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

Re: 220056-A
320 PR 2032 NE BLUESTONE DR Lees Summit MO 64064

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by KC Truss & Panel Inc. (Urich, MO).

Pages or sheets covered by this seal: I51349292 thru I51349292

My license renewal date for the state of Missouri is December 31, 2023.

Missouri COA: Engineering 001193

April 14,2022

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.

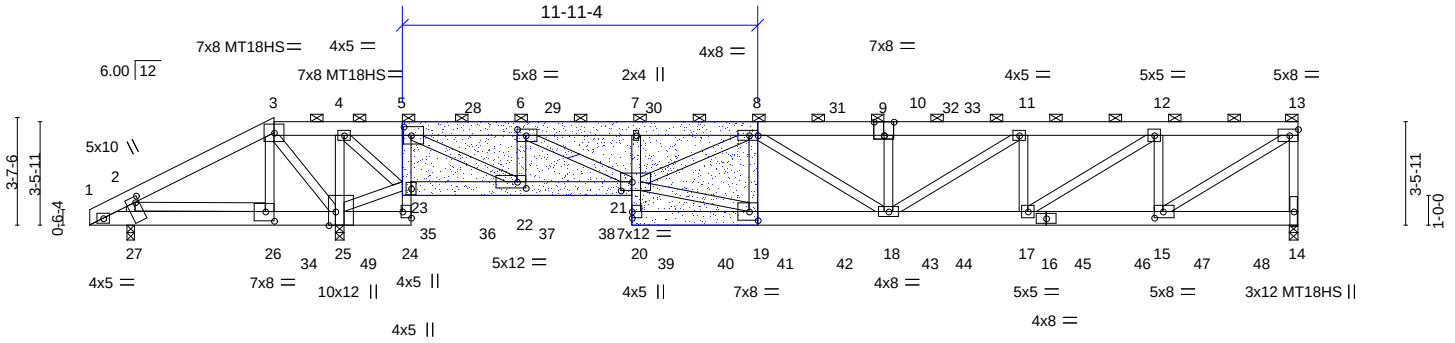
Job	Truss	Truss Type	Qty	Ply	320 PR 2032 NE BLUESTONE DR Lees Summit MO 64064	I51349292
220056-A	C5	Half Hip Girder	1	1	Job Reference (optional)	Units: 1.0 Eng: JRC

8.430 s Nov 30 2020 MiTek Industries, Inc. Thu Apr 14 09:43:15 2022 Page 1
ID:3YzUEFuTXpusHba?0tpUTHzCdai-ceFZ0W5i79NQiEl8kS1hyrvyU_SlkQZMkwtgOWzQr5w

1-4-8	6-2-4	8-4-12	10-9-8	14-6-0	18-2-8	22-3-8	26-9-15	31-4-6	35-10-13	40-7-0
1-4-8	4-9-12	2-2-8	2-4-12	3-8-8	3-8-8	4-1-0	4-6-7	4-6-7	4-6-7	4-8-3

Scale = 1:77.4

REPAIR: 0-4-0 DAMAGED SECTION IN MEMBER 6-21 STARTING 1-11-0 BELOW JOINT 6



SHOP FABRICATE SCAB TRUSS (SHOWN AS SHADED AREA ON TRUSS DESIGN DRAWING) USING THE LUMBER AND PLATES INDICATED.
ATTACH SCAB TRUSS TO ONE FACE OF EXISTING TRUSS WITH (0.131" X 3") NAILS (INTO ALL ALIGNING MEMBERS) 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 @ 2" O.C. USE 2" MEMBER END DISTANCE.

PROVIDE CONNECTION OF TRUSS TO BEARING PLATE AT JOINT 27 CAPABLE OF WITHSTANDING 1917 LBS UPLIFT REACTION DUE TO GRAVITY LOADING APPLIED TO THE TRUSS. IT IS THE RESPONSIBILITY OF THE PROJECT ARCHITECT/ENGINEER TO DESIGN THE CONNECTION OF THE TRUSS TO THE BEARING PLATE, PROVIDE AND DESIGN CONNECTION SYSTEM FOR A CONTINUOUS LOAD PATH FROM THE TRUSS TO THE FOUNDATION, AND DESIGN FOOTING/FOUNDATION TO RESIST SUCH UPLIFT. FAILURE TO DO SO WILL VOID THIS CONSTRUCTION.

1-4-8	6-2-4	8-4-12	10-9-8	14-6-0	18-2-8	22-3-8	26-9-15	31-4-6	35-10-13	40-7-0
1-3-0	4-9-12	2-2-8	2-4-12	3-8-8	3-8-8	4-1-0	4-6-7	4-6-7	4-6-7	4-8-3
1-3-0										
0-1-8										

Plate Offsets (X,Y)-- [2:0-2-4,0-1-8], [5:0-3-0,0-3-8], [6:0-3-8,0-2-8], [8:0-0-3,0-3-0], [9:0-4-0,Edge], [10:0-3-14,Edge], [15:0-3-8,0-2-8], [21:0-4-8,0-3-8], [22:0-3-8,0-2-8], [24:Edge,0-3-8], [25:Edge,0-2-12], [26:0-3-8,0-3-12]

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	0.86	Vert(LL)	-0.32	18-19	>999	240	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.81	Vert(CT)	-0.52	18-19	>733	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	NO	WB	0.95	Horz(CT)	0.06	14	n/a	n/a		
BCLL	0.0 *	Code	IRC2018/TPI2014	Matrix-S							Weight: 300 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1 *Except*
7-20,23-24,5-23: 2x4 SP No.1
WEBS 2x4 SP No.1

BRACING-
TOP CHORD Structural wood sheathing directly applied or 10-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (3-2-0 max.): 3-13.
BOT CHORD Rigid ceiling directly applied or 3-7-12 oc bracing.

REACTIONS. (size) 14=0-3-8, 27=0-3-0, 25=0-3-8
Max Horz 27=83(LC 11)
Max Uplift 14=-149(LC 12), 27=-1917(LC 30), 25=-394(LC 12)
Max Grav 14=2591(LC 30), 27=147(LC 9), 25=6538(LC 30)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-55/580, 2-3=-206/3631, 3-4=-273/5193, 4-5=-223/3997, 5-28=-1003/75, 6-28=-1003/75, 6-29=-4489/293, 29-30=-4489/293, 7-30=-4489/293, 7-8=-4423/290, 8-31=-5508/363, 9-31=-5508/363, 9-10=-5508/363, 10-32=-5508/363, 32-33=-5508/363, 11-33=-5508/363, 11-12=-5099/331, 12-13=-3313/221, 13-14=-2363/151
BOT CHORD 1-27=-534/45, 26-27=-534/56, 26-34=-3261/205, 25-34=-3261/205, 23-35=-4140/278, 35-36=-4140/278, 22-36=-4140/278, 22-37=-46/1003, 37-38=-46/1003, 21-38=-46/1003, 20-21=-6/275, 20-39=-32/563, 39-40=-32/563, 19-40=-32/563, 19-41=-275/4800, 41-42=-275/4800, 18-42=-275/4800, 18-43=-308/5099, 43-44=-308/5099, 17-44=-308/5099, 16-17=-208/3313, 16-45=-208/3313, 45-46=-208/3313, 15-46=-208/3313, 25-49=-486/29, 24-49=-486/29, 5-23=-2918/190
WEBS 2-27=-73/1726, 3-26=-44/884, 4-25=-1256/72, 23-25=-5150/325, 4-23=-79/1604, 5-22=-336/5760, 6-22=-2115/153, 6-21=-245/3935, 19-21=-251/4363, 8-21=-459/39, 8-19=-560/59, 8-18=-60/859, 10-18=-252/45, 11-18=-40/629, 11-17=-663/70, 12-17=-132/2144, 12-15=-1595/124, 13-15=-230/3917, 3-25=-3309/210, 2-26=-2718/174

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NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=41ft; eave=5ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=20.4 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0; Min. flat roof snow load governs. Rain surcharge applied to all exposed surfaces with slopes less than 0.500/12 in accordance with IBC 1608.3.4.
4) Unbalanced snow loads have been considered for this design.
5) Provide adequate drainage to prevent water ponding.
6) All plates are MT20 plates unless otherwise indicated.
7) N/A
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 2-0-0 wide will fit between the bottom chord and any other members.
10) Bearing at joint(s) 25 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 1917 lb uplift at joint 27.
12) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 14 and 25. This connection is for uplift only and does not consider lateral forces.
13) N/A
14) 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.
15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
16) This truss has large uplift reaction(s) from gravity load case(s). Proper connection is required to secure truss against upward movement at the bearings. Building designer must provide for uplift reactions indicated.
17) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 275 lb down and 64 lb up at 6-2-4, 197 lb down and 34 lb up at 7-3-0 , 197 lb down and 34 lb up at 9-3-0, 197 lb down and 32 lb up at 11-3-0, 197 lb down and 32 lb up at 13-3-0, 197 lb down and 32 lb up at 15-3-0, 197 lb down and 32 lb up at 17-3-0, 197 lb down and 34 lb up at 19-3-0, 197 lb down and 34 lb up at 21-3-0, 197 lb down and 34 lb up at 23-3-0, 197 lb down and 34 lb up at 25-3-0, 197 lb down and 34 lb up at 27-3-0, 197 lb down and 34 lb up at 29-3-0, 197 lb down and 34 lb up at 31-3-0, 197 lb down and 34 lb up at 33-3-0, 197 lb down and 34 lb up at 35-3-0, and 197 lb down and 34 lb up at 37-3-0, and 197 lb down and 34 lb up at 39-3-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (plf)
   Vert: 1-3=-51, 3-13=-61, 1-24=-20, 21-23=-20, 14-20=-20
   Concentrated Loads (lb)
   Vert: 26=-275 17=-197 34=-197 35=-197 36=-197 37=-197 38=-197 39=-197 40=-197 41=-197 42=-197 43=-197 44=-197 45=-197 46=-197 47=-197 48=-197 49=-197

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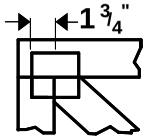
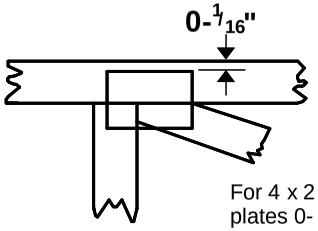
Symbols

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.

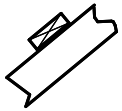
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

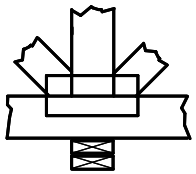
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

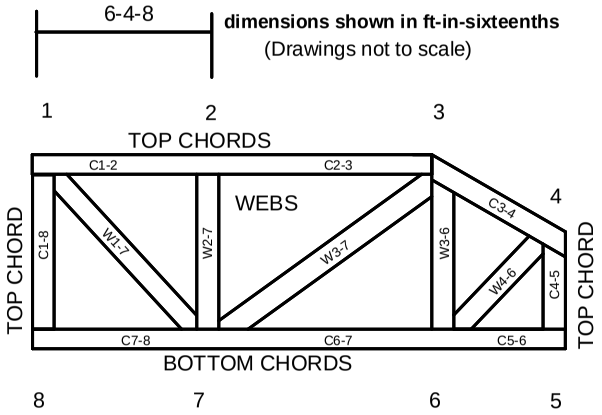


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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, ESR1988
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.

MiTek Engineering Reference Sheet: MII-7473 rev. 5/19/2020

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.