

Trenco  
818 Soundside Rd  
Edenton, NC 27932

Re: MASTER  
A&G/Cardinal/Lot10/NewHorizons/Fayettev

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Builders FirstSource (Albermarle,NC).

Pages or sheets covered by this seal: E14172760 thru E14172784

My license renewal date for the state of North Carolina is December 31, 2020.

North Carolina COA: C-0844



March 12,2020

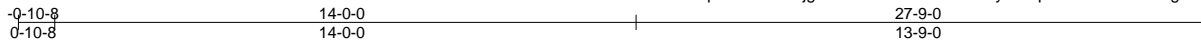
Gilbert, Eric

**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>MASTER | Truss<br>A01 | Truss Type<br>Common Supported Gable | Qty<br>1 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>Job Reference (optional) | E14172760 |
|---------------|--------------|--------------------------------------|----------|----------|---|-----------|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:05:58 2020 Page 1  
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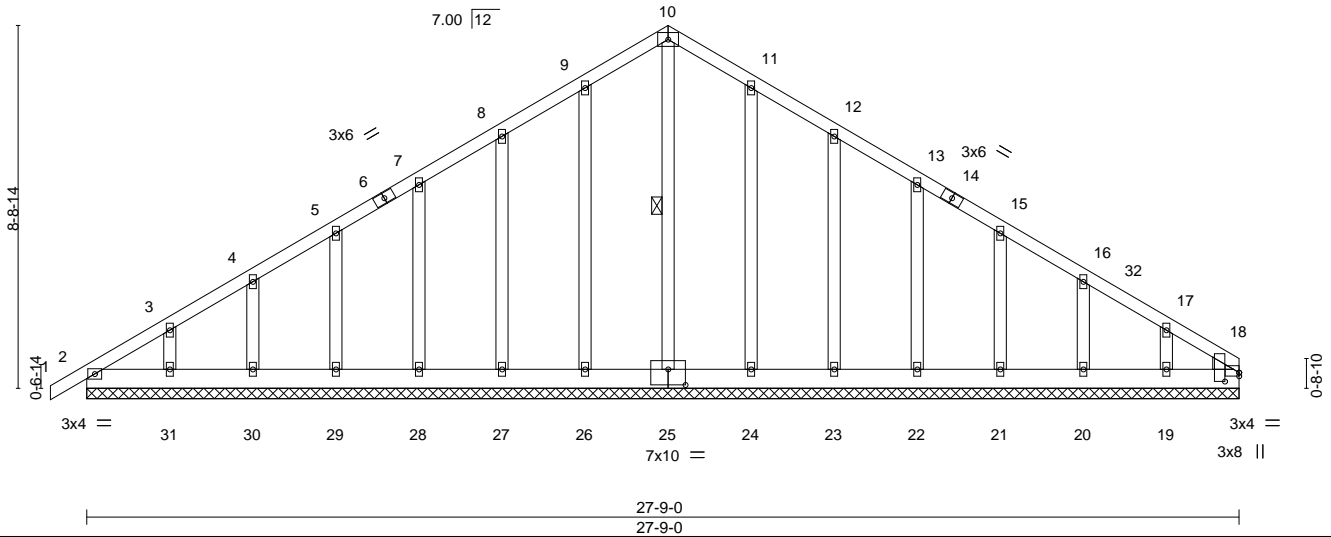


Plate Offsets (X,Y)-- [18:0-2-9,0-4-2], [18:0-0-0,0-1-1], [25:0-5-0,0-4-8]

| LOADING (psf) | SPACING-             | CSL      | DEFL.          | in (loc) | l/defl | L/d | PLATES         | GRIP     |
|---------------|----------------------|----------|----------------|----------|--------|-----|----------------|----------|
| TCLL 20.0     | Plate Grip DOL 1.15  | TC 0.07  | Vert(LL) -0.00 | 1        | n/r    | 120 | MT20           | 244/190  |
| TCDL 10.0     | Lumber DOL 1.15      | BC 0.03  | Vert(CT) -0.00 | 1        | n/r    | 120 |                |          |
| BCLL 0.0 *    | Rep Stress Incr YES  | WB 0.14  | Horz(CT) 0.01  | 18       | n/a    | n/a |                |          |
| BCDL 10.0     | Code IRC2018/TPI2014 | Matrix-S |                |          |        |     |                |          |
|               |                      |          |                |          |        |     | Weight: 198 lb | FT = 20% |

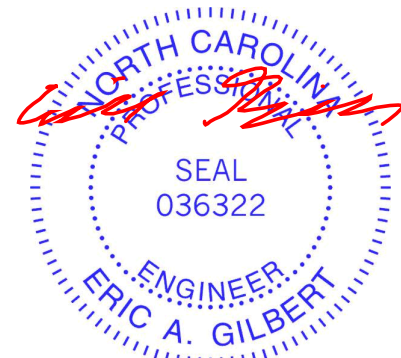
**LUMBER-**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x6 SP No.2  
OTHERS 2x4 SP No.3  
WEDGE  
Right: 2x4 SP No.3

**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.  
WEBS 1 Row at midpt 10-25

**REACTIONS.** All bearings 27-9-0.  
(lb) - Max Horz 2=286(LC 11)  
Max Uplift All uplift 100 lb or less at joint(s) 2, 26, 27, 28, 29, 30, 24, 23, 22, 21, 20, 18 except  
31=-116(LC 12), 19=-136(LC 13)  
Max Grav All reactions 250 lb or less at joint(s) 2, 25, 26, 27, 28, 29, 30, 31, 24, 23, 22, 21, 20, 19, 18

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 2-3=-278/206

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -0-10-8 to 2-0-0, Exterior(2N) 2-0-0 to 14-0-0, Corner(3R) 14-0-0 to 17-0-0, Exterior(2N) 17-0-0 to 27-9-0 zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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 2x4 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 26, 27, 28, 29, 30, 24, 23, 22, 21, 20, 18 except (jt=lb) 31=116, 19=136.
  - Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2, 18.
  - 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.



March 12, 2020

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 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, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.

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

|               |              |                      |          |          |   |           |
|---------------|--------------|----------------------|----------|----------|---|-----------|
| Job<br>MASTER | Truss<br>A02 | Truss Type<br>Common | Qty<br>4 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>Job Reference (optional) | E14172761 |
|---------------|--------------|----------------------|----------|----------|---|-----------|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

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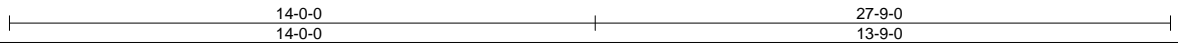
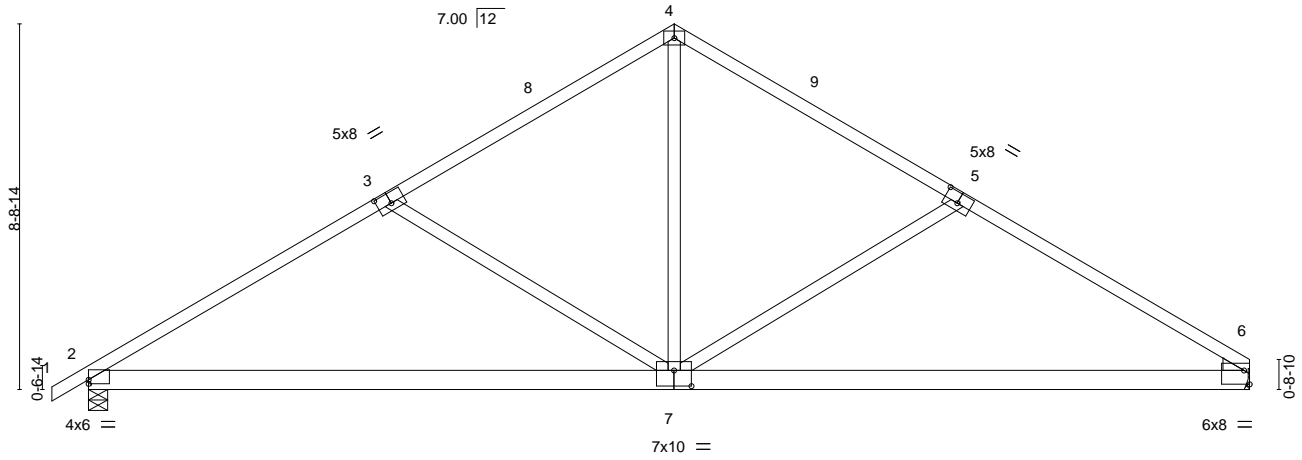


Plate Offsets (X,Y)-- [2:0-0-0,0-1-3], [3:0-4-0,0-3-0], [5:0-4-0,0-3-0], [6:0-0-13,0-0-7], [6:Edge,0-3-15], [6:0-5-10,0-0-15], [7:0-5-0,0-4-8]

|                      |                      |       |             |              |          |        |      |                |             |
|----------------------|----------------------|-------|-------------|--------------|----------|--------|------|----------------|-------------|
| <b>LOADING</b> (psf) | <b>SPACING-</b>      | 2-0-0 | <b>CSI.</b> | <b>DEFL.</b> | in (loc) | l/defl | L/d  | <b>PLATES</b>  | <b>GRIP</b> |
| TCLL 20.0            | Plate Grip DOL       | 1.15  | TC 0.69     | Vert(LL)     | -0.23    | 6-7    | >999 | MT20           | 244/190     |
| TCDL 10.0            | Lumber DOL           | 1.15  | BC 0.94     | Vert(CT)     | -0.48    | 6-7    | >687 |                |             |
| BCLL 0.0 *           | Rep Stress Incr      | YES   | WB 0.60     | Horz(CT)     | 0.04     | 6      | n/a  |                |             |
| BCDL 10.0            | Code IRC2018/TPI2014 |       | Matrix-S    | Wind(LL)     | 0.10     | 2-7    | >999 |                |             |
|                      |                      |       |             |              |          |        |      | Weight: 150 lb | FT = 20%    |

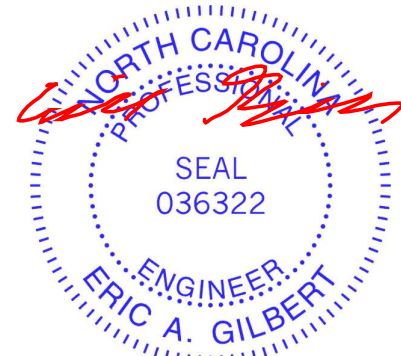
**LUMBER-**  
 TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x6 SP No.2  
 WEBS 2x4 SP No.3  
 WEDGE  
 Right: 2x4 SP No.3

**BRACING-**  
 TOP CHORD Structural wood sheathing directly applied or 3-3-14 oc purlins.  
 BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

**REACTIONS.** (size) 2=0-5-8, 6=Mechanical  
 Max Horz 2=286(LC 9)  
 Max Uplift 2=-318(LC 12), 6=-280(LC 13)  
 Max Grav 2=1166(LC 1), 6=1097(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-1640/455, 3-4=-1241/358, 4-5=-1241/361, 5-6=-1615/459  
 BOT CHORD 2-7=-448/1378, 6-7=-283/1306  
 WEBS 3-7=-481/418, 4-7=-145/807, 5-7=-479/427

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 14-0-0, Exterior(2R) 14-0-0 to 17-0-0, Interior(1) 17-0-0 to 27-8-4 zone; cantilever left exposed; end vertical left exposed; 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Refer to girder(s) for truss to truss connections.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=318, 6=280.
  - 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.



March 12, 2020

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|               |               |                      |          |          |  |
|---------------|---------------|----------------------|----------|----------|--|
| Job<br>MASTER | Truss<br>A02A | Truss Type<br>Common | Qty<br>6 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>E14172762 |
|---------------|---------------|----------------------|----------|----------|--|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

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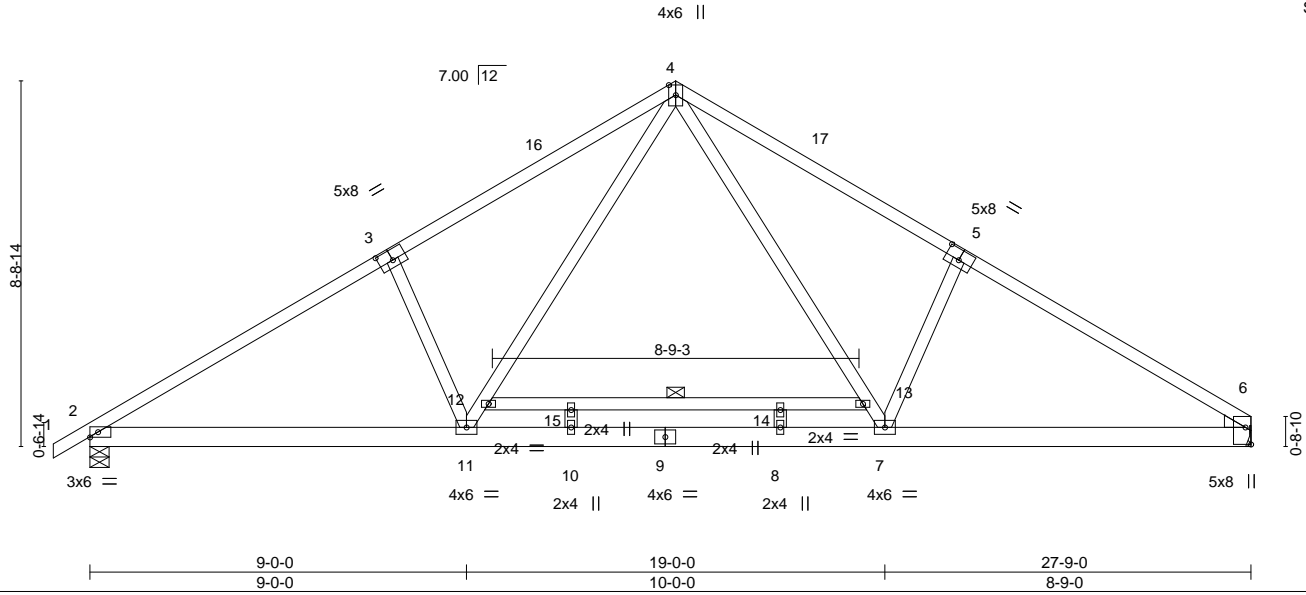


Plate Offsets (X,Y)-- [3:0-4-0,0-3-0], [5:0-4-0,0-3-0], [6:0-0-7,0-0-13], [6:0-0-15,0-5-10], [6:Edge,0-1-10]

| LOADING (psf) | SPACING-             | CSL      | DEFL.                        | PLATES         | GRIP     |
|---------------|----------------------|----------|------------------------------|----------------|----------|
| TCLL 20.0     | 2-0-0                | TC 0.65  | in (loc) l/defl L/d          | MT20           | 244/190  |
| TCDL 10.0     | Plate Grip DOL 1.15  | BC 0.55  | Vert(LL) -0.06 8-10 >999 360 |                |          |
| BCLL 0.0 *    | Lumber DOL 1.15      | WB 0.45  | Vert(CT) -0.23 8-10 >999 240 |                |          |
| BCDL 10.0     | Rep Stress Incr YES  | Matrix-S | Horz(CT) 0.04 6 n/a n/a      |                |          |
|               | Code IRC2018/TPI2014 |          | Wind(LL) 0.08 2-11 >999 240  |                |          |
|               |                      |          |                              | Weight: 171 lb | FT = 20% |

**LUMBER-**

TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x6 SP No.2  
 WEBS 2x4 SP No.3 \*Except\*  
 12-13: 2x4 SP No.2

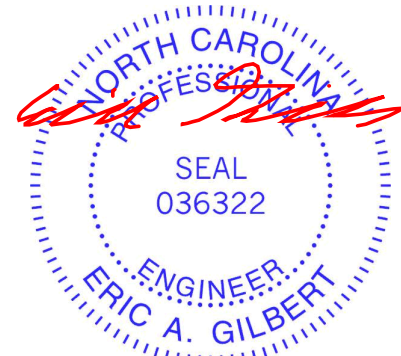
WEDGE  
 Right: 2x4 SP No.3

**REACTIONS.** (size) 2=0-5-8, 6=Mechanical  
 Max Horz 2=286(LC 9)  
 Max Uplift 2=-218(LC 12), 6=-179(LC 13)  
 Max Grav 2=1266(LC 1), 6=1197(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-1915/218, 3-4=-1742/315, 4-5=-1738/317, 5-6=-1909/217  
 BOT CHORD 2-11=-248/1607, 10-11=-11/1114, 8-10=-11/1114, 7-8=-11/1114, 6-7=-78/1532  
 WEBS 3-11=-406/386, 11-12=-183/772, 4-12=-164/832, 4-13=-165/825, 7-13=-182/763,  
 5-7=-408/396

**NOTES-**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 14-0-0, Exterior(2R) 14-0-0 to 17-0-0, Interior(1) 17-0-0 to 27-8-4 zone; cantilever left exposed ; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 200.0lb AC unit load placed on the bottom chord, 14-0-0 from left end, supported at two points, 5-0-0 apart.
- 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (it=lb) 2=218, 6=179.
- 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.



March 12, 2020

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|               |              |                      |          |          |  |
|---------------|--------------|----------------------|----------|----------|--|
| Job<br>MASTER | Truss<br>A03 | Truss Type<br>Common | Qty<br>2 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>E14172763 |
|---------------|--------------|----------------------|----------|----------|--|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

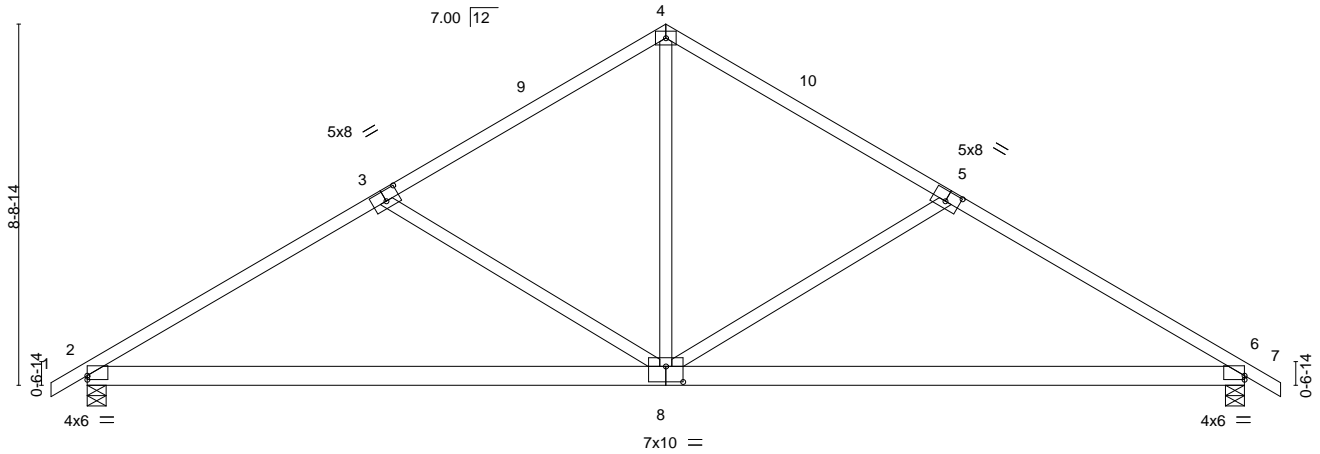
8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:04 2020 Page 1

ID:qesddlmiofJcig3nOl3r8zrBhb-j4nBGg7jB4XzKlrw66hacwQjluOwFTOy?bzIY7zbwwX

0-10-8 7-2-13 14-0-0 20-9-3 28-0-0 28-10-8  
0-10-8 7-2-13 6-9-3 6-9-3 7-2-13 0-10-8

4x6 =

Scale = 1:55.7



14-0-0 28-0-0  
14-0-0 14-0-0

Plate Offsets (X,Y)-- [2:0-0-0,0-1-3], [3:0-4-0,0-3-0], [5:0-4-0,0-3-0], [6:Edge,0-1-3], [8:0-5-0,0-4-8]

| LOADING (psf) | SPACING-             | CSL      | DEFL.          | in (loc) | l/defl | L/d | PLATES         | GRIP     |
|---------------|----------------------|----------|----------------|----------|--------|-----|----------------|----------|
| TCLL 20.0     | Plate Grip DOL 1.15  | TC 0.67  | Vert(LL) -0.22 | 6-8      | >999   | 360 | MT20           | 244/190  |
| TCDL 10.0     | Lumber DOL 1.15      | BC 0.94  | Vert(CT) -0.47 | 6-8      | >698   | 240 |                |          |
| BCLL 0.0 *    | Rep Stress Incr YES  | WB 0.60  | Horz(CT) 0.04  | 6        | n/a    | n/a |                |          |
| BCDL 10.0     | Code IRC2018/TPI2014 | Matrix-S | Wind(LL) 0.10  | 2-8      | >999   | 240 |                |          |
|               |                      |          |                |          |        |     | Weight: 152 lb | FT = 20% |

**LUMBER-**

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x6 SP No.2  
WEBS 2x4 SP No.3

**BRACING-**

TOP CHORD Structural wood sheathing directly applied or 3-8-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

**REACTIONS.**

(size) 2=0-5-8, 6=0-5-8  
Max Horz 2=290(LC 11)  
Max Uplift 2=-318(LC 12), 6=-318(LC 13)  
Max Grav 2=1168(LC 1), 6=1168(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

TOP CHORD 2-3=-1644/457, 3-4=-1245/360, 4-5=-1245/360, 5-6=-1644/457  
BOT CHORD 2-8=-441/1387, 6-8=-260/1313  
WEBS 4-8=-142/812, 5-8=-481/417, 3-8=-481/417

**NOTES-**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 14-0-0, Exterior(2R) 14-0-0 to 17-0-0, Interior(1) 17-0-0 to 28-10-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=318, 6=318.
- 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.



March 12, 2020

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|               |              |                      |          |          |   |           |
|---------------|--------------|----------------------|----------|----------|---|-----------|
| Job<br>MASTER | Truss<br>A04 | Truss Type<br>Common | Qty<br>5 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev | E14172764 |
|---------------|--------------|----------------------|----------|----------|---|-----------|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:06 2020 Page 1  
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Scale = 1:55.2

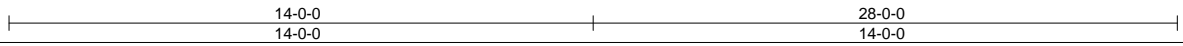
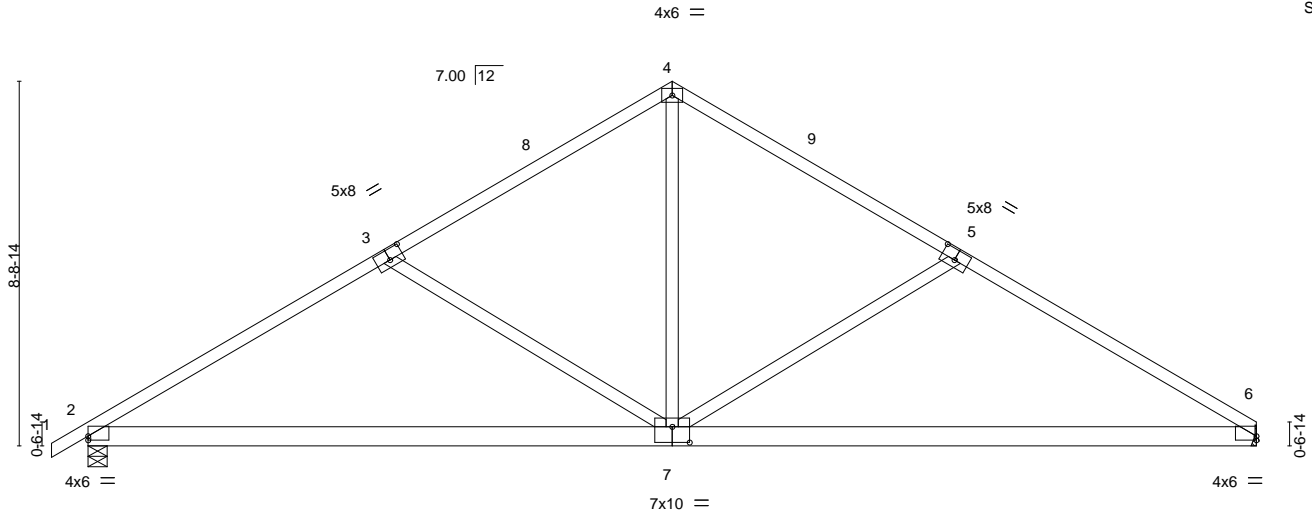


Plate Offsets (X,Y)-- [2:0-0-0,0-1-3], [3:0-4-0,0-3-0], [5:0-4-0,0-3-0], [6:Edge,0-1-3], [7:0-5-0,0-4-8]

|                      |                      |       |             |              |       |       |        |     |                |             |
|----------------------|----------------------|-------|-------------|--------------|-------|-------|--------|-----|----------------|-------------|
| <b>LOADING</b> (psf) | <b>SPACING-</b>      | 2-0-0 | <b>CSI.</b> | <b>DEFL.</b> | in    | (loc) | l/defl | L/d | <b>PLATES</b>  | <b>GRIP</b> |
| TCLL 20.0            | Plate Grip DOL       | 1.15  | TC 0.75     | Vert(LL)     | -0.25 | 6-7   | >999   | 360 | MT20           | 244/190     |
| TCDL 10.0            | Lumber DOL           | 1.15  | BC 0.97     | Vert(CT)     | -0.52 | 6-7   | >634   | 240 |                |             |
| BCLL 0.0 *           | Rep Stress Incr      | YES   | WB 0.63     | Horz(CT)     | 0.04  | 6     | n/a    | n/a |                |             |
| BCDL 10.0            | Code IRC2018/TPI2014 |       | Matrix-S    | Wind(LL)     | 0.10  | 2-7   | >999   | 240 |                |             |
|                      |                      |       |             |              |       |       |        |     | Weight: 151 lb | FT = 20%    |

**LUMBER-**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x6 SP No.2  
WEBS 2x4 SP No.3

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

**REACTIONS.** (size) 2=0-5-8, 6=Mechanical  
Max Horz 2=286(LC 11)  
Max Uplift 2=-319(LC 12), 6=-284(LC 13)  
Max Grav 2=1176(LC 1), 6=1107(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 2-3=-1660/458, 3-4=-1261/362, 4-5=-1263/365, 5-6=-1657/473  
BOT CHORD 2-7=-450/1392, 6-7=-295/1353  
WEBS 4-7=-150/825, 5-7=-513/440, 3-7=-481/418

**NOTES-**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 14-0-0, Exterior(2R) 14-0-0 to 17-0-0, Interior(1) 17-0-0 to 27-11-4 zone; cantilever left exposed; end vertical left exposed; 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=319, 6=284.
- 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.



March 12, 2020

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 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, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.



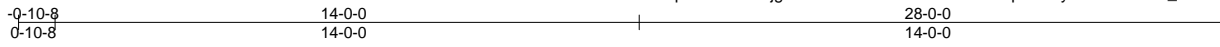
818 Soundside Road  
Edenton, NC 27932



|               |              |                                      |          |          |   |           |
|---------------|--------------|--------------------------------------|----------|----------|---|-----------|
| Job<br>MASTER | Truss<br>A05 | Truss Type<br>Common Supported Gable | Qty<br>1 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>Job Reference (optional) | E14172765 |
|---------------|--------------|--------------------------------------|----------|----------|---|-----------|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:08 2020 Page 1  
ID:qesddlmiofJcJg3nOl3r8zrBhb-br0h61ADFJ1Opw9hLymWmmaY9V\_0BOUYwDxWhuzbwwT



4x6 =

Scale = 1:55.2

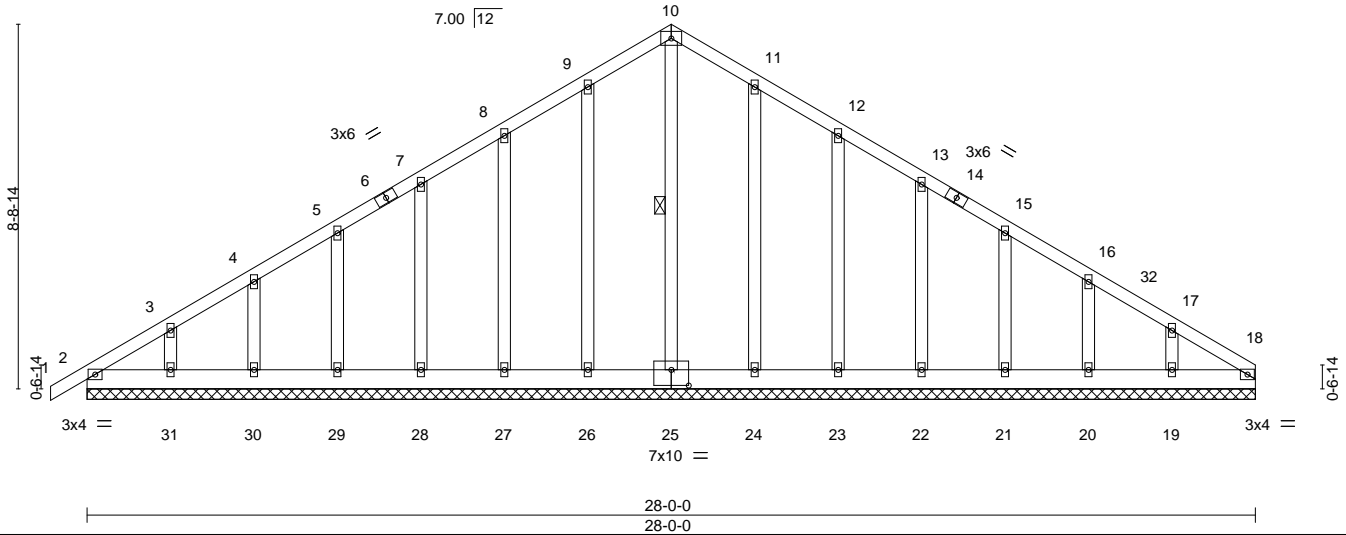


Plate Offsets (X,Y)-- [25:0-5-0,0-4-8]

| LOADING (psf) | SPACING-             | CSI.     | DEFL.          | in (loc) | l/defl | L/d | PLATES         | GRIP     |
|---------------|----------------------|----------|----------------|----------|--------|-----|----------------|----------|
| TCLL 20.0     | Plate Grip DOL 1.15  | TC 0.07  | Vert(LL) -0.00 | 1        | n/r    | 120 | MT20           | 244/190  |
| TCDL 10.0     | Lumber DOL 1.15      | BC 0.03  | Vert(CT) -0.00 | 1        | n/r    | 120 |                |          |
| BCLL 0.0 *    | Rep Stress Incr YES  | WB 0.14  | Horz(CT) 0.01  | 18       | n/a    | n/a |                |          |
| BCDL 10.0     | Code IRC2018/TPI2014 | Matrix-S |                |          |        |     |                |          |
|               |                      |          |                |          |        |     | Weight: 198 lb | FT = 20% |

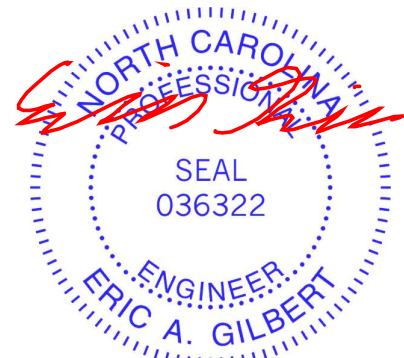
**LUMBER-**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x6 SP No.2  
OTHERS 2x4 SP No.3

**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.  
WEBS 1 Row at midpt 10-25

**REACTIONS.** All bearings 28-0-0.  
(lb) - Max Horz 2=286(LC 9)  
Max Uplift All uplift 100 lb or less at joint(s) 2, 26, 27, 28, 29, 30, 24, 23, 22, 21, 20, 18 except  
31=-116(LC 12), 19=-124(LC 13)  
Max Grav All reactions 250 lb or less at joint(s) 2, 25, 26, 27, 28, 29, 30, 31, 24, 23, 22, 21, 20, 19, 18

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 2-3=-278/206

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -0-10-8 to 2-0-0, Exterior(2N) 2-0-0 to 14-0-0, Corner(3R) 14-0-0 to 17-0-0, Exterior(2N) 17-0-0 to 28-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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 2x4 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 26, 27, 28, 29, 30, 24, 23, 22, 21, 20, 18 except (jt=lb) 31=116, 19=124.
  - 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.



March 12, 2020

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 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, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.



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|        |       |                               |     |     |   |           |
|--------|-------|-------------------------------|-----|-----|---|-----------|
| Job    | Truss | Truss Type                    | Qty | Ply | A&G/Cardinal/Lot10/NewHorizons/Fayettev | E14172766 |
| MASTER | B01   | Roof Special Structural Gable | 1   | 1   | Job Reference (optional)                |           |

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:11 2020 Page 2  
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**NOTES-**

- 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 11) This truss has large uplift reaction(s) from gravity load case(s). Proper connection is required to secure truss against upward movement at the bearings. Building designer must provide for uplift reactions indicated.

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 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, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.



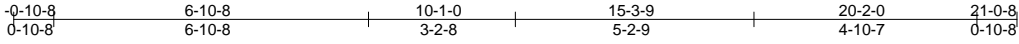
818 Soundside Road  
 Edenton, NC 27932

|               |              |                            |          |          |  |
|---------------|--------------|----------------------------|----------|----------|--|
| Job<br>MASTER | Truss<br>B02 | Truss Type<br>Roof Special | Qty<br>6 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>E14172767 |
|---------------|--------------|----------------------------|----------|----------|--|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:12 2020 Page 1

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Scale = 1:50.3

|                       |  |
|-----------------------|--|
| Plate Offsets (X,Y)-- | [2:0-0-8,0-0-11], [2:0-1-0,0-4-7], [2:Edge,0-1-5], [7:0-1-10,0-3-5], [9:0-4-0,0-3-8], [10:0-4-0,0-3-4], [11:0-4-0,0-3-8] |
|-----------------------|--|

| LOADING (psf) | SPACING-             | CSI.     | DEFL.                        | PLATES         | GRIP     |
|---------------|----------------------|----------|------------------------------|----------------|----------|
| TCLL 20.0     | 2-0-0                | TC 0.57  | in (loc) l/defl L/d          | MT20           | 244/190  |
| TCDL 10.0     | Plate Grip DOL 1.15  | BC 0.40  | Vert(LL) -0.05 9-10 >999 360 |                |          |
| BCLL 0.0 *    | Lumber DOL 1.15      | WB 0.32  | Vert(CT) -0.11 9-10 >999 240 |                |          |
| BCDL 10.0     | Rep Stress Incr YES  | Matrix-S | Horz(CT) 0.07 7 n/a n/a      |                |          |
|               | Code IRC2018/TPI2014 |          | Wind(LL) 0.05 9-10 >999 240  | Weight: 129 lb | FT = 20% |

**LUMBER-**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x6 SP No.2  
WEBS 2x4 SP No.3  
WEDGE  
Left: 2x4 SP No.3  
SLIDER Right 2x4 SP No.2 3-1-0

**BRACING-**  
TOP CHORD Structural wood sheathing directly applied or 3-7-5 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS.** (size) 2=0-5-8, 7=0-5-8  
Max Horz 2=275(LC 11)  
Max Uplift 2=223(LC 12), 7=222(LC 13)  
Max Grav 2=857(LC 1), 7=853(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 2-3=-1001/260, 3-4=-801/276, 4-5=-998/305, 5-7=-1781/351  
BOT CHORD 2-11=-183/761, 10-11=-201/831, 9-10=-179/1256, 7-9=-205/1396  
WEBS 4-10=-253/768, 5-10=-639/321, 5-9=-19/552

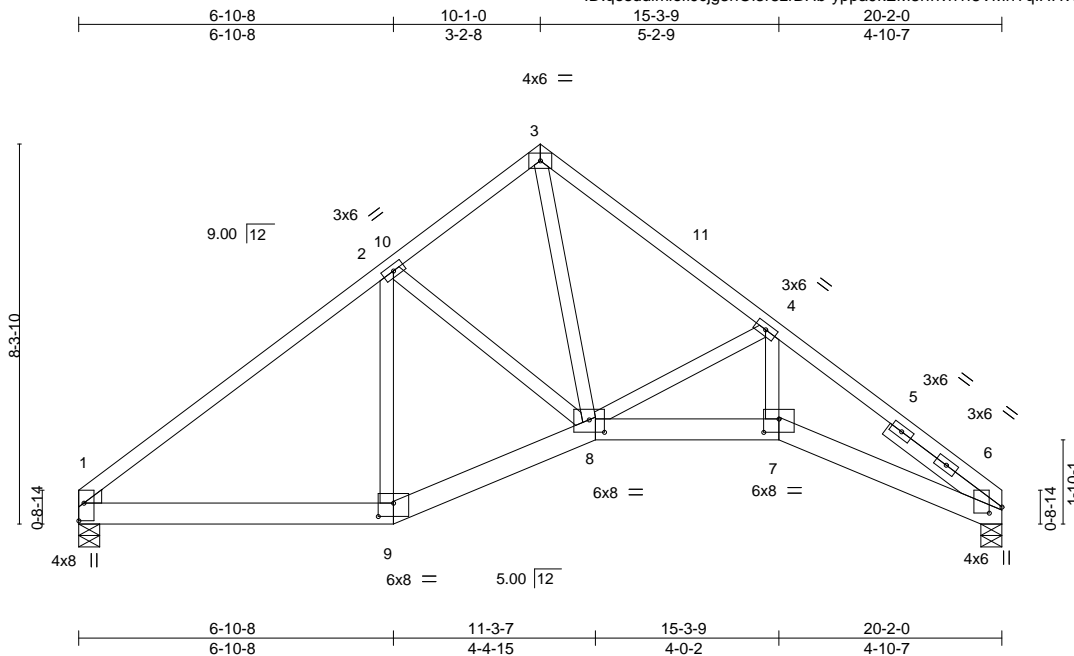
- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 10-1-0, Exterior(2R) 10-1-0 to 13-1-0, Interior(1) 13-1-0 to 21-0-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 223 lb uplift at joint 2 and 222 lb uplift at joint 7.
  - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



|               |              |                            |          |          |   |           |
|---------------|--------------|----------------------------|----------|----------|---|-----------|
| Job<br>MASTER | Truss<br>B03 | Truss Type<br>Roof Special | Qty<br>1 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev | E14172768 |
|---------------|--------------|----------------------------|----------|----------|---|-----------|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:13 2020 Page 1  
ID:qesddlmiolfJcig3nOI3r8zrBhb-yppa9kEM3rfhv1f8VMhTqIHwWcNscsH3UeHM6zbwwO



Scale = 1:50.3

|                       |  |
|-----------------------|--|
| Plate Offsets (X,Y)-- | [1:0-0-8,0-0-11], [1:0-1-0,0-4-7], [1:Edge,0-1-5], [6:0-1-10,0-3-5], [7:0-4-0,0-3-8], [8:0-4-0,0-3-4], [9:0-4-0,0-3-8] |
|-----------------------|--|

|                      |                      |       |             |              |          |        |      |                |             |
|----------------------|----------------------|-------|-------------|--------------|----------|--------|------|----------------|-------------|
| <b>LOADING</b> (psf) | <b>SPACING-</b>      | 2-0-0 | <b>CSI.</b> | <b>DEFL.</b> | in (loc) | l/defl | L/d  | <b>PLATES</b>  | <b>GRIP</b> |
| TCLL 20.0            | Plate Grip DOL       | 1.15  | TC 0.62     | Vert(LL)     | -0.05    | 7-8    | >999 | MT20           | 244/190     |
| TCDL 10.0            | Lumber DOL           | 1.15  | BC 0.34     | Vert(CT)     | -0.11    | 7-8    | >999 |                |             |
| BCLL 0.0 *           | Rep Stress Incr      | YES   | WB 0.32     | Horz(CT)     | 0.08     | 6      | n/a  |                |             |
| BCDL 10.0            | Code IRC2018/TPI2014 |       | Matrix-S    | Wind(LL)     | 0.05     | 7-8    | >999 |                |             |
|                      |                      |       |             |              |          |        |      | Weight: 126 lb | FT = 20%    |

**LUMBER-**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x6 SP No.2  
WEBS 2x4 SP No.3  
WEDGE  
Left: 2x4 SP No.3  
SLIDER Right 2x4 SP No.2 3-1-0

**BRACING-**  
TOP CHORD Structural wood sheathing directly applied or 3-4-5 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS.** (size) 1=0-5-8, 6=0-5-8  
Max Horz 1=-266(LC 8)  
Max Uplift 1=-187(LC 12), 6=-187(LC 13)  
Max Grav 1=790(LC 1), 6=790(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 1-2=-1005/261, 2-3=-810/286, 3-4=-1006/311, 4-6=-1805/384  
BOT CHORD 1-9=-195/766, 8-9=-217/838, 7-8=-193/1271, 6-7=-221/1417  
WEBS 3-8=-269/783, 4-8=-650/333, 4-7=-28/570

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-2-12 to 3-2-12, Interior(1) 3-2-12 to 10-1-0, Exterior(2R) 10-1-0 to 13-1-0, Interior(1) 13-1-0 to 19-11-14 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Bearing at joint(s) 6 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 187 lb uplift at joint 1 and 187 lb uplift at joint 6.
  - 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.

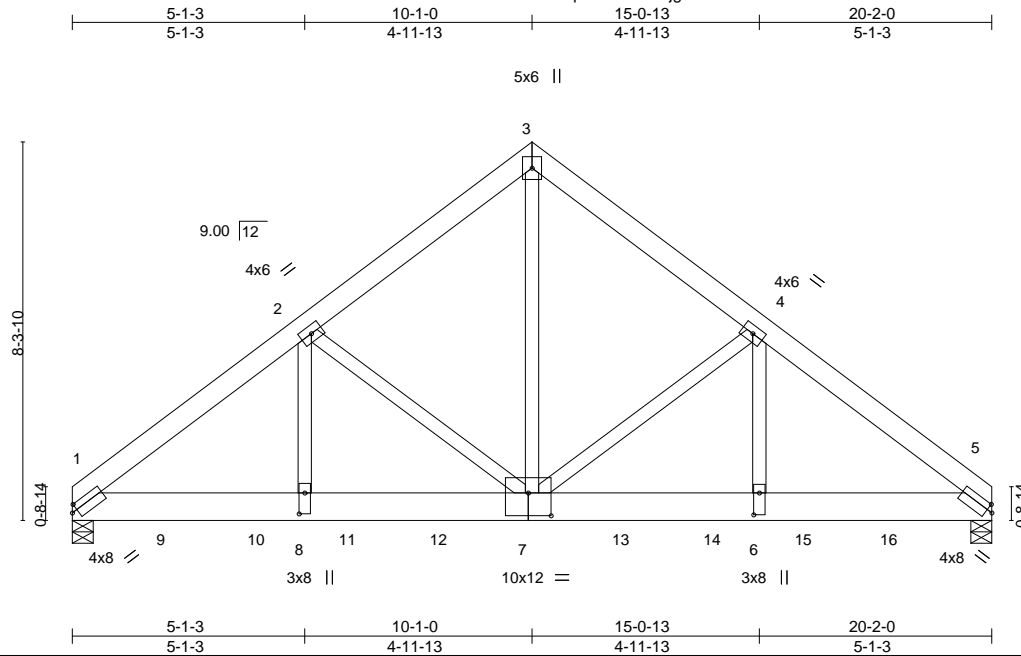


March 12, 2020

|               |              |                             |          |          |  |
|---------------|--------------|-----------------------------|----------|----------|--|
| Job<br>MASTER | Truss<br>B04 | Truss Type<br>Common Girder | Qty<br>1 | Ply<br>2 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>E14172769 |
|---------------|--------------|-----------------------------|----------|----------|--|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:15 2020 Page 1  
ID:qesddlmiofJcig3nOI3r8zrBHb-uCxLaQFcbTvP9?B1GwO9YFNizJH8KPSaXo7OR\_zbwWM



Scale = 1:50.5

|                       |  |             |                                  |                |             |
|-----------------------|--|-------------|----------------------------------|----------------|-------------|
| Plate Offsets (X,Y)-- | [1:0-1-8,0-1-11], [5:0-1-8,0-1-11], [6:0-5-12,0-1-8], [7:0-6-0,0-6-0], [8:0-5-8,0-1-8] |             |                                  |                |             |
| <b>LOADING</b> (psf)  | <b>SPACING-</b> 2-0-0  | <b>CSI.</b> | <b>DEFL.</b> in (loc) l/defl L/d | <b>PLATES</b>  | <b>GRIP</b> |
| TCLL 20.0             | Plate Grip DOL 1.15  | TC 0.29     | Vert(LL) 0.09 6-7 >999 240       | MT20           | 244/190     |
| TCDL 10.0             | Lumber DOL 1.15  | BC 0.39     | Vert(CT) -0.14 6-7 >999 240      |                |             |
| BCLL 0.0 *            | Rep Stress Incr NO   | WB 0.74     | Horz(CT) 0.03 5 n/a n/a          |                |             |
| BCDL 10.0             | Code IRC2018/TPI2014   | Matrix-S    |                                  | Weight: 322 lb | FT = 20%    |

|                       |   |
|-----------------------|---|
| <b>LUMBER-</b>        | <b>BRACING-</b>   |
| TOP CHORD 2x6 SP No.2 | TOP CHORD Structural wood sheathing directly applied or 5-4-1 oc purlins. |
| BOT CHORD 2x8 SP DSS  | BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.            |
| WEBS 2x4 SP No.2      |   |

**REACTIONS.** (size) 1=0-5-8, 5=0-5-8  
 Max Horz 1=-257(LC 6)  
 Max Uplift 1=-2241(LC 8), 5=-2046(LC 9)  
 Max Grav 1=5806(LC 1), 5=5966(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 1-2=-7758/2966, 2-3=-5421/2072, 3-4=-5339/2043, 4-5=-8011/2762  
 BOT CHORD 1-8=-2365/5960, 7-8=-2365/5960, 6-7=-2067/6157, 5-6=-2067/6157  
 WEBS 3-7=-2275/6025, 4-7=-2462/959, 4-6=-922/3089, 2-7=-2158/1142, 2-8=-1158/2719

- NOTES-**
- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:  
 Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.  
 Bottom chords connected as follows: 2x8 - 2 rows staggered at 0-7-0 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.
  - Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
  - 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 2241 lb uplift at joint 1 and 2046 lb uplift at joint 5.
  - 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.
  - Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1077 lb down and 472 lb up at 2-0-12, 1077 lb down and 502 lb up at 4-0-12, 1077 lb down and 502 lb up at 6-0-12, 1077 lb down and 502 lb up at 8-0-12, 1177 lb down and 401 lb up at 10-0-12, 1177 lb down and 401 lb up at 12-0-12, 1177 lb down and 401 lb up at 14-0-12, and 1177 lb down and 401 lb up at 16-0-12, and 1177 lb down and 401 lb up at 17-11-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

**LOAD CASE(S)** Standard

Continued on page 2



March 12, 2020

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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, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.

**ENGINEERING BY**  
**TRENCO**  
 A MiTek Affiliate

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|               |              |                             |          |                 |   |           |
|---------------|--------------|-----------------------------|----------|-----------------|---|-----------|
| Job<br>MASTER | Truss<br>B04 | Truss Type<br>Common Girder | Qty<br>1 | Ply<br><b>2</b> | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>Job Reference (optional) | E14172769 |
|---------------|--------------|-----------------------------|----------|-----------------|---|-----------|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:15 2020 Page 2  
ID:qesddlmiofJcig3nOI3r8zrBHb-uCxLaQFcbTvP9?B1GwO9YFNizJH8KPsaxo7OR\_zbwwM

**LOAD CASE(S)** Standard

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

Uniform Loads (plf)

Vert: 1-3=-60, 3-5=-60, 1-5=-20

Concentrated Loads (lb)

Vert: 7=-1177(B) 9=-1077(B) 10=-1077(B) 11=-1077(B) 12=-1077(B) 13=-1177(B) 14=-1177(B) 15=-1177(B) 16=-1177(B)

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 BEFORE USE.**

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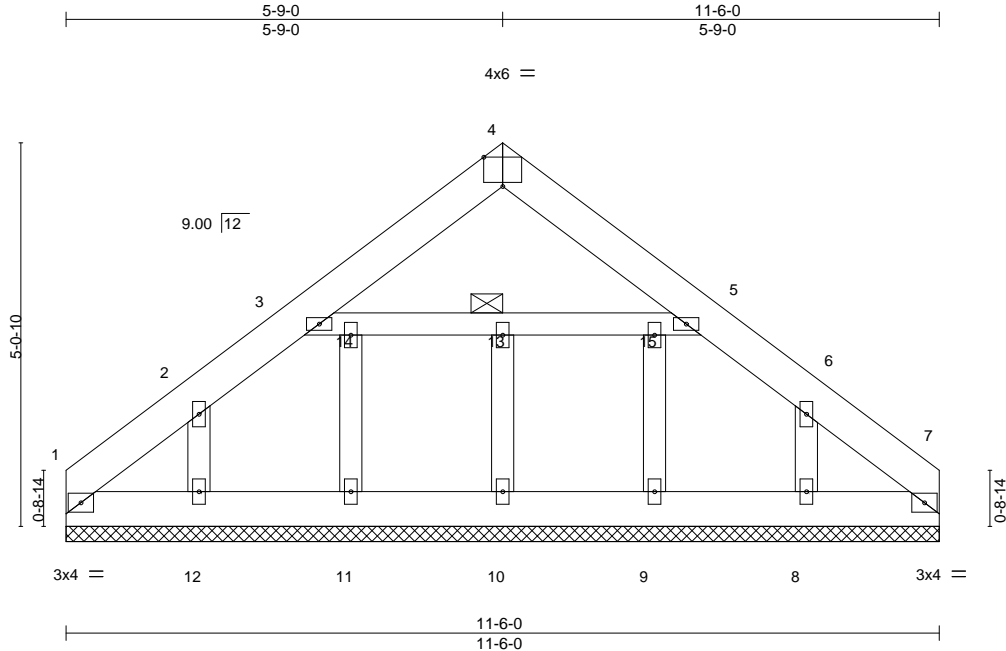
818 Soundside Road  
Edenton, NC 27932



|               |              |                     |          |          |   |           |
|---------------|--------------|---------------------|----------|----------|---|-----------|
| Job<br>MASTER | Truss<br>C01 | Truss Type<br>GABLE | Qty<br>1 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev | E14172770 |
|---------------|--------------|---------------------|----------|----------|---|-----------|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:16 2020 Page 1  
ID:qesddlmiofJc93nO13r8zrBHb-MOVjomGFMm1Gn8mDpdvO5SwxBjjq30rjStxzRzbbwL



Scale = 1:30.3

Plate Offsets (X,Y)-- [4:0-3-0,Edge]

| LOADING (psf) | SPACING-             | CSI.     | DEFL.    | in   | (loc) | l/defl | L/d | PLATES        | GRIP     |
|---------------|----------------------|----------|----------|------|-------|--------|-----|---------------|----------|
| TCLL 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 0.12  | Horz(CT) | 0.00 | 7     | n/a    | n/a |               |          |
| BCDL 10.0     | Code IRC2018/TPI2014 | Matrix-S |          |      |       |        |     | Weight: 82 lb | FT = 20% |

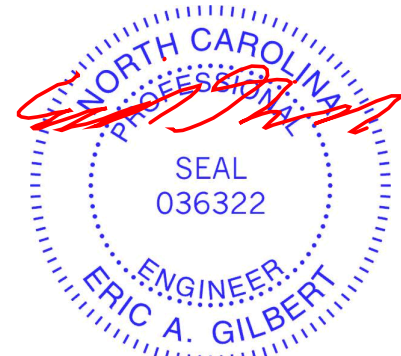
**LUMBER-**  
TOP CHORD 2x6 SP No.2  
BOT CHORD 2x6 SP No.2  
OTHERS 2x4 SP No.3

**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.  
JOINTS 1 Brace at Jt(s): 13

**REACTIONS.** All bearings 11-6-0.  
(lb) - Max Horz 1=-151(LC 8)  
Max Uplift All uplift 100 lb or less at joint(s) 1, 7, 11, 9 except 12=-140(LC 12), 8=-128(LC 13)  
Max Grav All reactions 250 lb or less at joint(s) 1, 7, 10, 11, 12, 9, 8

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 1-2=-299/161, 2-3=-273/274, 5-6=-273/271, 6-7=-277/154

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCCL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) 0-0-0 to 3-0-0, Exterior(2N) 3-0-0 to 5-9-0, Corner(3R) 5-9-0 to 8-6-0, Exterior(2N) 8-6-0 to 11-6-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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 2x4 MT20 unless otherwise indicated.
  - Gable requires continuous bottom chord bearing.
  - Vertical gable studs spaced at 2-0-0 oc and horizontal 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 7, 11, 9 except (jt=lb) 12=140, 8=128.
  - 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.



March 12, 2020

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|               |              |                             |          |          |  |
|---------------|--------------|-----------------------------|----------|----------|--|
| Job<br>MASTER | Truss<br>C02 | Truss Type<br>Common Girder | Qty<br>1 | Ply<br>2 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>E14172771 |
|---------------|--------------|-----------------------------|----------|----------|--|

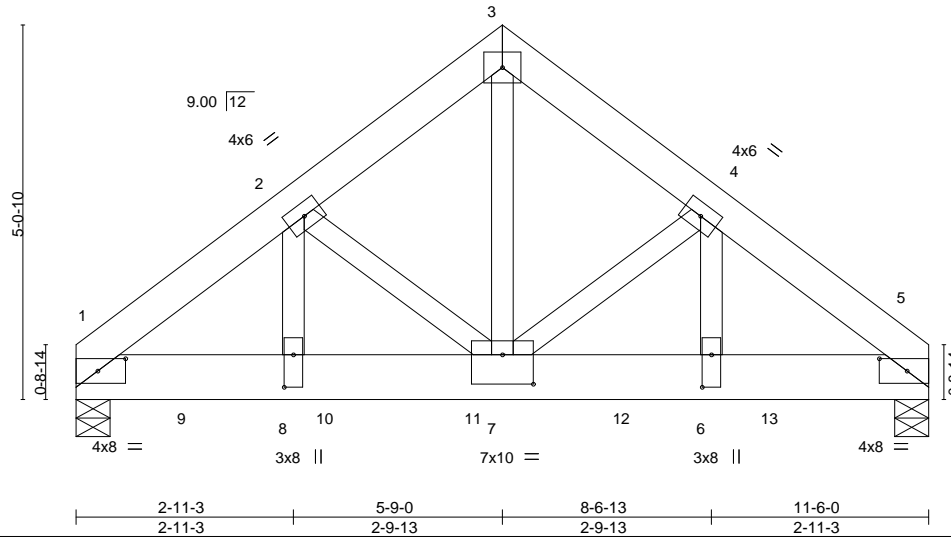
Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:18 2020 Page 1

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Scale = 1:31.1



|                       |  |
|-----------------------|--|
| Plate Offsets (X,Y)-- | [1:0-4-8,0-2-0], [5:0-4-8,0-2-0], [6:0-5-4,0-1-8], [7:0-5-0,0-4-12], [8:0-5-4,0-1-8] |
|-----------------------|--|

|                      |                      |       |             |              |          |        |      |                |             |
|----------------------|----------------------|-------|-------------|--------------|----------|--------|------|----------------|-------------|
| <b>LOADING</b> (psf) | <b>SPACING-</b>      | 2-0-0 | <b>CSI.</b> | <b>DEFL.</b> | in (loc) | l/defl | L/d  | <b>PLATES</b>  | <b>GRIP</b> |
| TCLL 20.0            | Plate Grip DOL       | 1.15  | TC 0.14     | Vert(LL)     | 0.03     | 7      | >999 | MT20           | 244/190     |
| TCDL 10.0            | Lumber DOL           | 1.15  | BC 0.18     | Vert(CT)     | -0.04    | 7      | >999 |                |             |
| BCLL 0.0 *           | Rep Stress Incr      | NO    | WB 0.38     | Horz(CT)     | 0.01     | 5      | n/a  |                |             |
| BCDL 10.0            | Code IRC2018/TPI2014 |       | Matrix-S    |              |          |        |      |                |             |
|                      |                      |       |             |              |          |        |      | Weight: 183 lb | FT = 20%    |

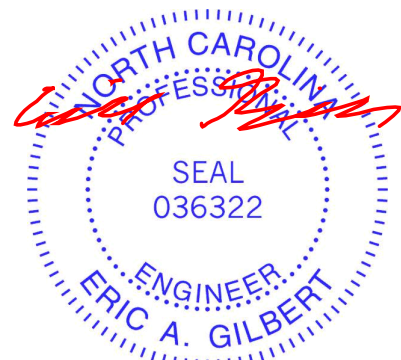
|                       |   |
|-----------------------|---|
| <b>LUMBER-</b>        | <b>BRACING-</b>   |
| TOP CHORD 2x6 SP No.2 | TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins. |
| BOT CHORD 2x8 SP DSS  | BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.            |
| WEBS 2x4 SP No.2      |   |

**REACTIONS.** (size) 1=0-5-8, 5=0-5-8  
 Max Horz 1=149(LC 5)  
 Max Uplift 1=1421(LC 8), 5=1290(LC 9)  
 Max Grav 1=3301(LC 1), 5=3017(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 1-2=-3978/1708, 2-3=-2830/1279, 3-4=-2830/1279, 4-5=-3876/1659  
 BOT CHORD 1-8=-1315/2959, 7-8=-1315/2959, 6-7=-1205/2879, 5-6=-1205/2879  
 WEBS 3-7=-1389/3072, 4-7=-815/454, 4-6=-540/1269, 2-7=-919/499, 2-8=-604/1399

- NOTES-**
- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:  
 Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.  
 Bottom chords connected as follows: 2x8 - 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.
  - Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
  - 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 1=1421, 5=1290.
  - 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.
  - Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1087 lb down and 509 lb up at 1-6-12, 1087 lb down and 509 lb up at 3-5-4, 1087 lb down and 509 lb up at 5-5-4, and 1087 lb down and 509 lb up at 7-5-4, and 1087 lb down and 509 lb up at 9-5-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

**LOAD CASE(S)** Standard



March 12, 2020

Continued on page 2

|   |   |
|---|---|
| <p><b>WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 BEFORE USE.</b></p> <p>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 <b>ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information</b> available from Truss Plate Institute, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.</p> | <p>818 Soundside Road<br/>Edenton, NC 27932</p> |
|---|---|

|               |              |                             |          |                 |   |           |
|---------------|--------------|-----------------------------|----------|-----------------|---|-----------|
| Job<br>MASTER | Truss<br>C02 | Truss Type<br>Common Girder | Qty<br>1 | Ply<br><b>2</b> | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>Job Reference (optional) | E14172771 |
|---------------|--------------|-----------------------------|----------|-----------------|---|-----------|

Builders FirstSource (Albermarle), Albemarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:18 2020 Page 2  
ID:qesddlmiofJcjg3nOl3r8zrBHb-IndTCSIVuOl\_0Swcx2xsAt?ETXM0XsH0DmM22JzbwwJ

**LOAD CASE(S)** Standard

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

Uniform Loads (plf)

Vert: 1-3=-60, 3-5=-60, 1-5=-20

Concentrated Loads (lb)

Vert: 9=-1087(B) 10=-1087(B) 11=-1087(B) 12=-1087(B) 13=-1087(B)

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 BEFORE USE.**

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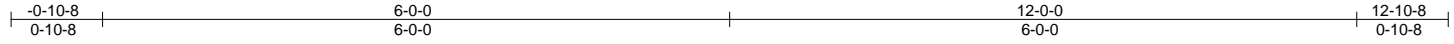


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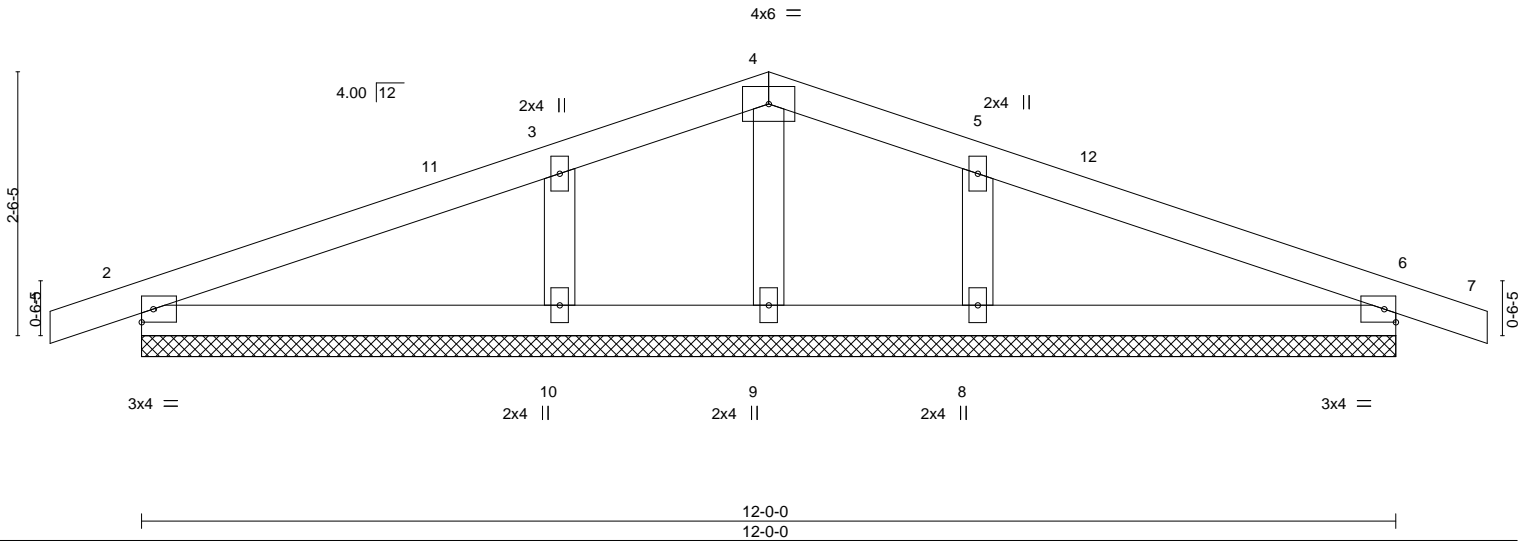
|               |               |                                      |          |          |   |           |
|---------------|---------------|--------------------------------------|----------|----------|---|-----------|
| Job<br>MASTER | Truss<br>CP01 | Truss Type<br>Common Supported Gable | Qty<br>1 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>Job Reference (optional) | E14172772 |
|---------------|---------------|--------------------------------------|----------|----------|---|-----------|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:20 2020 Page 1  
ID:qesddlmiofJcJg3nOl3r8zrBHb-F9kEd8JlQ?YhFm3?2T\_KF14Z?K3W?qvJg4r96CzbwwH



Scale = 1:22.0



| LOADING (psf) | SPACING-             | CSL      | DEFL.         | in (loc) | l/defl | L/d | PLATES        | GRIP     |
|---------------|----------------------|----------|---------------|----------|--------|-----|---------------|----------|
| TCLL 20.0     | Plate Grip DOL 1.15  | TC 0.20  | Vert(LL) 0.00 | 7        | n/r    | 120 | MT20          | 244/190  |
| TCDL 10.0     | Lumber DOL 1.15      | BC 0.12  | Vert(CT) 0.01 | 7        | n/r    | 120 |               |          |
| BCLL 0.0 *    | Rep Stress Incr YES  | WB 0.11  | Horz(CT) 0.00 | 6        | n/a    | n/a |               |          |
| BCDL 10.0     | Code IRC2018/TPI2014 | Matrix-S |               |          |        |     | Weight: 46 lb | FT = 20% |

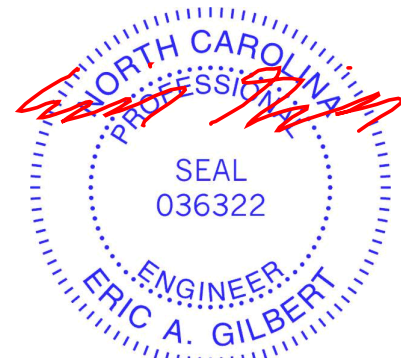
**LUMBER-**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

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

**REACTIONS.** All bearings 12-0-0.  
(lb) - Max Horz 2=52(LC 13)  
Max Uplift All uplift 100 lb or less at joint(s) 2 except 6=102(LC 9), 10=140(LC 12), 8=139(LC 13)  
Max Grav All reactions 250 lb or less at joint(s) 2, 6, 9 except 10=326(LC 1), 8=326(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
WEBS 3-10=-231/378, 5-8=-231/377

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 6-0-0, Corner(3R) 6-0-0 to 9-0-0, Exterior(2N) 9-0-0 to 12-10-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2 except (jt=lb) 6=102, 10=140, 8=139.
  - 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.



March 12, 2020

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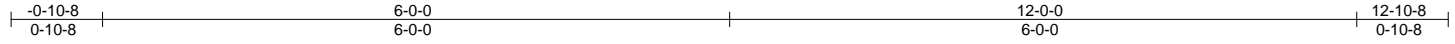


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|               |               |                      |          |          |  |
|---------------|---------------|----------------------|----------|----------|--|
| Job<br>MASTER | Truss<br>CP02 | Truss Type<br>Common | Qty<br>4 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>E14172773 |
|---------------|---------------|----------------------|----------|----------|--|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:22 2020 Page 1  
ID:qesddlmiofJcig3nOI3r8zrBhb-BYs\_2pL?ycoPV4DNAu0oKj9r28iiTkQb8OKFB4zbnwF



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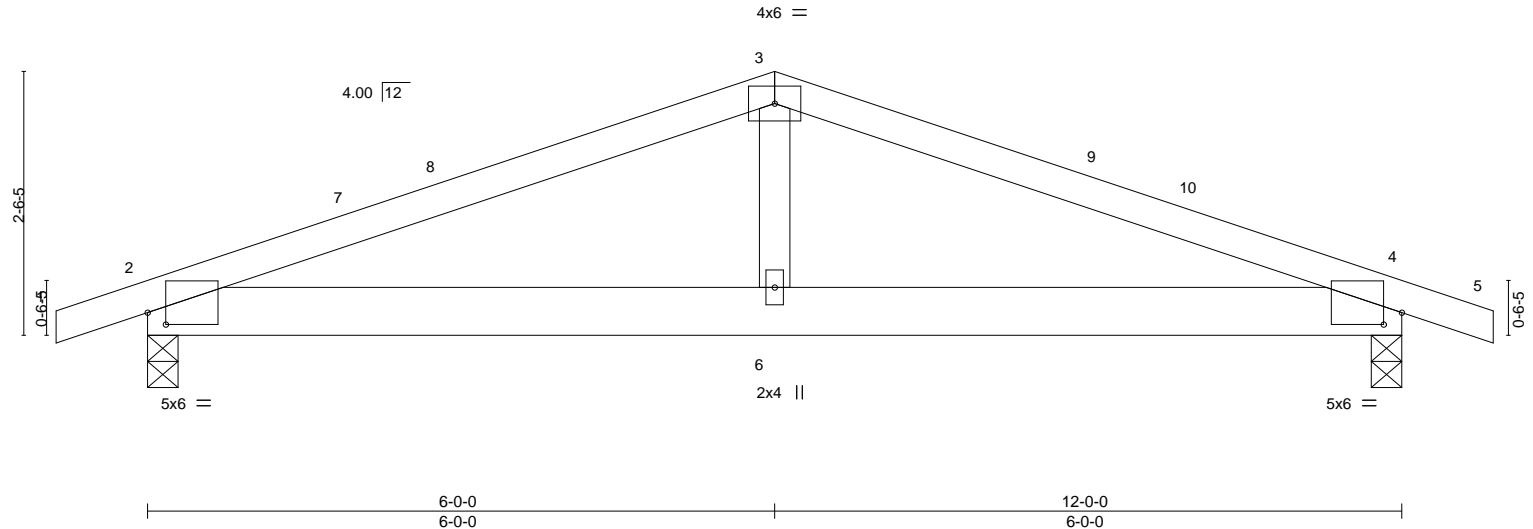


Plate Offsets (X,Y)-- [2:0-2-1,0-1-6], [4:0-2-1,0-1-6]

| LOADING (psf) | SPACING-             | CSL.     | DEFL.          | in (loc) | l/defl | L/d | PLATES        | GRIP     |
|---------------|----------------------|----------|----------------|----------|--------|-----|---------------|----------|
| TCLL 20.0     | Plate Grip DOL 1.15  | TC 0.49  | Vert(LL) 0.04  | 2-6      | >999   | 240 | MT20          | 244/190  |
| TCDL 10.0     | Lumber DOL 1.15      | BC 0.26  | Vert(CT) -0.04 | 2-6      | >999   | 240 |               |          |
| BCLL 0.0 *    | Rep Stress Incr YES  | WB 0.11  | Horz(CT) 0.01  | 4        | n/a    | n/a |               |          |
| BCDL 10.0     | Code IRC2018/TPI2014 | Matrix-S |                |          |        |     | Weight: 52 lb | FT = 20% |

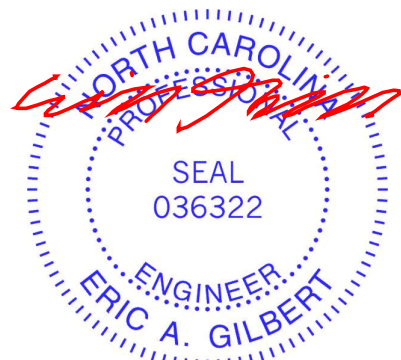
**LUMBER-**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x6 SP No.2  
WEBS 2x4 SP No.3

**BRACING-**  
TOP CHORD Structural wood sheathing directly applied or 5-11-5 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 8-3-0 oc bracing.

**REACTIONS.** (size) 2=0-3-8, 4=0-3-8  
Max Horz 2=52(LC 12)  
Max Uplift 2=-343(LC 8), 4=-343(LC 9)  
Max Grav 2=530(LC 1), 4=530(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 2-3=-824/880, 3-4=-824/879  
BOT CHORD 2-6=-729/714, 4-6=-729/714  
WEBS 3-6=-254/290

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 6-0-0, Exterior(2R) 6-0-0 to 9-0-0, Interior(1) 9-0-0 to 12-10-8 zone; cantilever left and right exposed; end vertical left and right exposed; porch left and right exposed; 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=343, 4=343.
  - 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.



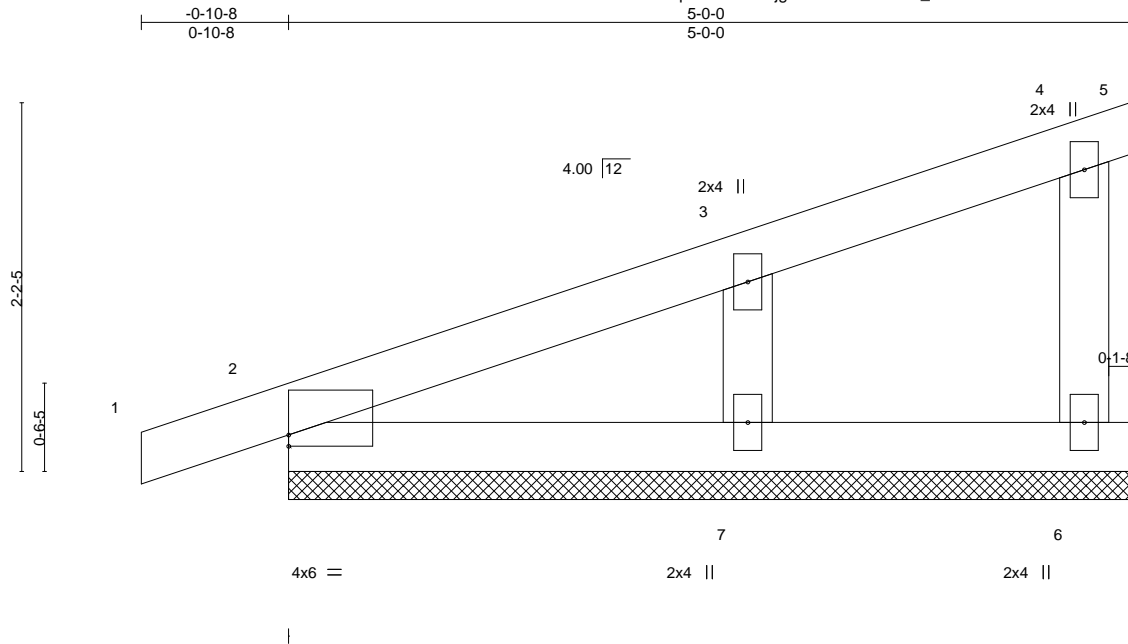
March 12, 2020



|               |              |                     |          |          |   |           |
|---------------|--------------|---------------------|----------|----------|---|-----------|
| Job<br>MASTER | Truss<br>M01 | Truss Type<br>GABLE | Qty<br>1 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>Job Reference (optional) | E14172774 |
|---------------|--------------|---------------------|----------|----------|---|-----------|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:24 2020 Page 1  
ID:qesddlmiofJcig3nOI3r8zrBHb-7w\_kTVMGTE27kNNmHJ2GP8FG3yRLxeoubipMFzbbwwD



Scale = 1:13.7

Plate Offsets (X,Y)-- [2:0-0-0,0-0-13]

| LOADING (psf) | SPACING-             | CSI.     | DEFL.          | in (loc) | l/defl | L/d | PLATES        | GRIP     |
|---------------|----------------------|----------|----------------|----------|--------|-----|---------------|----------|
| TCLL 20.0     | Plate Grip DOL 1.15  | TC 0.13  | Vert(LL) -0.00 | 1        | n/r    | 120 | MT20          | 244/190  |
| TCDL 10.0     | Lumber DOL 1.15      | BC 0.06  | Vert(CT) 0.00  | 1        | n/r    | 120 |               |          |
| BCLL 0.0 *    | Rep Stress Incr YES  | WB 0.12  | Horz(CT) -0.00 | 5        | n/a    | n/a |               |          |
| BCDL 10.0     | Code IRC2018/TPI2014 | Matrix-P |                |          |        |     | Weight: 20 lb | FT = 20% |

**LUMBER-**

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

**BRACING-**

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

**REACTIONS.**

All bearings 5-0-0.  
(lb) - Max Horz 2=108(LC 9)  
Max Uplift All uplift 100 lb or less at joint(s) 5, 6, 2, 7  
Max Grav All reactions 250 lb or less at joint(s) 5, 6, 2, 7

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

WEBS 3-7=-185/399

**NOTES-**

- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 5-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 3) Gable requires continuous bottom chord bearing.
- 4) Gable studs spaced at 2-0-0 oc.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 6) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 5, 6, 2, 7.
- 8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



March 12, 2020

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 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, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.



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|               |              |                         |          |          |   |           |
|---------------|--------------|-------------------------|----------|----------|---|-----------|
| Job<br>MASTER | Truss<br>M02 | Truss Type<br>Monopitch | Qty<br>5 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>Job Reference (optional) | E14172775 |
|---------------|--------------|-------------------------|----------|----------|---|-----------|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:25 2020 Page 1

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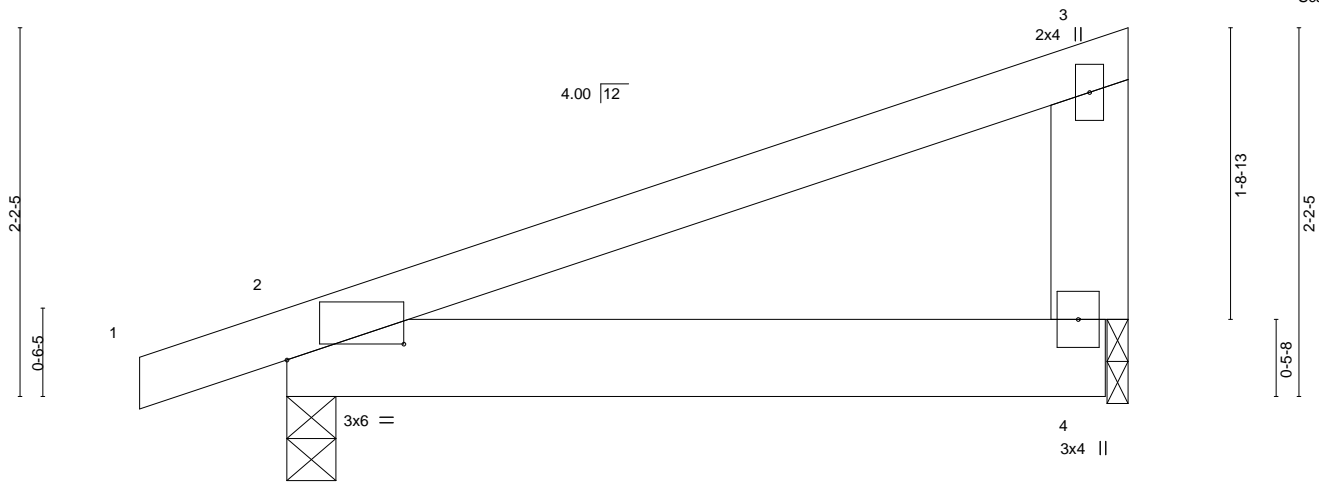


Plate Offsets (X,Y)-- [2:0-8-5,0-1-2]

| LOADING (psf) | SPACING-             | CSI.     | DEFL.          | in (loc) | l/defl | L/d | PLATES        | GRIP     |
|---------------|----------------------|----------|----------------|----------|--------|-----|---------------|----------|
| TCLL 20.0     | Plate Grip DOL 1.15  | TC 0.42  | Vert(LL) -0.01 | 2-4      | >999   | 360 | MT20          | 244/190  |
| TCDL 10.0     | Lumber DOL 1.15      | BC 0.11  | Vert(CT) -0.01 | 2-4      | >999   | 240 |               |          |
| BCLL 0.0 *    | Rep Stress Incr YES  | WB 0.00  | Horz(CT) 0.00  |          | n/a    | n/a |               |          |
| BCDL 10.0     | Code IRC2018/TPI2014 | Matrix-P | Wind(LL) 0.01  | 2-4      | >999   | 240 | Weight: 24 lb | FT = 20% |

**LUMBER-**

TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x6 SP No.2  
 WEBS 2x6 SP No.2

**BRACING-**

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

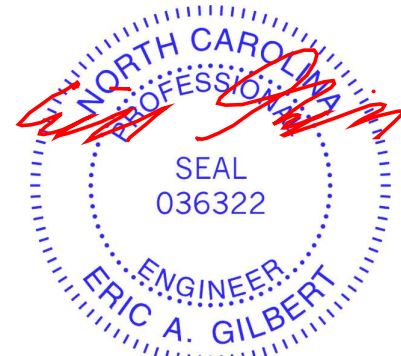
**REACTIONS.**

(size) 2=0-3-8, 4=0-1-8  
 Max Horz 2=101(LC 8)  
 Max Uplift 2=171(LC 8), 4=133(LC 8)  
 Max Grav 2=253(LC 1), 4=178(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

**NOTES-**

- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 4-9-4 zone; cantilever left exposed; end vertical left exposed; porch left and right exposed; 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 3-6-0 tall by 2-0-0 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=171, 4=133.
- 7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



March 12, 2020

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|               |              |                         |          |          |   |           |
|---------------|--------------|-------------------------|----------|----------|---|-----------|
| Job<br>MASTER | Truss<br>M03 | Truss Type<br>Monopitch | Qty<br>2 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>Job Reference (optional) | E14172776 |
|---------------|--------------|-------------------------|----------|----------|---|-----------|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:27 2020 Page 1  
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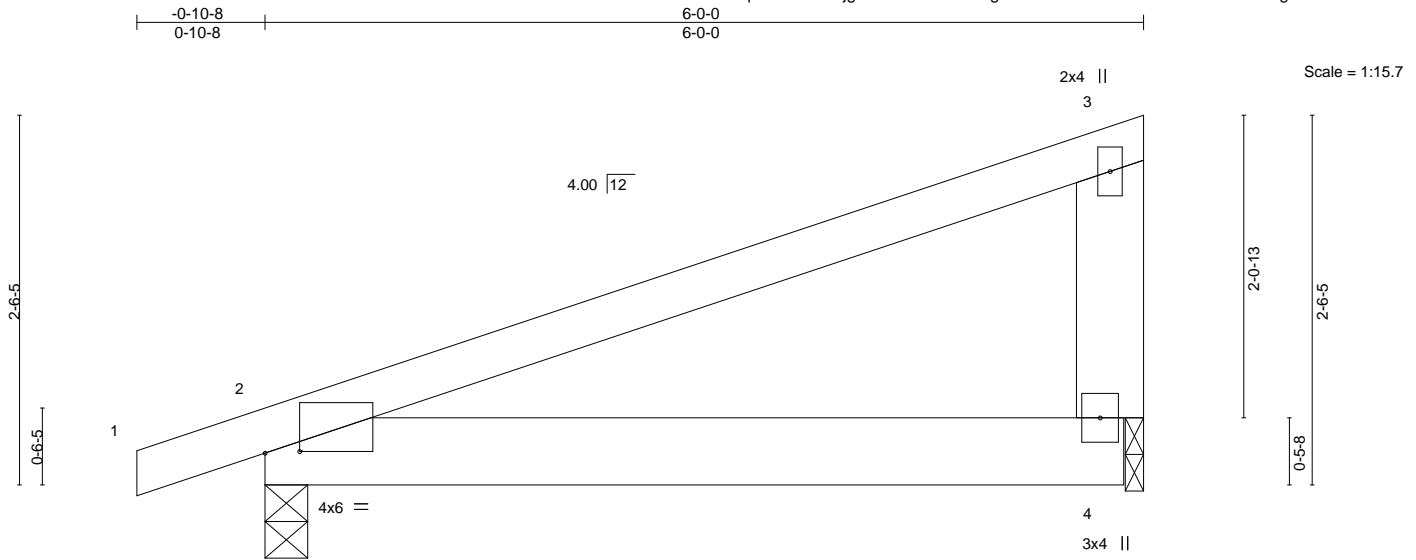


Plate Offsets (X,Y)-- [2:0-2-13,0-0-2]

| LOADING (psf) | SPACING-             | CSI.     | DEFL.          | in (loc) | l/defl | L/d | PLATES        | GRIP     |
|---------------|----------------------|----------|----------------|----------|--------|-----|---------------|----------|
| TCLL 20.0     | Plate Grip DOL 1.15  | TC 0.66  | Vert(LL) -0.02 | 2-4      | >999   | 360 | MT20          | 244/190  |
| TCDL 10.0     | Lumber DOL 1.15      | BC 0.17  | Vert(CT) -0.03 | 2-4      | >999   | 240 |               |          |
| BCLL 0.0 *    | Rep Stress Incr YES  | WB 0.00  | Horz(CT) 0.00  |          | n/a    | n/a |               |          |
| BCDL 10.0     | Code IRC2018/TPI2014 | Matrix-P | Wind(LL) 0.02  | 2-4      | >999   | 240 | Weight: 29 lb | FT = 20% |

**LUMBER-**

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x6 SP No.2  
WEBS 2x6 SP No.2

**BRACING-**

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

**REACTIONS.**

(size) 2=0-3-8, 4=0-1-8  
Max Horz 2=118(LC 8)  
Max Uplift 2=-193(LC 8), 4=-163(LC 8)  
Max Grav 2=292(LC 1), 4=219(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

**NOTES-**

- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 5-9-4 zone; cantilever left exposed; end vertical left exposed; porch left and right exposed; 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 3-6-0 tall by 2-0-0 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=193, 4=163.
- 7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



March 12, 2020

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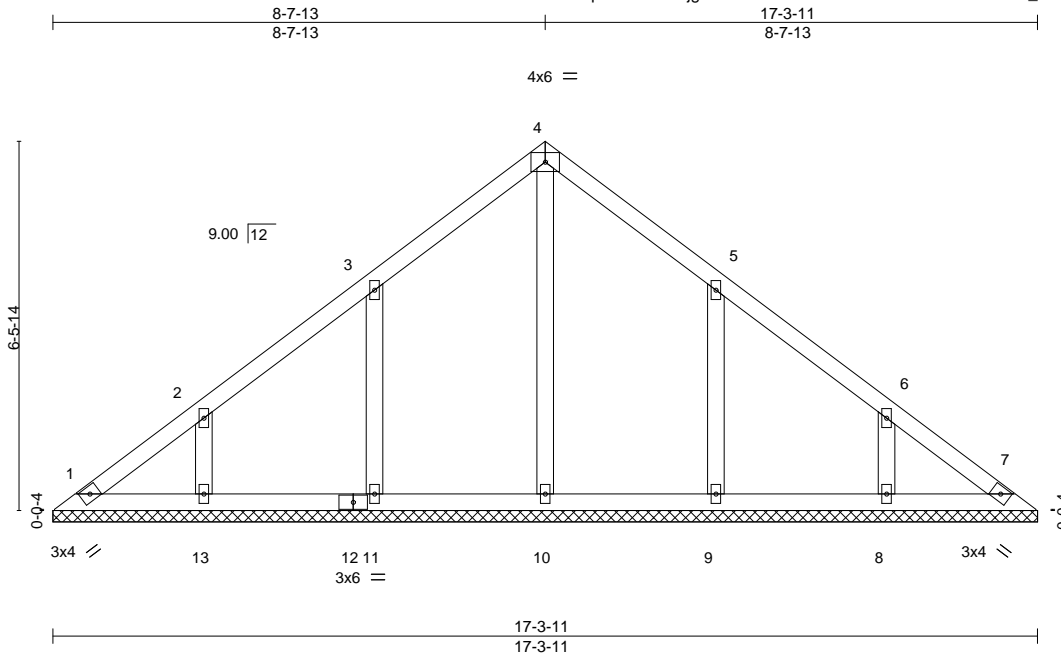


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|               |              |                     |          |          |   |           |
|---------------|--------------|---------------------|----------|----------|---|-----------|
| Job<br>MASTER | Truss<br>V01 | Truss Type<br>GABLE | Qty<br>1 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>Job Reference (optional) | E14172777 |
|---------------|--------------|---------------------|----------|----------|---|-----------|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:28 2020 Page 1  
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Scale = 1:40.5

| LOADING (psf) | SPACING-             | CSI.     | DEFL.         | in (loc) | l/defl | L/d | PLATES        | GRIP     |
|---------------|----------------------|----------|---------------|----------|--------|-----|---------------|----------|
| TCLL 20.0     | Plate Grip DOL 1.15  | TC 0.11  | Vert(LL) n/a  | -        | n/a    | 999 | MT20          | 244/190  |
| TCDL 10.0     | Lumber DOL 1.15      | BC 0.10  | Vert(CT) n/a  | -        | n/a    | 999 |               |          |
| BCLL 0.0 *    | Rep Stress Incr YES  | WB 0.11  | Horz(CT) 0.00 | 7        | n/a    | n/a |               |          |
| BCDL 10.0     | Code IRC2018/TPI2014 | Matrix-S |               |          |        |     | Weight: 80 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 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

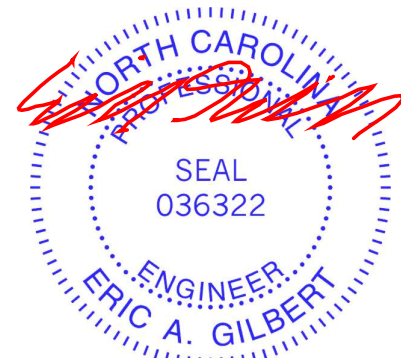
**REACTIONS.**

All bearings 17-3-11.  
(lb) - Max Horz 1=-206(LC 8)  
Max Uplift All uplift 100 lb or less at joint(s) 1, 7 except 11=-188(LC 12), 13=-163(LC 12), 9=-188(LC 13), 8=-163(LC 13)  
Max Grav All reactions 250 lb or less at joint(s) 1, 7 except 10=306(LC 22), 11=363(LC 19), 13=302(LC 19), 9=363(LC 20), 8=302(LC 20)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

**NOTES-**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-5-4 to 3-5-4, Interior(1) 3-5-4 to 8-7-13, Exterior(2R) 8-7-13 to 11-7-13, Interior(1) 11-7-13 to 16-10-7 zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- 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 3-6-0 tall by 2-0-0 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 100 lb uplift at joint(s) 1, 7 except (jt=lb) 11=188, 13=163, 9=188, 8=163.
- 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.



March 12, 2020

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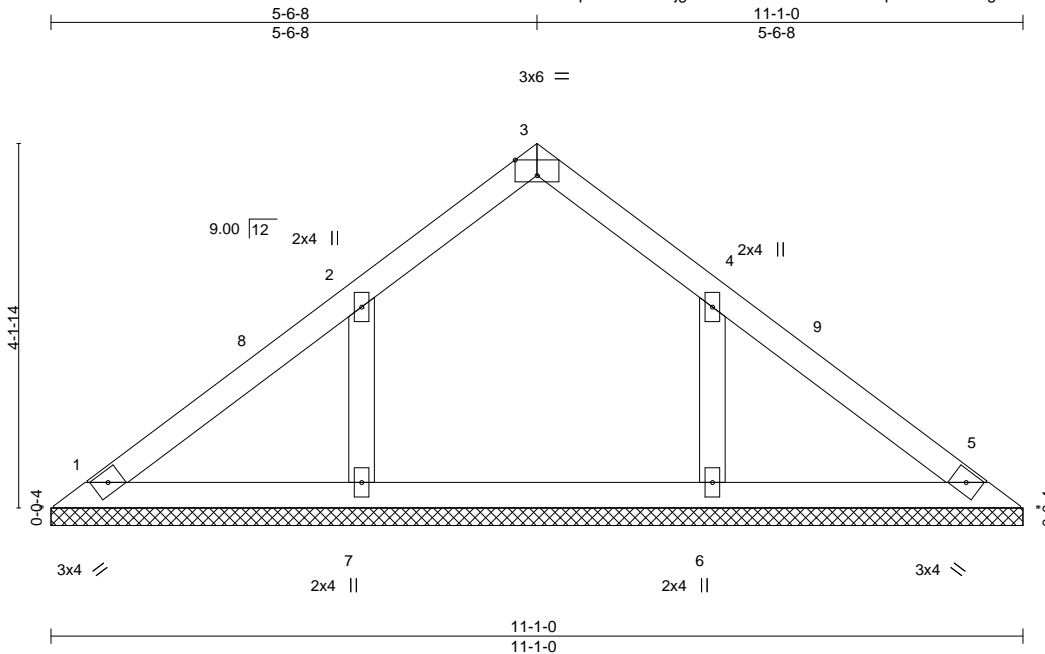




|               |              |                     |          |          |  |
|---------------|--------------|---------------------|----------|----------|--|
| Job<br>MASTER | Truss<br>V03 | Truss Type<br>GABLE | Qty<br>1 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>E14172779 |
|---------------|--------------|---------------------|----------|----------|--|

Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:31 2020 Page 1  
ID:qesddlmiofJcig3nOl3r8zrBHb-QHvOxuSfqNw84SP6CHgvCd1UempG4pDwCl?E?3zbww6



Scale = 1:26.3

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

| LOADING (psf) | SPACING-             | CSI.     | DEFL.    | in (loc) | l/defl | L/d | PLATES        | GRIP     |
|---------------|----------------------|----------|----------|----------|--------|-----|---------------|----------|
| TCLL 20.0     | 2-0-0                | TC 0.11  | Vert(LL) | n/a      | -      | n/a | MT20          | 244/190  |
| TCDL 10.0     | Plate Grip DOL 1.15  | BC 0.11  | Vert(CT) | n/a      | -      | n/a |               |          |
| BCLL 0.0 *    | Lumber DOL 1.15      | WB 0.07  | Horz(CT) | 0.00     | 5      | n/a |               |          |
| BCDL 10.0     | Rep Stress Incr YES  | Matrix-S |          |          |        |     | Weight: 42 lb | FT = 20% |
|               | Code IRC2018/TPI2014 |          |          |          |        |     |               |          |

**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 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS.** All bearings 11-1-0.  
(lb) - Max Horz 1=-128(LC 10)  
Max Uplift All uplift 100 lb or less at joint(s) except 7=-172(LC 12), 6=-171(LC 13)  
Max Grav All reactions 250 lb or less at joint(s) 1, 5 except 7=316(LC 19), 6=314(LC 20)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

**NOTES-**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-5-4 to 3-6-8, Interior(1) 3-6-8 to 5-6-8, Exterior(2R) 5-6-8 to 8-6-8, Interior(1) 8-6-8 to 10-7-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Gable requires continuous bottom chord bearing.
- 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 172 lb uplift at joint 7 and 171 lb uplift at joint 6.
- 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.



March 12, 2020

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 BEFORE USE.**

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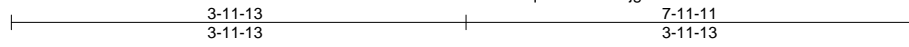


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|               |              |                      |          |          |   |           |
|---------------|--------------|----------------------|----------|----------|---|-----------|
| Job<br>MASTER | Truss<br>V04 | Truss Type<br>Valley | Qty<br>1 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>Job Reference (optional) | E14172780 |
|---------------|--------------|----------------------|----------|----------|---|-----------|

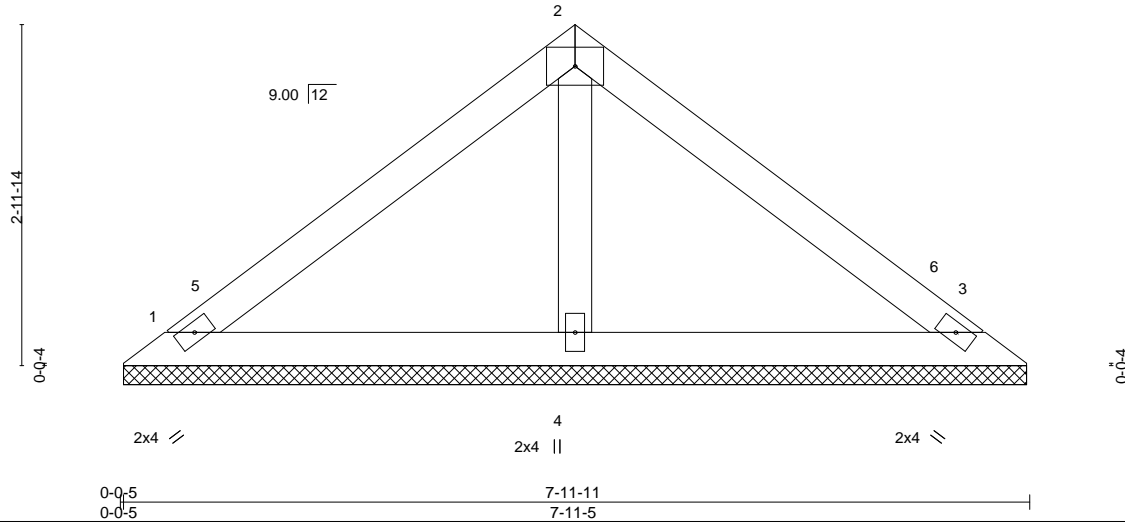
Builders FirstSource (Albermarle), Albermarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:33 2020 Page 1  
ID:qesddlmiofJcJg3nOl3r8zrBHb-Mf18MaTvM?BrJmZVJjNH27pwaVOYjFDgcUL3xbww4



4x6 =

Scale = 1:20.2



| LOADING (psf) | SPACING-             | CSL.     | DEFL.         | in (loc) | l/defl | L/d | PLATES        | GRIP     |
|---------------|----------------------|----------|---------------|----------|--------|-----|---------------|----------|
| TCLL 20.0     | Plate Grip DOL 1.15  | TC 0.19  | Vert(LL) n/a  | -        | n/a    | 999 | MT20          | 244/190  |
| TCDL 10.0     | Lumber DOL 1.15      | BC 0.13  | Vert(CT) n/a  | -        | n/a    | 999 |               |          |
| BCLL 0.0 *    | Rep Stress Incr YES  | WB 0.04  | Horz(CT) 0.00 | 3        | n/a    | n/a |               |          |
| BCDL 10.0     | Code IRC2018/TPI2014 | Matrix-S |               |          |        |     | Weight: 29 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 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS.** (size) 1=7-11-0, 3=7-11-0, 4=7-11-0  
Max Horz 1=-89(LC 8)  
Max Uplift 1=-48(LC 12), 3=-60(LC 13), 4=-41(LC 12)  
Max Grav 1=145(LC 1), 3=145(LC 1), 4=278(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-5-4 to 3-5-4, Interior(1) 3-5-4 to 3-11-13, Exterior(2R) 3-11-13 to 6-11-13, Interior(1) 6-11-13 to 7-6-7 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - Gable requires continuous bottom chord bearing.
  - 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 48 lb uplift at joint 1, 60 lb uplift at joint 3 and 41 lb uplift at joint 4.
  - 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.



March 12, 2020

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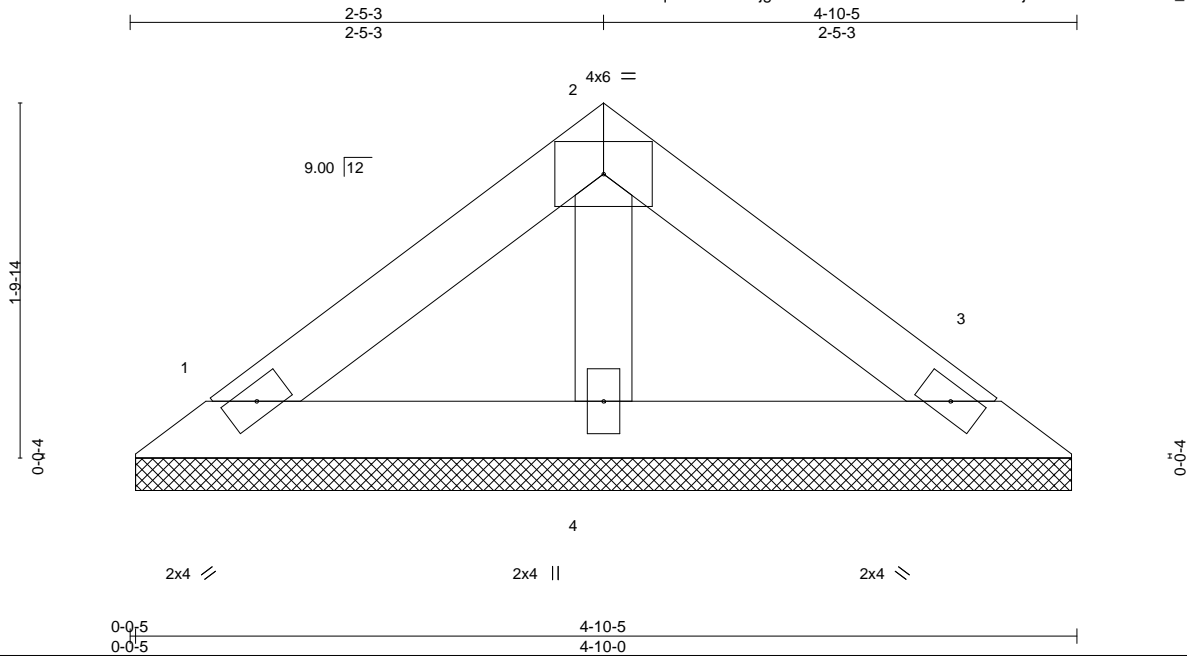


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|               |              |                      |          |          |   |           |
|---------------|--------------|----------------------|----------|----------|---|-----------|
| Job<br>MASTER | Truss<br>V05 | Truss Type<br>Valley | Qty<br>1 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>Job Reference (optional) | E14172781 |
|---------------|--------------|----------------------|----------|----------|---|-----------|

Builders FirstSource (Albermarle), Albemarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:35 2020 Page 1  
ID:qesddlmiofJcig3nOl3r8zrBHb-J28vnGV9ucRZY3jtR6lrMTC9mNBD0d\_W7wzR8qzbww2



Scale = 1:11.8

| LOADING (psf) | SPACING-             | CSI.     | DEFL.    | in (loc) | l/defl | L/d | PLATES        | GRIP     |
|---------------|----------------------|----------|----------|----------|--------|-----|---------------|----------|
| TCLL 20.0     | 2-0-0                | TC 0.10  | Vert(LL) | n/a      | -      | n/a | MT20          | 244/190  |
| TCDL 10.0     | Plate Grip DOL 1.15  | BC 0.04  | Vert(CT) | n/a      | -      | n/a |               |          |
| BCLL 0.0 *    | Lumber DOL 1.15      | WB 0.02  | Horz(CT) | 0.00     | 3      | n/a |               |          |
| BCDL 10.0     | Rep Stress Incr YES  | Matrix-P |          |          |        |     | Weight: 16 lb | FT = 20% |
|               | Code IRC2018/TPI2014 |          |          |          |        |     |               |          |

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

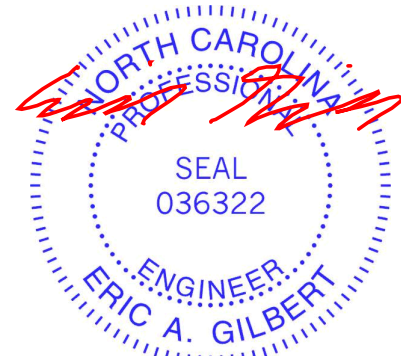
**BRACING-**  
TOP CHORD Structural wood sheathing directly applied or 4-10-5 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS.** (size) 1=4-9-11, 3=4-9-11, 4=4-9-11  
Max Horz 1=-50(LC 8)  
Max Uplift 1=-34(LC 12), 3=-41(LC 13), 4=-9(LC 12)  
Max Grav 1=89(LC 1), 3=89(LC 1), 4=141(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

**NOTES-**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Gable requires continuous bottom chord bearing.
- 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 1, 41 lb uplift at joint 3 and 9 lb uplift at joint 4.
- 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.



March 12, 2020

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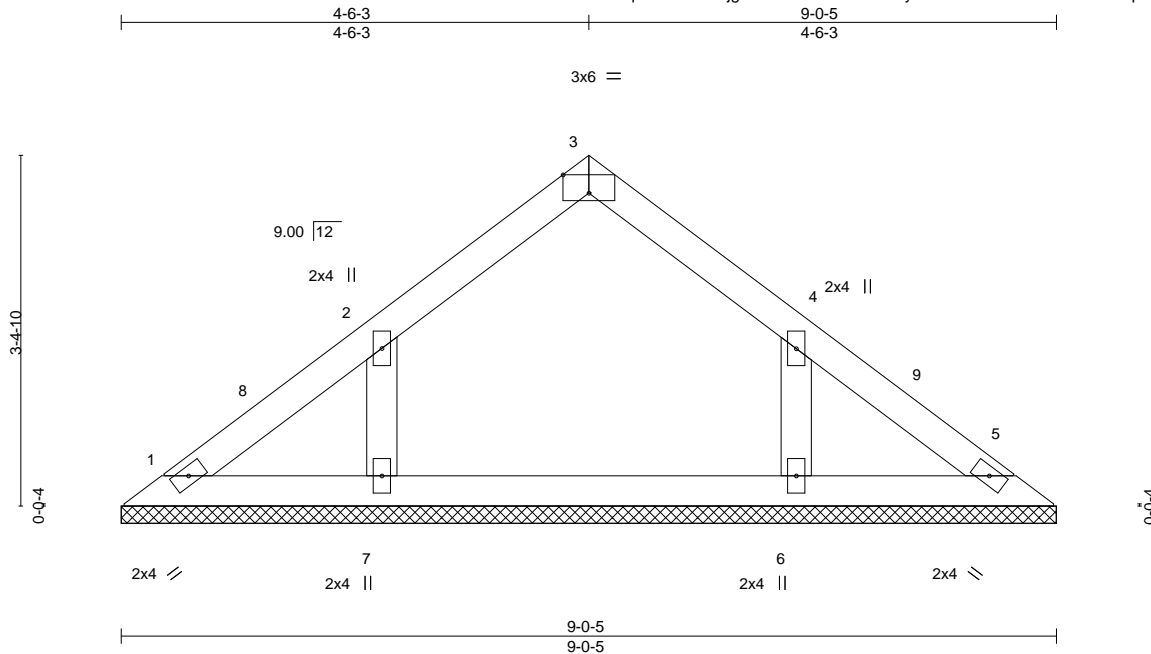
ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

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Edenton, NC 27932

|               |              |                     |          |          |  |
|---------------|--------------|---------------------|----------|----------|--|
| Job<br>MASTER | Truss<br>V06 | Truss Type<br>GABLE | Qty<br>1 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>E14172782 |
|---------------|--------------|---------------------|----------|----------|--|

Builders FirstSource (Albermarle), Albemarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:37 2020 Page 1  
ID:qesddlmiofJcig3nOl3r8zrBHb-FQGfCyXQQDhHoNtGYXnJRtHVobspUWspaDSYcjbww0



Scale = 1:22.2

Plate Offsets (X,Y)-- [3:0-3-0,Edge], [4:0-0-0,0-0-0]

| LOADING (psf) | SPACING-             | CSI.     | DEFL.    | in (loc) | l/defl | L/d | PLATES        | GRIP     |
|---------------|----------------------|----------|----------|----------|--------|-----|---------------|----------|
| TCLL 20.0     | Plate Grip DOL 1.15  | TC 0.07  | Vert(LL) | n/a      | -      | n/a | MT20          | 244/190  |
| TCDL 10.0     | Lumber DOL 1.15      | BC 0.10  | Vert(CT) | n/a      | -      | n/a |               |          |
| BCLL 0.0 *    | Rep Stress Incr YES  | WB 0.06  | Horz(CT) | 0.00     | 5      | n/a |               |          |
| BCDL 10.0     | Code IRC2018/TPI2014 | Matrix-S |          |          |        |     | Weight: 33 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 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS.** All bearings 9-0-5.  
(lb) - Max Horz 1=-102(LC 10)  
Max Uplift All uplift 100 lb or less at joint(s) 1, 5 except 7=-124(LC 12), 6=-122(LC 13)  
Max Grav All reactions 250 lb or less at joint(s) 1, 5, 6 except 7=251(LC 19)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

**NOTES-**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-5-4 to 3-5-4, Interior(1) 3-5-4 to 4-6-3, Exterior(2R) 4-6-3 to 7-6-3, Interior(1) 7-6-3 to 8-7-1 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Gable requires continuous bottom chord bearing.
- 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 5 except (jt=lb) 7=124, 6=122.
- 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.



March 12, 2020

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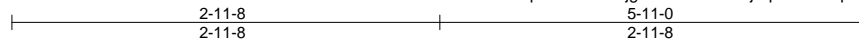


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|               |              |                      |          |          |   |           |
|---------------|--------------|----------------------|----------|----------|---|-----------|
| Job<br>MASTER | Truss<br>V07 | Truss Type<br>Valley | Qty<br>1 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>Job Reference (optional) | E14172783 |
|---------------|--------------|----------------------|----------|----------|---|-----------|

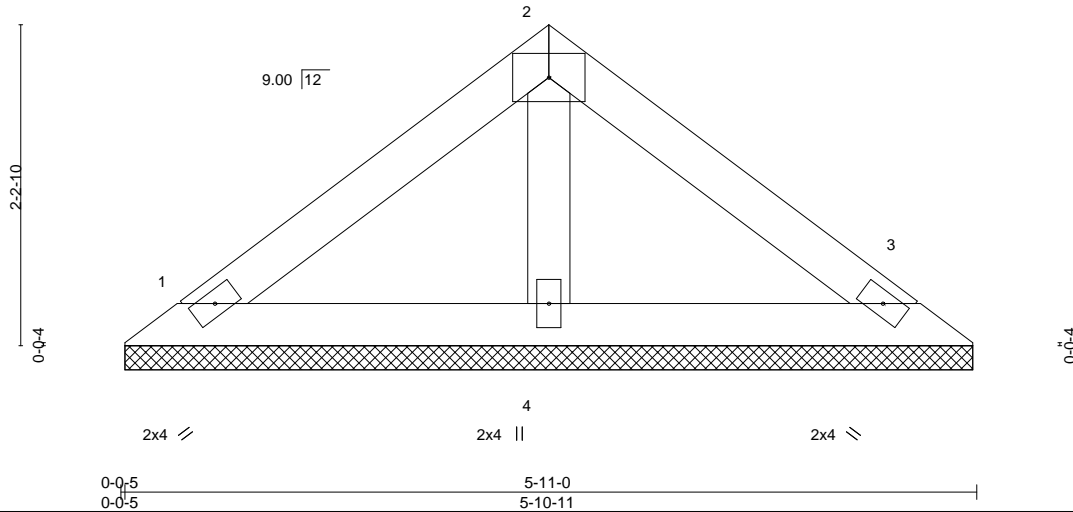
Builders FirstSource (Albermarle), Albemarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:38 2020 Page 1  
ID:qesddlmiofJcig3nOl3r8zrBhb-jdq1PIX2AXp8PXSS6FIY\_5qf4bCXD\_eyptC6l9zbww?



4x6 =

Scale: 3/4"=1'



| LOADING (psf) | SPACING-             | CSI.     | DEFL.         | in (loc) | l/defl | L/d | PLATES        | GRIP     |
|---------------|----------------------|----------|---------------|----------|--------|-----|---------------|----------|
| TCLL 20.0     | Plate Grip DOL 1.15  | TC 0.16  | Vert(LL) n/a  | -        | n/a    | 999 | MT20          | 244/190  |
| TCDL 10.0     | Lumber DOL 1.15      | BC 0.06  | Vert(CT) n/a  | -        | n/a    | 999 |               |          |
| BCLL 0.0 *    | Rep Stress Incr YES  | WB 0.03  | Horz(CT) 0.00 | 3        | n/a    | n/a |               |          |
| BCDL 10.0     | Code IRC2018/TPI2014 | Matrix-P |               |          |        |     | Weight: 21 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 5-11-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

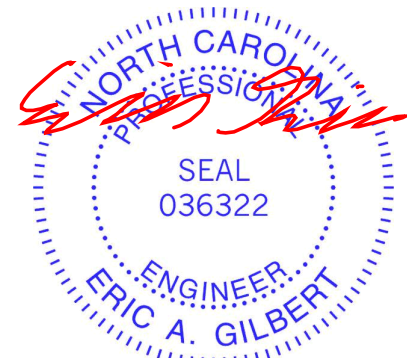
**REACTIONS.**

(size) 1=5-10-5, 3=5-10-5, 4=5-10-5  
Max Horz 1=63(LC 11)  
Max Uplift 1=-43(LC 12), 3=-51(LC 13), 4=-11(LC 12)  
Max Grav 1=112(LC 1), 3=112(LC 1), 4=179(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

**NOTES-**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Gable requires continuous bottom chord bearing.
- 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3, 4.
- 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.



March 12, 2020

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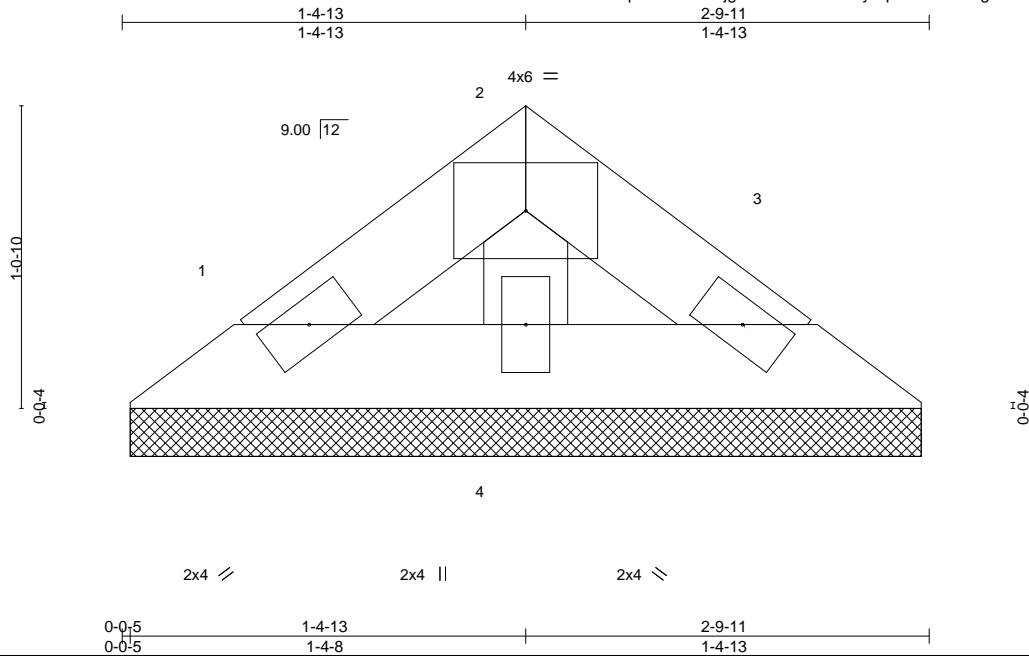
ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

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Edenton, NC 27932

|               |              |                      |          |          |   |           |
|---------------|--------------|----------------------|----------|----------|---|-----------|
| Job<br>MASTER | Truss<br>V08 | Truss Type<br>Valley | Qty<br>1 | Ply<br>1 | A&G/Cardinal/Lot10/NewHorizons/Fayettev<br>Job Reference (optional) | E14172784 |
|---------------|--------------|----------------------|----------|----------|---|-----------|

Builders FirstSource (Albermarle), Albemarle, NC - 28001,

8.240 s Feb 7 2020 MiTek Industries, Inc. Wed Mar 11 18:06:40 2020 Page 1  
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Scale: 1.5"=1'

| LOADING (psf) | SPACING-             | CSI.     | DEFL.    | in (loc) | l/defl | L/d | PLATES       | GRIP     |
|---------------|----------------------|----------|----------|----------|--------|-----|--------------|----------|
| TCLL 20.0     | 2-0-0                | TC 0.03  | Vert(LL) | n/a      | -      | n/a | MT20         | 244/190  |
| TCDL 10.0     | Plate Grip DOL 1.15  | BC 0.01  | Vert(CT) | n/a      | -      | n/a |              |          |
| BCLL 0.0 *    | Lumber DOL 1.15      | WB 0.01  | Horz(CT) | 0.00     | 3      | n/a |              |          |
| BCDL 10.0     | Rep Stress Incr YES  | Matrix-P |          |          |        |     | Weight: 8 lb | FT = 20% |
|               | Code IRC2018/TPI2014 |          |          |          |        |     |              |          |

**LUMBER-**

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

**BRACING-**

TOP CHORD Structural wood sheathing directly applied or 2-9-11 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

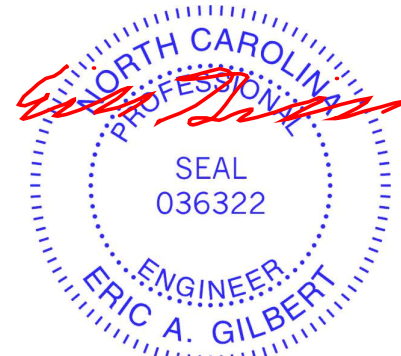
**REACTIONS.**

(size) 1=2-9-0, 3=2-9-0, 4=2-9-0  
Max Horz 1=24(LC 11)  
Max Uplift 1=-17(LC 12), 3=-20(LC 13), 4=-4(LC 12)  
Max Grav 1=43(LC 1), 3=43(LC 1), 4=68(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

**NOTES-**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Gable requires continuous bottom chord bearing.
- 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3, 4.
- 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.



March 12, 2020

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 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, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.

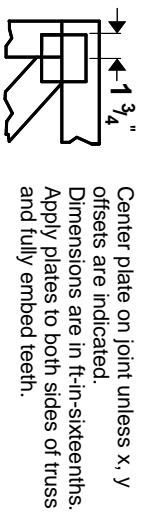
ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

818 Soundside Road  
Edenton, NC 27932

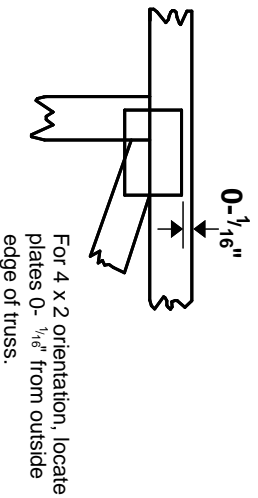


# Symbols

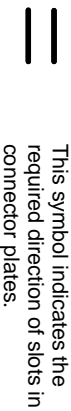
## PLATE LOCATION AND ORIENTATION



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- 1/8" from outside edge of truss.



This symbol indicates the required direction of slots in connector plates.

## PLATE SIZE

4 X 4

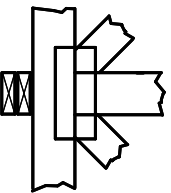
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## 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

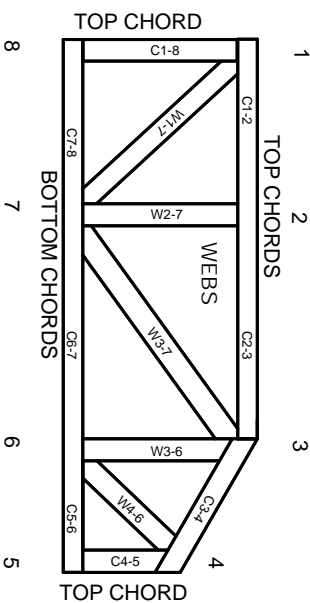


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

## Industry Standards:

ANSI/TPI 1: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-89: Design Standard for Bracing.  
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

# Numbering System



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

## PRODUCT CODE APPROVALS

ICC-ES Reports:

ESR-1311, ESR-1352, ESR1988  
ER-3907, ESR-2362, ESR-1397, ESR-3282

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

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

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# General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.