ENGINEERING BY TRENCO
A MiTek Affiliate

Lumber design values are in accordance with ANSI/TPI 1-2007 section 6.3
These truss designs rely on lumber values established by others.

RE: 4152052 - WEAVER HOMES-THE LAUREN III-WEST PRESERVE

Trenco
818 Soundside Rd
Edenton, NC 27932

Site Information:

Project Customer: WEAVER HOMES Project Name:
Lot/Block: 17 Subdivision: WEST PRESERVE
Address: 272 THISTLE COURT
City: West Preserve 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 8.6
Wind Code: ASCE 7-10 [Low Rise]II Design Method: MWFRS (Envelope) ASCE 7-10 [Low Rise]
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	T34949508	4152052	T01A	9/9/24

The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by BMC (Monroe, NC).

Truss Design Engineer's Name: Velez, Joaquin
My license renewal date for the state of North Carolina is December 31, 2024.

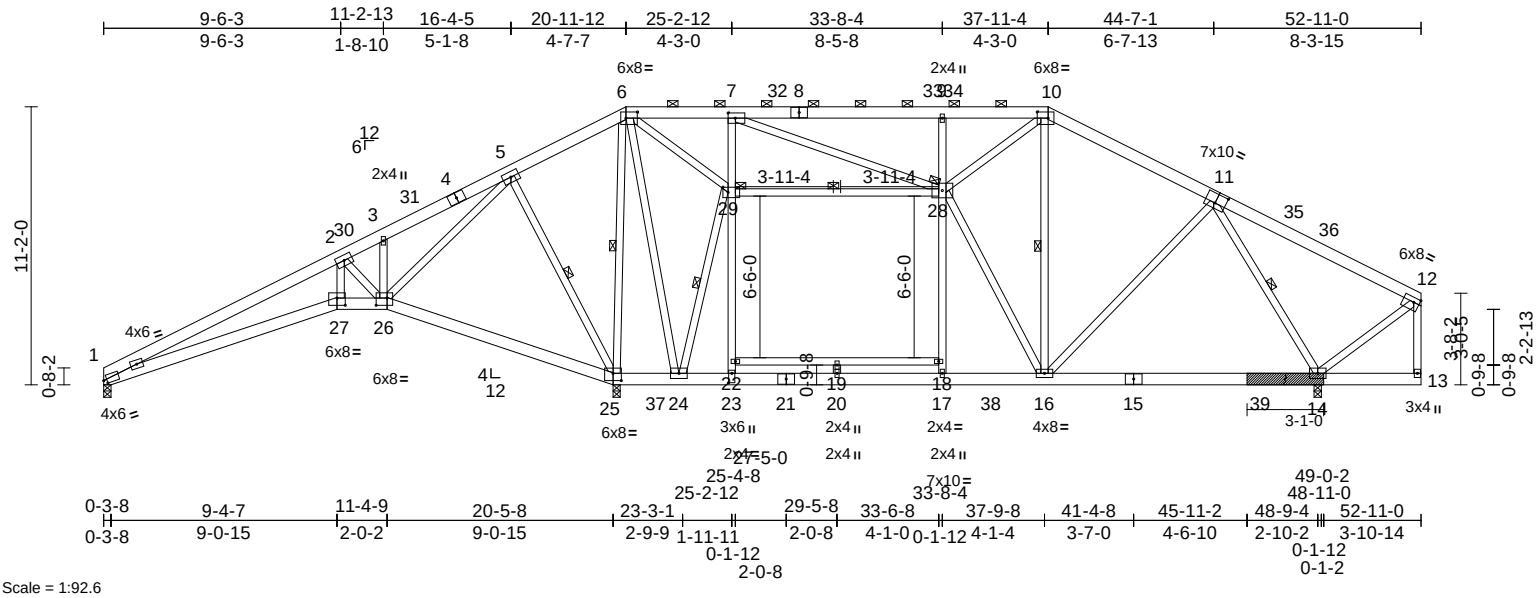
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which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

September 9,2024

Velez, Joaquin

Job	Truss	Truss Type	Qty	Ply	WEAVER HOMES-THE LAUREN III-WEST PRESERVE T34949508
4152052	T01A	Piggyback Base	3	1	Job Reference (optional)

Builders FirstSource (Monroe, NC), Monroe, NC - 28110, Run: 8.63 S Jul 12 2024 Print: 8.630 S Jul 12 2024 MiTek Industries, Inc. Mon Sep 09 08:44:48 Page: 1
ID:jAOkQUY0S6Z0w0G?PcXWu4yqbww-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:92.6

REPAIR(S) REQUIRED

Plate Offsets (X, Y): [1:0-1-9,0-1-12], [6:0-5-8,0-3-0], [7:0-3-8,0-2-8], [10:0-5-4,0-3-0], [11:0-5-0,0-4-8], [12:Edge,0-2-4], [23:0-4-8,0-1-8], [25:0-4-0,0-3-8], [26:0-5-4,0-3-8], [27:0-4-0,0-3-8], [29:0-2-8,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.94	Vert(LL)	-0.16	18-19	>999	360	MT20	244/190
Snow (Pf/Pg)	16.5/15.0	Lumber DOL	1.15	BC	0.80	Vert(CT)	-0.30	18-19	>999	240		
TCDL	10.0	Rep Stress Incr	NO	WB	0.99	Horz(CT)	0.10	14	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-S		Wind(LL)	0.07	1-27	>999	240		
BCDL	10.0										Weight: 490 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP No.2 *Except* 22-18:2x4 SP No.2
WEBS 2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-3-2 oc purlins, except end verticals, and 2-0-0 oc purlins (4-5-10 max.): 6-10.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 25-26,24-25.
WEBS 1 Row at midpt 6-25, 10-16, 11-14, 5-25, 28-29, 24-29
JOINTS 1 Brace at Jt(s): 28, 29

REACTIONS (size) 1=0-3-8, 14=0-3-8, 25=0-3-8
Max Horiz 1=301 (LC 12)
Max Uplift 1=-30 (LC 13), 25=-298 (LC 12)
Max Grav 1=528 (LC 2), 14=2272 (LC 52), 25=2872 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1283/20, 2-3=-573/13, 3-5=-513/29, 5-6=-263/685, 6-7=-453/380, 7-9=-2325/0, 9-10=-2366/0, 10-12=-1273/558, 12-13=-82/0
BOT CHORD 1-27=-222/1147, 26-27=-190/1019, 25-26=-325/270, 24-25=-504/372, 23-24=0/866, 20-23=0/864, 17-20=0/864, 16-17=0/893, 14-16=0/686, 13-14=0/64, 19-22=0/20, 18-19=0/20
WEBS 2-27=-15/508, 2-26=-1001/463, 3-26=-70/106, 6-25=-1964/75, 6-24=0/1614, 16-28=-129/899, 10-16=-772/0, 22-23=0/898, 22-29=0/1023, 7-29=-1287/102, 17-18=0/423, 18-28=0/548, 9-28=-968/0, 11-16=0/651, 11-14=-1927/0, 12-14=-500/0, 5-25=-702/296, 5-26=-176/892, 28-29=-493/0, 7-28=0/2379, 10-28=0/1712, 6-29=-139/185, 24-29=-2223/0, 19-20=-258/0

NOTES (16)
1) Repair Condition: bottom chord has 0-1-0 long break centered at 5-5-6 to the left of joint 13.
2) Apply 37" long 2x6 SP No.2 scab to front side(s) of truss centered on damage located 5-5-6 to the left of joint 13 with 3 row(s) of 10d (0.131"x3") nails spaced 2" o.c. from front face. Minimum 0-3-0 end distance.
3) na
4) Unbalanced roof live loads have been considered for this design.
5) Wind: ASCE 7-10; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; Lumber DOL=1.60 plate grip DOL=1.60
6) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=15.0 psf (ground snow); Pf=16.5 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp C; Partially Exp.; Ct=1.10, Lu=50-0-0
7) Unbalanced snow loads have been considered for this design.
8) Provide adequate drainage to prevent water ponding.
9) All plates are 5x8 MT20 unless otherwise indicated.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 1-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
12) Bearing at joint(s) 1 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 30 lb uplift at joint 1 and 298 lb uplift at joint 25.
14) Load case(s) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
15) 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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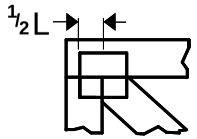
16) This manufactured truss is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

LOAD CASE(S) Standard

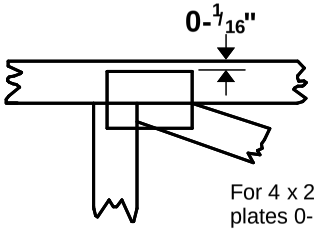
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (lb/ft)
   Vert: 1-6=-43, 6-10=-53, 10-35=-43, 12-35=-123, 1-27=-20, 26-27=-20, 25-26=-20, 13-25=-20, 18-22=-20
   Concentrated Loads (lb)
   Vert: 34=-480

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

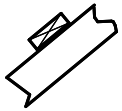
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

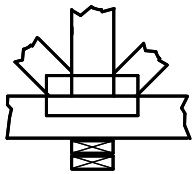
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

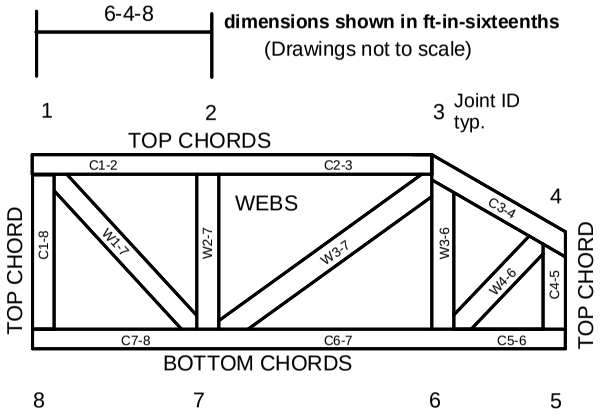


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

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

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:

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

Design General Notes

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

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

MiTek®

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MiTek Engineering Reference Sheet: MII-7473 rev. 1/2/2023

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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