MiTek®

RE: B220035
Lot 144 CB

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

**Site Information:**

Customer: Project Name: B220035
Lot/Block: Model:
Address: Subdivision:
City: State:

**General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):**

Design Code: IRC2012/TPI2007 Design Program: MiTek 20/20 8.4
Wind Code: Wind Speed: 115 mph
Roof Load: 45.0 psf Floor Load: N/A psf

This package includes 23 individual, dated Truss Design Drawings and 0 Additional Drawings.

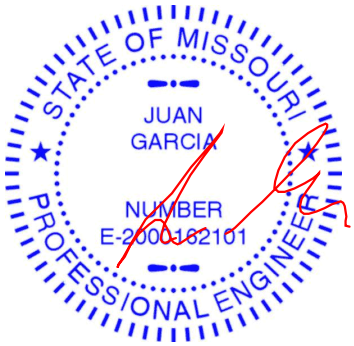
| No. | Seal# | Truss Name | Date | No. | Seal# | Truss Name | Date |
|---|---|---|---|---|---|---|---|
| 1 | I49722353 | A1 | 1/17/2022 | 21 | I49722373 | V2 | 1/17/2022 |
| 2 | I49722354 | A2 | 1/17/2022 | 22 | I49722374 | V3 | 1/17/2022 |
| 3 | I49722355 | A3 | 1/17/2022 | 23 | I49722375 | V4 | 1/17/2022 |
| 4 | I49722356 | A4 | 1/17/2022 | | | | |
| 5 | I49722357 | B1 | 1/17/2022 | | | | |
| 6 | I49722358 | B2 | 1/17/2022 | | | | |
| 7 | I49722359 | B3 | 1/17/2022 | | | | |
| 8 | I49722360 | B4 | 1/17/2022 | | | | |
| 9 | I49722361 | B5 | 1/17/2022 | | | | |
| 10 | I49722362 | B6 | 1/17/2022 | | | | |
| 11 | I49722363 | B7 | 1/17/2022 | | | | |
| 12 | I49722364 | B8 | 1/17/2022 | | | | |
| 13 | I49722365 | B9 | 1/17/2022 | | | | |
| 14 | I49722366 | B10 | 1/17/2022 | | | | |
| 15 | I49722367 | C1 | 1/17/2022 | | | | |
| 16 | I49722368 | G1 | 1/17/2022 | | | | |
| 17 | I49722369 | J1 | 1/17/2022 | | | | |
| 18 | I49722370 | J2 | 1/17/2022 | | | | |
| 19 | I49722371 | LAY1 | 1/17/2022 | | | | |
| 20 | I49722372 | V1 | 1/17/2022 | | | | |

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

Truss Design Engineer's Name: Garcia, Juan

My license renewal date for the state of Missouri is December 31, 2022.

Missouri COA: 001193



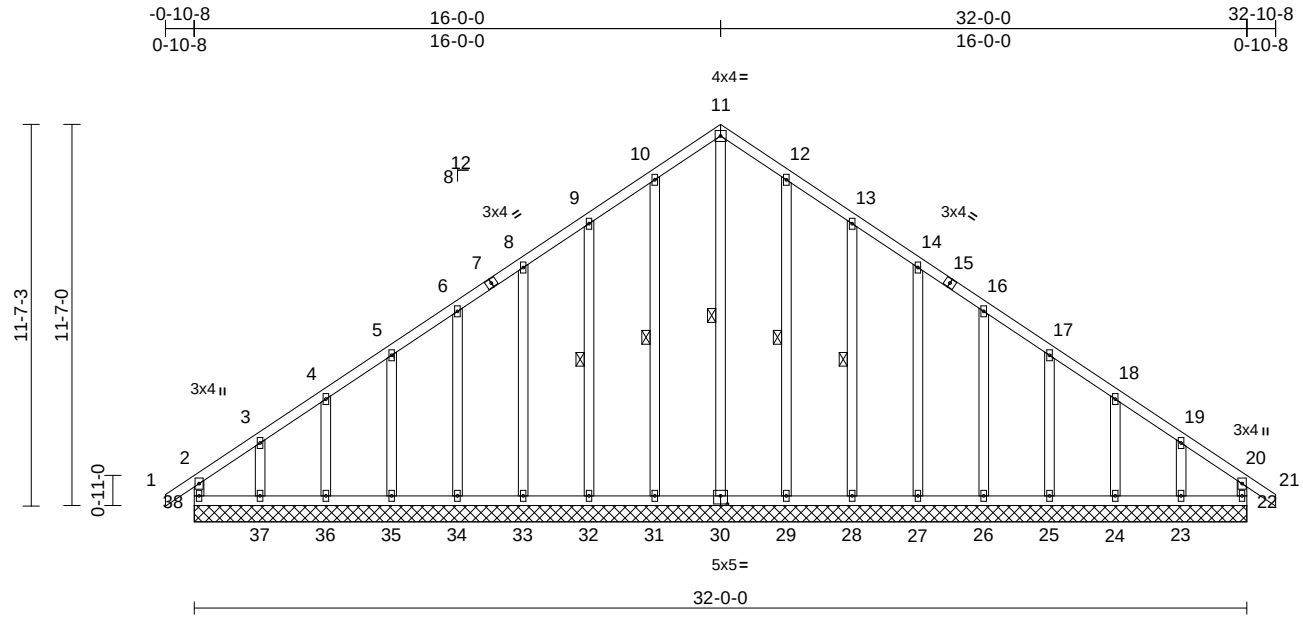

IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek. Any project specific information included is for MiTek customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek 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.

January 17, 2022

Garcia, Juan

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220033 | A1 | Common Supported Gable | 1 | 1 | Job Reference (optional) | I49722353 |

Wheeler Lumber, Waverly, KS - 66871,
Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:58:55 Page: 1
ID:AVXTMfOv7HTdJem99pvFdZzvy1L-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:70

Plate Offsets (X, Y): [30:0-2-8,0-3-0]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.11 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.10 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.17 | Horiz(TL) | 0.01 | 22 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-R | | | | | | | Weight: 188 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2
OTHERS 2x4 SPF No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 11-30, 10-31, 9-32, 12-29, 13-28

**REACTIONS** (lb/size) 22=166/32-0-0, 23=162/32-0-0, 24=184/32-0-0, 25=179/32-0-0, 26=180/32-0-0, 27=180/32-0-0, 28=179/32-0-0, 29=187/32-0-0, 30=162/32-0-0, 31=187/32-0-0, 32=179/32-0-0, 33=180/32-0-0, 34=180/32-0-0, 35=179/32-0-0, 36=184/32-0-0, 37=162/32-0-0, 38=166/32-0-0
Max Horiz 38=320 (LC 7)
Max Uplift 22=-79 (LC 5), 23=-156 (LC 9), 24=-50 (LC 9), 25=-75 (LC 9), 26=-69 (LC 9), 27=-69 (LC 9), 28=-77 (LC 9), 29=-56 (LC 9), 31=-58 (LC 8), 32=-76 (LC 8), 33=-69 (LC 8), 34=-69 (LC 8), 35=-76 (LC 8), 36=-46 (LC 8), 37=-173 (LC 8), 38=-140 (LC 4)
Max Grav 22=208 (LC 15), 23=226 (LC 16), 24=184 (LC 1), 25=189 (LC 16), 26=186 (LC 16), 27=187 (LC 16), 28=187 (LC 16), 29=193 (LC 16), 30=311 (LC 9), 31=196 (LC 15), 32=185 (LC 15), 33=187 (LC 15), 34=186 (LC 15), 35=191 (LC 15), 36=184 (LC 1), 37=250 (LC 15), 38=255 (LC 16)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-38=-210/118, 1-2=0/40, 2-3=-244/223, 3-4=-180/171, 4-5=-168/167, 5-6=-148/178, 6-8=-130/215, 8-9=-112/251, 9-10=-96/292, 10-11=-83/320, 11-12=-70/308, 12-13=-49/255, 13-14=-60/215, 14-16=-74/179, 16-17=-87/141, 17-18=-102/104, 18-19=-114/106, 19-20=-178/148, 20-21=0/40, 20-22=-172/69
BOT CHORD 37-38=-135/164, 36-37=-135/164, 35-36=-135/164, 34-35=-135/164, 33-34=-135/164, 32-33=-135/164, 31-32=-135/164, 29-31=-135/164, 28-29=-135/164, 27-28=-135/164, 26-27=-135/164, 25-26=-135/164, 24-25=-135/164, 23-24=-135/164, 22-23=-135/164
WEBS 11-30=-287/16, 10-31=-156/82, 9-32=-145/100, 8-33=-147/93, 6-34=-146/93, 5-35=-148/97, 4-36=-144/82, 3-37=-176/149, 12-29=-153/80, 13-28=-147/101, 14-27=-147/93, 16-26=-147/94, 17-25=-148/96, 18-24=-144/84, 19-23=-162/139

**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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
7) Gable studs spaced at 2-0-0 oc.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.


January 17,2022

Continued on page 2



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220633 | A1 | Common Supported Gable | 1 | 1 | Job Reference (optional) | I49722353 |



10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 140 lb uplift at joint 38, 79 lb uplift at joint 22, 58 lb uplift at joint 31, 76 lb uplift at joint 32, 69 lb uplift at joint 33, 69 lb uplift at joint 34, 76 lb uplift at joint 35, 46 lb uplift at joint 36, 173 lb uplift at joint 37, 56 lb uplift at joint 29, 77 lb uplift at joint 28, 69 lb uplift at joint 27, 69 lb uplift at joint 26, 75 lb uplift at joint 25, 50 lb uplift at joint 24 and 156 lb uplift at joint 23.

**LOAD CASE(S)** Standard

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220033 | A2 | Common | 6 | 1 | Job Reference (optional) | I49722354 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:58:57 Page: 1
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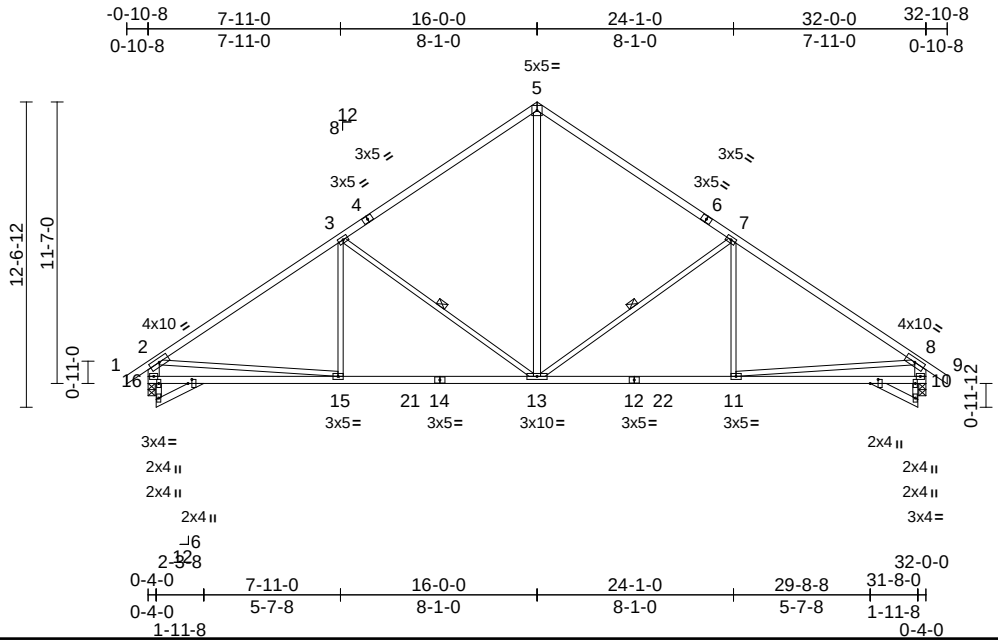



Scale = 1:94.8

Plate Offsets (X, Y): [18:0-2-0,0-1-15], [19:0-2-0,0-3-15]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.90 | Vert(LL) | -0.11 | 13-15 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.60 | Vert(TL) | -0.28 | 13-15 | >999 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.61 | Horiz(TL) | 0.06 | 10 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | Wind(LL) | 0.05 | 13-15 | >999 | 240 | Weight: 141 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 13-5:2x4 SPF No.2, 16-2,10-8:2x6 SPF No.2

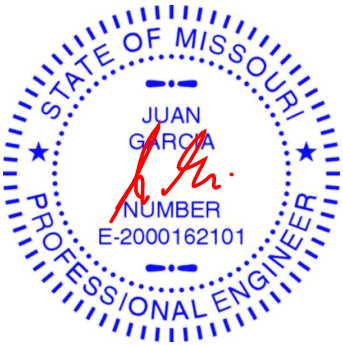
**BRACING**
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 7-13, 3-13

**REACTIONS** (lb/size) 10=1497/0-3-8, 16=1497/0-3-8
Max Horiz 16=-322 (LC 6)
Max Uplift 10=-186 (LC 9), 16=-186 (LC 8)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/43, 2-3=-1925/229, 3-5=-1394/279, 5-7=-1394/279, 7-8=-1925/229, 8-9=0/43, 2-16=-1423/228, 8-10=-1423/227
BOT CHORD 15-16=-341/694, 13-15=-229/1630, 11-13=-56/1482, 10-11=-176/477
WEBS 5-13=-110/857, 7-13=-682/283, 7-11=0/260, 3-13=-682/284, 3-15=0/260, 2-15=0/1058, 8-11=0/1070

**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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are 3x5 MT20 unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * 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 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 186 lb uplift at joint 16 and 186 lb uplift at joint 10.

**LOAD CASE(S)** Standard




January 17,2022



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220033 | V3 | Roof Special | 3 | 1 | Job Reference (optional) | I49722355 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:58:58 Page: 1
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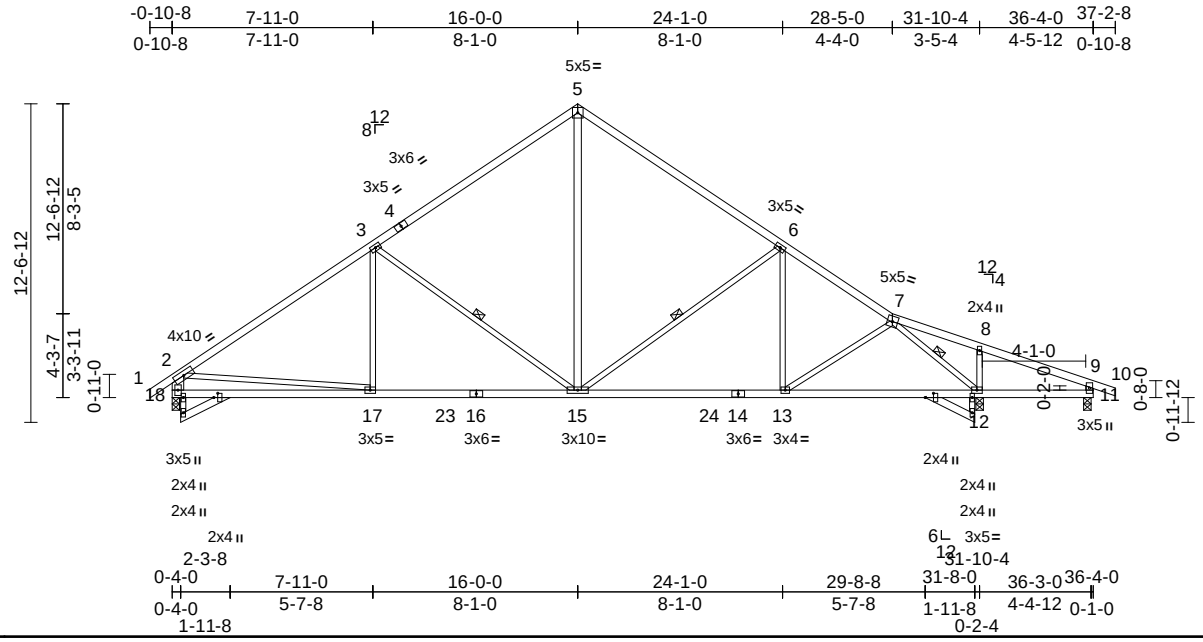


Scale = 1:90.9

Plate Offsets (X, Y): [20:0-2-0,0-1-15], [21:0-2-0,0-3-15]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.98 | Vert(LL) | -0.11 | 13-15 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.60 | Vert(TL) | -0.28 | 13-15 | >999 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.62 | Horiz(TL) | 0.07 | 12 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | Wind(LL) | 0.06 | 13-15 | >999 | 240 | Weight: 152 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 15-5,11-9:2x4 SPF No.2, 18-2:2x6 SPF No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 3-15, 6-15, 7-12

**REACTIONS** (lb/size) 11=113/0-3-8, 12=1792/0-3-8, 18=1480/0-3-8
Max Horiz 18=-330 (LC 6)
Max Uplift 11=-127 (LC 5), 12=-196 (LC 9), 18=-187 (LC 8)
Max Grav 11=145 (LC 20), 12=1792 (LC 1), 18=1480 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/43, 2-3=-1898/230, 3-5=-1366/280, 5-6=-1363/278, 6-7=-1705/243, 7-8=0/318, 8-9=-6/327, 9-10=0/23, 2-18=-1406/229, 9-11=-136/142
BOT CHORD 17-18=-347/698, 15-17=-235/1612, 13-15=-59/1403, 12-13=-111/1226, 11-12=-246/27
WEBS 3-17=0/262, 3-15=-683/283, 5-15=-109/819, 6-15=-576/277, 6-13=0/203, 8-12=-370/158, 2-17=0/1028, 7-13=0/274, 7-12=-1919/171

**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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 187 lb uplift at joint 18, 196 lb uplift at joint 12 and 127 lb uplift at joint 11.

**LOAD CASE(S)** Standard

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

January 17,2022

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220633 | V4 | Monopitch Structural Gable | 1 | 1 | Job Reference (optional) | I49722356 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:58:58 Page: 1
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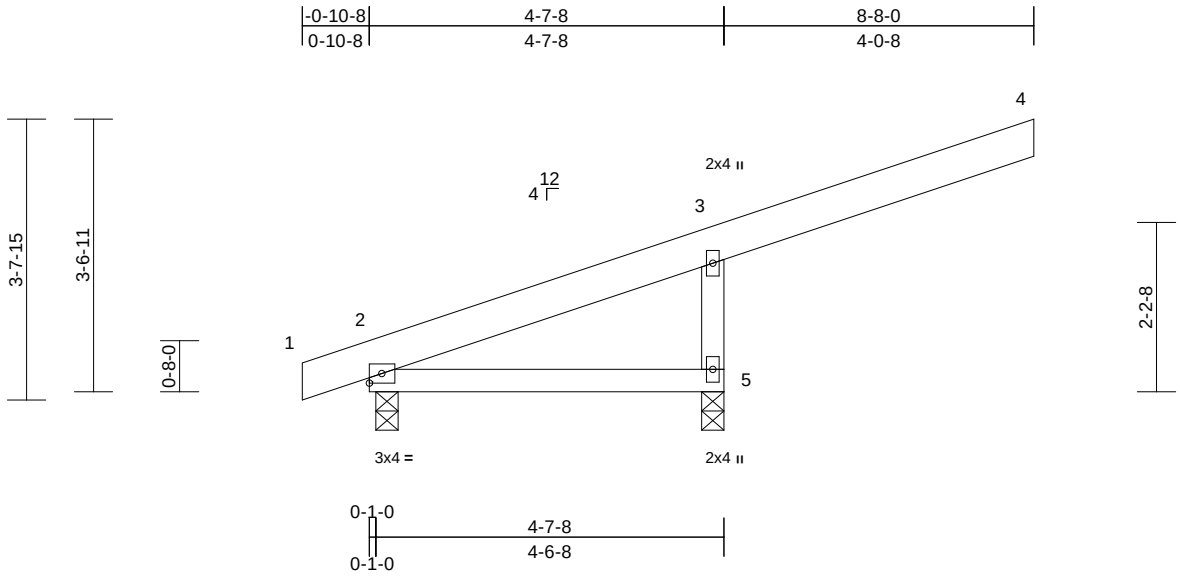



Scale = 1:30

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.57 | Vert(LL) | -0.02 | 2-5 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.19 | Vert(TL) | -0.05 | 2-5 | >984 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.00 | Horiz(TL) | 0.00 | 5 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-P | | | | | | | Weight: 25 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2

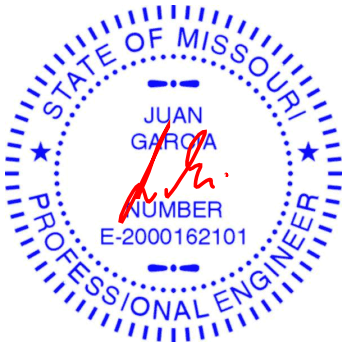
**BRACING**
TOP CHORD Structural wood sheathing directly applied or 4-7-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 2=133/0-3-8, 5=621/0-3-8
Max Horiz 2=137 (LC 5)
Max Uplift 2=-4 (LC 4), 5=-239 (LC 5)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/1, 2-3=-139/108, 3-4=-93/0, 3-5=-578/265
BOT CHORD 2-5=-25/19

**NOTES**
1) 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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable studs spaced at 2-0-0 oc.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * 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 2-00-00 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 239 lb uplift at joint 5 and 4 lb uplift at joint 2.

**LOAD CASE(S)** Standard




January 17,2022



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220633 | B1 | Common Structural Gable | 1 | 1 | Job Reference (optional) | I49722357 |

Wheeler Lumber, Waverly, KS - 66871,

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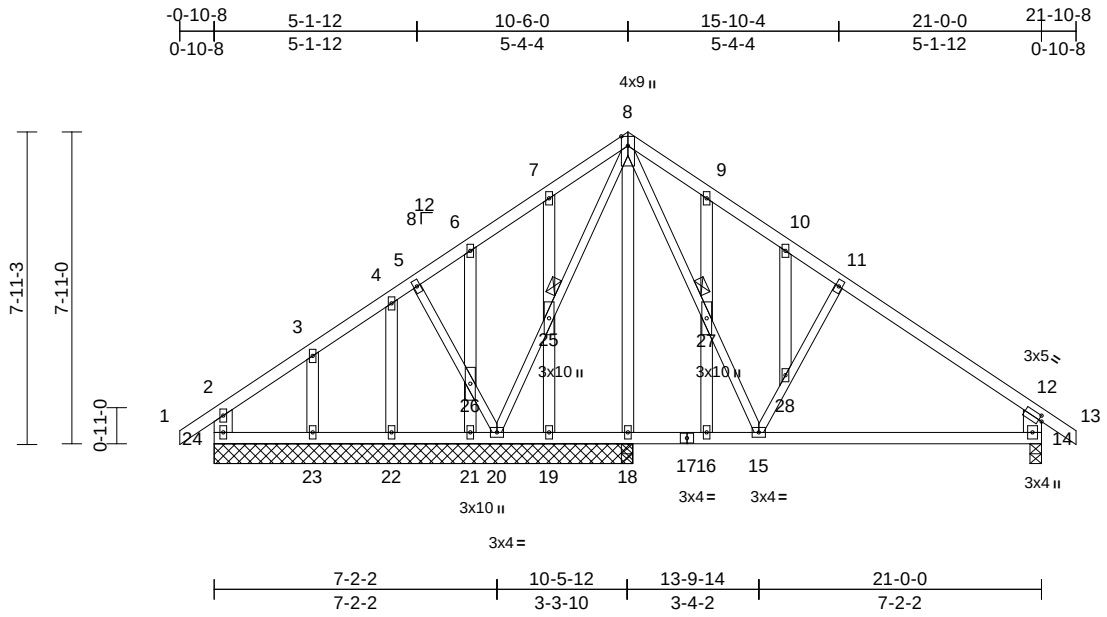



Scale = 1:58.5

Plate Offsets (X, Y): [12:0-1-0,0-1-8]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.31 | Vert(LL) | -0.06 | 14-15 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.31 | Vert(TL) | -0.14 | 14-15 | >869 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.43 | Horiz(TL) | 0.00 | 14 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | Wind(LL) | 0.01 | 16 | >999 | 240 | Weight: 115 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 24-2,14-12:2x6 SPF No.2
OTHERS 2x4 SPF No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing, Except:
10-0-0 oc bracing: 14-15.
JOINTS 1 Brace at Jt(s): 25, 27

**REACTIONS** (lb/size) 14=498/0-3-8, 18=609/10-7-8, 19=123/10-7-8, 20=210/10-7-8, 21=117/10-7-8, 22=87/10-7-8, 23=224/10-7-8, 24=135/10-7-8
Max Horiz 24=-224 (LC 6)
Max Uplift 14=-128 (LC 9), 19=-55 (LC 8), 20=-39 (LC 9), 21=-36 (LC 8), 22=-13 (LC 4), 23=-122 (LC 8), 24=-35 (LC 4)
Max Grav 14=499 (LC 20), 18=609 (LC 1), 19=172 (LC 19), 20=210 (LC 1), 21=143 (LC 19), 22=127 (LC 19), 23=264 (LC 15), 24=170 (LC 19)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/43, 2-3=-69/131, 3-4=-36/101, 4-5=-35/115, 5-6=-27/155, 6-7=-20/184, 7-8=0/189, 8-9=-245/249, 9-10=-230/202, 10-11=-258/172, 11-12=-409/151, 12-13=0/43, 2-24=-150/46, 12-14=-434/170
BOT CHORD 23-24=-155/149, 22-23=-155/149, 21-22=-155/149, 20-21=-155/149, 19-20=-103/114, 18-19=-103/114, 16-18=-109/113, 15-16=-109/113, 14-15=-31/254
WEBS 8-27=-147/486, 15-27=-151/518, 20-25=-136/56, 8-25=-142/58, 15-28=-284/195, 11-28=-246/168, 5-26=-119/83, 20-26=-133/92, 8-18=-451/0, 7-25=-159/94, 19-25=-161/90, 6-26=-119/67, 21-26=-113/56, 4-22=-87/31, 3-23=-198/133, 9-27=-135/62, 16-27=-169/67, 10-28=-45/30

**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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * 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 2-00-00 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 128 lb uplift at joint 14, 39 lb uplift at joint 20, 35 lb uplift at joint 24, 55 lb uplift at joint 19, 36 lb uplift at joint 21, 13 lb uplift at joint 22 and 122 lb uplift at joint 23.

**LOAD CASE(S)** Standard

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

January 17,2022

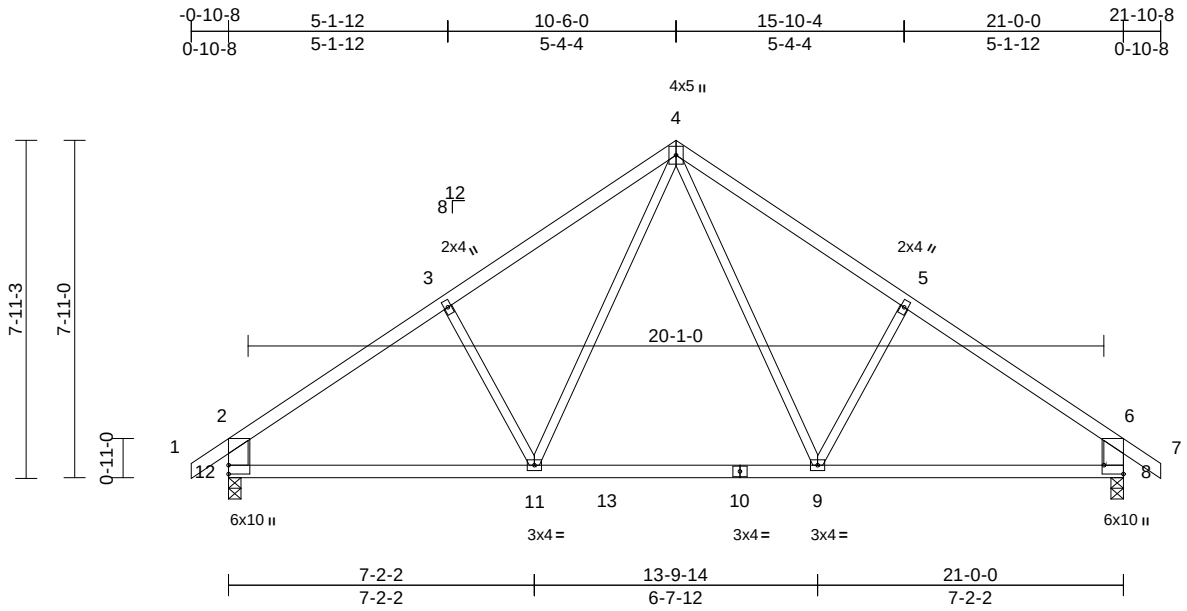


MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220033 | B2 | Common | 6 | 1 | Job Reference (optional) | I49722358 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:58:58 Page: 1
ID:fh5rZ_PXubbUwnLLjXQU9mzvy1K-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:54.1

Plate Offsets (X, Y): [8:Edge,0-5-8]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.85 | Vert(LL) | -0.20 | 9-11 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.56 | Vert(TL) | -0.37 | 9-11 | >669 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.20 | Horiz(TL) | 0.03 | 8 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | Wind(LL) | 0.08 | 9-11 | >999 | 240 | Weight: 78 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 12-2,8-6:2x6 SPF No.2

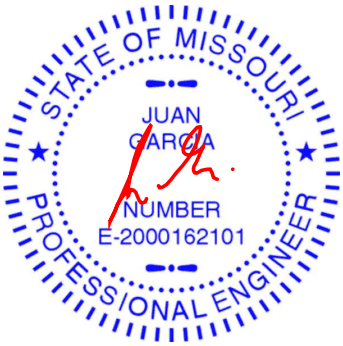
**BRACING**
TOP CHORD Structural wood sheathing directly applied or 2-2-1 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 8=1002/0-3-8, 12=1002/0-3-8
Max Horiz 12=-227 (LC 6)
Max Uplift 8=-129 (LC 9), 12=-129 (LC 8)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/43, 2-3=-1173/157, 3-4=-1006/216, 4-5=-1006/216, 5-6=-1173/158, 6-7=0/43, 2-12=-908/167, 6-8=-908/167
BOT CHORD 11-12=-149/955, 9-11=0/675, 8-9=-41/856
WEBS 4-9=-121/416, 5-9=-245/221, 4-11=-121/418, 3-11=-245/221

**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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 129 lb uplift at joint 12 and 129 lb uplift at joint 8.

**LOAD CASE(S)** Standard




January 17,2022

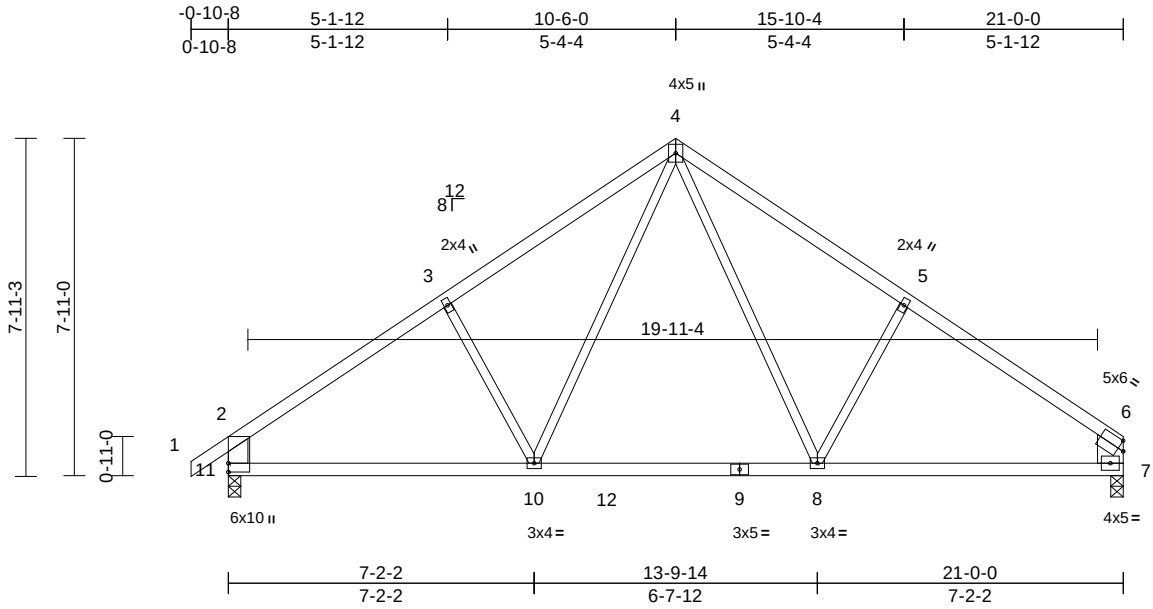


MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220633 | B3 | Common | 4 | 1 | Job Reference (optional) | I49722359 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:58:59 Page: 1
ID:fh5rZ_PXubbUwnLLjXQU9mzvy1K-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:54.1

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.86 | Vert(LL) | -0.23 | 8-10 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.72 | Vert(TL) | -0.44 | 8-10 | >562 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.21 | Horiz(TL) | 0.03 | 7 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | Wind(LL) | 0.10 | 8-10 | >999 | 240 | Weight: 77 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 11-2:2x6 SPF No.2, 7-6:2x8 SP DSS

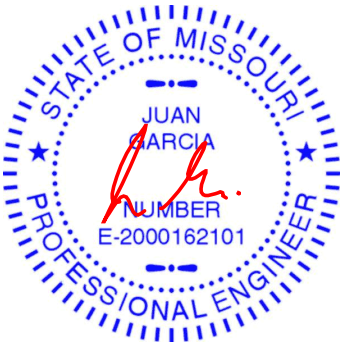
**BRACING**
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 7=919/0-3-8, 11=1000/0-3-8
Max Horiz 11=221 (LC 7)
Max Uplift 7=-103 (LC 9), 11=-129 (LC 8)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/43, 2-3=-1173/157, 3-4=-1006/216, 4-5=-994/214, 5-6=-1157/155, 2-11=-908/167, 6-7=-807/137
BOT CHORD 10-11=-162/945, 8-10=-10/661, 7-8=-68/853
WEBS 4-8=-118/400, 5-8=-257/222, 4-10=-122/427, 3-10=-244/221

**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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 129 lb uplift at joint 11 and 103 lb uplift at joint 7.

**LOAD CASE(S)** Standard




January 17,2022



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220633 | B4 | Common | 3 | 1 | Job Reference (optional) | I49722360 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:58:59 Page: 1
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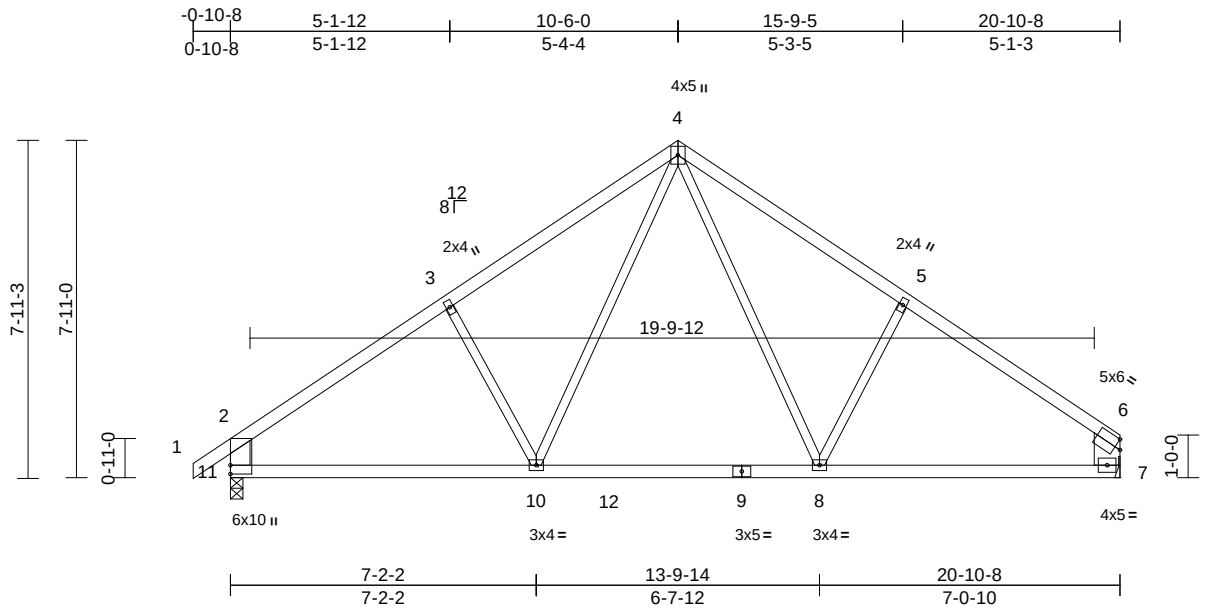



Scale = 1:54.1

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.85 | Vert(LL) | -0.24 | 8-10 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.75 | Vert(TL) | -0.46 | 8-10 | >529 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.21 | Horiz(TL) | 0.03 | 7 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | Wind(LL) | 0.11 | 8-10 | >999 | 240 | Weight: 77 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 11-2:2x6 SPF No.2, 7-6:2x8 SP DSS

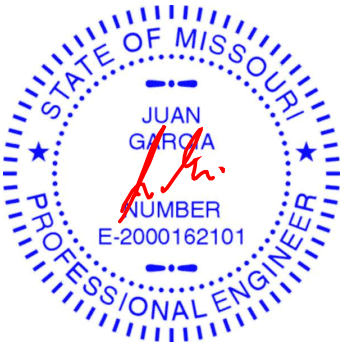
**BRACING**
TOP CHORD Structural wood sheathing directly applied or 2-4-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 7=913/ Mechanical, 11=995/0-3-8
Max Horiz 11=222 (LC 5)
Max Uplift 7=-101 (LC 9), 11=-128 (LC 8)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/43, 2-3=-1165/157, 3-4=-999/215, 4-5=-949/213, 5-6=-1128/151, 2-11=-903/166, 6-7=-797/135
BOT CHORD 10-11=-162/939, 8-10=-10/654, 7-8=-66/824
WEBS 4-8=-118/379, 5-8=-244/219, 4-10=-122/430, 3-10=-244/221

**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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 128 lb uplift at joint 11 and 101 lb uplift at joint 7.

**LOAD CASE(S)** Standard




January 17,2022



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220633 | B5 | Roof Special | 1 | 1 | Job Reference (optional) | I49722361 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:58:59 Page: 1
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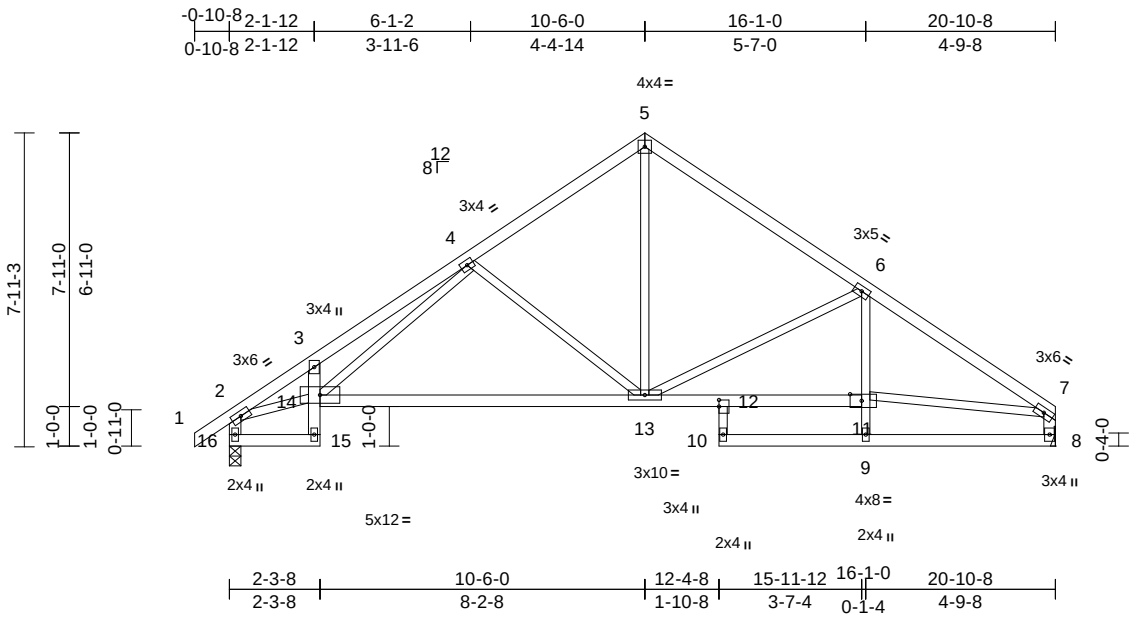



Scale = 1:58.2

Plate Offsets (X, Y): [11:0-3-8,0-2-0], [12:0-2-0,Edge]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.36 | Vert(LL) | -0.15 | 13-14 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.57 | Vert(TL) | -0.41 | 13-14 | >605 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.48 | Horiz(TL) | 0.11 | 8 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | Wind(LL) | 0.06 | 13-14 | >999 | 240 | Weight: 89 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 12-10:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 16-2,8-7:2x4 SPF No.2

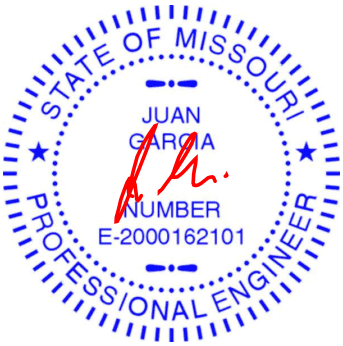
**BRACING**
TOP CHORD Structural wood sheathing directly applied or 3-11-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 8=924/ Mechanical, 16=999/0-3-8
Max Horiz 16=220 (LC 5)
Max Uplift 8=-103 (LC 9), 16=-128 (LC 8)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/40, 2-3=-1811/259, 3-4=-1963/380, 4-5=-997/163, 5-6=-1021/176, 6-7=-1478/164, 2-16=-970/155, 7-8=-867/129
BOT CHORD 15-16=-95/165, 14-15=-21/52, 3-14=-243/140, 13-14=-178/1100, 12-13=-83/1175, 11-12=-67/1058, 10-12=0/74, 9-10=-16/117, 8-9=-16/137
WEBS 4-14=-187/819, 4-13=-462/229, 5-13=-79/675, 6-13=-498/215, 9-11=0/160, 6-11=0/181, 2-14=-218/1360, 7-11=-67/1031

**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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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 2-00-00 wide will fit between the bottom chord and any other members.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 128 lb uplift at joint 16 and 103 lb uplift at joint 8.

**LOAD CASE(S)** Standard



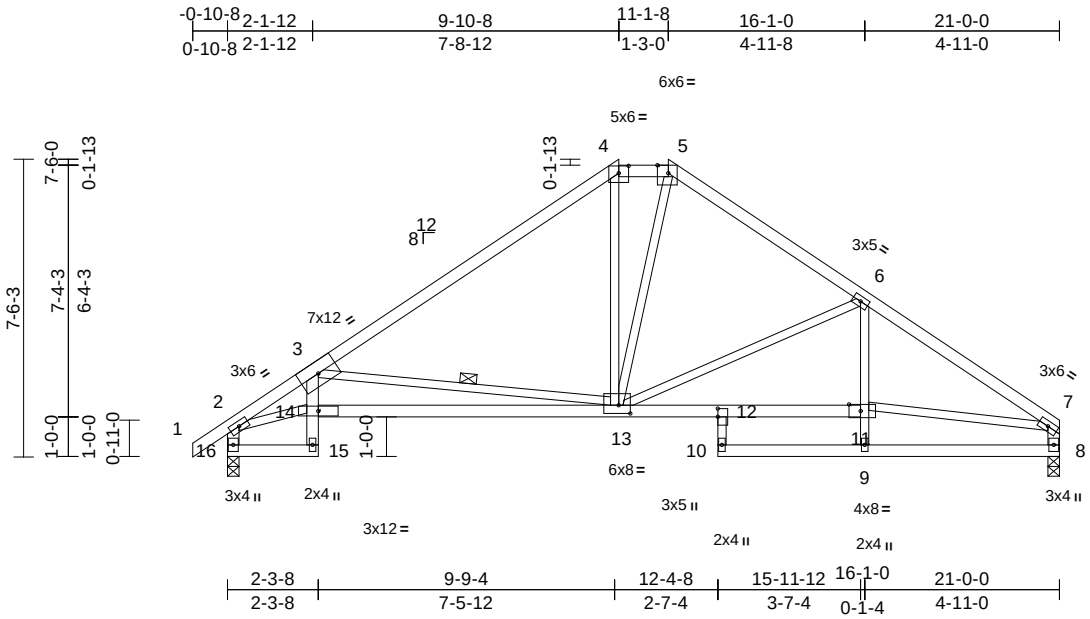

January 17,2022



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220633 | B6 | Hip | 1 | 1 | Job Reference (optional) | I49722362 |






Scale = 1:58.2

Plate Offsets (X, Y): [4:0-3-0,0-2-3], [5:0-3-5,Edge], [11:0-3-8,0-2-0], [12:0-2-8,Edge], [13:0-3-8,0-2-8]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.75 | Vert(LL) | -0.12 | 13-14 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.68 | Vert(TL) | -0.33 | 13-14 | >748 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.67 | Horiz(TL) | 0.14 | 8 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | Wind(LL) | 0.07 | 13-14 | >999 | 240 | Weight: 91 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 12-10:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 16-2,8-7:2x4 SPF No.2

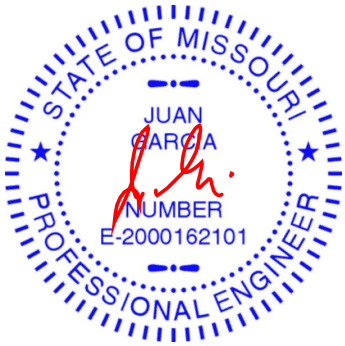
**BRACING**
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (5-10-11 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 14-15
8-1-12 oc bracing: 13-14.
WEBS 1 Row at midpt 3-13

**REACTIONS** (lb/size) 8=930/0-3-8, 16=1005/0-3-8
Max Horiz 16=206 (LC 5)
Max Uplift 8=-102 (LC 9), 16=-125 (LC 8)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/40, 2-3=-1919/314, 3-4=-1152/132, 4-5=-831/179, 5-6=-1009/161, 6-7=-1508/153, 2-16=-954/139, 7-8=-874/129
BOT CHORD 15-16=-93/174, 14-15=-26/38, 3-14=0/317, 13-14=-513/2009, 12-13=-68/1197, 11-12=-49/1066, 10-12=0/67, 9-10=-19/131, 8-9=-20/156
WEBS 3-13=-1228/499, 4-13=-22/286, 5-13=-129/428, 6-13=-504/195, 9-11=0/174, 6-11=0/217, 2-14=-280/1470, 7-11=-48/1031

**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) exterior 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * 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 2-00-00 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 125 lb uplift at joint 16 and 102 lb uplift at joint 8.
7) 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




January 17,2022

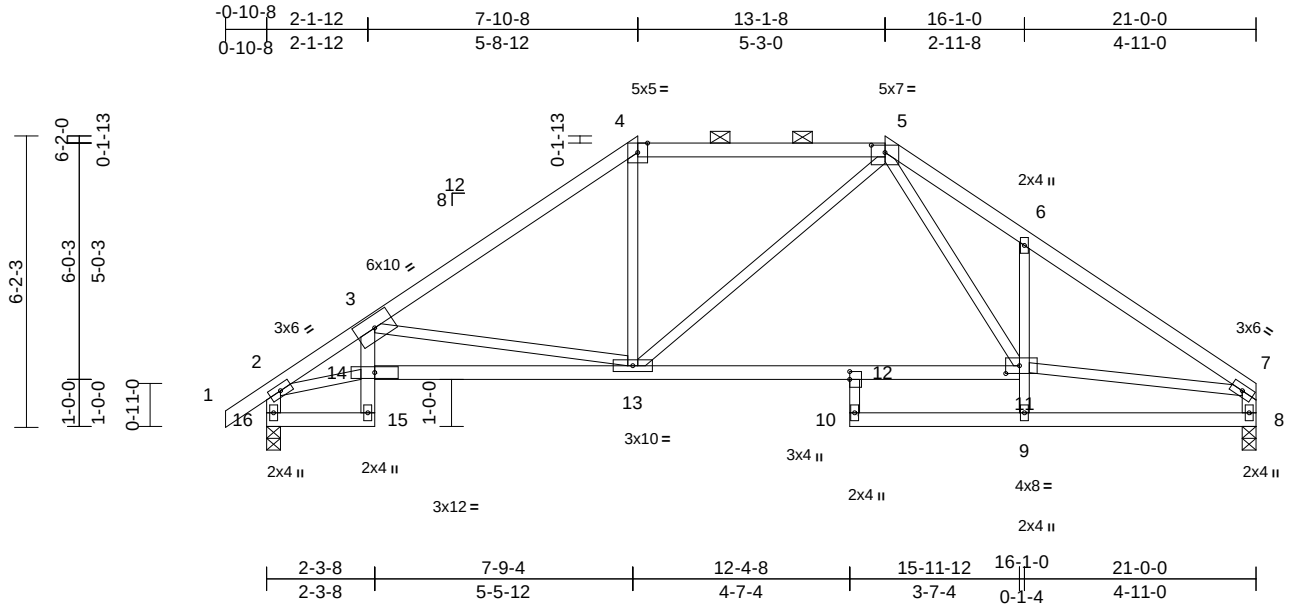


MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220633 | B7 | Hip | 1 | 1 | Job Reference (optional) | I49722363 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:59:00 Page: 1
ID:3Gn_C0RQBW_3nF3wOf_BnPzvy1H-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:48.9

Plate Offsets (X, Y): [5:0-3-8,0-1-14], [11:0-3-8,0-2-0], [12:0-2-0,Edge]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.46 | Vert(LL) | -0.12 | 12-13 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.62 | Vert(TL) | -0.33 | 12-13 | >750 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.66 | Horiz(TL) | 0.13 | 8 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | Wind(LL) | 0.05 | 13-14 | >999 | 240 | Weight: 87 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 12-10:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 16-2,8-7:2x4 SPF No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 4-2-9 oc purlins, except end verticals, and 2-0-0 oc purlins (5-2-5 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 14-15
9-9-0 oc bracing: 13-14.

**REACTIONS** (lb/size) 8=930/0-3-8, 16=1005/0-3-8
Max Horiz 16=171 (LC 5)
Max Uplift 8=-89 (LC 9), 16=-112 (LC 8)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/40, 2-3=-1856/243, 3-4=-1303/114, 4-5=-990/150, 5-6=-1506/232, 6-7=-1537/95, 2-16=-961/130, 7-8=-894/109
BOT CHORD 15-16=-78/161, 14-15=-17/34, 3-14=-5/242, 13-14=-359/1725, 12-13=-32/930, 11-12=-25/852, 10-12=0/23, 9-10=-44/78, 8-9=-47/109
WEBS 3-13=-825/348, 4-13=0/335, 5-13=-67/179, 2-14=-207/1389, 7-11=0/1097, 9-11=0/250, 6-11=-302/211, 5-11=-138/573

**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) exterior 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * 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 2-00-00 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 112 lb uplift at joint 16 and 89 lb uplift at joint 8.
7) 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


January 17,2022

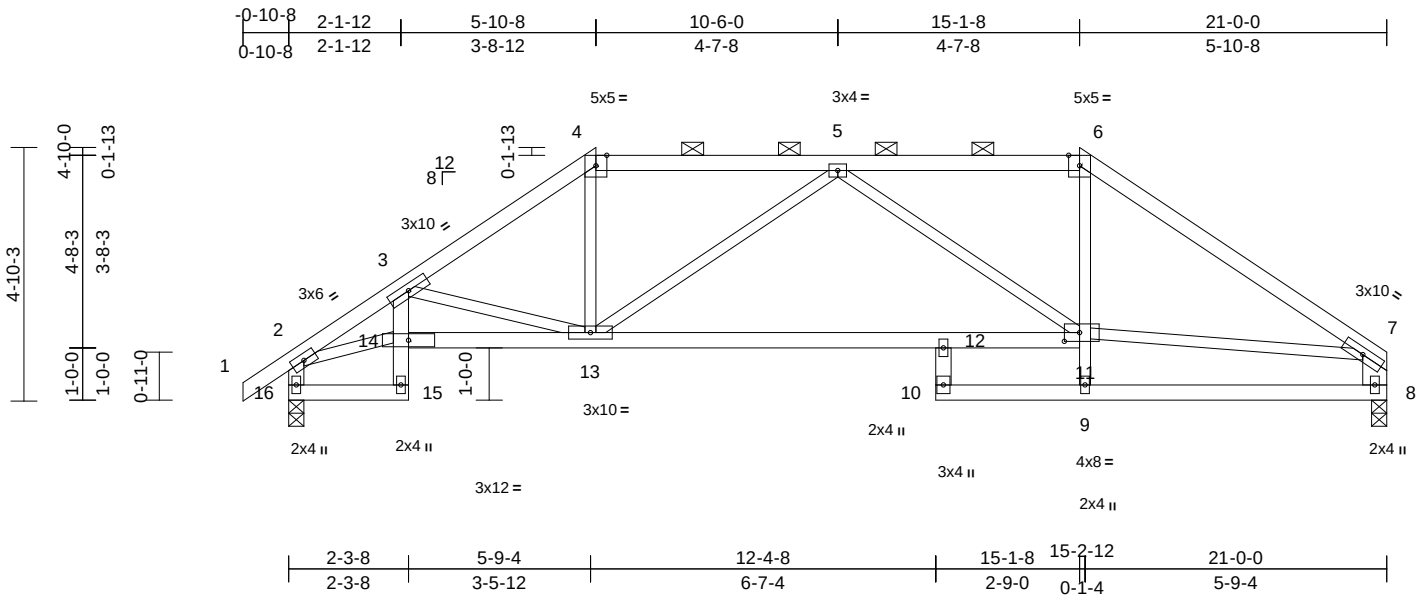


MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220033 | B8 | Hip | 1 | 1 | Job Reference (optional) | I49722364 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:59:00 Page: 1
ID:3Gn_C0RQBW_3nF3wOf_BnPzvy1H-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:44.1

Plate Offsets (X, Y): [11:0-3-8,0-2-0]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.55 | Vert(LL) | -0.15 | 12-13 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.66 | Vert(TL) | -0.44 | 12-13 | >566 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.46 | Horiz(TL) | 0.14 | 8 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | Wind(LL) | 0.06 | 12-13 | >999 | 240 | Weight: 83 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 16-2:2x4 SPF No.2, 8-7:2x6 SPF No.2

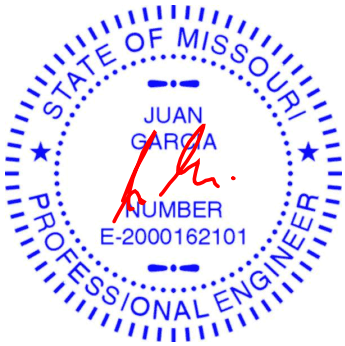
**BRACING**
TOP CHORD Structural wood sheathing directly applied or 3-9-5 oc purlins, except end verticals, and 2-0-0 oc purlins (5-2-9 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (lb/size) 8=926/0-3-8, 16=1001/0-3-8
Max Horiz 16=137 (LC 5)
Max Uplift 8=-70 (LC 9), 16=-94 (LC 8)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/40, 2-3=-1805/181, 3-4=-1461/134, 4-5=-1158/130, 5-6=-1146/81, 6-7=-1475/61, 2-16=-963/114, 7-8=-899/95
BOT CHORD 15-16=-65/145, 14-15=-9/32, 3-14=-30/187, 13-14=-296/1575, 12-13=-211/1410, 11-12=-173/1365, 10-12=-61/0, 9-10=-102/45, 8-9=-96/91
WEBS 3-13=-465/215, 4-13=0/487, 9-11=0/328, 6-11=-11/451, 2-14=-182/1329, 7-11=-23/1053, 5-13=-386/179, 5-11=-405/211

**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) exterior 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * 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 2-00-00 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 94 lb uplift at joint 16 and 70 lb uplift at joint 8.
7) 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




January 17,2022

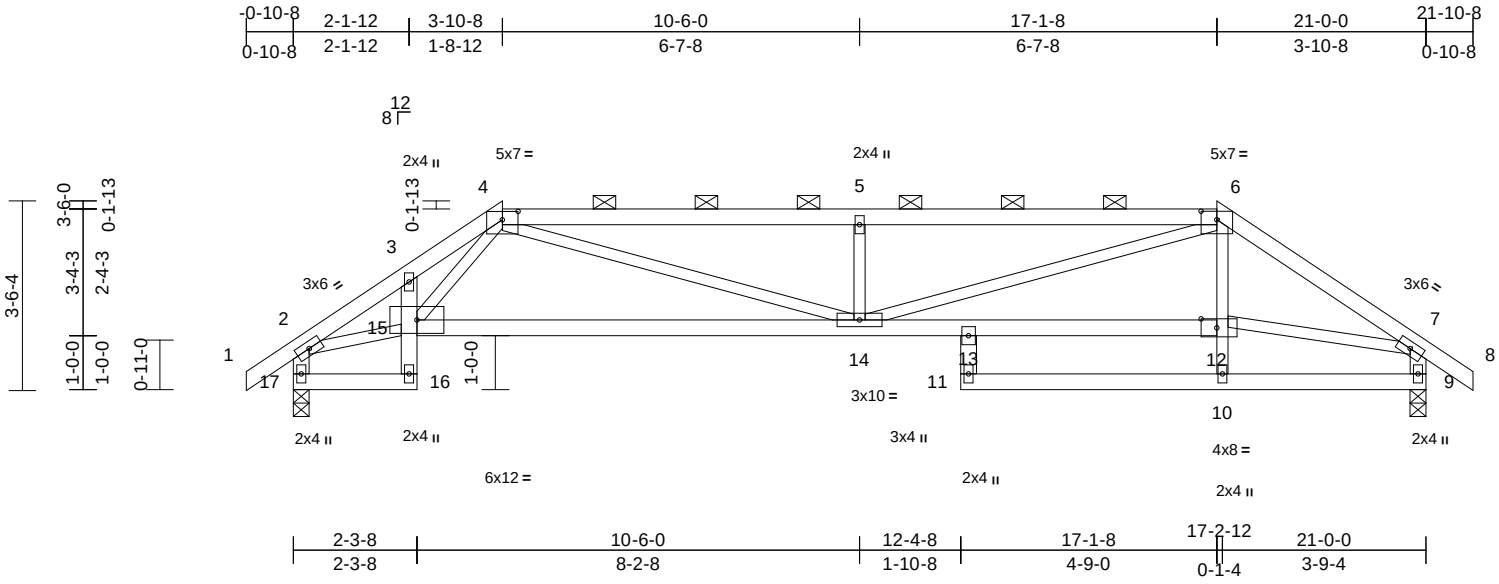


MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220033 | B9 | Hip | 1 | 1 | Job Reference (optional) | I49722365 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:59:00 Page: 1
ID:3Gn_C0RQBW_3nF3wOf_BnPzvy1H-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:42.7

Plate Offsets (X, Y): [4:0-3-8,0-1-14], [6:0-3-8,0-1-14], [12:0-3-8,0-2-0]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.87 | Vert(LL) | -0.17 | 14-15 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.60 | Vert(TL) | -0.49 | 14-15 | >507 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.47 | Horiz(TL) | 0.13 | 9 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | Wind(LL) | 0.12 | 14-15 | >999 | 240 | Weight: 83 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 17-2,9-7:2x4 SPF No.2

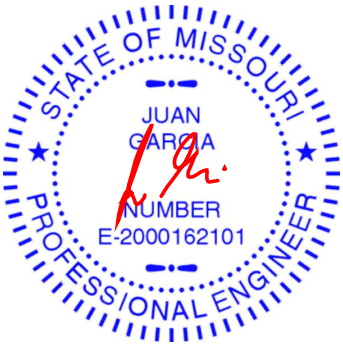
**BRACING**
TOP CHORD Structural wood sheathing directly applied or 4-1-7 oc purlins, except end verticals, and 2-0-0 oc purlins (2-2-0 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 9=1003/0-3-8, 17=1003/0-3-8
Max Horiz 17=108 (LC 7)
Max Uplift 9=-99 (LC 4), 17=-99 (LC 5)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/40, 2-3=-1809/244, 3-4=-1842/259, 4-5=-2503/391, 5-6=-2503/391, 6-7=-1634/203, 7-8=0/40, 2-17=-979/122, 7-9=-959/116
BOT CHORD 16-17=-60/98, 15-16=0/43, 3-15=-112/108, 14-15=-267/1360, 13-14=-157/1316, 12-13=-176/1186, 11-13=0/92, 10-11=-2/130, 9-10=-4/152
WEBS 4-15=-9/441, 4-14=-235/1247, 5-14=-565/228, 6-14=-259/1283, 10-12=0/173, 6-12=0/233, 2-15=-192/1354, 7-12=-183/1161

**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) exterior 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * 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 2-00-00 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 99 lb uplift at joint 17 and 99 lb uplift at joint 9.
7) 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




January 17,2022



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220033 | B10 | Hip Girder | 1 | 1 | Job Reference (optional) | I49722366 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:59:01 Page: 1
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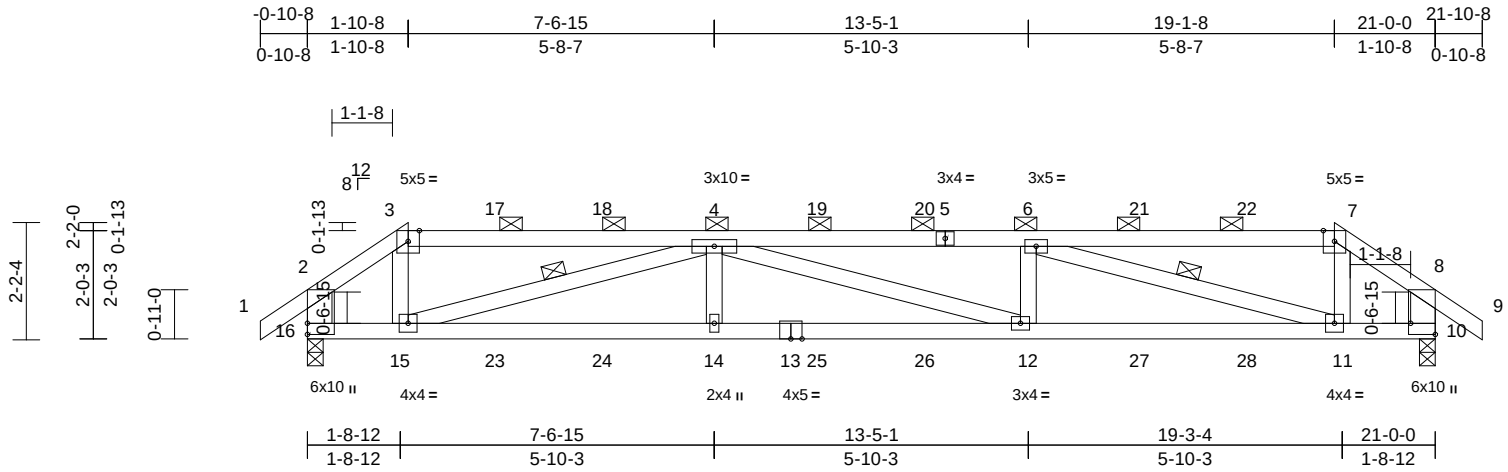


Scale = 1:42.9

Plate Offsets (X, Y): [10:Edge,0-5-8]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.72 | Vert(LL) | -0.20 | 12-14 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.83 | Vert(TL) | -0.46 | 12-14 | >540 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | NO | WB | 0.40 | Horiz(TL) | 0.10 | 10 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | Wind(LL) | 0.21 | 12-14 | >999 | 240 | Weight: 80 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 16-2,10-8:2x6 SPF No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 4-6-1 oc purlins, except end verticals, and 2-0-0 oc purlins (3-3-8 max.): 3-7.
BOT CHORD Rigid ceiling directly applied or 6-6-5 oc bracing.
WEBS 1 Row at midpt 4-15, 6-11

**REACTIONS** (lb/size) 10=994/0-3-8, 16=994/0-3-8
Max Horiz 16=75 (LC 7)
Max Uplift 10=-261 (LC 4), 16=-264 (LC 5)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/43, 2-3=-1016/306, 3-4=-723/245, 4-6=-2613/820, 6-7=-723/243, 7-8=-1016/304, 8-9=0/43, 2-16=-785/201, 8-10=-785/199
BOT CHORD 15-16=-260/755, 14-15=-825/2613, 12-14=-825/2613, 11-12=-815/2613, 10-11=-227/756
WEBS 3-15=-78/436, 4-15=-1975/616, 4-14=0/243, 4-12=-14/11, 6-12=0/243, 6-11=-1975/621, 7-11=-81/437

**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) exterior 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * 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 2-00-00 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 264 lb uplift at joint 16 and 261 lb uplift at joint 10.
7) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 74 lb down and 52 lb up at 1-10-8, 65 lb down and 26 lb up at 3-6-0, 65 lb down and 26 lb up at 5-6-0, 65 lb down and 26 lb up at 7-6-0, 65 lb down and 26 lb up at 9-6-0, 65 lb down and 26 lb up at 11-6-0, 65 lb down and 26 lb up at 13-6-0, 65 lb down and 26 lb up at 15-6-0, and 65 lb down and 26 lb up at 17-6-0, and 57 lb down and 28 lb up at 19-1-8 on top chord, and 17 lb down and 13 lb up at 1-10-8, 11 lb down and 13 lb up at 3-6-0, 11 lb down and 13 lb up at 5-6-0, 11 lb down and 13 lb up at 7-6-0, 11 lb down and 13 lb up at 9-6-0, 11 lb down and 13 lb up at 11-6-0, 11 lb down and 13 lb up at 13-6-0, 11 lb down and 13 lb up at 15-6-0, and 11 lb down and 13 lb up at 17-6-0, and 17 lb down and 13 lb up at 19-0-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
9) 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 (lb/ft)
Vert: 1-2=-70, 2-3=-70, 3-7=-70, 7-8=-70, 8-9=-70, 10-16=-20
Concentrated Loads (lb)
Vert: 15=3 (B), 14=1 (B), 12=1 (B), 11=3 (B), 23=1 (B), 24=1 (B), 25=1 (B), 26=1 (B), 27=1 (B), 28=1 (B)

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

January 17,2022



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220633 | C1 | Common Supported Gable | 1 | 1 | Job Reference (optional) | I49722367 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:59:01 Page: 1
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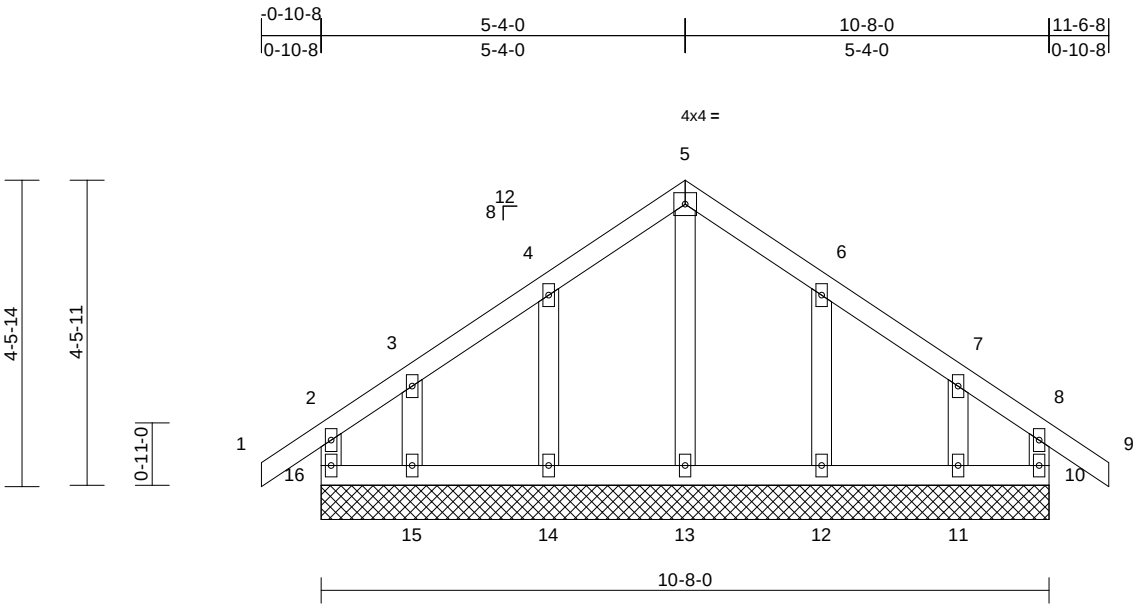



Scale = 1:33.8

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.07 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.03 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.04 | Horiz(TL) | 0.00 | 10 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-R | | | | | | | Weight: 44 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2
OTHERS 2x4 SPF No.2

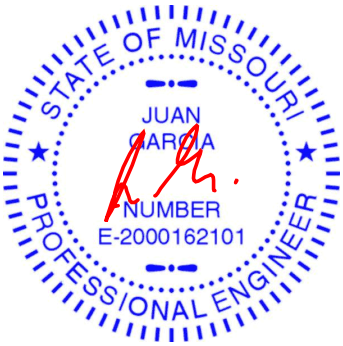
**BRACING**
TOP CHORD Structural wood sheathing directly applied or 10-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (lb/size) 10=128/10-8-0, 11=125/10-8-0, 12=198/10-8-0, 13=176/10-8-0, 14=198/10-8-0, 15=125/10-8-0, 16=128/10-8-0
Max Horiz 16=-135 (LC 6)
Max Uplift 10=-40 (LC 5), 11=-82 (LC 9), 12=-73 (LC 9), 14=-72 (LC 8), 15=-86 (LC 8), 16=-58 (LC 4)
Max Grav 10=133 (LC 20), 11=161 (LC 16), 12=202 (LC 16), 13=176 (LC 1), 14=202 (LC 15), 15=170 (LC 15), 16=142 (LC 16)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-16=-121/46, 1-2=0/40, 2-3=-75/77, 3-4=-53/82, 4-5=-45/114, 5-6=-37/108, 6-7=-39/77, 7-8=-54/59, 8-9=0/40, 8-10=-121/32
BOT CHORD 15-16=-64/66, 14-15=-64/66, 13-14=-64/66, 12-13=-64/66, 11-12=-64/66, 10-11=-64/66
WEBS 5-13=-137/0, 4-14=-162/99, 3-15=-120/90, 6-12=-163/100, 7-11=-116/88

**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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
7) Gable studs spaced at 2-0-0 oc.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 16, 40 lb uplift at joint 10, 72 lb uplift at joint 14, 86 lb uplift at joint 15, 73 lb uplift at joint 12 and 82 lb uplift at joint 11.

**LOAD CASE(S)** Standard




January 17,2022



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220033 | G1 | Flat Girder | 1 | 1 | Job Reference (optional) | I49722368 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:59:02 Page: 1
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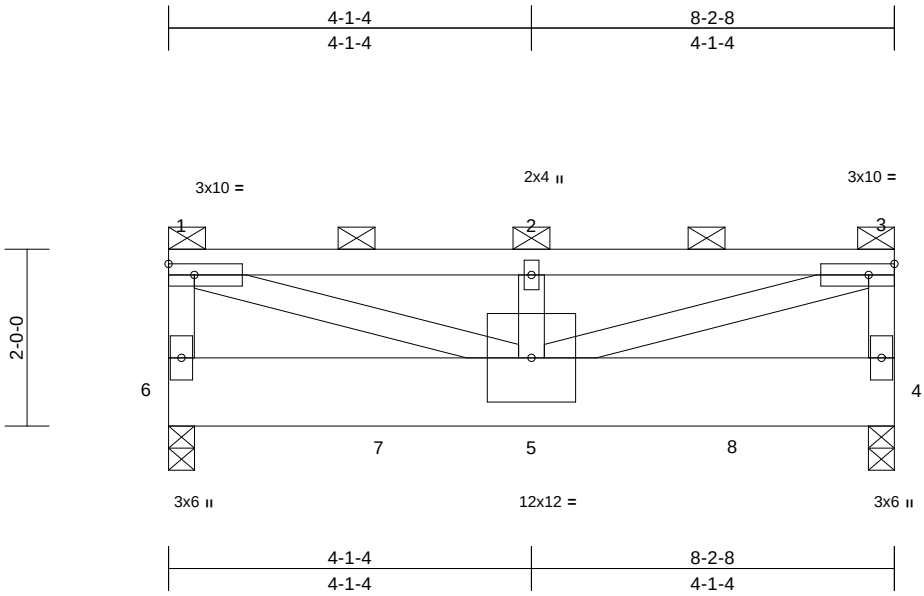


Scale = 1:26.1

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.42 | Vert(LL) | -0.05 | 5 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.30 | Vert(TL) | -0.10 | 5 | >908 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | NO | WB | 0.57 | Horiz(TL) | 0.00 | 4 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-P | | Wind(LL) | 0.03 | 5 | >999 | 240 | Weight: 53 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x10 SP DSS
WEBS 2x4 SPF No.2

**BRACING**
TOP CHORD 2-0-0 oc purlins (3-7-13 max.): 1-3, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 4=1758/0-3-8, 6=2547/0-3-8
Max Horiz 6=56 (LC 5)
Max Uplift 4=-249 (LC 5), 6=-344 (LC 4)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-6=-927/161, 1-2=-2171/299, 2-3=-2171/299, 3-4=-927/161
BOT CHORD 5-6=-49/44, 4-5=-21/16
WEBS 1-5=-332/2316, 2-5=-311/156, 3-5=-332/2316

**NOTES**
1) 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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
2) Provide adequate drainage to prevent water ponding.
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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 2-00-00 wide will fit between the bottom chord and any other members.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 344 lb uplift at joint 6 and 249 lb uplift at joint 4.
6) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 912 lb down and 111 lb up at 0-1-12, 893 lb down and 113 lb up at 2-4-8, and 893 lb down and 113 lb up at 4-4-8, and 893 lb down and 113 lb up at 6-4-8 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 (lb/ft)
Vert: 1-3=-70, 4-6=-20
Concentrated Loads (lb)
Vert: 6=-912 (F), 5=-893 (F), 7=-893 (F), 8=-893 (F)


January 17,2022



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220633 | J1 | Diagonal Hip Girder | 2 | 1 | Job Reference (optional) | I49722369 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:59:02 Page: 1
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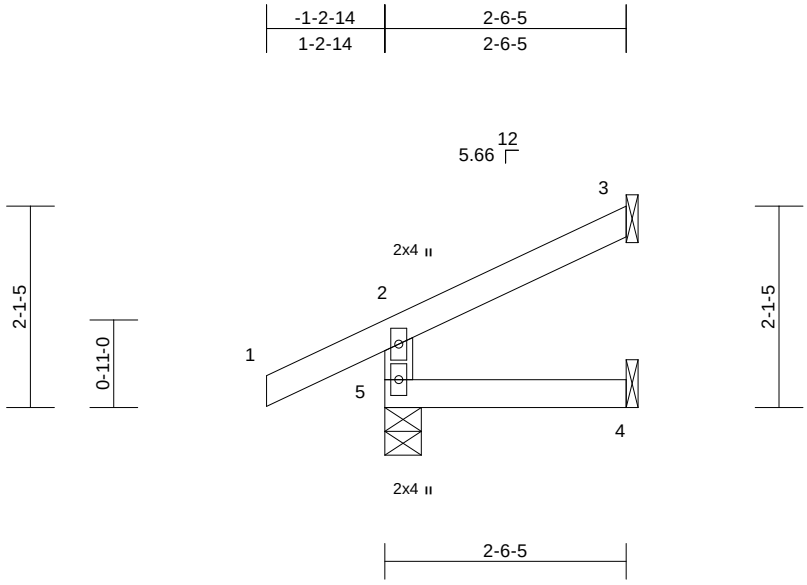



Scale = 1:24.1

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.15 | Vert(LL) | 0.00 | 4-5 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.04 | Vert(TL) | 0.00 | 4-5 | >999 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | NO | WB | 0.00 | Horiz(TL) | 0.00 | 3 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-R | | Wind(LL) | 0.00 | 4-5 | >999 | 240 | Weight: 8 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2

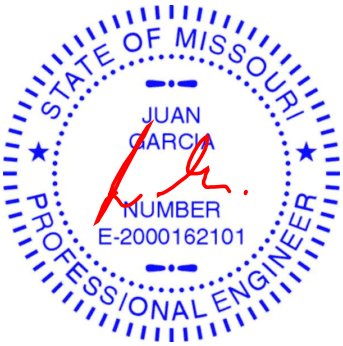
**BRACING**
TOP CHORD Structural wood sheathing directly applied or 2-6-5 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 3=57/ Mechanical, 4=18/ Mechanical, 5=230/0-4-9
Max Horiz 5=58 (LC 8)
Max Uplift 3=-40 (LC 8), 5=-35 (LC 8)
Max Grav 3=57 (LC 1), 4=42 (LC 3), 5=230 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-202/59, 1-2=0/41, 2-3=-47/18
BOT CHORD 4-5=0/0

**NOTES**
1) 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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip 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 3-06-00 tall by 2-00-00 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 35 lb uplift at joint 5 and 40 lb uplift at joint 3.

**LOAD CASE(S)** Standard

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MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220633 | J2 | Jack-Open | 10 | 1 | Job Reference (optional) | I49722370 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:59:02 Page: 1
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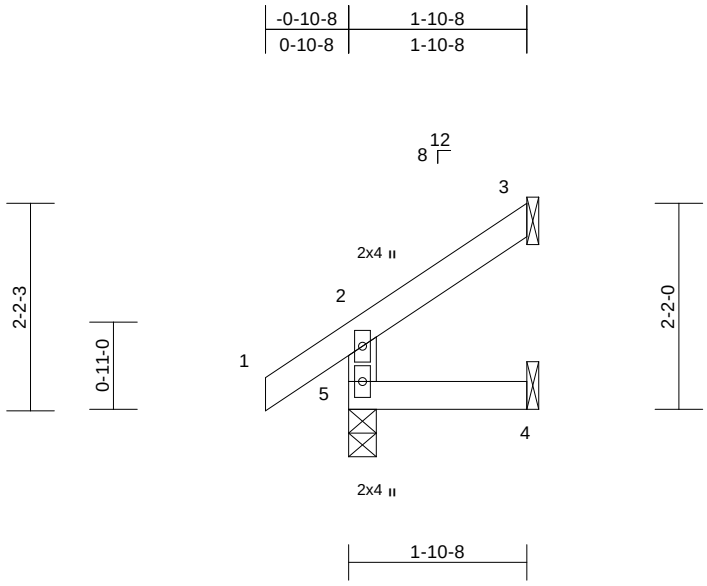



Scale = 1:24.2

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.07 | Vert(LL) | 0.00 | 4-5 | >999 | 240 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.03 | Vert(TL) | 0.00 | 4-5 | >999 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.00 | Horiz(TL) | 0.00 | 3 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-R | | | | | | | Weight: 7 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2

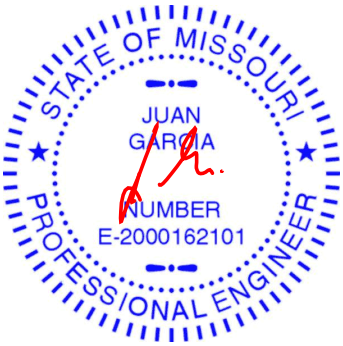
**BRACING**
TOP CHORD Structural wood sheathing directly applied or 1-10-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 3=42/ Mechanical, 4=14/ Mechanical, 5=170/0-3-8
Max Horiz 5=61 (LC 8)
Max Uplift 3=-41 (LC 8), 4=-4 (LC 8), 5=-7 (LC 8)
Max Grav 3=50 (LC 15), 4=31 (LC 3), 5=170 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-149/32, 1-2=0/40, 2-3=-49/22
BOT CHORD 4-5=0/0

**NOTES**
1) 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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip 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 3-06-00 tall by 2-00-00 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 7 lb uplift at joint 5, 4 lb uplift at joint 4 and 41 lb uplift at joint 3.

**LOAD CASE(S)** Standard




January 17,2022



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220033 | LAY1 | Lay-In Gable | 1 | 1 | Job Reference (optional) | I49722371 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:59:02 Page: 1
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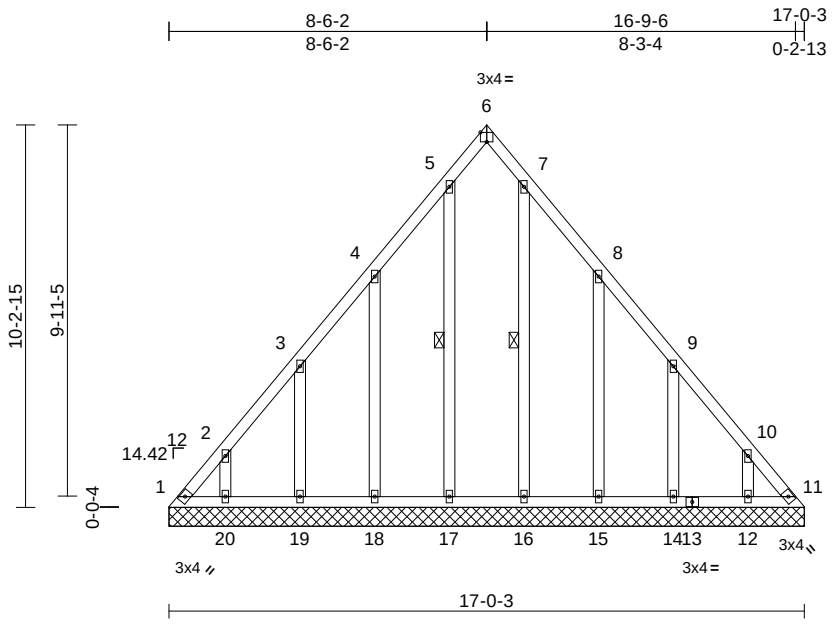



Scale = 1:61.7

Plate Offsets (X, Y): [6:Edge,0-3-1]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.07 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.06 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.12 | Horiz(TL) | 0.01 | 11 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | | | | | | Weight: 93 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x4 SPF No.2

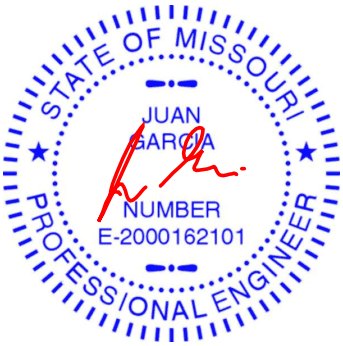
**BRACING**
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 5-17, 7-16

**REACTIONS** (lb/size) 1=57/17-0-3, 11=57/17-0-3, 12=162/17-0-3, 14=183/17-0-3, 15=184/17-0-3, 16=153/17-0-3, 17=153/17-0-3, 18=184/17-0-3, 19=183/17-0-3, 20=162/17-0-3
Max Horiz 1=-272 (LC 4)
Max Uplift 1=-158 (LC 6), 11=-140 (LC 7), 12=-137 (LC 9), 14=-150 (LC 9), 15=-177 (LC 9), 16=-33 (LC 9), 17=-48 (LC 8), 18=-174 (LC 8), 19=-150 (LC 8), 20=-137 (LC 8)
Max Grav 1=377 (LC 8), 11=366 (LC 9), 12=193 (LC 16), 14=218 (LC 16), 15=224 (LC 16), 16=167 (LC 16), 17=184 (LC 15), 18=220 (LC 15), 19=218 (LC 15), 20=193 (LC 15)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-499/245, 2-3=-370/195, 3-4=-217/132, 4-5=-119/69, 5-6=-67/53, 6-7=-66/47, 7-8=-99/43, 8-9=-202/109, 9-10=-355/171, 10-11=-484/221
BOT CHORD 1-20=-142/328, 19-20=-142/328, 18-19=-142/328, 17-18=-142/328, 16-17=-142/328, 15-16=-142/328, 14-15=-142/328, 12-14=-142/328, 11-12=-142/328
WEBS 2-20=-154/153, 3-19=-178/176, 4-18=-180/197, 5-17=-144/72, 7-16=-127/57, 8-15=-184/201, 9-14=-177/175, 10-12=-154/153

**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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) N/A
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * 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 2-00-00 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 158 lb uplift at joint 1, 140 lb uplift at joint 11, 137 lb uplift at joint 20, 150 lb uplift at joint 19, 174 lb uplift at joint 18, 48 lb uplift at joint 17, 33 lb uplift at joint 16, 177 lb uplift at joint 15, 150 lb uplift at joint 14 and 137 lb uplift at joint 12.

**LOAD CASE(S)** Standard




January 17,2022



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220633 | V1 | Valley | 1 | 1 | Job Reference (optional) | I49722372 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:59:02 Page: 1
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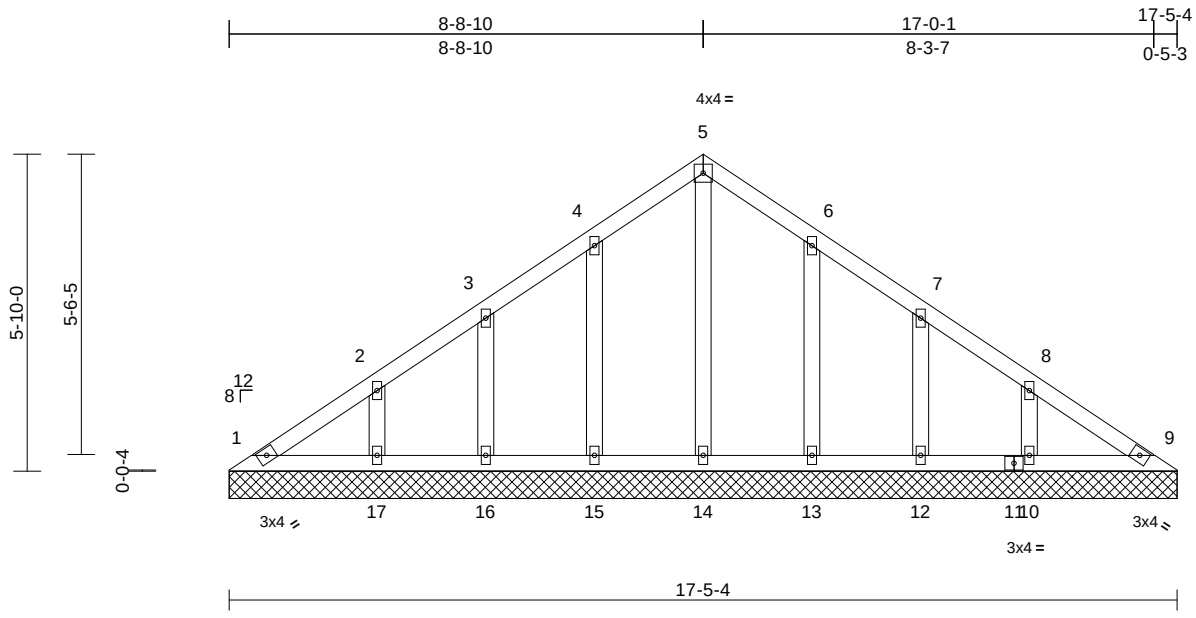



Scale = 1:42.4

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.06 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.03 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.07 | Horiz(TL) | 0.00 | 9 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | | | | | | Weight: 66 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x4 SPF No.2

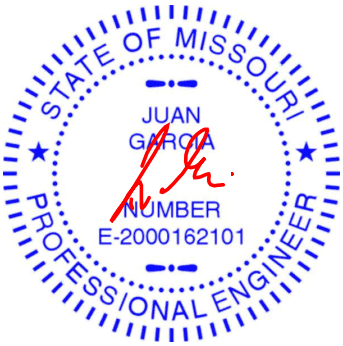
**BRACING**
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 1=93/17-5-4, 9=93/17-5-4, 10=222/17-5-4, 12=166/17-5-4, 13=191/17-5-4, 14=143/17-5-4, 15=191/17-5-4, 16=166/17-5-4, 17=222/17-5-4
Max Horiz 1=-144 (LC 4)
Max Uplift 1=-21 (LC 4), 10=-86 (LC 9), 12=-66 (LC 9), 13=-73 (LC 9), 15=-74 (LC 8), 16=-66 (LC 8), 17=-86 (LC 8)
Max Grav 1=114 (LC 16), 9=93 (LC 1), 10=231 (LC 16), 12=173 (LC 16), 13=199 (LC 16), 14=167 (LC 18), 15=200 (LC 15), 16=172 (LC 15), 17=231 (LC 15)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-132/114, 2-3=-110/82, 3-4=-93/99, 4-5=-82/134, 5-6=-69/123, 6-7=-58/63, 7-8=-71/31, 8-9=-97/64
BOT CHORD 1-17=-49/102, 16-17=-49/102, 15-16=-49/102, 14-15=-49/102, 13-14=-49/102, 12-13=-49/102, 10-12=-49/102, 9-10=-49/102
WEBS 5-14=-128/1, 4-15=-159/98, 3-16=-137/90, 2-17=-175/110, 6-13=-158/97, 7-12=-137/90, 8-10=-175/109

**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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * 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 2-00-00 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 1, 74 lb uplift at joint 15, 66 lb uplift at joint 16, 86 lb uplift at joint 17, 73 lb uplift at joint 13, 66 lb uplift at joint 12 and 86 lb uplift at joint 10.

**LOAD CASE(S)** Standard




January 17,2022



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220633 | V2 | Valley | 1 | 1 | Job Reference (optional) | I49722373 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:59:03 Page: 1
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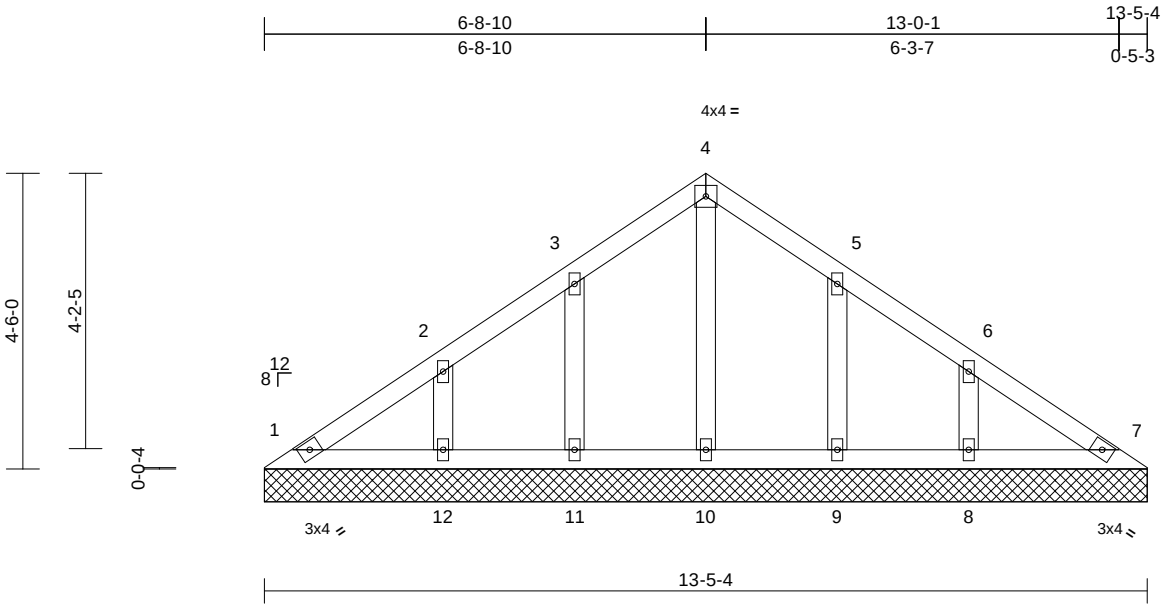


Scale = 1:35.1

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.06 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.03 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.03 | Horiz(TL) | 0.00 | 7 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | | | | | | Weight: 46 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x4 SPF No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 1=94/13-5-4, 7=94/13-5-4, 8=220/13-5-4, 9=175/13-5-4, 10=149/13-5-4, 11=175/13-5-4, 12=220/13-5-4
Max Horiz 1=109 (LC 5)
Max Uplift 1=-10 (LC 4), 8=-86 (LC 9), 9=-70 (LC 9), 11=-70 (LC 8), 12=-85 (LC 8)
Max Grav 1=103 (LC 16), 7=94 (LC 1), 8=228 (LC 16), 9=184 (LC 16), 10=153 (LC 18), 11=184 (LC 15), 12=228 (LC 15)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-96/85, 2-3=-91/67, 3-4=-76/102, 4-5=-63/90, 5-6=-63/40, 6-7=-74/52
BOT CHORD 1-12=-35/75, 11-12=-35/75, 10-11=-35/75, 9-10=-35/75, 8-9=-35/75, 7-8=-35/75
WEBS 4-10=-111/0, 3-11=-149/94, 2-12=-173/109, 5-9=-148/94, 6-8=-173/109

**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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * 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 2-00-00 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 1, 70 lb uplift at joint 11, 85 lb uplift at joint 12, 70 lb uplift at joint 9 and 86 lb uplift at joint 8.

**LOAD CASE(S)** Standard


January 17,2022



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220633 | V3 | Valley | 1 | 1 | Job Reference (optional) | I49722374 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 14:59:03 Page: 1
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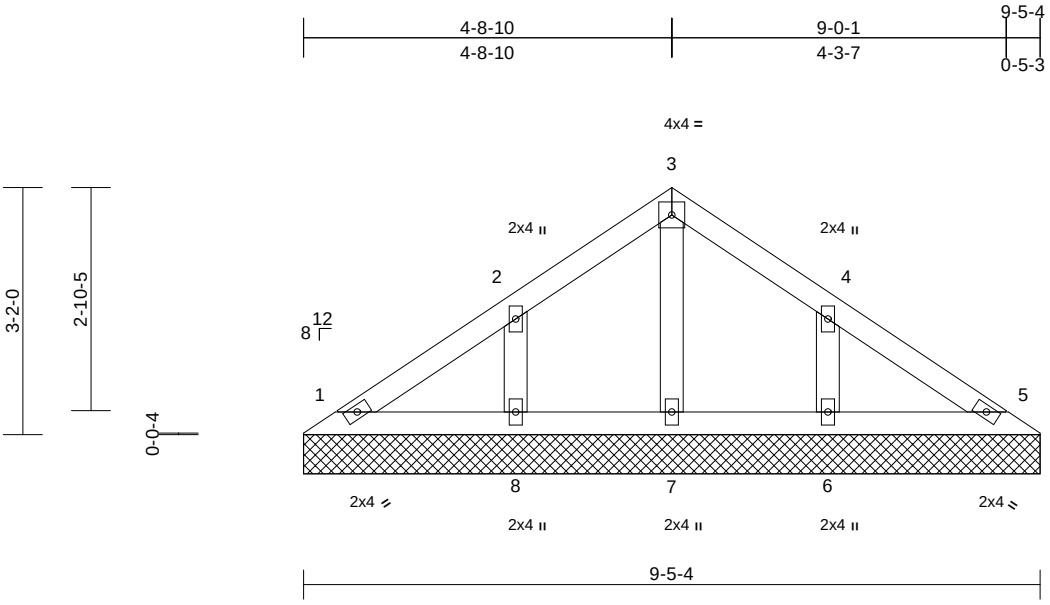


Scale = 1:29.5

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.06 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.03 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.02 | Horiz(TL) | 0.00 | 5 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-S | | | | | | | Weight: 28 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x4 SPF No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 1=91/9-5-4, 5=91/9-5-4, 6=231/9-5-4, 7=125/9-5-4, 8=231/9-5-4
Max Horiz 1=-74 (LC 4)
Max Uplift 1=-9 (LC 9), 6=-91 (LC 9), 8=-91 (LC 8)
Max Grav 1=91 (LC 1), 5=91 (LC 1), 6=240 (LC 16), 7=125 (LC 1), 8=241 (LC 15)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-74/63, 2-3=-71/69, 3-4=-64/58, 4-5=-56/43
BOT CHORD 1-8=-23/50, 7-8=-23/50, 6-7=-23/50, 5-6=-23/50
WEBS 3-7=-94/0, 2-8=-185/115, 4-6=-184/115

**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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * 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 2-00-00 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 9 lb uplift at joint 1, 91 lb uplift at joint 8 and 91 lb uplift at joint 6.

**LOAD CASE(S)** Standard


January 17,2022



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 144 CB | |
|---|---|---|---|---|---|---|
| B220633 | V4 | Valley | 1 | 1 | Job Reference (optional) | I49722375 |

Wheeler Lumber, Waverly, KS - 66871,

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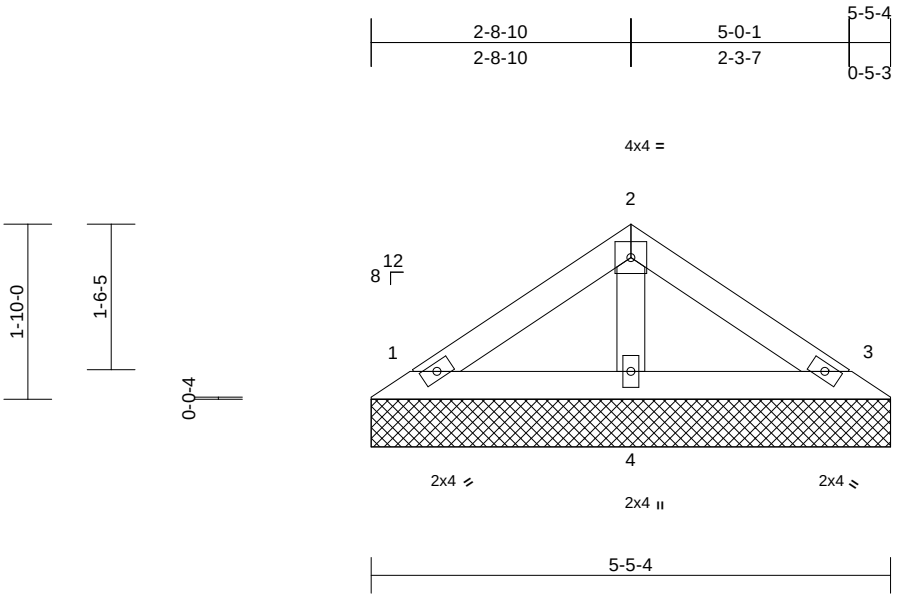



Scale = 1:24.1

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.09 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.04 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.02 | Horiz(TL) | 0.00 | 3 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2012/TPI2007 | Matrix-P | | | | | | | Weight: 14 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x4 SPF No.2

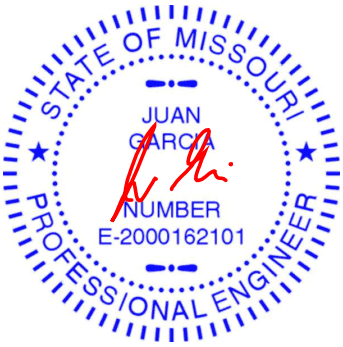
**BRACING**
TOP CHORD Structural wood sheathing directly applied or 5-6-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 1=111/5-5-4, 3=111/5-5-4, 4=187/5-5-4
Max Horiz 1=-39 (LC 4)
Max Uplift 1=-24 (LC 8), 3=-30 (LC 9)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-65/35, 2-3=-61/25
BOT CHORD 1-4=-8/28, 3-4=-8/28
WEBS 2-4=-131/33

**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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * 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 2-00-00 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 1 and 30 lb uplift at joint 3.

**LOAD CASE(S)** Standard



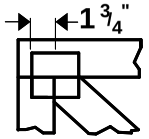

January 17,2022



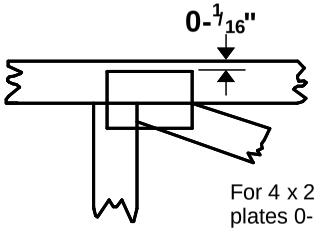
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

# 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.

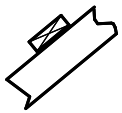
*** Plate location details available in MiTek 20/20 software or upon request.**

## PLATE SIZE

4 x 4

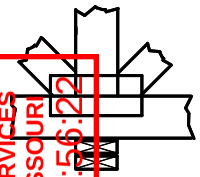
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## 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



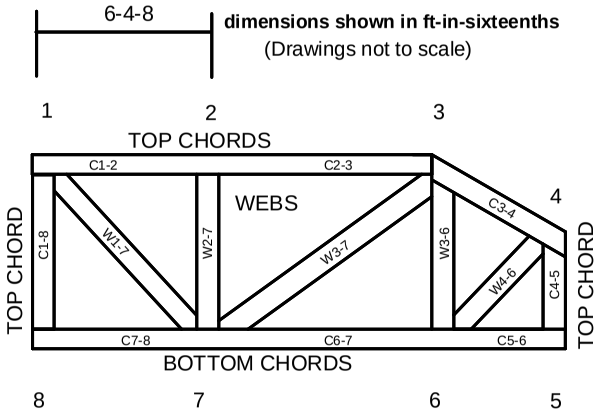
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

**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

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.