

Trenco  
818 Soundside Rd  
Edenton, NC 27932

Re: Hayden BFK  
Hayden BFK

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by 84 Components - #2383.

Pages or sheets covered by this seal: I58642185 thru I58642200

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

North Carolina COA: C-0844



May 31, 2023

Gilbert, Eric

**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<br>Hayden BFK | Truss<br>A | Truss Type<br>Common | Qty<br>4 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | 158642185 |
|-------------------|------------|----------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:02  
ID:AmCWSGsNlrGBnlOTdic6cuzCdce-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKwRCDoi7J4zJC?f

Page: 1

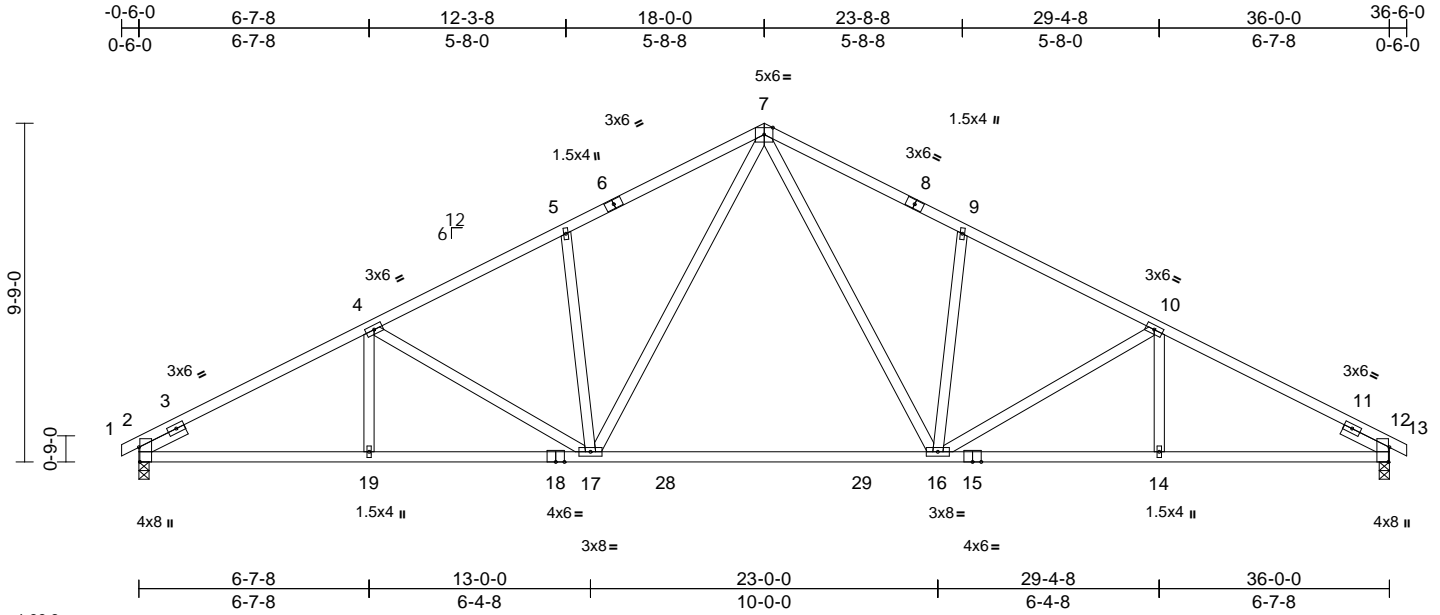


Plate Offsets (X, Y): [2:0-5-1,Edge], [12:0-5-1,Edge]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in (loc) | l/defl | L/d   | PLATES | GRIP |                |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|--------|-------|--------|------|----------------|----------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.88 | Vert(LL) | -0.38  | 16-17 | >999   | 240  | MT20           | 244/190  |
| TCDL        | 10.0  | Lumber DOL      | 1.15            | BC        | 0.79 | Vert(CT) | -0.67  | 16-17 | >641   | 180  |                |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.49 | Horz(CT) | 0.11   | 12    | n/a    | n/a  |                |          |
| BCDL        | 10.0  | Code            | IRC2015/TPI2014 | Matrix-MS |      |          |        |       |        |      | Weight: 201 lb | FT = 20% |

**LUMBER**  
TOP CHORD 2x4 SP No.2 \*Except\* 1-6,8-13:2x4 SP No.1  
BOT CHORD 2x4 SP No.1  
WEBS 2x4 SP No.2 \*Except\* 4-19,10-14:2x4 SP No.3  
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 9-5-5 oc bracing.

**REACTIONS** (size) 2=0-3-8, 12=0-3-8  
Max Horiz 2=154 (LC 12), 12=178 (LC 13)  
Max Uplift 2=-178 (LC 12), 12=-178 (LC 13)  
Max Grav 2=1470 (LC 1), 12=1470 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/13, 2-4=-2417/596, 4-5=-2070/565, 5-7=-2045/678, 7-9=-2045/678, 9-10=-2070/565, 10-12=-2417/596, 12-13=0/13  
BOT CHORD 2-19=-429/2076, 17-19=-429/2076, 16-17=-141/1371, 14-16=-430/2076, 12-14=-430/2076  
WEBS 7-17=-246/840, 7-16=-246/840, 9-16=-369/238, 4-19=0/167, 4-17=-365/170, 5-17=-369/238, 10-14=0/167, 10-16=-365/170

**NOTES**  
1) Unbalanced roof live loads have been considered for this design.  
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* 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.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 12. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard



May 31, 2023

**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



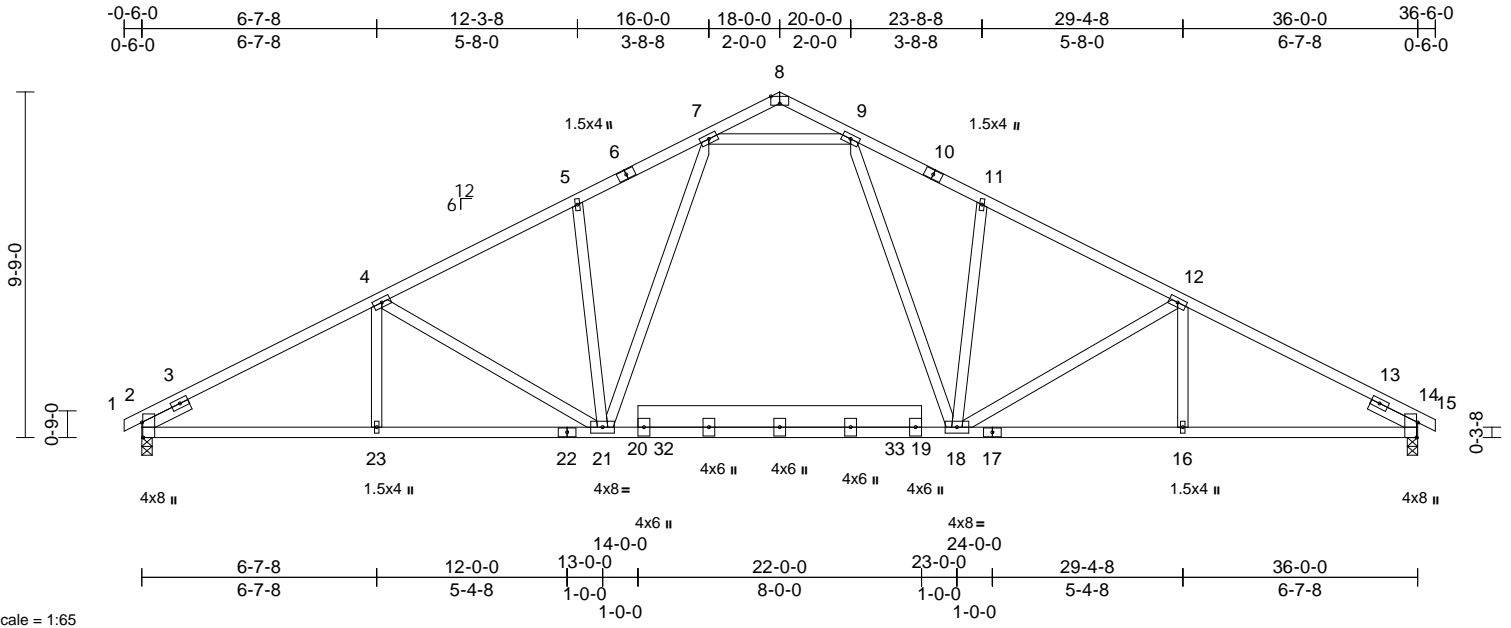
818 Soundside Road  
Edenton, NC 27932

|                   |             |                      |          |          |  |           |
|-------------------|-------------|----------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>A1 | Truss Type<br>Common | Qty<br>5 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | 158642186 |
|-------------------|-------------|----------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:04  
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Page: 1



| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP           |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|----------------|----------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.85 | Vert(LL) | -0.28 | 16-18  | >999 | 240    | MT20           | 244/190  |
| TCDL        | 10.0  | Lumber DOL      | 1.15            | BC        | 0.77 | Vert(CT) | -0.43 | 16-18  | >999 | 180    |                |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.54 | Horz(CT) | 0.10  | 14     | n/a  | n/a    |                |          |
| BCDL        | 10.0  | Code            | IRC2015/TPI2014 | Matrix-MS |      |          |       |        |      |        | Weight: 226 lb | FT = 20% |

**LUMBER**  
TOP CHORD 2x4 SP No.2 \*Except\* 1-6,10-15:2x4 SP No.1  
BOT CHORD 2x4 SP No.1 \*Except\* 20-19:2x8 SP DSS  
WEBS 2x4 SP No.2 \*Except\* 4-23,12-16,7-9:2x4 SP No.3  
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 9-6-15 oc bracing.

**REACTIONS** (size) 2=0-3-8, 14=0-3-8  
Max Horiz 2=154 (LC 12)  
Max Uplift 2=-178 (LC 12), 14=-178 (LC 13)  
Max Grav 2=1470 (LC 1), 14=1470 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/13, 2-4=-2423/595, 4-5=-2057/569, 5-7=-2012/656, 7-8=-163/73, 8-9=-163/74, 9-11=-2012/656, 11-12=-2057/569, 12-14=-2423/595, 14-15=0/13  
BOT CHORD 2-23=-429/2083, 21-23=-429/2083, 18-21=-195/1505, 16-18=-429/2083, 14-16=-429/2083  
WEBS 7-21=-197/795, 9-18=-197/795, 4-23=0/198, 4-21=-401/171, 5-21=-410/223, 11-18=-410/223, 12-18=-401/171, 12-16=0/198, 7-9=-1386/520

- All plates are 3x6 MT20 unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* 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.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 14. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.

**LOAD CASE(S)** Standard



May 31, 2023

**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

**ENGINEERING BY**  
**TRENCO**  
A MiTek Affiliate  
818 Soundside Road  
Edenton, NC 27932

|                   |             |                      |          |          |  |           |
|-------------------|-------------|----------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>A2 | Truss Type<br>Common | Qty<br>2 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | 158642187 |
|-------------------|-------------|----------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:04  
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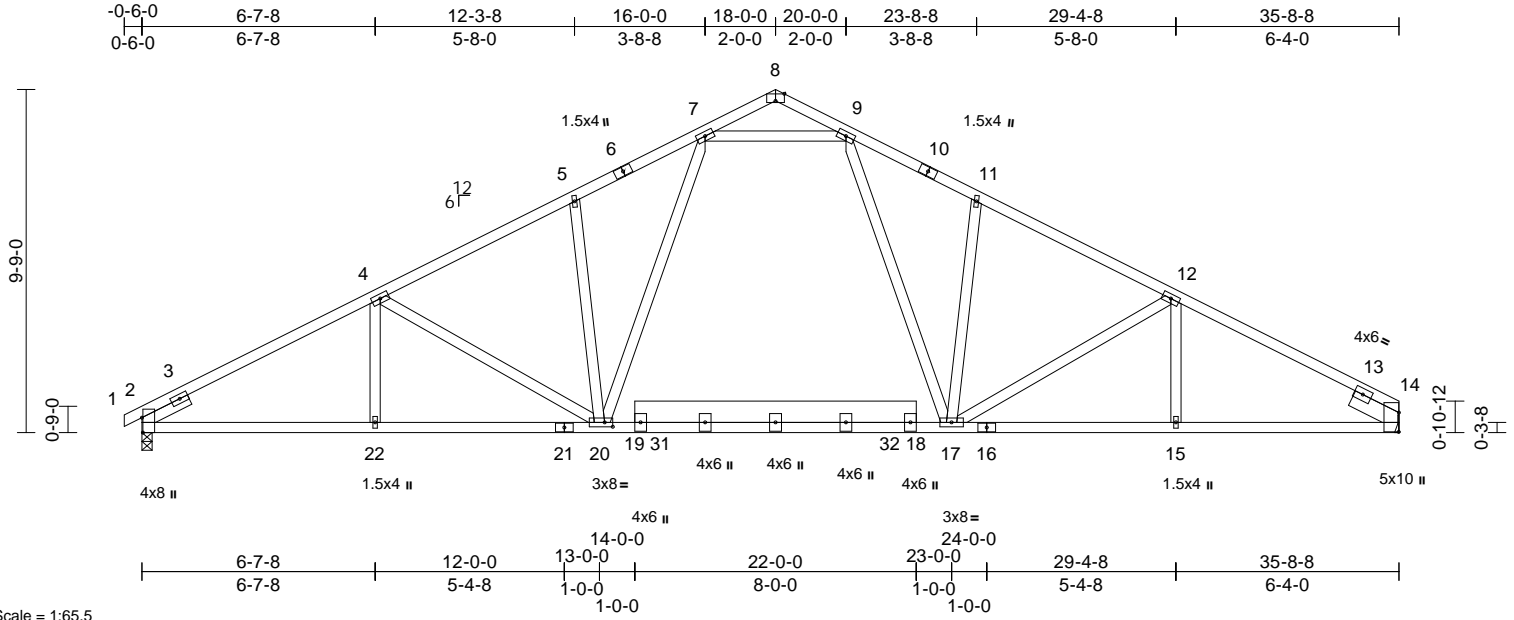


Plate Offsets (X, Y): [2:0-5-1,Edge], [8:0-3-0,Edge], [14:0-6-9,0-0-1], [20:0-2-12,0-1-8]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP           |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|----------------|----------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.84 | Vert(LL) | -0.28 | 20-22  | >999 | 240    | MT20           | 244/190  |
| TCDL        | 10.0  | Lumber DOL      | 1.15            | BC        | 0.76 | Vert(CT) | -0.43 | 20-22  | >986 | 180    |                |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.53 | Horz(CT) | 0.11  | 14     | n/a  | n/a    |                |          |
| BCDL        | 10.0  | Code            | IRC2015/TPI2014 | Matrix-MS |      |          |       |        |      |        | Weight: 226 lb | FT = 20% |

**LUMBER**  
TOP CHORD 2x4 SP No.2 \*Except\* 1-6:2x4 SP No.1, 10-14:2x4 SP DSS  
BOT CHORD 2x4 SP No.1 \*Except\* 19-18:2x8 SP DSS, 16-14:2x4 SP DSS  
WEBS 2x4 SP No.2 \*Except\* 4-22,12-15,7-9:2x4 SP No.3  
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x6 SP No.2 -- 1-6-0

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 9-5-9 oc bracing.

**REACTIONS** (size) 2=0-3-8, 14= Mechanical  
Max Horiz 2=162 (LC 12)  
Max Uplift 2=-178 (LC 12), 14=-165 (LC 13)  
Max Grav 2=1459 (LC 1), 14=1428 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/13, 2-4=-2401/590, 4-5=-2032/563, 5-7=-1990/650, 7-8=-162/74, 8-9=-166/73, 9-11=-1974/647, 11-12=-2000/559, 12-14=-2306/568  
BOT CHORD 2-22=-440/2063, 20-22=-440/2063, 17-20=-205/1481, 15-17=-416/1968, 14-15=-416/1968  
WEBS 7-20=-196/797, 9-17=-195/772, 4-22=0/201, 4-20=-403/171, 5-20=-414/223, 11-17=-422/228, 12-17=-317/156, 12-15=0/165, 7-9=-1359/513

- Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - All plates are 3x6 MT20 unless otherwise indicated.
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - \* 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.
  - Refer to girder(s) for truss to truss connections.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 165 lb uplift at joint 14.
  - One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
  - This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
  - ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.
- LOAD CASE(S)** Standard



May 31, 2023

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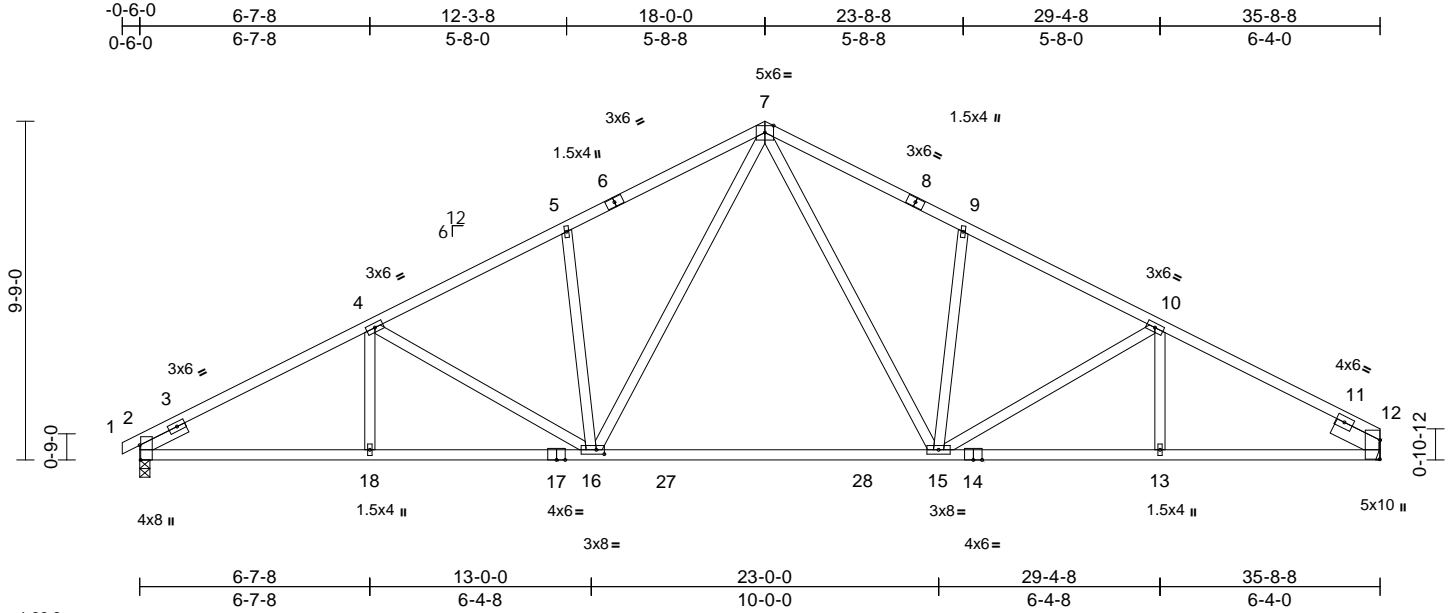


|                   |             |                      |          |          |  |           |
|-------------------|-------------|----------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>A3 | Truss Type<br>Common | Qty<br>8 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | I58642188 |
|-------------------|-------------|----------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:05  
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Page: 1



Scale = 1:66.3

Plate Offsets (X, Y): [2:0-5-1,Edge], [12:0-6-9,0-0-1], [16:0-2-12,0-1-8]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in (loc) | l/defl | L/d   | PLATES | GRIP |                |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|--------|-------|--------|------|----------------|----------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.87 | Vert(LL) | -0.37  | 15-16 | >999   | 240  | MT20           | 244/190  |
| TCDL        | 10.0  | Lumber DOL      | 1.15            | BC        | 0.78 | Vert(CT) | -0.66  | 15-16 | >649   | 180  |                |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.49 | Horz(CT) | 0.12   | 12    | n/a    | n/a  |                |          |
| BCDL        | 10.0  | Code            | IRC2015/TPI2014 | Matrix-MS |      |          |        |       |        |      | Weight: 201 lb | FT = 20% |

**LUMBER**  
TOP CHORD 2x4 SP No.2 \*Except\* 1-6:2x4 SP No.1, 8-12:2x4 SP DSS  
BOT CHORD 2x4 SP No.1 \*Except\* 14-12:2x4 SP DSS  
WEBS 2x4 SP No.2 \*Except\* 18-4,10-13:2x4 SP No.3  
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x6 SP No.2 -- 1-6-0

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 9-3-15 oc bracing.

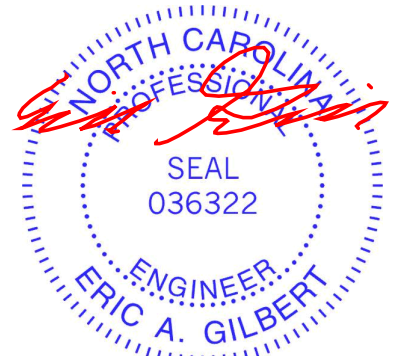
**REACTIONS** (size) 2=0-3-8, 12= Mechanical  
Max Horiz 2=162 (LC 12)  
Max Uplift 2=-178 (LC 12), 12=-165 (LC 13)  
Max Grav 2=1459 (LC 1), 12=1428 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/13, 2-4=-2395/591, 4-5=-2046/560, 5-7=-2021/672, 7-9=-2007/670, 9-10=-2013/555, 10-12=-2300/570  
BOT CHORD 2-18=-440/2057, 16-18=-440/2057, 15-16=-152/1349, 13-15=-417/1962, 12-13=-417/1962  
WEBS 7-16=-246/839, 7-15=-240/818, 4-18=0/169, 4-16=-366/171, 5-16=-369/238, 9-15=-383/244, 10-15=-281/151, 10-13=-28/134

**NOTES**  
1) Unbalanced roof live loads have been considered for this design.  
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 165 lb uplift at joint 12.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard



May 31, 2023

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ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

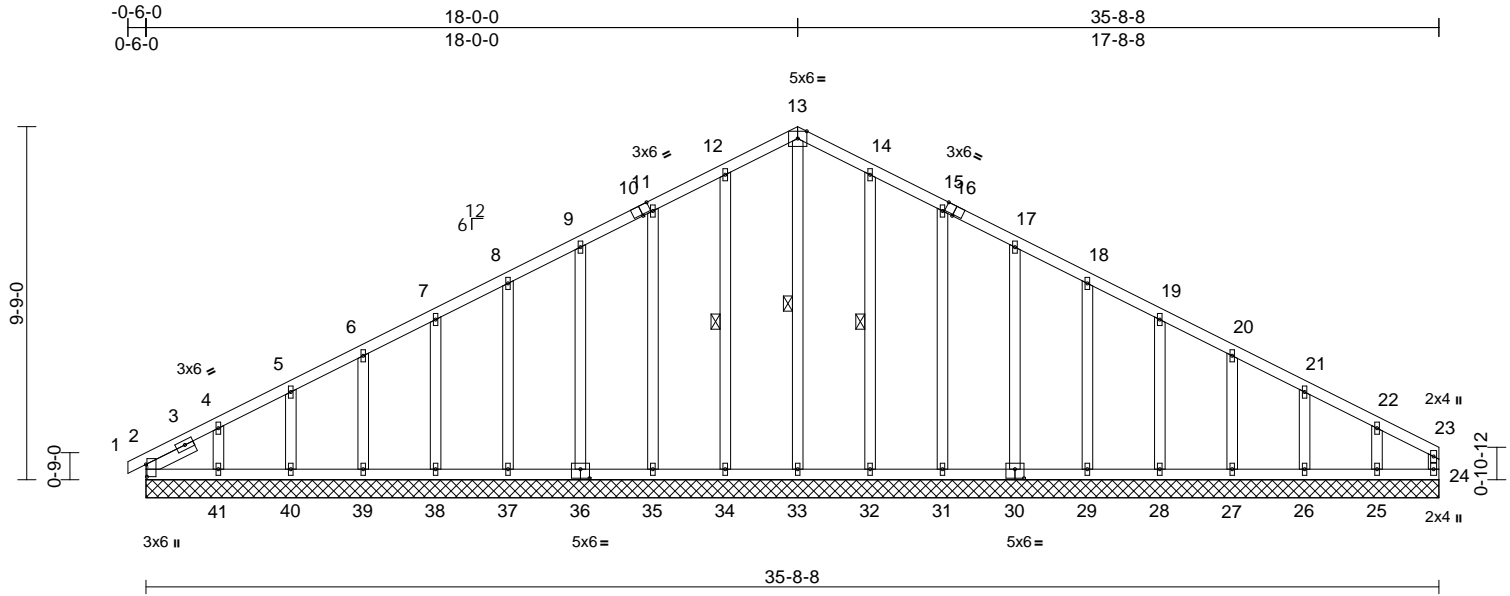
818 Soundside Road  
Edenton, NC 27932

|                   |              |                                      |          |          |  |           |
|-------------------|--------------|--------------------------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>A3E | Truss Type<br>Common Supported Gable | Qty<br>1 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | 158642189 |
|-------------------|--------------|--------------------------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:05  
 ID:QswxBm5UlhRRo6YpbnCndPzCdvj-RfC?PsB70Hq3NSgPqnL8w3uTXbGKwRCDoi7J4zJC7f

Page: 1



Scale = 1:63.6  
 Plate Offsets (X, Y): [2:0-4-1,0-0-5], [10:0-3-0,Edge], [16:0-3-0,Edge], [30:0-3-0,0-3-0], [36:0-3-0,0-3-0]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d | PLATES | GRIP           |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|-----|--------|----------------|----------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.09 | Vert(LL) | n/a   | -      | n/a | 999    | MT20           | 244/190  |
| TCDL        | 10.0  | Lumber DOL      | 1.15            | BC        | 0.07 | Vert(CT) | n/a   | -      | n/a | 999    |                |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.12 | Horz(CT) | 0.01  | 24     | n/a | n/a    |                |          |
| BCDL        | 10.0  | Code            | IRC2015/TPI2014 | Matrix-MS |      |          |       |        |     |        | Weight: 242 lb | FT = 20% |

**LUMBER**  
 TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x4 SP No.2  
 WEBS 2x4 SP No.3  
 OTHERS 2x4 SP No.3 \*Except\*  
 33-13,34-12,35-11,36-9,32-14,31-15,30-17:2  
 x4 SP No.2  
 SLIDER Left 2x4 SP No.3 -- 1-6-0  
**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 13-33, 12-34, 14-32  
**REACTIONS** (size)  
 2=35-8-8, 24=35-8-8, 25=35-8-8,  
 26=35-8-8, 27=35-8-8, 28=35-8-8,  
 29=35-8-8, 30=35-8-8, 31=35-8-8,  
 32=35-8-8, 33=35-8-8, 34=35-8-8,  
 35=35-8-8, 36=35-8-8, 37=35-8-8,  
 38=35-8-8, 39=35-8-8, 40=35-8-8,  
 41=35-8-8, 42=35-8-8  
 Max Horiz 2=163 (LC 12), 42=163 (LC 12)  
 Max Uplift 2=-39 (LC 13), 25=-107 (LC 13),  
 26=-38 (LC 13), 27=-51 (LC 13),  
 28=-48 (LC 13), 29=-49 (LC 13),  
 30=-48 (LC 13), 31=-53 (LC 13),  
 32=-42 (LC 13), 34=-45 (LC 12),  
 35=-51 (LC 12), 36=-48 (LC 12),  
 37=-49 (LC 12), 38=-48 (LC 12),  
 39=-52 (LC 12), 40=-35 (LC 12),  
 41=-113 (LC 12), 42=-39 (LC 13)

**FORCES**  
 (lb) - Maximum Compression/Maximum Tension  
**TOP CHORD**  
 1-2=0/13, 2-4=-196/97, 4-5=-140/101,  
 5-6=-111/117, 6-7=-83/142, 7-8=-68/166,  
 8-9=-70/191, 9-11=-86/215, 11-12=-104/259,  
 12-13=-120/303, 13-14=-120/303,  
 14-15=-104/259, 15-17=-86/209,  
 17-18=-70/162, 18-19=-53/114,  
 19-20=-40/67, 20-21=-42/32, 21-22=-64/23,  
 22-23=-109/33, 23-24=-62/0  
**BOT CHORD**  
 2-41=-24/97, 40-41=-24/97, 39-40=-24/97,  
 38-39=-24/97, 37-38=-24/97, 35-37=-24/97,  
 34-35=-24/97, 33-34=-24/97, 32-33=-24/97,  
 31-32=-24/97, 29-31=-24/97, 28-29=-24/97,  
 27-28=-24/97, 26-27=-24/97, 25-26=-24/97,  
 24-25=-24/97  
**WEBS**  
 13-33=-196/30, 12-34=-128/73,  
 11-35=-119/88, 9-36=-120/82, 8-37=-120/83,  
 7-38=-120/83, 6-39=-120/84, 5-40=-120/79,  
 4-41=-123/112, 14-32=-128/73,  
 15-31=-119/88, 17-30=-120/82,  
 18-29=-120/83, 19-28=-120/83,  
 20-27=-120/83, 21-26=-122/79,  
 22-25=-115/104

- Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- All plates are 1.5x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* 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.

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



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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818 Soundside Road  
 Edenton, NC 27932

|                   |              |                                      |          |          |  |           |
|-------------------|--------------|--------------------------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>A3E | Truss Type<br>Common Supported Gable | Qty<br>1 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | I58642189 |
|-------------------|--------------|--------------------------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:05  
ID:QswxBm5UlhRRo6YpbmCndPzCdvj-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f

Page: 2

9) N/A

10) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard

**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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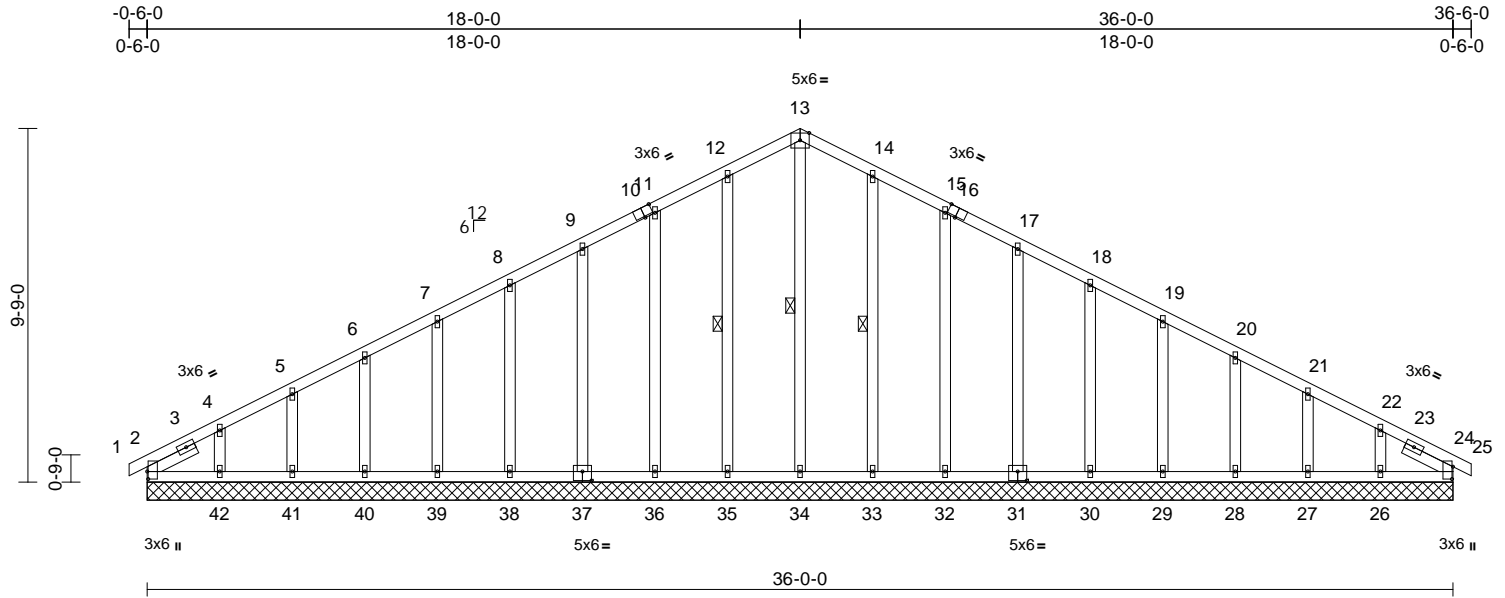
818 Soundside Road  
Edenton, NC 27932

|                   |             |                                      |          |          |  |           |
|-------------------|-------------|--------------------------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>AE | Truss Type<br>Common Supported Gable | Qty<br>1 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | 158642190 |
|-------------------|-------------|--------------------------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:06  
ID:BsL6ktnAQi97gZp4JkgawzCdw7-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWRcD0i7J4zJC7f

Page: 1



Scale = 1:63.5  
Plate Offsets (X, Y): [2:0-2-8,0-0-5], [10:0-3-0,Edge], [16:0-3-0,Edge], [24:0-4-1,0-0-5], [31:0-3-0,0-3-0], [37:0-3-0,0-3-0]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d | PLATES | GRIP           |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|-----|--------|----------------|----------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.07 | Vert(LL) | n/a   | -      | n/a | 999    | MT20           | 244/190  |
| 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        | 0.12 | Horz(CT) | 0.01  | 24     | n/a | n/a    |                |          |
| BCDL        | 10.0  | Code            | IRC2015/TPI2014 | Matrix-MS |      |          |       |        |     |        | Weight: 245 lb | FT = 20% |

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3 \*Except\*  
34-13,35-12,36-11,37-9,33-14,32-15,31-17:2  
x4 SP No.2  
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3  
-- 1-6-0

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or  
6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc  
bracing.  
WEBS 1 Row at midpt 13-34, 12-35, 14-33

**REACTIONS** (size)  
2=36-0-0, 24=36-0-0, 26=36-0-0,  
27=36-0-0, 28=36-0-0, 29=36-0-0,  
30=36-0-0, 31=36-0-0, 32=36-0-0,  
33=36-0-0, 34=36-0-0, 35=36-0-0,  
36=36-0-0, 37=36-0-0, 38=36-0-0,  
39=36-0-0, 40=36-0-0, 41=36-0-0,  
42=36-0-0, 43=36-0-0, 47=36-0-0  
Max Horiz 2=154 (LC 12), 43=154 (LC 12)  
Max Uplift 2=-19 (LC 13), 26=-97 (LC 13),  
27=-38 (LC 13), 28=-51 (LC 13),  
29=-48 (LC 13), 30=-49 (LC 13),  
31=-48 (LC 13), 32=-52 (LC 13),  
33=-43 (LC 13), 35=-46 (LC 12),  
36=-51 (LC 12), 37=-48 (LC 12),  
38=-49 (LC 12), 39=-48 (LC 12),  
40=-52 (LC 12), 41=-34 (LC 12),  
42=-114 (LC 12), 43=-19 (LC 13)

Max Grav 2=149 (LC 21), 24=117 (LC 22),  
26=171 (LC 24), 27=158 (LC 1),  
28=161 (LC 24), 29=160 (LC 1),  
30=160 (LC 24), 31=160 (LC 1),  
32=159 (LC 1), 33=168 (LC 24),  
34=191 (LC 22), 35=168 (LC 23),  
36=159 (LC 1), 37=160 (LC 1),  
38=160 (LC 23), 39=160 (LC 1),  
40=161 (LC 23), 41=158 (LC 1),  
42=171 (LC 23), 43=149 (LC 21),  
47=117 (LC 22)

**FORCES** (lb) - Maximum Compression/Maximum  
Tension  
TOP CHORD 1-2=0/13, 2-4=-202/74, 4-5=-146/78,  
5-6=-110/92, 6-7=-85/113, 7-8=-67/137,  
8-9=-63/162, 9-11=-80/188, 11-12=-97/238,  
12-13=-113/282, 13-14=-113/282,  
14-15=-97/238, 15-17=-80/188,  
17-18=-63/141, 18-19=-46/93, 19-20=-45/51,  
20-21=-62/30, 21-22=-85/23, 22-24=-135/45,  
24-25=0/13  
BOT CHORD 2-42=-36/139, 41-42=-36/139,  
40-41=-36/139, 39-40=-36/139,  
38-39=-36/139, 36-38=-36/139,  
35-36=-36/139, 34-35=-36/139,  
33-34=-36/139, 32-33=-36/139,  
30-32=-36/139, 29-30=-36/139,  
28-29=-36/139, 27-28=-36/139,  
26-27=-36/139, 24-26=-36/139  
WEBS 13-34=-178/24, 12-35=-128/74,  
11-36=-119/87, 9-37=-120/82, 8-38=-120/83,  
7-39=-120/82, 6-40=-120/84, 5-41=-120/78,  
4-42=-122/113, 14-33=-128/74,  
15-32=-119/87, 17-31=-120/82,  
18-30=-120/83, 19-29=-120/82,  
20-28=-120/84, 21-27=-120/78,  
22-26=-122/108

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCCL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; C-C for members and forces & MWFRS for reactions shown; 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 1.5x4 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.

**NOTES**



May 31, 2023

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/TPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate  
818 Soundside Road  
Edenton, NC 27932



|                   |             |                                      |          |          |  |           |
|-------------------|-------------|--------------------------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>AE | Truss Type<br>Common Supported Gable | Qty<br>1 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | I58642190 |
|-------------------|-------------|--------------------------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:06  
ID:BsL6ktnAQi97g7Zp4JkgawzCdw7-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 2

- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 19 lb uplift at joint 2, 46 lb uplift at joint 35, 51 lb uplift at joint 36, 48 lb uplift at joint 37, 49 lb uplift at joint 38, 48 lb uplift at joint 39, 52 lb uplift at joint 40, 34 lb uplift at joint 41, 114 lb uplift at joint 42, 43 lb uplift at joint 33, 52 lb uplift at joint 32, 48 lb uplift at joint 31, 49 lb uplift at joint 30, 48 lb uplift at joint 29, 51 lb uplift at joint 28, 38 lb uplift at joint 27, 97 lb uplift at joint 26 and 19 lb uplift at joint 2.
- 10) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard

**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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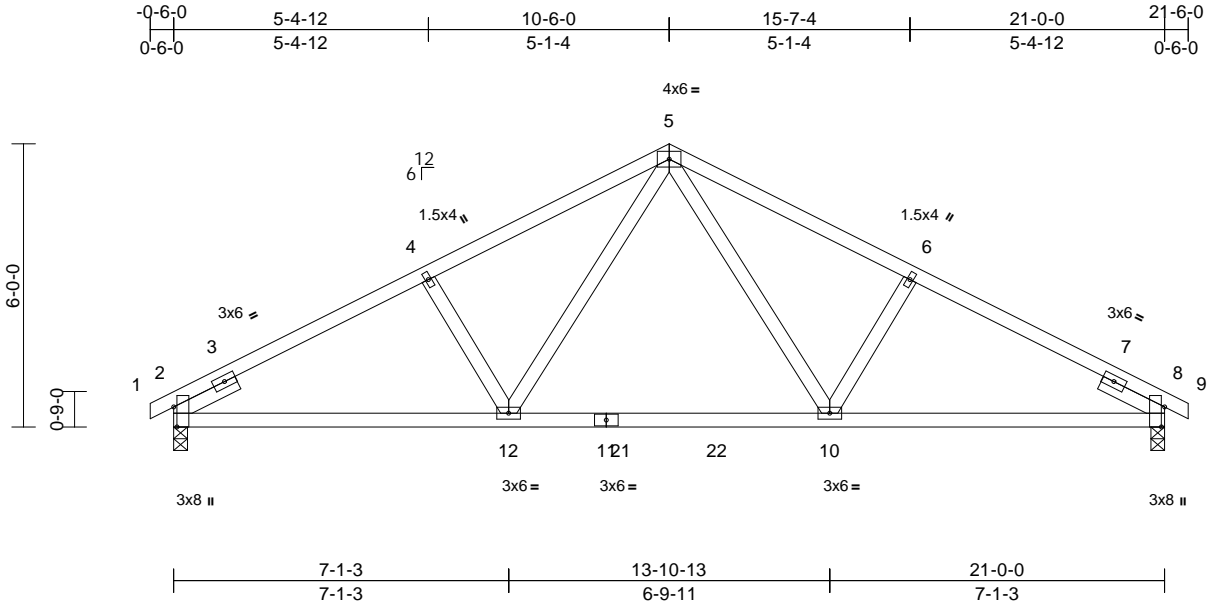
818 Soundside Road  
Edenton, NC 27932

|                   |            |                      |          |          |  |           |
|-------------------|------------|----------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>B | Truss Type<br>Common | Qty<br>1 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | 158642191 |
|-------------------|------------|----------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:06  
ID:iag0FHxugVTvuWnYXJ?VHNzCdxC-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:48.8

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

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP |                         |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|------|-------------------------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.42 | Vert(LL) | -0.11 | 10-12  | >999 | 240    | MT20 | 244/190                 |
| TCDL        | 10.0  | Lumber DOL      | 1.15            | BC        | 0.53 | Vert(CT) | -0.19 | 10-12  | >999 | 180    |      |                         |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.10 | Horz(CT) | 0.04  | 8      | n/a  | n/a    |      |                         |
| BCDL        | 10.0  | Code            | IRC2015/TPI2014 | Matrix-MS |      |          |       |        |      |        |      | Weight: 101 lb FT = 20% |

**LUMBER**

- TOP CHORD 2x4 SP No.2
- BOT CHORD 2x4 SP No.2
- WEBS 2x4 SP No.2 \*Except\* 10-6,12-4:2x4 SP No.3
- SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

- 5) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 8. This connection is for uplift only and does not consider lateral forces.
- 6) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**BRACING**

- TOP CHORD Structural wood sheathing directly applied or 4-5-9 oc purlins.
- BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**LOAD CASE(S)** Standard

**REACTIONS**

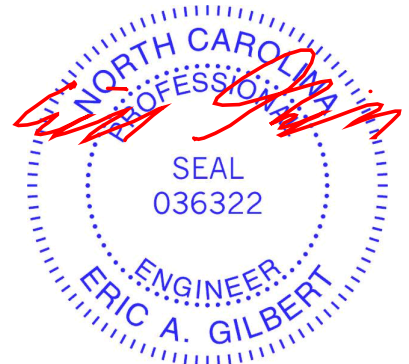
- (size) 2=0-3-8, 8=0-3-8
- Max Horiz 2=92 (LC 12)
- Max Uplift 2=-108 (LC 12), 8=-108 (LC 13)
- Max Grav 2=870 (LC 1), 8=870 (LC 1)

**FORCES**

- (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-2=0/13, 2-4=-1290/343, 4-5=-1163/360, 5-6=-1163/360, 6-8=-1290/343, 8-9=0/13
- BOT CHORD 2-12=-223/1098, 10-12=-81/779, 8-10=-223/1098
- WEBS 5-10=-94/415, 6-10=-263/189, 5-12=-94/415, 4-12=-263/189

**NOTES**

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 4) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.



May 31, 2023

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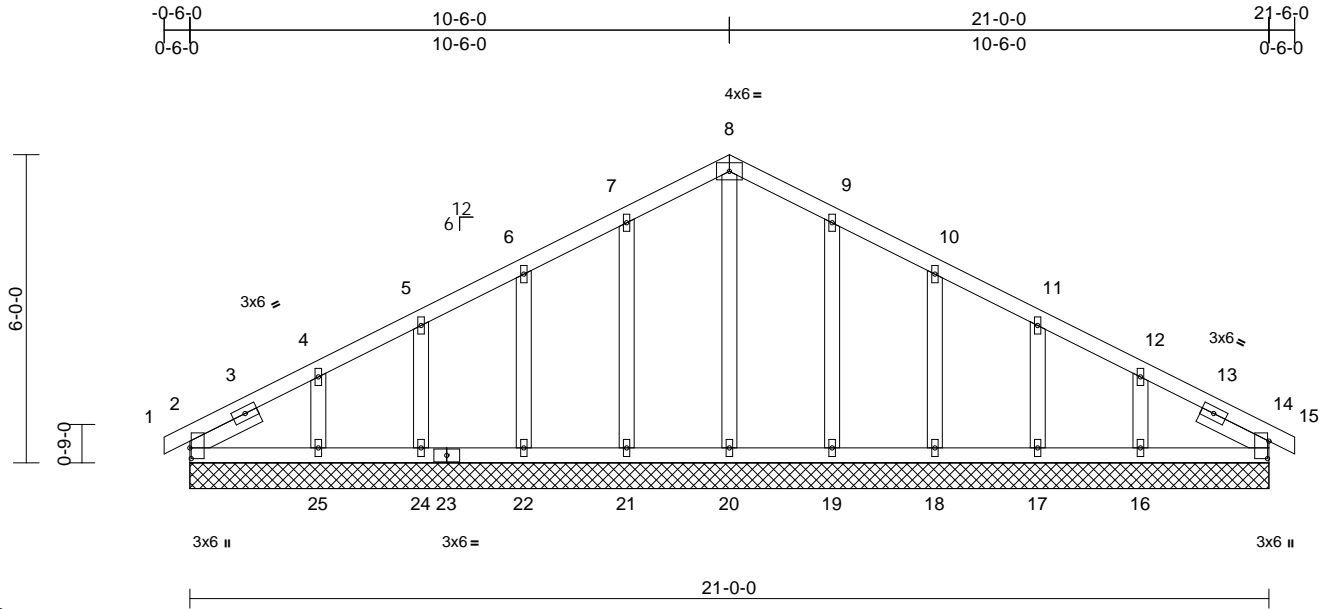
818 Soundside Road  
Edenton, NC 27932

|                   |             |                                      |          |          |  |           |
|-------------------|-------------|--------------------------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>BE | Truss Type<br>Common Supported Gable | Qty<br>1 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | 158642192 |
|-------------------|-------------|--------------------------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:06  
ID: ?OYpa2cy1C3I9MDMS90AhgzCdxRfC?PsB70Hq3NSgPqnL8w3ulTXbGKwRCD0i7J4zJC7f

Page: 1



Scale = 1:44.8

Plate Offsets (X, Y): [2:0-2-8,0-0-5], [14:0-4-1,0-0-5]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d | PLATES | GRIP           |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|-----|--------|----------------|----------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.06 | Vert(LL) | n/a   | -      | n/a | 999    | MT20           | 244/190  |
| TCDL        | 10.0  | Lumber DOL      | 1.15            | BC        | 0.04 | Vert(CT) | n/a   | -      | n/a | 999    |                |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.06 | Horz(CT) | 0.00  | 14     | n/a | n/a    |                |          |
| BCDL        | 10.0  | Code            | IRC2015/TPI2014 | Matrix-MS |      |          |       |        |     |        | Weight: 116 lb | FT = 20% |

**LUMBER**  
 TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x4 SP No.2  
 OTHERS 2x4 SP No.3  
 SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

**BOT CHORD** 2-25=-2/74, 24-25=-2/74, 22-24=-2/74, 21-22=-2/74, 20-21=-2/74, 19-20=-2/74, 18-19=-2/74, 17-18=-2/74, 16-17=-2/74, 14-16=-2/74  
**WEBS** 8-20=-101/5, 7-21=-128/81, 6-22=-120/86, 5-24=-115/77, 4-25=-140/103, 9-19=-128/81, 10-18=-120/86, 11-17=-115/77, 12-16=-140/103

**LOAD CASE(S)** Standard

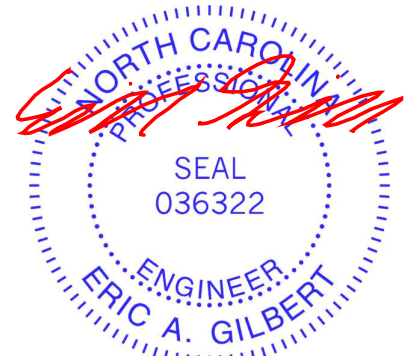
**BRACING**  
 TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size)  
 2=21-0-0, 14=21-0-0, 16=21-0-0, 17=21-0-0, 18=21-0-0, 19=21-0-0, 20=21-0-0, 21=21-0-0, 22=21-0-0, 24=21-0-0, 25=21-0-0, 26=21-0-0, 30=21-0-0  
 Max Horiz 2=92 (LC 12), 26=92 (LC 12)  
 Max Uplift 2=-21 (LC 13), 16=-83 (LC 13), 17=-38 (LC 13), 18=-52 (LC 13), 19=-49 (LC 13), 21=-49 (LC 12), 22=-52 (LC 12), 24=-35 (LC 12), 25=-92 (LC 12), 26=-21 (LC 13)  
 Max Grav 2=140 (LC 1), 14=140 (LC 1), 16=199 (LC 24), 17=149 (LC 1), 18=162 (LC 1), 19=167 (LC 24), 20=141 (LC 22), 21=167 (LC 23), 22=162 (LC 1), 24=149 (LC 1), 25=199 (LC 23), 26=140 (LC 1), 30=140 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/13, 2-4=-88/52, 4-5=-78/72, 5-6=-67/97, 6-7=-72/133, 7-8=-89/180, 8-9=-89/180, 9-10=-72/133, 10-11=-65/84, 11-12=-67/40, 12-14=-52/17, 14-15=0/13

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BC DL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- All plates are 1.5x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 2, 49 lb uplift at joint 21, 52 lb uplift at joint 22, 35 lb uplift at joint 24, 92 lb uplift at joint 25, 49 lb uplift at joint 19, 52 lb uplift at joint 18, 38 lb uplift at joint 17, 83 lb uplift at joint 16 and 21 lb uplift at joint 2.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



May 31, 2023

**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



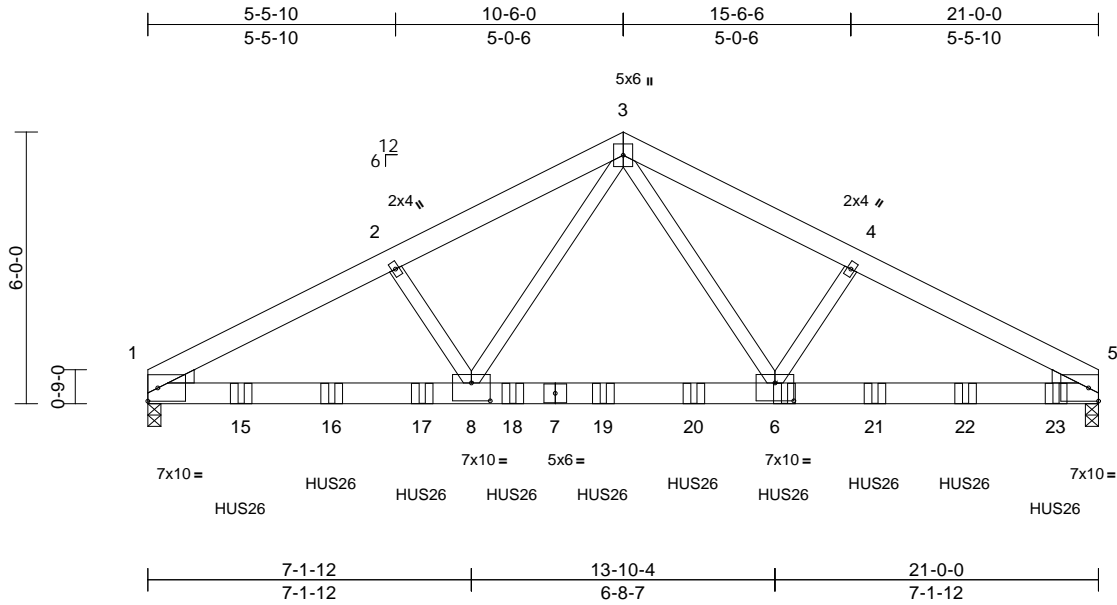
818 Soundside Road  
Edenton, NC 27932

|                   |              |                             |          |          |  |           |
|-------------------|--------------|-----------------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>BGR | Truss Type<br>Common Girder | Qty<br>1 | Ply<br>3 | Hayden BFK<br>Job Reference (optional) | 158642193 |
|-------------------|--------------|-----------------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:07  
ID:bcP4e66w1\_nLAqwJovzoQ6zCdcK-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:50.9  
Plate Offsets (X, Y): [6:0-5-0,0-4-12], [8:0-5-0,0-4-12]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP           |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|----------------|----------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.26 | Vert(LL) | -0.12 | 6-8    | >999 | 240    | MT20           | 244/190  |
| TCDL        | 10.0  | Lumber DOL      | 1.15            | BC        | 0.63 | Vert(CT) | -0.23 | 6-8    | >999 | 180    |                |          |
| BCLL        | 0.0*  | Rep Stress Incr | NO              | WB        | 0.50 | Horz(CT) | 0.04  | 5      | n/a  | n/a    |                |          |
| BCDL        | 10.0  | Code            | IRC2015/TPI2014 | Matrix-MS |      |          |       |        |      |        | Weight: 401 lb | FT = 20% |

**LUMBER**  
TOP CHORD 2x6 SP No.2  
BOT CHORD 2x6 SP DSS  
WEBS 2x4 SP No.2 \*Except\* 6-4,8-2:2x4 SP No.3  
WEDGE Left: 2x4 SP No.3  
Right: 2x4 SP No.3

**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=0-3-8, 5=0-3-8  
Max Horiz 1=88 (LC 16)  
Max Uplift 1=-938 (LC 12), 5=-1028 (LC 13)  
Max Grav 1=7518 (LC 1), 5=8244 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-12147/1712, 2-3=-12001/1724,  
3-4=-12046/1730, 4-5=-12195/1718  
BOT CHORD 1-8=-1457/10800, 6-8=-948/7613,  
5-6=-1465/10857  
WEBS 3-6=-805/6065, 4-6=-213/227,  
3-8=-796/5995, 2-8=-174/244

**NOTES**  
1) 3-ply truss to be connected together with 10d (0.148"x3") nails as follows:  
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.  
Bottom chords connected as follows: 2x6 - 3 rows staggered at 0-6-0 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.

- Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* 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.
- Two H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 5. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 2-0-12 from the left end to 20-0-12 to connect truss(es) to back face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.

**LOAD CASE(S)** Standard  
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-3=-60, 3-5=-60, 9-12=-20  
Concentrated Loads (lb)  
Vert: 6=-1408 (B), 15=-1408 (B), 16=-1408 (B), 17=-1408 (B), 18=-1408 (B), 19=-1408 (B), 20=-1408 (B), 21=-1408 (B), 22=-1408 (B), 23=-1409 (B)



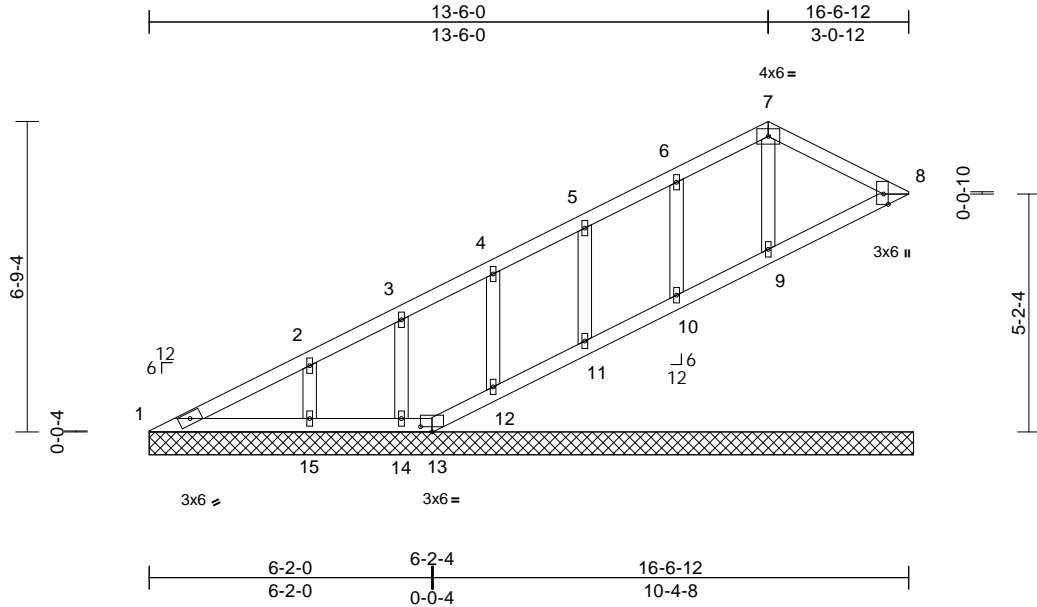
May 31, 2023

|                   |              |                            |          |          |  |           |
|-------------------|--------------|----------------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>BV1 | Truss Type<br>Roof Special | Qty<br>1 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | 158642194 |
|-------------------|--------------|----------------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:07  
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Page: 1



Scale = 1:50.2  
Plate Offsets (X, Y): [8:0-2-11,Edge], [13:0-3-0,0-1-6]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in        | (loc) | l/defl | L/d | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|-----------|------|-----------|-------|--------|-----|--------|---------------|----------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.12 | Vert(LL)  | n/a   | -      | n/a | 999    | MT20          | 244/190  |
| 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        | 0.05 | Horiz(TL) | 0.00  | 8      | n/a | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2015/TPI2014 | Matrix-MS |      |           |       |        |     |        | Weight: 74 lb | FT = 20% |

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

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

**REACTIONS** (size) 1=16-8-0, 8=16-8-0, 9=16-8-0, 10=16-8-0, 11=16-8-0, 12=16-8-0, 13=16-8-0, 14=16-8-0, 15=16-8-0  
Max Horiz 1=222 (LC 12)  
Max Uplift 8=-29 (LC 12), 10=-51 (LC 12), 11=-48 (LC 12), 12=-52 (LC 12), 14=-42 (LC 12), 15=-72 (LC 12)  
Max Grav 1=99 (LC 23), 8=74 (LC 24), 9=277 (LC 1), 10=159 (LC 23), 11=164 (LC 1), 12=160 (LC 23), 13=54 (LC 3), 14=94 (LC 1), 15=279 (LC 23)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-195/119, 2-3=-136/85, 3-4=-91/85, 4-5=-45/83, 5-6=-2/83, 6-7=0/87, 7-8=-53/100  
BOT CHORD 1-15=-92/116, 14-15=-55/6, 13-14=-55/6, 12-13=-66/11, 11-12=-69/12, 10-11=-71/12, 9-10=-66/9, 8-9=-80/47  
WEBS 7-9=-195/22, 6-10=-127/83, 5-11=-119/84, 4-12=-125/85, 3-14=-99/78, 2-15=-177/103

**NOTES**  
1) Unbalanced roof live loads have been considered for this design.  
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 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.
- All plates are 1.5x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* 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.
- Bearing at joint(s) 8, 13, 9, 10, 11, 12 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 capable of withstanding 29 lb uplift at joint 8, 51 lb uplift at joint 10, 48 lb uplift at joint 11, 52 lb uplift at joint 12, 42 lb uplift at joint 14 and 72 lb uplift at joint 15.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 8, 9, 10, 11, 12.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard



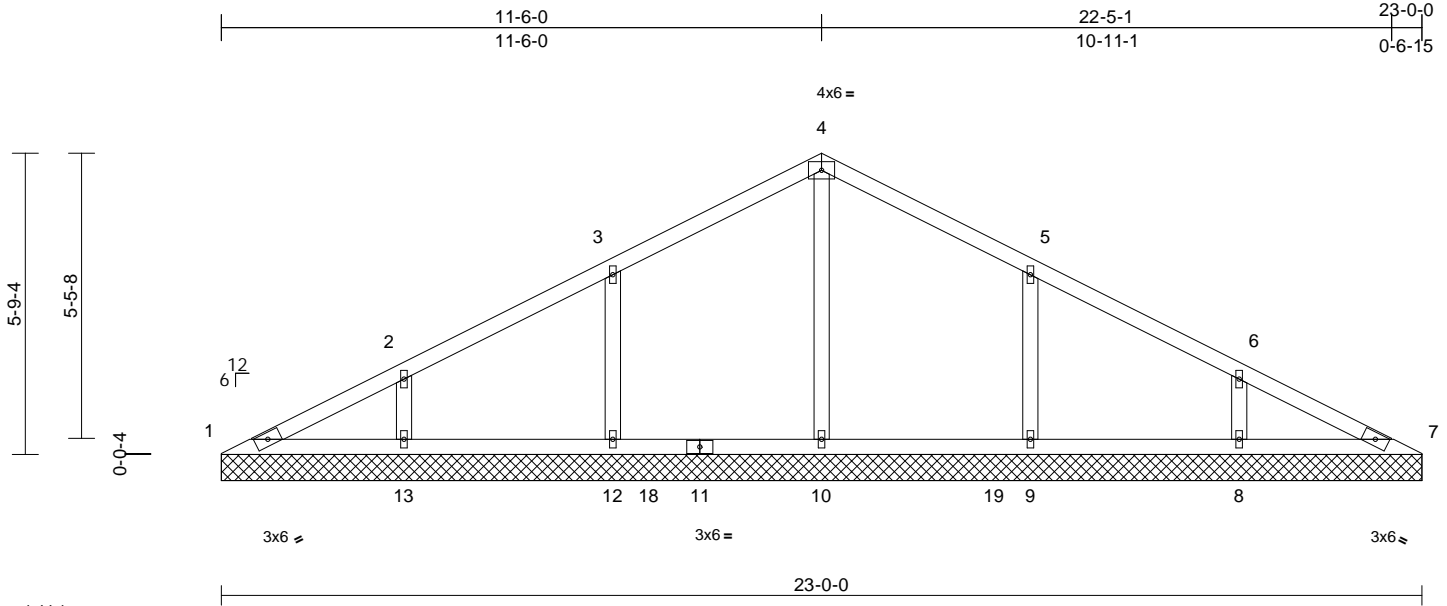
May 31, 2023

|                   |              |                      |          |          |  |           |
|-------------------|--------------|----------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>BV2 | Truss Type<br>Valley | Qty<br>1 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | 158642195 |
|-------------------|--------------|----------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:07  
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Page: 1



| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in        | (loc) | l/defl | L/d | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|-----------|------|-----------|-------|--------|-----|--------|---------------|----------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.21 | Vert(LL)  | n/a   | -      | n/a | 999    | MT20          | 244/190  |
| TCDL        | 10.0  | Lumber DOL      | 1.15            | BC        | 0.18 | Vert(TL)  | n/a   | -      | n/a | 999    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.14 | Horiz(TL) | 0.00  | 7      | n/a | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2015/TPI2014 | Matrix-MS |      |           |       |        |     |        | Weight: 91 lb | FT = 20% |

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

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

**REACTIONS** (size) 1=23-0-0, 7=23-0-0, 8=23-0-0, 9=23-0-0, 10=23-0-0, 12=23-0-0, 13=23-0-0  
Max Horiz 1=94 (LC 16)  
Max Uplift 1=-12 (LC 13), 8=-88 (LC 13), 9=-110 (LC 13), 12=-110 (LC 12), 13=-90 (LC 12)  
Max Grav 1=102 (LC 23), 7=102 (LC 24), 8=327 (LC 1), 9=339 (LC 24), 10=421 (LC 19), 12=339 (LC 23), 13=327 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-145/96, 2-3=-48/115, 3-4=-47/144, 4-5=-47/144, 5-6=-30/85, 6-7=-142/76  
BOT CHORD 1-13=-46/137, 12-13=-46/84, 10-12=-46/84, 9-10=-46/84, 8-9=-46/84, 7-8=-46/121  
WEBS 4-10=-238/0, 3-12=-263/179, 2-13=-228/145, 5-9=-263/179, 6-8=-228/145

**NOTES**  
1) Unbalanced roof live loads have been considered for this design.  
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 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.
- All plates are 1.5x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 12 lb uplift at joint 1, 110 lb uplift at joint 12, 90 lb uplift at joint 13, 110 lb uplift at joint 9 and 88 lb uplift at joint 8.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard



May 31, 2023

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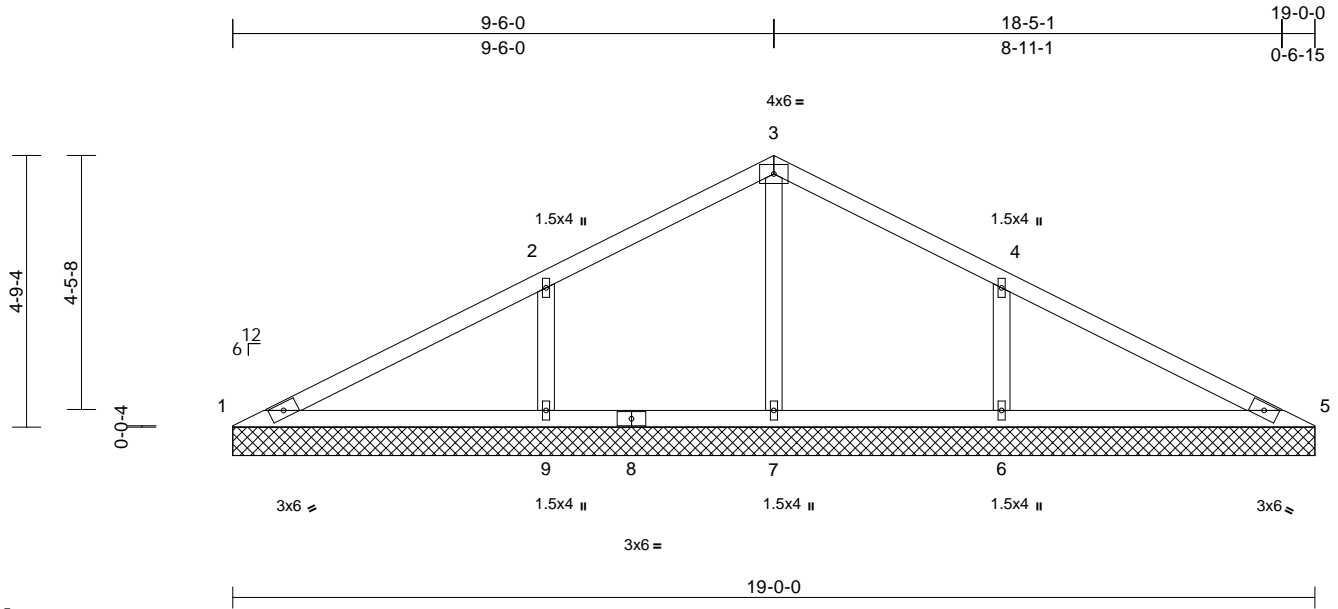
818 Soundside Road  
Edenton, NC 27932

|                   |              |                      |          |          |  |           |
|-------------------|--------------|----------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>BV3 | Truss Type<br>Valley | Qty<br>1 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | 158642196 |
|-------------------|--------------|----------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:08  
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Page: 1



| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in        | (loc) | l/defl | L/d | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|-----------|------|-----------|-------|--------|-----|--------|---------------|----------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.36 | Vert(LL)  | n/a   | -      | n/a | 999    | MT20          | 244/190  |
| TCDL        | 10.0  | Lumber DOL      | 1.15            | BC        | 0.25 | Vert(TL)  | n/a   | -      | n/a | 999    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.16 | Horiz(TL) | 0.00  | 9      | n/a | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2015/TPI2014 | Matrix-MS |      |           |       |        |     |        | Weight: 71 lb | FT = 20% |

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

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

**REACTIONS** (size) 1=19-0-0, 5=19-0-0, 6=19-0-0, 7=19-0-0, 9=19-0-0  
Max Horiz 1=-77 (LC 17)  
Max Uplift 1=-1 (LC 13), 5=-10 (LC 13), 6=-139 (LC 13), 9=-140 (LC 12)  
Max Grav 1=110 (LC 23), 5=110 (LC 24), 6=462 (LC 24), 7=430 (LC 1), 9=462 (LC 23)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-148/304, 2-3=0/270, 3-4=0/270, 4-5=-148/304  
BOT CHORD 1-9=-205/127, 7-9=-205/126, 6-7=-205/126, 5-6=-205/127  
WEBS 3-7=-389/67, 2-9=-320/198, 4-6=-320/198

- NOTES**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCCL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; C-C for members and forces & MWFRS for reactions shown; 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1 lb uplift at joint 1, 10 lb uplift at joint 5, 140 lb uplift at joint 9 and 139 lb uplift at joint 6.
  - 9) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard



May 31, 2023

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

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



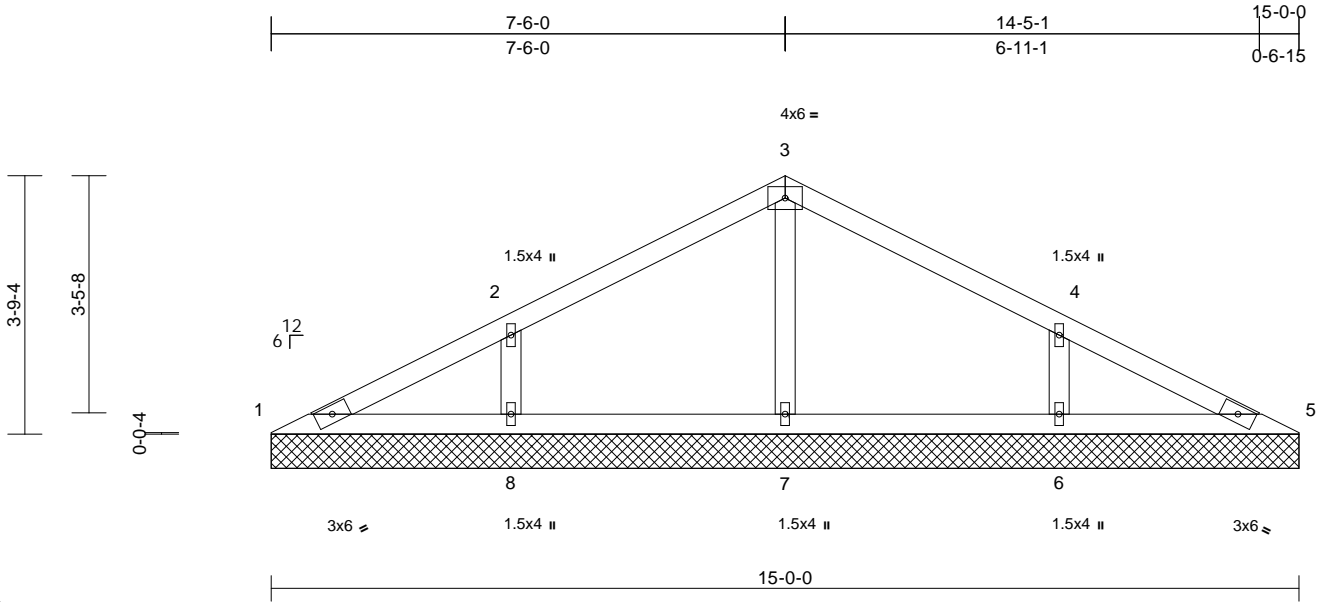
818 Soundside Road  
Edenton, NC 27932

|                   |              |                      |          |          |  |           |
|-------------------|--------------|----------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>BV4 | Truss Type<br>Valley | Qty<br>1 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | 158642197 |
|-------------------|--------------|----------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:08  
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Page: 1



Scale = 1:33.6

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in        | (loc) | l/defl | L/d | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|-----------|------|-----------|-------|--------|-----|--------|---------------|----------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.23 | Vert(LL)  | n/a   | -      | n/a | 999    | MT20          | 244/190  |
| 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  | 5      | n/a | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2015/TPI2014 | Matrix-MP |      |           |       |        |     |        | Weight: 54 lb | FT = 20% |

**LUMBER**

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

**BRACING**

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

**REACTIONS**

(size) 1=15-0-0, 5=15-0-0, 6=15-0-0,  
7=15-0-0, 8=15-0-0  
Max Horiz 1=60 (LC 12)  
Max Uplift 1=-8 (LC 13), 5=-6 (LC 13), 6=-115 (LC 13), 8=-116 (LC 12)  
Max Grav 1=91 (LC 23), 5=91 (LC 24), 6=362 (LC 24), 7=301 (LC 1), 8=362 (LC 23)

**FORCES**

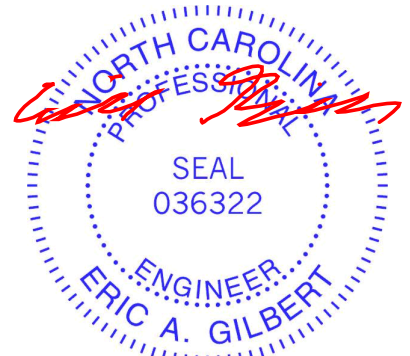
(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-119/100, 2-3=-33/98, 3-4=-33/86, 4-5=-119/95  
BOT CHORD 1-8=-46/103, 7-8=-46/55, 6-7=-46/55, 5-6=-46/101  
WEBS 3-7=-225/35, 2-8=-271/187, 4-6=-271/187

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.

- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - \* 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.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 8 lb uplift at joint 1, 6 lb uplift at joint 5, 116 lb uplift at joint 8 and 115 lb uplift at joint 6.
  - This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard



May 31, 2023

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818 Soundside Road  
Edenton, NC 27932

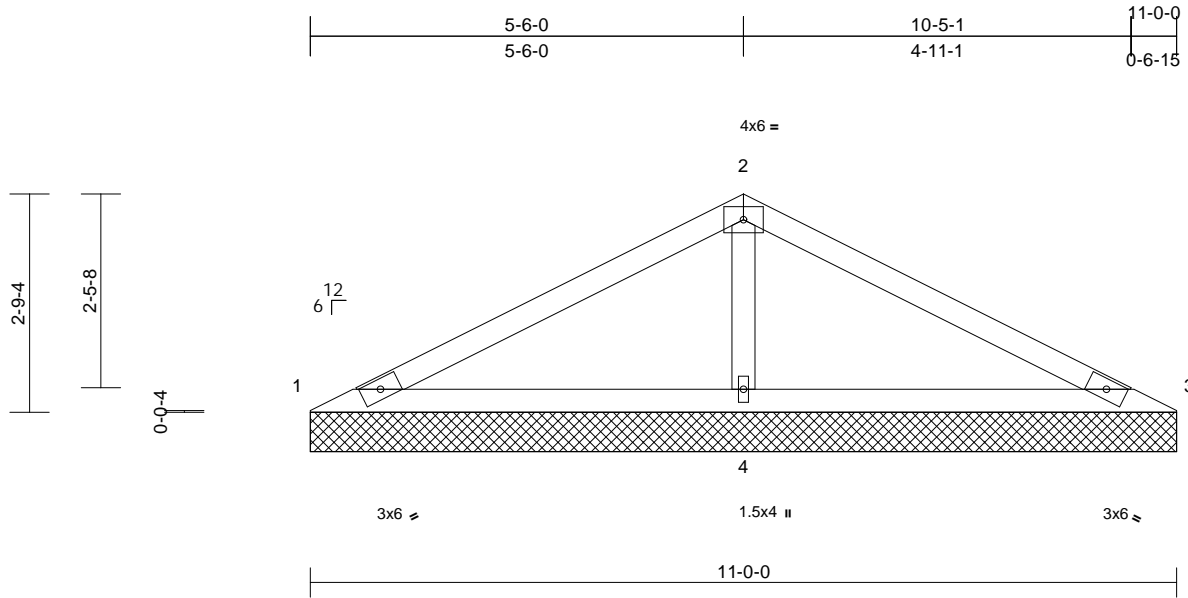


|                   |              |                      |          |          |  |           |
|-------------------|--------------|----------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>BV5 | Truss Type<br>Valley | Qty<br>1 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | 158642198 |
|-------------------|--------------|----------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:08  
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Page: 1



Scale = 1:29.3

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in        | (loc) | l/defl | L/d | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|-----------|------|-----------|-------|--------|-----|--------|---------------|----------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.41 | Vert(LL)  | n/a   | -      | n/a | 999    | MT20          | 244/190  |
| TCDL        | 10.0  | Lumber DOL      | 1.15            | BC        | 0.36 | Vert(TL)  | n/a   | -      | n/a | 999    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.14 | Horiz(TL) | 0.00  | 4      | n/a | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2015/TPI2014 | Matrix-MP |      |           |       |        |     |        | Weight: 36 lb | FT = 20% |

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

#### BRACING

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

**REACTIONS** (size) 1=11-0-0, 3=11-0-0, 4=11-0-0  
Max Horiz 1=-44 (LC 13)  
Max Uplift 1=-39 (LC 24), 3=-39 (LC 23), 4=-99 (LC 12)  
Max Grav 1=71 (LC 23), 3=71 (LC 24), 4=841 (LC 1)

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

TOP CHORD 1-2=-184/482, 2-3=-184/482  
BOT CHORD 1-4=-394/234, 3-4=-394/234  
WEBS 2-4=-635/290

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- \* 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 39 lb uplift at joint 1, 39 lb uplift at joint 3 and 99 lb uplift at joint 4.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard



May 31, 2023

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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

ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

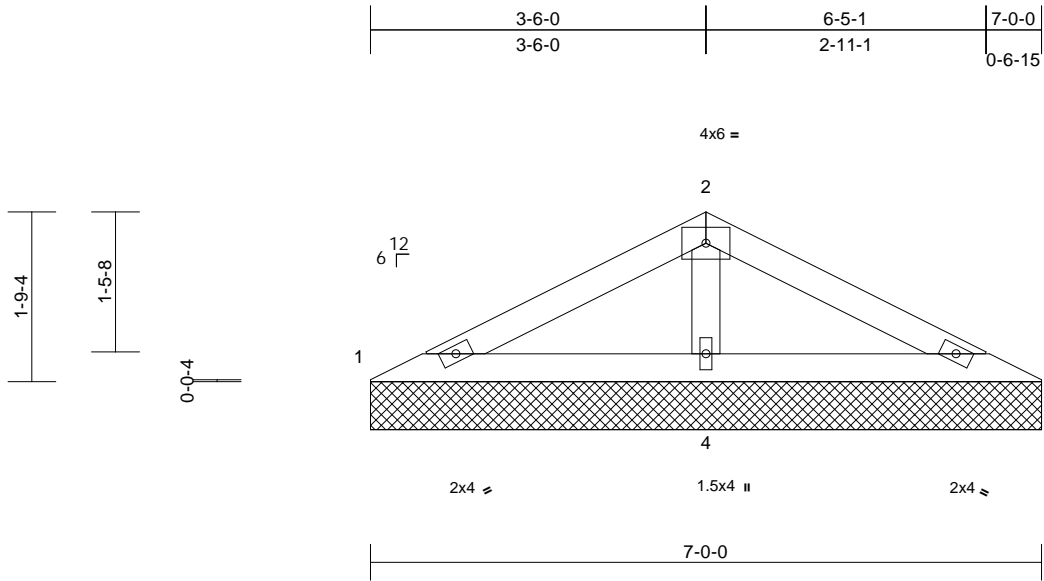
818 Soundside Road  
Edenton, NC 27932

|                   |              |                      |          |          |  |           |
|-------------------|--------------|----------------------|----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>BV6 | Truss Type<br>Valley | Qty<br>1 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | 158642199 |
|-------------------|--------------|----------------------|----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:08  
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Scale = 1:24

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in        | (loc) | l/defl | L/d | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|-----------|------|-----------|-------|--------|-----|--------|---------------|----------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.13 | Vert(LL)  | n/a   | -      | n/a | 999    | MT20          | 244/190  |
| TCDL        | 10.0  | Lumber DOL      | 1.15            | BC        | 0.15 | 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            | IRC2015/TPI2014 | Matrix-MP |      |           |       |        |     |        | Weight: 22 lb | FT = 20% |

**LUMBER**

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 7-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS**

(size) 1=7-0-0, 3=7-0-0, 4=7-0-0  
Max Horiz 1=27 (LC 12)  
Max Uplift 1=-12 (LC 12), 3=-17 (LC 13), 4=-44 (LC 12)  
Max Grav 1=78 (LC 23), 3=78 (LC 24), 4=445 (LC 1)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-86/201, 2-3=-86/201  
BOT CHORD 1-4=-157/116, 3-4=-157/116  
WEBS 2-4=-297/148

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- \* 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 12 lb uplift at joint 1, 17 lb uplift at joint 3 and 44 lb uplift at joint 4.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard



May 31, 2023

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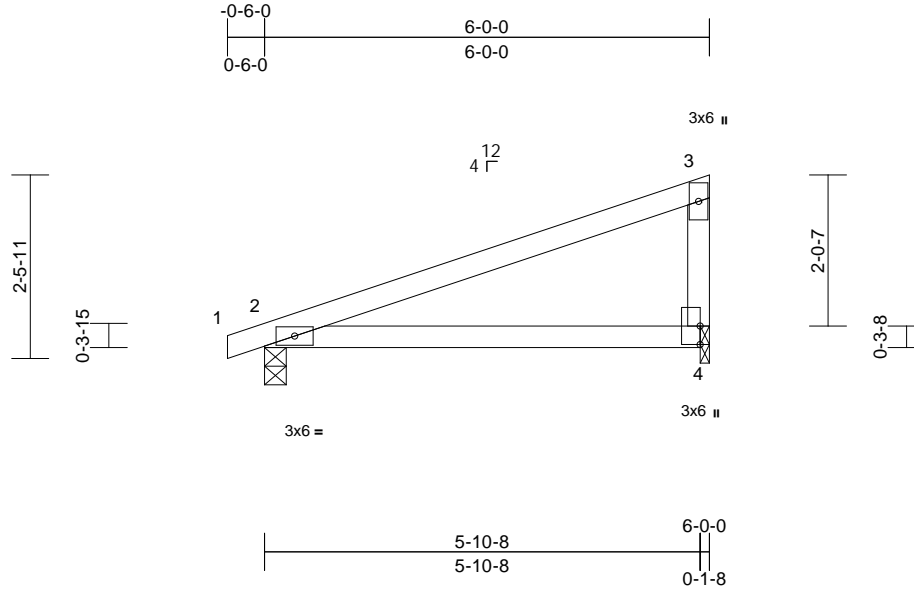
818 Soundside Road  
Edenton, NC 27932

|                   |             |                         |           |          |  |           |
|-------------------|-------------|-------------------------|-----------|----------|--|-----------|
| Job<br>Hayden BFK | Truss<br>P1 | Truss Type<br>Monopitch | Qty<br>10 | Ply<br>1 | Hayden BFK<br>Job Reference (optional) | 158642200 |
|-------------------|-------------|-------------------------|-----------|----------|--|-----------|

84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed May 31 04:57:09  
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Page: 1



Scale = 1:31.1

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|---------------|----------|
| TCLL (roof) | 20.0  | Plate Grip DOL  | 1.15            | TC        | 0.71 | Vert(LL) | 0.03  | 4-7    | >999 | 240    | MT20          | 244/190  |
| TCDL        | 10.0  | Lumber DOL      | 1.15            | BC        | 0.33 | Vert(CT) | -0.06 | 4-7    | >999 | 180    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.00 | Horz(CT) | 0.00  | 4      | n/a  | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2015/TPI2014 | Matrix-MR |      |          |       |        |      |        | Weight: 22 lb | FT = 20% |

**LUMBER**  
 TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x4 SP No.2  
 OTHERS 2x4 SP No.3

7) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard

**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=0-3-8, 4=0-1-8  
 Max Horiz 2=84 (LC 8)  
 Max Uplift 2=-51 (LC 8), 4=-55 (LC 12)  
 Max Grav 2=265 (LC 1), 4=233 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/9, 2-3=-178/31, 3-4=-137/117  
 BOT CHORD 2-4=-81/143

- NOTES**
- 1) Wind: ASCE 7-10; Vult=130mph (3-second gust)  
 Vasd=103mph; TC DL=6.0psf; BC DL=6.0psf; h=30ft;  
 Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - 3) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
  - 4) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - 5) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
  - 6) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.



May 31, 2023

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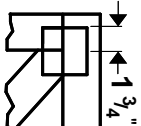
**Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



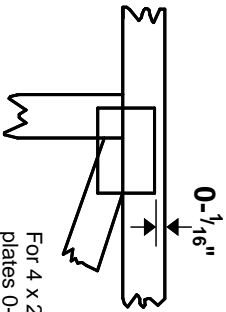
818 Soundside Road  
 Edenton, NC 27932

# 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/TFP 1: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-89: Design Standard for Bracing, 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/TFP 1 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 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/TFP 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TFP 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. Rewriting pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TFP 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.