404 SE Mill Creek Dr
PRES 2015 1229

MiTek

MiTek USA, Inc.
14515 North Outer Forty Drive
Suite 300
Chesterfield, MO 63017-5746
314-434-1200

Re: 450324
Lot 90 MC

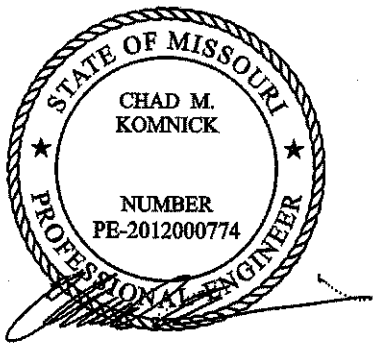
The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Wheeler - Waverly.

Pages or sheets covered by this seal: I24762771 thru I24762774

My license renewal date for the state of Missouri is December 31, 2016.

Missouri COA: 001193

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



RECEIVED
OCT 7 2015
Planning & Codes Admin

August 24,2015

Komnick, Chad

The seal on these drawings indicate acceptance of professional engineering responsibility solely for the truss components shown. The suitability and use of this component for any particular building is the responsibility of the building designer, per ANSI/TPI 1.

Job	Truss	Truss Type	Qty	Ply	Lot 90 MC	
450324	C1	Hip	1	1	REPAIR: 4 TRUSSES, 4 UNITS TH	I24762771
					Job Reference (optional)	

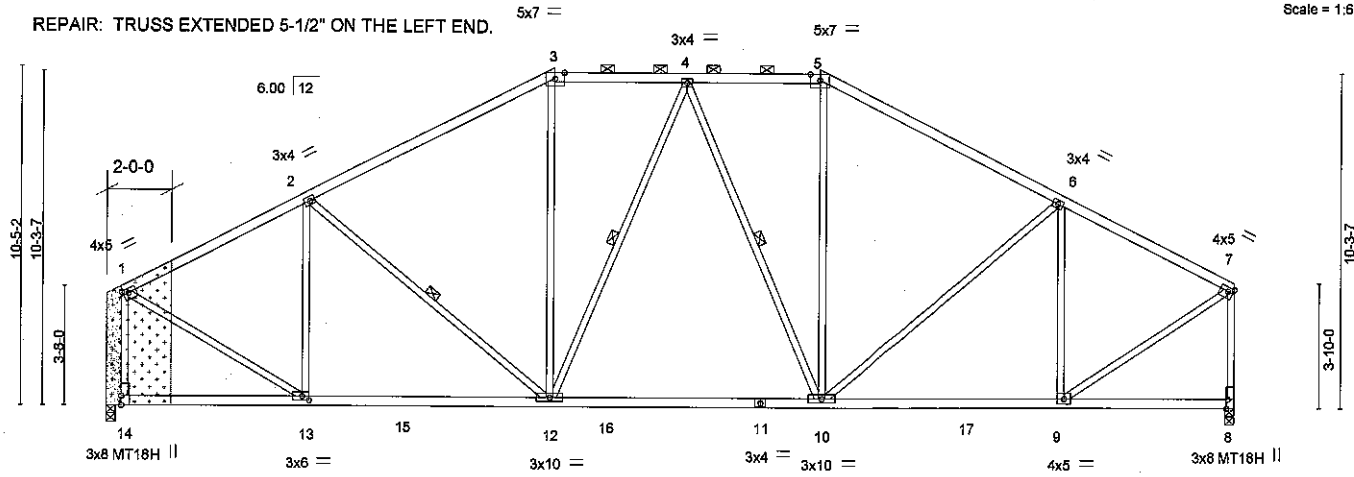
Wheeler Lumber LLC, Waverly, KS 66871

7.530 s Jul 11 2014 MiTek Industries, Inc. Mon Aug 24 14:14:23 2015 Page 1
ID:D6oZpSHJf6D_SYeKyjOyE_zw4dC-JQCDnFZktl4B5WEvRXHI2EqYuc_2Z46HaC3e?KykcZk

5-9-9	13-6-4	17-8-0	21-9-12	29-6-7	35-0-0
5-9-9	7-8-11	4-1-12	4-1-12	7-8-12	5-5-9

REPAIR: TRUSS EXTENDED 5-1/2" ON THE LEFT END.

Scale = 1:68.5



ADD 2 X 6 SPF NO.2
CUT TO FIT TIGHT

ATTACH 1/2" PLYWOOD OR OSB GUSSET (15/32" RATED SHEATHING 32/16 EXP 1)
TO EACH FACE OF TRUSS WITH (0.131" X MIN 2.5") NAILS PER THE FOLLOWING NAIL SCHEDULE:
2 x 3's - 2 ROWS, 2 x 4's - 3 ROWS, 2 x 6'S AND LARGER - 4 ROWS: SPACED @ 4" O.C.
NAILS TO BE DRIVEN FROM BOTH FACES. STAGGER SPACING FROM FRONT TO BACK
FACE FOR A NET 2" O.C. SPACING IN THE TRUSS. USE 2" MEMBER END DISTANCE.

5-9-9	13-6-4	21-9-12	29-6-7	35-0-0
5-9-9	7-8-11	8-3-8	7-8-12	5-5-9

Plate Offsets (X,Y)-- [1:0-2-0,0-1-8], [3:0-3-10,Edge], [5:0-3-10,Edge], [7:0-2-0,0-1-8], [8:0-3-8,Edge], [13:0-2-8,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plates Increase	1.15	TC	0.88	Vert(LL)	-0.22	10-12	>999	360	MT20	197/144
TCDL	10.0	Lumber Increase	1.15	BC	0.76	Vert(TL)	-0.42	10-12	>994	240	MT18H	197/144
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.64	Horz(TL)	0.06	8	n/a	n/a		
BCDL	10.0	Code IRC2012/TPI2007		(Matrix)		Wind(LL)	0.04	12	>999	240	Weight: 158 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (4-10-13 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 2-12, 4-12, 4-10

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

REACTIONS. (lb/size) 14=1566/0-3-8, 8=1566/0-3-8
Max Horz 14=221(LC 5)
Max Uplift 14=-160(LC 8), 8=-157(LC 9)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-1455/162, 2-3=-1591/206, 3-4=-1309/237, 4-5=-1297/233, 5-6=-1577/200, 6-7=-1383/151, 1-14=-1518/184, 7-8=-1522/178
BOT CHORD 12-13=-181/1261, 10-12=-133/1362, 9-10=-133/1202
WEBS 2-13=-609/153, 3-12=0/362, 4-12=-305/135, 4-10=-331/136, 5-10=0/358, 6-10=-62/260, 6-9=-661/157, 1-13=-126/1452, 7-9=-127/1432

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=115mph (3-second gust) V(IRC2012)=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 grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * 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, with BCDL = 10.0psf.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 14=160, 8=157.
8) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

August 24,2015

MiTek
14515 N. Outer Forty, Suite #300
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 90 MC	I24762772
450324	C2	Hip	1	1	Job Reference (optional)	

Wheeler Lumber LLC, Waverly, KS 66871

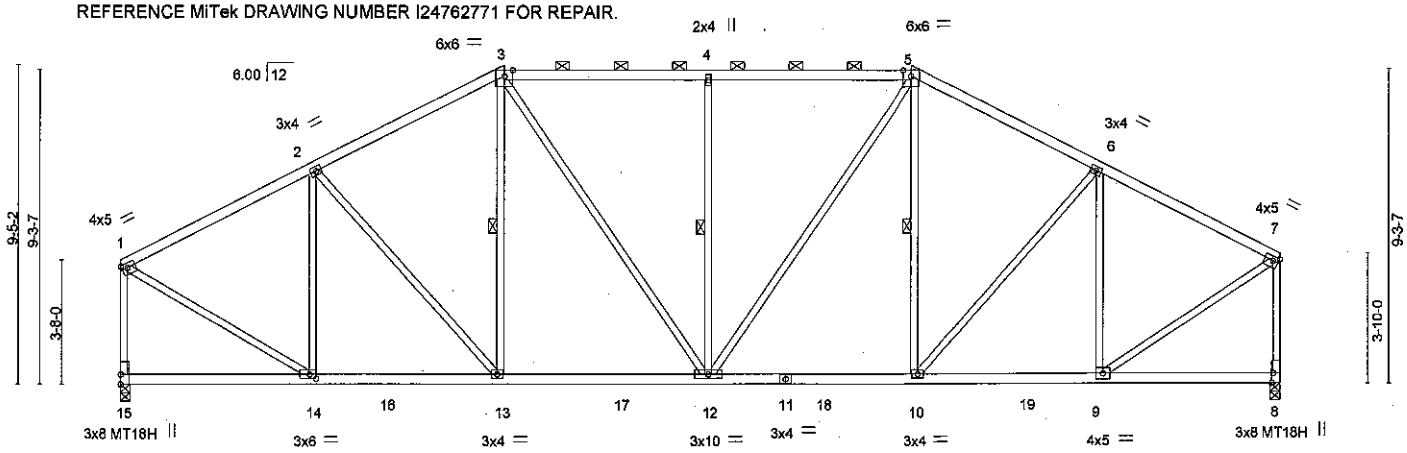
7.530 s Jul 11 2014 MiTek Industries, Inc. Mon Aug 24 14:14:25 2015 Page 1
ID:D6oZpSHJf6D_SYeKyjOyE_zw4dC-FoK_Cxa_PJKvKqOlYyJm7fwzbQjK1_aa1WYI3DykcZi

5-9-10	11-6-4	17-8-0	23-9-12	29-6-7	35-0-0
5-9-10	5-8-11	6-1-12	6-1-12	5-8-11	5-5-9

REPAIR: TRUSS EXTENDED 5-1/2" ON THE LEFT END.

REFERENCE MiTek DRAWING NUMBER I24762771 FOR REPAIR.

Scale = 1:65.9



5-9-10	11-6-4	17-8-0	23-9-12	29-6-7	35-0-0
5-9-10	5-8-11	6-1-12	6-1-12	5-8-11	5-5-9

Plate Offsets (X,Y)-- [1:0-2-0,0-1-8], [7:0-2-0,0-1-8], [8:0-3-8,Edge], [14:0-2-8,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plates Increase	1.15	TC	0.54	Vert(LL)	-0.10	12-13	>999	360	MT20	197/144
TCDL	10.0	Lumber Increase	1.15	BC	0.52	Vert(TL)	-0.22	12-13	>999	240	MT18H	197/144
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.64	Horz(TL)	0.06	8	n/a	n/a		
BCDL	10.0	Code IRC2012/TPI2007		(Matrix)		Wind(LL)	0.05	12	>999	240	Weight: 160 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

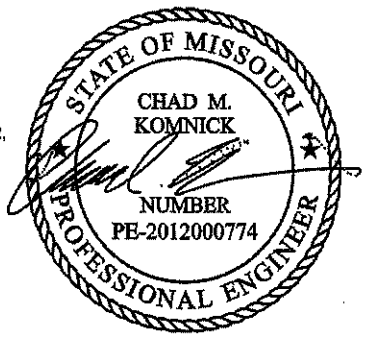
BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-2-13 oc purlins, except end verticals, and 2-0-0 oc purlins (4-2-2 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-13, 4-12, 5-10

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

REACTIONS. (lb/size) 15=1566/0-3-8, 8=1566/0-3-8
Max Horz 15=208(LC 5)
Max Uplift 15=-142(LC 8), 8=-139(LC 9)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-1458/140, 2-3=-1593/193, 3-4=-1553/207, 4-5=-1553/207, 5-6=-1569/192, 6-7=-1385/130, 1-15=-1513/168, 7-8=-1517/162
BOT CHORD 13-14=-204/1238, 12-13=-187/1345, 10-12=-126/1326, 9-10=-108/1178
WEBS 2-14=-612/126, 2-13=-79/287, 3-12=-131/488, 4-12=-519/210, 5-12=-133/518, 6-10=-81/330, 6-9=-662/128, 1-14=-94/1419, 7-9=-95/1397

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=115mph (3-second gust) V(IRC2012)=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 grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * 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, with BCDL = 10.0psf.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 15=142, 8=139.
8) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



August 24,2015

MiTek
14515 N. Outer Forty, Suite #300
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 90 MC	
450324	C3	Hip	1	1	Job Reference (optional)	I24762773

Wheeler Lumber LLC, Waverly, KS 66871

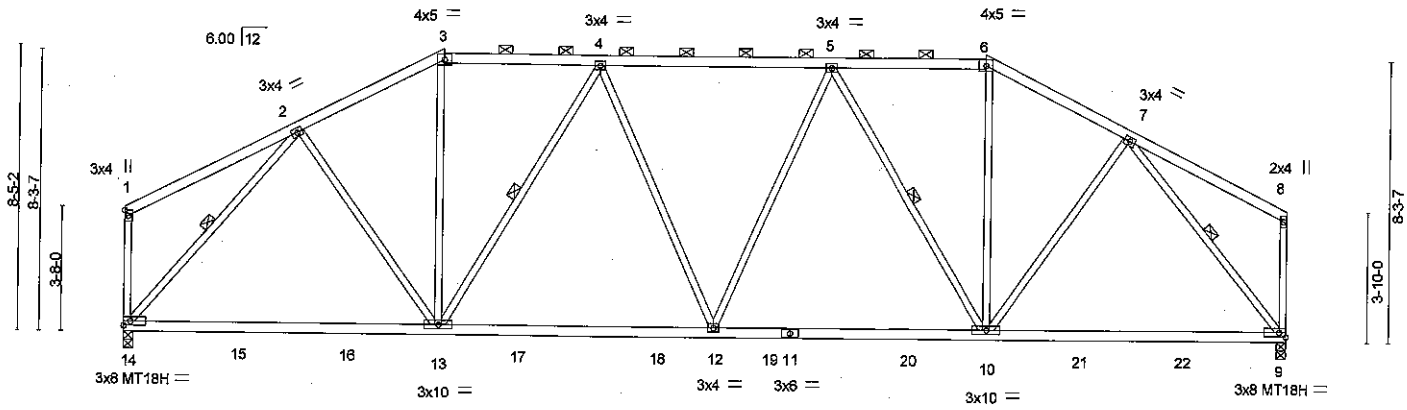
7.530 s Jul 11 2014 MiTek Industries, Inc. Mon Aug 24 14:14:26 2015 Page 1
ID:D6oZpSHJf6D_SYeKyjOyE_zw4dC-k?uMPGbcAdSmy_zU6fq?gsS8hqz0mLSjGAIJbfykcZh

5-2-10	9-6-4	14-2-1	21-1-15	25-9-12	30-1-7	35-0-0
5-2-10	4-3-11	4-7-13	6-11-15	4-7-13	4-3-11	4-10-9

REPAIR: TRUSS EXTENDED 5-1/2" ON THE LEFT END.

REFERENCE MiTek DRAWING NUMBER I24762771 FOR REPAIR.

Scale = 1:65.7



9-6-4	17-8-0	25-9-12	35-0-0
9-6-4	8-1-12	8-1-12	9-2-4

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plates Increase	1.15	TC	0.52	Vert(LL)	-0.19	9-10	>999	360	MT20	197/144
TCDL	10.0	Lumber Increase	1.15	BC	0.87	Vert(TL)	-0.48	9-10	>870	240	MT18H	197/144
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.98	Horz(TL)	0.08	9	n/a	n/a		
BCDL	10.0	Code IRC2012/TPI2007		(Matrix)		Wind(LL)	0.06	12	>999	240	Weight: 152 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
11-14: 2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-5-3 oc purlins, except end verticals, and 2-0-0 oc purlins (3-9-8 max.): 3-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-13, 5-10, 2-14, 7-9

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

REACTIONS. (lb/size) 14=1566/0-3-8, 9=1566/0-3-8
Max Horz 14=195(LC 5)
Max Uplift 14=-121(LC 8), 9=-118(LC 9)
Max Grav 14=1569(LC 2), 9=1570(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1611/223, 3-4=-1388/213, 4-5=-1745/243, 5-6=-1355/211, 6-7=-1573/220
BOT CHORD 13-14=-241/1145, 12-13=-285/1690, 10-12=-256/1676, 9-10=-119/1080
WEBS 2-13=-46/496, 3-13=-24/488, 4-13=-688/206, 5-10=-718/207, 6-10=-22/467, 7-10=-52/538, 2-14=-1728/152, 7-9=-1702/155

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=115mph (3-second gust) V(IRC2012)=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 grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * 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, with BCDL = 10.0psf.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 14=121, 9=118.
8) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

August 24,2015

Job	Truss	Truss Type	Qty	Ply	Lot 90 MC	I24762774
450324	C4	Hip	1	1	Job Reference (optional)	

Wheeler Lumber LLC, Waverly, KS 66871

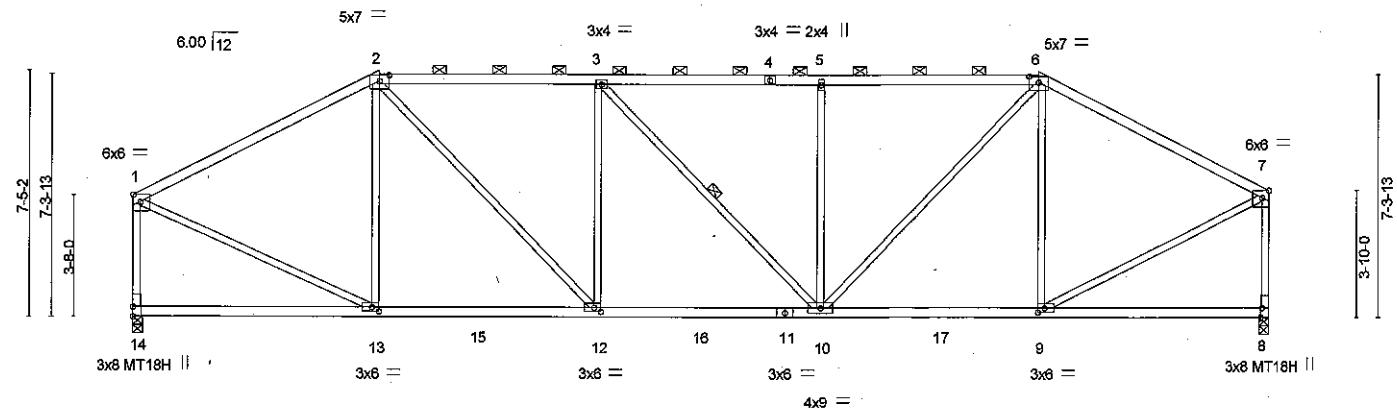
7.530 s Jul 11 2014 MiTek Industries, Inc. Mon Aug 24 14:14:27 2015 Page 1
ID:D6oZpSHJf6D_SYeKyjOyE_zw4dC-CBSkdccExxada8YhgMLEC4?FqDMlVtjtVq1s85ykcZg

7-6-4	14-3-0	21-1-0	27-9-12	35-0-0
7-6-4	6-8-12	6-10-0	6-8-12	7-2-4

REPAIR: TRUSS EXTENDED 5-1/2" ON THE LEFT END.

REFERENCE MiTek DRAWING NUMBER I24762771 FOR REPAIR.

Scale = 1:67.2



7-6-4	14-3-0	21-1-0	27-9-12	35-0-0
7-6-4	6-8-12	6-10-0	6-8-12	7-2-4

Plate Offsets (X,Y)– [1:Edge,0-2-11], [2:0-3-8,0-2-3], [6:0-3-8,0-2-3], [7:0-2-8,Edge], [8:0-3-8,Edge], [9:0-2-8,0-1-8], [12:0-2-8,0-1-8], [13:0-2-8,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plates Increase	1.15	TC	0.82	Vert(LL)	-0.12	10-12	>999	360	MT20	197/144
TCDL	10.0	Lumber Increase	1.15	BC	0.65	Vert(TL)	-0.30	10-12	>999	240	MT18H	197/144
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.66	Horz(TL)	0.06	8	n/a	n/a		
BCDL	10.0	Code IRC2012/TPI2007		(Matrix)		Wind(LL)	0.08	10-12	>999	240	Weight: 145 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF 2100F 1.8E *Except* 2-4,4-6: 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

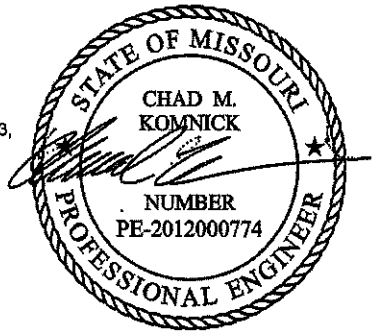
BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-2-11 oc purlins, except end verticals, and 2-0-0 oc purlins (3-4-13 max.): 2-6.
BOT CHORD Rigid ceiling directly applied or 9-10-2 oc bracing.
WEBS 1 Row at midpt 3-10

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

REACTIONS. (lb/size) 14=1566/0-3-8, 8=1566/0-3-8
Max Horz 14=182(LC 5)
Max Uplift 14=-153(LC 5), 8=-155(LC 4)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-1587/235, 2-3=-1922/338, 3-5=-1905/335, 5-6=-1907/336, 6-7=-1530/232, 1-14=-1500/191, 7-8=-1503/192
BOT CHORD 12-13=-260/1332, 10-12=-356/1920, 9-10=-185/1287
WEBS 2-13=-446/169, 2-12=-212/928, 3-12=-541/232, 5-10=-520/212, 6-10=-214/966, 6-9=-489/173, 1-13=-173/1416, 7-9=-175/1399

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=115mph (3-second gust) V(IRC2012)=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 grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * 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, with BCDL = 10.0psf.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 14=153, 8=155.
8) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

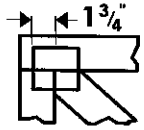


August 24,2015

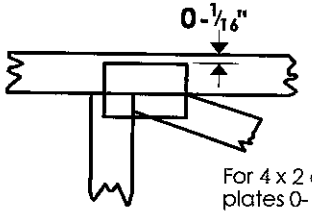
MiTek
14515 N. Outer Forty, Suite #300
Chesterfield, MO 63017

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

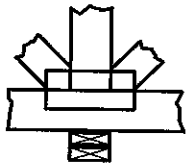
4 X 4

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

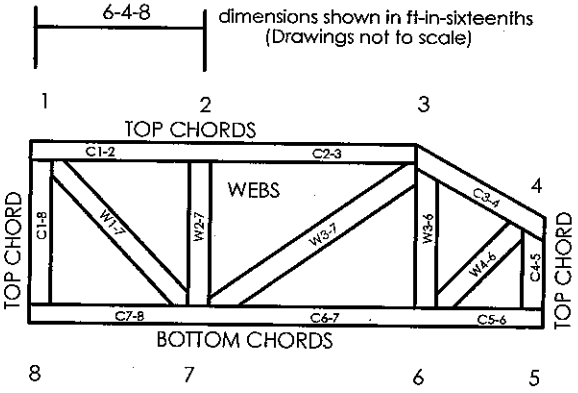


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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

MiTek®

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.