ENGINEERING BY TRENCO
A MiTek Affiliate

Re: 31857-31857A
Hayden B.F.K

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

Pages or sheets covered by this seal: I51643731 thru I51643748

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

North Carolina COA: C-0844

NORTH CAROLINA
PROFESSIONAL
SEAL
036322
ERIC A. GILBERT
ENGINEER

April 29,2022

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	Truss	Truss Type	Qty	Ply	Hayden B.F.K	
31857-31857A	A	Common	4	1		I51643731
					Job Reference (optional)	

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

8.530 s Dec 6 2021 MiTek Industries, Inc. Thu Apr 28 12:34:15 2022 Page 1
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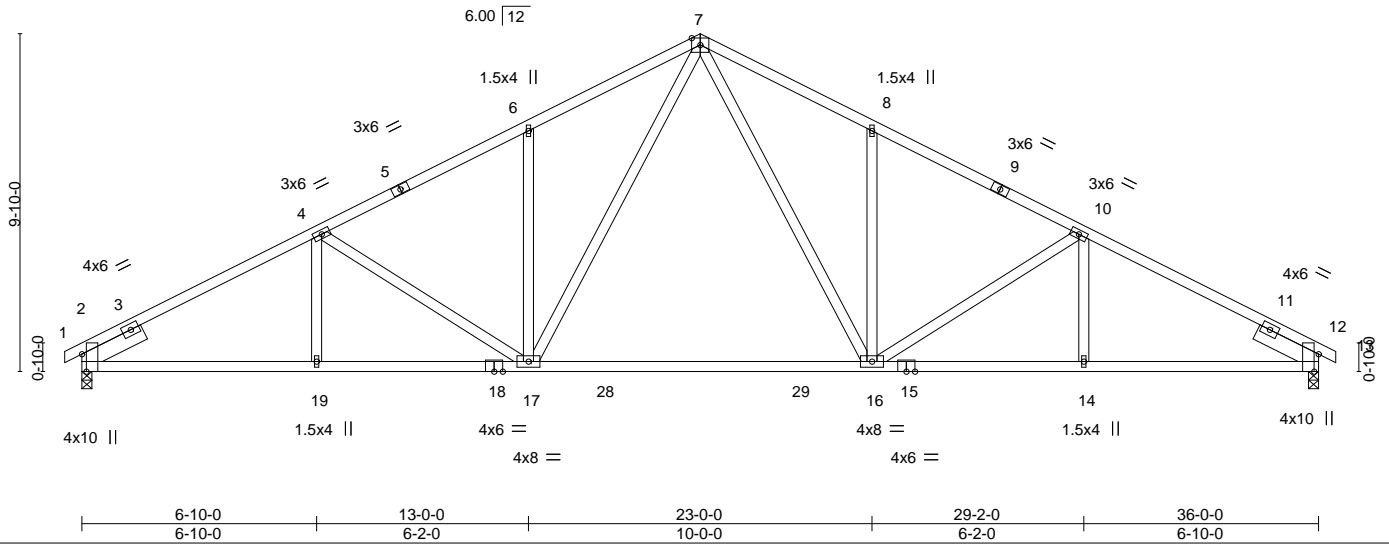
Plate Offsets (X,Y)-- [2:0-6-1,Edge], [12:0-6-1,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.88	Vert(LL)	-0.38	16-17	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.68	16-17	>633	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.39	Horz(CT)	0.11	12	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-MS							Weight: 208 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.2 *Except*
1-5,9-13: 2x4 SP No.1
BOT CHORD 2x4 SP No.1
WEBS 2x4 SP No.2 *Except*
10-14,4-19: 2x4 SP No.3
SLIDER Left 2x6 SP No.2 2-0-0, Right 2x6 SP No.2 2-0-0

BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
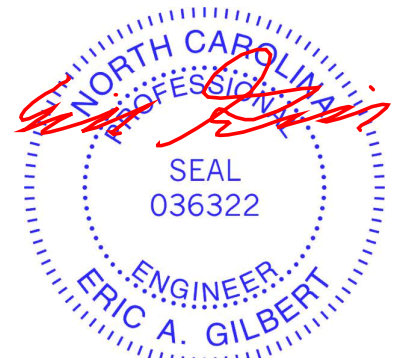
REACTIONS. (size) 2=0-3-8, 12=0-3-8
Max Horz 2=-132(LC 13)
Max Uplift 2=-87(LC 12), 12=-87(LC 13)
Max Grav 2=1470(LC 1), 12=1470(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-4=-2359/404, 4-6=-2031/392, 6-7=-2036/507, 7-8=-2036/507, 8-10=-2031/392,
10-12=-2359/404
BOT CHORD 2-19=-269/2027, 17-19=-269/2027, 16-17=-58/1355, 14-16=-269/2027, 12-14=-269/2027
WEBS 7-16=-192/868, 8-16=-380/198, 10-16=-370/144, 7-17=-192/868, 6-17=-380/198,
4-17=-370/145

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope)
gable end zone and C-C Exterior(2) zone; 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
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide
will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 12.

April 29,2022

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

Job	Truss	Truss Type	Qty	Ply	Hayden B.F.K	
31857-31857A	A1	ROOF TRUSS	5	1		I51643732
					Job Reference (optional)	

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

8.530 s Dec 6 2021 MiTek Industries, Inc. Thu Apr 28 12:34:16 2022 Page 1
ID:OzVU6VtZeIu0DaSZCT8WpBzMCQc-aW2S9BMj5bS7SKXsPqHD1dMXtMGYkTeDKj1rv0zMBHb

Plate Offsets (X,Y)-- [2:0-6-1,Edge], [8:0-3-0,Edge], [14:0-6-1,Edge]
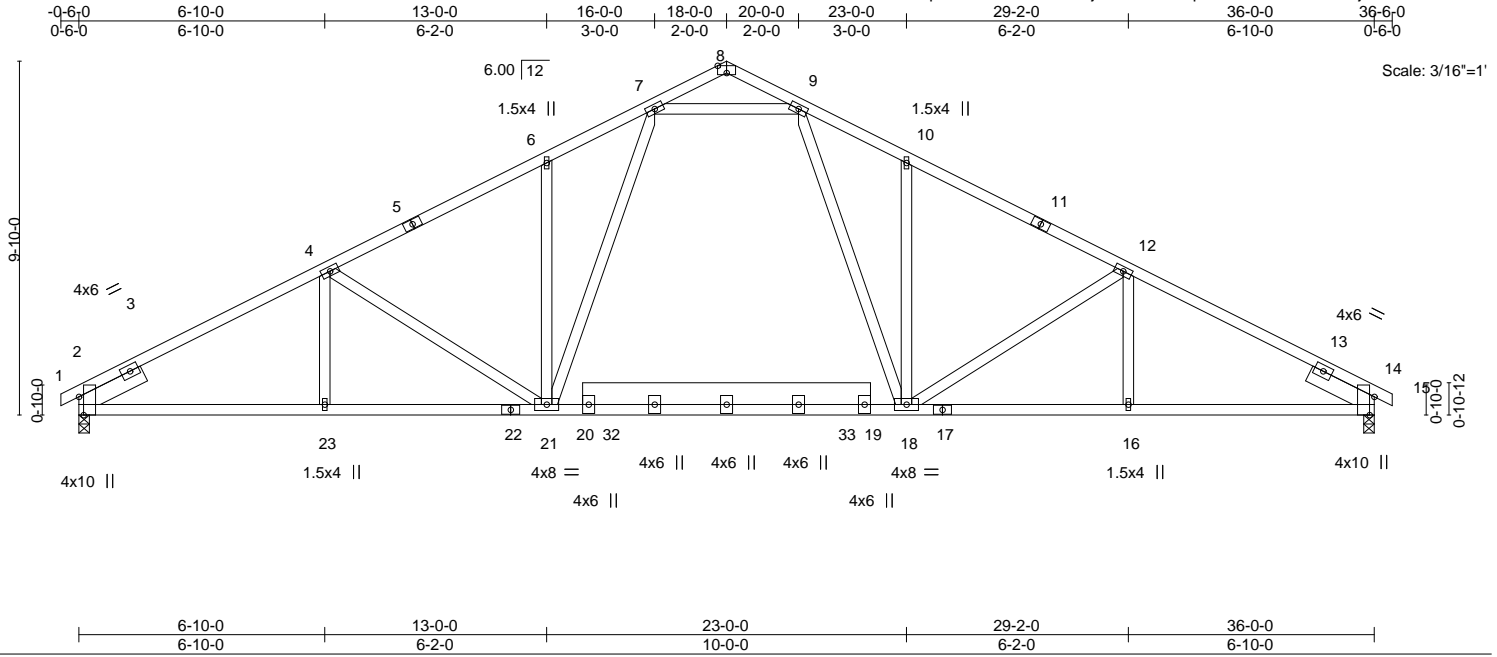
LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.26	16-18	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.77	Vert(CT)	-0.41	16-18	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.52	Horz(CT)	0.10	14	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-MS							Weight: 233 lb	FT = 20%

LUMBER-
TOP CHORD   2x4 SP No.2 *Except*
             1-5,11-15: 2x4 SP No.1
BOT CHORD   2x4 SP No.1 *Except*
             19-20: 2x8 SP DSS
WEBS   2x4 SP No.2 *Except*
             12-16,4-23,7-9: 2x4 SP No.3
SLIDER   Left 2x6 SP No.2 2-0-0, Right 2x6 SP No.2 2-0-0

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

REACTIONS.   (size) 2=0-3-8, 14=0-3-8
    Max Horz 2=-132(LC 13)
    Max Uplift 2=-87(LC 12), 14=-87(LC 13)
    Max Grav 2=1470(LC 1), 14=1470(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD   2-4=-2364/402, 4-6=-2020/398, 6-7=-2009/491, 9-10=-2009/491, 10-12=-2020/398,
             12-14=-2364/402
BOT CHORD   2-23=-268/2032, 21-23=-268/2032, 18-21=-98/1486, 16-18=-268/2032, 14-16=-268/2032
WEBS   9-18=-169/865, 10-18=-460/201, 12-18=-401/140, 7-21=-169/865, 6-21=-460/202,
             4-21=-401/139, 7-9=-1334/360

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope)
   gable end zone and C-C Exterior(2) zone; 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
3) All plates are 3x6 MT20 unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide
   will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 14.
7) ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.

April 29,2022

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hayden B.F.K	
31857-31857A	A2®	ROOF TRUSS	2	1		I51643733
					Job Reference (optional)	

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

8.530 s Dec 6 2021 MiTek Industries, Inc. Thu Apr 28 12:34:18 2022 Page 1
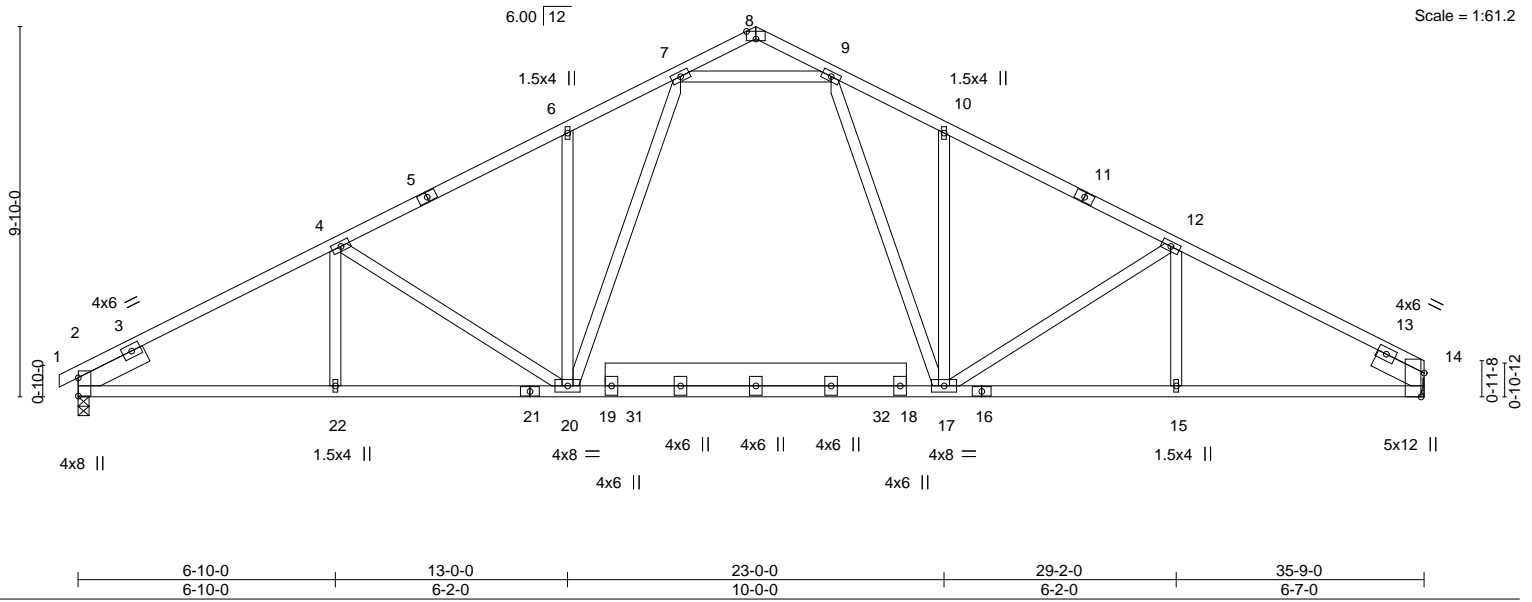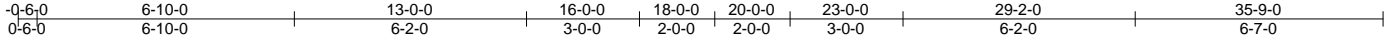ID:OzVU6VtZeIu0DaSZCT8WpBzMCQc-WvADatN_dDirhdhFXFJh62RtVAz9CNHWo1Wy_vzMBHZ

6.00 ⌐12

Scale = 1:61.2

Plate Offsets (X,Y)--   [2:0-5-13,0-0-1], [8:0-3-0,Edge], [14:0-7-9,Edge]

LOADING (psf)	SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC	0.84	Vert(LL)	-0.26	20-22	>999	240	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC	0.76	Vert(CT)	-0.42	20-22	>999	180		
BCLL 0.0 *	Rep Stress Incr	YES	WB	0.51	Horz(CT)	0.12	14	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-MS							Weight: 230 lb	FT = 20%

LUMBER-
TOP CHORD   2x4 SP No.2 *Except*
            1-5: 2x4 SP No.1, 11-14: 2x4 SP DSS
BOT CHORD   2x4 SP No.1 *Except*
            14-16: 2x4 SP DSS, 18-19: 2x8 SP DSS
WEBS   2x4 SP No.2 *Except*
            4-22,12-15,7-9: 2x4 SP No.3
SLIDER   Left 2x6 SP No.2 2-0-0, Right 2x6 SP DSS 1-6-0

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

REACTIONS.   (size)   2=0-3-8, 14=Mechanical
        Max Horz 2=137(LC 12)
        Max Uplift 2=-87(LC 12), 14=-77(LC 13)
        Max Grav 2=1460(LC 1), 14=1430(LC 1)

FORCES.   (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD   2-4=-2346/399, 4-6=-1999/394, 6-7=-1991/487, 9-10=-1976/486, 10-12=-1985/392,
            12-14=-2275/386
BOT CHORD   2-22=-277/2016, 20-22=-277/2016, 17-20=-107/1466, 15-17=-264/1936, 14-15=-264/1936
WEBS   4-20=-403/139, 6-20=-463/201, 7-20=-169/867, 9-17=-167/842, 10-17=-464/201,
            12-17=-333/135, 7-9=-1313/356

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope)
   gable end zone and C-C Exterior(2) zone; 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
3) All plates are 3x6 MT20 unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide
   will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 14.
8) ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.

NORTH CAROLINA
PROFESSIONAL
SEAL
036322
ENGINEER
ERIC A. GILBERT

April 29,2022

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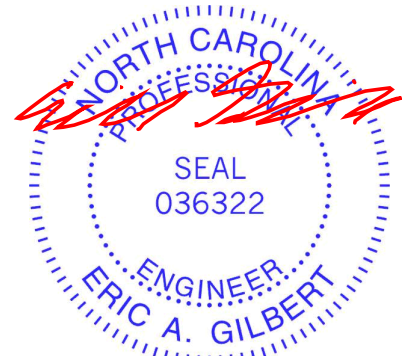84 Components (Dunn),   Dunn, NC - 28334,

Plate Offsets (X,Y)--   [2:0-5-13,0-0-1], [12:0-7-9,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.98	Vert(LL)	-0.37	15-16	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.78	Vert(CT)	-0.67	15-16	>637	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.39	Horz(CT)	0.12	12	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-MS							Weight: 208 lb	FT = 20%

LUMBER-
TOP CHORD   2x4 SP No.2 *Except*
       1-5,9-12: 2x4 SP No.1
BOT CHORD   2x4 SP No.1 *Except*
       12-14: 2x4 SP DSS
WEBS   2x4 SP No.2 *Except*
       4-18,10-13: 2x4 SP No.3
SLIDER   Left 2x6 SP No.2 2-0-0, Right 2x8 SP DSS 2-0-0

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

REACTIONS.   (size)   2=0-3-8, 12=Mechanical
      Max Horz   2=137(LC 12)
      Max Uplift   2=-87(LC 12), 12=-77(LC 13)
      Max Grav   2=1460(LC 1), 12=1430(LC 1)

FORCES.   (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD   2-4=-2340/401, 4-6=-2011/389, 6-7=-2015/504, 7-8=-2003/502, 8-10=-1995/386,
          10-12=-2263/391
BOT CHORD   2-18=-279/2011, 16-18=-279/2011, 15-16=-68/1337, 13-15=-266/1936, 12-13=-266/1936
WEBS   4-16=-372/145, 6-16=-380/198, 7-16=-192/867, 7-15=-188/846, 8-15=-388/200,
          10-15=-306/136

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; 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
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 12.

April 29,2022

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

8.530 s Dec 6 2021 MiTek Industries, Inc. Thu Apr 28 12:34:21 2022 Page 1
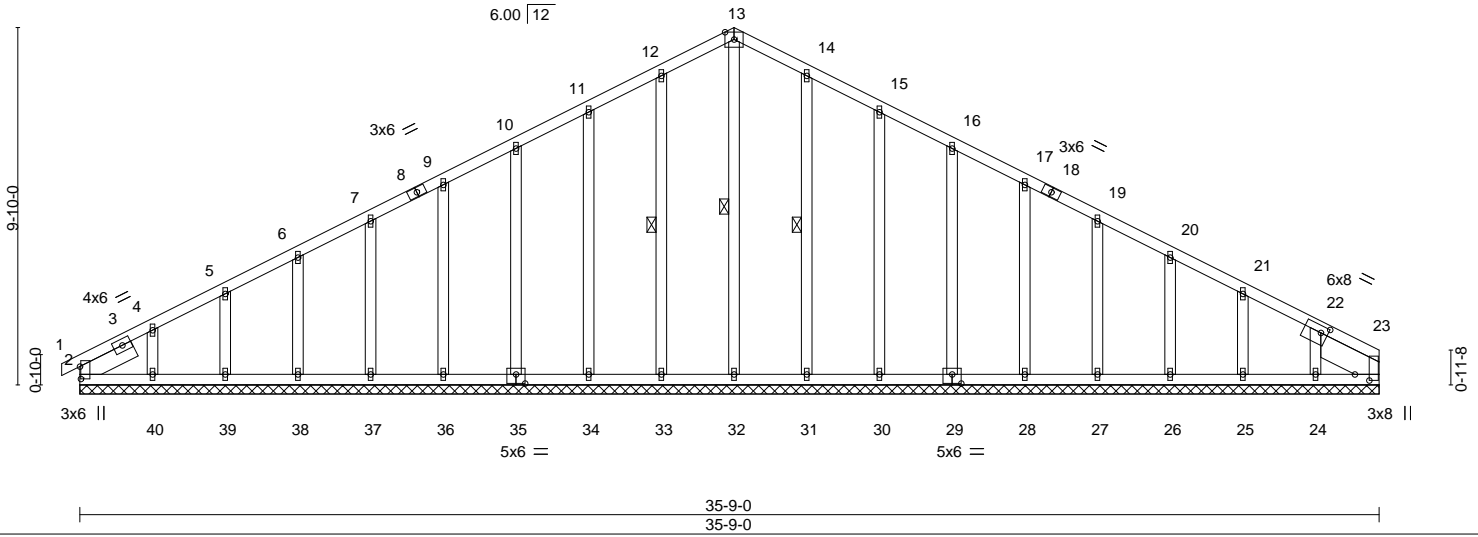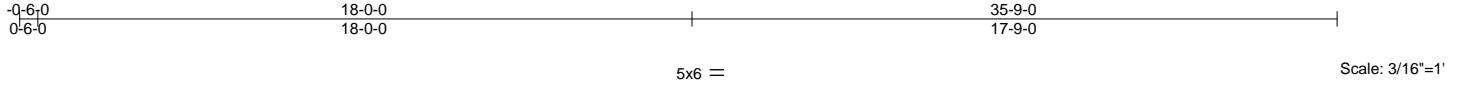ID:OzVU6VtZeIu0DaSZCT8WpBzMCQc-xTrLCvQsw84QY5PqCNtPkg3b2N9JPq7yU?kcaEzMBHW

Scale: 3/16"=1'

Plate Offsets (X,Y)-- [2:0-4-1,0-0-5], [22:0-2-5,0-2-4], [23:0-2-0,0-4-12], [29:0-3-0,0-3-0], [35:0-3-0,0-3-0]

LOADING (psf)	SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC	0.06	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	90		
BCLL 0.0 *	Rep Stress Incr	YES	WB	0.12	Horz(CT)	0.01	23	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S							Weight: 251 lb	FT = 20%

LUMBER-
TOP CHORD   2x4 SP No.2
BOT CHORD   2x4 SP No.2
OTHERS   2x4 SP No.3 *Except*
             13-32,12-33,11-34,10-35,14-31,15-30,16-29: 2x4 SP No.2
SLIDER   Left 2x6 SP No.2 1-7-15, Right 2x8 SP DSS 1-11-6

BRACING-
TOP CHORD   Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD   Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS   1 Row at midpt   13-32, 12-33, 14-31

REACTIONS.   All bearings 35-9-0.
   (lb) - Max Horz   2=-139(LC 17)
       Max Uplift   All uplift 100 lb or less at joint(s) 2, 33, 34, 35, 36, 37, 38, 39, 40, 31, 30, 29, 28, 27, 26, 25, 24
       Max Grav   All reactions 250 lb or less at joint(s) 2, 23, 32, 33, 34, 35, 36, 37, 38, 39, 40, 31, 30, 29, 28, 27, 26, 25, 24

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

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; 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
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 1.5x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 33, 34, 35, 36, 37, 38, 39, 40, 31, 30, 29, 28, 27, 26, 25, 24.

April 29,2022

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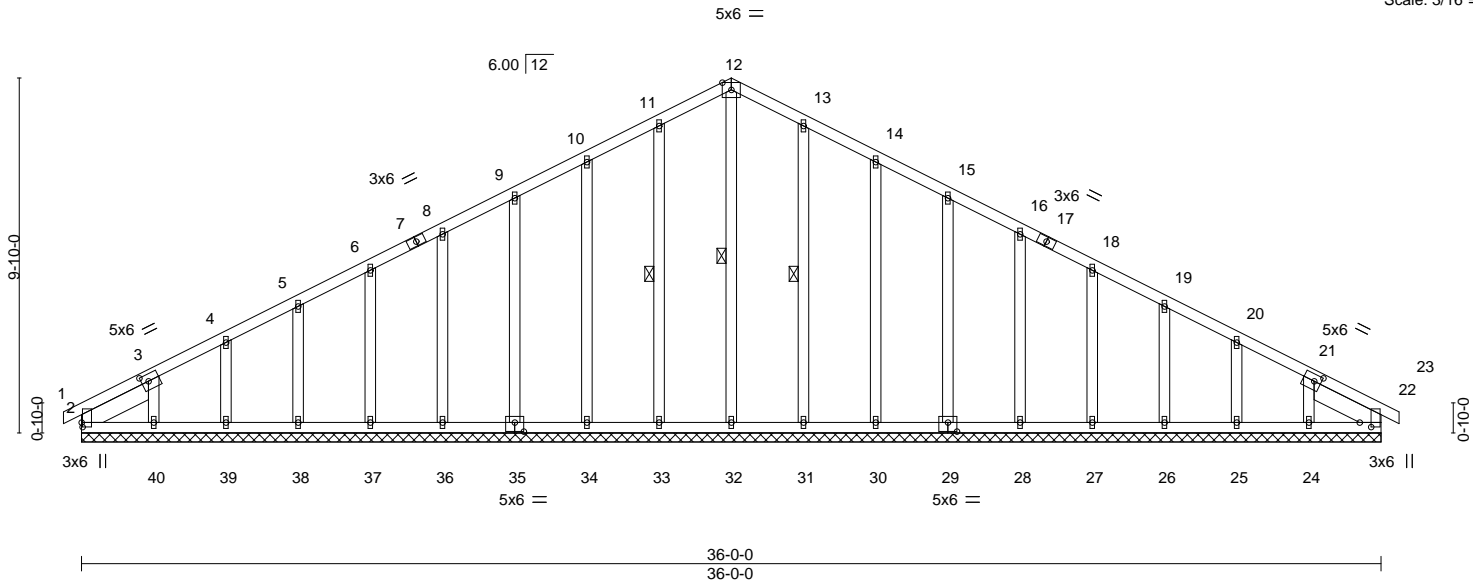818 Soundside Road
Edenton, NC 27932

Scale: 3/16"=1'

Plate Offsets (X,Y)--   [2:0-1-8,0-0-5], [3:0-2-5,0-2-4], [21:0-2-5,0-2-4], [22:0-1-8,0-3-13], [29:0-3-0,0-3-0], [35:0-3-0,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	-0.00	22	n/r	120	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	-0.00	22	n/r	90		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.12	Horz(CT)	0.01	22	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S							Weight: 253 lb	FT = 20%

LUMBER-
TOP CHORD   2x4 SP No.2
BOT CHORD   2x4 SP No.2
OTHERS   2x4 SP No.3 *Except*
            12-32,11-33,10-34,9-35,13-31,14-30,15-29: 2x4 SP No.2
SLIDER   Left 2x6 SP No.2 2-2-1, Right 2x6 SP No.2 2-2-1

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   12-32, 11-33, 13-31

REACTIONS.   All bearings 36-0-0.
   (lb) - Max Horz 2=-132(LC 13)
           Max Uplift   All uplift 100 lb or less at joint(s) 2, 33, 34, 35, 36, 37, 38, 39, 40, 31, 30, 29, 28, 27, 26, 25, 24
           Max Grav   All reactions 250 lb or less at joint(s) 2, 22, 32, 33, 34, 35, 36, 37, 38, 39, 40, 31, 30, 29, 28, 27, 26, 25, 24

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

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; 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
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 1.5x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 33, 34, 35, 36, 37, 38, 39, 40, 31, 30, 29, 28, 27, 26, 25, 24.

April 29,2022

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hayden B.F.K	
						I51643737
31857-31857A	B	Common	1	1		
					Job Reference (optional)	

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

8.530 s Dec 6 2021 MiTek Industries, Inc. Thu Apr 28 12:34:24 2022 Page 1
ID:OzVU6VtZeIu0DaSZCT8WpBzMCQc-L2XUrwSlD3S_PY8PtVQ6MJh_kb4fc3pPAzzGBZzMBHT

-0-6-0	5-5-14	10-6-0	15-6-3	21-0-0	21-6-0
0-6-0	5-5-14	5-0-3	5-0-2	5-5-14	0-6-0

Scale = 1:38.8

4x6 ═

6.00 ⌐12

4x6 ═
3

4x6 ═
5

8x12 ═

1 2

6 7

11

10

12   13

9

8

5x6 ═

3x6 ═

8x12 ═

7-1-3	13-10-13	21-0-0
7-1-3	6-9-11	7-1-3
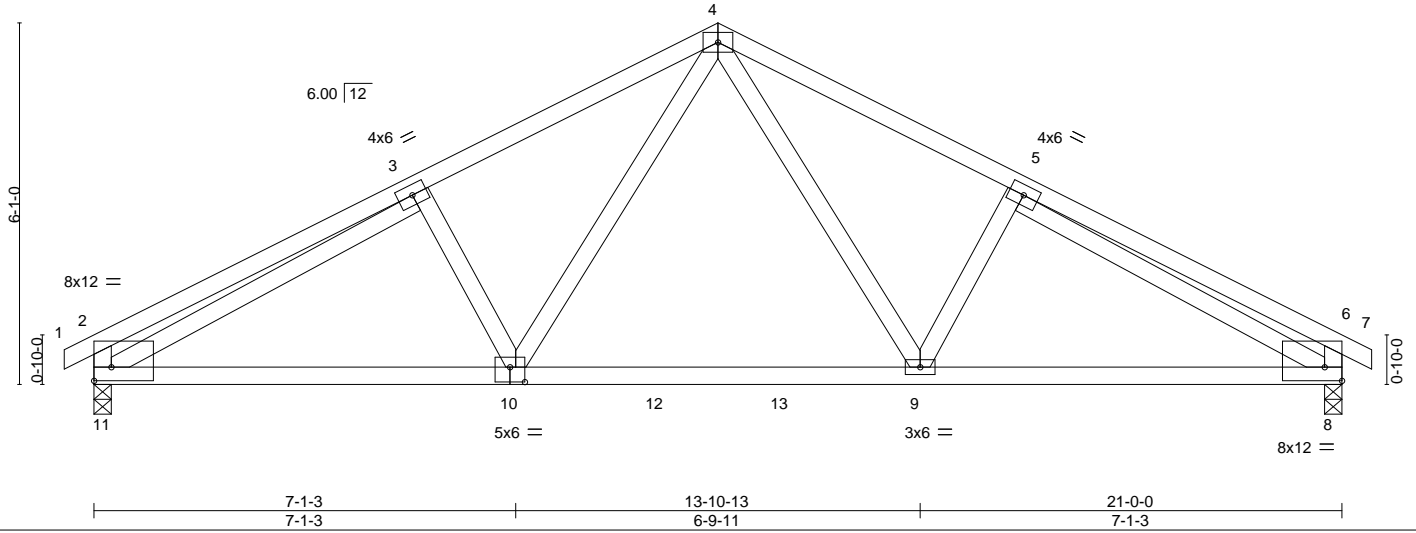
Plate Offsets (X,Y)--   [2:Edge,0-2-12], [8:Edge,0-2-12], [10:0-3-0,0-3-0]

LOADING (psf)	SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC	0.48	Vert(LL)	-0.08	9-10	>999	240	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC	0.50	Vert(CT)	-0.14	9-10	>999	180		
BCLL 0.0 *	Rep Stress Incr	YES	WB	0.63	Horz(CT)	0.03	8	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-MS							Weight: 116 lb	FT = 20%

LUMBER-
TOP CHORD   2x4 SP No.2
BOT CHORD   2x4 SP No.2
WEBS   2x4 SP No.3 *Except*
           4-9,4-10: 2x4 SP No.2

BRACING-
TOP CHORD   Structural wood sheathing directly applied or 5-2-1 oc purlins,
                  except end verticals.
BOT CHORD   Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS.   (size)   11=0-3-8, 8=0-3-8
            Max Horz   11=-76(LC 10)
            Max Uplift   11=-55(LC 12), 8=-55(LC 13)
            Max Grav   11=867(LC 1), 8=867(LC 1)

FORCES.   (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD   2-3=-414/142, 3-4=-1131/259, 4-5=-1125/256, 5-6=-415/141, 2-11=-350/141,
            6-8=-351/141
BOT CHORD   10-11=-137/1042, 9-10=-31/746, 8-9=-136/1041
WEBS   4-9=-61/407, 4-10=-65/410, 3-11=-862/102, 5-8=-860/104

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope)
    gable end zone and C-C Exterior(2) zone; 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
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide
    will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 11, 8.

NORTH CAROLINA
PROFESSIONAL SEAL
SEAL
036322
ENGINEER
ERIC A. GILBERT

April 29,2022

TRENCO
ENGINEERING BY
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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hayden B.F.K	
31857-31857A	BE	Common Supported Gable	1	1		I51643738
					Job Reference (optional)	

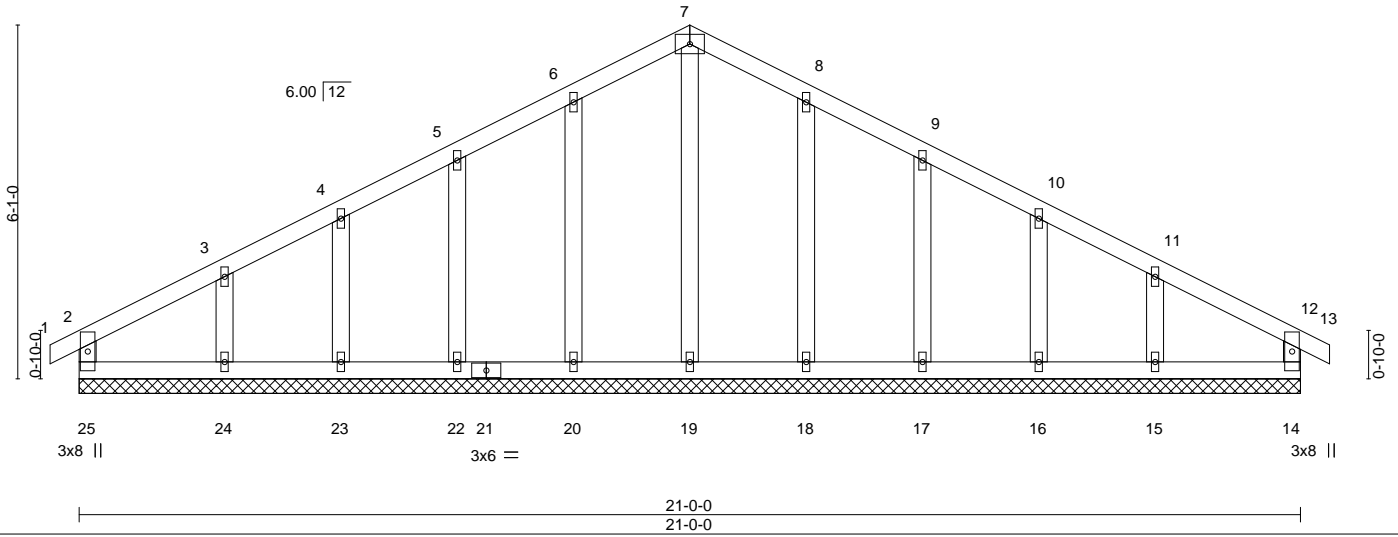84 Components (Dunn),   Dunn, NC - 28334,

8.530 s Dec 6 2021 MiTek Industries, Inc. Thu Apr 28 12:34:26 2022 Page 1
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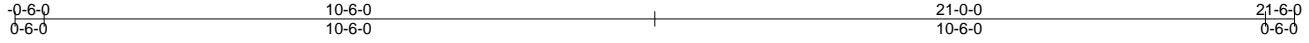
-0-6-0   10-6-0   21-0-0   21-6-0
0-6-0   10-6-0   10-6-0   0-6-0

4x6 =

Scale = 1:39.6

6.00 ⌐12

21-0-0
21-0-0

LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	0.00	12	n/r	120	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	0.00	12	n/r	90		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	14	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-R							Weight: 114 lb	FT = 20%

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

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.   All bearings 21-0-0.
    (lb) -   Max Horz   25=-76(LC 10)
          Max Uplift   All uplift 100 lb or less at joint(s) 25, 14, 20, 22, 23, 24, 18, 17, 16, 15
          Max Grav   All reactions 250 lb or less at joint(s) 25, 14, 19, 20, 22, 23, 24, 18, 17, 16, 15

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

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; 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
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 1.5x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 25, 14, 20, 22, 23, 24, 18, 17, 16, 15.

NORTH CAROLINA
PROFESSIONAL
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ERIC A. GILBERT
ENGINEER

April 29,2022

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Edenton, NC 27932

Job	Truss	Truss Type	Qty	**Ply**	Hayden B.F.K	
31857-31857A	BGR	Common Girder	1	**2**	Job Reference (optional)	I51643739

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

8.530 s Dec 6 2021 MiTek Industries, Inc. Thu Apr 28 12:34:27 2022 Page 1
ID:OzVU6VtZeIu0DaSZCT8WpBzMCQc-mdDcTyUdW_rZG0t_Ze_p_xJV7o4?pKvrsxBwotzMBHQ
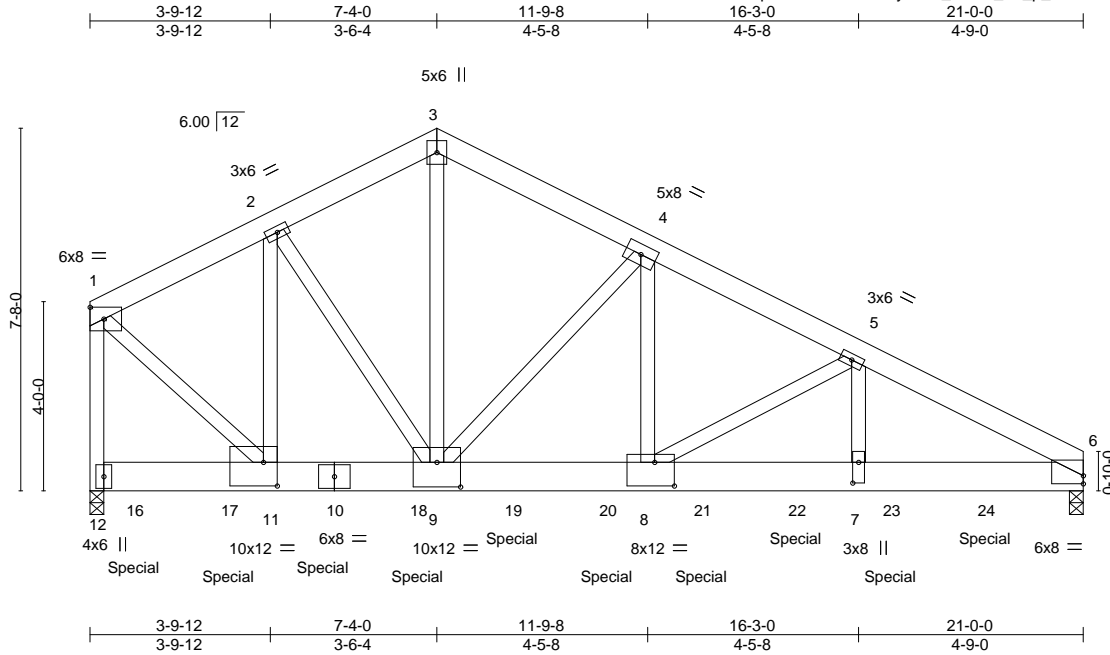
Plate Offsets (X,Y)--   [6:0-0-0,0-2-1], [7:0-5-4,0-1-8], [8:0-5-0,0-6-0], [9:0-6-0,0-6-4], [11:0-3-8,0-6-0]

LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.47	Vert(LL)	-0.12	7-8	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.23	7-8	>999	180		
BCLL	0.0 *	Rep Stress Incr	NO	WB	1.00	Horz(CT)	0.04	6	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-MS							Weight: 366 lb	FT = 20%

LUMBER-
TOP CHORD   2x6 SP No.2
BOT CHORD   2x8 SP DSS
WEBS   2x4 SP No.3 *Except*
              2-9,3-9,4-9,1-11: 2x4 SP No.2
OTHERS   2x4 SP No.2

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

REACTIONS.   (size)   6=(0-3-8 + TBE4 Simpson Strong-Tie) (req. 0-5-14), 12=0-3-8
              Max Horz 12=-152(LC 6)
              Max Uplift 6=-478(LC 9), 12=-498(LC 9)
              Max Grav 6=7469(LC 1), 12=8299(LC 1)

FORCES.   (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD   1-2=-5321/369, 2-3=-6281/468, 3-4=-6325/454, 4-5=-9882/660, 5-6=-12529/811,
              1-12=-6958/439
BOT CHORD   9-11=-243/4684, 8-9=-467/8828, 7-8=-669/11087, 6-7=-669/11087
WEBS   2-11=-1919/153, 2-9=-109/1743, 3-9=-341/5240, 4-9=-4763/388, 4-8=-276/4807,
              5-8=-2639/235, 5-7=-115/2489, 1-11=-376/6399

NOTES-
1) 2-ply truss to be connected together with 10d (0.148"x3") nails as follows:
   Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
   Bottom chords connected as follows: 2x8 - 2 rows staggered at 0-7-0 oc.
   Webs connected as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) Bearing at joint(s) 12 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 12=498.

Job	Truss	Truss Type	Qty	**Ply**	Hayden B.F.K	
						I51643739
31857-31857A	BGR	Common Girder	1	**2**	Job Reference (optional)	

84 Components (Dunn),	Dunn, NC - 28334,	8.530 s Dec 6 2021 MiTek Industries, Inc. Thu Apr 28 12:34:28 2022 Page 2
		ID:OzVU6VtZeIu0DaSZCT8WpBzMCQc-Eqm?gIVFHHzQuASA6LV2W9sgtCQEXn9_5bxUKKzMBHP

NOTES-

9) TBE4 Simpson Strong-Tie connectors recommended to connect truss to bearing at jt(s) 6. This connection does not consider lateral forces.

10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1412 lb down and 95 lb up at 0-11-4, 1410 lb down and 97 lb up at 2-11-4, 1410 lb down and 97 lb up at 4-11-4, 1410 lb down and 97 lb up at 6-11-4, 1410 lb down and 97 lb up at 8-11-4, 1410 lb down and 97 lb up at 10-11-4, 1410 lb down and 97 lb up at 12-11-4, 1410 lb down and 97 lb up at 14-11-4, and 1410 lb down and 97 lb up at 16-11-4, and 1410 lb down and 97 lb up at 18-11-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

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

Uniform Loads (plf)

Vert: 1-3=-60, 3-6=-60, 12-13=-20

Concentrated Loads (lb)

Vert: 10=-1410(B) 16=-1412(B) 17=-1410(B) 18=-1410(B) 19=-1410(B) 20=-1410(B) 21=-1410(B) 22=-1410(B) 23=-1410(B) 24=-1410(B)

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A MiTek Affiliate

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Job	Truss	Truss Type	Qty	Ply	Hayden B.F.K	
31857-31857A	P	Monopitch	9	1		I51643740
					Job Reference (optional)	

84 Components (Dunn),   Dunn, NC - 28334,   8.530 s Dec 6 2021 MiTek Industries, Inc. Thu Apr 28 12:34:28 2022 Page 1
ID:OzVU6VtZeIu0DaSZCT8WpBzMCQc-Eqm?gIVFHHzQuASA6LV2W9sfZCSMX0i_5bxUKKzMBHP

-0-6-0 / 0-6-0
6-0-0 / 6-0-0

Scale = 1:16.5

1.5x4 ||

4.00 [12]

1.5x4 ||

2x4 =

LOADING (psf)
TCLL 20.0
TCDL 10.0
BCLL 0.0 *
BCDL 10.0

SPACING- 2-0-0
Plate Grip DOL 1.15
Lumber DOL 1.15
Rep Stress Incr YES
Code IRC2015/TPI2014

CSI.
TC 0.55
BC 0.39
WB 0.00
Matrix-MP

DEFL. in (loc) l/defl L/d
Vert(LL) -0.05 4-7 >999 240
Vert(CT) -0.12 4-7 >592 180
Horz(CT) 0.02 2 n/a n/a

PLATES **GRIP**
MT20 244/190

Weight: 22 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 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=78(LC 11)
Max Uplift 2=-37(LC 8), 4=-32(LC 12)
Max Grav 2=265(LC 1), 4=233(LC 1)

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

NOTES-
1) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; 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) 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) 2, 4.

NORTH CAROLINA
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ENGINEER
ERIC A. GILBERT

April 29,2022

ENGINEERING BY
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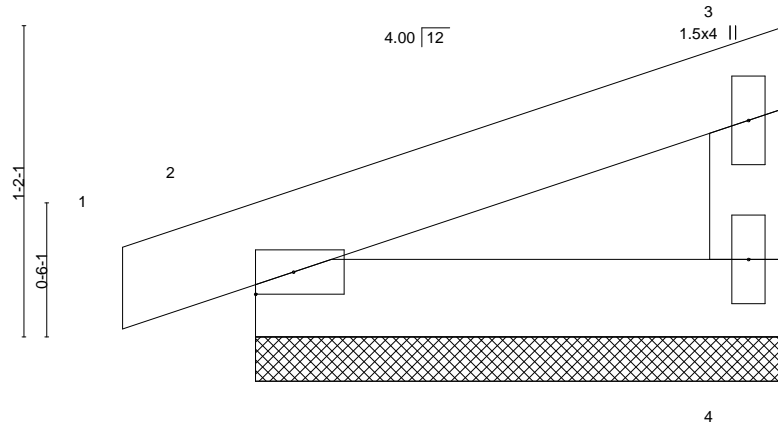| Job	Truss	Truss Type	Qty	Ply	Hayden B.F.K	
						I51643741
31857-31857A	P1	Monopitch Supported Gable	1	1		
					Job Reference (optional)	

84 Components (Dunn),   Dunn, NC - 28334,   8.530 s Dec 6 2021 MiTek Industries, Inc. Thu Apr 28 12:34:29 2022 Page 1
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Scale = 1:8.7

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	-0.00	1	n/r	120	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	0.00	1	n/r	90		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-P							Weight: 8 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 2-0-0 oc purlins, except end verticals.
BOT CHORD   Rigid ceiling directly applied or 10-0-0 oc bracing.
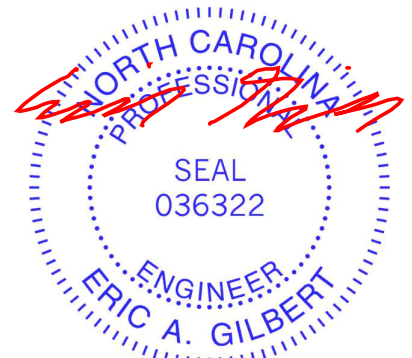
REACTIONS.   (size)   4=2-0-0, 2=2-0-0
Max Horz 2=29(LC 9)
Max Uplift 4=-10(LC 12), 2=-24(LC 8)
Max Grav 4=70(LC 1), 2=108(LC 1)

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

NOTES-
1) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; 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) 4, 2.

April 29,2022

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LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.55	Vert(LL)	-0.05	4-9	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.39	Vert(CT)	-0.12	4-9	>592	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.02	2	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-MP							Weight: 24 lb	FT = 20%

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

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=78(LC 11)
Max Uplift   2=-37(LC 8), 4=-32(LC 12)
Max Grav   2=265(LC 1), 4=233(LC 1)

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

NOTES-
1) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; 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 studs spaced at 2-0-0 oc.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) 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.
7) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 4.
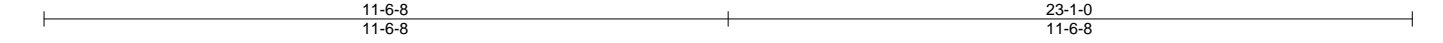
April 29,2022

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Job	Truss	Truss Type	Qty	Ply	Hayden B.F.K	
	V1	Valley	1	1		I51643743
31857-31857A					Job Reference (optional)	

84 Components (Dunn),   Dunn, NC - 28334,   8.530 s Dec 6 2021 MiTek Industries, Inc. Thu Apr 28 12:34:31 2022 Page 1
ID:OzVU6VtZeIu0DaSZCT8WpBzMCQc-ePS7JKX8ZCL?ldAloT2l8nUFJPYIkMhQnY98xfzMBHM

LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.18	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 IRC2015/TPI2014		Matrix-S							Weight: 91 lb	FT = 20%

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

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

REACTIONS.   All bearings 23-0-0.
     (lb) -   Max Horz   1=78(LC 12)
           Max Uplift   All uplift 100 lb or less at joint(s) 1, 11, 13, 9, 8
           Max Grav   All reactions 250 lb or less at joint(s) 1, 7 except 10=378(LC 19), 11=344(LC 23), 13=302(LC 1),
                9=344(LC 24), 8=302(LC 1)

FORCES.   (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS   3-11=-264/144, 5-9=-264/144

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope)
    gable end zone and C-C Exterior(2) zone; 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
3) All plates are 1.5x4 MT20 unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
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, with BCDL = 10.0psf.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 11, 13, 9, 8.

April 29,2022

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Job	Truss	Truss Type	Qty	Ply	Hayden B.F.K	
31857-31857A	V2	Valley	1	1		I51643744
					Job Reference (optional)	

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

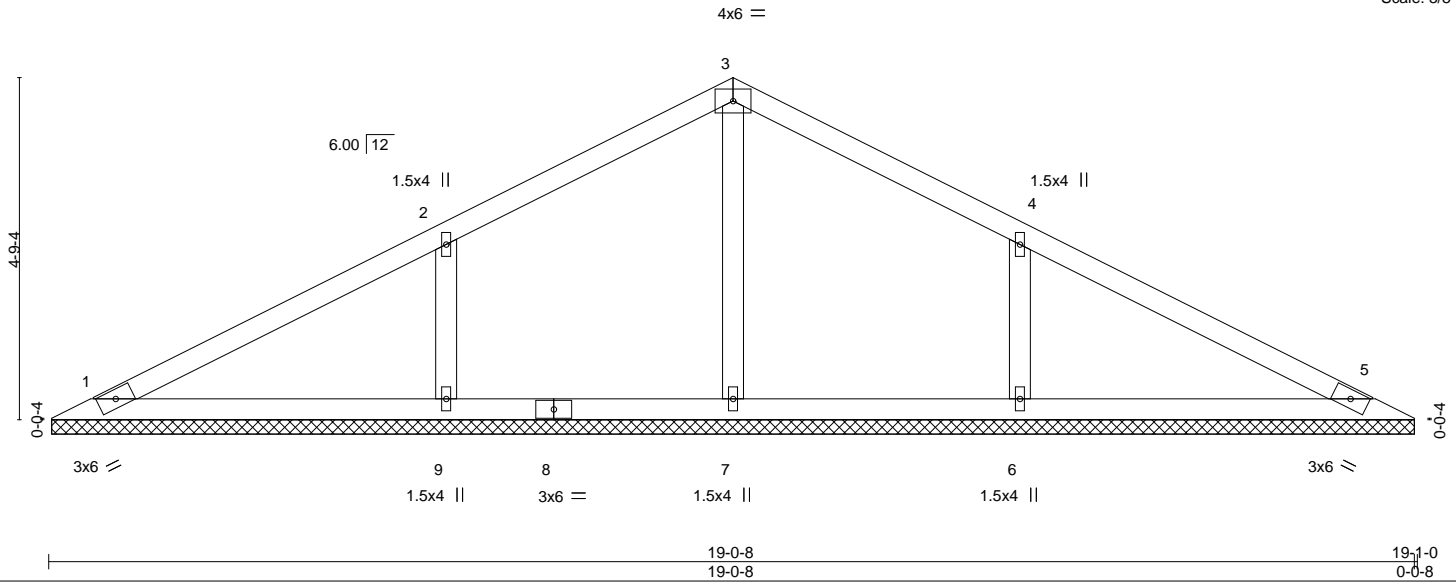8.530 s Dec 6 2021 MiTek Industries, Inc. Thu Apr 28 12:34:32 2022 Page 1
ID:OzVU6VtZeIu0DaSZCT8WpBzMCQc-6b0VWgYmKWTsMnlxLBZ_h?1PWptOTpba0CvhT5zMBHL

LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.30	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.19	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S							Weight: 71 lb	FT = 20%

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

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

REACTIONS.   All bearings 19-0-0.
    (lb) -   Max Horz 1=-63(LC 17)
             Max Uplift   All uplift 100 lb or less at joint(s) 1, 5, 9, 6
             Max Grav   All reactions 250 lb or less at joint(s) 1, 5, 7 except 9=437(LC 23), 6=437(LC 24)

FORCES.   (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS   2-9=-322/173, 4-6=-322/173

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; 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
3) Gable requires continuous bottom chord bearing.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 5, 9, 6.

SEAL
036322
ERIC A. GILBERT
NORTH CAROLINA PROFESSIONAL ENGINEER

April 29,2022

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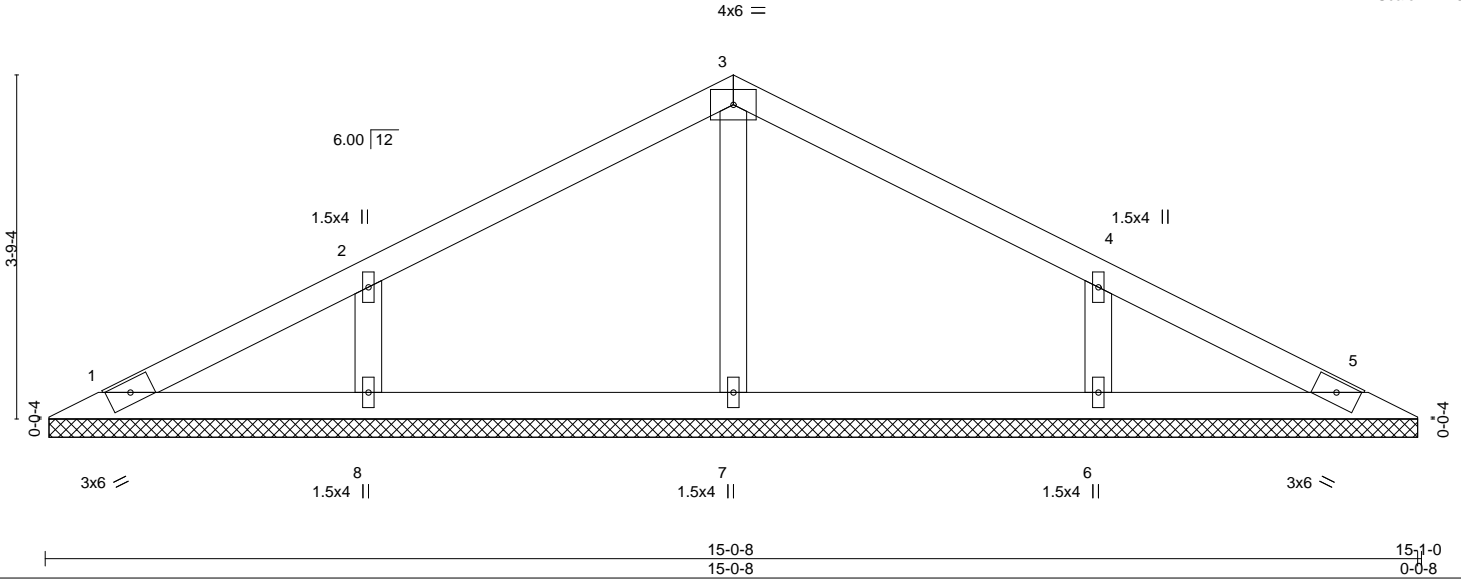| Job	Truss	Truss Type	Qty	Ply	Hayden B.F.K	
31857-31857A	V3	Valley	1	1		I51643745
					Job Reference (optional)	

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

8.530 s Dec 6 2021 MiTek Industries, Inc. Thu Apr 28 12:34:33 2022 Page 1
ID:OzVU6VtZeIu0DaSZCT8WpBzMCQc-anauk?ZO5qbj_xK7vu4DDCZc6DErCH4jEseF0XzMBHK

LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.18	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S							Weight: 54 lb	FT = 20%

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

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

REACTIONS.   All bearings 15-0-0.
     (lb) -   Max Horz   1=49(LC 16)
           Max Uplift   All uplift 100 lb or less at joint(s) 1, 8, 6
           Max Grav   All reactions 250 lb or less at joint(s) 1, 5 except 7=279(LC 1), 8=328(LC 23), 6=328(LC 24)

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

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; 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
3) Gable requires continuous bottom chord bearing.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 8, 6.

April 29,2022

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Job	Truss	Truss Type	Qty	Ply	Hayden B.F.K	
	V4	Valley	1	1		I51643746
31857-31857A					Job Reference (optional)	

5-6-8	11-1-0
5-6-8	5-6-8

Scale = 1:18.9

4x6 ═

6.00 ⌐12

2-9-4

2x4 ⟋

1.5x4 ||

2x4 ⟍

0-0-8	11-1-0
0-0-8	11-0-8

LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.58	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.24	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S							Weight: 36 lb	FT = 20%

LUMBER-
TOP CHORD   2x4 SP No.3
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=11-0-0, 3=11-0-0, 4=11-0-0
      Max Horz 1=-35(LC 17)
      Max Uplift 1=-23(LC 12), 3=-29(LC 13)
      Max Grav 1=181(LC 23), 3=181(LC 24), 4=429(LC 1)

FORCES.   (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS   2-4=-284/120

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope)
   gable end zone and C-C Exterior(2) zone; 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
3) Gable requires continuous bottom chord bearing.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide
   will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3.

April 29,2022

ENGINEERING BY
TRENCO
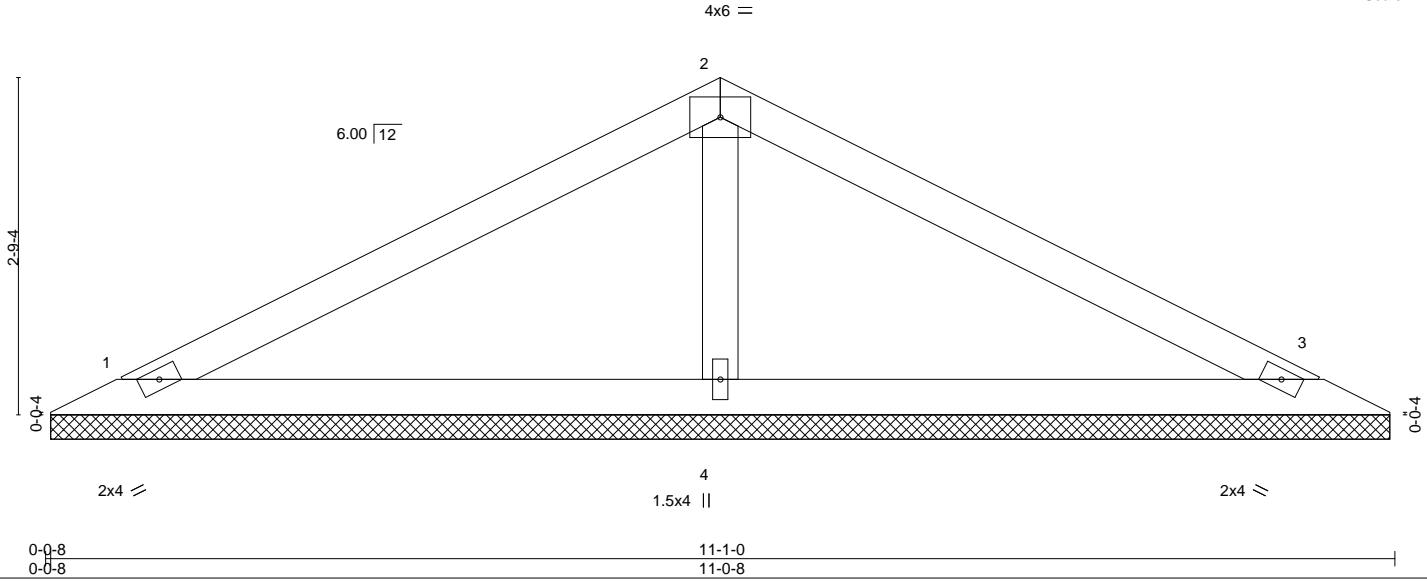A MiTek Affiliate

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

8.530 s Dec 6 2021 MiTek Industries, Inc. Thu Apr 28 12:34:35 2022 Page 1
ID:OzVU6VtZeIu0DaSZCT8WpBzMCQc-XAie8haedRrRDEUW0J7hIdewM1wIgBy0iA7M4QzMBHI

3-6-8 / 7-1-0
3-6-8 / 3-6-8

Scale = 1:13.5

4x6 ‖

6.00 ⟍12

1-9-4

0-0-4

0-0-4

2x4 ⟍   1.5x4 ‖   2x4 ⟍

0-0-8 / 7-1-0
0-0-8 / 7-0-8

LOADING (psf)	SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC	0.09	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 IRC2015/TPI2014		Matrix-P							Weight: 22 lb	FT = 20%

LUMBER-
TOP CHORD   2x4 SP No.3
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=7-0-0, 3=7-0-0, 4=7-0-0
Max Horz 1=21(LC 16)
Max Uplift 1=-18(LC 12), 3=-22(LC 13)
Max Grav 1=118(LC 1), 3=118(LC 1), 4=230(LC 1)

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

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope)
   gable end zone and C-C Exterior(2) zone; 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
3) Gable requires continuous bottom chord bearing.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide
   will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3.
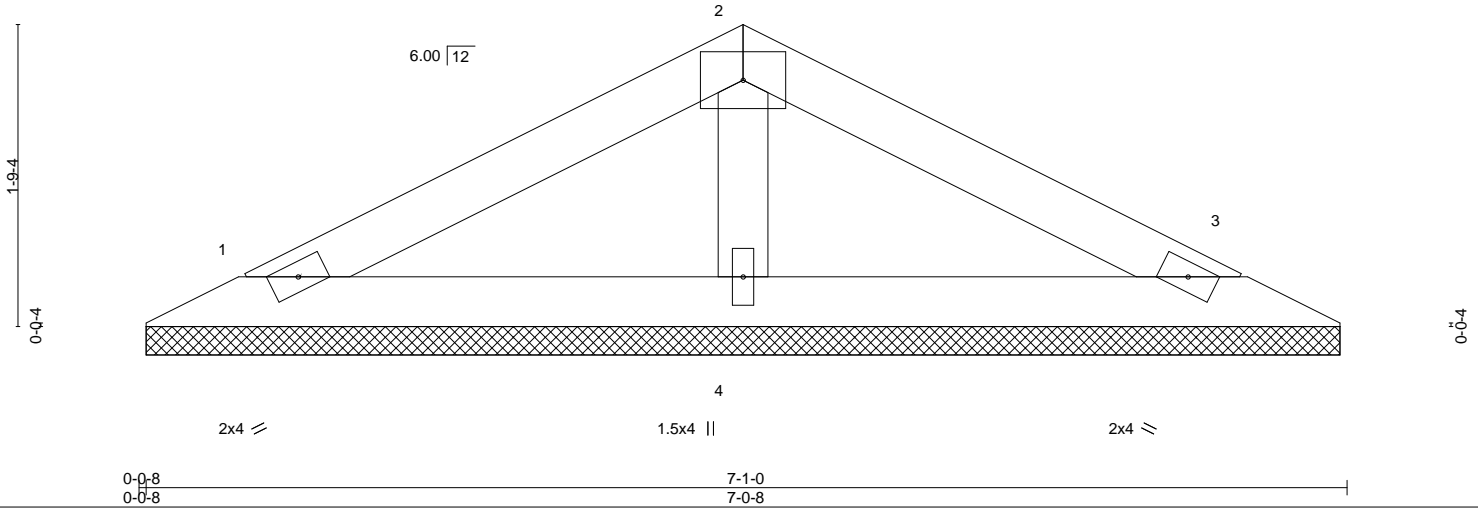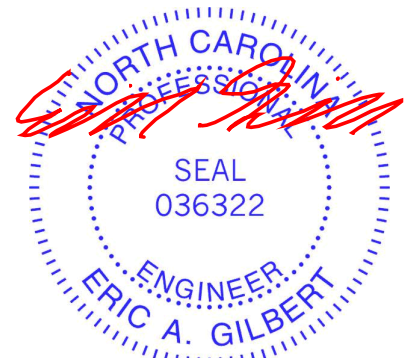
April 29,2022

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Job	Truss	Truss Type	Qty	Ply	Hayden B.F.K	
						I51643748
31857-31857A	V6	GABLE	1	1		
					Job Reference (optional)	

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

8.530 s Dec 6 2021 MiTek Industries, Inc. Thu Apr 28 12:34:35 2022 Page 1
ID:OzVU6VtZelu0DaSZCT8WpBzMCQc-XAie8haedRrRDEUW0J7hIdezp1xcgBz0iA7M4QzMBHI
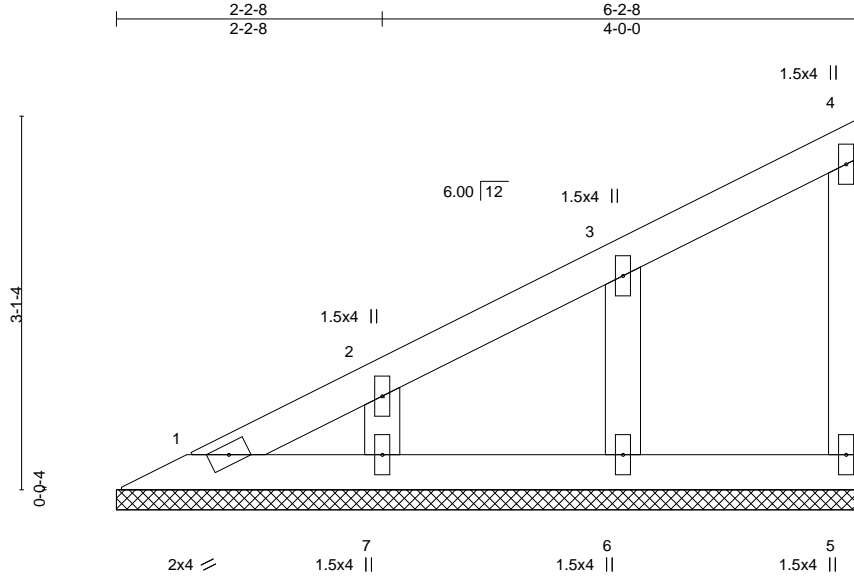
2-2-8
2-2-8
6-2-8
4-0-0

1.5x4 ||
4

Scale = 1:19.1

6.00 ⌐12
1.5x4 ||
3

3-1-4

1.5x4 ||
2

1

0-0-4

7
1.5x4 ||

6
1.5x4 ||

5
1.5x4 ||

2x4 ⫽

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.10	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-P							Weight: 25 lb	FT = 20%

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

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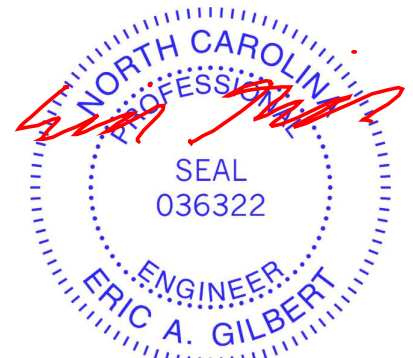BOT CHORD   Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS.   All bearings 6-2-8.
    (lb) - Max Horz 1=91(LC 9)
            Max Uplift   All uplift 100 lb or less at joint(s) 5, 6, 7
            Max Grav   All reactions 250 lb or less at joint(s) 1, 5, 6, 7

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

NOTES-
1) Wind: ASCE 7-10; Vult=120mph Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope)
   gable end zone and C-C Exterior(2) zone; 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) Gable requires continuous bottom chord bearing.
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide
   will fit between the bottom chord and any other members.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 5, 6, 7.

SEAL
036322
ERIC A. GILBERT
NORTH CAROLINA
PROFESSIONAL ENGINEER

April 29,2022

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Symbols

PLATE LOCATION AND ORIENTATION
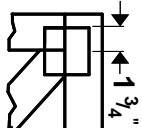
Center plate on joint unless x, y offsets are indicated.
Dimensions are in ft-in-sixteenths.
Apply plates to both sides of truss and fully embed teeth.

1¾"

0-¹⁄₁₆"

For 4 x 2 orientation, locate plates 0- ¹⁄₁₆" from outside edge of truss.

=

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

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

PLATE SIZE

4 x 4

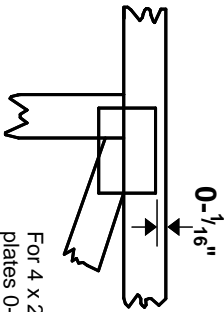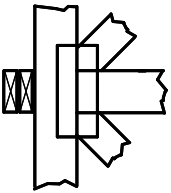The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION

Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.
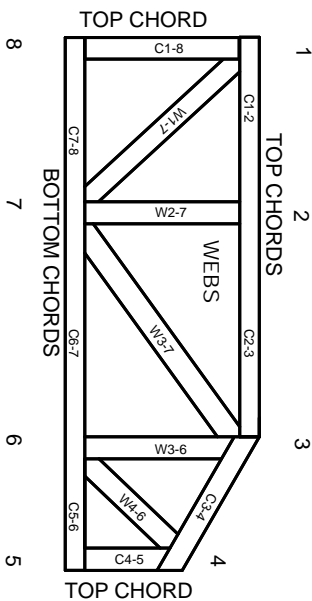
BEARING

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

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.

DSB-89: Design Standard for Bracing.

BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System

6-4-8

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

TOP CHORD

TOP CHORDS

BOTTOM CHORDS

WEBS

TOP CHORD

C1-8
C1-2
C7-8
W1-7
W2-7
C2-3
C6-7
W3-7
C3-4
W3-6
W4-6
C5-6
C4-5

1 2 3 4 5 6 7 8

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 T or I bracing should be considered.

3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.

4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.

5. Cut members to bear tightly against each other.

6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TPI 1.

7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.

8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.

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

10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.

11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.

12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.

13. Top chords must be sheathed or purlins provided at spacing indicated on design.

14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.

15. Connections not shown are the responsibility of others.

16. Do not cut or alter truss member or plate without prior approval of an engineer.

17. Install and load vertically unless indicated otherwise.

18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.

19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.

20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.

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

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