

MiTek USA, Inc. 16023 Swingley Ridge Rd Chesterfield, MO 63017 314-434-1200

Re: 490499 Lot 19 RT

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Wheeler - Waverly.

Pages or sheets covered by this seal: I41305112 thru I41305112

My license renewal date for the state of Missouri is December 31, 2021.

Missouri COA: Engineering 001193



May 14,2020

Sevier, Scott

,Engineer

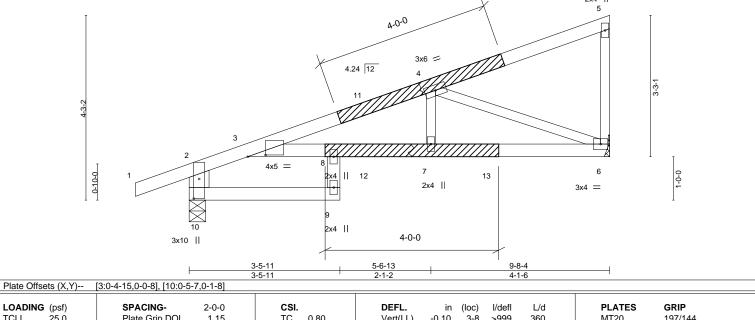
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which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

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
CODES ADMINISTRATION
LEE'S SUMMIT, MISSOURI

ID:hquPfxpp0CdNHWhMuPizeLzNEki-136S2hFFnW5\_AqmYqJO9huc1mua8\_j\_EHS1yt7zGfAh 5-6-13 9-8-4 1-2-14 3-5-11 2-1-2 4-1-6

REPAIR: BREAK IN THE TOP CHORD JUST TO THE LEFT OF JOINT 4 AND BREAK IN THE BOTTOM CHORD AT 4" TO THE LEFT OF JOINT 7.

Scale = 1:26.5



LOADING (psf) **TCLL** 25.0 Plate Grip DOL 1.15 TC 0.80 Vert(LL) -0.10 >999 360 197/144 3-8 MT20 TCDL 10.0 Lumber DOL 1.15 BC 0.81 Vert(CT) -0.193-8 >605 240 **BCLL** 0.0 Rep Stress Incr NO WB 0.63 Horz(CT) 0.13 6 n/a n/a Code IRC2018/TPI2014 **BCDL** Wind(LL) 240 Weight: 35 lb FT = 10% 10.0 Matrix-S 0.12 3-8 >962

**BRACING-**

TOP CHORD

LUMBER-

TOP CHORD 2x4 SPF No.2 **BOT CHORD** 2x4 SPF No.2 WEBS 2x3 SPF No.2 \*Except\*

2-10: 2x6 SPF No.2, 8-9: 2x4 SPF No.2

REACTIONS. (size) 10=0-4-9, 6=Mechanical

Max Horz 10=167(LC 5)

Max Uplift 10=-192(LC 4), 6=-215(LC 8) Max Grav 10=664(LC 1), 6=687(LC 1)

except end verticals. **BOT CHORD** Rigid ceiling directly applied or 8-11-3 oc bracing.

Structural wood sheathing directly applied or 4-0-10 oc purlins,

APPLY 2 X 4 X 4' SPF/DF/SP NO.2 SCAB(S) TO EACH FACE OF TRUSS CENTERED ON DAMAGE/SPLICE. ATTACH WITH (0.131" X 3") NAILS PER THE FOLLOWING NAIL SCHEDULE: 2 x 3'S - 1 ROW, 2 x 4'S - 2 ROWS, 2 x 6'S AND LARGER - 3 ROWS: SPACED @ 4" O.C. STAGGER NAIL SPACING FROM FRONT FACE AND BACK FACE FOR A NET 2" O.C SPACING IN THE TRUSS. USE 2" MEMBER END DISTANCE.

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

TOP CHORD 2-10=-672/231, 2-3=-253/12, 3-4=-1367/398 BOT CHORD 3-8=-407/1277 7-8=-407/1277 6-7=-407/1277

**WEBS** 4-6=-1342/459, 4-7=-129/515

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate arip 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) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 10=192, 6=215.
- 6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 74 lb down and 44 lb up at 4-1-7, and 74 lb down and 44 lb up at 4-1-7 on top chord, and 37 lb down and 29 lb up at 4-1-7, 37 lb down and 29 lb up at 4-1-7. and 173 lb down and 85 lb up at 6-11-6, and 173 lb down and 85 lb up at 6-11-6 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- 8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

## LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15 Uniform Loads (plf)

Vert: 1-2=-70, 2-5=-70, 9-10=-20, 6-8=-20

Concentrated Loads (lb)

Vert: 12=-60(F=-30, B=-30) 13=-347(F=-173, B=-173)





MARNING - 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

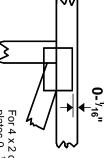
ANSI/TPH Quality Criteria, DSB-89 and BCSI Building Component fabrication, storage, delivery, erection and bracing of trusses and truss systems, see ANSI/TPI1 Qua Safety Information available from Truss Plate Institute, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.

## Symbols

# PLATE LOCATION AND ORIENTATION



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



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

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

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

## PLATE SIZE



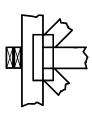
to slots. Second dimension is the length parallel to slots. width measured perpendicular The first dimension is the plate

## LATERAL BRACING LOCATION



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

## **BEARING**



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

## Industry Standards:

National Design Specification for Metal

DSB-89: ANSI/TPI1:

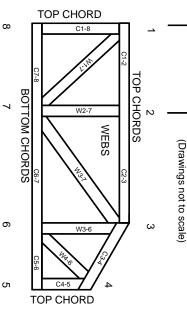
**Building Component Safety Information** Guide to Good Practice for Handling Design Standard for Bracing. Installing & Bracing of Metal Plate Plate Connected Wood Truss Construction.

Connected Wood Trusses.

# Numbering System

6-4-8

dimensions shown in ft-in-sixteenths



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

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

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

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

- Failure to Follow Could Cause Property Reviews Reviews 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 Summit, South S
- bracing should be considered
- Never exceed the design loading shown and never stack materials on inadequately braced trusses.

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- designer, erection supervisor, property owner and all other interested parties. Provide copies of this truss design to the building
- Cut members to bear tightly against each other

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- 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.

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7.

- 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 camber for dead load deflection responsibility of truss fabricator. General practice is to
- 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
- 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
- 15. Connections not shown are the responsibility of others.
- Do not cut or alter truss member or plate without prior approval of an engineer
- 17. Install and load vertically unless indicated otherwise
- Use of green or treated lumber may pose unacceptable project engineer before use. environmental, health or performance risks. Consult with
- 19. Review all portions of this design (front, back, words is not sufficient. and pictures) before use. Reviewing pictures alone

20. Design assumes manufacture in accordance with

ANSI/TPI 1 Quality Criteria.

05/14/2020