerance at joint 16 = 11%
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) This manufactured truss is designed as an individual
     building component. The suitability and use of this
     component for any particular building is the responsibility
     of the building designer per ANSI TPI 1 as referenced by
     the building code.

LOAD CASE(S)   Standard

March 27,2025

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

Symbols

PLATE LOCATION AND ORIENTATION

½L

0-¹⁄₁₆"

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

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

=

This symbol indicates the required direction of slots in connector plates.
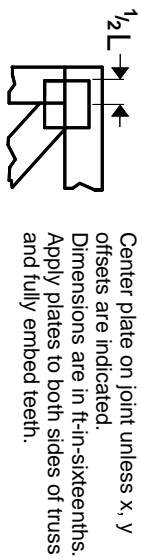
* Plate location details available in MiTek software or upon request.
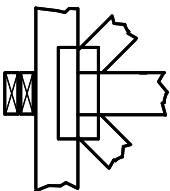
PLATE SIZE

4 x 4

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

LATERAL BRACING LOCATION

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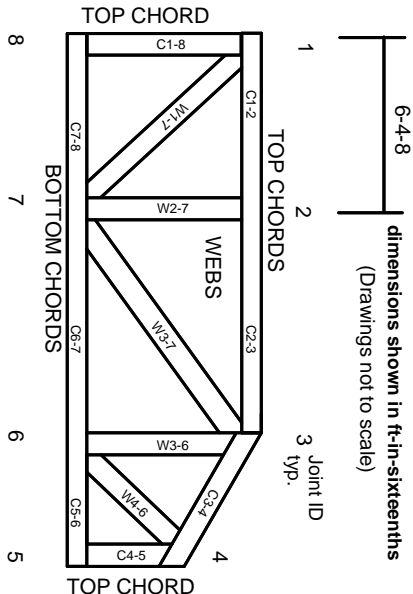
BEARING

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

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System

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

1 2 3 Joint ID
typ.

TOP CHORDS

TOP CHORD

C1-8

C7-8

C1-2

W1-7

W2-7

WEBS

W3-7

C2-3

BOTTOM CHORDS

C6-7

W3-6

C3-4

W4-6

C5-6

C4-5

8 7 6 5 4

TOP CHORD

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

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

Product Code Approvals

ICC-ES Reports:

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

Design General Notes

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

Lumber design values are in accordance with ANSI/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

© 2023 MiTek® All Rights Reserved

MiTek
ENGINEERING BY
TRENCO
A MiTek Affiliate

⚠ 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/TPI 1.

7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.

8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.

9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.

10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.

11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.

12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.

13. Top chords must be sheathed or purlins provided at spacing indicated on design.

14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.

15. Connections not shown are the responsibility of others.

16. Do not cut or alter truss member or plate without prior approval of an engineer.

17. Install and load vertically unless indicated otherwise.

18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.

19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.

20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.

21. The design does not take into account any dynamic or other loads other than those expressly stated.