MiTek®

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

Re: B230093
Lot 183 HM

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: I59019862 thru I59019900

My license renewal date for the state of Missouri is December 31, 2024.

Missouri COA: Engineering 001193


June 20,2023

Nathan Fox ,Engineer

**IMPORTANT NOTE:** The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | A1 | Common Supported Gable | 1 | 1 | Job Reference (optional) | I59019862 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:05 Page: 1
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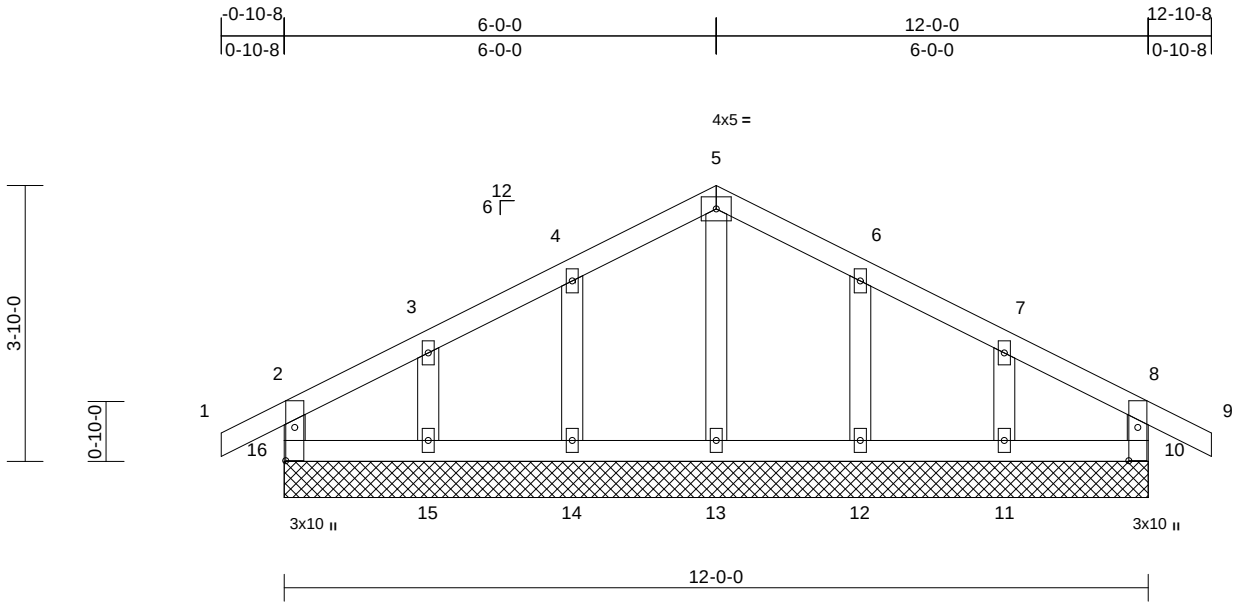


Scale = 1:32

Plate Offsets (X, Y): [10:0-5-9,0-1-8], [16:0-5-9,0-1-8]

| 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 | 0.07 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.02 | Vert(CT) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.03 | Horz(CT) | 0.00 | 10 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | 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 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size) 10=12-0-0, 11=12-0-0, 12=12-0-0, 13=12-0-0, 14=12-0-0, 15=12-0-0, 16=12-0-0
Max Horiz 16=-67 (LC 6)
Max Uplift 10=-25 (LC 9), 11=-64 (LC 9), 12=-56 (LC 9), 14=-55 (LC 8), 15=-67 (LC 8), 16=-29 (LC 4)
Max Grav 10=159 (LC 22), 11=165 (LC 1), 12=195 (LC 22), 13=170 (LC 1), 14=195 (LC 21), 15=165 (LC 1), 16=159 (LC 21)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-16=-142/36, 1-2=0/32, 2-3=-42/51, 3-4=-27/70, 4-5=-33/96, 5-6=-33/90, 6-7=-27/64, 7-8=-36/46, 8-9=0/32, 8-10=-142/40
BOT CHORD 15-16=-24/40, 14-15=-24/40, 13-14=-24/40, 12-13=-24/40, 11-12=-24/40, 10-11=-24/40
WEBS 5-13=-130/0, 4-14=-155/81, 3-15=-125/84, 6-12=-155/81, 7-11=-125/82

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 16, 25 lb uplift at joint 10, 55 lb uplift at joint 14, 67 lb uplift at joint 15, 56 lb uplift at joint 12 and 64 lb uplift at joint 11.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | A2 | Common | 4 | 1 | Job Reference (optional) | I59019863 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:07 Page: 1
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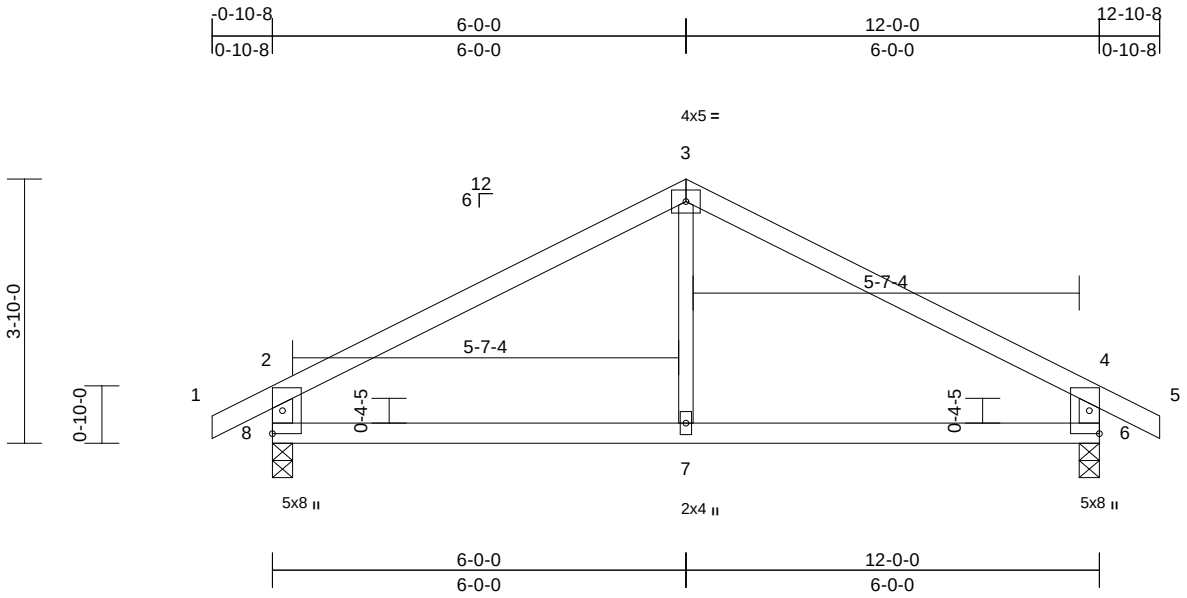


Scale = 1:33.4

| 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 | 0.45 | Vert(LL) | -0.03 | 6-7 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.25 | Vert(CT) | -0.06 | 6-7 | >999 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.08 | Horz(CT) | 0.01 | 6 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-R | | Wind(LL) | 0.01 | 7-8 | >999 | 240 | Weight: 35 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 7-3:2x3 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.

**REACTIONS** (size) 6=0-3-8, 8=0-3-8
Max Horiz 8=-67 (LC 6)
Max Uplift 6=-88 (LC 9), 8=-88 (LC 8)
Max Grav 6=598 (LC 1), 8=598 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/32, 2-3=-624/91, 3-4=-624/91, 4-5=0/32, 2-8=-537/129, 4-6=-537/129
BOT CHORD 7-8=-14/465, 6-7=-14/465
WEBS 3-7=0/242

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 88 lb uplift at joint 8 and 88 lb uplift at joint 6.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B230093 | B1 | Piggyback Base Supported Gable | 1 | 1 | Job Reference (optional) | I59019864 |

Wheeler Lumber, Waverly, KS - 66871,

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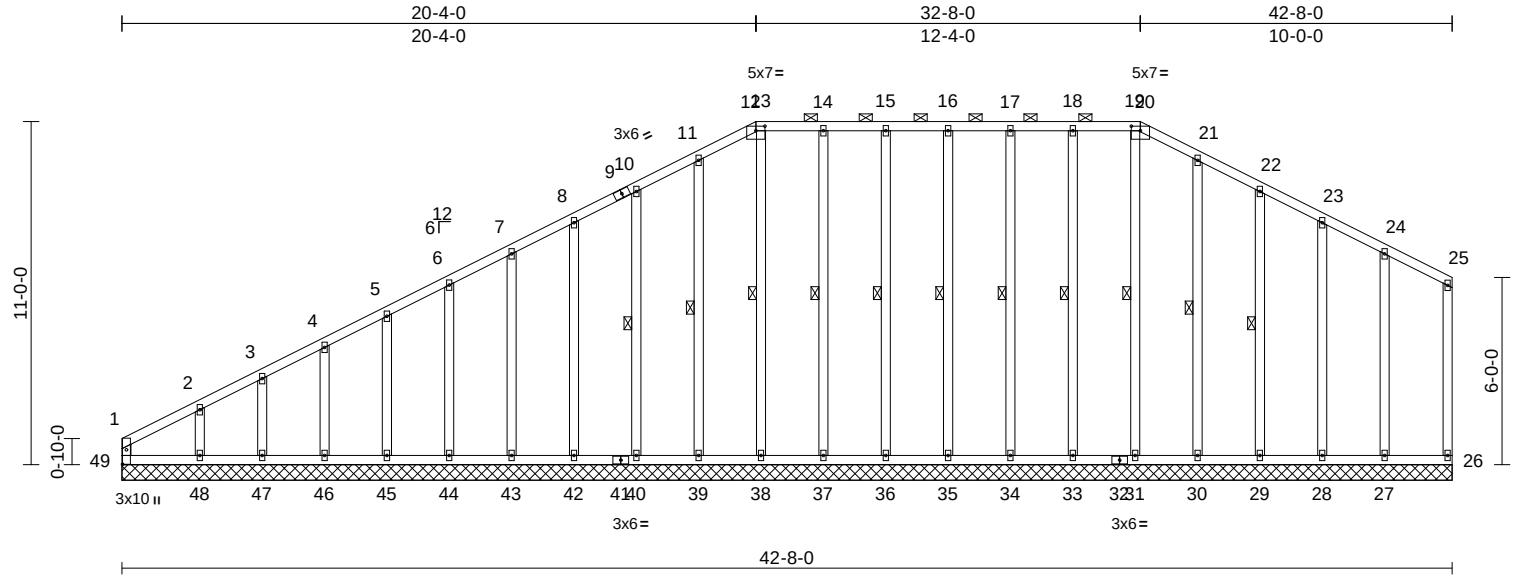


Scale = 1:73.9

Plate Offsets (X, Y): [12:0-3-8,0-1-12], [20:0-3-8,0-1-12], [49:0-5-9,0-1-8]

| 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 | 0.15 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.12 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.15 | Horiz(TL) | -0.01 | 26 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-R | | | | | | | Weight: 285 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, and 2-0-0 oc purlins (6-0-0 max.): 12-20.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 10-40, 11-39, 13-38, 14-37, 15-36, 16-35, 17-34, 18-33, 19-31, 21-30, 22-29

**REACTIONS** (size) 26=42-8-0, 27=42-8-0, 28=42-8-0, 29=42-8-0, 30=42-8-0, 31=42-8-0, 33=42-8-0, 34=42-8-0, 35=42-8-0, 36=42-8-0, 37=42-8-0, 38=42-8-0, 39=42-8-0, 40=42-8-0, 42=42-8-0, 43=42-8-0, 44=42-8-0, 45=42-8-0, 46=42-8-0, 47=42-8-0, 48=42-8-0, 49=42-8-0
Max Horiz 49=301 (LC 5)
Max Uplift 26=-36 (LC 8), 27=-58 (LC 9), 28=-54 (LC 9), 29=-56 (LC 9), 30=-49 (LC 9), 31=-4 (LC 5), 33=-37 (LC 5), 34=-35 (LC 4), 35=-34 (LC 5), 36=-34 (LC 4), 37=-37 (LC 4), 38=-18 (LC 5), 39=-48 (LC 8), 40=-57 (LC 8), 42=-53 (LC 8), 43=-54 (LC 8), 44=-55 (LC 8), 45=-52 (LC 8), 46=-63 (LC 8), 47=-19 (LC 8), 48=-170 (LC 8), 49=-44 (LC 4)
Max Grav 26=91 (LC 19), 27=197 (LC 25), 28=177 (LC 1), 29=180 (LC 25), 30=182 (LC 1), 31=175 (LC 25), 33=187 (LC 24), 34=180 (LC 25), 35=180 (LC 1), 36=180 (LC 24), 37=187 (LC 25), 38=176 (LC 24), 39=182 (LC 24), 40=180 (LC 1), 42=180 (LC 24), 43=180 (LC 1), 44=180 (LC 24), 45=179 (LC 1), 46=183 (LC 24), 47=166 (LC 1), 48=227 (LC 24), 49=199 (LC 7)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-49=-150/45, 1-2=-275/118, 2-3=-220/105, 3-4=-208/111, 4-5=-192/124, 5-6=-177/138, 6-7=-162/151, 7-8=-148/165, 8-10=-133/178, 10-11=-119/193, 11-12=-101/201, 12-13=-79/184, 13-14=-79/184, 14-15=-79/184, 15-16=-79/184, 16-17=-79/184, 17-18=-79/184, 18-19=-79/184, 19-20=-79/184, 20-21=-97/196, 21-22=-98/173, 22-23=-98/144, 23-24=-95/114, 24-25=-107/94, 25-26=-96/63
BOT CHORD 48-49=-83/63, 47-48=-83/63, 46-47=-83/63, 45-46=-83/63, 44-45=-83/63, 43-44=-83/63, 42-43=-83/63, 40-42=-83/63, 39-40=-83/63, 38-39=-83/63, 37-38=-83/63, 36-37=-83/63, 35-36=-83/63, 34-35=-83/63, 33-34=-83/63, 31-33=-83/63, 30-31=-83/63, 29-30=-83/63, 28-29=-83/63, 27-28=-83/63, 26-27=-83/63
WEBS 2-48=-173/142, 3-47=-131/59, 4-46=-142/82, 5-45=-140/77, 6-44=-140/78, 7-43=-140/78, 8-42=-140/77, 10-40=-140/81, 11-39=-142/72, 13-38=-136/44, 14-37=-147/61, 15-36=-140/58, 16-35=-140/58, 17-34=-140/59, 18-33=-147/61, 19-31=-135/31, 21-30=-142/72, 22-29=-140/82, 23-28=-138/73, 24-27=-154/101

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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) Provide adequate drainage to prevent water ponding.
5) All plates are 2x4 MT20 unless otherwise indicated.

STATE OF MISSOURI
NATHANIEL FOX
NUMBER PE-2022042259
PROFESSIONAL ENGINEER

June 20,2023

Continued on page 2



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B2306093 | B1 | Piggyback Base Supported Gable | 1 | 1 | Job Reference (optional) | I59019864 |



6) Gable requires continuous bottom chord bearing.
7) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * 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.
11) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 44 lb uplift at joint 49, 36 lb uplift at joint 26, 170 lb uplift at joint 48, 19 lb uplift at joint 47, 63 lb uplift at joint 46, 52 lb uplift at joint 45, 55 lb uplift at joint 44, 54 lb uplift at joint 43, 53 lb uplift at joint 42, 57 lb uplift at joint 40, 48 lb uplift at joint 39, 18 lb uplift at joint 38, 37 lb uplift at joint 37, 34 lb uplift at joint 36, 34 lb uplift at joint 35, 35 lb uplift at joint 34, 37 lb uplift at joint 33, 4 lb uplift at joint 31, 49 lb uplift at joint 30, 56 lb uplift at joint 29, 54 lb uplift at joint 28 and 58 lb uplift at joint 27.
13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

**LOAD CASE(S)** Standard

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | B2 | Piggyback Base | 3 | 1 | Job Reference (optional) | I59019865 |

Wheeler Lumber, Waverly, KS - 66871,

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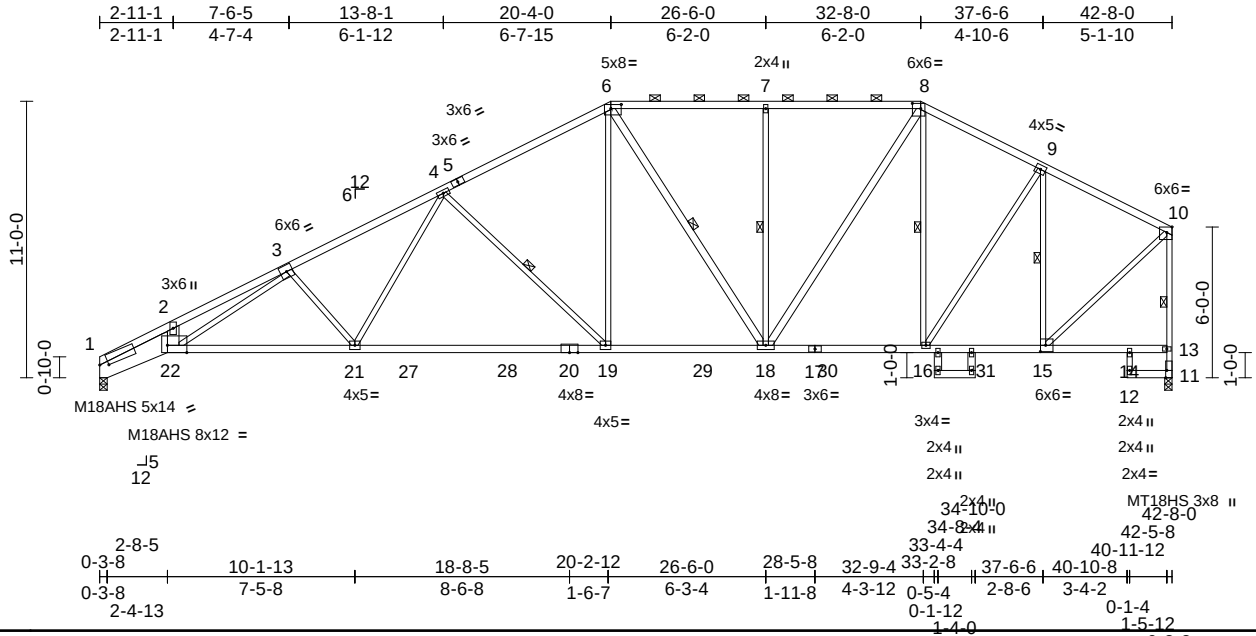


Scale = 1:91.7

Plate Offsets (X, Y): [1:0-4-1,0-1-9], [6:0-5-0,0-2-0], [8:0-4-0,0-2-8], [10:0-2-8,Edge], [11:0-3-8,Edge], [15:0-2-8,0-3-0], [22:0-9-4,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 | 0.92 | Vert(LL) | -0.50 | 19-21 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.81 | Vert(CT) | -0.87 | 19-21 | >584 | 240 | M18AHS | 142/136 |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.83 | Horz(CT) | 0.35 | 11 | n/a | n/a | MT18HS | 197/144 |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | 0.27 | 21-22 | >999 | 240 | Weight: 210 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 SPF No.2 *Except* 1-5:2x4 SPF 2100F 1.8E

BOT CHORD 2x4 SPF No.2 *Except* 1-22:2x10 SP 2400F 2.0E, 22-20,17-20:2x4 SPF 2100F 1.8E

WEBS 2x3 SPF No.2 *Except* 23-24,25-26,18-6,18-8:2x4 SPF No.2, 22-2:2x6 SPF No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (3-5-13 max.): 6-8.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

WEBS 1 Row at midpt 4-19, 6-18, 7-18, 8-16, 10-11, 9-15

**REACTIONS** (size) 1=0-3-8, 11=0-3-8
Max Horiz 1=300 (LC 7)
Max Uplift 1=-230 (LC 8), 11=-134 (LC 9)
Max Grav 1=2050 (LC 2), 11=2104 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-7568/1020, 2-3=-6685/1032, 3-4=-4015/481, 4-6=-2704/326, 6-7=-2190/270, 7-8=-2190/270, 8-9=-1927/211, 9-10=-1522/142, 11-13=-2072/141, 10-13=-2002/153

BOT CHORD 1-22=-1073/6673, 21-22=-567/3963, 19-21=-352/3032, 18-19=-266/2323, 16-18=-179/1664, 15-16=-122/1313, 14-15=-97/77, 13-14=-97/77, 11-12=0/0

WEBS 12-14=0/28, 2-22=-23/1124, 3-22=-524/2412, 3-21=-726/272, 4-21=-102/1006, 4-19=-971/326, 6-19=-121/1042, 6-18=-330/121, 7-18=-491/207, 8-18=-161/1036, 8-16=-415/150, 9-16=-101/686, 9-15=-1027/129, 10-15=-87/1783

**NOTES**

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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) All plates are MT20 plates unless otherwise indicated.
5) All plates are 2x4 MT20 unless otherwise indicated.
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, with BCDL = 10.0psf.
8) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
9) Bearing at joint(s) 1 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 134 lb uplift at joint 11 and 230 lb uplift at joint 1.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) 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


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | B3 | Piggyback Base | 3 | 1 | Job Reference (optional) | I59019866 |

Wheeler Lumber, Waverly, KS - 66871,

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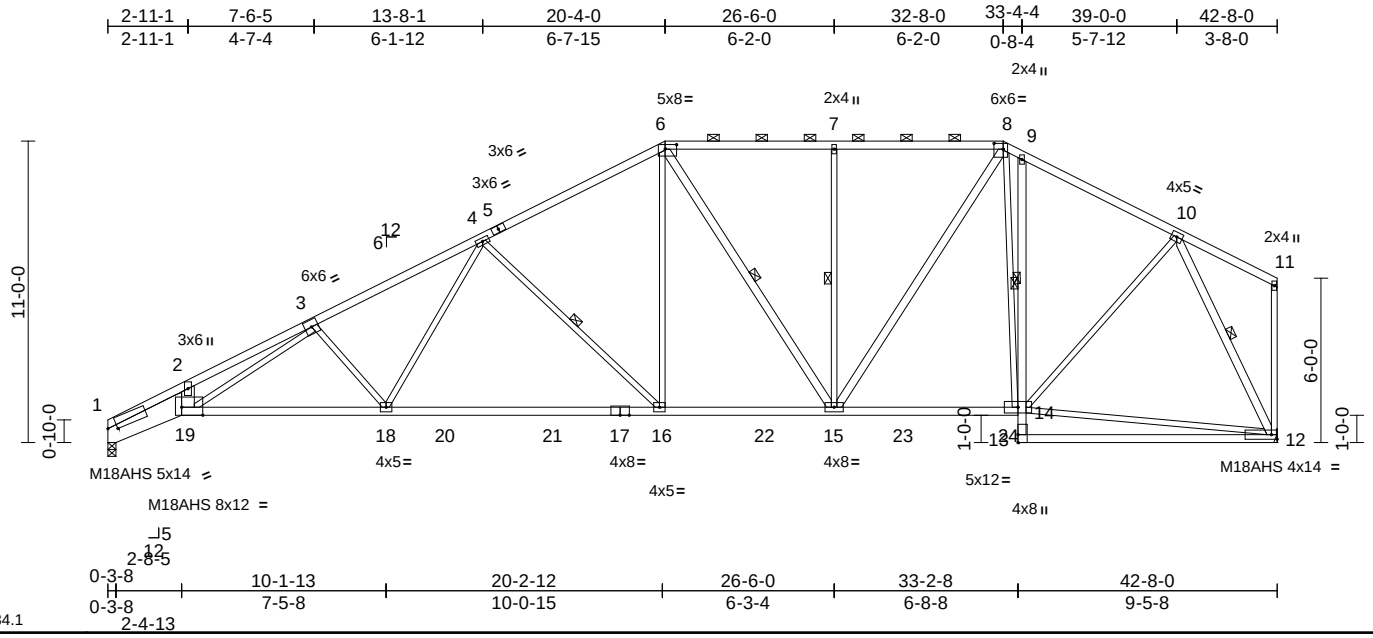


Scale = 1:84.1

Plate Offsets (X, Y): [1:0-4-1,0-1-9], [6:0-5-0,0-2-0], [8:0-4-0,0-2-8], [19:0-9-4,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 | 0.91 | Vert(LL) | -0.50 | 16-18 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.81 | Vert(CT) | -0.87 | 16-18 | >588 | 240 | M18AHS | 142/136 |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.83 | Horz(CT) | 0.34 | 12 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | 0.19 | 18-19 | >999 | 240 | Weight: 221 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 SPF No.2 *Except* 1-5:2x4 SPF 2100F 1.8E

BOT CHORD 2x4 SPF 2100F 1.8E *Except* 1-19:2x10 SP 2400F 2.0E, 9-13:2x4 SPF No.2

WEBS 2x3 SPF No.2 *Except* 19-2:2x6 SPF No.2, 15-6,15-8,12-10:2x4 SPF No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (3-6-10 max.): 6-8.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:

1 Row at midpt 9-14

WEBS 1 Row at midpt 4-16, 6-15, 7-15, 8-14, 10-12

**REACTIONS** (size) 1=0-3-8, 12= Mechanical
Max Horiz 1=243 (LC 7)
Max Uplift 1=-18 (LC 8)
Max Grav 1=2044 (LC 2), 12=2052 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-7546/171, 2-3=-6666/244, 3-4=-4002/73, 4-6=-2690/67, 6-7=-2178/56, 7-8=-2178/56, 8-9=-1870/62, 9-10=-1882/38, 10-11=-112/84, 11-12=-118/48

BOT CHORD 1-19=-252/6663, 18-19=-129/3951, 16-18=-100/3020, 15-16=-61/2311, 14-15=-30/1632, 13-14=0/199, 9-14=-333/107, 12-13=0/166

WEBS 2-19=0/1120, 3-19=-173/2452, 3-18=-726/140, 4-18=0/1022, 4-16=-1000/155, 6-16=-4/1054, 6-15=-313/92, 7-15=-490/118, 8-15=-52/1069, 8-14=-392/108, 10-14=0/1074, 12-14=-66/761, 10-12=-2110/11

**NOTES**

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Refer to girder(s) for truss to truss connections.
9) Bearing at joint(s) 1 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 18 lb uplift at joint 1.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) 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


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | B4 | Piggyback Base | 2 | 1 | Job Reference (optional) | I59019867 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:09 Page: 1
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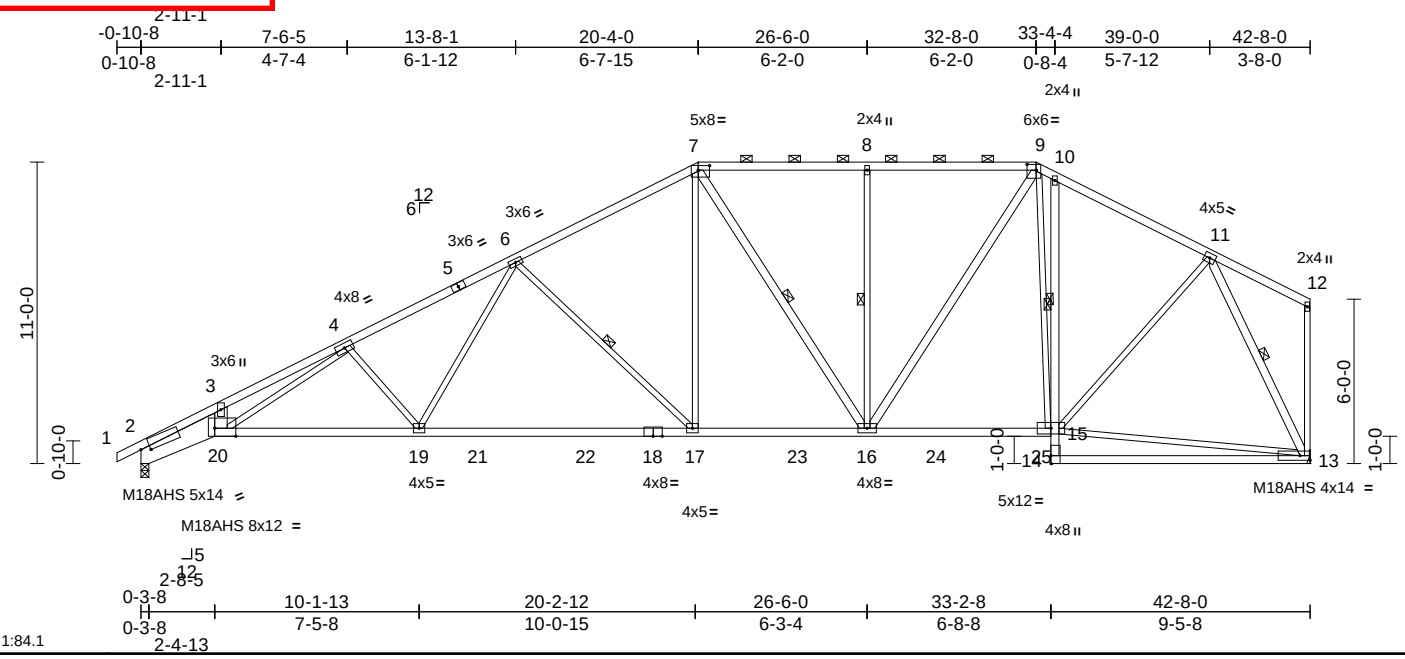


Scale = 1:84.1

Plate Offsets (X, Y): [2:0-4-1,0-1-9], [7:0-5-0,0-2-0], [9:0-4-0,0-2-8], [20:0-9-4,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 | 0.93 | Vert(LL) | -0.50 | 17-19 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.80 | Vert(CT) | -0.87 | 17-19 | >585 | 240 | M18AHS | 142/136 |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.81 | Horz(CT) | 0.34 | 13 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | 0.19 | 19-20 | >999 | 240 | Weight: 222 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 SPF No.2 *Except* 1-5:2x4 SPF 2100F 1.8E

BOT CHORD 2x4 SPF 2100F 1.8E *Except* 2-20:2x10 SP 2400F 2.0E, 10-14:2x4 SPF No.2

WEBS 2x3 SPF No.2 *Except* 20-3:2x6 SPF No.2, 16-7,16-9,13-11:2x4 SPF No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (3-6-10 max.): 7-9.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:

1 Row at midpt 10-15

WEBS 1 Row at midpt 6-17, 7-16, 8-16, 9-15, 11-13

**REACTIONS** (size) 2=0-3-8, 13= Mechanical
Max Horiz 2=245 (LC 7)
Max Uplift 2=-29 (LC 8)
Max Grav 2=2103 (LC 2), 13=2052 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/9, 2-3=-7511/164, 3-4=-6611/234, 4-6=-3997/72, 6-7=-2688/66, 7-8=-2177/56, 8-9=-2176/56, 9-10=-1869/62, 10-11=-1881/37, 11-12=-112/84, 12-13=-118/48

BOT CHORD 2-20=-250/6623, 19-20=-129/3944, 17-19=-99/3014, 16-17=-61/2310, 15-16=-30/1632, 14-15=0/199, 10-15=-332/107, 13-14=0/166

WEBS 3-20=0/1149, 4-20=-164/2402, 4-19=-726/141, 6-19=0/1022, 6-17=-994/152, 7-17=-3/1050, 7-16=-313/92, 8-16=-490/118, 9-16=-52/1068, 9-15=-392/108, 13-15=-66/761, 11-15=0/1073, 11-13=-2109/11

**NOTES**

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Refer to girder(s) for truss to truss connections.
9) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 2.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) 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


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | C1 | Piggyback Base | 2 | 1 | Job Reference (optional) | I59019868 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:10 Page: 1
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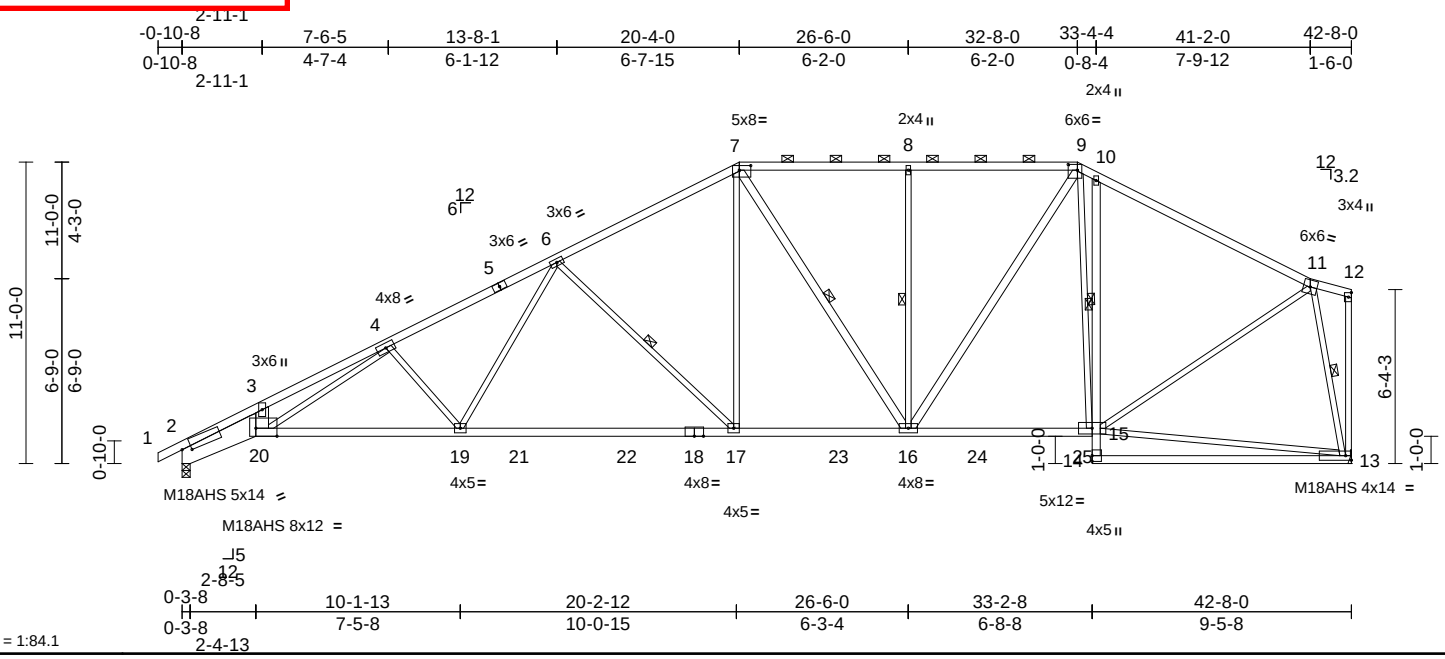


Scale = 1:84.1

Plate Offsets (X, Y): [2:0-4-1,0-1-9], [7:0-5-0,0-2-0], [9:0-4-0,0-2-8], [20:0-9-4,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 | 0.97 | Vert(LL) | -0.48 | 17-19 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.88 | Vert(CT) | -0.84 | 17-19 | >608 | 240 | M18AHS | 142/136 |
| BCLL | 0.0* | Rep Stress Incr | NO | WB | 0.84 | Horz(CT) | 0.32 | 13 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | 0.17 | 19-20 | >999 | 240 | Weight: 219 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 SPF 2100F 1.8E *Except* 7-9,11-12:2x4 SPF No.2, 1-5:2x4 SPF 2400F 2.0E

BOT CHORD 2x4 SPF 2100F 1.8E *Except* 2-20:2x10 SP 2400F 2.0E, 10-14:2x4 SPF No.2

WEBS 2x3 SPF No.2 *Except* 20-3:2x6 SPF No.2, 16-7,16-9:2x4 SPF No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 1-8-14 oc purlins, except end verticals, and 2-0-0 oc purlins (3-6-13 max.): 7-9.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:

1 Row at midpt 10-15

WEBS 1 Row at midpt 6-17, 7-16, 8-16, 9-15, 11-13

**REACTIONS** (size) 2=0-3-8, 13= Mechanical
Max Horiz 2=245 (LC 7)
Max Uplift 2=-29 (LC 8)
Max Grav 2=2103 (LC 2), 13=2052 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/9, 2-3=-7517/164, 3-4=-6608/234, 4-6=-3997/72, 6-7=-2688/66, 7-8=-2176/56, 8-9=-2176/56, 9-10=-1984/105, 10-11=-1922/34, 11-12=-87/60, 12-13=-60/48

BOT CHORD 2-20=-251/6626, 19-20=-130/3947, 17-19=-100/3013, 16-17=-62/2310, 15-16=-32/1634, 14-15=0/199, 10-15=-685/228, 13-14=0/146

WEBS 3-20=0/1164, 4-20=-163/2395, 4-19=-730/141, 6-19=0/1022, 6-17=-993/153, 7-17=-3/1051, 7-16=-313/90, 8-16=-484/116, 9-16=-51/1065, 9-15=-318/225, 13-15=-74/328, 11-15=0/1466, 11-13=-2009/72

**NOTES**

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Refer to girder(s) for truss to truss connections.
9) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 2.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) 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


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | G2 | Piggyback Base | 1 | 1 | Job Reference (optional) | I59019869 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:10 Page: 1
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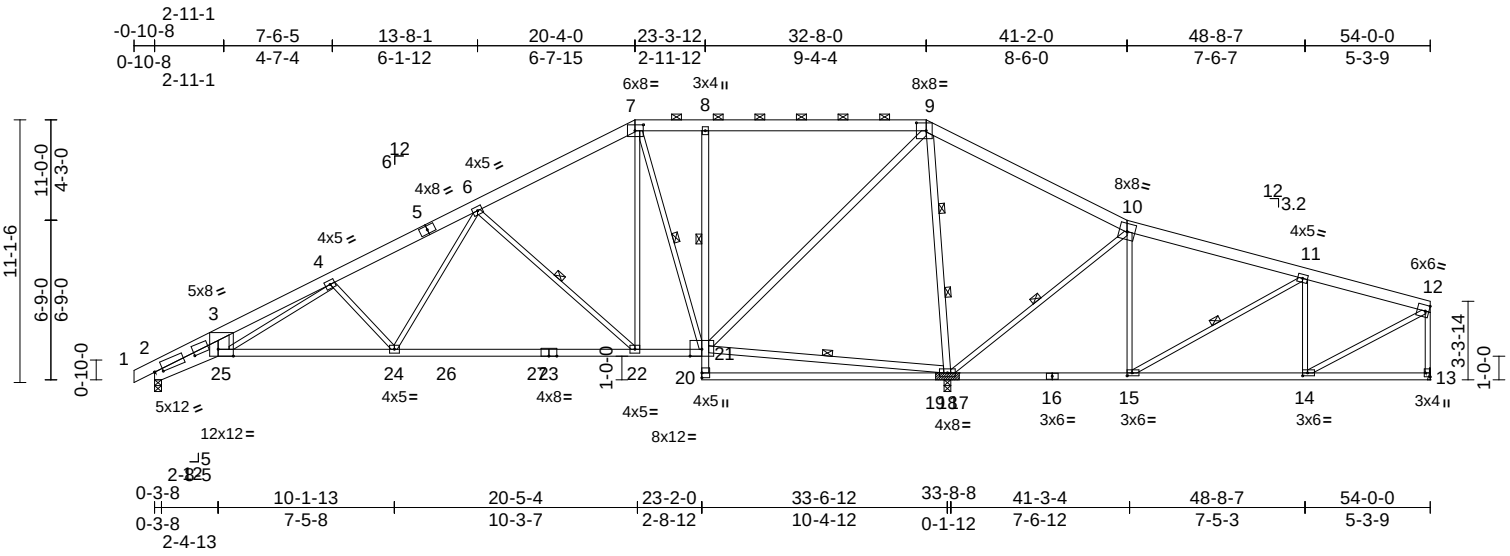


Scale = 1:97.5

Plate Offsets (X, Y): [2:0-4-5,0-1-4], [2:1-10-1,0-0-2], [7:0-4-4,0-3-0], [9:0-5-0,0-4-0], [13:Edge,0-2-8], [14:0-2-8,0-1-8], [15:0-2-8,0-1-8], [25:0-7-11,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 | 0.67 | Vert(LL) | -0.37 | 22-24 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.91 | Vert(CT) | -0.65 | 22-24 | >619 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | NO | WB | 0.97 | Horz(CT) | 0.14 | 18 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | 0.10 | 24-25 | >999 | 240 | Weight: 291 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x6 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 2-25:2x8 SP 2400F 2.0E, 25-23:2x4 SPF 2100F 1.8E, 20-16,19-17:2x4 SPF 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 25-3:2x6 SPF No.2, 18-21,21-9,9-18:2x4 SPF No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 2-11-4 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 7-9.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 15-18,14-15.
1 Row at midpt 8-21
WEBS 1 Row at midpt 6-22, 7-21, 18-21, 10-18, 11-15
WEBS 2 Rows at 1/3 pts 9-18

**REACTIONS** (size) 2=0-3-8, 13= Mechanical, 18= (0-3-8 + bearing block), (req. 0-3-14)
Max Horiz 2=120 (LC 7)
Max Uplift 2=-30 (LC 8), 13=-138 (LC 22)
Max Grav 2=1277 (LC 24), 13=520 (LC 23), 18=3588 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/9, 2-3=-4156/148, 3-4=-3472/206, 4-6=-2030/75, 6-7=-750/74, 7-8=-364/134, 8-9=-368/135, 9-10=0/1535, 10-11=-54/802, 11-12=-464/275, 12-13=-481/174
BOT CHORD 2-25=-220/3620, 24-25=-108/2138, 22-24=-16/1271, 21-22=0/595, 20-21=0/185, 8-21=-594/143, 18-20=0/168, 15-18=-764/128, 14-15=-249/425, 13-14=-32/26
WEBS 3-25=0/830, 4-25=-128/1224, 4-24=-651/145, 6-24=0/971, 6-22=-963/152, 7-22=0/992, 7-21=-984/26, 18-21=-1167/46, 9-21=-42/1873, 10-18=-974/125, 10-15=0/671, 11-15=-770/77, 11-14=-99/329, 12-14=-289/481, 9-18=-2518/73

**NOTES**

1) 2x4 SPF 2400F 2.0E bearing block 12" long at jt. 18 attached to front face with 2 rows of 10d (0.131"x3") nails spaced 3" o.c. 8 Total fasteners. Bearing is assumed to be DF No.2.
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) All bearings are assumed to be DF No.2 crushing capacity of 625 psi.
8) Refer to girder(s) for truss to truss connections.
9) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 30 lb uplift at joint 2 and 138 lb uplift at joint 13.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) 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


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | V3 | Piggyback Base | 2 | 1 | Job Reference (optional) | I59019870 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:11 Page: 1
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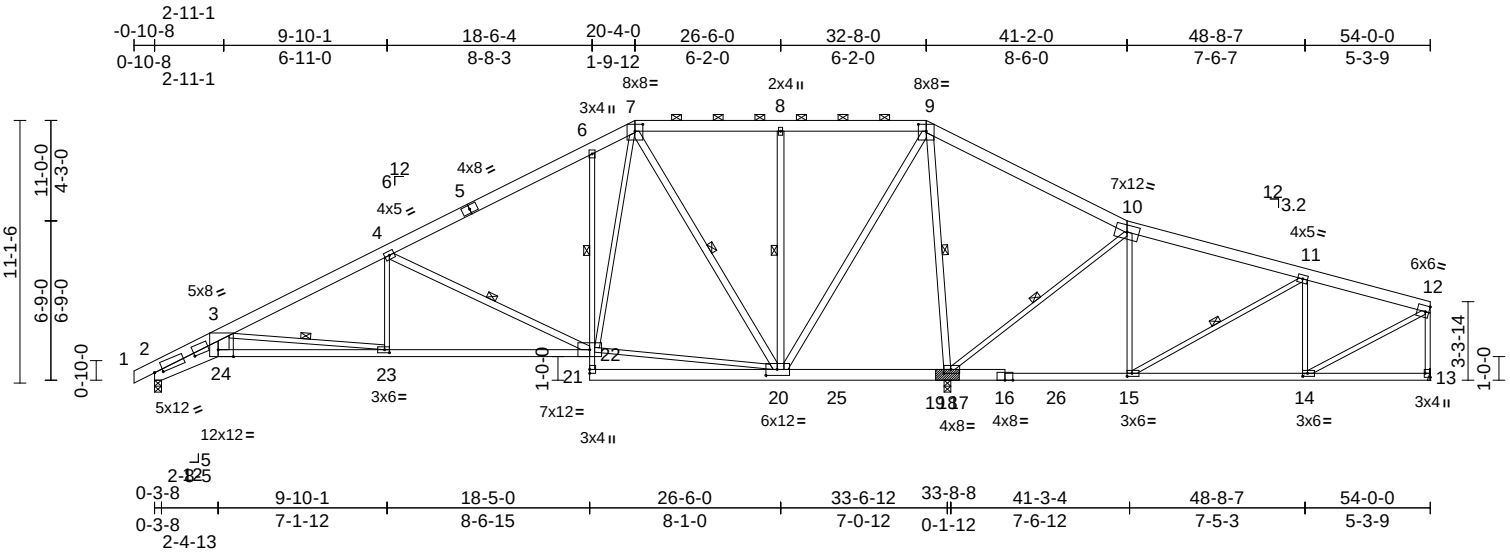



Scale = 1:97.5

Plate Offsets (X, Y): [2:0-4-5,0-1-4], [2:1-10-1,0-0-2], [7:0-4-0,0-3-8], [9:0-4-0,0-3-8], [13:Edge,0-2-8], [14:0-2-8,0-1-8], [15:0-2-8,0-1-8], [18:0-3-8,0-2-0], [20:0-5-12,0-3-0], [23:0-2-8,0-1-8], [24:0-7-11,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 | 0.74 | Vert(LL) | -0.23 | 22-23 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.64 | Vert(CT) | -0.44 | 22-23 | >922 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | NO | WB | 0.87 | Horz(CT) | 0.16 | 18 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | 0.10 | 23-24 | >999 | 240 | Weight: 319 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E *Except* 2-24:2x8 SP 2400F 2.0E, 24-22:2x4 SPF 2100F 1.8E, 6-21:2x3 SPF No.2, 16-13:2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 24-3:2x6 SPF No.2, 22-4,20-7,8-20,20-9:2x4 SPF No.2, 18-9:2x4 SPF 2100F 1.8E

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 3-2-15 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 7-9.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing. Except:
1 Row at midpt 6-22
WEBS 1 Row at midpt 3-23, 4-22, 7-20, 8-20, 10-18, 11-15, 9-18

**REACTIONS** (size) 2=0-3-8, 13= Mechanical, 18= (0-3-8 + bearing block), (req. 0-4-0)
Max Horiz 2=120 (LC 7)
Max Uplift 2=-27 (LC 8), 13=-212 (LC 22)
Max Grav 2=1206 (LC 24), 13=477 (LC 23), 18=3737 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/9, 2-3=-4131/174, 3-4=-1940/52, 4-6=-897/59, 6-7=-798/143, 7-8=0/304, 8-9=0/302, 9-10=-11/1714, 10-11=-67/950, 11-12=-411/368, 12-13=-438/249
BOT CHORD 2-24=-249/3628, 23-24=-223/2970, 22-23=-53/1717, 21-22=0/140, 6-22=-392/167, 20-21=-42/26, 18-20=-1181/130, 15-18=-908/142, 14-15=-338/374, 13-14=-32/27
WEBS 3-24=-31/1499, 3-23=-1300/170, 4-23=0/473, 4-22=-1217/134, 20-22=0/444, 7-22=-130/1187, 7-20=-1212/68, 8-20=-475/119, 9-20=-36/1875, 10-18=-987/120, 10-15=0/708, 11-15=-834/77, 11-14=-71/375, 12-14=-392/422, 9-18=-2765/50

**NOTES**
1) 2x6 SP 2400F 2.0E bearing block 12" long at jt. 18 attached to front face with 3 rows of 10d (0.131"x3") nails spaced 3" o.c. 12 Total fasteners. Bearing is assumed to be DF No.2.
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) All bearings are assumed to be DF No.2 crushing capacity of 625 psi.
8) Refer to girder(s) for truss to truss connections.
9) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 27 lb uplift at joint 2 and 212 lb uplift at joint 13.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) 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


June 20,2023

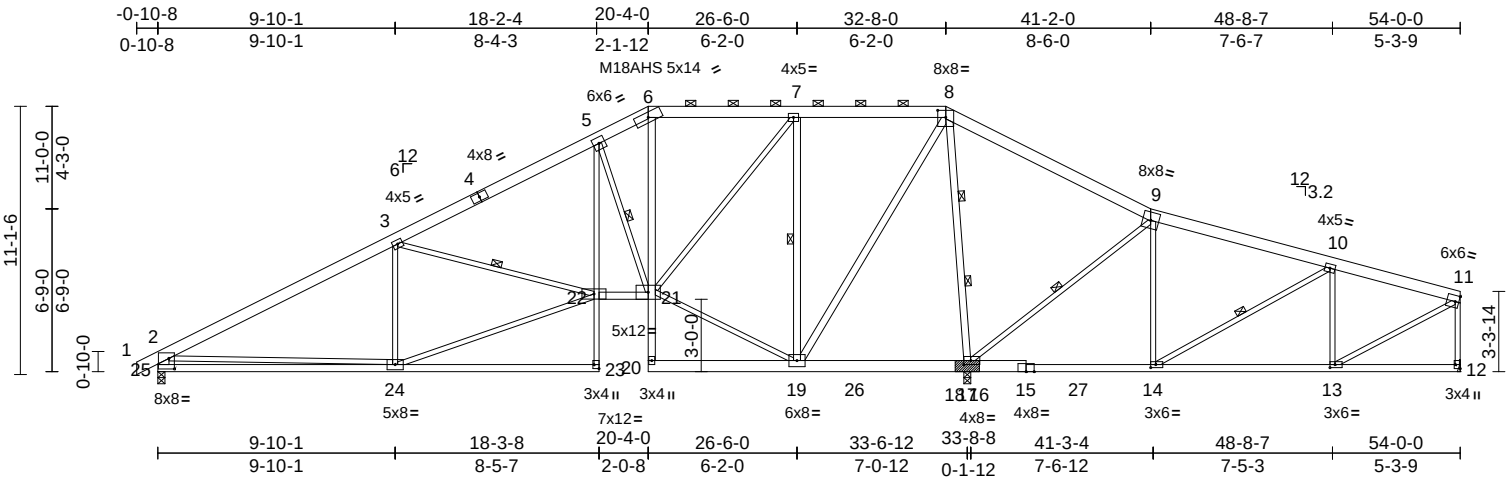


MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | C4 | Piggyback Base | 1 | 1 | Job Reference (optional) | I59019871 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:11 Page: 1
ID:yPW6e5fhjwmOBQPEgYDlJ9zhyMt-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f




Scale = 1:95.5

Plate Offsets (X, Y): [8:0-4-0,0-3-8], [12:Edge,0-2-8], [13:0-2-8,0-1-8], [14:0-2-8,0-1-8], [17:0-3-8,0-2-0], [23:Edge,0-2-8], [25:0-2-12,0-5-4]

| 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 | 0.57 | Vert(LL) | -0.19 | 24-25 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.80 | Vert(CT) | -0.40 | 24-25 | >994 | 240 | M18AHS | 142/136 |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.91 | Horz(CT) | 0.10 | 17 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | 0.06 | 23 | >999 | 240 | Weight: 318 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 23-5:2x3 SPF No.2, 20-15,18-16:2x6 SP 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 7-19,19-8,8-17:2x4 SPF No.2, 25-2:2x6 SP 2400F 2.0E

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 4-9-13 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 17-19,14-17,13-14.
WEBS 1 Row at midpt 3-22, 5-21, 7-19, 9-17, 10-14
WEBS 2 Rows at 1/3 pts 8-17

**REACTIONS** (size) 12= Mechanical, 17=(0-3-8 + bearing block), (req. 0-3-10), 25=0-3-8
Max Horiz 25=126 (LC 5)
Max Uplift 12=-58 (LC 9), 25=-45 (LC 8)
Max Grav 12=578 (LC 23), 17=3388 (LC 2), 25=1334 (LC 24)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-1920/71, 3-5=-1527/99, 5-6=-1071/123, 6-7=-898/108, 7-8=-187/145, 8-9=0/1214, 9-10=-140/534, 10-11=-535/118, 11-12=-539/80, 2-25=-1238/98
BOT CHORD 24-25=-207/1054, 23-24=0/34, 22-23=0/133, 5-22=-7/806, 21-22=0/1235, 20-21=0/105, 6-21=-48/284, 19-20=0/8, 17-19=-780/76, 14-17=-504/84, 13-14=-98/493, 12-13=-31/27
WEBS 3-22=-439/112, 5-21=-1049/139, 19-21=-27/200, 7-21=-5/1193, 7-19=-1379/105, 8-19=-36/1706, 9-17=-983/120, 9-14=0/603, 10-14=-636/70, 10-13=-139/234, 11-13=-116/559, 8-17=-2421/35, 3-24=-387/146, 22-24=-90/1669, 2-24=0/619

**NOTES**
1) 2x6 SP 2400F 2.0E bearing block 12" long at jt. 17 attached to front face with 3 rows of 10d (0.131"x3") nails spaced 3" o.c. 12 Total fasteners. Bearing is assumed to be DF No.2.
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
5) All plates are MT20 plates unless otherwise indicated.
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, with BCDL = 10.0psf.
8) All bearings are assumed to be DF No.2 crushing capacity of 625 psi.
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 45 lb uplift at joint 25 and 58 lb uplift at joint 12.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) 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


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | G5 | Piggyback Base | 1 | 1 | Job Reference (optional) | I59019872 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:12 Page: 1
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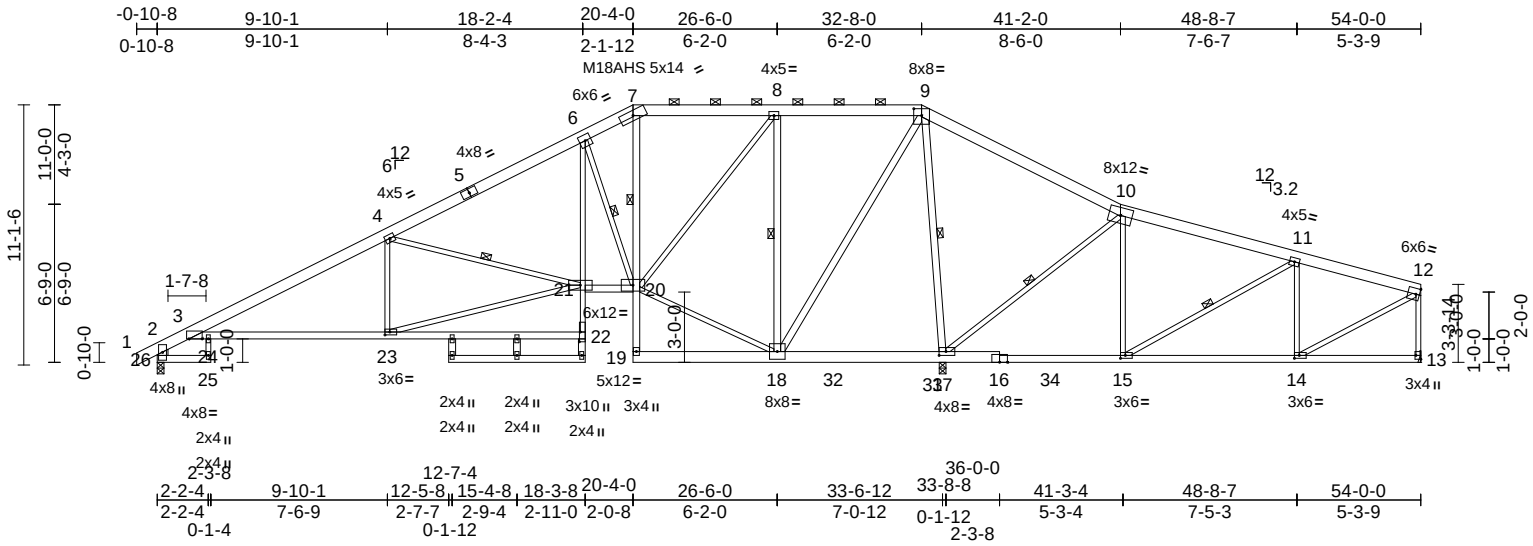


Scale = 1:98.5

Plate Offsets (X, Y): [3:0-6-12,Edge], [9:0-4-0,0-3-8], [13:Edge,0-2-8], [14:0-2-8,0-1-8], [15:0-2-8,0-1-8], [17:0-3-8,0-2-0], [22:0-5-0,0-0-8], [23:0-2-8,0-1-8]

| 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 | 0.69 | Vert(LL) | -0.33 | 23-24 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.96 | Vert(CT) | -0.60 | 23-24 | >666 | 240 | M18AHS | 142/136 |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.87 | Horz(CT) | 0.27 | 17 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | 0.17 | 23-24 | >999 | 240 | Weight: 317 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x6 SPF No.2 *Except* 1-5:2x6 SP 2400F 2.0E

BOT CHORD 2x4 SPF No.2 *Except* 22-6:2x3 SPF No.2, 19-16:2x6 SPF No.2

WEBS 2x3 SPF No.2 *Except* 27-28,8-18,18-9,22-29,30-31:2x4 SPF No.2, 9-17:2x4 SPF 2100F 1.8E, 26-2:2x6 SPF No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 5-10-4 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 7-9.

BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing. Except:

1 Row at midpt 7-20

10-0-0 oc bracing: 22-23

WEBS 1 Row at midpt 4-21, 6-20, 8-18, 11-15, 9-17, 10-17

**REACTIONS** (size) 13= Mechanical, 17=0-3-8, (req. 0-6-2), 26=0-3-8

Max Horiz 26=126 (LC 5)

Max Uplift 13=-330 (LC 22), 26=-21 (LC 8)

Max Grav 13=420 (LC 23), 17=3916 (LC 2), 26=1146 (LC 24)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/35, 2-3=-445/76, 3-4=-1799/38, 4-6=-928/55, 6-7=-480/116, 7-8=-379/106, 8-9=0/498, 9-10=-32/1984, 10-11=-87/1194, 11-12=-340/514, 12-13=-381/368, 2-26=-1144/48

BOT CHORD 25-26=0/0, 3-24=-52/1601, 23-24=-52/1601, 22-23=0/61, 21-22=0/138, 6-21=0/761, 20-21=0/685, 19-20=0/103, 7-20=-113/16, 18-19=0/4, 17-18=-1392/147, 15-17=-1144/161, 14-15=-480/305, 13-14=-32/26

WEBS 24-25=-3/66, 4-23=-140/173, 4-21=-1023/151, 6-20=-935/132, 18-20=-484/147, 8-20=0/1137, 8-18=-1340/104, 9-18=-46/1940, 10-15=0/766, 11-15=-936/85, 11-14=-33/455, 12-14=-554/343, 9-17=-2937/68, 10-17=-992/119, 21-23=-67/1583

**NOTES**

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); 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) The Fabrication Tolerance at joint 22 = 6%
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, with BCDL = 10.0psf.
8) WARNING: Required bearing size at joint(s) 17 greater than input bearing size.
9) All bearings are assumed to be DF No.2 crushing capacity of 625 psi.
10) Refer to girder(s) for truss to truss connections.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 26 and 330 lb uplift at joint 13.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) 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


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | D1 | Piggyback Base | 1 | 1 | Job Reference (optional) | I59019873 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:12 Page: 1
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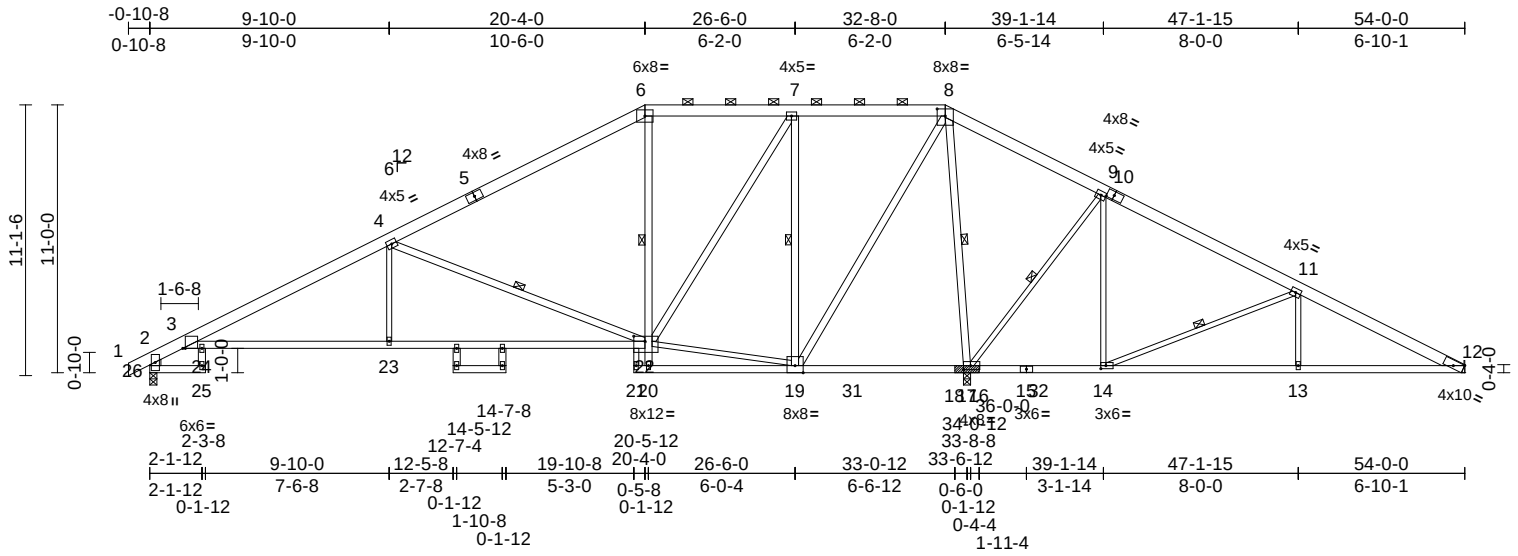


Scale = 1:94.6

Plate Offsets (X, Y): [3:0-1-4,Edge], [8:0-4-0,0-3-8], [10:0-3-8,0-2-0], [12:Edge,0-2-9], [14:0-2-8,0-1-8], [17:0-3-8,0-2-0], [22:0-5-8,0-2-8]

| 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 | 0.62 | Vert(LL) | -0.32 | 22-23 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.68 | Vert(CT) | -0.67 | 22-23 | >598 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | NO | WB | 0.91 | Horz(CT) | 0.22 | 17 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | 0.15 | 23-24 | >999 | 240 | Weight: 299 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x6 SPF No.2 *Except* 1-5,10-12:2x6 SP 2400F 2.0E
BOT CHORD 2x4 SPF No.2 *Except* 3-22,21-15,18-16:2x4 SPF 2400F 2.0E
WEBS 2x4 SPF No.2 *Except* 22-21,4-23,19-22,17-9,9-14,14-11,11-13:2x3 SPF No.2, 17-8:2x4 SPF 2100F 1.8E, 26-2:2x6 SPF No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 5-6-13 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-8.
BOT CHORD Rigid ceiling directly applied or 5-9-15 oc bracing.
WEBS 1 Row at midpt 4-22, 6-20, 7-19, 8-17, 9-17, 11-14

**REACTIONS** (size) 12= Mechanical, 17=(0-3-8 + bearing block), (req. 0-4-1), 26=0-3-8
Max Horiz 26=-130 (LC 6)
Max Uplift 12=-178 (LC 22), 26=-30 (LC 8)
Max Grav 12=453 (LC 23), 17=3758 (LC 2), 26=1231 (LC 24)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-465/98, 3-4=-2088/62, 4-6=-782/108, 6-7=-524/106, 7-8=0/329, 8-9=0/1723, 9-11=-56/1142, 11-12=-547/667, 2-26=-1243/53
BOT CHORD 25-26=0/0, 3-24=-70/1858, 23-24=-70/1858, 22-23=-70/1858, 20-21=0/51, 19-20=0/91, 17-19=-1213/122, 14-17=-945/128, 13-14=-562/436, 12-13=-562/436
WEBS 24-25=0/73, 21-22=-152/0, 4-23=0/489, 4-22=-1520/175, 20-22=0/273, 6-22=-325/84, 19-22=-351/112, 7-19=-1408/98, 8-19=-7/1925, 8-17=-2732/17, 9-17=-973/132, 9-14=0/610, 11-14=-924/109, 11-13=0/329, 7-22=-55/1205

**NOTES**
1) 2x4 SPF 2400F 2.0E bearing block 12" long at jt. 17 attached to front face with 2 rows of 10d (0.131"x3") nails spaced 3" o.c. 8 Total fasteners. Bearing is assumed to be DF No.2.
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
5) All plates are 2x4 MT20 unless otherwise indicated.
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, with BCDL = 10.0psf.
8) All bearings are assumed to be DF No.2 crushing capacity of 625 psi.
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 30 lb uplift at joint 26 and 178 lb uplift at joint 12.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) 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


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | D2 | Piggyback Base | 2 | 1 | Job Reference (optional) | I59019874 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:13 Page: 1
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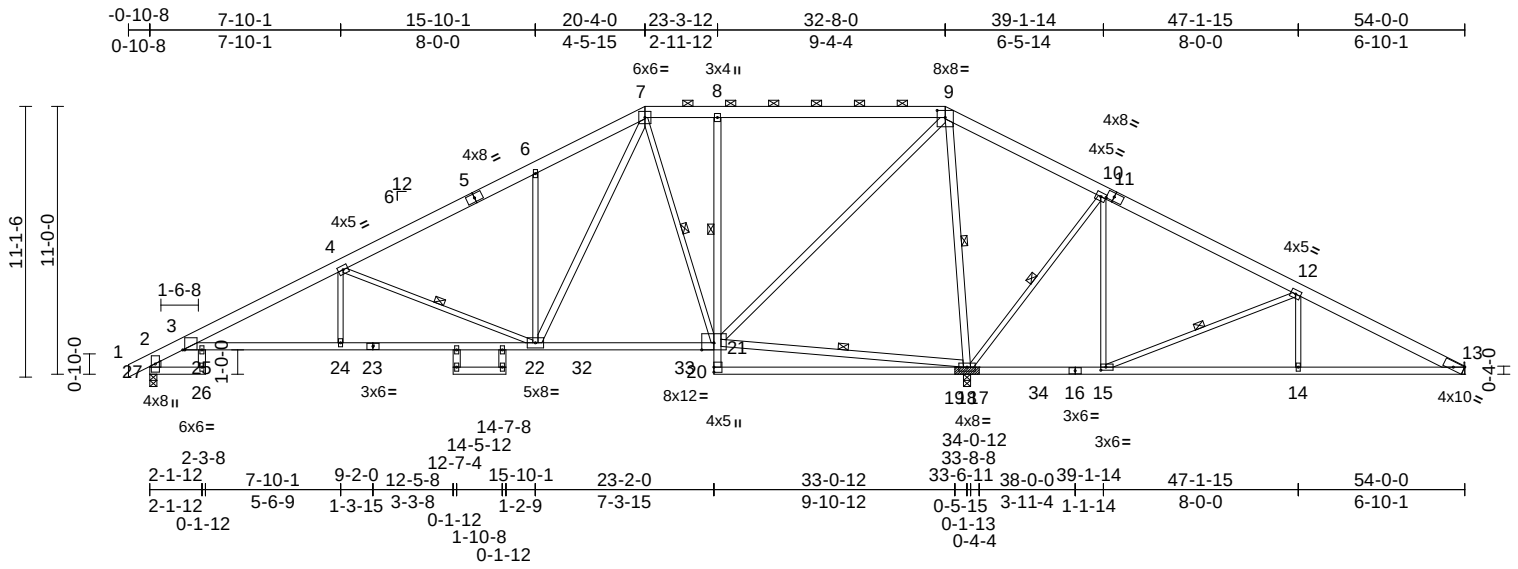


Scale = 1:94.6

Plate Offsets (X, Y): [3:0-1-0,Edge], [9:0-4-0,0-3-8], [11:0-3-8,0-2-0], [13:Edge,0-2-9], [15:0-2-8,0-1-8]

| 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 | 0.58 | Vert(LL) | -0.22 | 21-22 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.93 | Vert(CT) | -0.46 | 18-20 | >877 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | NO | WB | 0.80 | Horz(CT) | 0.20 | 18 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | 0.11 | 24-25 | >999 | 240 | Weight: 300 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x6 SPF No.2 *Except* 1-5,11-13:2x6 SP 2400F 2.0E

BOT CHORD 2x4 SPF No.2 *Except* 3-23:2x4 SPF 2100F 1.8E, 20-16,19-17:2x4 SPF 2400F 2.0E

WEBS 2x3 SPF No.2 *Except* 26-25,22-7,18-21,21-9,28-30,29-31:2x4 SPF No.2, 18-9:2x4 SPF 2100F 1.8E, 27-2:2x6 SPF No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 5-6-4 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 7-9.

BOT CHORD Rigid ceiling directly applied or 5-8-9 oc bracing. Except:

1 Row at midpt 8-21

WEBS 1 Row at midpt 4-22, 7-21, 18-21, 9-18, 10-18, 12-15

**REACTIONS** (size) 13= Mechanical, 18=(0-3-8 + bearing block), (req. 0-4-1), 27=0-3-8

Max Horiz 27=-130 (LC 6)

Max Uplift 13=-191 (LC 22), 27=-33 (LC 8)

Max Grav 13=436 (LC 23), 18=3761 (LC 2), 27=1235 (LC 24)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/35, 2-3=-466/99, 3-4=-2267/76, 4-6=-1215/63, 6-7=-1168/157, 7-8=-284/157, 8-9=-287/158, 9-10=0/1744, 10-12=-50/1181, 12-13=-513/692, 2-27=-1237/56

BOT CHORD 26-27=0/0, 3-25=-99/2033, 24-25=-99/2033, 22-24=-99/2033, 21-22=-9/473, 20-21=0/189, 8-21=-625/147, 18-20=-9/69, 15-18=-989/122, 14-15=-585/406, 13-14=-585/406

WEBS 25-26=0/73, 4-24=0/334, 4-22=-1176/146, 6-22=-445/156, 7-22=-123/1254, 7-21=-825/71, 18-21=-1253/81, 9-21=-19/1980, 9-18=-2589/36, 10-18=-937/141, 10-15=0/583, 12-15=-933/107, 12-14=0/335

**NOTES**

1) 2x4 SPF 2400F 2.0E bearing block 12" long at jt. 18 attached to front face with 2 rows of 10d (0.131"x3") nails spaced 3" o.c. 8 Total fasteners. Bearing is assumed to be DF No.2.
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
5) All plates are 2x4 MT20 unless otherwise indicated.
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, with BCDL = 10.0psf.
8) All bearings are assumed to be DF No.2 crushing capacity of 625 psi.
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 33 lb uplift at joint 27 and 191 lb uplift at joint 13.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) 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


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | D3 | Piggyback Base | 1 | 1 | Job Reference (optional) | I59019875 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:14 Page: 1
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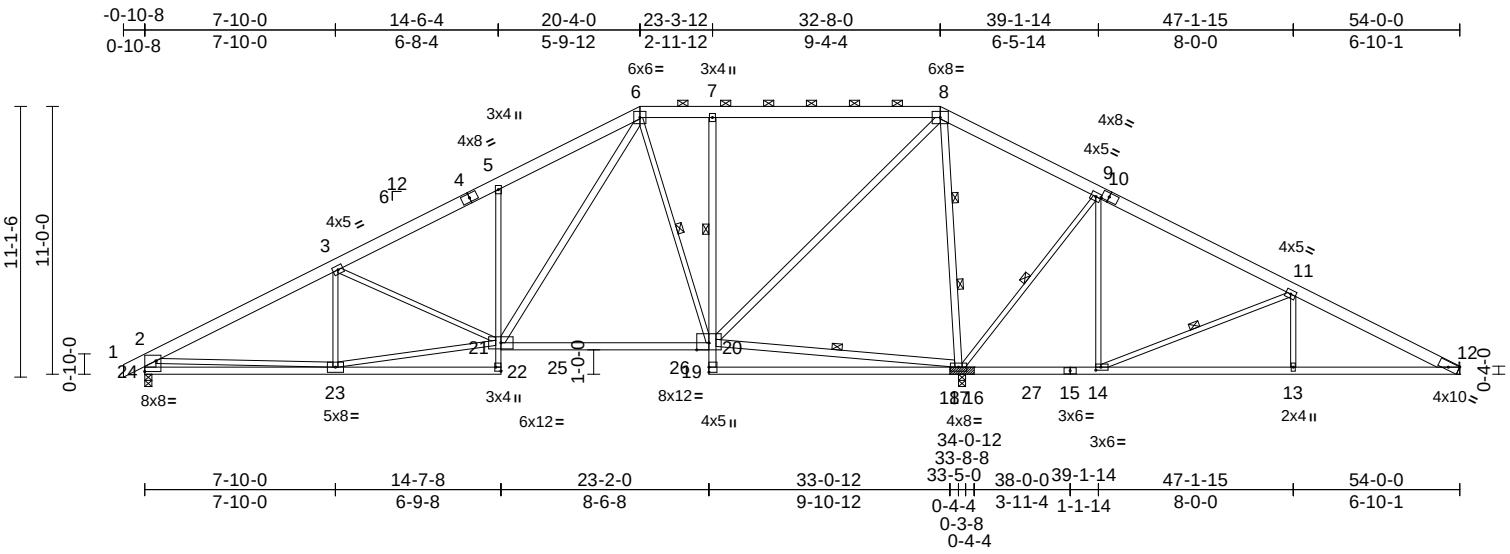


Scale = 1:94.6

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

| 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 | 0.53 | Vert(LL) | -0.30 | 20-21 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.58 | Vert(CT) | -0.52 | 20-21 | >773 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | NO | WB | 0.86 | Horz(CT) | 0.05 | 12 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | 0.07 | 5-21 | >999 | 240 | Weight: 289 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 22-5:2x3 SPF No.2, 21-20,19-15,18-16:2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 21-6,17-20,20-8,17-8:2x4 SPF No.2, 24-2:2x6 SPF No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 4-10-4 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-8.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing. Except:
1 Row at midpt 7-20
WEBS 1 Row at midpt 6-20, 17-20, 9-17, 11-14
WEBS 2 Rows at 1/3 pts 8-17

**REACTIONS** (size) 12= Mechanical, 17=(0-3-8 + bearing block), (req. 0-4-4), 24=0-3-8
Max Horiz 24=-180 (LC 9)
Max Uplift 12=-144 (LC 9), 17=-187 (LC 9), 24=-216 (LC 8)
Max Grav 12=557 (LC 25), 17=3365 (LC 2), 24=1385 (LC 26)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-2085/303, 3-5=-1701/305, 5-6=-1710/448, 6-7=-657/238, 7-8=-658/241, 8-9=0/1156, 9-11=-25/589, 11-12=-785/248, 2-24=-1293/257
BOT CHORD 23-24=-329/837, 22-23=-74/37, 21-22=0/111, 5-21=-470/250, 20-21=-100/799, 19-20=0/188, 7-20=-614/254, 17-19=-50/28, 14-17=-452/127, 13-14=-147/649, 12-13=-147/649
WEBS 3-23=-168/146, 21-23=-307/1812, 3-21=-396/164, 6-21=-333/1285, 6-20=-641/178, 17-20=-748/246, 8-20=-181/1850, 9-17=-924/303, 9-14=-29/580, 11-14=-908/256, 11-13=0/336, 2-23=-14/973, 8-17=-2237/194

**NOTES**
1) 2x4 SPF 2100F 1.8E bearing block 12" long at jt. 17 attached to front face with 2 rows of 10d (0.131"x3") nails spaced 3" o.c. 8 Total fasteners. Bearing is assumed to be DF No.2.
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) All bearings are assumed to be DF No.2 crushing capacity of 625 psi.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 216 lb uplift at joint 24, 187 lb uplift at joint 17 and 144 lb uplift at joint 12.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) 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


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | D4 | Piggyback Base Structural Gable | 1 | 1 | Job Reference (optional) | I59019876 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:14 Page: 1
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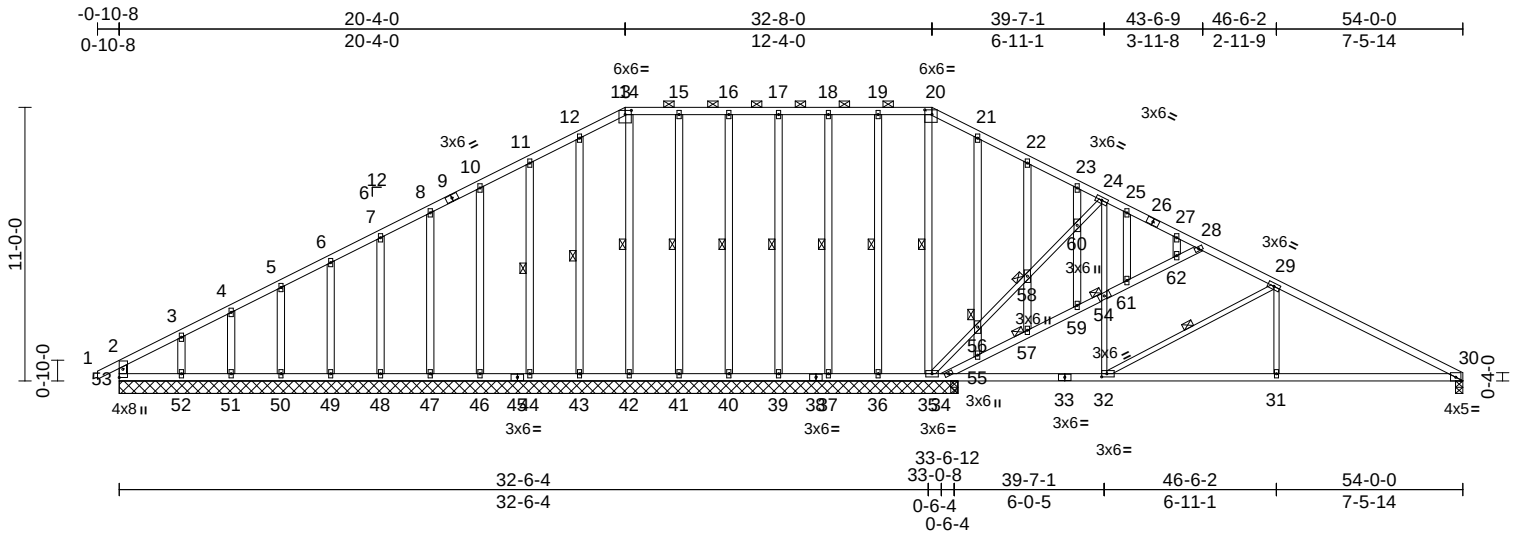


Scale = 1:92.6

Plate Offsets (X, Y): [13:0-3-0,0-2-0], [20:0-3-8,0-2-4], [32:0-2-8,0-1-8]

| 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 | 0.86 | Vert(LL) | -0.09 | 30-31 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.55 | Vert(CT) | -0.20 | 30-31 | >999 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.42 | Horz(CT) | 0.02 | 35 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | 0.07 | 30-31 | >999 | 240 | Weight: 334 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 53-2,35-20,28-54,54-34:2x4 SPF No.2
OTHERS 2x4 SPF No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 13-20.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing, Except: 10-0-0 oc bracing: 34-35,32-34,31-32,30-31.
WEBS 1 Row at midpt 29-32, 20-35, 11-44, 12-43, 14-42, 15-41, 16-40, 17-39, 18-37, 19-36
JOINTS 1 Brace at Jt(s): 54, 56, 57, 58

**REACTIONS** (size) 30=0-3-8, 34=0-3-8, 35=33-8-8, 36=33-8-8, 37=33-8-8, 39=33-8-8, 40=33-8-8, 41=33-8-8, 42=33-8-8, 43=33-8-8, 44=33-8-8, 46=33-8-8, 47=33-8-8, 48=33-8-8, 49=33-8-8, 50=33-8-8, 51=33-8-8, 52=33-8-8, 53=33-8-8
Max Horiz 53=-182 (LC 9)
Max Uplift 30=-157 (LC 9), 35=-277 (LC 9), 36=-30 (LC 5), 37=-38 (LC 4), 39=-33 (LC 5), 40=-34 (LC 5), 41=-37 (LC 4), 43=-46 (LC 8), 44=-58 (LC 8), 46=-53 (LC 8), 47=-54 (LC 8), 48=-54 (LC 8), 49=-52 (LC 8), 50=-61 (LC 8), 51=-25 (LC 8), 52=-148 (LC 8), 53=-146 (LC 25)
Max Grav 30=820 (LC 1), 34=481 (LC 3), 35=842 (LC 25), 36=190 (LC 24), 37=183 (LC 1), 39=181 (LC 24), 40=179 (LC 24), 41=186 (LC 25), 42=296 (LC 1), 43=195 (LC 1), 44=178 (LC 24), 46=181 (LC 1), 47=180 (LC 24), 48=181 (LC 1), 49=179 (LC 24), 50=190 (LC 1), 51=160 (LC 24), 52=310 (LC 1), 53=111 (LC 8)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/32, 2-3=-219/340, 3-4=-146/306, 4-5=-108/316, 5-6=-61/314, 6-7=-15/314, 7-8=0/314, 8-10=0/314, 10-11=0/314, 11-12=0/318, 12-13=0/327, 13-14=0/291, 14-15=0/291, 15-16=0/291, 16-17=0/291, 17-18=0/291, 18-19=0/291, 19-20=0/291, 20-21=0/365, 21-22=0/333, 22-23=0/308, 23-24=0/238, 24-25=-308/178, 25-27=-412/196, 27-28=-407/162, 28-29=-578/195, 29-30=-1302/260, 2-53=-82/131
BOT CHORD 52-53=-255/259, 51-52=-255/259, 50-51=-255/259, 49-50=-255/259, 48-49=-255/259, 47-48=-255/259, 46-47=-255/259, 44-46=-255/259, 43-44=-255/259, 42-43=-255/259, 41-42=-255/259, 40-41=-255/259, 39-40=-255/259, 37-39=-255/259, 36-37=-255/259, 35-36=-255/259, 34-35=0/350, 32-34=-10/435, 31-32=-142/1066, 30-31=-142/1066
WEBS 35-56=-858/255, 56-58=-864/258, 58-60=-842/245, 24-60=-856/254, 32-54=-18/494, 24-54=0/465, 29-32=-721/210, 29-31=0/322, 20-35=-392/38, 54-61=-68/33, 61-62=-113/55, 28-62=-73/33, 34-55=-129/63, 55-57=-95/46, 57-59=-69/31, 54-59=-96/44, 3-52=-216/138, 4-51=-128/60, 5-50=-145/82, 6-49=-139/77, 7-48=-140/78, 8-47=-140/78, 10-46=-141/77, 11-44=-138/82, 12-43=-155/70, 14-42=-256/0, 15-41=-146/61, 16-40=-139/58, 17-39=-140/57, 18-37=-145/60, 19-36=-141/59, 21-56=-69/35, 55-56=-76/39, 22-58=-88/50, 57-58=-58/32, 23-60=-41/79, 59-60=-29/59, 25-61=-49/100, 27-62=-89/50

**NOTES**
1) Unbalanced roof live loads have been considered for this design.


June 20,2023

Continued on page 2



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B2306093 | D4 | Piggyback Base Structural Gable | 1 | 1 | Job Reference (optional) | I59019876 |



2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) 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) Provide adequate drainage to prevent water ponding.
5) All plates are 2x4 MT20 unless otherwise indicated.
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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 146 lb uplift at joint 53, 277 lb uplift at joint 35, 157 lb uplift at joint 30, 148 lb uplift at joint 52, 25 lb uplift at joint 51, 61 lb uplift at joint 50, 52 lb uplift at joint 49, 54 lb uplift at joint 48, 54 lb uplift at joint 47, 53 lb uplift at joint 46, 58 lb uplift at joint 44, 46 lb uplift at joint 43, 37 lb uplift at joint 41, 34 lb uplift at joint 40, 33 lb uplift at joint 39, 38 lb uplift at joint 37 and 30 lb uplift at joint 36.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) 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

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | E1 | Common Supported Gable | 1 | 1 | Job Reference (optional) | I59019877 |

Wheeler Lumber, Waverly, KS - 66871,

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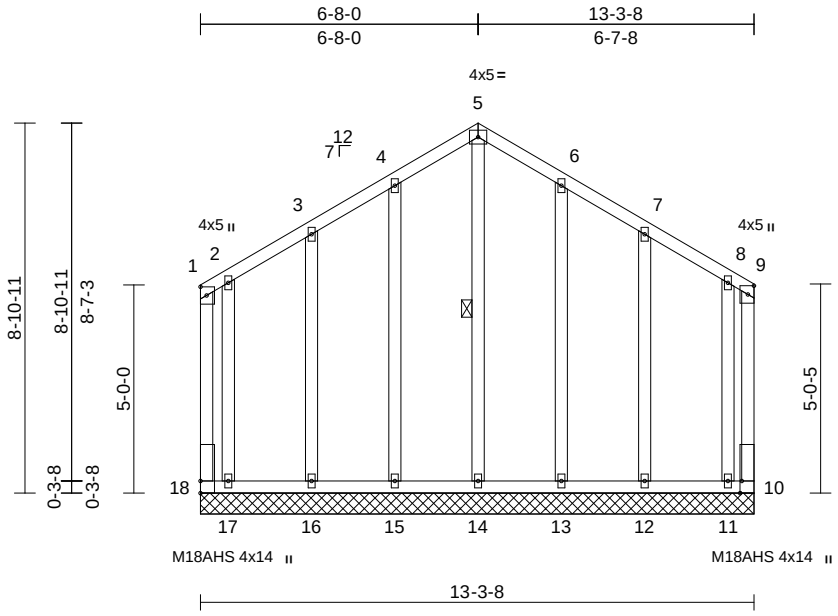


Scale = 1:55.3

Plate Offsets (X, Y): [10:0-3-8,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 | 0.54 | Vert(LL) | n/a | - | n/a | 999 | M18AHS | 142/136 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.37 | Vert(TL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.15 | Horiz(TL) | 0.00 | 10 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-R | | | | | | | Weight: 94 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 5-14 |

**REACTIONS** (size) 10=13-3-8, 11=13-3-8, 12=13-3-8, 13=13-3-8, 14=13-3-8, 15=13-3-8, 16=13-3-8, 17=13-3-8, 18=13-3-8
Max Horiz 18=282 (LC 5)
Max Uplift 10=-955 (LC 7), 11=-919 (LC 4), 12=-71 (LC 9), 13=-59 (LC 9), 15=-59 (LC 8), 16=-71 (LC 8), 17=-880 (LC 5), 18=-903 (LC 6)
Max Grav 10=944 (LC 4), 11=1016 (LC 7), 12=200 (LC 19), 13=189 (LC 19), 14=167 (LC 1), 15=190 (LC 18), 16=194 (LC 18), 17=972 (LC 6), 18=899 (LC 5)

**FORCES** (lb) - Maximum Compression/Maximum Tension

| | |
|---|---|
| TOP CHORD | 1-18=-374/354, 1-2=-251/229, 2-3=-94/80, 3-4=-69/108, 4-5=-62/137, 5-6=-61/137, 6-7=-68/109, 7-8=-95/81, 8-9=-252/231, 9-10=-379/360 |
| BOT CHORD | 17-18=-163/146, 16-17=-163/146, 15-16=-163/146, 14-15=-163/146, 13-14=-163/146, 12-13=-163/146, 11-12=-163/146, 10-11=-163/146 |
| WEBS | 5-14=-127/3, 4-15=-149/84, 3-16=-172/93, 2-17=-340/320, 6-13=-149/84, 7-12=-177/93, 8-11=-340/320 |

**NOTES**

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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 MT20 plates unless otherwise indicated.
5) All plates are 2x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * 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.
11) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 903 lb uplift at joint 18, 955 lb uplift at joint 10, 59 lb uplift at joint 15, 71 lb uplift at joint 16, 880 lb uplift at joint 17, 59 lb uplift at joint 13, 71 lb uplift at joint 12 and 919 lb uplift at joint 11.
13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | E2 | Common | 5 | 1 | Job Reference (optional) | I59019878 |

Wheeler Lumber, Waverly, KS - 66871,

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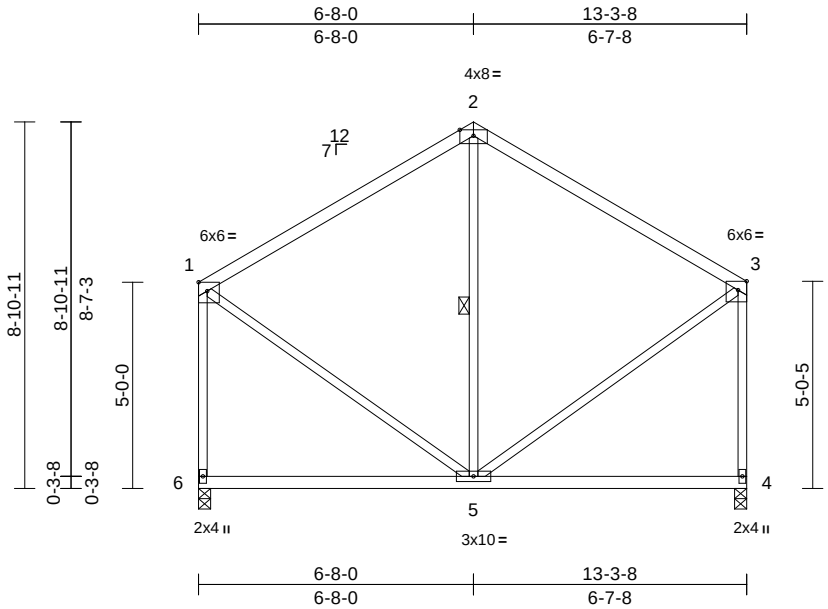


Scale = 1:55.9

Plate Offsets (X, Y): [1:Edge,0-2-9], [3:0-2-8,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 | 0.68 | Vert(LL) | -0.04 | 5-6 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.33 | Vert(CT) | -0.09 | 5-6 | >999 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.13 | Horz(CT) | 0.00 | 4 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | -0.01 | 5-6 | >999 | 240 | Weight: 60 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 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 2-5

**REACTIONS** (size) 4=0-3-8, 6=0-3-8
Max Horiz 6=282 (LC 5)
Max Uplift 4=-76 (LC 9), 6=-76 (LC 8)
Max Grav 4=589 (LC 1), 6=589 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-404/104, 2-3=-403/105, 3-4=-534/104, 1-6=-533/104
BOT CHORD 5-6=-255/248, 4-5=-64/48
WEBS 3-5=-61/344, 1-5=-61/342, 2-5=-197/78

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 76 lb uplift at joint 6 and 76 lb uplift at joint 4.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | E3 | Common Girder | 1 | 3 | Job Reference (optional) | I59019879 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:16 Page: 1
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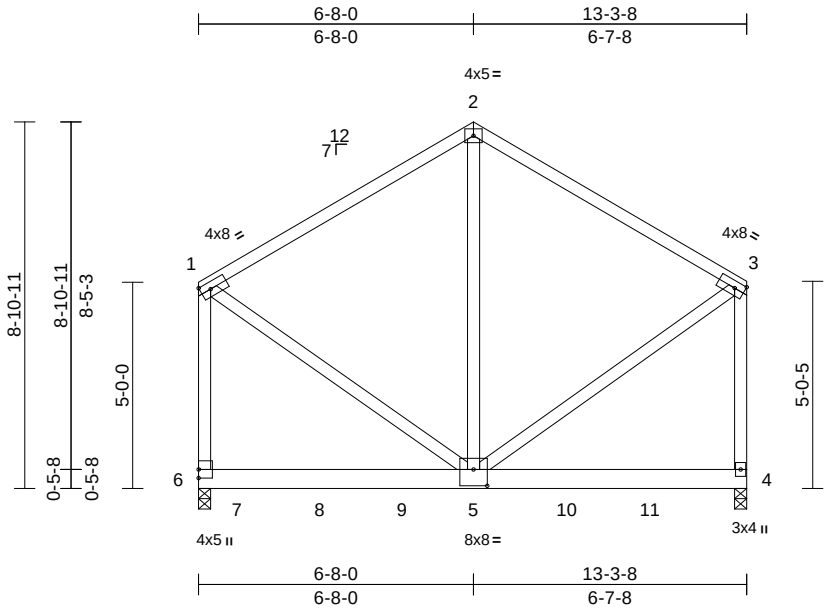


Scale = 1:55.9

Plate Offsets (X, Y): [5:0-4-0,0-4-12]

| 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 | 0.41 | Vert(LL) | -0.11 | 5-6 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.68 | Vert(CT) | -0.18 | 5-6 | >863 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | NO | WB | 0.32 | Horz(CT) | 0.00 | 4 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | -0.01 | 5-6 | >999 | 240 | Weight: 257 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 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.

**REACTIONS** (size) 4=0-3-8, 6=0-3-8
Max Horiz 6=279 (LC 5)
Max Grav 4=8377 (LC 15), 6=7719 (LC 16)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4139/0, 2-3=-4137/0, 1-6=-4643/0, 3-4=-4691/0
BOT CHORD 5-6=-209/293, 4-5=-39/108
WEBS 1-5=0/4195, 2-5=0/3714, 3-5=0/4251

**NOTES**
1) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 3 rows staggered at 0-5-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be DF No.2 crushing capacity of 625 psi.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 2146 lb down at 7-6-4, 2144 lb down at 9-6-4, 2144 lb down at 11-6-4, 2143 lb down at 13-6-4, 2143 lb down at 15-6-4, and 2143 lb down at 17-6-4, and 2151 lb down at 19-8-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

**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, 4-6=-20
Concentrated Loads (lb)
Vert: 4=-1896 (B), 5=-1888 (B), 7=-1891 (B), 8=-1889 (B), 9=-1889 (B), 10=-1888 (B), 11=-1888 (B)

STATE OF MISSOURI
NATHANIEL FOX
NUMBER PE-2022042259
PROFESSIONAL ENGINEER

June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | G1 | Common Supported Gable | 1 | 1 | Job Reference (optional) | I59019880 |

Wheeler Lumber, Waverly, KS - 66871,

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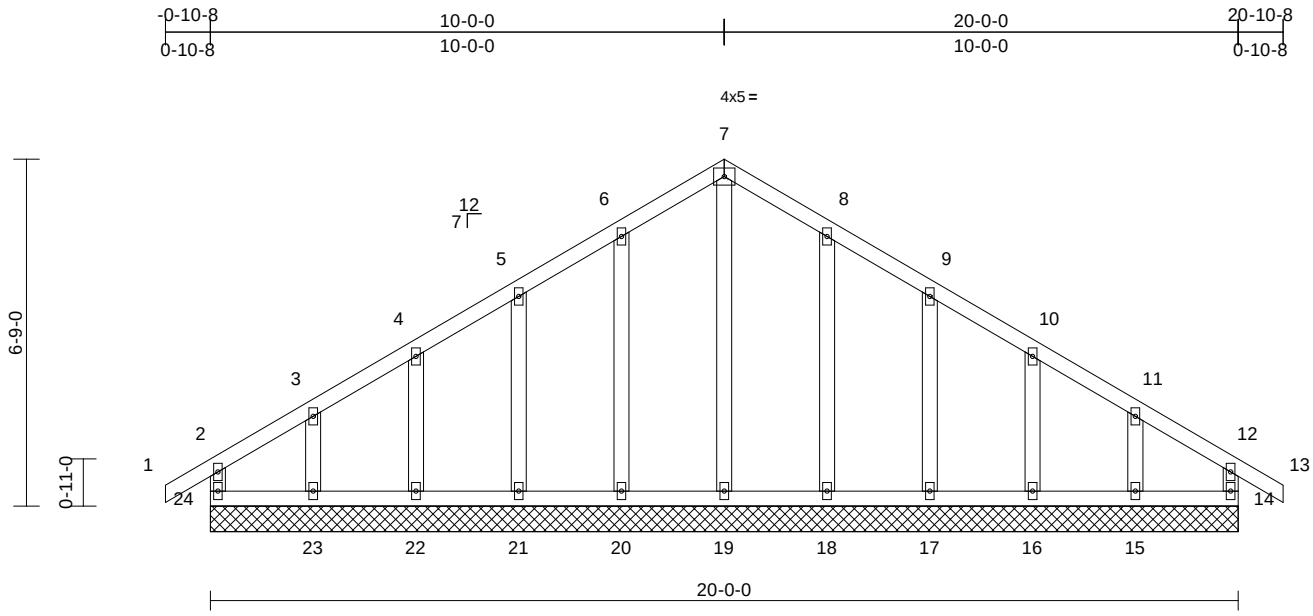


Scale = 1:44.8

| 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 | 0.05 | Vert(CT) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.11 | Horz(CT) | 0.00 | 14 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-R | | | | | | | Weight: 90 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 6-0-0 oc bracing.

**REACTIONS** (size) 14=20-0-0, 15=20-0-0, 16=20-0-0, 17=20-0-0, 18=20-0-0, 19=20-0-0, 20=20-0-0, 21=20-0-0, 22=20-0-0, 23=20-0-0, 24=20-0-0
Max Horiz 24=192 (LC 7)
Max Uplift 14=-37 (LC 5), 15=-98 (LC 9), 16=-52 (LC 9), 17=-65 (LC 9), 18=-60 (LC 9), 20=-61 (LC 8), 21=-66 (LC 8), 22=-51 (LC 8), 23=-105 (LC 8), 24=-65 (LC 4)
Max Grav 14=161 (LC 22), 15=203 (LC 16), 16=184 (LC 22), 17=184 (LC 16), 18=193 (LC 16), 19=197 (LC 18), 20=194 (LC 15), 21=184 (LC 15), 22=184 (LC 21), 23=215 (LC 15), 24=183 (LC 16)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-24=-151/56, 1-2=0/36, 2-3=-121/113, 3-4=-92/93, 4-5=-80/124, 5-6=-67/156, 6-7=-58/185, 7-8=-47/175, 8-9=-43/141, 9-10=-55/109, 10-11=-64/77, 11-12=-84/76, 12-13=0/36, 12-14=-143/39
BOT CHORD 23-24=-83/93, 22-23=-83/93, 21-22=-83/93, 20-21=-83/93, 19-20=-83/93, 18-19=-83/93, 17-18=-83/93, 16-17=-83/93, 15-16=-83/93, 14-15=-83/93
WEBS 7-19=-157/0, 6-20=-154/85, 5-21=-143/88, 4-22=-144/80, 3-23=-156/108, 8-18=-153/84, 9-17=-143/88, 10-16=-144/81, 11-15=-149/104

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 65 lb uplift at joint 24, 37 lb uplift at joint 14, 61 lb uplift at joint 20, 66 lb uplift at joint 21, 51 lb uplift at joint 22, 105 lb uplift at joint 23, 60 lb uplift at joint 18, 65 lb uplift at joint 17, 52 lb uplift at joint 16 and 98 lb uplift at joint 15.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | G2 | Common Girder | 1 | 2 | Job Reference (optional) | I59019881 |

Wheeler Lumber, Waverly, KS - 66871,

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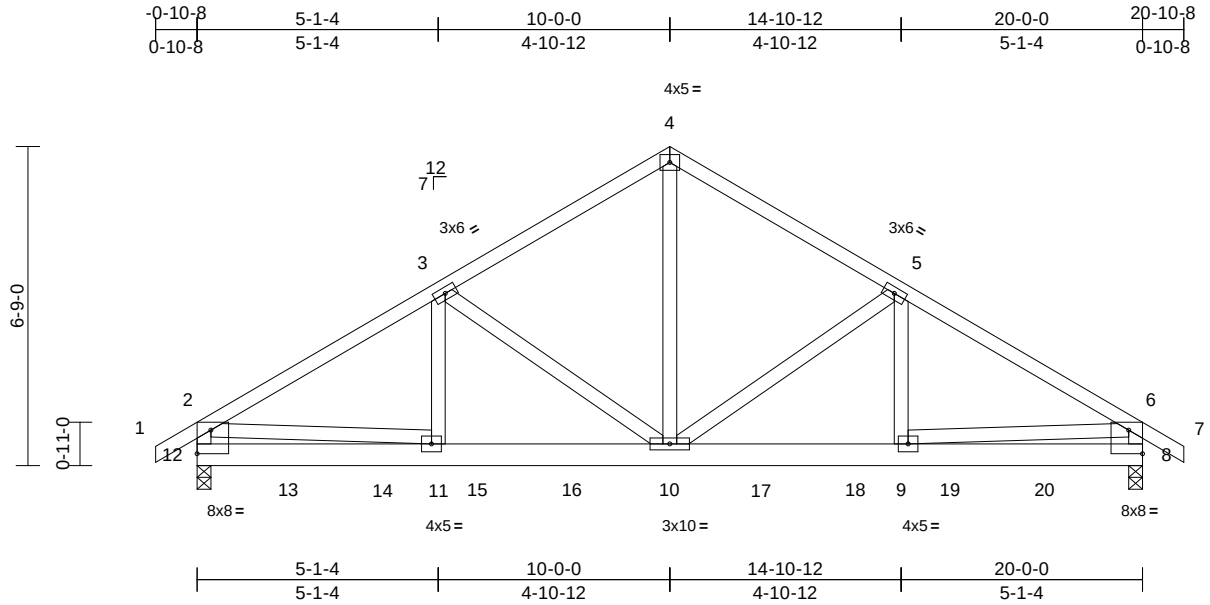


Scale = 1:48.7

Plate Offsets (X, Y): [8:Edge,0-6-0], [12:Edge,0-6-0]

| 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 | 0.40 | Vert(LL) | -0.07 | 10-11 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.21 | Vert(CT) | -0.10 | 10-11 | >999 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | NO | WB | 0.32 | Horz(CT) | 0.02 | 8 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | 0.03 | 10-11 | >999 | 240 | Weight: 228 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 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.

**REACTIONS** (size) 8=0-3-8, 12=0-3-8
Max Horiz 12=189 (LC 7)
Max Uplift 8=-607 (LC 9), 12=-521 (LC 29)
Max Grav 8=3015 (LC 1), 12=3076 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/36, 2-3=-4118/792, 3-4=-2995/586, 4-5=-2995/586, 5-6=-4016/775, 6-7=0/36, 2-12=-2605/465, 6-8=-2543/520
BOT CHORD 11-12=-268/1005, 10-11=-659/3482, 9-10=-586/3385, 8-9=-225/897
WEBS 4-10=-690/2591, 5-10=-1128/376, 5-9=-337/864, 3-10=-1214/283, 3-11=-452/967, 2-11=-509/2593, 6-9=-571/2506

**NOTES**
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 521 lb uplift at joint 12 and 607 lb uplift at joint 8.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 500 lb down and 211 lb up at 1-11-4, 457 lb down and 270 lb up at 3-11-4, 457 lb down and 270 lb up at 5-11-4, 585 lb down and 105 lb up at 7-11-4, 400 lb down and 370 lb up at 9-11-4, 444 lb down and 235 lb up at 11-11-4, 424 lb down and 247 lb up at 13-11-4, and 424 lb down and 247 lb up at 15-11-4, and 555 lb down and 156 lb up at 17-11-4 on bottom chord. The design/ selection of such connection device(s) is the responsibility of others.

**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, 2-4=-70, 4-6=-70, 6-7=-70, 8-12=-20
Concentrated Loads (lb)
Vert: 10=-400 (B), 13=-500 (B), 14=-457 (B), 15=-457 (B), 16=-558 (B), 17=-433 (B), 18=-416 (B), 19=-416 (B), 20=-537 (B)


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B230093 | H1 | Common Supported Gable | 1 | 1 | Job Reference (optional) | I59019882 |

Wheeler Lumber, Waverly, KS - 66871,

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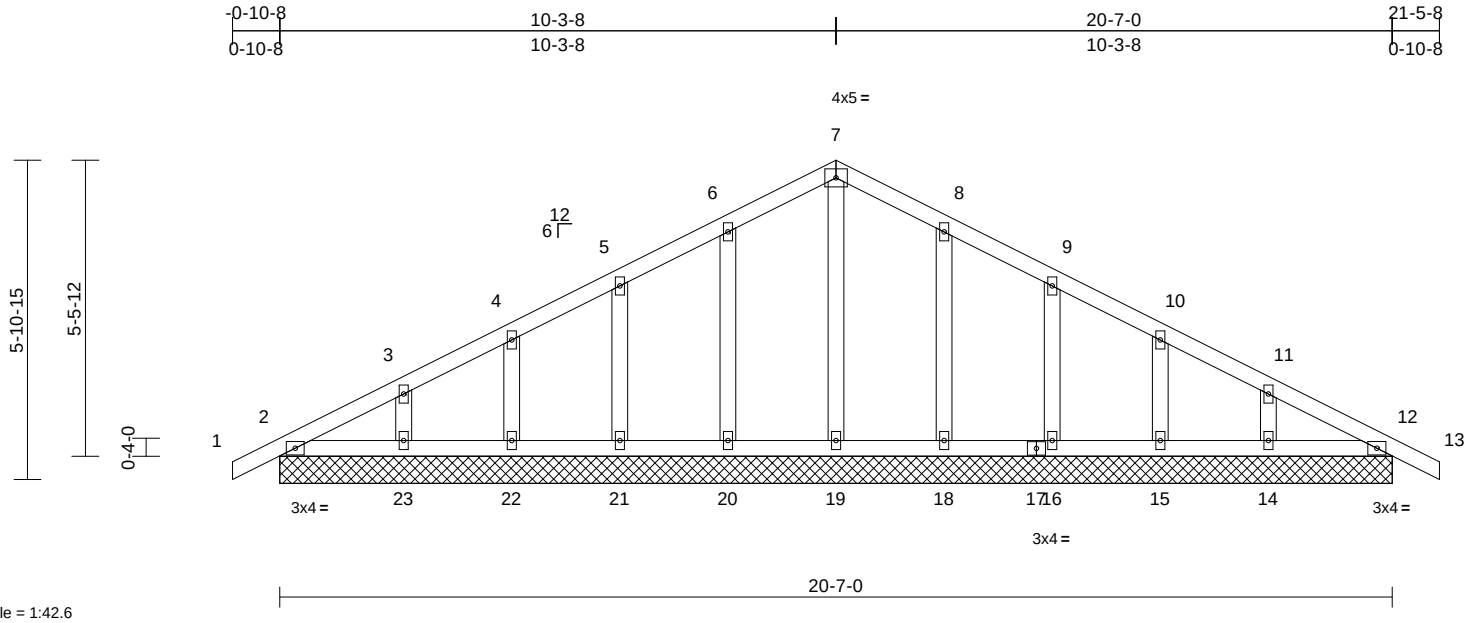


Scale = 1:42.6

| 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 | 0.05 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.03 | Vert(CT) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.06 | Horz(CT) | 0.00 | 12 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | | | | | | Weight: 80 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** (size) 2=20-7-0, 12=20-7-0, 14=20-7-0, 15=20-7-0, 16=20-7-0, 18=20-7-0, 19=20-7-0, 20=20-7-0, 21=20-7-0, 22=20-7-0, 23=20-7-0
Max Horiz 2=-98 (LC 13)
Max Uplift 2=-19 (LC 9), 12=-13 (LC 9), 14=-59 (LC 9), 15=-53 (LC 9), 16=-55 (LC 9), 18=-56 (LC 9), 20=-57 (LC 8), 21=-54 (LC 8), 22=-53 (LC 8), 23=-60 (LC 8)
Max Grav 2=165 (LC 1), 12=165 (LC 1), 14=204 (LC 22), 15=174 (LC 22), 16=180 (LC 1), 18=190 (LC 22), 19=168 (LC 18), 20=190 (LC 21), 21=180 (LC 1), 22=174 (LC 21), 23=204 (LC 21)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/26, 2-3=-108/55, 3-4=-75/65, 4-5=-54/90, 5-6=-44/117, 6-7=-47/141, 7-8=-47/133, 8-9=-44/87, 9-10=-44/48, 10-11=-46/28, 11-12=-73/29, 12-13=0/26
BOT CHORD 2-23=-7/92, 22-23=-7/92, 21-22=-7/92, 20-21=-7/92, 19-20=-7/92, 18-19=-7/92, 16-18=-7/92, 15-16=-7/92, 14-15=-7/92, 12-14=-7/92
WEBS 7-19=-128/0, 6-20=-151/81, 5-21=-139/79, 4-22=-136/76, 3-23=-154/86, 8-18=-151/80, 9-16=-139/79, 10-15=-136/76, 11-14=-154/86

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 19 lb uplift at joint 2, 57 lb uplift at joint 20, 54 lb uplift at joint 21, 53 lb uplift at joint 22, 60 lb uplift at joint 23, 56 lb uplift at joint 18, 55 lb uplift at joint 16, 53 lb uplift at joint 15, 59 lb uplift at joint 14 and 13 lb uplift at joint 12.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B230093 | H2 | Common | 4 | 1 | Job Reference (optional) | I59019883 |

Wheeler Lumber, Waverly, KS - 66871,

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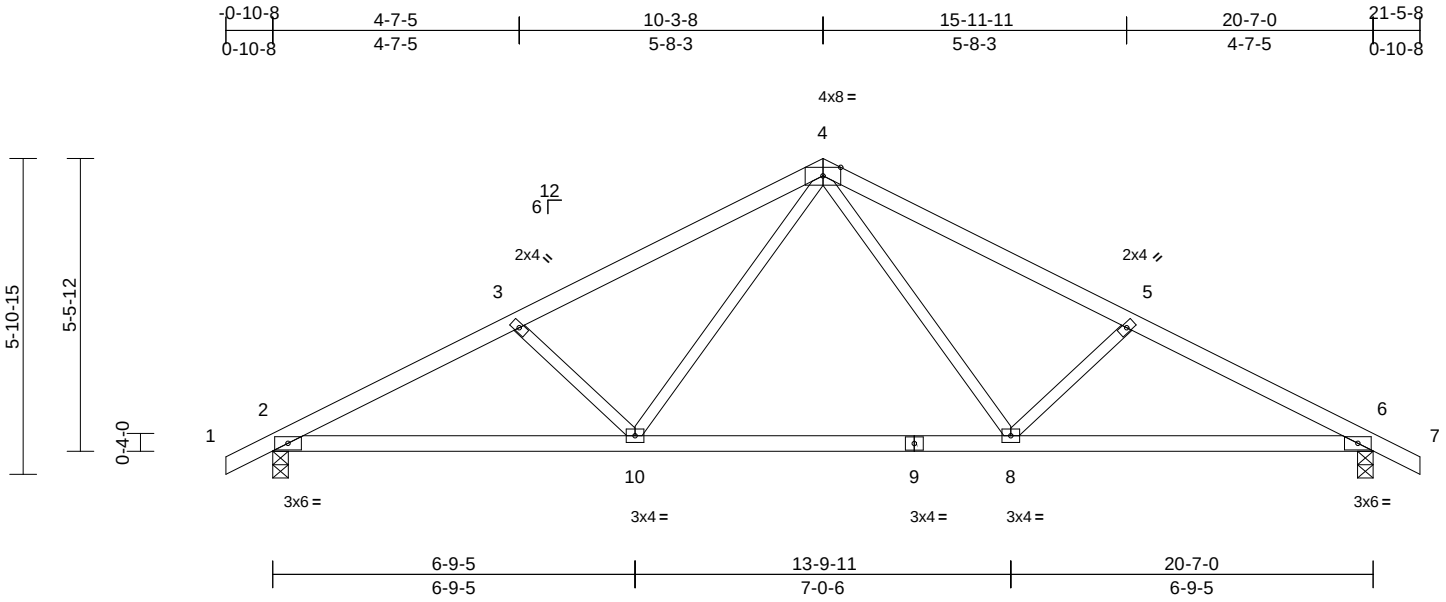


Scale = 1:43.1

| 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 | 0.39 | Vert(LL) | -0.06 | 8-10 | >999 | 360 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.48 | Vert(CT) | -0.14 | 8-10 | >999 | 240 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.17 | Horz(CT) | 0.04 | 6 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | Wind(LL) | 0.04 | 8-10 | >999 | 240 | Weight: 67 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 4-3-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-3-8, 6=0-3-8
Max Horiz 2=-98 (LC 13)
Max Uplift 2=-138 (LC 8), 6=-138 (LC 9)
Max Grav 2=985 (LC 1), 6=985 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-1653/228, 3-4=-1403/194, 4-5=-1403/195, 5-6=-1653/228, 6-7=0/27
BOT CHORD 2-10=-236/1417, 8-10=-46/903, 6-8=-138/1417
WEBS 4-8=-74/489, 5-8=-367/209, 4-10=-73/489, 3-10=-367/209

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 138 lb uplift at joint 2 and 138 lb uplift at joint 6.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | P1 | Piggyback | 2 | 1 | Job Reference (optional) | I59019884 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:17 Page: 1
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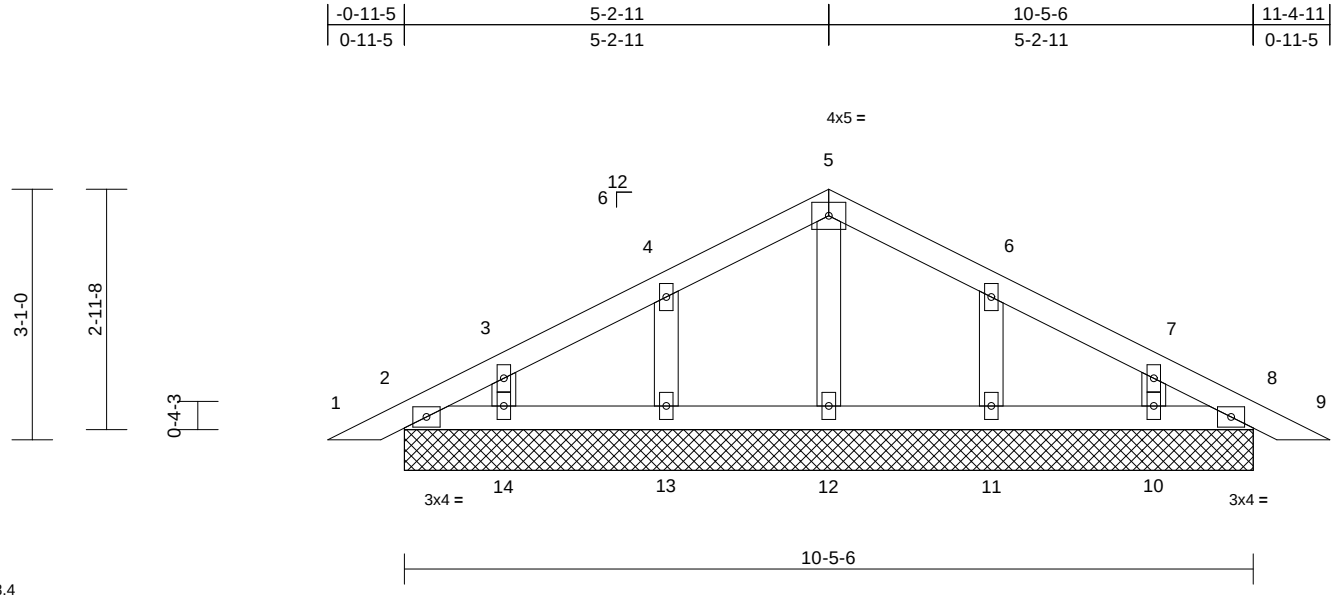


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| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.05 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.02 | Vert(CT) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.02 | Horz(CT) | 0.00 | 8 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | | | | | | Weight: 34 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** (size) 2=10-5-6, 8=10-5-6, 10=10-5-6, 11=10-5-6, 12=10-5-6, 13=10-5-6, 14=10-5-6
Max Horiz 2=51 (LC 8)
Max Uplift 2=-14 (LC 4), 8=-12 (LC 9), 10=-42 (LC 9), 11=-61 (LC 9), 13=-61 (LC 8), 14=-43 (LC 8)
Max Grav 2=98 (LC 1), 8=98 (LC 1), 10=144 (LC 1), 11=198 (LC 22), 12=152 (LC 1), 13=198 (LC 21), 14=144 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-57/30, 3-4=-46/46, 4-5=-48/72, 5-6=-48/65, 6-7=-42/29, 7-8=-40/14, 8-9=0/17
BOT CHORD 2-14=-2/46, 13-14=-2/46, 12-13=-2/46, 11-12=-2/46, 10-11=-2/46, 8-10=-2/46
WEBS 5-12=-112/0, 4-13=-156/86, 3-14=-112/65, 6-11=-156/85, 7-10=-112/65

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 2, 12 lb uplift at joint 8, 61 lb uplift at joint 13, 43 lb uplift at joint 14, 61 lb uplift at joint 11 and 42 lb uplift at joint 10.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

**LOAD CASE(S)** Standard

STATE OF MISSOURI
NATHANIEL FOX
NUMBER
PE-2022042259
PROFESSIONAL ENGINEER

June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | P2 | Piggyback | 19 | 1 | Job Reference (optional) | I59019885 |

Wheeler Lumber, Waverly, KS - 66871,

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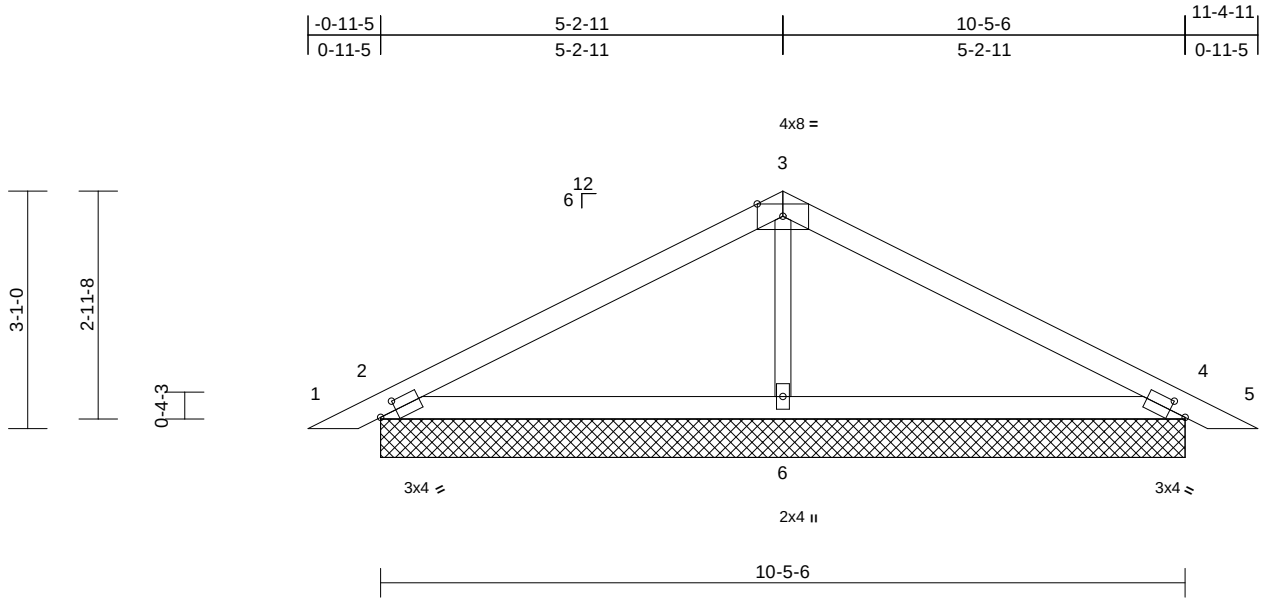


Scale = 1:29.9

Plate Offsets (X, Y): [2:0-2-10,0-1-8], [4:0-2-10,0-1-8]

| 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 | 0.36 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.23 | Vert(CT) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.08 | Horz(CT) | 0.00 | 4 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | | | | | | Weight: 30 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x3 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** (size) 2=10-5-6, 4=10-5-6, 6=10-5-6
Max Horiz 2=-51 (LC 13)
Max Uplift 2=-60 (LC 8), 4=-70 (LC 9), 6=-26 (LC 8)
Max Grav 2=267 (LC 21), 4=267 (LC 22), 6=494 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-136/71, 3-4=-136/51, 4-5=0/17
BOT CHORD 2-6=0/60, 4-6=0/60
WEBS 3-6=-330/82

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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 4-0-0 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 60 lb uplift at joint 2, 70 lb uplift at joint 4 and 26 lb uplift at joint 6.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | V1 | Valley | 1 | 1 | Job Reference (optional) | I59019886 |

Wheeler Lumber, Waverly, KS - 66871,

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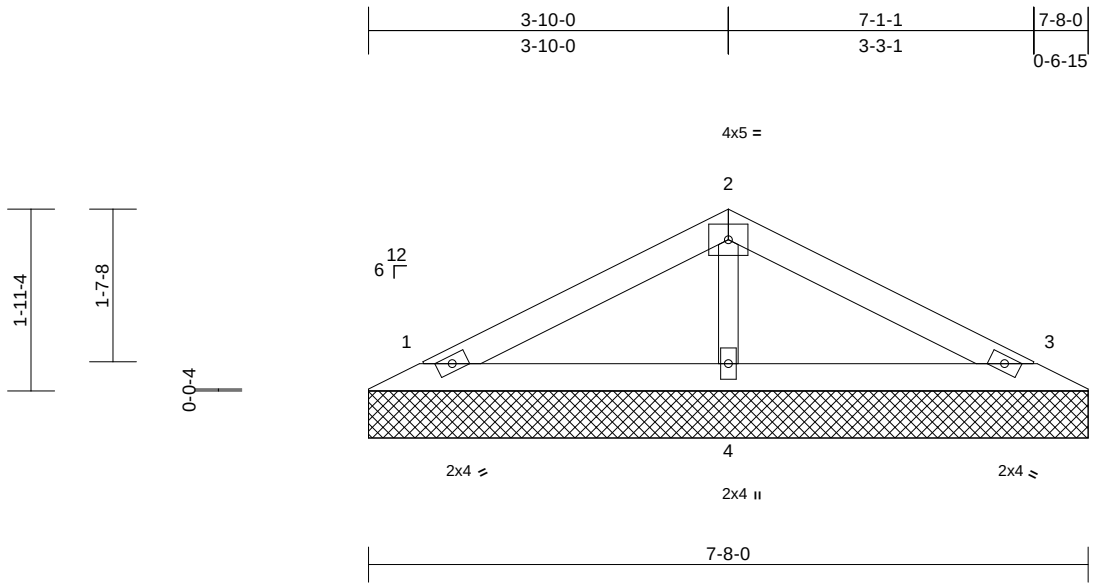


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| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.19 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.09 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.04 | Horiz(TL) | 0.00 | 3 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-P | | | | | | | Weight: 18 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x3 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** (size) 1=7-8-0, 3=7-8-0, 4=7-8-0
Max Horiz 1=29 (LC 8)
Max Uplift 1=-35 (LC 8), 3=-40 (LC 9), 4=-4 (LC 8)
Max Grav 1=153 (LC 1), 3=153 (LC 1), 4=279 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-73/41, 2-3=-73/29
BOT CHORD 1-4=-1/32, 3-4=-1/32
WEBS 2-4=-198/52

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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 4-0-0 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 35 lb uplift at joint 1, 40 lb uplift at joint 3 and 4 lb uplift at joint 4.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B230693 | V2 | Valley | 1 | 1 | Job Reference (optional) | I59019887 |

Wheeler Lumber, Waverly, KS - 66871,

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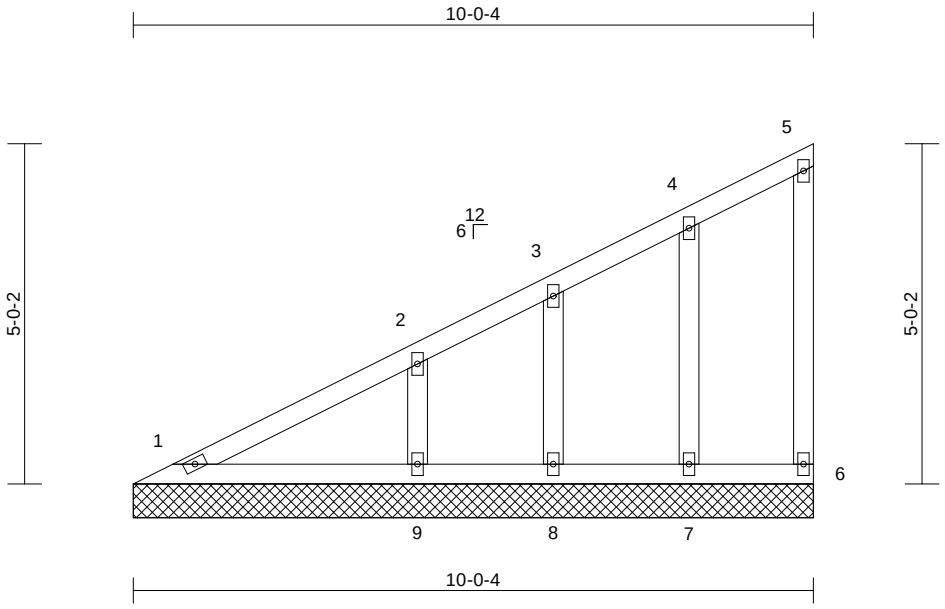


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| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.15 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.08 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.04 | Horiz(TL) | 0.00 | 6 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | | | | | | Weight: 37 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.

**REACTIONS** (size) 1=10-0-4, 6=10-0-4, 7=10-0-4, 8=10-0-4, 9=10-0-4
Max Horiz 1=193 (LC 5)
Max Uplift 6=-25 (LC 5), 7=-57 (LC 8), 8=-37 (LC 8), 9=-98 (LC 8)
Max Grav 1=143 (LC 16), 6=58 (LC 15), 7=194 (LC 1), 8=122 (LC 1), 9=327 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-158/69, 2-3=-118/31, 3-4=-103/46, 4-5=-79/48, 5-6=-45/21
BOT CHORD 1-9=-66/50, 8-9=-66/50, 7-8=-66/50, 6-7=-66/50
WEBS 2-9=-243/131, 3-8=-101/61, 4-7=-149/67

**NOTES**
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) 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) All plates are 2x4 MT20 unless otherwise indicated.
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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 25 lb uplift at joint 6, 98 lb uplift at joint 9, 37 lb uplift at joint 8 and 57 lb uplift at joint 7.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | V3 | Valley | 1 | 1 | Job Reference (optional) | I59019888 |

Wheeler Lumber, Waverly, KS - 66871,

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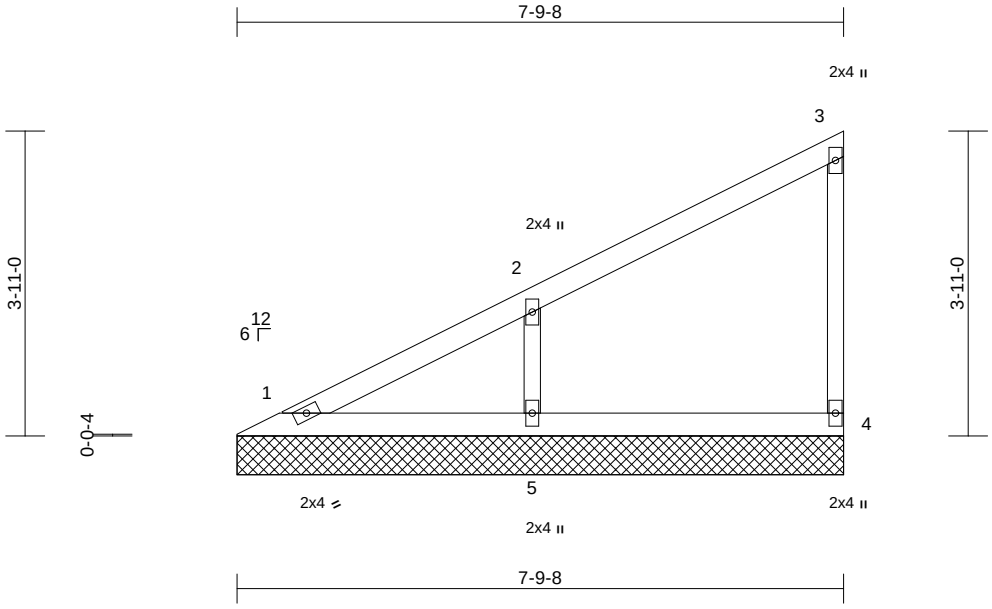


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| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.21 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.11 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.06 | Horiz(TL) | 0.00 | 4 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-P | | | | | | | Weight: 22 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2
OTHERS 2x3 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.

**REACTIONS** (size) 1=7-9-8, 4=7-9-8, 5=7-9-8
Max Horiz 1=148 (LC 5)
Max Uplift 4=-26 (LC 5), 5=-121 (LC 8)
Max Grav 1=108 (LC 16), 4=138 (LC 1), 5=402 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-121/68, 2-3=-112/44, 3-4=-107/44
BOT CHORD 1-5=-50/38, 4-5=-50/38
WEBS 2-5=-313/174

**NOTES**
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) 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 requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 26 lb uplift at joint 4 and 121 lb uplift at joint 5.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard

STATE OF MISSOURI
NATHANIEL FOX
NUMBER
PE-2022042259
PROFESSIONAL ENGINEER

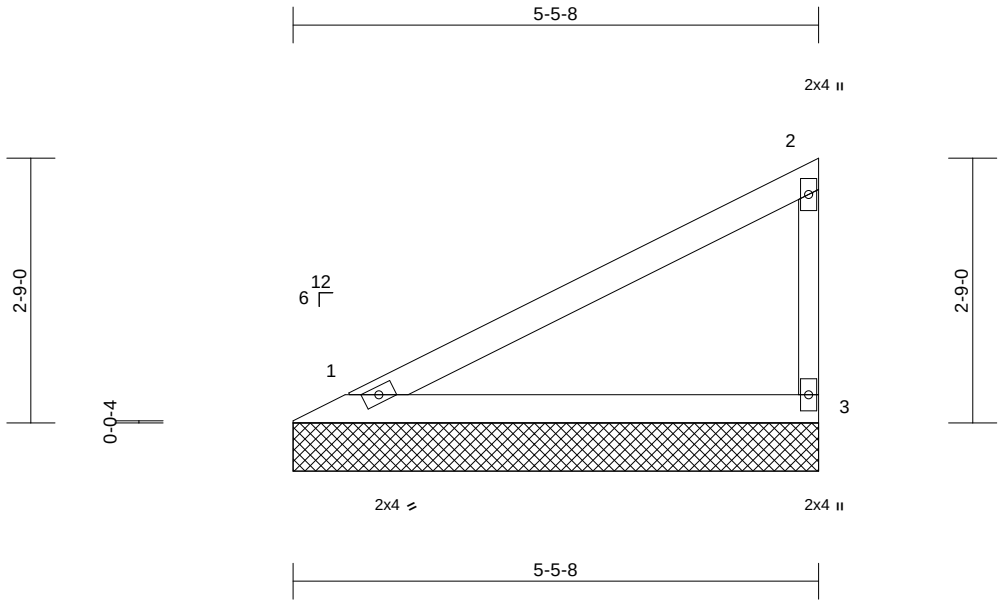
June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | V4 | Valley | 1 | 1 | Job Reference (optional) | I59019889 |



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| 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 | 0.44 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.24 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.00 | Horiz(TL) | 0.00 | 3 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-P | | | | | | | Weight: 14 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 5-6-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 1=5-5-8, 3=5-5-8
Max Horiz 1=99 (LC 5)
Max Uplift 1=-28 (LC 8), 3=-53 (LC 8)
Max Grav 1=214 (LC 1), 3=214 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-91/60, 2-3=-167/81
BOT CHORD 1-3=-34/26

**NOTES**
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) 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 requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 28 lb uplift at joint 1 and 53 lb uplift at joint 3.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard

STATE OF MISSOURI
NATHANIEL FOX
NUMBER PE-2022042259
PROFESSIONAL ENGINEER

June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B230693 | V5 | Valley | 1 | 1 | Job Reference (optional) | I59019890 |

Wheeler Lumber, Waverly, KS - 66871,

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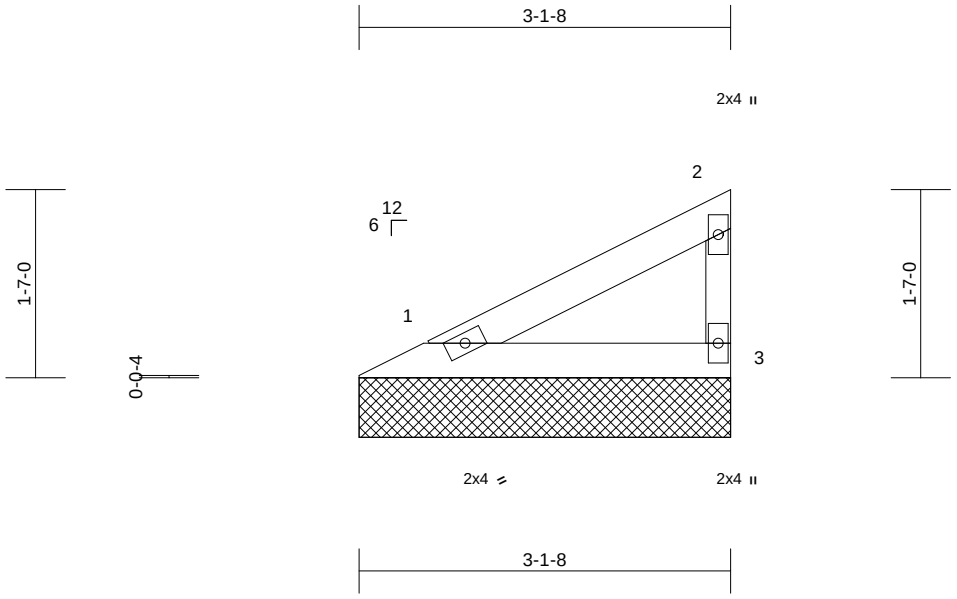


Scale = 1:19.4

| 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 | 0.10 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.05 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.00 | Horiz(TL) | 0.00 | 3 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-P | | | | | | | Weight: 8 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 3-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 1=3-1-8, 3=3-1-8
Max Horiz 1=51 (LC 5)
Max Uplift 1=-14 (LC 8), 3=-27 (LC 8)
Max Grav 1=109 (LC 1), 3=109 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-46/31, 2-3=-85/41
BOT CHORD 1-3=-17/13

**NOTES**
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) 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 requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 1 and 27 lb uplift at joint 3.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B230693 | V6 | Valley | 1 | 1 | Job Reference (optional) | I59019891 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:18 Page: 1
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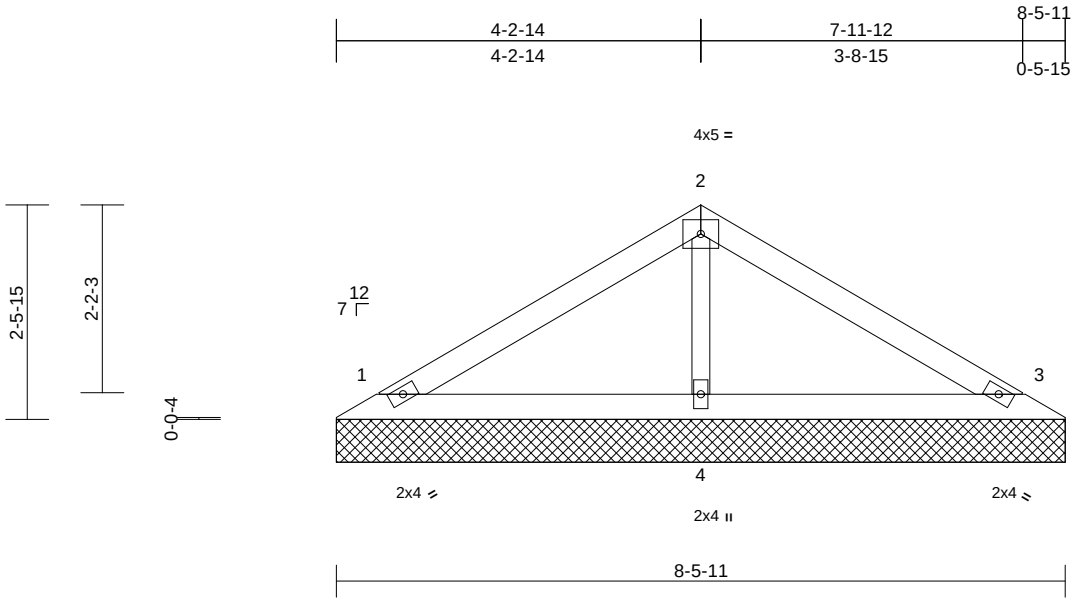


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| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 25.0 | Plate Grip DOL | 1.15 | TC | 0.26 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.12 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.04 | Horiz(TL) | 0.00 | 3 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-P | | | | | | | Weight: 21 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x3 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** (size) 1=8-5-11, 3=8-5-11, 4=8-5-11
Max Horiz 1=57 (LC 5)
Max Uplift 1=-41 (LC 8), 3=-48 (LC 9)
Max Grav 1=182 (LC 1), 3=182 (LC 1), 4=308 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-103/54, 2-3=-99/39
BOT CHORD 1-4=-11/47, 3-4=-11/47
WEBS 2-4=-214/55

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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 4-0-0 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 41 lb uplift at joint 1 and 48 lb uplift at joint 3.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B230693 | V7 | Valley | 1 | 1 | Job Reference (optional) | I59019892 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:19 Page: 1
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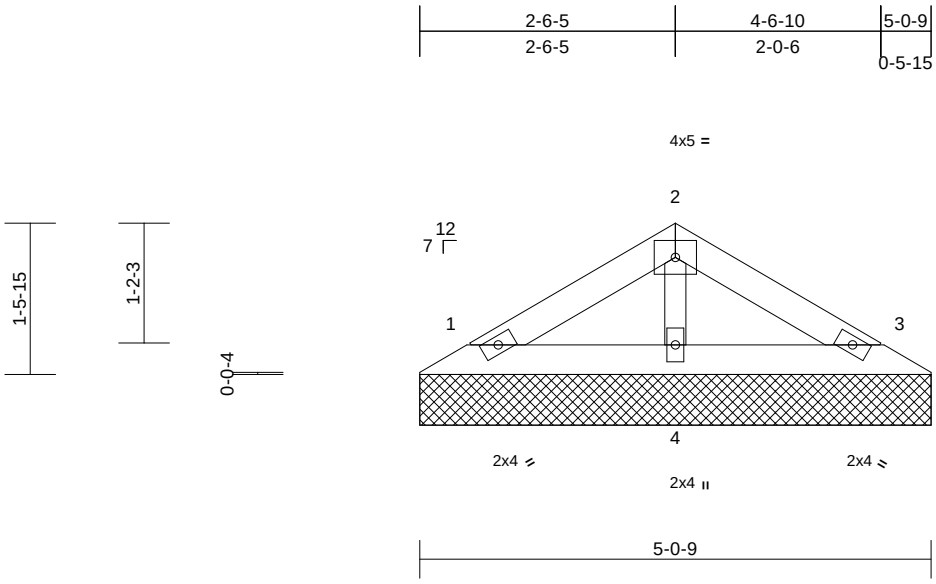


Scale = 1:22.7

| 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 | 0.04 | 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 | IRC2018/TPI2014 | Matrix-P | | | | | | | Weight: 12 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x3 SPF No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 5-1-7 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 1=5-0-9, 3=5-0-9, 4=5-0-9
Max Horiz 1=31 (LC 5)
Max Uplift 1=-22 (LC 8), 3=-26 (LC 9)
Max Grav 1=98 (LC 1), 3=98 (LC 1), 4=166 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-56/29, 2-3=-54/21
BOT CHORD 1-4=-6/26, 3-4=-6/26
WEBS 2-4=-116/30

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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 4-0-0 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 1 and 26 lb uplift at joint 3.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | V8 | Valley | 1 | 1 | Job Reference (optional) | I59019893 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:19 Page: 1
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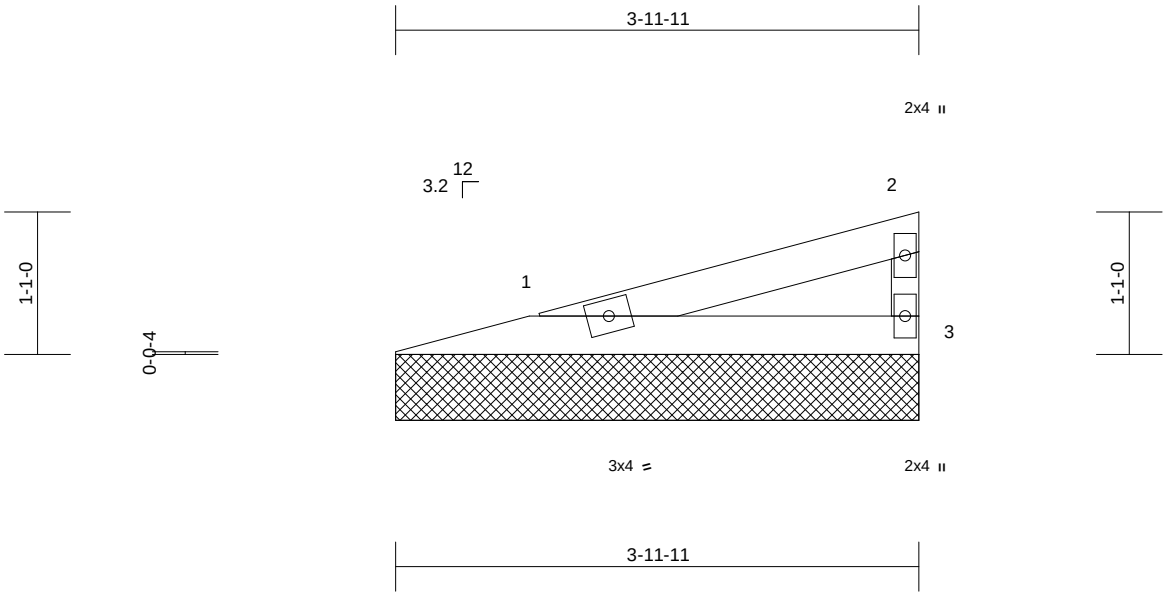


Scale = 1:17.5

| 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 | 0.13 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.07 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.00 | Horiz(TL) | 0.00 | 3 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-P | | | | | | | Weight: 8 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 4-0-10 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 1=3-11-11, 3=3-11-11
Max Horiz 1=33 (LC 5)
Max Uplift 1=-21 (LC 4), 3=-25 (LC 8)
Max Grav 1=125 (LC 1), 3=125 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-30/20, 2-3=-97/42
BOT CHORD 1-3=-11/8

**NOTES**
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) 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 requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 1 and 25 lb uplift at joint 3.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard

STATE OF MISSOURI
NATHANIEL FOX
NUMBER PE-2022042259
PROFESSIONAL ENGINEER

June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | V9 | Valley | 1 | 1 | Job Reference (optional) | I59019894 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:19 Page: 1
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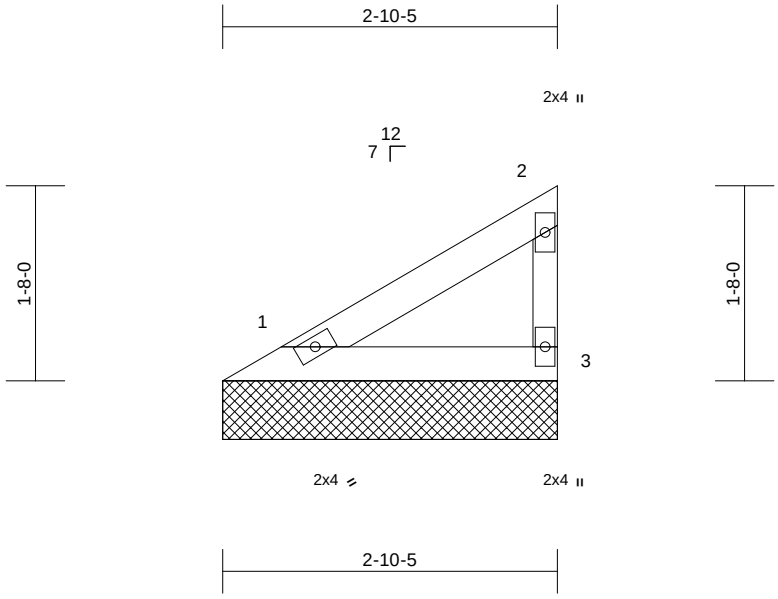


Scale = 1:19.7

| 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 | 0.08 | 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 | 0.00 | Horiz(TL) | 0.00 | 3 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-P | | | | | | | Weight: 7 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 2-10-5 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 1=2-10-5, 3=2-10-5
Max Horiz 1=51 (LC 5)
Max Uplift 1=-11 (LC 8), 3=-26 (LC 8)
Max Grav 1=100 (LC 1), 3=105 (LC 15)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-48/39, 2-3=-83/40
BOT CHORD 1-3=-18/14

**NOTES**
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) 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 requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 11 lb uplift at joint 1 and 26 lb uplift at joint 3.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B230693 | V10 | Valley | 1 | 1 | Job Reference (optional) | I59019895 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:19 Page: 1
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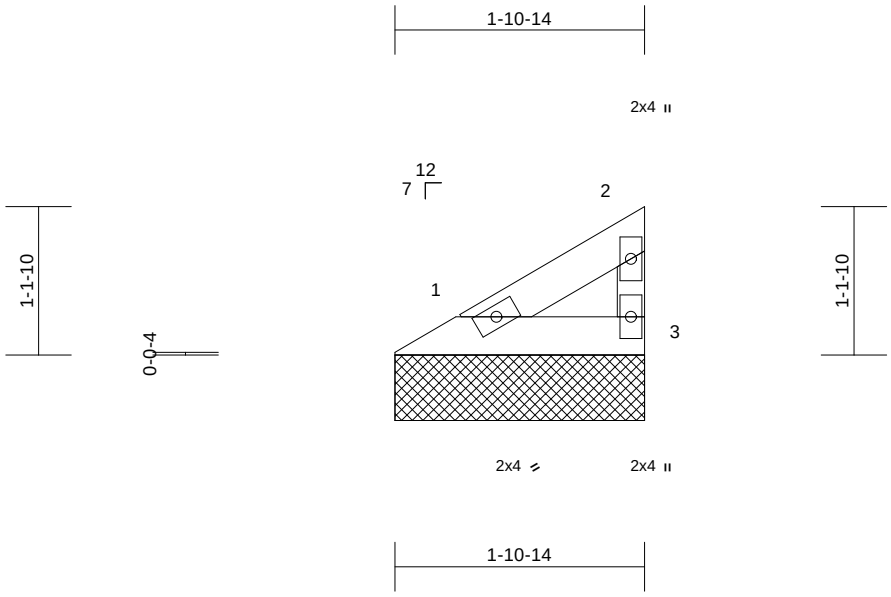


Scale = 1:17.6

| 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 | 0.03 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.01 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.00 | Horiz(TL) | 0.00 | 3 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-P | | | | | | | Weight: 4 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 1-11-5 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 1=1-10-14, 3=1-10-14
Max Horiz 1=30 (LC 5)
Max Uplift 1=-6 (LC 8), 3=-16 (LC 8)
Max Grav 1=58 (LC 1), 3=61 (LC 15)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-28/23, 2-3=-48/23
BOT CHORD 1-3=-11/8

**NOTES**
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) 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 requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 6 lb uplift at joint 1 and 16 lb uplift at joint 3.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | V11 | Valley | 1 | 1 | Job Reference (optional) | I59019896 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:19 Page: 1
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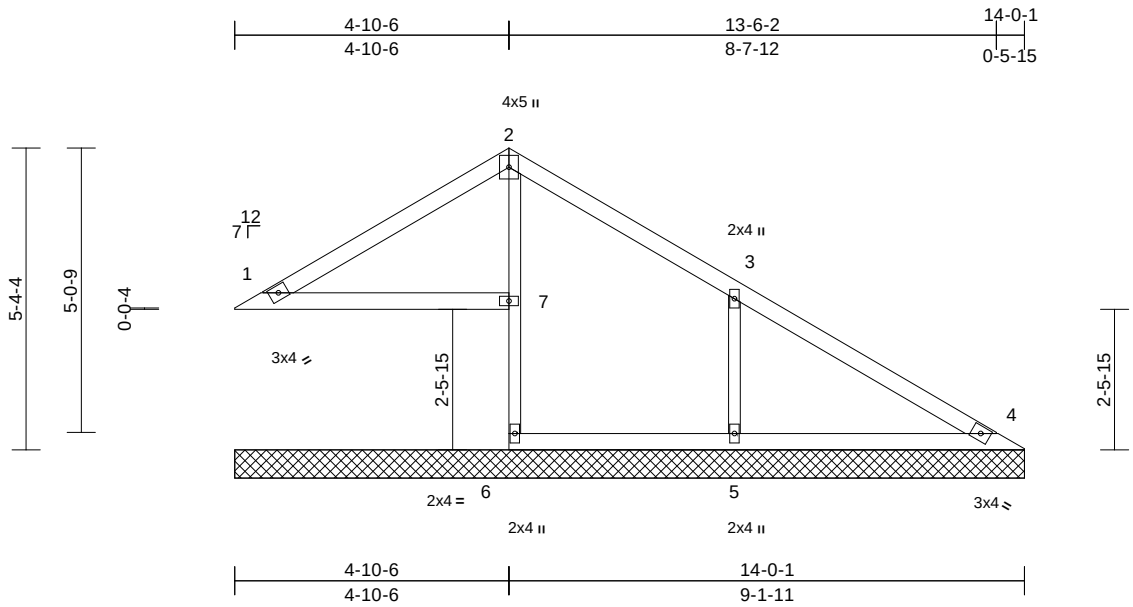


Scale = 1:40.9

| 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 | 0.28 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.16 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.08 | Horiz(TL) | 0.00 | 4 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | | | | | | Weight: 39 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 2-6:2x3 SPF No.2
OTHERS 2x3 SPF No.2

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

**REACTIONS** (size) 1=14-0-1, 4=14-0-1, 5=14-0-1, 6=14-0-1, 7=14-0-1
Max Horiz 1=-147 (LC 9)
Max Uplift 1=-91 (LC 9), 4=-56 (LC 9), 5=-159 (LC 9), 7=-7 (LC 5)
Max Grav 1=190 (LC 21), 4=167 (LC 16), 5=482 (LC 16), 6=56 (LC 3), 7=341 (LC 15)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-135/204, 2-3=-116/201, 3-4=-67/108
BOT CHORD 1-7=-6/26, 6-7=0/0, 2-7=-284/31, 5-6=-5/2, 4-5=-5/2
WEBS 3-5=-365/212

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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 4-0-0 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
9) Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 91 lb uplift at joint 1, 56 lb uplift at joint 4, 7 lb uplift at joint 7 and 159 lb uplift at joint 5.
11) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | V12 | Valley | 1 | 1 | Job Reference (optional) | I59019897 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:20 Page: 1
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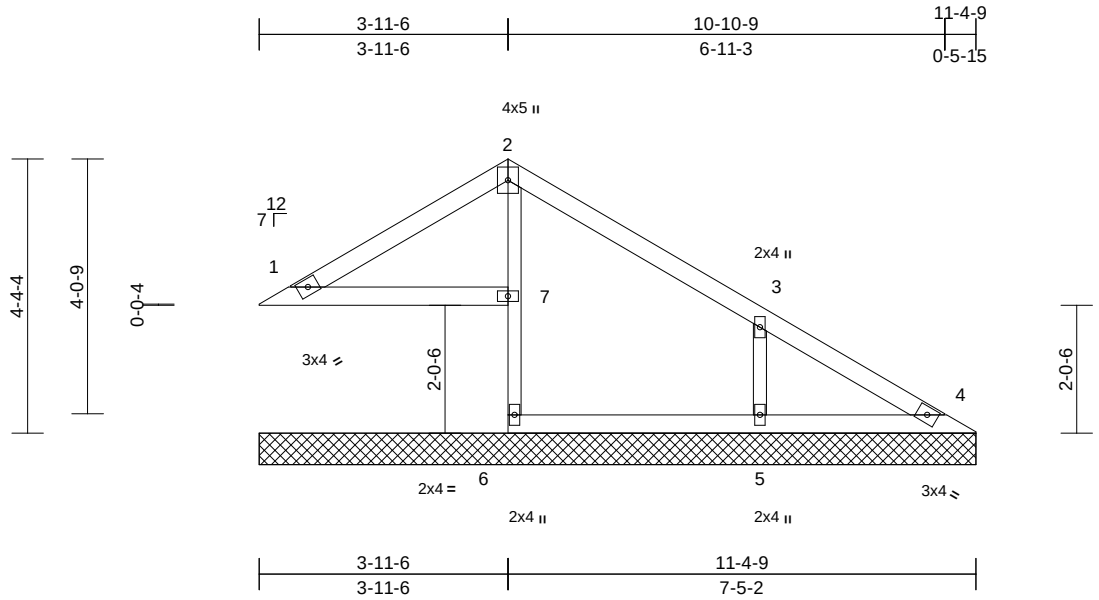


Scale = 1:36.6

| 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 | 0.19 | 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 | 0.05 | Horiz(TL) | 0.00 | 4 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-S | | | | | | | Weight: 31 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 2-6:2x3 SPF No.2
OTHERS 2x3 SPF No.2

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

**REACTIONS** (size) 1=11-4-9, 4=11-4-9, 5=11-4-9, 6=11-4-9, 7=11-4-9
Max Horiz 1=-118 (LC 9)
Max Uplift 1=-68 (LC 9), 4=-28 (LC 9), 5=-126 (LC 9)
Max Grav 1=152 (LC 21), 4=89 (LC 16), 5=383 (LC 16), 6=65 (LC 3), 7=294 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-106/155, 2-3=-100/147, 3-4=-28/68
BOT CHORD 1-7=-4/25, 6-7=0/0, 2-7=-250/15, 5-6=-1/4, 4-5=-1/4
WEBS 3-5=-295/173

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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 4-0-0 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
9) Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 68 lb uplift at joint 1, 28 lb uplift at joint 4 and 126 lb uplift at joint 5.
11) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B230093 | V13 | Valley | 1 | 1 | Job Reference (optional) | I59019898 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:20 Page: 1
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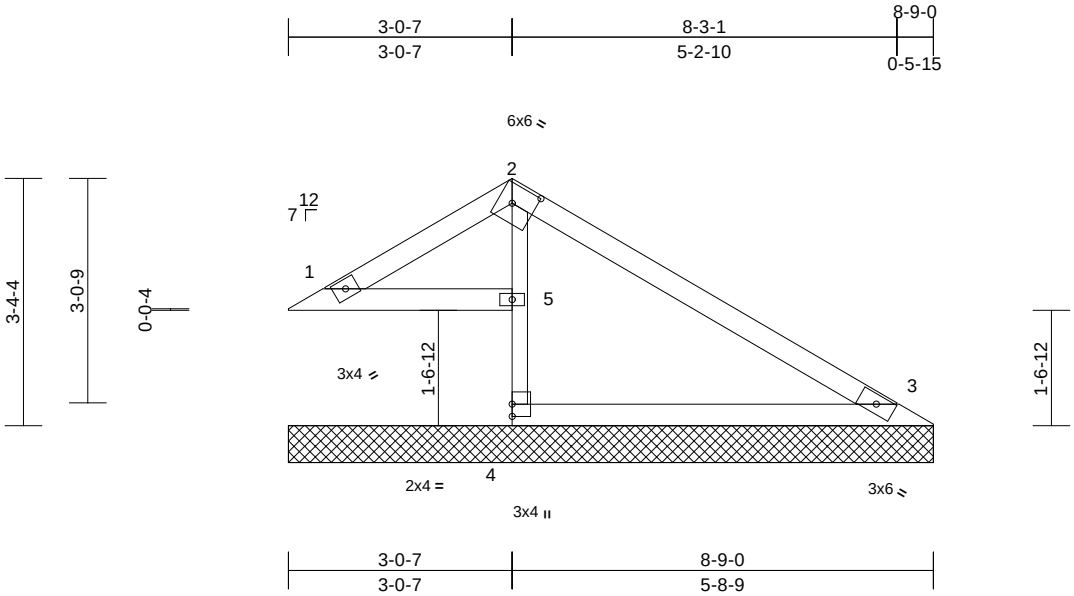


Scale = 1:31.3

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

| 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 | 0.31 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.26 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.00 | Horiz(TL) | 0.00 | 4 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-R | | | | | | | Weight: 22 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 2-4:2x3 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** (size) 1=8-9-0, 3=8-9-0, 4=8-9-0, 5=8-9-0
Max Horiz 1=-90 (LC 9)
Max Uplift 1=-22 (LC 9), 3=-61 (LC 9), 5=-35 (LC 8)
Max Grav 1=114 (LC 21), 3=219 (LC 16), 4=110 (LC 3), 5=320 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-73/75, 2-3=-134/82
BOT CHORD 1-5=0/52, 4-5=0/0, 2-5=-304/45, 3-4=0/51

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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 4-0-0 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
9) Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 1, 61 lb uplift at joint 3 and 35 lb uplift at joint 5.
11) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B236093 | V14 | Valley | 1 | 1 | Job Reference (optional) | I59019899 |

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Jun 19 09:17:20 Page: 1
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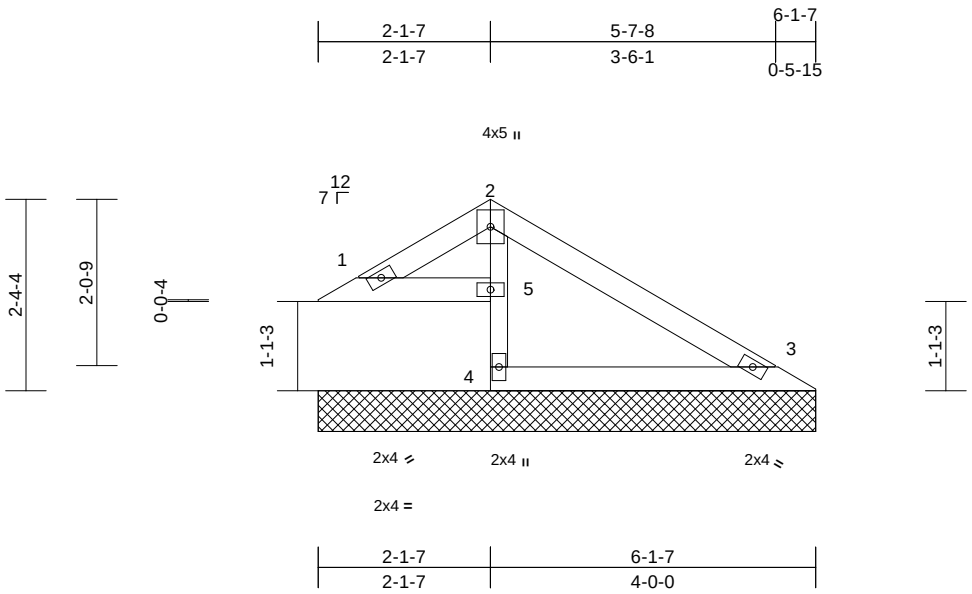


Scale = 1:28.3

| 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 | 0.13 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 197/144 |
| TCDL | 10.0 | Lumber DOL | 1.15 | BC | 0.11 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0* | Rep Stress Incr | YES | WB | 0.00 | Horiz(TL) | 0.00 | 4 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-R | | | | | | | Weight: 15 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 2-4:2x3 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** (size) 1=6-1-7, 3=6-1-7, 4=6-1-7, 5=6-1-7
Max Horiz 1=-61 (LC 9)
Max Uplift 1=-14 (LC 8), 3=-40 (LC 9), 5=-21 (LC 8)
Max Grav 1=73 (LC 21), 3=146 (LC 16), 4=73 (LC 3), 5=210 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-48/49, 2-3=-88/56
BOT CHORD 1-5=0/32, 4-5=0/0, 2-5=-200/28, 3-4=0/30

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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 4-0-0 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
9) Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 1, 40 lb uplift at joint 3 and 21 lb uplift at joint 5.
11) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard


June 20,2023



MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| Job | Truss | Truss Type | Qty | Ply | Lot 183 HM | |
|---|---|---|---|---|---|---|
| B230693 | V15 | Valley | 1 | 1 | Job Reference (optional) | I59019900 |

Wheeler Lumber, Waverly, KS - 66871,

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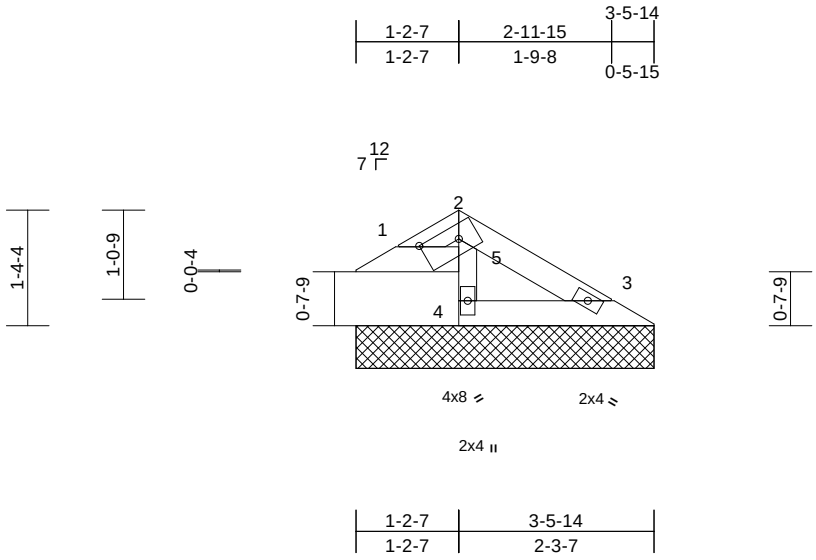



Scale = 1:27

Plate Offsets (X, Y): [1:0-5-5,0-1-15]

| 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 | 0.03 | 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 | 0.00 | Horiz(TL) | 0.00 | 3 | n/a | n/a | | |
| BCDL | 10.0 | Code | IRC2018/TPI2014 | Matrix-R | | | | | | | Weight: 8 lb | FT = 10% |

**LUMBER**
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 2-4:2x3 SPF No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 3-6-12 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size) 1=3-5-14, 3=3-5-14, 4=3-5-14
Max Horiz 1=-33 (LC 9)
Max Uplift 1=-7 (LC 8), 3=-20 (LC 9), 4=-4 (LC 9)
Max Grav 1=36 (LC 21), 3=75 (LC 16), 4=116 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-30/23, 2-3=-48/26
BOT CHORD 1-5=0/24, 4-5=-90/10, 2-5=-88/14, 3-4=0/16

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; 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 4-0-0 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 1, 20 lb uplift at joint 3 and 4 lb uplift at joint 4.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard

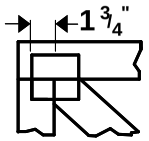

June 20,2023



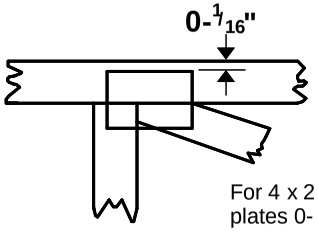
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

# 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.

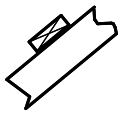
*** Plate location details available in MiTek 20/20 software or upon request.**

## PLATE SIZE

4 x 4

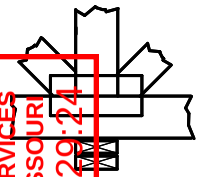
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## 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



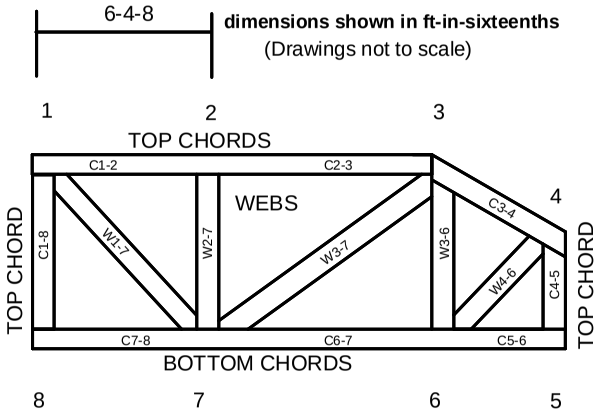
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

**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.