

**MiTek USA, Inc.**

16023 Swingley Ridge Rd
Chesterfield, MO 63017
314-434-1200

Re: 220286

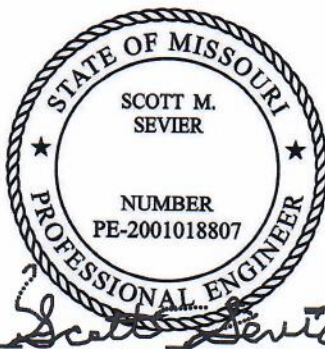
Buildforce/Douglas Rd. Center

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

Pages or sheets covered by this seal: I49478243 thru I49478250

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

Missouri COA: Engineering 001193



Sevier, Scott

,Engineer

December 31, 2021

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.

| | |
|--|-----------------|
| LORAC DESIGN GROUP 809 NE Panther Valley Lee's Summit MO 64064 Phone 816-529-4019 | |
| SUBMITTAL REVIEW <input type="checkbox"/> The corrections taken <input type="checkbox"/> Make corrections noted <input type="checkbox"/> Revised and Resubmit <input type="checkbox"/> Rejected | |
| Corrections or comments made relative to submittals during this review do not relieve the contractor from compliance with the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with information given in the contract documents. The contractor is responsible for conforming and correcting all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of other trades; and performing his work in a safe and satisfactory manner. | |
| Date: 9/1/21 | By: [Signature] |

| | | | | | |
|---------------|-------------|-------------------------|----------|----------|--|
| Job 220286 | Truss A1 | Truss Type Monopitch | Qty 9 | Ply 1 | Buildforce/Douglas Rd. Center 149478243 |
|---------------|-------------|-------------------------|----------|----------|--|

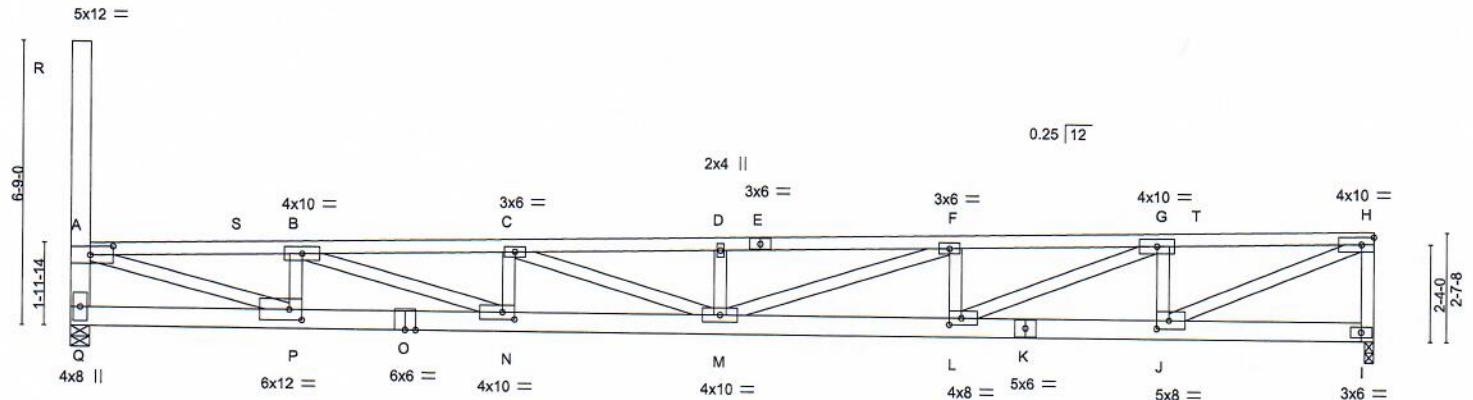
Heartland Truss, Inc., Plattsburg, MO - 64477,

8.430 s Aug 16 2021 MiTek Industries, Inc. Wed Dec 29 16:20:07 2021 Page 1

ID:ZVxrBG6bbPx3_CXThc60Rqyl0H8-2WIZ3v1KzWV4Aqnlbyl8FPMxvfMV3nNwDlj4Wy42lc



Scale = 1:52.6



| Plate Offsets (X,Y) | [A:0-6-9,0-2-8], [H:0-3-7,0-2-0], [J:0-3-8,0-2-8], [L:0-3-8,0-2-0], [N:0-3-8,0-2-0], [P:0-3-8,0-3-0] |
|---------------------|--|
|---------------------|--|

| LOADING (psf) | SPACING- | CSI. | DEFL. |
|-------------------------------|----------------------|-----------|-------------------------|
| TCLL 25.0 (Roof Snow=25.0) | 2-0-0 | TC 0.87 | in (loc) l/det |
| TCDL 10.0 | Plate Grip DOL 1.15 | BC 0.96 | Vert(LL) -0.61 M-N >599 |
| BCLL 0.0 | Lumber DOL 1.15 | WB 0.98 | Vert(CT) -1.02 M-N >360 |
| BCDL 10.0 | Rep Stress Incr NO | Matrix-MS | Horz(CT) 0.09 I n/a |
| | Code IRC2018/TPI2014 | | |

LUMBER-
TOP CHORD 2x4 SP 2400F 2.0E *Except*
 A-E: 2x4 SP 1650F 1.5E
BOT CHORD 2x6 SP No.1
WEBS 2x4 SP No.3 *Except*
 Q-R: 2x6 SP No.1, A-P,H-J: 2x4 SP No.2

REACTIONS. (size) Q=0-5-8, I=0-2-8
 Max Horz Q=320(LC 13)
 Max Uplift Q=285(LC 10), I=324(LC 14)
 Max Grav Q=1690(LC 20), I=1994(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD A-Q=-1570/570, A-B=-4029/1648, B-C=-6021/2093, C-D=-6443/2102, D-F=-6444/2108,
 F-G=-6480/1733, G-H=-3506/1096, H-I=-1910/652
BOT CHORD P-Q=-796/913, N-P=-1718/4022, M-N=-2156/6016, L-M=-1779/5475, J-L=-1135/3496
WEBS A-P=-1380/3977, B-P=-1164/483, B-N=-778/2105, C-N=-555/307, C-M=-301/448,
 D-M=-436/220, F-M=-404/1024, F-L=-724/331, G-L=-702/2160, G-J=-1512/580,
 H-J=-1185/3728

NOTES-

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCCL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) 0-2-12 to 4-2-12, Exterior(2) 4-2-12 to 26-10-0, Corner(3) 26-10-0 to 30-10-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
- 2) TCCL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 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) Bearing at joint(s) I considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 7) Provide mechanical connection (by others) of truss to bearing plate at joint(s) I.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) Q=285, I=324.
- 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

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15

Continued on page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.
 Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see ANSI/TPI Quality Criteria, DSB-89 and BCSI Building Component Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

FORAC DESIGN GROUP
 600 NE Panther Valley
 Lee's Summit, MO 64064
 Phone 816-529-4019

PLATES GRIP
 MT20 244/190

SUBMITTAL REVIEW

☐ The corrections taken

☐ Revised and Resubmit

☐ Rejected

Corrections or comments made relative to submittals during this review do not relieve the contractor from compliance with the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with information given in the contract documents. The contractor is responsible for conforming and correcting all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of other trades; and performing his work in a safe and satisfactory manner.

Date: 7/1/21 By: [Signature]



December 31, 2021



16023 Swingley Ridge Rd
 Chesterfield, MO 63017

| | | | | | | |
|---------------|-------------|-------------------------|----------|----------|---|-----------|
| Job 220286 | Truss A1 | Truss Type Monopitch | Qty 9 | Ply 1 | Buildforce/Douglas Rd. Center Job Reference (optional) | I49478243 |
|---------------|-------------|-------------------------|----------|----------|---|-----------|

Heartland Truss, Inc, Plattsburg, MO - 64477,

8.430 s Aug 16 2021 MiTek Industries, Inc. Wed Dec 29 16:20:07 2021 Page 2
ID:ZVxrBG6bbPx3_CXThc60Rqyl0H8-2WIZ3v1KzWV4Aqnllyl8FPmxvIMV3nNwDij4WY42lc

LOAD CASE(S) Standard
Uniform Loads (plf)
Vert: G-S=-70, G-H=-170, I-Q=-20
Trapezoidal Loads (plf)
Vert: A=-130-to-S=-70

LORAC DESIGN GROUP

809 NE Panther Valley
Lee's Summit MO 64064
Phone 816-529-4019

SUBMITTAL REVIEW

- ☐ The corrections taken
- ☐ Make corrections noted
- ☐ Revised and Resubmitted
- ☐ Rejected

Corrections or comments made relative to submittals during this review do not relieve the contractor from compliance with the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with information given in the contract documents. The contractor is responsible for conforming and correcting all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of other trades, and performing his work in a safe and satisfactory manner.

Date: 6/11/21 By: [Signature]

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ANSI/TPI1 Quality Criteria, DSB-99 and BCSI Building Component

Safety information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd
Chesterfield, MO 63017

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|--|-------------|-------------------------|-----------|----------|--|
| Job 220286 | Truss A2 | Truss Type Monopitch | Qty 28 | Ply 1 | Buildforce/Douglas Rd. Center 149478244 |
| Heartland Truss, Inc., Plattsburg, MO - 64477, | | | | | Job Reference (optional) |

8.430 s Aug 16 2021 MiTek Industries, Inc. Wed Dec 29 16:20:08 2021 Page 1
ID:ZVxrBG6bbPx3_CXThc60Rqyl0H8-WjFxF2ykqdxo_MxsIT_hTywll0fEXcX9tUGczy42lb
20-0-11 24-11-12 29-11-12
5-7-3 4-11-1 5-0-0

Scale = 1:50.7

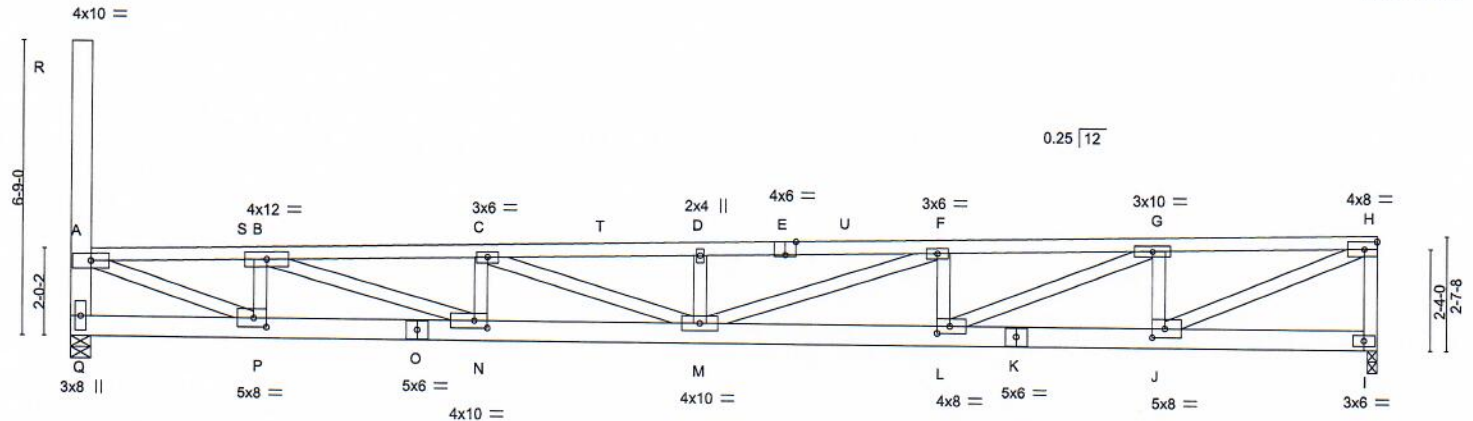


Plate Offsets (X,Y)-- [E:0-3-0,Edge], [H:0-3-7,0-2-0], [J:0-3-8,0-2-8], [L:0-3-8,0-2-0], [N:0-3-8,0-2-0], [P:0-3-8,0-2-8]

| LOADING (psf) | SPACING- | CSL | DEFL. | in (loc) | I/defl | L/d |
|------------------|----------------------|-----------|----------------|----------|--------|-----|
| TCLL 25.0 | 2-0-0 | TC 0.96 | Vert(LL) -0.57 | M | >624 | 240 |
| (Roof Snow=25.0) | Plate Grip DOL 1.15 | BC 0.89 | Vert(CT) -0.95 | M | >374 | 180 |
| TCDL 10.0 | Lumber DOL 1.15 | WB 0.94 | Horz(CT) 0.08 | I | n/a | n/a |
| BCLL 0.0 | Rep Stress Incr NO | Matrix-MS | | | | |
| BCDL 10.0 | Code IRC2018/TPI2014 | | | | | |

LUMBER-
TOP CHORD 2x4 SP 1650F 1.5E
BOT CHORD 2x6 SP No.1
WEBS 2x4 SP No.3 *Except*
Q-R: 2x6 SP No.1, A-P,H-J: 2x4 SP No.2

REACTIONS. (size) Q=0-5-8, I=0-2-8
Max Horz Q=319(LC 11)
Max Uplift Q=279(LC 10), I=317(LC 14)
Max Grav Q=1637(LC 20), I=1940(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD A-Q=-1542/602, A-B=-3292/1552, B-C=-5439/2099, C-D=-6021/2149, D-F=-6021/2155, F-G=-5220/1809, G-H=-3380/1152, H-I=-1853/680
BOT CHORD P-Q=-775/934, N-P=-1623/3286, M-N=-2163/5434, L-M=-1856/5215, J-L=-1192/3370
WEBS A-P=-1279/3362, B-P=-1189/516, B-N=-896/2268, C-N=-619/353, C-M=-361/618, D-M=-437/225, F-M=-375/852, F-L=-666/340, G-L=-724/2013, G-J=-1453/606, H-J=-1242/3585

NOTES-

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) 0-2-12 to 12-2-12, Exterior(2) 12-2-12 to 17-10-0, Corner(3) 17-10-0 to 29-10-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
- 2) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 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) Bearing at joint(s) I considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 7) Provide mechanical connection (by others) of truss to bearing plate at joint(s) I.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=Ib) Q=279, I=317.
- 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

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: G-S=-70, G-H=-170, I-Q=-20

Continued on page 2

LORAC DESIGN GROUP
809 NE Parkway Valley
Lee's Summit, MO 64064
Phone 816-529-1010

SUBMITTAL REVIEW
The corrections taken
Make corrections 100%
Revised and Resubmit

Weight 187 lb
F100

Date: 5/9/21 By: [Signature]



December 31, 2021

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding fabrication, storage, delivery, erection and bracing of trusses and truss systems, see ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd
Chesterfield, MO 63017

| | | | | | | |
|--------|-------|------------|-----|-----|-------------------------------|-----------|
| Job | Truss | Truss Type | Qty | Ply | Buildforce/Douglas Rd. Center | |
| 220286 | A2 | Monopitch | 28 | 1 | | I49478244 |

Heartland Truss, Inc, Plattsburg, MO - 64477,

8.430 s Aug 16 2021 MiTek Industries, Inc. Wed Dec 29 16:20:08 2021 Page 2
ID:ZVxrBG6bbPx3_CXThc60Rqyl0H8-WjFxF2ykqdxo_MxsIT_hTywll0fEXcX9tUGczy42lb

LOAD CASE(S) Standard
Trapezoidal Loads (plf)
Vert: A=-130-to-S=-70

| | |
|--|----------------------------|
| LORAC DESIGN GROUP 809 NE Panther Valley Lee's Summit MO 64064 Phone 816-523-4019 | |
| SUBMITTAL REVIEW <input type="checkbox"/> The corrections taken <input type="checkbox"/> Make corrections noted <input type="checkbox"/> Revised and Resubmit <input type="checkbox"/> Rejected | |
| All notes or comments made relative to submittals during this review do not relieve the contractor of compliance with the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with information given in the contract documents. The contractor is responsible for conforming and correcting all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of other trades, and performing his work in a safe and satisfactory manner. | |
| Date: | 5/19/22 <i>[Signature]</i> |

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



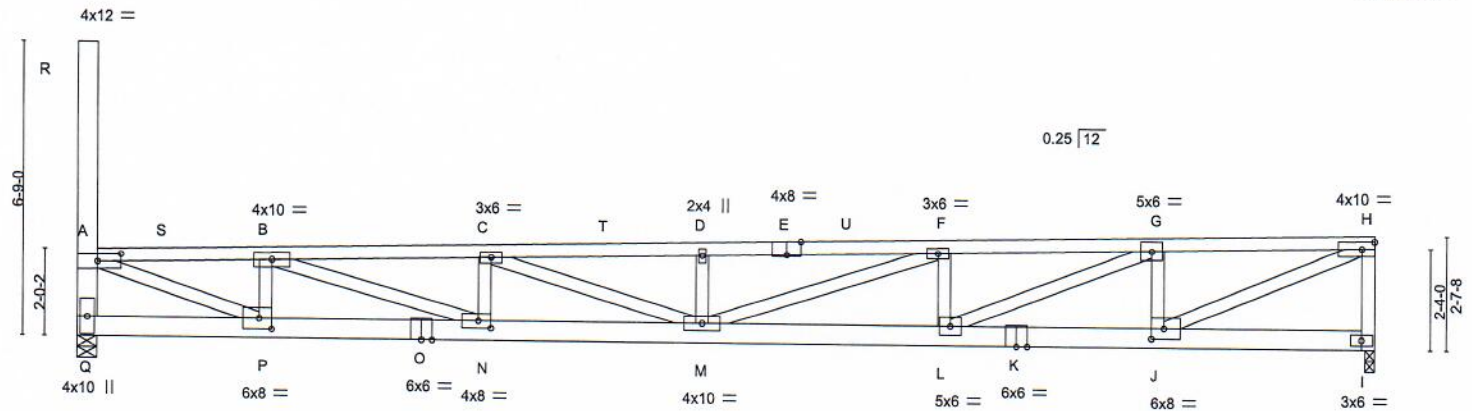
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| | | | | | |
|---------------|--------------|-------------------------|----------|----------|--|
| Job 220286 | Truss A2A | Truss Type Monopitch | Qty 2 | Ply 1 | Buildforce/Douglas Rd. Center 149478245 |
|---------------|--------------|-------------------------|----------|----------|--|

Heartland Truss, Inc., Plattsburg, MO - 64477,

8.430 s Aug 16 2021 MITek Industries, Inc. Wed Dec 29 16:20:09 2021 Page 1
ID:ZVxrBG6bbP3_CXThc60Rqyl0H8-_vpJTb2aV7loQ7x8Q0_DDgU4ciO_z13gNXEq9Py42la
20-0-11 24-11-12 29-11-12
5-7-3 4-11-1 5-0-0

Scale = 1:51.1



| | |
|----------------------|---|
| Plate Offsets (X,Y)- | [A:0-6-9,0-2-0], [E:0-4-0,Edge], [H:0-3-7,0-2-0], [J:0-3-8,0-3-0], [N:0-3-8,0-2-0], [P:0-3-8,0-3-0] |
|----------------------|---|

| |
|-------------------------------|
| LOADING (psf) |
| TCLL 25.0 (Roof Snow=25.0) |
| TCDL 10.0 |
| BCLL 0.0 |
| BCDL 10.0 |

| | |
|----------------------|-------|
| SPACING- | 2-0-0 |
| Plate Grip DOL | 1.15 |
| Lumber DOL | 1.15 |
| Rep Stress Incr | NO |
| Code IRC2018/TPI2014 | |

| |
|-------------|
| CSI. |
| TC 0.98 |
| BC 0.69 |
| WB 0.73 |
| Matrix-MS |

| | | | | |
|--------------|-------|-------|--------|-----|
| DEFL. | in | (loc) | I/defl | L/d |
| Vert(LL) | -0.57 | M | >625 | 240 |
| Vert(CT) | -0.96 | M | >369 | 180 |
| Horz(CT) | 0.09 | I | n/a | n/a |

ORAC DESIGN GROUP
800 NE Panther Valley
Lee's Summit MO 64064
Phone 816-520-4019
PLATES MT20
GRIP 244/199
Weight: 187 lb ET = 20%

LUMBER-

TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x6 SP No.1 *Except*
K-O: 2x6 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except*
Q-R: 2x6 SP No.1, H-I, B-N, G-L: 2x4 SP No.2
A-P, H-J: 2x4 SP 1650F 1.5E

BRACING-

TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 5-7-8 pc bracing.

REACTIONS.

(size) Q=0-5-8, I=0-2-8
Max Horz Q=319(LC 11)
Max Uplift Q=339(LC 10), I=390(LC 14)
Max Grav Q=1999(LC 20), I=2379(LC 20)

FORCES.

(lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD A-Q=-1898/729, A-B=-4162/1869, B-C=-6947/2642, C-D=-7683/2750, D-F=-7684/2756,
F-G=-6643/2322, G-H=-4235/1461, H-I=-2289/838
BOT CHORD P-Q=-775/916, N-P=-1940/4156, M-N=-2707/6940, L-M=-2370/6637, J-L=-1501/4223
WEBS A-P=-1592/4274, B-P=-1523/633, B-N=-1142/2939, C-N=-834/432, C-M=-422/783,
D-M=-595/283, F-M=-468/1106, F-L=-910/428, G-L=-948/2633, G-J=-1841/747,
H-J=-1577/4508

NOTES-

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) 0-2-12 to 12-2-12, Exterior(2) 12-2-12 to 17-10-0, Corner(3) 17-10-0 to 29-10-0 zone; cantilever left and right exposed; and vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
- 2) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 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) Bearing at joint(s) I considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 7) Provide mechanical connection (by others) of truss to bearing plate at joint(s) I.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) Q=339, I=390.
- 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

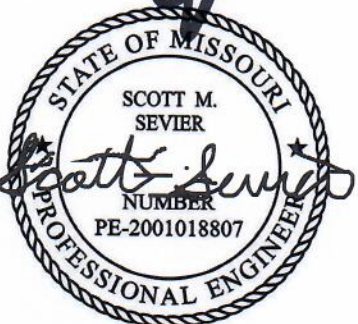
Continued on page 2

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December 31, 2021

MITek

16023 Swingley Ridge Rd
Chesterfield, MO 63017



| | | | | | |
|---------------|--------------|-------------------------|----------|----------|--|
| Job 220286 | Truss A2A | Truss Type Monopitch | Qty 2 | Ply 1 | Buildforce/Douglas Rd. Center I49478245 |
|---------------|--------------|-------------------------|----------|----------|--|

Heartland Truss, Inc, Plattsburg, MO - 64477,

8.430 s Aug 16 2021 MiTek Industries, Inc. Wed Dec 29 16:20:09 2021 Page 2
ID:ZVxrBG6bbPx3_CXThc60Rqyl0H8-_vpJTb2aV7loQ7x8Q0_DDgU4clO_z13gNXEq9Py42la

LOAD CASE(S) Standard

1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15

Uniform Loads (plf)

Vert: G-S=-100, G-H=-200, I-Q=-20

Trapezoidal Loads (plf)

Vert: A=-130-to-S=-100

| | |
|--|-------------------------------|
| LORAC DESIGN GROUP 809 NE Parkview Valley Leo's Summit MD 21034 Phone 816-520-4010 | |
| SUBMITTAL REVIEW <input type="checkbox"/> The corrections taken <input type="checkbox"/> Make corrections noted <input type="checkbox"/> Revised and Resubmitted <input type="checkbox"/> Rejected | |
| Corrections or comments made relative to submittals during this review do not relieve the contractor from compliance with the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with information given in the contract documents. The contractor is responsible for conforming and correcting all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of other trades, and performing his work in a safe and satisfactory manner. | |
| Date: | Signature: <i>[Signature]</i> |

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see

Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

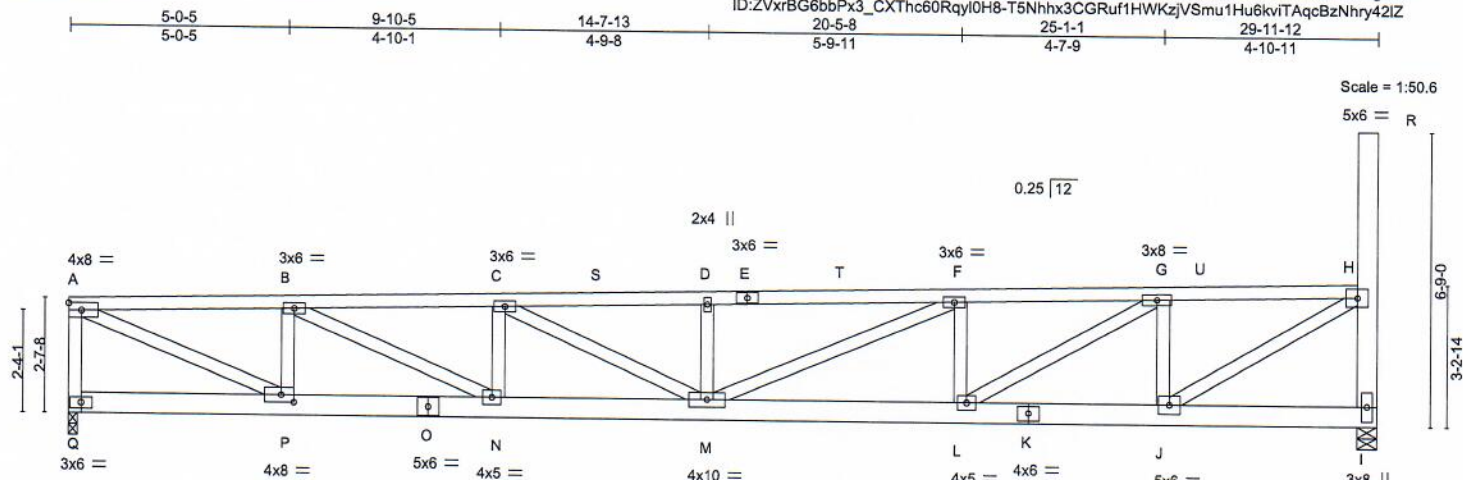


16023 Swingley Ridge Rd
Chesterfield, MO 63017

| | | | | | |
|---------------|-------------|-------------------------|-----------|----------|--|
| Job 220286 | Truss B1 | Truss Type MONOPITCH | Qty 17 | Ply 1 | Buildforce/Douglas Rd. Center 149478246 |
|---------------|-------------|-------------------------|-----------|----------|--|

Heartland Truss, Inc, Plattsburg, MO - 64477,

8,430 s Aug 16 2021 MiTek Industries, Inc. Wed Dec 29 16:20:10 2021 Page 1
ID:ZVxrBG6bbPx3_CXThc60RqyI0H8-T5Nhhx3CGRuf1HWKzjVSmu1Hu6kviTAqcBzNhry42Iz
20-5-8 25-1-1 29-11-12
5-9-11 4-7-9 4-10-11



| Plate Offsets (X,Y)-- | | P:0-3-8,0-2-0 | | LORAC DESIGN GROUP | |
|-----------------------|------|----------------------|--|--|--|
| LOADING (psf) | | SPACING- | | 809 NE Parkway Valley | |
| TCLL | 25.0 | 2-0-0 | | L: MT20 Summ 244/190 64064 | |
| (Roof Snow=25.0) | | Plate Grip DOL 1.15 | | Phone 816-529-4019 | |
| TCDL | 10.0 | Lumber DOL 1.15 | | Weight: 193 lb FT=20% | |
| BCLL | 0.0 | Rep Stress Incr NO | | SUBMITTAL REVIEW | |
| BCDL | 10.0 | Code IRC2018/TPI2014 | | The corrections taken | |
| | | CSI. | | Make corrections noted | |
| | | TC 0.89 | | Rejected | |
| | | BC 0.65 | | The contractor is responsible for conforming | |
| | | WB 0.81 | | and correcting all quantities and dimensions | |
| | | Matrix-MS | | selecting fabrication processes and techniques | |
| | | | | of construction; coordinating his work with that | |
| | | | | of other trades, and performing his work in a safe | |
| | | | | and satisfactory manner. | |

LUMBER-
TOP CHORD 2x4 SP 1650F 1.5E
BOT CHORD 2x6 SP No.1
WEBS 2x4 SP No.3 *Except*
I-R: 2x6 SP No.1, A-P,H-J: 2x4 SP No.2

REACTIONS. (size) I=0-5-8, Q=0-2-8
Max Horz Q=282(LC 11)
Max Uplift I=-225(LC 14), Q=-326(LC 10)
Max Grav I=1638(LC 20), Q=1942(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD A-Q=-1857/675, A-B=-3103/1049, B-C=-4322/1488, C-D=-4607/1621, D-F=-4609/1627,
F-G=-3790/1448, G-H=-2267/1021, H-I=-1565/609
BOT CHORD P-Q=-438/272, N-P=-1294/3094, M-N=-1563/4316, L-M=-1193/3785, J-L=-746/2262
WEBS A-P=-1124/3284, B-P=-1324/558, B-N=-481/1359, C-N=-477/253, C-M=-144/322,
D-M=-448/230, F-M=-391/900, F-L=-784/391, G-L=-641/1776, G-J=-1285/526,
H-J=-905/2567

NOTES-

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) 0-1-12 to 12-1-12, Exterior(2) 12-1-12 to 17-9-0, Corner(3) 17-9-0 to 29-9-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
- 2) TCLL: ASCE 7-16; PF=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 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) Bearing at joint(s) Q considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 7) Provide mechanical connection (by others) of truss to bearing plate at joint(s) Q.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) I=225, Q=326.
- 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

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: A-B=-170, B-U=-70, I-Q=-20

Continued on page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding fabrication, storage, delivery, erection and bracing of trusses and truss systems, see ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



December 31, 2021



16023 Swingley Ridge Rd
Chesterfield, MO 63017

| | | | | | | |
|---------------|-------------|-------------------------|-----------|----------|---|-----------|
| Job 220286 | Truss B1 | Truss Type MONOPITCH | Qty 17 | Ply 1 | Buildforce/Douglas Rd. Center Job Reference (optional) | I49478246 |
|---------------|-------------|-------------------------|-----------|----------|---|-----------|

Heartland Truss, Inc., Plattsburg, MO - 64477.

8.430 s Aug 16 2021 MITek Industries, Inc. Wed Dec 29 16:20:11 2021 Page 2
ID:ZVxrBG6bbPx3_CXThc60Rqyl0H8-xlx3uH4q1l0WfR5WXR1h15aSeW48RwQzrrjwDly42lY

LOAD CASE(S) Standard
Trapezoidal Loads (plf)
Vert: U=-70-to-H=-130

| |
|--|
| LORAC DESIGN GROUP 809 NE Potomac Valley Lee's Summit, MO 64064 Phone 816-523-4019 |
| SUBMITTAL REVIEW <input type="checkbox"/> The corrections taken <input type="checkbox"/> Make corrections noted <input type="checkbox"/> Revised and Resubmit <input type="checkbox"/> Rejected |
| All signs or comments made relative to submittals during this review do not relieve the contractor of compliance with the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with information given in the contract documents. The contractor is responsible for confirming and correcting all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of other trades, and performing his work in a safe and satisfactory manner. |
| Date: _____ By: _____ |

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.
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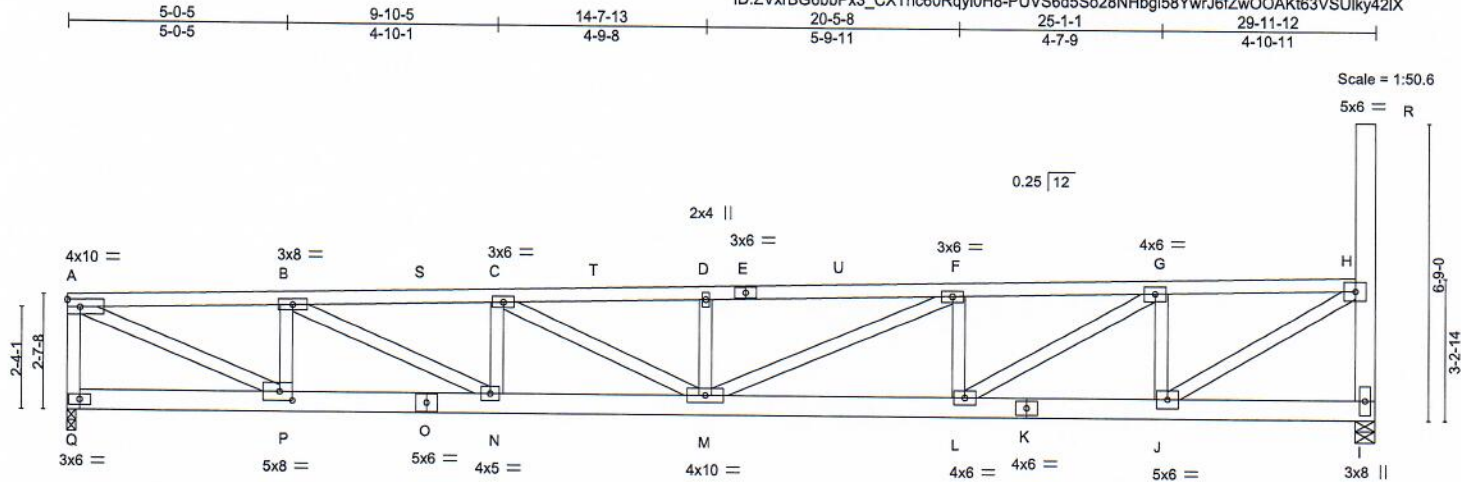


16023 Swingley Ridge Rd
Chesterfield, MO 63017

| | | | | | | |
|---------------|--------------|-------------------------|----------|----------|---|-----------|
| Job 220286 | Truss B1A | Truss Type MONOPITCH | Qty 2 | Ply 1 | Buildforce/Douglas Rd. Center Job Reference (optional) | I49478247 |
|---------------|--------------|-------------------------|----------|----------|---|-----------|

Heartland Truss, Inc., Plattsburg, MO - 64477,

8.430 s Aug 16 2021 MiTek Industries, Inc. Wed Dec 29 16:20:12 2021 Page 1
ID:ZVxrBG6bbP3_CXTnc60RqyI0H8-PUVS6d5So28NHbgi58YwrJ6fZwOOAKt63VSUlky42IX
20-5-8 25-1-1 29-11-12
5-9-11 4-7-9 4-10-11



| | | | | | |
|---|--|----------------------|--|---|--|
| Plate Offsets (X,Y)-- [P:0-3-8,0-2-8] | | LORAC DESIGN GROUP | | 25-1-1 29-11-12 | |
| LOADING (psf) | | SPACING- | | 25-1-1 29-11-12 | |
| TCLL 25.0 | | Plate Grip DOL 1.15 | | 4-7-9 4-10-11 | |
| (Roof Snow=25.0) | | Lumber DOL 1.15 | | Lop's Summit MO 64064 | |
| TCDL 10.0 | | Rep Stress Incr NO | | Phone 645-29-40 GRIP | |
| BCLL 0.0 | | Code IRC2018/TPI2014 | | MT20 244/190 | |
| BCDL 10.0 | | CSL | | SUBMITTAL REVIEW | |
| | | TC 0.75 | | <input type="checkbox"/> The corrections taken = 20% | |
| | | BC 0.77 | | <input type="checkbox"/> Make corrections noted | |
| | | WB 0.98 | | <input type="checkbox"/> Revised Resubmit | |
| | | Matrix-MS | | <input type="checkbox"/> Rejected | |
| | | | | Date: [Signature] By: [Signature] | |
| LUMBER- | | BRACING- | | Structural wood sheathing directly applied or 5-8-3 oc bracing. | |
| TOP CHORD 2x4 SP 1650F 1.5E *Except* | | TOP CHORD | | except end verticals. | |
| A-E: 2x4 SP 2400F 2.0E | | BOT CHORD | | Rigid ceiling directly applied or 5-8-3 oc bracing. | |
| BOT CHORD 2x6 SP No.1 | | | | | |
| WEBS 2x4 SP No.3 *Except* | | | | | |
| A-Q,A-P,H-J: 2x4 SP No.2, I-R: 2x6 SP No.1 | | | | | |
| REACTIONS. | | | | | |
| (size) I=0-5-8, Q=0-2-8 | | | | | |
| Max Horz Q=282(LC 11) | | | | | |
| Max Uplift I=227(LC 14), Q=391(LC 10) | | | | | |
| Max Grav I=1650(LC 20), Q=2330(LC 20) | | | | | |
| FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown. | | | | | |
| TOP CHORD A-Q=-2241/814, A-B=-3782/1295, B-C=-5277/1832, C-D=-5293/1869, D-F=-5294/1876, | | | | | |
| F-G=-4170/1585, G-H=-2417/1076, H-I=-1577/613 | | | | | |
| BOT CHORD P-Q=-443/287, N-P=-1552/3771, M-N=-1924/5269, L-M=-1337/4165, J-L=-801/2413 | | | | | |
| WEBS A-P=-1389/4014, B-P=-1634/670, B-N=-591/1666, C-N=-617/303, C-M=-414/199, | | | | | |
| D-M=-445/231, F-M=-519/1237, F-L=-925/444, G-L=-742/2042, G-J=-1382/563, | | | | | |
| H-J=-977/2757 | | | | | |
| NOTES- | | | | | |
| 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; | | | | | |
| MWFRS (envelope) gable end zone and C-C Corner(3) 0-1-12 to 12-1-12, Exterior(2) 12-1-12 to 17-9-0, Corner(3) 17-9-0 to 29-9-0 | | | | | |
| zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions | | | | | |
| shown; Lumber DOL=1.33 plate grip DOL=1.33 | | | | | |
| 2) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10 | | | | | |
| 3) Unbalanced snow loads have been considered for this design. | | | | | |
| 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) Bearing at joint(s) Q considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify | | | | | |
| capacity of bearing surface. | | | | | |
| 7) Provide mechanical connection (by others) of truss to bearing plate at joint(s) Q. | | | | | |
| 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) | | | | | |
| I=227, Q=391. | | | | | |
| 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) 262 lb down and 76 lb up at | | | | | |
| 10-1-12 on top chord. The design/selection of such connection device(s) is the responsibility of others. | | | | | |
| LOAD CASE(S) Standard | | | | | |

Continued on page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.
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December 31, 2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| | | | | | | |
|---------------|--------------|-------------------------|----------|----------|---|-----------|
| Job 220286 | Truss B1A | Truss Type MONOPITCH | Qty 2 | Ply 1 | Buildforce/Douglas Rd. Center Job Reference (optional) | 149478247 |
|---------------|--------------|-------------------------|----------|----------|---|-----------|

Heartland Truss, Inc., Plattsburg, MO - 64477,

8.430 s Aug 16 2021 MITek Industries, Inc. Wed Dec 29 16:20:12 2021 Page 2
ID:ZVxrBG6bbPx3_CXThc60Rqyl0H8-PUVS6d5So28NHbgi58YwrJ6fZwOOAKt63VSUlky42IX

LOAD CASE(S) Standard

1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)

Vert: A-B=-200, B-S=-100, C-H=-70, I-Q=-20

Concentrated Loads (lb)

Vert: C=-200

Trapezoidal Loads (plf)

Vert: S=-100-to-C=-126

LORAC DESIGN GROUP

809 NE Panther Valley
Lee's Summit MO 64064
Phone 816-529-4019

SUBMITTAL REVIEW

- ☐ The corrections taken
- ☐ Make corrections noted
- ☐ Revised and Resubmitted
- ☐ Rejected

MPD

Corrections or comments made relative to submittals during this review do not relieve the contractor from compliance with the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with information given in the contract documents. The contractor is responsible for conforming and correcting all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of other trades, and performing his work in a safe and satisfactory manner.

Date: *12/31* By: *[Signature]*

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ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

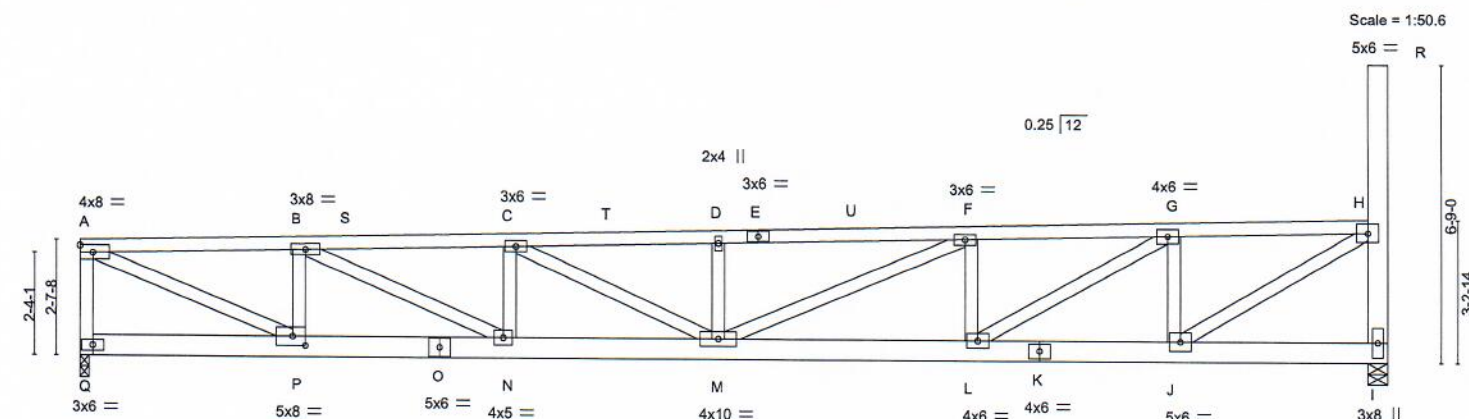
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd
Chesterfield, MO 63017

A horizontal timeline bar with vertical tick marks indicating specific dates. The dates are as follows:

| Date | Date | Date | Date | Date |
|-------|--------|---------|--------|----------|
| 5-0-5 | 9-10-5 | 14-7-13 | 20-5-8 | 25-1-1 |
| 5-0-5 | 4-10-1 | 4-9-8 | 5-9-11 | 4-7-9 |
| | | | | 29-11-12 |

[illegible]

| | | |
|-----------------------|---|---|
| BRACING- TOP CHORD | Structural wood sheathing directly applied or 2-5-8 or pulps, except end verticals. | <input type="checkbox"/> Make corrections noted <input type="checkbox"/> Moved and Resumins. |
| BOT CHORD | Rigid ceiling directly applied or 5-9-8 or bracing. | <input type="checkbox"/> Printed |

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
 A-Q=2058/747, A-B=3529/1203, B-C=5071/1758, C-D=5134/1811, D-F=-5135/1817,
 F-G=-4086/1555, G-H=-2375/1060, H-I=-1552/604
BOT CHORD
 P-Q=439/274, N-P=1456/3519, M-N=1847/5065, L-M=-1305/4081, J-L=-786/2374
WEBS
 A-P=-1292/3750, B-P=-1517/628, B-N=-611/1719, C-N=-643/313, C-M=343/1781,
 D-M=-438/227, F-M=-487/1154, F-L=-895/433, G-L=-724/1994, G-J=-1357/553,
 H-J=-958/2708

1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TC DL=6.0psf; BC DL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) 0-1-12 to 12-1-12, Exterior(2) 12-1-12 to 17-9-0, Corner(3) 17-9-0 to 29-9-0 zone; cantilever left and right exposed ; End vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33

2) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10

3) Unbalanced snow loads have been considered for this design.

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) Bearing at joint(s) Q considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.

7) Provide mechanical connection (by others) of truss to bearing plate at joint(s) Q.

8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) I=223, Q=360.

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) 262 lb down and 76 lb up at 10-1-12 on top chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

LORAC DESIGN GROUP
 25-1-1 29-11-12
 4-7-9 4-10-11
 809 NE Pantolano Valley
 Lee's Summit MO 64064
 Phone 816-520-4551
 L/d 120 GRIP 244/190
 925 240
 551 180
 n/a n/a
SUBMITTAL REVIEW
☐ The corrections taken FT = 20%
☐ Make corrections noted
☐ Revised and Resubmit
☐ Projected
 wood sheathing directly applied on 2-5-8 on purlins.
 verticals.
 g directly applied on 6-9-8 on bracing.
 Corrections or comments made relating to submittals
 during this review do not relieve the contractor
 from compliance with the drawings and specifications.
 This check is only for review of general conformance with
 the design concept of the project and general compliance
 with information given in the contract documents.
 The contractor is responsible for conforming
 and correcting all quantities and dimensions;
 selecting fabrication processes and techniques
 of construction; coordinating his work with that
 of other trades, and performing his work in a safe
 and satisfactory manner.
 Date: 5/31 By: [Signature]



December 31, 2021

Continued on page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE. Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601.



16023 Swingley Ridge Rd
Chesterfield, MO 63017

| | | | | | |
|---------------|--------------|-------------------------|-----------|----------|--|
| Job 220286 | Truss B1B | Truss Type MONOPITCH | Qty 16 | Ply 1 | Buildforce/Douglas Rd. Center 149478248 |
|---------------|--------------|-------------------------|-----------|----------|--|

Heartland Truss, Inc., Plattsburg, MO - 64477,

8.430 s Aug 16 2021 MITek Industries, Inc. Wed Dec 29 16:20:13 2021 Page 2
ID:ZVxrBG6bbPx3_CXThc60Rqyl0H8-Ig3qJz65ZMGEvIFvr39OWfniJlkvo7GI9C1lAy42lW

LOAD CASE(S) Standard

1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15

Uniform Loads (plf)

Vert: A-B=-170, B-S=-70, C-H=-70, I-Q=-20

Concentrated Loads (lb)

Vert: C=-200

Trapezoidal Loads (plf)

Vert: S=-70-to-C=-126

| | |
|--|-----------------|
| LORAC DESIGN GROUP 809 NE Panther Valley Lee's Summit MO 64064 Phone 816-529-4019 | |
| SUBMITTAL REVIEW <input type="checkbox"/> The corrections taken <input type="checkbox"/> Make corrections noted <input type="checkbox"/> Revised and Resubmit <input type="checkbox"/> Rejected | |
| Corrections or comments made relative to submittals during this review do not relieve the contractor from compliance with the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with information given in the contract documents. The contractor is responsible for conforming and correcting all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of other trades, and performing his work in a safe and satisfactory manner. | |
| Date: 5/19/21 | By: [Signature] |

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.

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ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

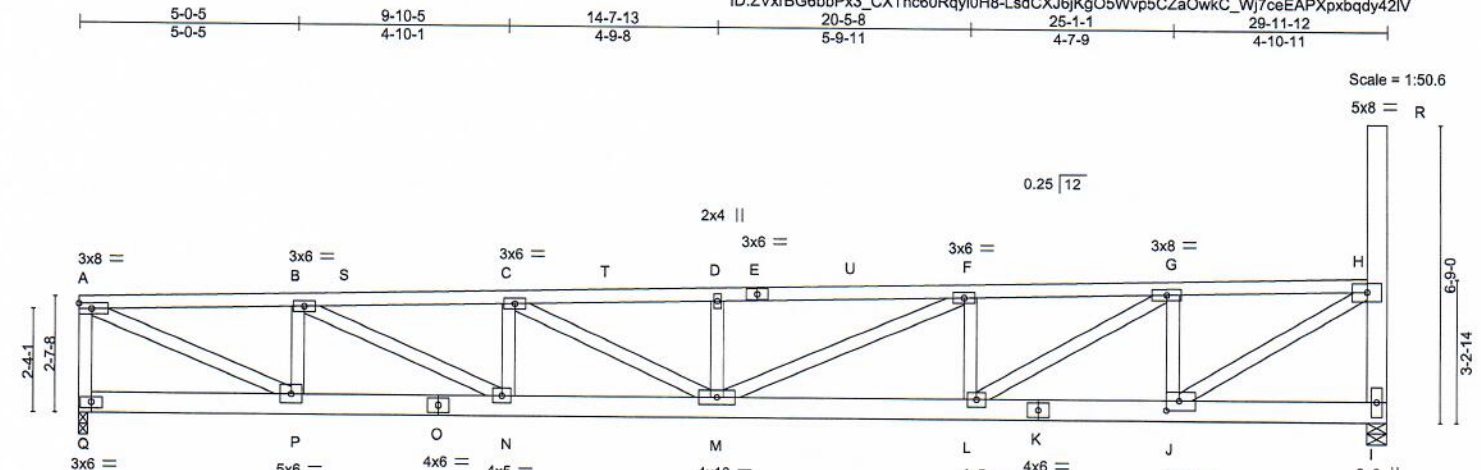


16023 Swingley Ridge Rd
Chesterfield, MO 63017

| | | | | | |
|---------------|--------------|-------------------------|----------|----------|--|
| Job 220286 | Truss B1C | Truss Type MONOPITCH | Qty 2 | Ply 2 | Buildforce/Douglas Rd. Center 149478249 |
|---------------|--------------|-------------------------|----------|----------|--|

Heartland Truss, Inc., Plattsburg, MO - 64477,

8.430 s Aug 16 2021 MiTek Industries, Inc. Wed Dec 29 16:20:14 2021 Page 1
ID:ZVxrBG6bbPx3_CXThc60Rqyl0H8-LsdCXJ6jKg05Wvp5CZaOwkC_Wj7ceEAPXpbqdy42IV



| | | | | | | |
|---------------------------------------|------------------------------|------------------|---------------------------|------------------|-----------------|---------------------|
| Plate Offsets (X,Y)-- [J:0-3-8,0-2-8] | 5-0-5 5-0-5 | 9-10-5 4-10-1 | 14-7-13 4-9-8 | 20-5-8 5-9-11 | 25-1-1 4-7-9 | 29-11-12 4-10-11 |
| LOADING (psf) | SPACING | CSI | DEFL. | PLATES | GRIP | |
| TCLL 25.0 (Roof Snow=25.0) | 2-0-0 Plate Grip DOL 1.15 | TC 0.78 | in (loc) l/defl L/d | MT20 | 244/190 | |
| TCDL 10.0 | Lumber DOL 1.15 | BC 0.60 | Vert(LL) -0.31 M >999 240 | | | |
| BCLL 0.0 | Rep Stress Incr NO | WB 1.00 | Vert(CT) -0.54 M >660 180 | | | |
| BCDL 10.0 | Code IRC2018/TPI2014 | Matrix-MS | Horz(CT) 0.06 I n/a n/a | | | |

LUMBER-
TOP CHORD 2x4 SP 1650F 1.5E *Except*
A-E: 2x4 SP No.2
BOT CHORD 2x6 SP No.1
WEBS 2x4 SP No.3 *Except*
I-R: 2x6 SP No.1, A-P: 2x4 SP No.2

REACTIONS. (size) I=0-5-8, Q=0-2-8
Max Horz Q=282(LC 11)
Max Uplift I=488(LC 11), Q=471(LC 10)
Max Grav I=2945(LC 20), Q=2813(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD A-Q=-2715/985, A-B=-4886/1694, B-C=-7720/2716, C-D=-8524/3035, D-F=-8527/3042,
F-G=-7131/2655, G-H=-4243/1735, H-I=-2843/1094
BOT CHORD P-Q=-445/291, N-P=-1971/4876, M-N=-2853/7713, L-M=-2460/7120, J-L=-1459/4233
WEBS A-P=-1826/5226, B-P=-2143/854, B-N=-1131/3156, C-N=-1261/536, C-M=-352/900,
D-M=-1007/442, F-M=-632/1535, F-L=-1579/693, G-L=-1245/3365, G-J=-2499/987,
H-J=-1760/4818

NOTES-

- 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, 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Webs connected as follows: 2x4 - 1 row at 0-9-0 oc.
- 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.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) 0-1-12 to 12-1-12, Exterior(2) 12-1-12 to 17-9-0, Corner(3) 17-9-0 to 29-9-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
- TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- Bearing at joint(s) Q considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate at joint(s) Q.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) I=488, Q=471.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and conform to standard ANSI/TPI 1.

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AC DESIGN GROUP
809 N. Main Valley
Loc 501
Phone 816-520-4019
Weight: 387 lb FT = 20%
SUBMITTAL REVIEW
The corrections taken
except end verticals.
Rigid ceiling directly applied or 10-0-0 oc bracing
Rejected
Date: 5/31 By: [Signature]



December 31, 2021

Mitek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

| | | | | | |
|---------------|--------------|-------------------------|----------|----------|--|
| Job 220286 | Truss B1C | Truss Type MONOPITCH | Qty 2 | Ply 2 | Buildforce/Douglas Rd. Center I49478249 |
|---------------|--------------|-------------------------|----------|----------|--|

Heartland Truss, Inc., Plattsburg, MO - 64477.

8.430 s Aug 16 2021 MiTek Industries, Inc. Wed Dec 29 16:20:14 2021 Page 2
ID:ZVxrBG6bbPx3_CXThc60Rqyl0H8-LsdCXJ6JKgO5Wvp5CZaOwkC_WJ7ceEAPXpxbqdy42IV

NOTES-

- 12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 262 lb down and 76 lb up at 10'-12" on top chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: A-B=-170, B-S=-70, C-H=-170, I-Q=-20
Concentrated Loads (lb)
Vert: C=-200
Trapezoidal Loads (plf)
Vert: S=-70-to-C=-126

| | |
|--|------------------------|
| LORAC DESIGN GROUP 809 NE Panther Valley Lee's Summit, MO 64064 Phone 816-520-4010 | |
| SUBMITTAL REVIEW <input type="checkbox"/> The corrections taken <input type="checkbox"/> Make corrections noted <input type="checkbox"/> Revised and Resubmit <input checked="" type="checkbox"/> Rejected | |
| Corrections or comments made relative to submittals during this review do not relieve the contractor from compliance with the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with information given in the contract documents. The contractor is responsible for conforming and correcting all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of other trades; and performing his work in a safe and satisfactory manner. | |
| Date: 5/21 | By: <i>[Signature]</i> |



WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.

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16023 Swingley Ridge Rd
Chesterfield, MO 63017

8.430 s Aug 16 2021 MiTek Industries, Inc. Wed Dec 29 16:20:15 2021 Page 1
ID:ZVxrBG6bbPx3_CXThc60Rqyl0H8-p3Bake7L5zWy82OHmG5dTxk6G7PhNiCZmTh8M3v42U



Weight: 193 lb. ET = 20%

Date: 9/14/2009 By: [Signature]



1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: A-B=-170, B-S=-70, H-T=-100, I-Q=-20

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE. Design valid for use only with MiteK® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria, DSB-89 and BCSI Building Components**.
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601.



| | | | | | | |
|--|-------|------------|-----|-----|-------------------------------|--------------------------|
| Job | Truss | Truss Type | Qty | Ply | Buildforce/Douglas Rd. Center | |
| 220286 | B1D | MONOPITCH | 2 | 1 | | I49478250 |
| Heartland Truss, Inc., Plattsburg, MO - 64477, | | | | | | Job Reference (optional) |

8.430 s Aug 16 2021 MiTek Industries, Inc. Wed Dec 29 16:20:15 2021 Page 2
ID:ZVxrBG6bbPx3_CXThc60Rqyl0H8-p3Bake7L5zWy82OHmG5dTxk6G7PhNiCZmTh8M3y42IU

LOAD CASE(S) Standard
Trapezoidal Loads (plf)
Vert: S=-70-to-T=-100

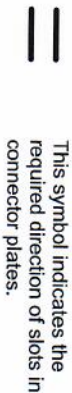
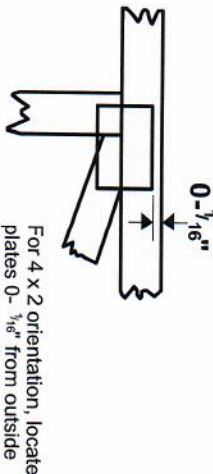
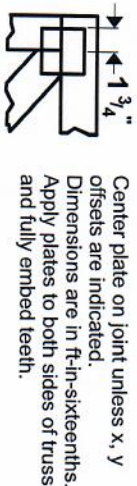
| | |
|--|-----------------|
| LORAC DESIGN GROUP 809 NE Panther Valley Lee's Summit MO 64064 Phone 816-529-4019 | |
| SUBMITTAL REVIEW <input type="checkbox"/> The corrections taken <input type="checkbox"/> Make corrections noted <input type="checkbox"/> Revised and Resubmit <input type="checkbox"/> Rejected | |
| Corrections or comments made relative to submittal during this review do not relieve the contractor from compliance with the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with information given in the contract documents. The contractor is responsible for conforming and correcting all quantities and dimensions, selecting fabrication processes and techniques of construction; coordinating his work with that of other trades, and performing his work in a safe and careful manner. | |
| Date: 5/9/21 | By: [Signature] |

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MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Symbols

PLATE LOCATION AND ORIENTATION



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

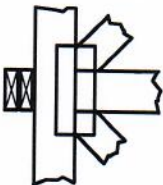
PLATE SIZE

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



BEARING



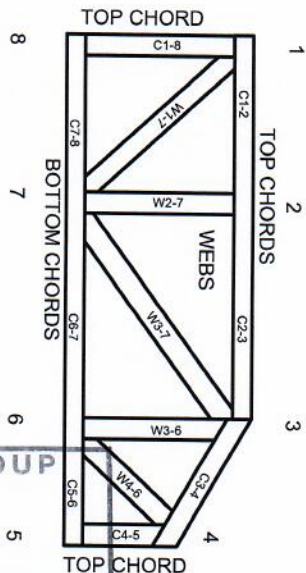
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TP1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System

6-4-8 dimensions shown in ft-in-sixteenths (Drawings not to scale)



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/TP1 section 6.3 These truss designs rely on lumber values established by others.

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MiTek Engineering Reference Sheet, Mill-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 beal tightly against each other.

6. Place plates on each face of truss at each joint and between chords and webs at joint locations.

7. Design assumes all steel will be suitably protected the environment in accordance with ANSI/TP1.

8. Unless otherwise noted, this design is not applicable for use with fire retardant, preservative treated or green lumber.

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 the fabricator. General practice is to allow for dead load deflection.

11. Plate type, size, orientation and location dimension 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/TP1 Quality Criteria.

21. The design does not take into account any dynamic or other loads other than those expressly stated.

Date: _____ By: _____