

MiTek, Inc.
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200

Re: RB-3RR
RCC #167609 12/2/24 (MM)

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

Pages or sheets covered by this seal: I74248007 thru I74248007

My license renewal date for the state of Missouri is December 31, 2026.

Missouri COA: Engineering 001193



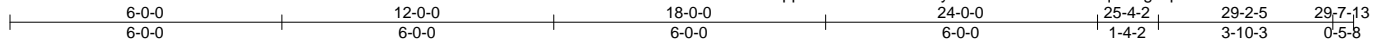
June 18, 2025

Lu, Jie ,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.

Job RB-3RR	Truss T1B-R	Truss Type Common	Qty 46	Ply 1	RCC #167609 12/2/24 (MM)	174248007
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Mid America Truss, Jefferson City, MO - 65101, 8.630 s Sep 26 2024 MiTek Industries, Inc. Mon Jun 16 15:35:40 2025 Page 1
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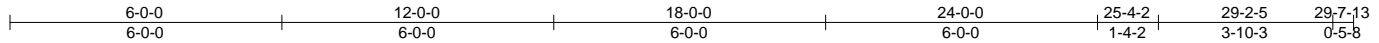
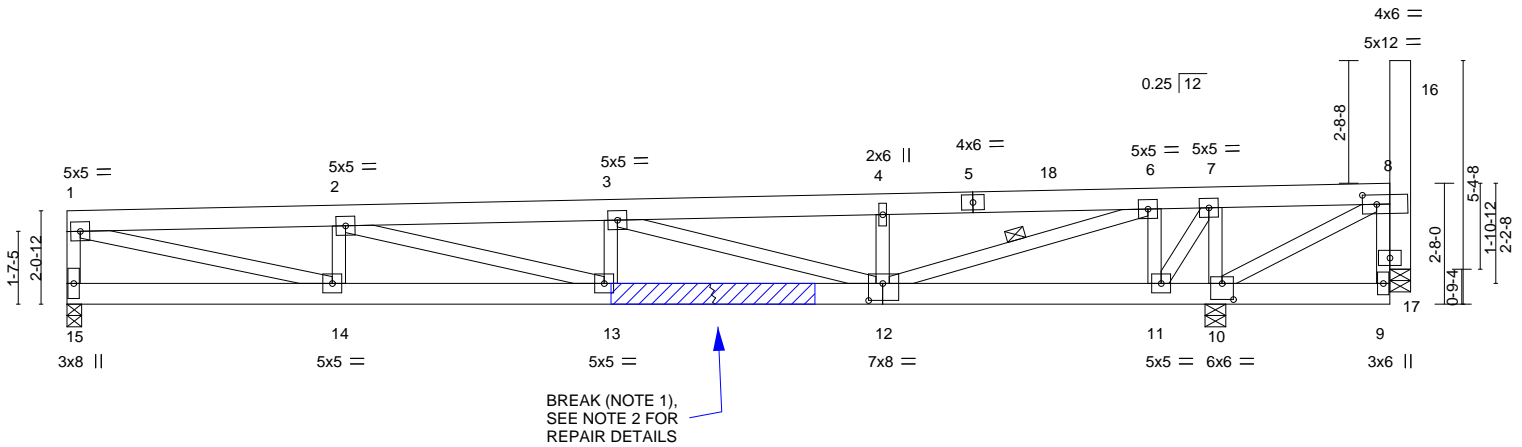


Plate Offsets (X,Y)-- [8:0-3-12,0-2-8], [10:0-3-0,0-4-4], [12:0-3-12,0-4-8]

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof) 20.0	Plate Grip DOL 1.15	TC 0.44	Vert(LL) 0.17	13	>999	360	MT20	244/190
Snow (Pf/Pg) 15.4/20.0	Lumber DOL 1.15	BC 0.39	Vert(CT) -0.27	13-14	>999	240		
TCDL 10.0	Rep Stress Incr NO	WB 0.82	Horz(CT) 0.02	10	n/a	n/a		
BCLL 0.0	Code IBC2018/TPI2014	Matrix-MSH					Weight: 224 lb	FT = 3%
BCDL 10.0								

LUMBER-
 TOP CHORD 2x6 SP No.1
 BOT CHORD 2x6 SP No.1 *Except*
 8-9: 2x4 SP No.2
 WEBS 2x4 SP No.2 *Except*
 16-17: 2x6 SP No.1

BRACING-
 TOP CHORD Structural wood sheathing directly applied or 4-9-15 oc purlins, except end verticals.
 BOT CHORD Rigid ceiling directly applied or 5-10-6 oc bracing.
 WEBS 1 Row at midpt 6-12

REACTIONS. (size) 15=0-3-14, 10=0-5-8, 17=0-5-8
 Max Horz 15=214(LC 12)
 Max Uplift 15=-185(LC 11), 10=-566(LC 11), 17=-946(LC 29)
 Max Grav 15=849(LC 32), 10=2540(LC 32), 17=294(LC 11)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-15=-770/528, 1-2=-2122/1301, 2-3=-2456/1542, 3-4=-1283/874, 4-6=-1283/882,
 6-7=-801/1030, 7-8=-1188/1651, 8-17=-599/910
 BOT CHORD 14-15=-387/209, 13-14=-1509/2118, 12-13=-1638/2452, 11-12=-1029/702,
 10-11=-1650/1060
 WEBS 1-14=-1277/2082, 2-14=-458/440, 2-13=-242/350, 3-12=-1231/792, 4-12=-348/356,
 6-12=-1514/2444, 6-11=-980/724, 7-11=-732/1167, 7-10=-1363/778, 8-10=-1872/1250

- NOTES-**
- 1) Repair Condition: bottom chord has 0-1-0 long break centered at 3-8-15 to the left of joint 12.
 - 2) Apply 54" long 2x6 SP No.1 scab to both side(s) of truss centered on damage located 3-8-15 to the left of joint 12 with 3 row(s) of 10d (0.131"x3.0") nails spaced 4" o.c. from each face. Minimum 0-3-0 end distance.
 - 3) N/A
 - 4) Unbalanced roof live loads have been considered for this design.
 - 5) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Pr. Enclosed; MWFRS (envelope) and C-C Corner(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=1.33 plate grip DOL=1.33
 - 6) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10; Min. flat roof snow load governs.
 - 7) Unbalanced snow loads have been considered for this design.
 - 8) Provide adequate drainage to prevent water ponding.
 - 9) Plates checked for a plus or minus 3 degree rotation about its center.
 - 10) Bearing at joint(s) 17 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
 - 11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 185 lb uplift at joint 15, 566 lb uplift at joint 10 and 946 lb uplift at joint 17.

Continued on page 2



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WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 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, and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

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Job	Truss	Truss Type	Qty	Ply	RCC #167609 12/2/24 (MM)	174248007
RB-3RR	T1B-R	Common	46	1	Job Reference (optional)	

Mid America Truss, Jefferson City, MO - 65101,

8.630 s Sep 26 2024 MiTek Industries, Inc. Mon Jun 16 15:35:41 2025 Page 2
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NOTES-

- 12) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
 13) Load case(s) 1, 4, 5, 6, 21, 22, 24, 25, 26, 27, 32 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
 14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-18=-51, 9-15=-20
 Trapezoidal Loads (plf)
 Vert: 18=-51-to-8=-111
- 4) Dead + 0.75 Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-18=-43, 9-15=-20
 Trapezoidal Loads (plf)
 Vert: 18=-43-to-8=-88
- 5) Dead + 0.75 Snow (Unbal. Left): Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-18=-49, 9-15=-20
 Trapezoidal Loads (plf)
 Vert: 18=-49-to-8=-94
- 6) Dead + 0.75 Snow (Unbal. Right): Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-18=-27, 9-15=-20
 Trapezoidal Loads (plf)
 Vert: 18=-27-to-8=-72
- 21) Dead + Snow (Unbal. Left): Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-18=-58, 9-15=-20
 Trapezoidal Loads (plf)
 Vert: 18=-58-to-8=-119
- 22) Dead + Snow (Unbal. Right): Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-18=-29, 9-15=-20
 Trapezoidal Loads (plf)
 Vert: 18=-29-to-8=-89
- 24) Dead + 0.75 Snow (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.33, Plate Increase=1.33
 Uniform Loads (plf)
 Vert: 1-18=-40, 8-16=-37, 9-15=-20
 Horz: 1-15=27, 1-8=-3, 8-9=-4, 8-16=37
 Trapezoidal Loads (plf)
 Vert: 18=-40-to-8=-85
- 25) Dead + 0.75 Snow (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.33, Plate Increase=1.33
 Uniform Loads (plf)
 Vert: 1-18=-48, 8-16=37, 9-15=-20
 Horz: 1-15=4, 1-8=4, 8-9=-27, 8-16=-37
 Trapezoidal Loads (plf)
 Vert: 18=-48-to-8=-93
- 26) Dead + 0.75 Snow (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.33, Plate Increase=1.33
 Uniform Loads (plf)
 Vert: 1-18=-40, 8-16=-25, 9-15=-20
 Horz: 1-15=23, 1-8=-3, 8-9=-6, 8-16=25
 Trapezoidal Loads (plf)
 Vert: 18=-40-to-8=-85
- 27) Dead + 0.75 Snow (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.33, Plate Increase=1.33
 Uniform Loads (plf)
 Vert: 1-18=-48, 8-16=-25, 9-15=-20
 Horz: 1-15=6, 1-8=4, 8-9=-23, 8-16=25
 Trapezoidal Loads (plf)
 Vert: 18=-48-to-8=-93
- 32) Dead + Minimum Snow: Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-18=-60, 9-15=-20
 Trapezoidal Loads (plf)
 Vert: 18=-60-to-8=-120

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

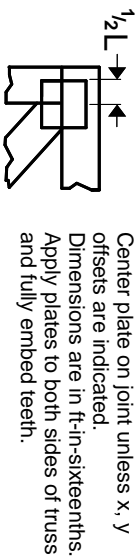
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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, and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

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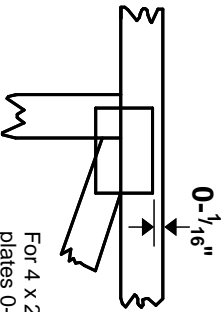
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Symbols

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 MITtek software or upon request.

PLATE SIZE

4 X 4

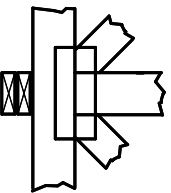
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

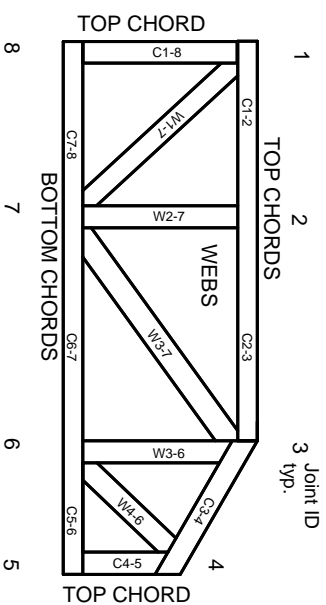


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TFP1: 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-1-1988, 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/TFP 1 section 6.3. These truss designs rely on Lumber values established by others.

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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/TFP 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TFP 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/TFP 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.

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MITtek Engineering Reference Sheet: Mill-7473 rev. 1/2/2023