

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: Master_D_Roof_2nd_Story
CHESAPEAKE/307/MASTER D ROOF 2ND STORY

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-Apex,NC.

Pages or sheets covered by this seal: I57311318 thru I57311348

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

North Carolina COA: C-0844



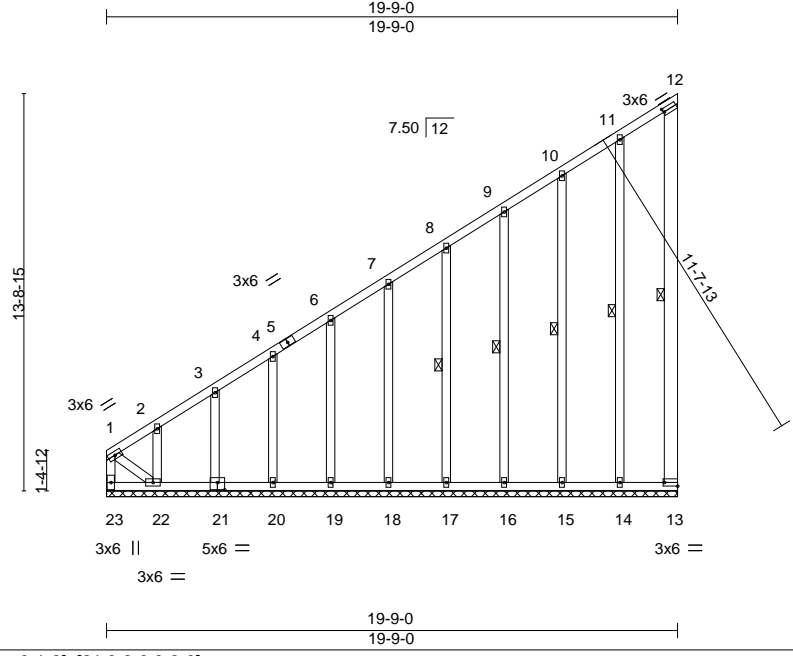
March 21,2023

Gilbert, Eric

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

Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST-A01G	A01G	GABLE	1	1	157311318

Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:05:52 2023 Page 1
 ID: gumUxvIraMNw9nG5WSc76My6QgB-kvSegY4YPbn_rGcporNEGB_hBK_U7ycf5ovsgOzYfID



Scale = 1:79.7

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

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 0.75	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.61	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Rep Stress Incr	NO	WB 0.25	Horz(CT)	-0.01	13	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S						

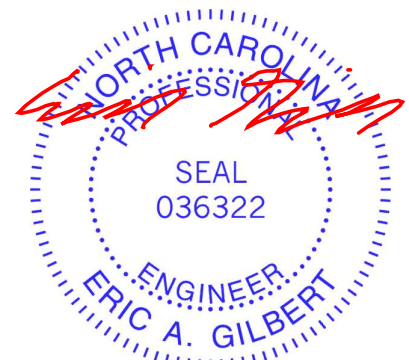
Weight: 192 lb FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
WEBS 2x4 SP No.3 *Except*	6-6-5 oc bracing: 22-23.
12-13: 2x6 SP No.2	WEBS 1 Row at midpt 12-13, 11-14, 10-15, 9-16, 8-17
OTHERS 2x4 SP No.3	

REACTIONS. All bearings 19-9-0.
 (lb) - Max Horz 23=590(LC 9)
 Max Uplift All uplift 100 lb or less at joint(s) 14, 15, 16, 17, 18, 19, 20, 21 except 23=340(LC 10), 13=140(LC 11), 22=365(LC 12)
 Max Grav All reactions 250 lb or less at joint(s) 13, 14, 15, 16, 17, 18, 19, 20, 21 except 23=594(LC 9), 22=337(LC 10)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-23=-882/812, 1-2=-774/736, 2-3=-714/684, 3-4=-651/633, 4-6=-588/581, 6-7=-525/528, 7-8=-461/475, 8-9=-398/423, 9-10=-333/369, 10-11=-295/326
 BOT CHORD 22-23=-827/837, 21-22=-236/287, 20-21=-239/289, 19-20=-239/289, 18-19=-239/289, 17-18=-239/289, 16-17=-239/289, 15-16=-239/289, 14-15=-239/289, 13-14=-239/289
 WEBS 11-14=-288/207, 1-22=-781/832

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) 0-1-12 to 3-1-12, Exterior(2) 3-1-12 to 19-6-4 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) All plates are 2x4 MT20 unless otherwise indicated.
 - 4) Gable requires continuous bottom chord bearing.
 - 5) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
 - 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) 14, 15, 16, 17, 18, 19, 20, 21 except (jt=lb) 23=340, 13=140, 22=365.



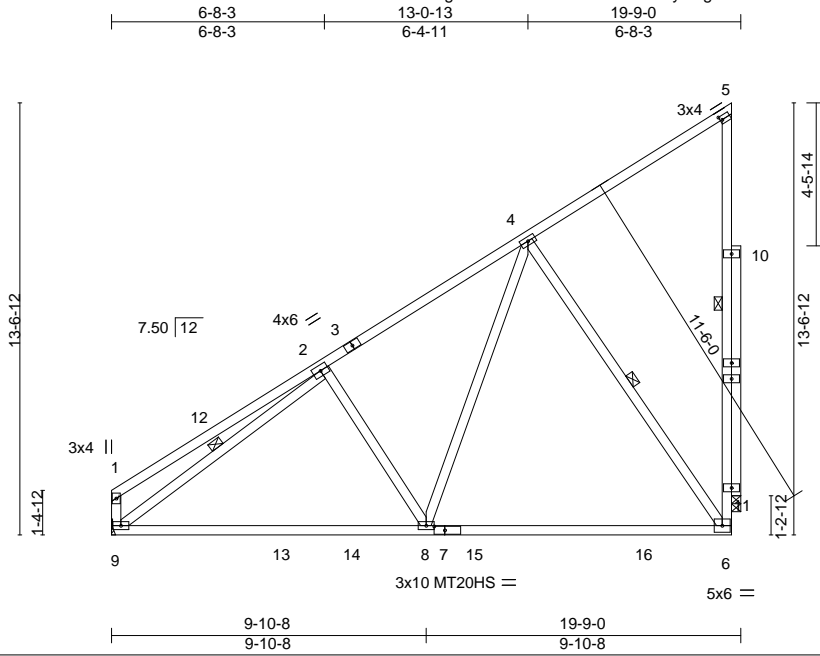
March 21, 2023

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

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

Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST-A02	A02	MONO TRUSS	6	1	157311319

Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:05:54 2023 Page 1
 ID: gumUxvIraMNw9nG5WSc76My6QgB-hlZP4E5oxD1h4amCw3QiLc31k8aTbnzxY6OzkHzYfIB



Scale = 1:72.3

Plate Offsets (X,Y)-- [5:0-0-13,0-1-8], [7:0-4-0,0-1-8]

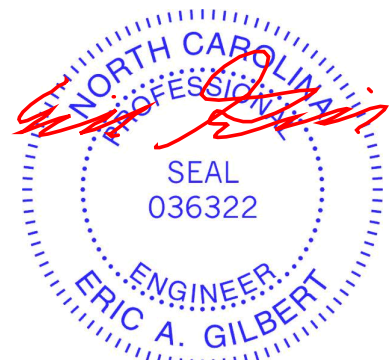
LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.75	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.96	Vert(LL) -0.33 6-8 >703 360	MT20HS	187/143
BCLL 0.0 *	Lumber DOL 1.15	WB 0.51	Vert(CT) -0.49 6-8 >468 240		
BCDL 10.0	Rep Stress Incr YES	Matrix-MS	Horz(CT) -0.16 11 n/a n/a		
	Code IRC2015/TPI2014		Wind(LL) -0.10 6-8 >999 240	Weight: 146 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 2x4 SP No.3 *Except*	WEBS 1 Row at midpt 5-6, 2-9, 4-6
OTHERS 5-6: 2x4 SP SS	
OTHERS 2x4 SP No.2	

REACTIONS. (size) 9=Mechanical, 11=0-3-8
 Max Horz 9=584(LC 9)
 Max Uplift 9=-104(LC 12), 11=-311(LC 12)
 Max Grav 9=819(LC 20), 11=1018(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-9=-316/156, 1-2=-327/138, 2-4=-891/268, 4-5=-305/275, 6-11=-251/823, 5-11=-266/174
 BOT CHORD 8-9=-475/1011, 6-8=-310/620
 WEBS 2-9=-860/118, 2-8=-387/302, 4-8=-140/668, 4-6=-820/370

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TC DL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-1-12 to 3-1-12, Interior(1) 3-1-12 to 19-3-12 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
 - 2) All plates are MT20 plates unless otherwise indicated.
 - 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) Bearing at joint(s) 11 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) 9=104, 11=311.



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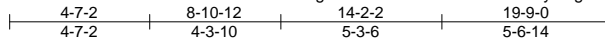
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	157311320
MASTER_D_ROOF_2ND_ST	A03	MONO TRUSS	4	1	Job Reference (optional)	

Builders FirstSource (Apex, NC),

Apex, NC - 27523,

8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:05:55 2023 Page 1

ID: gumUxviraMNw9nG5WSc76My6QgB-9U7nIa6QiWAYikLOTnxuqcCkY1nKGW5nm8WHjzYflA



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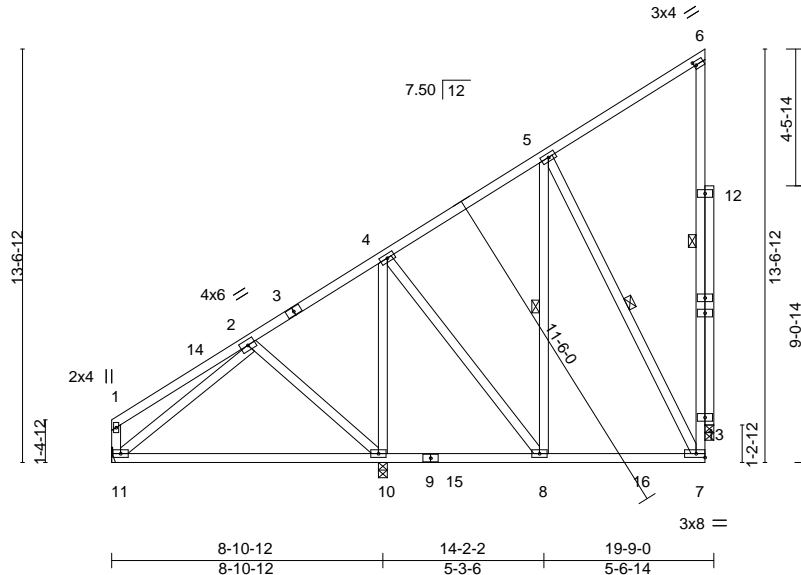


Plate Offsets (X,Y)-- [6:0-0-13,0-1-8]

LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.73	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.58	Vert(LL) -0.15 10-11 >707 360		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.43	Vert(CT) -0.30 10-11 >355 240		
BCDL 10.0	Rep Stress Incr YES	Matrix-MS	Horz(CT) -0.14 13 n/a n/a		
	Code IRC2015/TPI2014		Wind(LL) -0.05 7-8 >999 240	Weight: 164 lb	FT = 20%

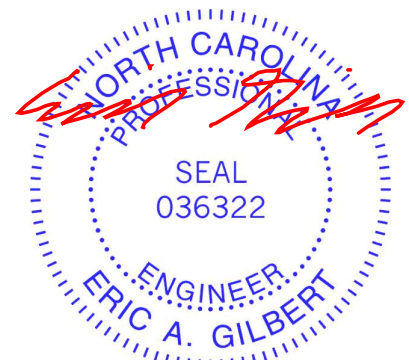
LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 WEBS 2x4 SP No.3 *Except*
 6-7: 2x4 SP SS
 OTHERS 2x4 SP No.3

BRACING-
 TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
 BOT CHORD Rigid ceiling directly applied or 8-6-11 oc bracing.
 WEBS 1 Row at midpt 6-7, 5-8, 5-7

REACTIONS. (size) 11=Mechanical, 10=0-3-8, 13=0-3-8
 Max Horz 11=584(LC 11)
 Max Uplift 11=-15(LC 8), 10=-255(LC 12), 13=-196(LC 9)
 Max Grav 11=421(LC 20), 10=909(LC 19), 13=576(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 2-4=-381/392, 4-5=-429/237, 5-6=-280/256, 7-13=-157/419
 BOT CHORD 10-11=-441/587, 8-10=-270/317, 7-8=-233/353
 WEBS 2-11=-384/398, 2-10=-359/229, 4-10=-510/208, 5-7=-377/234

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-1-12 to 3-1-12, Interior(1) 3-1-12 to 19-3-12 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
 - 2) All plates are 3x6 MT20 unless otherwise indicated.
 - 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) Bearing at joint(s) 13 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 capable of withstanding 100 lb uplift at joint(s) 11 except (jt=lb) 10=255, 13=196.



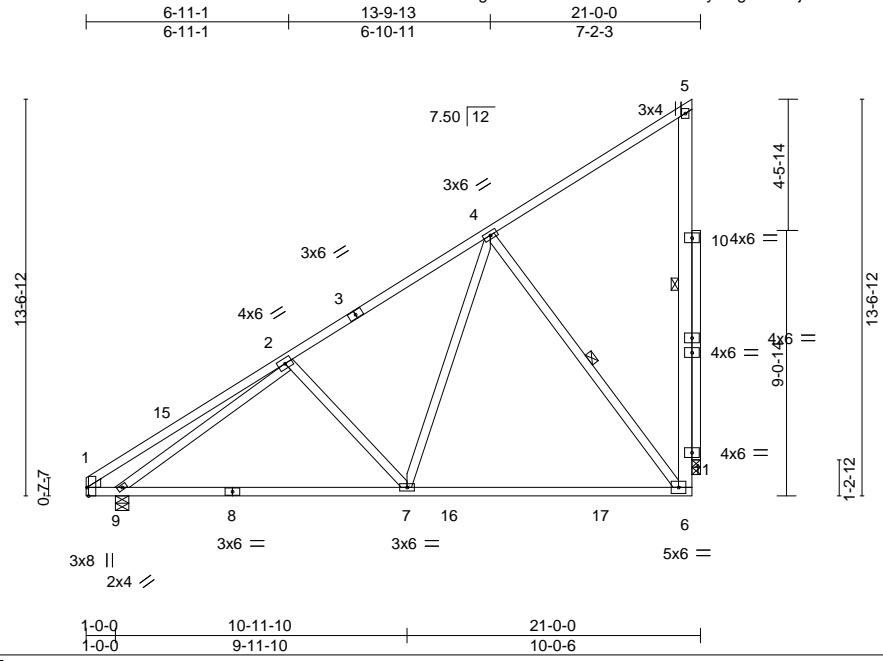
March 21, 2023

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

Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST-A04	A04	MONO TRUSS	9	1	157311321

Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:05:57 2023 Page 1
 ID: gumUxvIraMNw9nG5WSc76My6QgB-5tFXjG8hE8QGx1UnbBzPzFhZBLd6o3ZOF4ddLczYfi8



Scale = 1:78.8

Plate Offsets (X,Y)--	[1:0-3-8,Edge]
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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 0.67	Vert(LL)	-0.37	6-7	>630	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.90	Vert(CT)	-0.54	6-7	>430		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.84	Horz(CT)	-0.09	11	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-MS	Wind(LL)	-0.06	6-7	>999		
								Weight: 159 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 8-2-4 oc bracing.
WEBS 2x4 SP No.3 *Except* 5-6: 2x6 SP No.2	WEBS 1 Row at midpt 5-6, 4-6
OTHERS 2x4 SP No.2	
WEDGE	
Left: 2x4 SP No.3	

REACTIONS. (size) 9=0-5-8, 11=0-3-8
 Max Horz 9=580(LC 11)
 Max Uplift 9=-130(LC 12), 11=-313(LC 12)
 Max Grav 9=862(LC 1), 11=1000(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-2=-394/101, 2-4=-875/243, 4-5=-320/279, 6-11=-250/790, 5-11=-287/189
 BOT CHORD 1-9=0/304, 7-9=-491/1071, 6-7=-314/653
 WEBS 2-7=-389/292, 4-7=-97/571, 4-6=-800/379, 2-9=-822/193

- NOTES-**
- Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-0-0 to 3-0-0, Interior(1) 3-0-0 to 20-5-12 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
 - 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.
 - Bearing at joint(s) 11 considers parallel to grain value using ANSII/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 100 lb uplift at joint(s) except (jt=lb) 9=130, 11=313.



March 21, 2023

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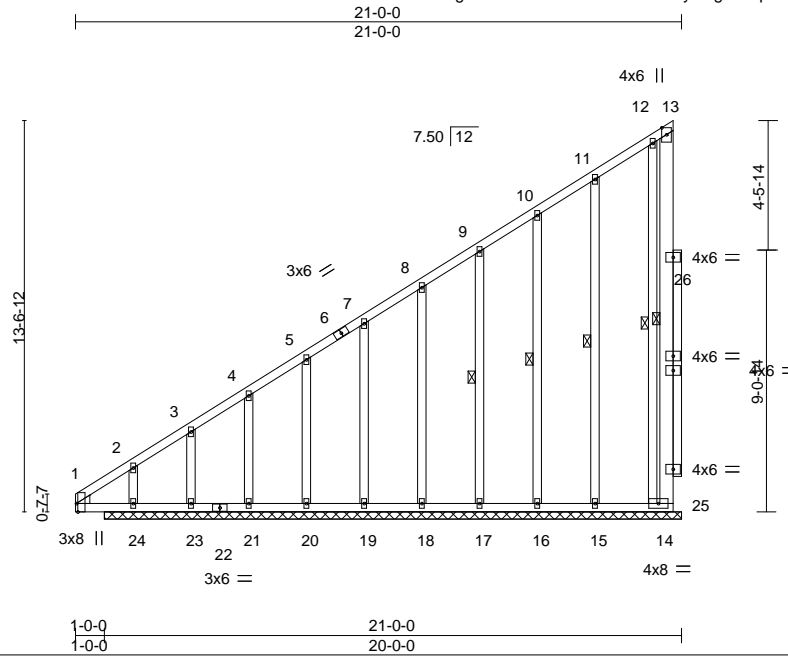
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST	A04G	GABLE	1	1	157311322
					Job Reference (optional)

Builders FirstSource (Apex, NC),

Apex, NC - 27523,

8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:05:58 2023 Page 1

ID:gumUxvIraMNw9nG5WSc76My6QgB-Z3pvwc8J?RY7ZB3z9vUeVSEj5I_tXdMXtkMAt2zYf17



Scale = 1:79.8

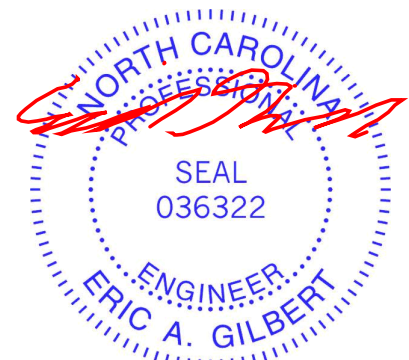
Plate Offsets (X, Y)--	[1:0-3-8,Edge]								
LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.66	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.81	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.42	Horz(CT)	-0.01	14	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S					Weight: 213 lb	FT = 20%

LUMBER-	BRACING-	
TOP CHORD	TOP CHORD	Structural wood sheathing directly applied or 4-8-15 oc purlins, except end verticals.
BOT CHORD	BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
WEBS	WEBS	6-0-12 oc bracing: 1-24 8-11-2 oc bracing: 23-24. 1 Row at midpt 13-14, 9-17, 10-16, 11-15, 12-14
OTHERS		
WEDGE		
Left: 2x4 SP No.3		

REACTIONS. All bearings 20-0-0.
 (lb) - Max Horz 24=584(LC 9)
 Max Uplift All uplift 100 lb or less at joint(s) 19, 18, 17, 16, 15 except 14=184(LC 11), 24=195(LC 8), 23=561(LC 12), 20=108(LC 12)
 Max Grav All reactions 250 lb or less at joint(s) 14, 21, 20, 19, 18, 17, 16, 15 except 24=671(LC 11), 23=382(LC 10)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-2=-724/697, 2-3=-857/799, 3-4=-624/604, 4-5=-599/585, 5-7=-528/525, 7-8=-467/474, 8-9=-403/421, 9-10=-339/368, 10-11=-280/315, 11-12=-262/273, 13-14=-330/359
 BOT CHORD 1-24=-649/699, 23-24=-234/281, 21-23=-234/281, 20-21=-234/281, 19-20=-234/281, 18-19=-234/281, 17-18=-234/281, 16-17=-234/281, 15-16=-234/281, 14-15=-234/281
 WEBS 2-24=-278/145, 3-23=-407/416, 12-14=-515/433

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) 0-0-0 to 3-0-0, Exterior(2) 3-0-0 to 20-5-12 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
 - 2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - 3) All plates are 2x4 MT20 unless otherwise indicated.
 - 4) Gable 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) 19, 18, 17, 16, 15 except (jt=lb) 14=184, 24=195, 23=561, 20=108.
 - 8) Non Standard bearing condition. Review required.



March 21, 2023

<p>WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.</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 ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601</p>	<p>818 Soundside Road Edenton, NC 27932</p>
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Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	I57311323
MASTER_D_ROOF_2ND_ST	B01G	GABLE	2	1		

Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:00 2023 Page 1
 ID: gumUxviraMNw9nG5WSc76My6QgB-VSxgLIAZW3oroVDLGKX6btJAJZrm?daqx2rHywzYf5

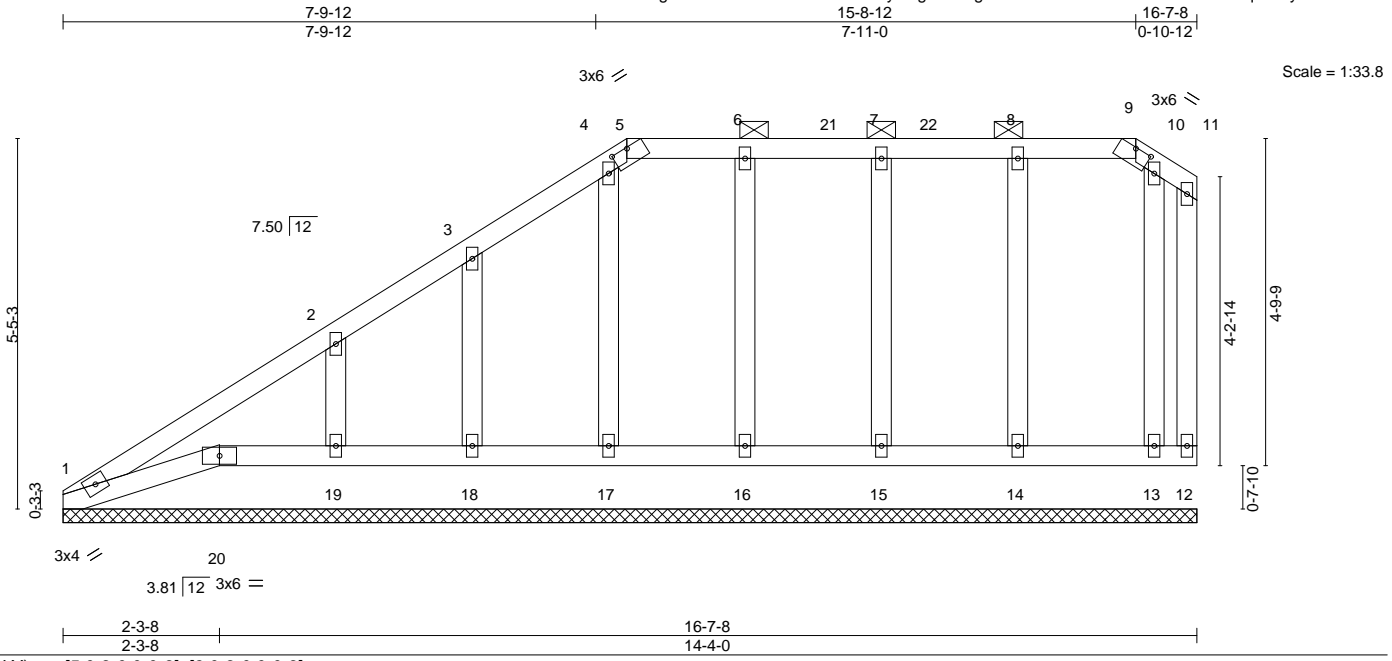


Plate Offsets (X, Y)--	[5:0-3-0,0-0-3], [9:0-3-0,0-0-3]
------------------------	----------------------------------

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 0.23	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.08	Vert(CT)	n/a	-	n/a	999		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.06	Horz(CT)	-0.00	12	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S							
								Weight: 96 lb	FT = 20%	

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except
BOT CHORD 2x4 SP No.2	2-0-0 oc purlins (6-0-0 max.): 5-9.
OTHERS 2x4 SP No.3	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 16-7-8.
 (lb) - Max Horz 1=211(LC 9)
 Max Uplift All uplift 100 lb or less at joint(s) 1, 12, 15, 16, 17, 18, 14, 13 except 19=164(LC 12)
 Max Grav All reactions 250 lb or less at joint(s) 1, 20, 12, 15, 16, 17, 18, 14, 13 except 19=279(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 WEBS 2-19=261/190

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) 0-1-12 to 3-1-12, Exterior(2) 3-1-12 to 8-3-3, Corner(3) 8-3-3 to 11-3-3, Exterior(2) 11-3-3 to 15-8-12, Corner(3) 15-8-12 to 16-5-12 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
 - 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - 4) Provide adequate drainage to prevent water ponding.
 - 5) All plates are 2x4 MT20 unless otherwise indicated.
 - 6) Gable requires continuous bottom chord bearing.
 - 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) 1, 12, 15, 16, 17, 18, 14, 13 except (jt=lb) 19=164.
 - 11) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 20, 12, 15, 16, 17, 18, 19, 14, 13.
 - 12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	I57311324
MASTER_D_ROOF_2ND_ST	B02	SPECIAL	2	1		

Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:01 2023 Page 1
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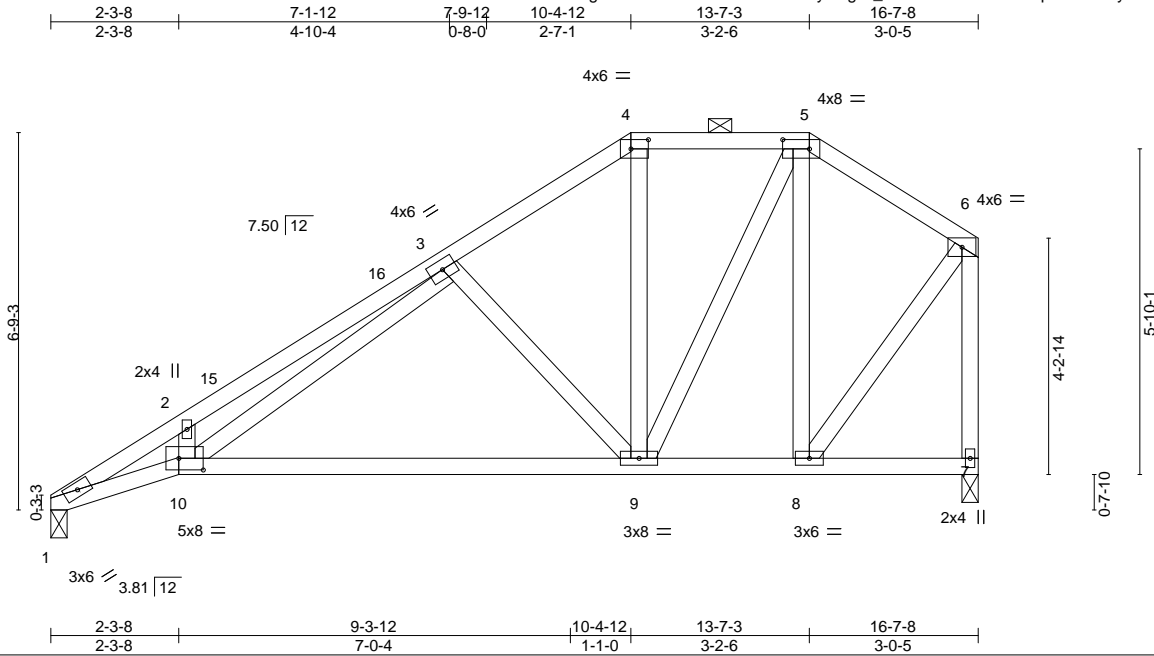


Plate Offsets (X,Y)--	[4:0-3-12,0-2-0], [5:0-5-12,0-2-0], [10:0-5-4,0-2-8]
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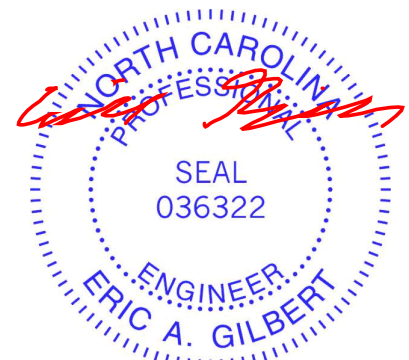
LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.38	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.64	Vert(LL) -0.15 9-10 >999 360		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.46	Vert(CT) -0.33 9-10 >597 240		
BCDL 10.0	Rep Stress Incr YES	Matrix-MS	Horz(CT) 0.05 7 n/a n/a		
	Code IRC2015/TPI2014		Wind(LL) 0.08 9-10 >999 240	Weight: 108 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 3-9-12 oc purlins, except
BOT CHORD 2x4 SP No.2	2-0-0 oc purlins (6-0-0 max.): 4-5.
WEBS 2x4 SP No.3	BOT CHORD Rigid ceiling directly applied or 7-3-14 oc bracing.
OTHERS 2x4 SP No.3	

REACTIONS. (size) 1=0-3-8, 7=0-3-8
 Max Horz 1=248(LC 9)
 Max Uplift 1=93(LC 12), 7=57(LC 13)
 Max Grav 1=656(LC 1), 7=653(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-2=-1902/448, 2-3=-1938/570, 3-4=-597/203, 5-6=-384/182, 6-7=-615/215, 4-5=-496/194
 BOT CHORD 9-10=-339/807, 8-9=-140/311, 1-10=-637/1883
 WEBS 5-8=-355/143, 6-8=-154/449, 3-9=-459/224, 3-10=-397/1285, 5-9=-96/403

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-1-12 to 3-1-12, Interior(1) 3-1-12 to 10-4-12, Exterior(2) 10-4-12 to 16-5-12 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
 - Provide adequate drainage to prevent water ponding.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * 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) 1 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 100 lb uplift at joint(s) 1, 7.
 - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



March 21, 2023

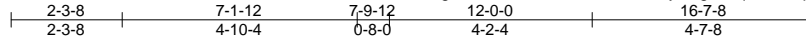
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST	003	SPECIAL	17	1	157311325

Builders FirstSource (Apex, NC),

Apex, NC - 27523,

8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:02 2023 Page 1

ID:gumUxviraMNw9nG5WSc76My6QgB-Sq2QmzCp2gZ22pNkOlZaglOSMMLNTPp7OMKOOpzYf13



4x6 =

Scale: 1/4"=1'

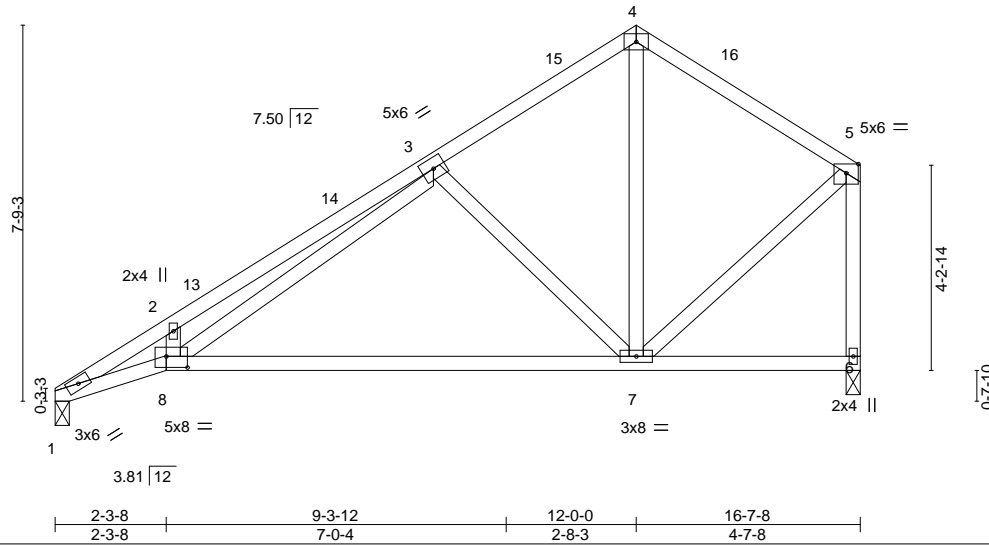


Plate Offsets (X,Y)-- [8:0-5-4,0-2-12]

LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.45	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.83	Vert(LL) -0.26 7-8 >753 360		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.52	Vert(CT) -0.56 7-8 >351 240		
BCDL 10.0	Rep Stress Incr YES	Matrix-MS	Horz(CT) 0.06 6 n/a n/a		
	Code IRC2015/TPI2014		Wind(LL) 0.10 7-8 >999 240	Weight: 97 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 3-7-4 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. (size) 1=0-3-8, 6=0-3-8
 Max Horz 1=276(LC 9)
 Max Uplift 1=-93(LC 12), 6=-72(LC 13)
 Max Grav 1=656(LC 1), 6=653(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-2=-1996/396, 2-3=-2088/550, 3-4=-518/185, 4-5=-499/166, 5-6=-652/182
 BOT CHORD 7-8=-299/772, 1-8=-596/2000
 WEBS 4-7=-59/293, 5-7=-93/483, 3-7=-497/239, 3-8=-433/1463

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-1-12 to 3-1-12, Interior(1) 3-1-12 to 12-0-0, Exterior(2) 12-0-0 to 16-5-12 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
 - 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) Bearing at joint(s) 1 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
 - 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 6.



March 21, 2023

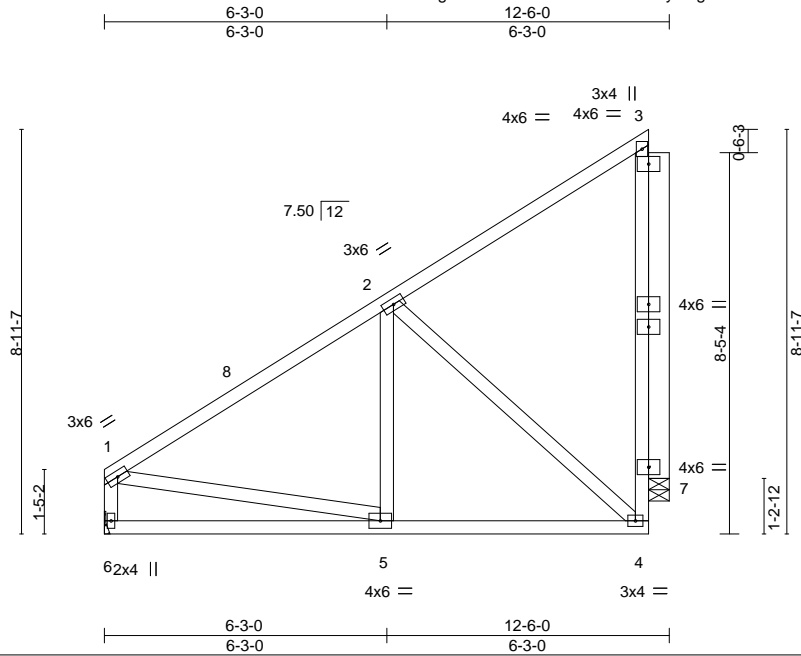
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST-001	001	MONO TRUSS	6	1	157311326

Builders FirstSource (Apex, NC),

Apex, NC - 27523,

8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:03 2023 Page 1

ID: gumUxvIraMNw9nG5WSc76My6QgB-w1cozJCSp_AQfzywxS4pCWxd0mpICrvGd04xZFzYf12



Scale = 1:51.0

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 0.46	Vert(LL)	-0.03 5-6	>999	360	MT20	244/190
BCDL 10.0	Lumber DOL	1.15	BC 0.34	Vert(CT)	-0.06 5-6	>999	240		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.59	Horz(CT)	-0.03 7	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-MS	Wind(LL)	0.01 4-5	>999	240		
								Weight: 97 lb	FT = 20%

LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 WEBS 2x4 SP No.3
 OTHERS 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 7-11-11 oc bracing.

REACTIONS. (size) 6=Mechanical, 7=0-5-8
 Max Horz 6=379(LC 9)
 Max Uplift 6=-58(LC 12), 7=-196(LC 12)
 Max Grav 6=470(LC 1), 7=548(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-6=-415/148, 1-2=-509/139, 4-7=-134/422
 BOT CHORD 5-6=-543/640, 4-5=-275/551
 WEBS 1-5=-91/322, 2-4=-554/249

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TC DL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-1-12 to 3-1-12, Interior(1) 3-1-12 to 11-10-12 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
 - 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) Refer to girder(s) for truss to truss connections.
 - 5) 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.
 - 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 6 except (jt=lb) 7=196.



March 21, 2023

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

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

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



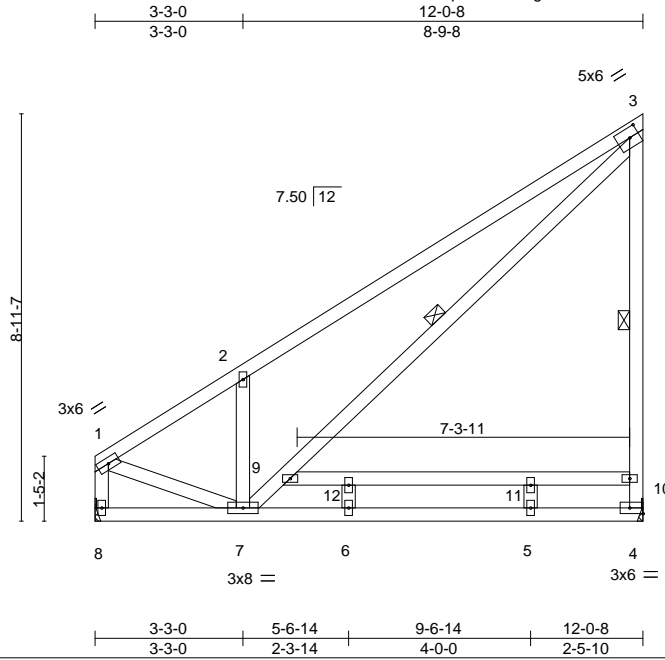
818 Soundside Road
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	157311327
MASTER_D_ROOF_2ND_STORY	C01A	MONO TRUSS	14	1	Job Reference (optional)	

Builders FirstSource, Apex, NC 27523

ID:6G1q3siaRHVwgfdoJhVf15zc3VF-TwPkaw2VZz?im8lqeWDgArD1wAlvk_pJ9Ep5ltzYfUv

8.630 s Mar 9 2023 MiTek Industries, Inc. Tue Mar 21 16:23:16 2023 Page 1



Scale = 1:50.6

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

LOADING (psf)	SPACING-	CSI.	DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL 1.15	TC 1.00	Vert(LL) -0.24	5-6	>593	360		MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.67	Vert(CT) -0.32	5-6	>436	240			
BCLL 0.0 *	Rep Stress Incr NO	WB 0.78	Horz(CT) 0.00	4	n/a	n/a			
BCDL 10.0	Code IRC2015/TPI2014	Matrix-MS	Wind(LL) -0.03	5	>999	240			
								Weight: 92 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except*
9-10: 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-1-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 7-8.
WEBS 1 Row at midpt 3-4, 3-7

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

REACTIONS. (lb/size) 8=470/Mechanical, 4=470/Mechanical
Max Horz 8=379(LC 9)
Max Uplift 8=-58(LC 12), 4=-196(LC 12)
Max Grav 8=537(LC 20), 4=705(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-637/141, 2-3=-837/381, 4-10=-560/292, 3-10=-558/316, 1-8=-548/112
BOT CHORD 7-8=-485/488
WEBS 2-7=-637/437, 7-9=-562/968, 3-9=-436/902, 1-7=-139/621

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-1-12 to 3-3-0, Interior(1) 3-3-0 to 11-10-12 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
 - 2) All plates are 2x4 MT20 unless otherwise indicated.
 - 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) Refer to girder(s) for truss to truss connections.
 - 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 8 and 196 lb uplift at joint 4.
 - 7) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
 - 8) N/A

LOAD CASE(S)
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 4-8=-20, 1-3=-60



March 21, 2023

Continued on page 2

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

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



818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	157311327
MASTER_D_ROOF_2ND_STORY	C01A	MONO TRUSS	14	1	Job Reference (optional)	

Builders FirstSource, Apex, NC 27523

8.630 s Mar 9 2023 MiTek Industries, Inc. Tue Mar 21 16:23:16 2023 Page 2
ID:6GIq3siaRHVwgfd0JhVf15zc3vF-TwPkaw2VZz?im8IqeWDgArD1wAlvk_pJ9Ep5ItzYfUv

LOAD CASE(S)

- 2) Dead + 0.75 Roof Live (balanced) + 0.75 Uninhab. Attic Storage: Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 4-8=-20, 1-3=-50, 9-10=-30
- 3) Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 4-8=-40, 1-3=-20, 9-10=-40
- 4) Dead + 0.6 C-C Wind (Pos. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-12, 1-2=33, 2-3=26
Horz: 1-2=-45, 2-3=-38, 3-4=42, 1-8=26
- 5) Dead + 0.6 C-C Wind (Pos. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-12, 1-3=26
Horz: 1-3=-38, 3-4=-26, 1-8=42
- 6) Dead + 0.6 C-C Wind (Neg. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-20, 1-3=-57
Horz: 1-3=37, 3-4=-39, 1-8=-29
- 7) Dead + 0.6 C-C Wind (Neg. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-20, 1-3=-57
Horz: 1-3=37, 3-4=29, 1-8=39
- 8) Dead + 0.6 MWFRS Wind (Pos. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-12, 1-3=15
Horz: 1-3=3, 3-4=24, 1-8=19
- 9) Dead + 0.6 MWFRS Wind (Pos. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-12, 1-3=14
Horz: 1-3=-26, 3-4=-19, 1-8=-24
- 10) Dead + 0.6 MWFRS Wind (Neg. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-20, 1-3=-36
Horz: 1-3=16, 3-4=11, 1-8=32
- 11) Dead + 0.6 MWFRS Wind (Neg. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-20, 1-3=-7
Horz: 1-3=-13, 3-4=-32, 1-8=-11
- 12) Dead + 0.6 MWFRS Wind (Pos. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-12, 1-3=34
Horz: 1-3=-46, 3-4=22, 1-8=16
- 13) Dead + 0.6 MWFRS Wind (Pos. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-12, 1-3=14
Horz: 1-3=-26, 3-4=-16, 1-8=-22
- 14) Dead + 0.6 MWFRS Wind (Pos. Internal) 3rd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-12, 1-3=20
Horz: 1-3=-32, 3-4=17, 1-8=8
- 15) Dead + 0.6 MWFRS Wind (Pos. Internal) 4th Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-12, 1-3=8
Horz: 1-3=-20, 3-4=-8, 1-8=-17
- 16) Dead + 0.6 MWFRS Wind (Neg. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-20, 1-3=13
Horz: 1-3=-33, 3-4=9, 1-8=29
- 17) Dead + 0.6 MWFRS Wind (Neg. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-20, 1-3=-7
Horz: 1-3=-13, 3-4=-29, 1-8=-9
- 18) Dead + Uninhabitable Attic Storage: Lumber Increase=0.90, Plate Increase=0.90 Plt. metal=0.90
Uniform Loads (plf)
Vert: 4-8=-20, 1-3=-20, 9-10=-40
- 19) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-20, 1-3=-62, 9-10=-30
Horz: 1-3=12, 3-4=8, 1-8=24
- 20) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-8=-20, 1-3=-40, 9-10=-30
Horz: 1-3=-10, 3-4=-24, 1-8=-8

Continued on page 3

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

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	157311327
MASTER_D_ROOF_2ND_STORY	C01A	MONO TRUSS	14	1	Job Reference (optional)	

Builders FirstSource, Apex, NC 27523

8.630 s Mar 9 2023 MiTek Industries, Inc. Tue Mar 21 16:23:16 2023 Page 3
 ID:6GIq3siaRHVwgfdoJhVf15zc3vF-Twpkaw2VZz?im8IqeWDgArD1wAlvk_pJ9Ep5ItzYfUv

LOAD CASE(S)

- 21) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 4-8=-20, 1-3=-26, 9-10=-30
 Horz: 1-3=-24, 3-4=7, 1-8=22
- 22) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 4-8=-20, 1-3=-40, 9-10=-30
 Horz: 1-3=-10, 3-4=-22, 1-8=-7

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 Edenton, NC 27932

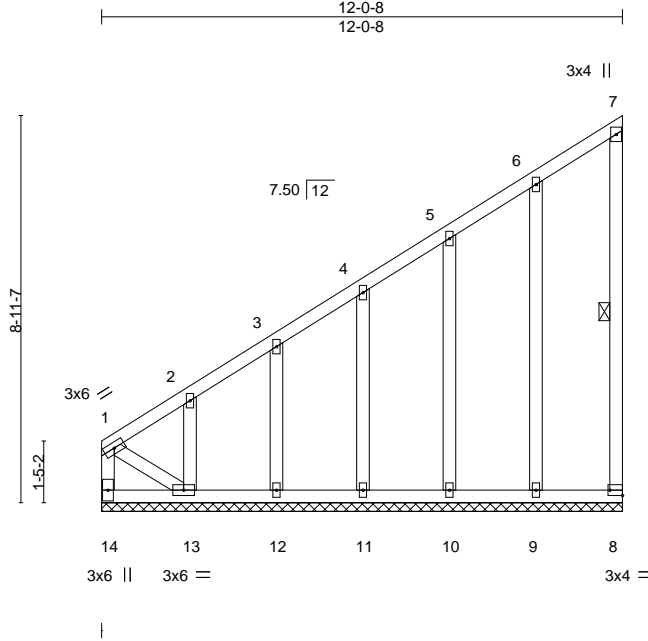
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST	001AG	GABLE	1	1	I57311328
					Job Reference (optional)

Builders FirstSource (Apex, NC),

Apex, NC - 27523,

8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:05 2023 Page 1

ID:gumUxvIraMNw9nG5WSc76My6QgB-sPkZO?EiLbQ8vG6J3t6Hlx0wMaUegqIz4KZ2d8zYfI0



Scale = 1:53.3

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

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 0.66	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.35	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Rep Stress Incr	NO	WB 0.25	Horz(CT)	-0.00	8	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
 WEBS 2x4 SP No.3 *Except*
 7-8: 2x4 SP No.2
 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, Except: 7-10-7 oc bracing: 13-14.
 WEBS 1 Row at midpt 7-8

REACTIONS.

All bearings 12-0-8.
 (lb) - Max Horz 14=379(LC 9)
 Max Uplift All uplift 100 lb or less at joint(s) 8, 9, 10, 11, 12 except 14=175(LC 10), 13=232(LC 12)
 Max Grav All reactions 250 lb or less at joint(s) 8, 9, 10, 11, 12 except 14=340(LC 9), 13=277(LC 19)

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

TOP CHORD 1-14=-528/487, 1-2=-499/489, 2-3=-430/430, 3-4=-363/376, 4-5=-295/320,
 5-6=-235/275
 BOT CHORD 13-14=-569/593
 WEBS 1-13=-520/544

NOTES-

- 1) Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) 0-1-12 to 3-1-12, Exterior(2) 3-1-12 to 11-10-12 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
- 2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 3) All plates are 2x4 MT20 unless otherwise indicated.
- 4) Gable requires continuous bottom chord bearing.
- 5) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 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) 8, 9, 10, 11, 12 except (jt=lb) 14=175, 13=232.



March 21, 2023

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

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



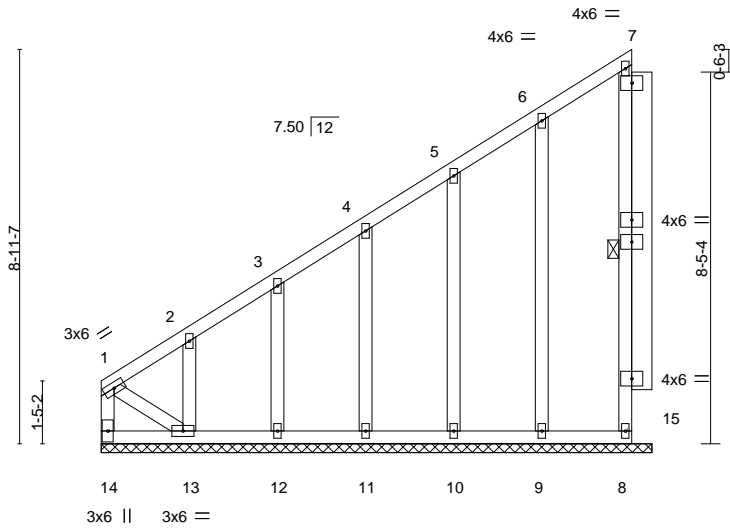
818 Soundside Road
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST-001G	001G	GABLE	1	1	157311329

Builders FirstSource (Apex, NC), Apex, NC - 27523,

8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:06 2023 Page 1

ID: gumUxvIraMNw9nG5WSc76My6QgB-KclxcLFK6vY?WQgVdadWq8Z6EzuZPHmJ_lb9azYfI?



Scale = 1:52.3

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 0.59	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.11	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.20	Horz(CT)	-0.00	8	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S						
								Weight: 107 lb	FT = 20%

LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 WEBS 2x4 SP No.3
 OTHERS 2x4 SP No.3 *Except*
 7-15: 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 6-0-0 oc bracing, Except:
 7-10-12 oc bracing: 13-14.
 WEBS 1 Row at midpt 7-8

REACTIONS. All bearings 12-6-0.
 (lb) - Max Horz 14=379(LC 9)
 Max Uplift All uplift 100 lb or less at joint(s) 8, 12, 11, 10, 9 except 14=181(LC 10), 13=232(LC 12)
 Max Grav All reactions 250 lb or less at joint(s) 8, 12, 11, 10, 9 except 14=347(LC 9), 13=277(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-14=-536/497, 1-2=-500/492, 2-3=-433/433, 3-4=-366/380, 4-5=-299/325,
 5-6=-236/275
 BOT CHORD 13-14=-565/588
 WEBS 1-13=-525/547

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) 0-1-12 to 3-1-12, Exterior(2) 3-1-12 to 12-1-8 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
 - 2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - 3) All plates are 2x4 MT20 unless otherwise indicated.
 - 4) Gable requires continuous bottom chord bearing.
 - 5) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
 - 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) 8, 12, 11, 10, 9 except (jt=lb) 14=181, 13=232.



March 21, 2023

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

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

ENGINEERING BY
TRENCO
 A MITEK Affiliate

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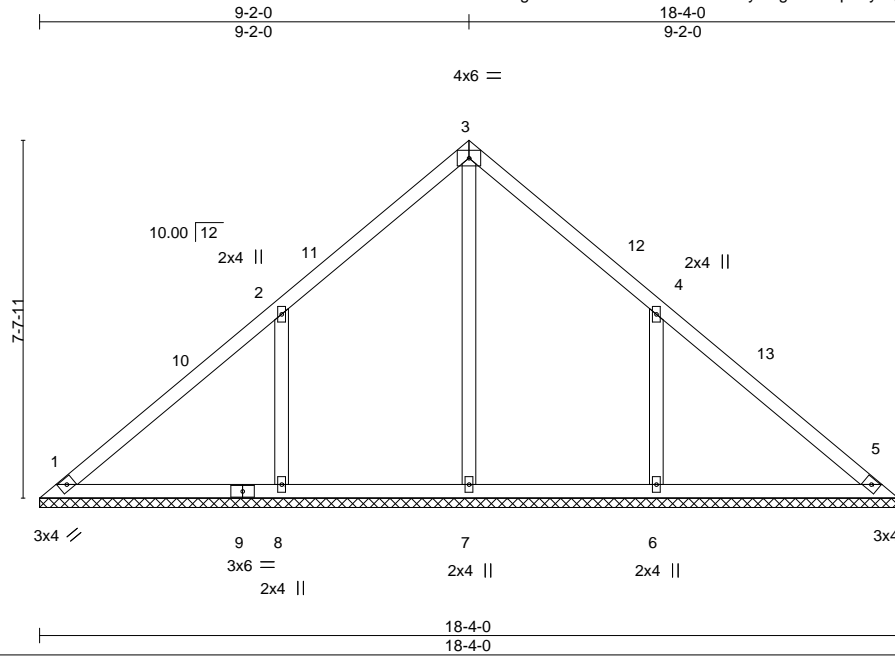
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST-0V01		GABLE	1	1	157311330
					Job Reference (optional)

Builders FirstSource (Apex, NC),

Apex, NC - 27523,

8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:07 2023 Page 1

ID:gumUxvIraMNw9nG5WSc76My6QgB-oosJphFytCgr8aFiAI9INM6MRNDj8lbsYe29i1zYfl_



Scale = 1:49.2

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.30	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.18	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.17	Horz(CT)	0.00	5	n/a		
BCDL 10.0	Rep Stress Incr YES	Matrix-S					Weight: 83 lb	FT = 20%
	Code IRC2015/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 18-4-0.
 (lb) - Max Horz 1=-213(LC 8)
 Max Uplift All uplift 100 lb or less at joint(s) 1 except 8=-289(LC 12), 6=-289(LC 13)
 Max Grav All reactions 250 lb or less at joint(s) 1, 5 except 7=368(LC 22), 8=540(LC 19), 6=540(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 WEBS 2-8=-415/335, 4-6=-415/334

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-4-13 to 3-4-13, Interior(1) 3-4-13 to 9-2-0, Exterior(2) 9-2-0 to 12-2-0, Interior(1) 12-2-0 to 17-11-3 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, with BCDL = 10.0psf.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1 except (jt=lb) 8=289, 6=289.



March 21, 2023

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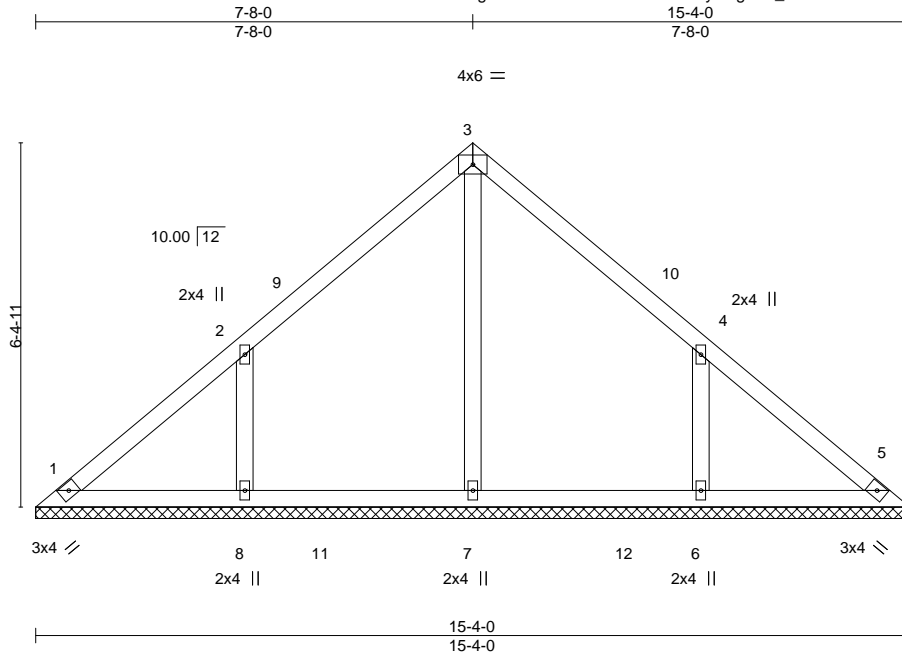
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST-0V02		GABLE	1	1	157311331
Job Reference (optional)					

Builders FirstSource (Apex, NC),

Apex, NC - 27523,

8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:08 2023 Page 1

ID: gumUxvlraMNw9nG5WSc76My6QgB-G_Qh01GaeWoimkqk?g_vZeZynZDtDi?mInIDTzYfkz



Scale = 1:40.4

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.19	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.17	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.11	Horz(CT)	0.00	5	n/a		
BCDL 10.0	Rep Stress Incr YES	Matrix-S						
	Code IRC2015/TPI2014						Weight: 67 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 15-4-0.
 (lb) - Max Horz 1=-177(LC 8)
 Max Uplift All uplift 100 lb or less at joint(s) 1 except 8=-236(LC 12), 6=-236(LC 13)
 Max Grav All reactions 250 lb or less at joint(s) 1, 5 except 7=354(LC 19), 8=413(LC 19), 6=412(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 2-8=-341/277, 4-6=-341/277

NOTES-

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-4-13 to 3-8-0, Interior(1) 3-8-0 to 7-8-0, Exterior(2) 7-8-0 to 10-8-0, Interior(1) 10-8-0 to 14-11-3 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, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1 except (jt=lb) 8=236, 6=236.



March 21, 2023

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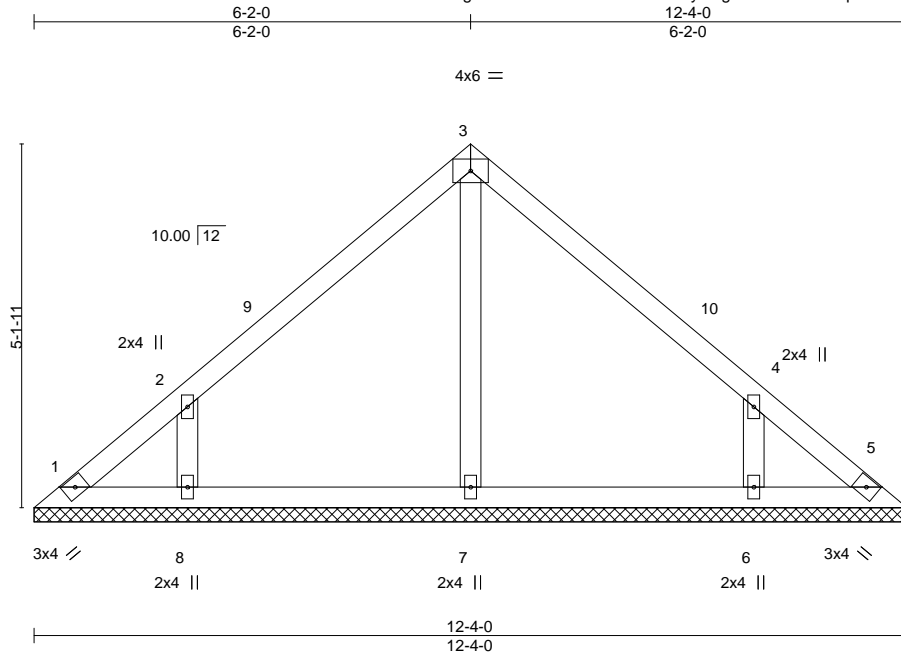
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	157311332
MASTER_D_ROOF_2ND_ST	CV03	GABLE	1	1	Job Reference (optional)	

Builders FirstSource (Apex, NC),

Apex, NC - 27523,

8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:09 2023 Page 1

ID: gumUxvIraMNw9nG5WSc76My6QgB-IBz3EMHCPqwZOuP4IjBDSnBkwBw6cgW9?yXFVzYfky



Scale = 1:32.5

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.18	Vert(LL)	n/a	-	n/a	999	MT20
TCDL 10.0	Plate Grip DOL 1.15	BC 0.12	Vert(CT)	n/a	-	n/a	999	244/190
BCLL 0.0 *	Lumber DOL 1.15	WB 0.07	Horz(CT)	0.00	5	n/a	n/a	
BCDL 10.0	Rep Stress Incr YES	Matrix-S						
	Code IRC2015/TPI2014							
							Weight: 51 lb	FT = 20%

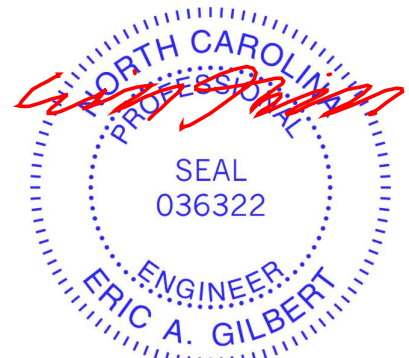
LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 OTHERS 2x4 SP No.3

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 12-4-0.
 (lb) - Max Horz 1=140(LC 8)
 Max Uplift All uplift 100 lb or less at joint(s) 1, 5 except 8=207(LC 12), 6=207(LC 13)
 Max Grav All reactions 250 lb or less at joint(s) 1, 5, 7 except 8=335(LC 19), 6=335(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 WEBS 2-8=-306/250, 4-6=-306/250

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-4-13 to 3-4-13, Interior(1) 3-4-13 to 6-2-0, Exterior(2) 6-2-0 to 9-2-0, Interior(1) 9-2-0 to 11-11-3 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) 8=207, 6=207.



March 21, 2023

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818 Soundside Road
 Edenton, NC 27932

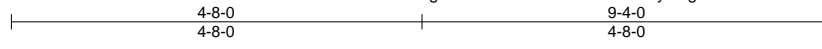
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST	CV04	GABLE	1	1	157311333
					Job Reference (optional)

Builders FirstSource (Apex, NC),

Apex, NC - 27523,

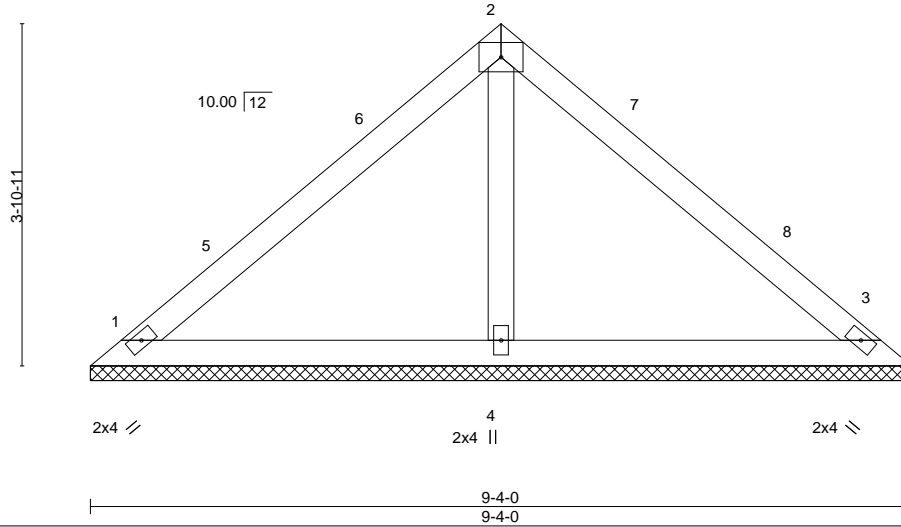
8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:10 2023 Page 1

ID:gumUxvlraMNw9nG5WSc76My6QgB-DNXSRilrA72Q?1_GsQiS__ktPbEOL82lEcGpHLzYfkx



4x6 =

Scale = 1:26.2



LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.26	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.18	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.06	Horz(CT)	0.00	3	n/a		
BCDL 10.0	Rep Stress Incr YES	Matrix-S					Weight: 35 lb	FT = 20%
	Code IRC2015/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.

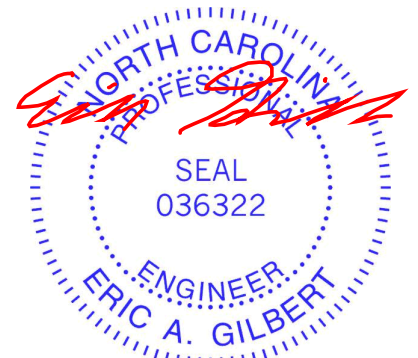
REACTIONS.

(size) 1=9-4-0, 3=9-4-0, 4=9-4-0
 Max Horz 1=-104(LC 8)
 Max Uplift 1=-44(LC 13), 3=-57(LC 13), 4=-26(LC 12)
 Max Grav 1=181(LC 1), 3=181(LC 1), 4=321(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=140mph Vasd=111mph; TCCL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-4-13 to 3-4-13, Interior(1) 3-4-13 to 4-8-0, Exterior(2) 4-8-0 to 7-8-0, Interior(1) 7-8-0 to 8-11-3 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
- 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, 4.



March 21, 2023

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

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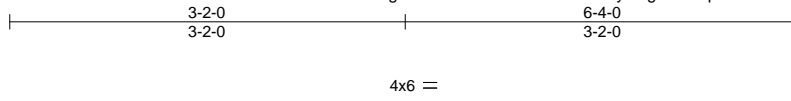
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST	CV05	VALLEY	1	1	157311334
					Job Reference (optional)

Builders FirstSource (Apex, NC),

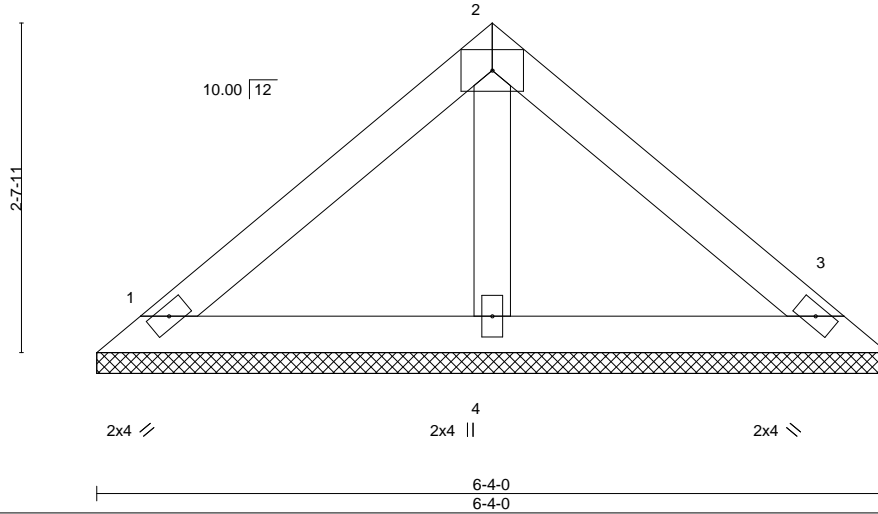
Apex, NC - 27523,

8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:11 2023 Page 1

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Scale = 1:18.4



LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.14	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.08	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.03	Horz(CT)	0.00	3	n/a		
BCDL 10.0	Rep Stress Incr YES	Matrix-P					Weight: 23 lb	FT = 20%
	Code IRC2015/TPI2014							

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

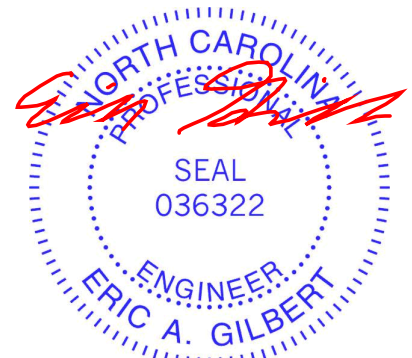
BRACING-
 TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 1=6-4-0, 3=6-4-0, 4=6-4-0
 Max Horz 1=67(LC 8)
 Max Uplift 1=37(LC 13), 3=46(LC 13)
 Max Grav 1=127(LC 1), 3=127(LC 1), 4=188(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=140mph Vasd=111mph; TC DL=6.0psf; BC DL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 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
- 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.



March 21, 2023

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

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



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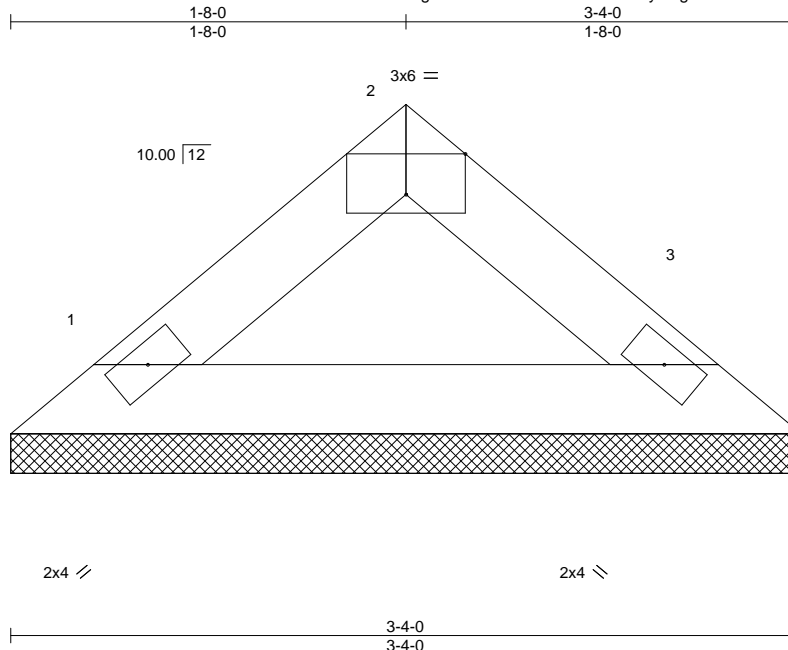
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST	CV06	VALLEY	1	1	157311335
					Job Reference (optional)

Builders FirstSource (Apex, NC),

Apex, NC - 27523,

8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:12 2023 Page 1

ID:gumUxvIraMNw9nG5WSc76My6QgB-9mfCsOJ5iU8FL8fzrkW4PpHTOxap2QbhwIwMEzYfkv



Scale = 1:9.7

Plate Offsets (X,Y)--	[2:0-3-0,Edge]						
LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d
TCLL 20.0	Plate Grip DOL	1.15	TC 0.03	Vert(LL)	n/a	-	n/a 999
TCDL 10.0	Lumber DOL	1.15	BC 0.07	Vert(CT)	n/a	-	n/a 999
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.00	Horz(CT)	0.00	3	n/a n/a
BCDL 10.0	Code IRC2015/TPI2014		Matrix-P				
							PLATES
							MT20
							GRIP
							244/190
							Weight: 10 lb
							FT = 20%

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

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

REACTIONS. (size) 1=3-4-0, 3=3-4-0
 Max Horz 1=-31(LC 10)
 Max Uplift 1=-17(LC 12), 3=-17(LC 13)
 Max Grav 1=101(LC 1), 3=101(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=140mph Vasd=111mph; TC DL=6.0psf; BC DL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 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
- 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.



March 21, 2023

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

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

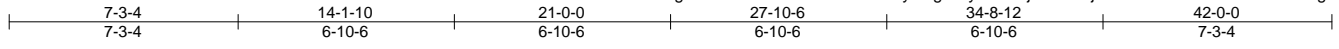


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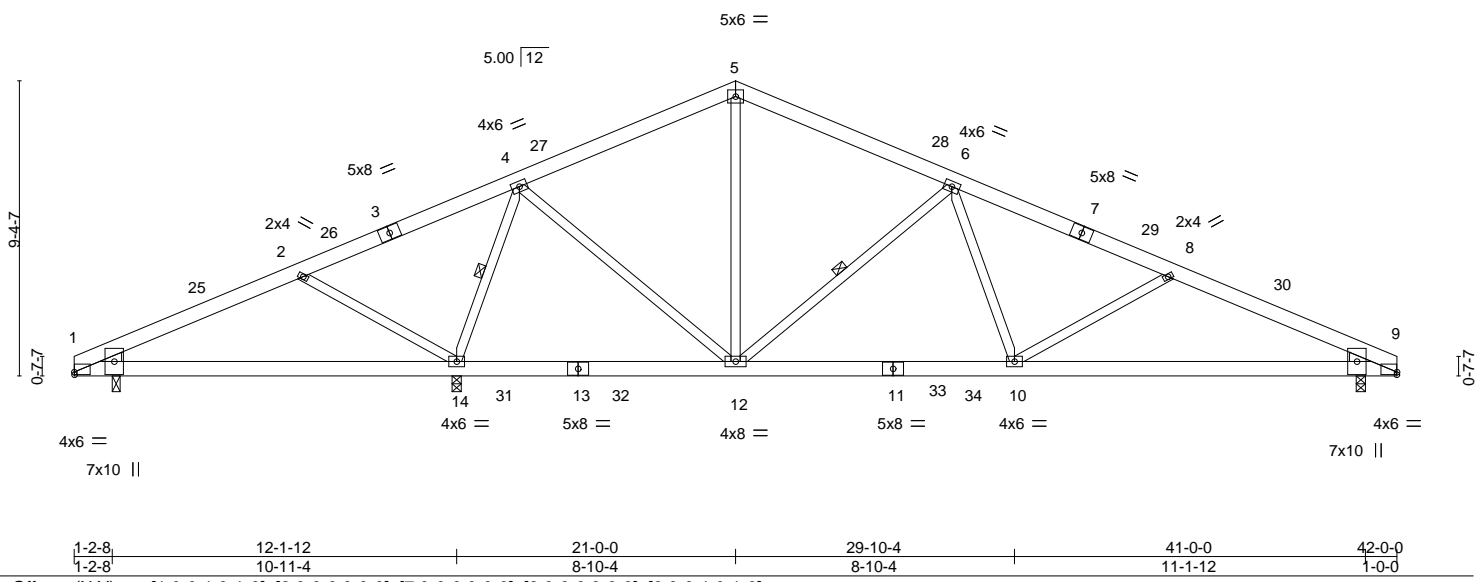
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	157311336
MASTER_D_ROOF_2ND_ST-001	001	COMMON	7	1		

Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:13 2023 Page 1

ID: gumUxvIraMNw9nG5WSc76My6QgB-dyDa4kKJT2R?sVjrXZF9cdMMIo9zYPWkwaVTugzYfku



Scale = 1:73.2



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 0.41	Vert(LL)	-0.08 10-12	>999	360	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.58	Vert(CT)	-0.15 10-12	>999	240		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.39	Horz(CT)	0.03 9	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-MS	Wind(LL)	0.05 10-12	>999	240	Weight: 280 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x6 SP No.2	TOP CHORD Structural wood sheathing directly applied or 4-11-2 oc purlins.
BOT CHORD 2x6 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:
WEBS 2x4 SP No.3	6-0-0 oc bracing: 1-14.
WEDGE	WEBS 1 Row at midpt 4-14, 6-12
Left: 2x4 SP No.3, Right: 2x4 SP No.3	

REACTIONS. (size) 1=0-3-0, 14=0-3-8, 9=0-3-8
 Max Horz 1=151(LC 16)
 Max Uplift 1=-78(LC 12), 14=-240(LC 8), 9=-179(LC 13)
 Max Grav 1=416(LC 23), 14=1875(LC 1), 9=1156(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 2-4=-140/522, 4-5=-783/270, 5-6=-785/264, 6-8=-1526/305, 8-9=-1844/389
 BOT CHORD 10-12=-128/1235, 9-10=-255/1620
 WEBS 5-12=-4/337, 4-12=-119/782, 4-14=-1469/437, 2-14=-506/257, 6-12=-801/259,
 6-10=0/466, 8-10=-326/236

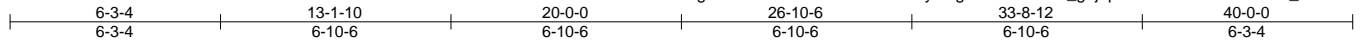
- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TC DL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-0-0 to 4-2-6, Interior(1) 4-2-6 to 21-0-0, Exterior(2) 21-0-0 to 26-11-5, Interior(1) 26-11-5 to 42-0-0 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
 - 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) 1 except (jt=lb) 14=240, 9=179.



March 21, 2023

Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	157311337
MASTER_D_ROOF_2ND_ST	DD01A	COMMON	1	1		

Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:15 2023 Page 1
 ID: gumUxvIraMNw9nG5WSc76My6QgB-ZLLLUQMz_gHj6ptEezldh2Ri?csEOJ51Nt_azZzYfks



Scale = 1:68.6

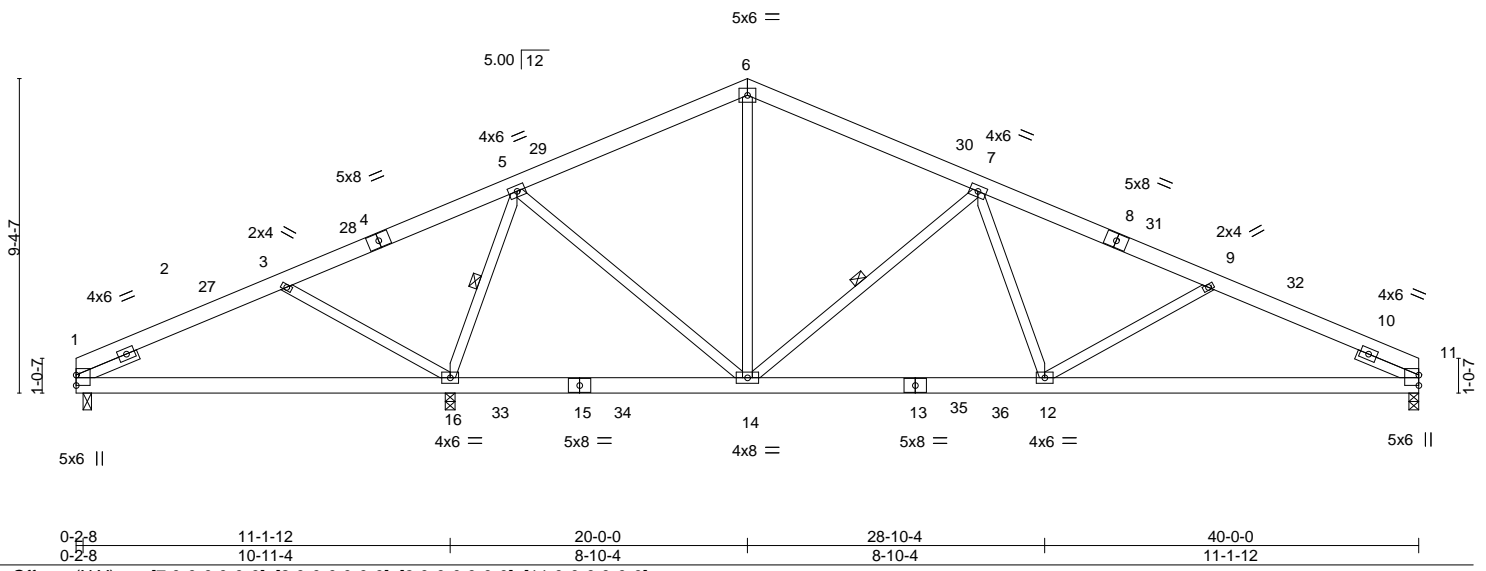


Plate Offsets (X, Y)--	[7:0-0-0,0-0-0], [8:0-0-0,0-0-0], [9:0-0-0,0-0-0], [11:0-0-0,0-0-0]
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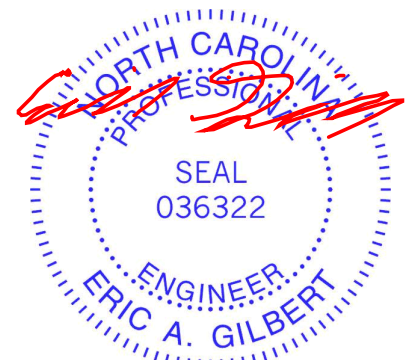
LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.33	Vert(LL)	-0.08	12-14	>999	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.53	Vert(CT)	-0.15	12-25	>999		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.39	Horz(CT)	0.03	11	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-MS	Wind(LL)	0.05	12-14	>999		
								Weight: 274 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x6 SP No.2	TOP CHORD Structural wood sheathing directly applied or 4-11-7 oc purlins.
BOT CHORD 2x6 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:
WEBS 2x4 SP No.3	6-0-0 oc bracing: 1-16.
SLIDER Left 2x4 SP No.3 1-11-12, Right 2x4 SP No.3 1-11-12	WEBS 1 Row at midpt 5-16, 7-14

REACTIONS. (size) 1=0-3-0, 16=0-3-8, 11=0-3-8
 Max Horz 1=146(LC 16)
 Max Uplift 1=-63(LC 12), 16=-230(LC 8), 11=-168(LC 13)
 Max Grav 1=347(LC 23), 16=1852(LC 1), 11=1082(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-3=-410/140, 3-5=-120/479, 5-6=-802/281, 6-7=-804/274, 7-9=-1553/324, 9-11=-1847/414
 BOT CHORD 12-14=-154/1257, 11-12=-295/1643
 WEBS 6-14=-11/337, 5-14=-105/762, 5-16=-1445/428, 3-16=-506/271, 7-14=-807/260, 7-12=-4/472, 9-12=-326/248

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TC DL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 1-0-0 to 5-2-6, Interior(1) 5-2-6 to 21-0-0, Exterior(2) 21-0-0 to 26-11-5, Interior(1) 26-11-5 to 41-0-0 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
 - 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) 1 except (jt=lb) 16=230, 11=168.

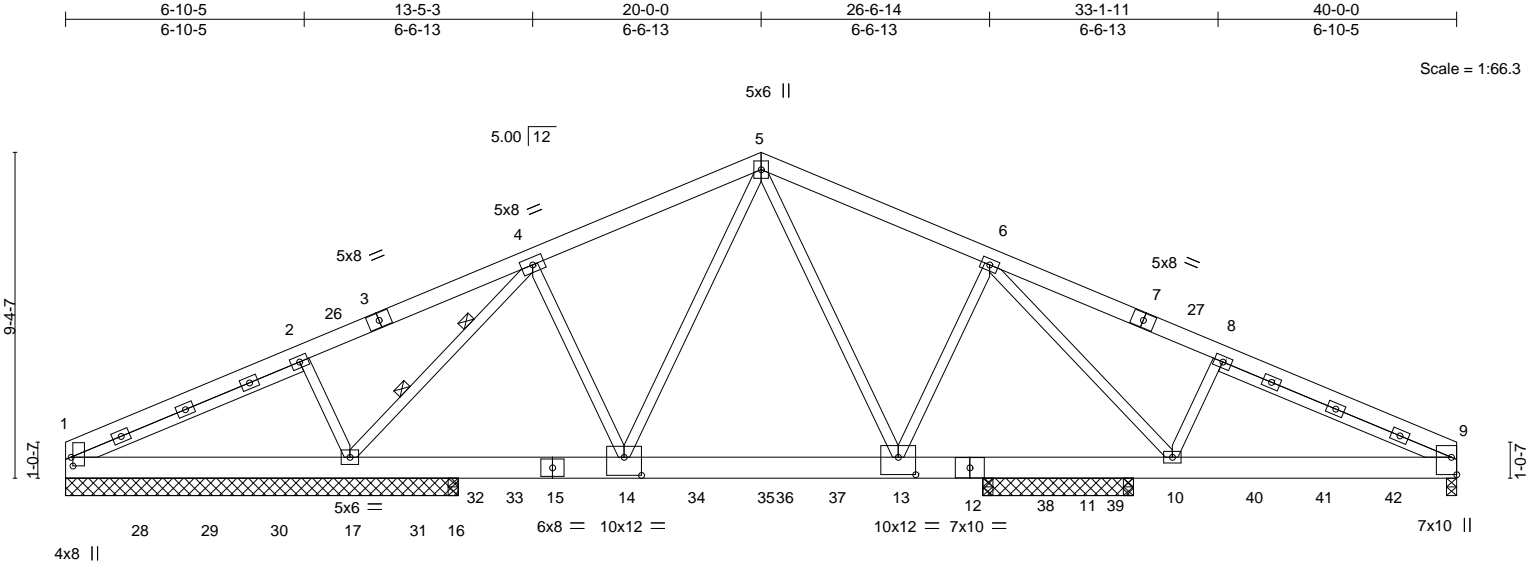


March 21, 2023

Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	157311339
MASTER_D_ROOF_2ND_STORY	D02-1PL	COMMON	1	1	Job Reference (optional)	

Builders FirstSource, Apex, NC 27523

ID:gumUxvlraMnW9nG5WSct76My6QgB-J2zi4wOZ6GKKQoYvSYBwUYj8hz4MSE5jYi3oaBzYfRu
8.630 s Mar 9 2023 MiTek Industries, Inc. Tue Mar 21 16:26:29 2023 Page 1



8-2-2	11-0-0	16-0-11	23-11-5	26-8-0	30-8-8	31-9-15	40-0-0
8-2-2	2-9-14	5-0-11	7-10-10	2-8-11	4-0-8	1-1-7	8-2-2

Plate Offsets (X,Y)-- [1:0-3-0,0-0-10], [9:Edge,0-1-14], [13:0-6-0,0-6-0], [14:0-6-0,0-6-4]

LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.45	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.97	Vert(LL) -0.21 13-14 >999 360		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.94	Vert(CT) -0.39 13-14 >540 240		
BCDL 10.0	Rep Stress Incr NO	Matrix-MS	Horz(CT) 0.04 9 n/a n/a		
	Code IRC2015/TPI2014		Wind(LL) 0.16 13-14 >999 240		
				Weight: 324 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x6 SP No.2	TOP CHORD Structural wood sheathing directly applied or 3-5-0 oc purlins.
BOT CHORD 2x8 SP DSS	BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 2x4 SP No.2	WEBS 2 Rows at 1/3 pts 4-17
SLIDER Left 2x4 SP No.2 7-1-10, Right 2x4 SP No.2 7-1-10	

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

REACTIONS. All bearings 4-4-0 except (jt=length) 1=11-3-8, 17=11-3-8, 9=0-3-10 (input: 0-3-8), 16=0-3-8.
 (lb) - Max Horz 1=145(LC 8)
 Max Uplift All uplift 100 lb or less at joint(s) 16 except 1=125(LC 8), 17=791(LC 8), 9=489(LC 9), 11=371(LC 5)
 Max Grav All reactions 250 lb or less at joint(s) except 1=811(LC 19), 17=5065(LC 1), 9=3051(LC 2), 11=2676(LC 2), 11=2631(LC 1), 11=2631(LC 1), 16=663(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-2=-982/200, 4-5=-3340/582, 5-6=-3859/664, 6-7=-4301/747, 7-27=-4325/722, 8-27=-4366/720, 8-9=-3303/576
 BOT CHORD 17-31=-303/2427, 16-31=-303/2427, 16-32=-303/2427, 32-33=-303/2427, 15-33=-303/2427, 14-15=-303/2427, 14-34=-274/2730, 34-35=-274/2730, 35-36=-274/2730, 36-37=-274/2730, 13-37=-274/2730, 12-13=-450/3696, 12-38=-450/3696, 11-38=-450/3696, 11-39=-450/3696, 10-39=-450/3696, 10-40=-575/4073, 40-41=-575/4073, 41-42=-575/4073, 9-42=-575/4073
 WEBS 5-13=-316/1938, 6-13=-595/234, 6-10=-168/492, 8-10=-339/212, 5-14=-136/803, 4-14=-154/1585, 4-17=-3959/577, 2-17=-545/246

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TC DL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; 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
 - All plates are 4x6 MT20 unless otherwise indicated.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
 - WARNING:** Required bearing size at joint(s) 9 greater than input bearing size.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 16 except (jt=lb) 1=125, 17=791, 9=489, 11=371.
 - This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



Continued on page 2

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ENGINEERING BY
TRENCO
 A MiTek Affiliate

818 Soundside Road
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	157311339
MASTER_D_ROOF_2ND_STORY	D02-1PL	COMMON	1	1	Job Reference (optional)	

Builders FirstSource, Apex, NC 27523

8.630 s Mar 9 2023 MiTek Industries, Inc. Tue Mar 21 16:26:29 2023 Page 2
ID:gumUxvIraMNw9nG5WSvc76My6QgB-J2zi4wOZ6GKkQoYvSYBwUYj8hz4MSE5jYi3oaBzYfRu

NOTES-

- 9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 450 lb down and 78 lb up at 2-0-12, 450 lb down and 78 lb up at 4-0-12, 450 lb down and 78 lb up at 6-0-12, 450 lb down and 78 lb up at 8-0-12, 450 lb down and 78 lb up at 10-0-12, 450 lb down and 78 lb up at 12-0-12, 450 lb down and 78 lb up at 14-0-12, 460 lb down and 78 lb up at 16-0-12, 469 lb down and 78 lb up at 18-0-12, 469 lb down and 78 lb up at 20-0-12, 469 lb down and 78 lb up at 20-7-4, 464 lb down and 78 lb up at 23-8-4, 458 lb down and 78 lb up at 24-1-4, 450 lb down and 78 lb up at 26-1-4, 461 lb down and 78 lb up at 28-1-4, 469 lb down and 78 lb up at 30-1-4, 469 lb down and 78 lb up at 32-1-4, 469 lb down and 78 lb up at 34-1-4, and 469 lb down and 78 lb up at 36-1-4, and 469 lb down and 78 lb up at 38-1-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- 10) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S)

- 1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 1-5=-60, 5-9=-60, 18-22=-20
Concentrated Loads (lb)
Vert: 15=-450(F) 13=-900(F) 10=-450(F) 14=-450(F) 17=-450(F) 12=-450(F) 28=-450(F) 29=-450(F) 30=-450(F) 31=-450(F) 33=-450(F) 34=-450(F) 35=-450(F) 36=-450(F) 38=-450(F) 39=-450(F) 40=-450(F) 41=-450(F) 42=-450(F)
- 2) Dead + 0.75 Roof Live (balanced) + 0.75 Uninhab. Attic Storage: Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 1-5=-50, 5-9=-50, 18-32=-20, 15-32=-50, 15-34=-20, 34-37=-50, 12-37=-20, 12-38=-50, 22-38=-20
Concentrated Loads (lb)
Vert: 15=-439(F) 13=-922(F) 10=-469(F) 14=-460(F) 17=-391(F) 12=-439(F) 28=-391(F) 29=-391(F) 30=-391(F) 31=-391(F) 33=-391(F) 34=-469(F) 35=-469(F) 36=-469(F) 38=-461(F) 39=-469(F) 40=-469(F) 41=-469(F) 42=-469(F)
- 3) Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-20, 5-9=-20, 18-22=-40
Concentrated Loads (lb)
Vert: 15=-417(F) 13=-833(F) 10=-417(F) 14=-417(F) 17=-312(F) 12=-417(F) 28=-312(F) 29=-312(F) 30=-312(F) 31=-312(F) 33=-312(F) 34=-417(F) 35=-417(F) 36=-417(F) 38=-417(F) 39=-417(F) 40=-417(F) 41=-417(F) 42=-417(F)
- 4) Dead + 0.6 MWFRS Wind (Pos. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-5=21, 5-9=18, 18-22=-12
Horz: 1-5=-33, 5-9=30
Concentrated Loads (lb)
Vert: 15=70(F) 13=141(F) 10=70(F) 14=70(F) 17=70(F) 12=70(F) 28=70(F) 29=70(F) 30=70(F) 31=70(F) 33=70(F) 34=70(F) 35=70(F) 36=70(F) 38=70(F) 39=70(F) 40=70(F) 41=70(F) 42=70(F)
- 5) Dead + 0.6 MWFRS Wind (Pos. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-5=18, 5-9=21, 18-22=-12
Horz: 1-5=-30, 5-9=33
Concentrated Loads (lb)
Vert: 15=70(F) 13=141(F) 10=70(F) 14=70(F) 17=70(F) 12=70(F) 28=70(F) 29=70(F) 30=70(F) 31=70(F) 33=70(F) 34=70(F) 35=70(F) 36=70(F) 38=70(F) 39=70(F) 40=70(F) 41=70(F) 42=70(F)
- 6) Dead + 0.6 MWFRS Wind (Neg. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-5=-0, 5-9=-3, 18-22=-20
Horz: 1-5=-20, 5-9=17
Concentrated Loads (lb)
Vert: 15=78(F) 13=157(F) 10=78(F) 14=78(F) 17=78(F) 12=78(F) 28=78(F) 29=78(F) 30=78(F) 31=78(F) 33=78(F) 34=78(F) 35=78(F) 36=78(F) 38=78(F) 39=78(F) 40=78(F) 41=78(F) 42=78(F)
- 7) Dead + 0.6 MWFRS Wind (Neg. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-5=-3, 5-9=-0, 18-22=-20
Horz: 1-5=-17, 5-9=20
Concentrated Loads (lb)
Vert: 15=78(F) 13=157(F) 10=78(F) 14=78(F) 17=78(F) 12=78(F) 28=78(F) 29=78(F) 30=78(F) 31=78(F) 33=78(F) 34=78(F) 35=78(F) 36=78(F) 38=78(F) 39=78(F) 40=78(F) 41=78(F) 42=78(F)
- 8) Dead + 0.6 MWFRS Wind (Pos. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-26=34, 5-26=20, 5-9=8, 18-22=-12
Horz: 1-26=-46, 5-26=-32, 5-9=20
Concentrated Loads (lb)
Vert: 15=70(F) 13=141(F) 10=70(F) 14=70(F) 17=70(F) 12=70(F) 28=70(F) 29=70(F) 30=70(F) 31=70(F) 33=70(F) 34=70(F) 35=70(F) 36=70(F) 38=70(F) 39=70(F) 40=70(F) 41=70(F) 42=70(F)
- 9) Dead + 0.6 MWFRS Wind (Pos. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-5=8, 5-27=20, 9-27=34, 18-22=-12
Horz: 1-5=-20, 5-27=32, 9-27=46
Concentrated Loads (lb)
Vert: 15=70(F) 13=141(F) 10=70(F) 14=70(F) 17=70(F) 12=70(F) 28=70(F) 29=70(F) 30=70(F) 31=70(F) 33=70(F) 34=70(F) 35=70(F) 36=70(F) 38=70(F) 39=70(F) 40=70(F) 41=70(F) 42=70(F)
- 10) Dead + 0.6 MWFRS Wind (Pos. Internal) 3rd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-5=20, 5-9=8, 18-22=-12
Horz: 1-5=-32, 5-9=20
Concentrated Loads (lb)
Vert: 15=70(F) 13=141(F) 10=70(F) 14=70(F) 17=70(F) 12=70(F) 28=70(F) 29=70(F) 30=70(F) 31=70(F) 33=70(F) 34=70(F) 35=70(F) 36=70(F) 38=70(F) 39=70(F) 40=70(F) 41=70(F) 42=70(F)
- 11) Dead + 0.6 MWFRS Wind (Pos. Internal) 4th Parallel: Lumber Increase=1.60, Plate Increase=1.60

Continued on page 3

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 ID:gumUxvIraMNw9nG5WSc76My6QgB-Jz2i4wOZ6GKkQoYvSYBwUyJ8hz4MSE5jY13oaBzYfRu

LOAD CASE(S)

- Uniform Loads (plf)
 - Vert: 1-5=8, 5-9=20, 18-22=-12
 - Horz: 1-5=-20, 5-9=32
- Concentrated Loads (lb)
 - Vert: 15=70(F) 13=141(F) 10=70(F) 14=70(F) 17=70(F) 12=70(F) 28=70(F) 29=70(F) 30=70(F) 31=70(F) 33=70(F) 34=70(F) 35=70(F) 36=70(F) 38=70(F) 39=70(F)
 - 40=70(F) 41=70(F) 42=70(F)
- 12) Dead + 0.6 MWFRS Wind (Neg. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
 - Uniform Loads (plf)
 - Vert: 1-26=13, 5-26=-1, 5-9=-13, 18-22=-20
 - Horz: 1-26=-33, 5-26=-19, 5-9=7
 - Concentrated Loads (lb)
 - Vert: 15=78(F) 13=157(F) 10=78(F) 14=78(F) 17=78(F) 12=78(F) 28=78(F) 29=78(F) 30=78(F) 31=78(F) 33=78(F) 34=78(F) 35=78(F) 36=78(F) 38=78(F) 39=78(F)
 - 40=78(F) 41=78(F) 42=78(F)
- 13) Dead + 0.6 MWFRS Wind (Neg. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
 - Uniform Loads (plf)
 - Vert: 1-5=-13, 5-27=-1, 9-27=13, 18-22=-20
 - Horz: 1-5=-7, 5-27=19, 9-27=33
 - Concentrated Loads (lb)
 - Vert: 15=78(F) 13=157(F) 10=78(F) 14=78(F) 17=78(F) 12=78(F) 28=78(F) 29=78(F) 30=78(F) 31=78(F) 33=78(F) 34=78(F) 35=78(F) 36=78(F) 38=78(F) 39=78(F)
 - 40=78(F) 41=78(F) 42=78(F)
- 14) Dead + Uninhabitable Attic Storage: Lumber Increase=1.25, Plate Increase=1.25
 - Uniform Loads (plf)
 - Vert: 1-5=-20, 5-9=-20, 18-32=-20, 15-32=-60, 15-34=-20, 34-37=-60, 12-37=-20, 12-38=-60, 22-38=-20
 - Concentrated Loads (lb)
 - Vert: 15=-279(F) 13=-615(F) 10=-319(F) 14=-307(F) 17=-215(F) 12=-279(F) 28=-215(F) 29=-215(F) 30=-215(F) 31=-215(F) 33=-215(F) 34=-319(F) 35=-319(F)
 - 36=-319(F) 38=-308(F) 39=-319(F) 40=-319(F) 41=-319(F) 42=-319(F)
- 15) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60
 - Uniform Loads (plf)
 - Vert: 1-5=-35, 5-9=-37, 18-32=-20, 15-32=-50, 15-34=-20, 34-37=-50, 12-37=-20, 12-38=-50, 22-38=-20
 - Horz: 1-5=-15, 5-9=13
 - Concentrated Loads (lb)
 - Vert: 15=29(F) 13=57(F) 10=29(F) 14=29(F) 17=29(F) 12=29(F) 28=29(F) 29=29(F) 30=29(F) 31=29(F) 33=29(F) 34=29(F) 35=29(F) 36=29(F) 38=29(F) 39=29(F)
 - 40=29(F) 41=29(F) 42=29(F)
- 16) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60
 - Uniform Loads (plf)
 - Vert: 1-5=-37, 5-9=-35, 18-32=-20, 15-32=-50, 15-34=-20, 34-37=-50, 12-37=-20, 12-38=-50, 22-38=-20
 - Horz: 1-5=-13, 5-9=15
 - Concentrated Loads (lb)
 - Vert: 15=29(F) 13=57(F) 10=29(F) 14=29(F) 17=29(F) 12=29(F) 28=29(F) 29=29(F) 30=29(F) 31=29(F) 33=29(F) 34=29(F) 35=29(F) 36=29(F) 38=29(F) 39=29(F)
 - 40=29(F) 41=29(F) 42=29(F)
- 17) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60
 - Uniform Loads (plf)
 - Vert: 1-26=-26, 5-26=-36, 5-9=-45, 18-32=-20, 15-32=-50, 15-34=-20, 34-37=-50, 12-37=-20, 12-38=-50, 22-38=-20
 - Horz: 1-26=-24, 5-26=-14, 5-9=5
 - Concentrated Loads (lb)
 - Vert: 15=29(F) 13=57(F) 10=29(F) 14=29(F) 17=29(F) 12=29(F) 28=29(F) 29=29(F) 30=29(F) 31=29(F) 33=29(F) 34=29(F) 35=29(F) 36=29(F) 38=29(F) 39=29(F)
 - 40=29(F) 41=29(F) 42=29(F)
- 18) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60
 - Uniform Loads (plf)
 - Vert: 1-5=-45, 5-27=-36, 9-27=-26, 18-32=-20, 15-32=-50, 15-34=-20, 34-37=-50, 12-37=-20, 12-38=-50, 22-38=-20
 - Horz: 1-5=-5, 5-27=14, 9-27=24
 - Concentrated Loads (lb)
 - Vert: 15=29(F) 13=57(F) 10=29(F) 14=29(F) 17=29(F) 12=29(F) 28=29(F) 29=29(F) 30=29(F) 31=29(F) 33=29(F) 34=29(F)
 - 35=29(F) 36=29(F) 38=29(F) 39=29(F) 40=29(F) 41=29(F) 42=29(F)
- 19) 1st Dead + Roof Live (unbalanced): Lumber Increase=1.15, Plate Increase=1.15
 - Uniform Loads (plf)
 - Vert: 1-5=-60, 5-9=-20, 18-22=-20
 - Concentrated Loads (lb)
 - Vert: 15=-450(F) 13=-900(F) 10=-450(F) 14=-450(F) 17=-450(F) 12=-450(F) 28=-450(F) 29=-450(F) 30=-450(F) 31=-450(F)
 - 33=-450(F) 34=-450(F) 35=-450(F) 36=-450(F) 38=-450(F) 39=-450(F) 40=-450(F) 41=-450(F) 42=-450(F)
- 20) 2nd Dead + Roof Live (unbalanced): Lumber Increase=1.15, Plate Increase=1.15
 - Uniform Loads (plf)
 - Vert: 1-5=-20, 5-9=-60, 18-22=-20
 - Concentrated Loads (lb)
 - Vert: 15=-450(F) 13=-900(F) 10=-450(F) 14=-450(F) 17=-450(F) 12=-450(F) 28=-450(F) 29=-450(F) 30=-450(F) 31=-450(F)
 - 33=-450(F) 34=-450(F) 35=-450(F) 36=-450(F) 38=-450(F) 39=-450(F) 40=-450(F) 41=-450(F) 42=-450(F)
- 21) 3rd Dead + 0.75 Roof Live (unbalanced) + 0.75 Uninhab. Attic Storage: Lumber Increase=1.15, Plate Increase=1.15
 - Uniform Loads (plf)
 - Vert: 1-5=-50, 5-9=-20, 18-32=-20, 15-32=-50, 15-34=-20, 34-37=-50, 12-37=-20, 12-38=-50, 22-38=-20
 - Concentrated Loads (lb)
 - Vert: 15=-439(F) 13=-922(F) 10=-469(F) 14=-460(F) 17=-391(F) 12=-439(F) 28=-391(F) 29=-391(F) 30=-391(F) 31=-391(F)
 - 33=-391(F) 34=-469(F) 35=-469(F) 36=-469(F) 38=-461(F) 39=-469(F) 40=-469(F) 41=-469(F) 42=-469(F)
- 22) 4th Dead + 0.75 Roof Live (unbalanced) + 0.75 Uninhab. Attic Storage: Lumber Increase=1.15, Plate Increase=1.15
 - Uniform Loads (plf)
 - Vert: 1-5=-20, 5-9=-50, 18-32=-20, 15-32=-50, 15-34=-20, 34-37=-50, 12-37=-20, 12-38=-50, 22-38=-20

Continued on page 4

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MASTER_D_ROOF_2ND_STORY	D02-1PL	COMMON	1	1	Job Reference (optional)	

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 ID:gumUxvIraMNw9nG5WSc76My6QgB-J2zi4wOZ6GKKQoYvSYBwUYj8hz4MSE5jYI3oaBzYfRu

LOAD CASE(S)

Concentrated Loads (lb)

Vert: 15=-439(F) 13=-922(F) 10=-469(F) 14=-460(F) 17=-391(F) 12=-439(F) 28=-391(F) 29=-391(F) 30=-391(F) 31=-391(F) 33=-391(F) 34=-469(F) 35=-469(F)
 36=-469(F) 38=-461(F) 39=-469(F) 40=-469(F) 41=-469(F) 42=-469(F)

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

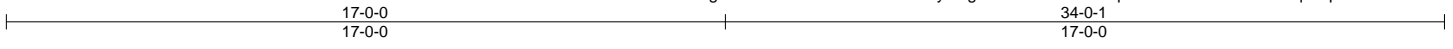


818 Soundside Road
 Edenton, NC 27932

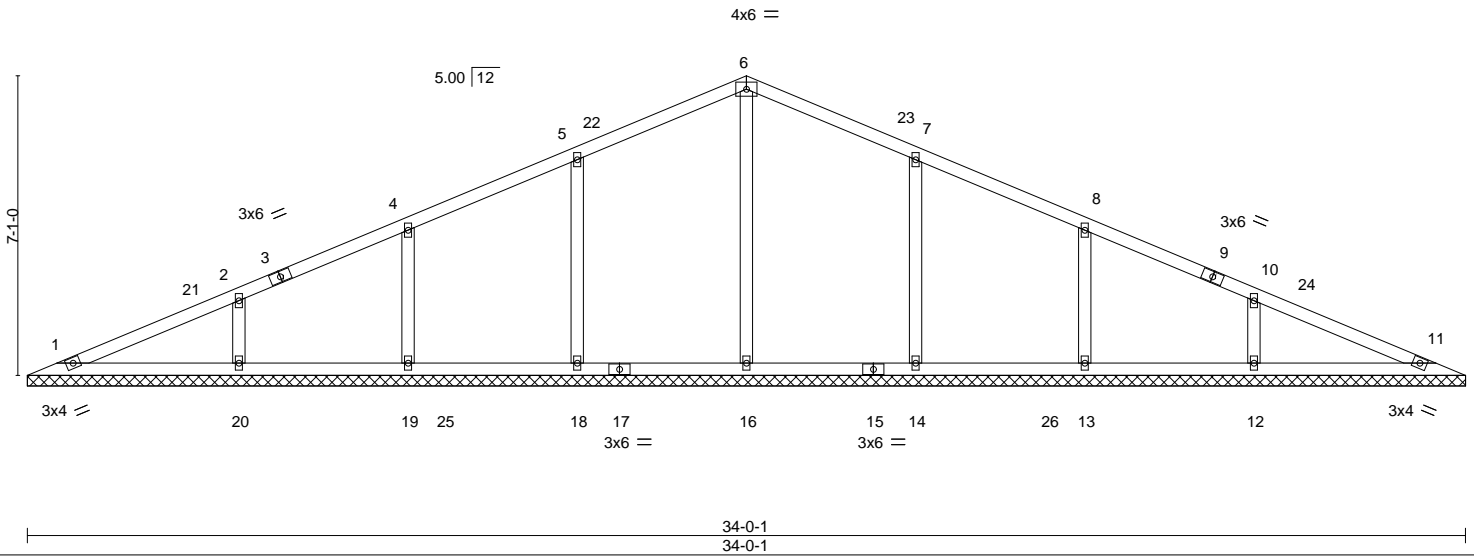
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST-DV01	DV01	GABLE	1	1	157311340
Job Reference (optional)					

Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:21 2023 Page 1

ID: gumUxviraMNw9nG5WSc76My6QgB-OuiclTQkaWRsqkKO?EP1xJhm0079Q5qwmpRuADzYfkm



Scale = 1:54.5



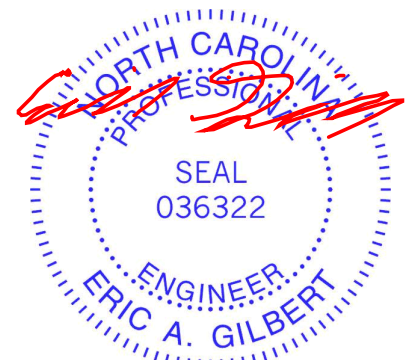
LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP	
TCLL 20.0	Plate Grip DOL	1.15	TC 0.23	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.17	Vert(CT)	n/a	-	n/a	999		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.18	Horz(CT)	0.01	11	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S						Weight: 141 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
OTHERS 2x4 SP No.3	

REACTIONS. All bearings 34-0-1.
 (lb) - Max Horz 1=134(LC 13)
 Max Uplift All uplift 100 lb or less at joint(s) 1, 11 except 18=133(LC 12), 19=109(LC 12), 20=141(LC 12), 14=132(LC 13), 13=109(LC 13), 12=141(LC 13)
 Max Grav All reactions 250 lb or less at joint(s) 1, 11 except 16=379(LC 22), 18=426(LC 25), 19=299(LC 1), 20=380(LC 23), 14=426(LC 26), 13=299(LC 1), 12=380(LC 24)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 WEBS 5-18=-263/181, 2-20=-278/189, 7-14=-263/180, 10-12=-278/189

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TC DL=6.0psf; BC DL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-8-12 to 4-1-9, Interior(1) 4-1-9 to 17-0-0, Exterior(2) 17-0-0 to 20-4-13, Interior(1) 20-4-13 to 33-3-4 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 BC DL = 10.0psf.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 11 except (jt=lb) 18=133, 19=109, 20=141, 14=132, 13=109, 12=141.

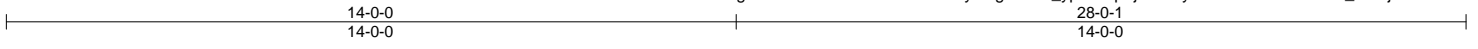


March 21, 2023

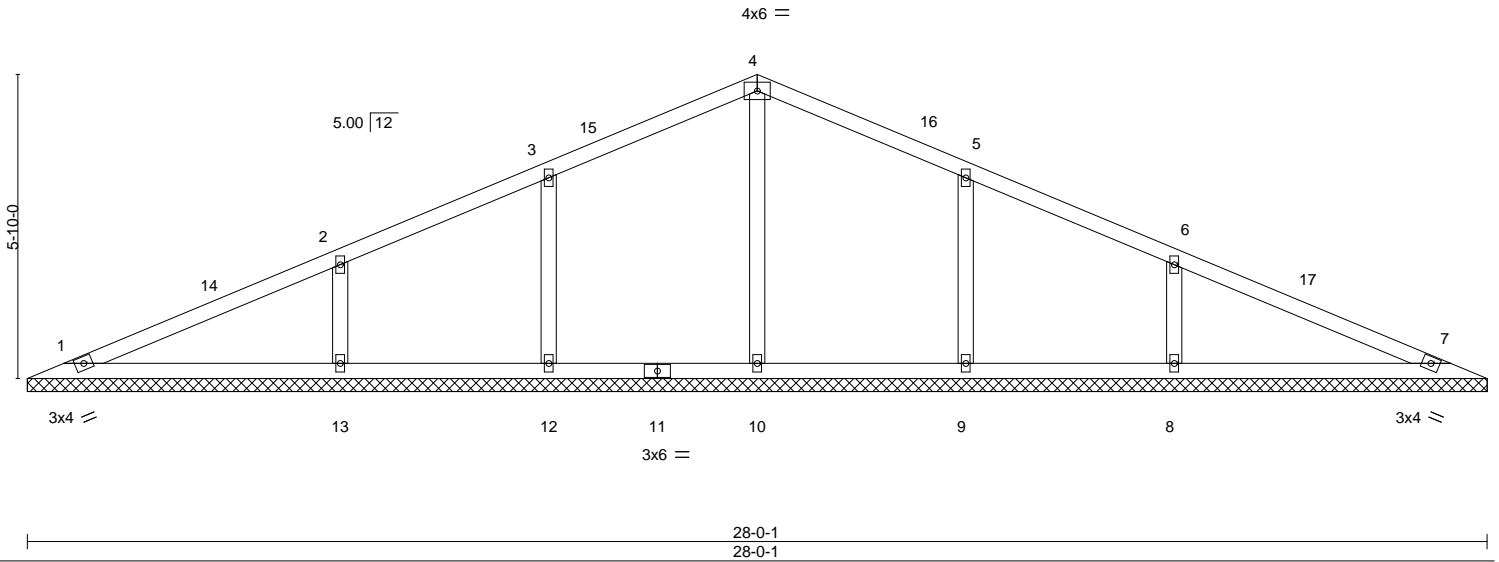
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	157311341
MASTER_D_ROOF_2ND_ST-DV02	DV02	GABLE	1	1	Job Reference (optional)	

Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:22 2023 Page 1

ID: gumUxvIraMNw9nG5WSc76My6QgB-shG_ypRMLpZjRtvaZywGUWDvzQKe9YU3_TARjFzYfkl



Scale = 1:44.2



LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.35	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.22	Vert(LL) n/a - n/a 999		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.13	Vert(CT) n/a - n/a 999		
BCDL 10.0	Rep Stress Incr YES	Matrix-S	Horz(CT) 0.00 7 n/a n/a		
	Code IRC2015/TPI2014			Weight: 109 lb	FT = 20%

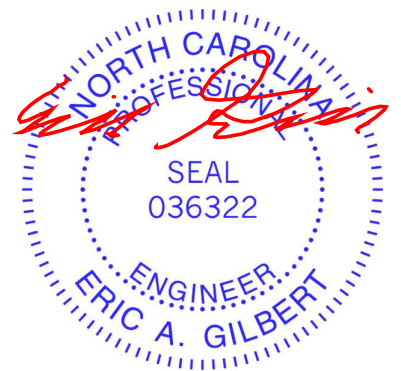
LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 OTHERS 2x4 SP No.3

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 28-0-1.
 (lb) - Max Horz 1=-109(LC 13)
 Max Uplift All uplift 100 lb or less at joint(s) 1, 7 except 12=-117(LC 12), 13=-161(LC 12), 9=-116(LC 13), 8=-161(LC 13)
 Max Grav All reactions 250 lb or less at joint(s) 1, 7 except 10=401(LC 2), 12=317(LC 25), 13=440(LC 1), 9=317(LC 26), 8=440(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 WEBS 2-13=-319/215, 6-8=-319/215

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TC DL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-8-12 to 3-8-12, Interior(1) 3-8-12 to 14-0-0, Exterior(2) 14-0-0 to 17-0-0, Interior(1) 17-0-0 to 27-3-4 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) 12=117, 13=161, 9=116, 8=161.



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

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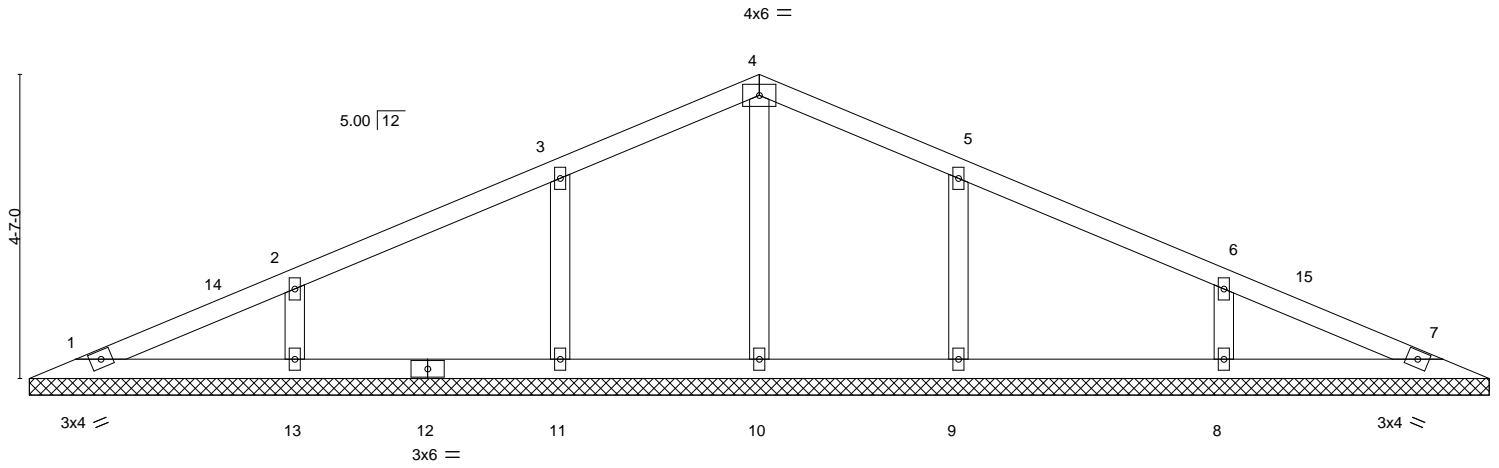
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	I57311342
MASTER_D_ROOF_2ND_ST-DV03	DV03	VALLEY	1	1	Job Reference (optional)	

Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:23 2023 Page 1

ID: gumUxvIraMNw9nG5WSc76My6QgB-KtqMA9S?67ha31Um6fRV0km7Oqhbu0FDD7w?F5zYfkk

11-0-0 22-0-1 11-0-0
11-0-0 11-0-0

Scale = 1:34.7



22-0-1
22-0-1

Plate Offsets (X, Y)--	[2:0-0-0,0-0-0], [3:0-0-0,0-0-0]				
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 0.18	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 7 n/a n/a		
BCDL 10.0	Code IRC2015/TPI2014	Matrix-S		Weight: 83 lb	FT = 20%

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

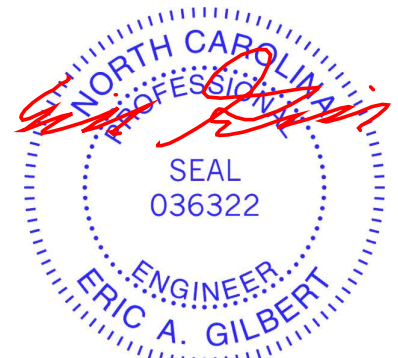
BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 22-0-0.
(lb) - Max Horz 1=84(LC 13)
Max Uplift All uplift 100 lb or less at joint(s) 1, 7 except 8=121(LC 13), 9=112(LC 13), 13=121(LC 12), 11=113(LC 12)
Max Grav All reactions 250 lb or less at joint(s) 1, 7, 10 except 8=330(LC 1), 9=298(LC 24), 13=330(LC 1), 11=298(LC 23)

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 7-10; Vult=140mph Vasd=111mph; TCdL=6.0psf; BCdL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-8-12 to 4-0-0, Interior(1) 4-0-0 to 11-0-0, Exterior(2) 11-0-0 to 14-0-1, Interior(1) 14-0-1 to 21-3-4 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 7 except (jt=lb) 8=121, 9=112, 13=121, 11=113.



March 21, 2023

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

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

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

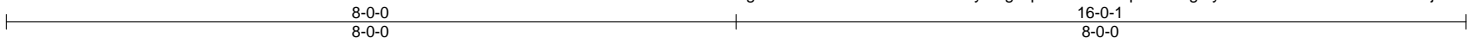


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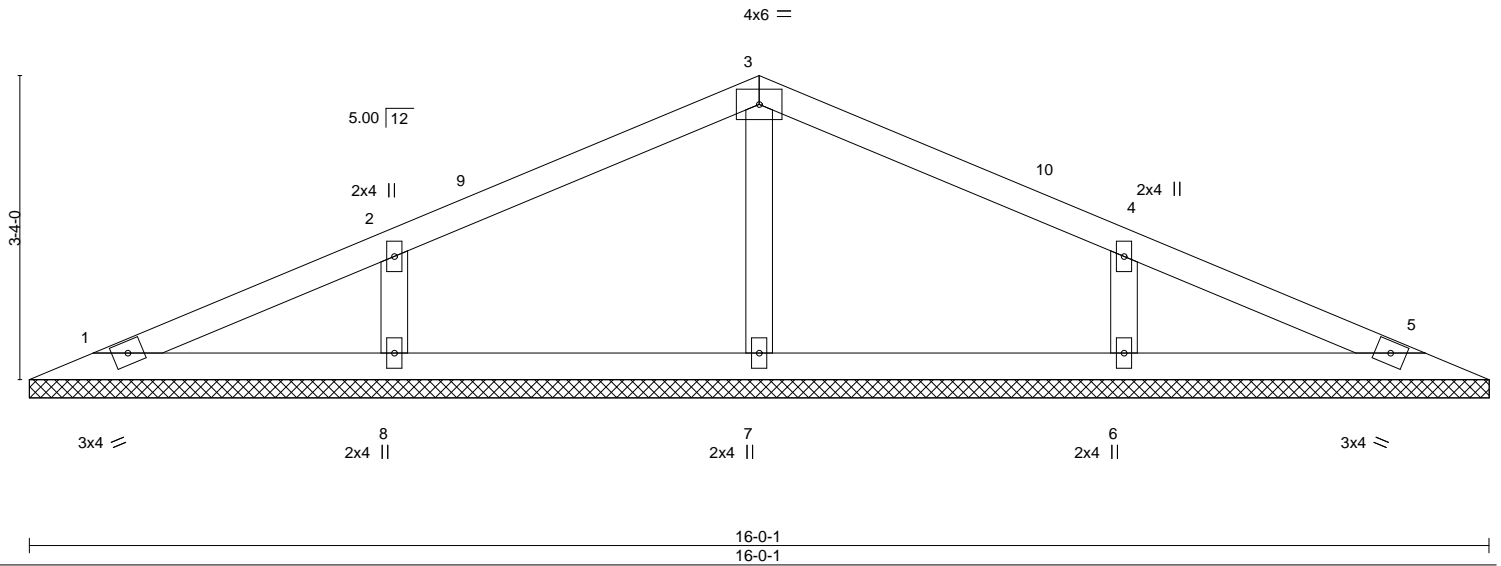
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	I57311343
MASTER_D_ROOF_2ND_ST-DV04	DV04	GABLE	1	1	Job Reference (optional)	

Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:24 2023 Page 1

ID:gumUxvIraMNw9nG5WSc76My6QgB-p3NkNVTdtRpRhB3zgMykZxJluE1sdTaMSnfYnXzYfkj



Scale = 1:25.3



LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.19	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.11	Vert(LL) n/a - n/a 999		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.05	Vert(CT) n/a - n/a 999		
BCDL 10.0	Rep Stress Incr YES	Matrix-S	Horz(CT) 0.00 5 n/a n/a	Weight: 55 lb	FT = 20%
	Code IRC2015/TPI2014				

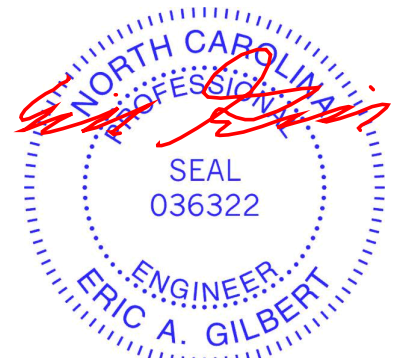
LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 OTHERS 2x4 SP No.3

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 16-0-1.
 (lb) - Max Horz 1=60(LC 13)
 Max Uplift All uplift 100 lb or less at joint(s) 1, 5, 7 except 8=133(LC 12), 6=133(LC 13)
 Max Grav All reactions 250 lb or less at joint(s) 1, 5 except 7=281(LC 1), 8=344(LC 23), 6=344(LC 24)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 WEBS 2-8=-260/177, 4-6=-260/177

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-8-12 to 4-0-0, Interior(1) 4-0-0 to 8-0-0, Exterior(2) 8-0-0 to 11-0-0, Interior(1) 11-0-0 to 15-3-4 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, 7 except (jt=lb) 8=133, 6=133.



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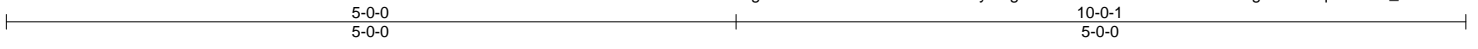


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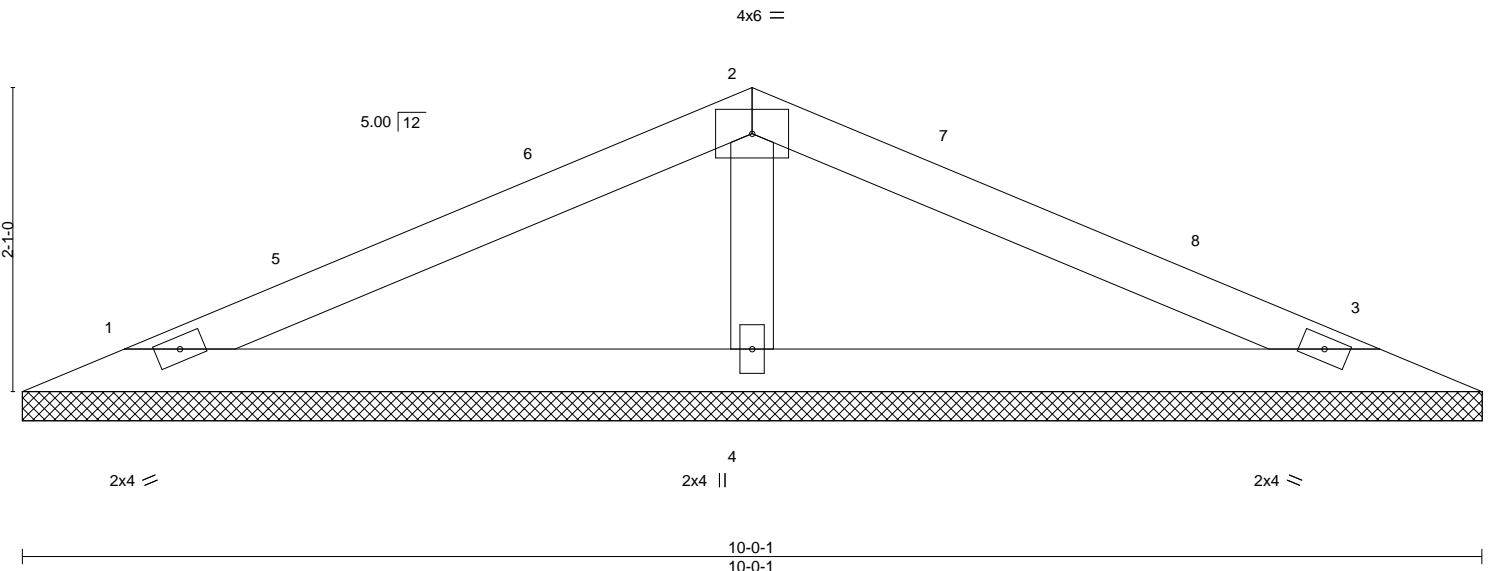
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST-DV05	DV05	GABLE	1	1	I57311344
					Job Reference (optional)

Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:25 2023 Page 1

ID:gumUxvIraMNw9nG5WSc76My6QgB-HGx7brTFekxIIld9E4Tz59rSgeMzMwqVhRP6J_zYfki



Scale = 1:15.8



LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.25	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.18	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.05	Horz(CT)	0.00	3	n/a		
BCDL 10.0	Rep Stress Incr YES	Matrix-S					Weight: 31 lb	FT = 20%
	Code IRC2015/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. (size) 1=10-0-1, 3=10-0-1, 4=10-0-1
Max Horz 1=35(LC 12)
Max Uplift 1=45(LC 12), 3=51(LC 13), 4=46(LC 12)
Max Grav 1=154(LC 23), 3=154(LC 24), 4=383(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 2-4=-258/157

NOTES-

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TC DL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-8-12 to 3-8-12, Interior(1) 3-8-12 to 5-0-0, Exterior(2) 5-0-0 to 8-0-0, Interior(1) 8-0-0 to 9-3-5 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.



March 21, 2023

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Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST	501	COMMON	2	1	I57311345

Builders FirstSource (Apex, NC),

Apex, NC - 27523,

8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:26 2023 Page 1

ID: gumUxvIraMNw9nG5WSc76My6QgB-ISVV0BUIP239wVCLon_CeMOa01Yy5Eaiv58fsQzYfkh



4x6 =

Scale = 1:60.6

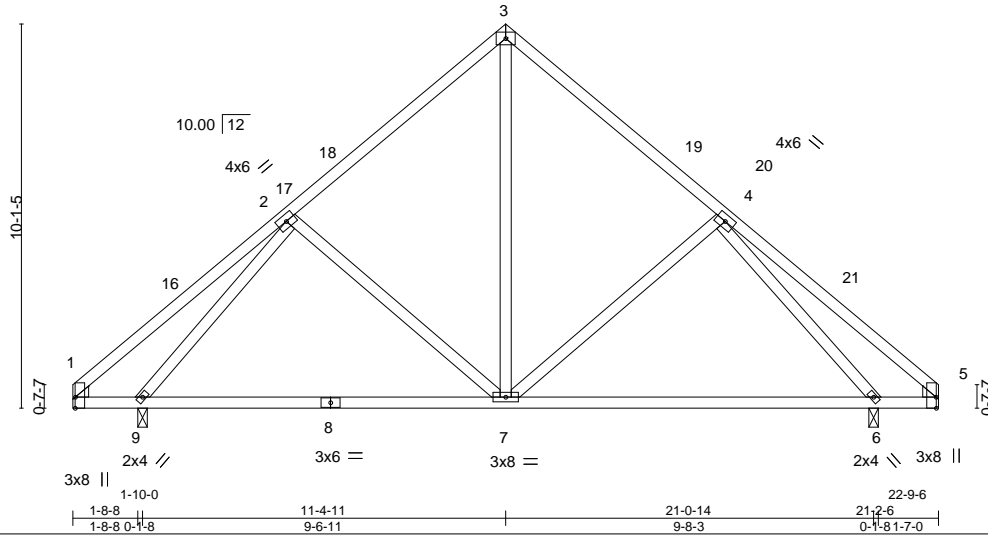


Plate Offsets (X, Y)--	[1:0-3-8, Edge], [5:0-3-8, Edge]
------------------------	----------------------------------

LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.41	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.77	Vert(LL) -0.14 6-7 >999 360		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.60	Vert(CT) -0.28 6-7 >848 240		
BCDL 10.0	Rep Stress Incr YES	Matrix-MS	Horz(CT) 0.02 6 n/a n/a		
	Code IRC2015/TPI2014		Wind(LL) -0.02 7-9 >999 240	Weight: 134 lb	FT = 20%

LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 WEBS 2x4 SP No.3
 WEDGE
 Left: 2x4 SP No.3 , Right: 2x4 SP No.3

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

REACTIONS. (size) 9=0-3-0, 6=0-3-0
 Max Horz 9=-277(LC 10)
 Max Uplift 9=-100(LC 12), 6=-99(LC 13)
 Max Grav 9=917(LC 1), 6=905(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 2-3=-669/234, 3-4=-668/235
 BOT CHORD 7-9=-152/611, 6-7=-33/501
 WEBS 3-7=-118/506, 2-9=-776/265, 4-6=-747/255

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-0-0 to 3-0-0, Interior(1) 3-0-0 to 11-4-11, Exterior(2) 11-4-11 to 15-7-10, Interior(1) 15-7-10 to 22-9-6 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
 - 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) 6 except (jt=lb) 9=100.



March 21, 2023

Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	157311346
MASTER_D_ROOF_2ND_STORY	E01A	COMMON	1	1	Job Reference (optional)	

Builders FirstSource, Apex, NC 27523

ID: gumUxvIraMNw9nG5WSc76My6QgB-5O2?T56aDOly?sZFPRkmN?fERmHcn2uP6RrQ8HzYfQz

8.630 s Mar 9 2023 MiTek Industries, Inc. Tue Mar 21 16:27:28 2023 Page 1

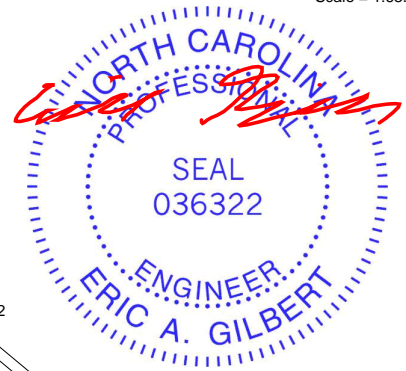
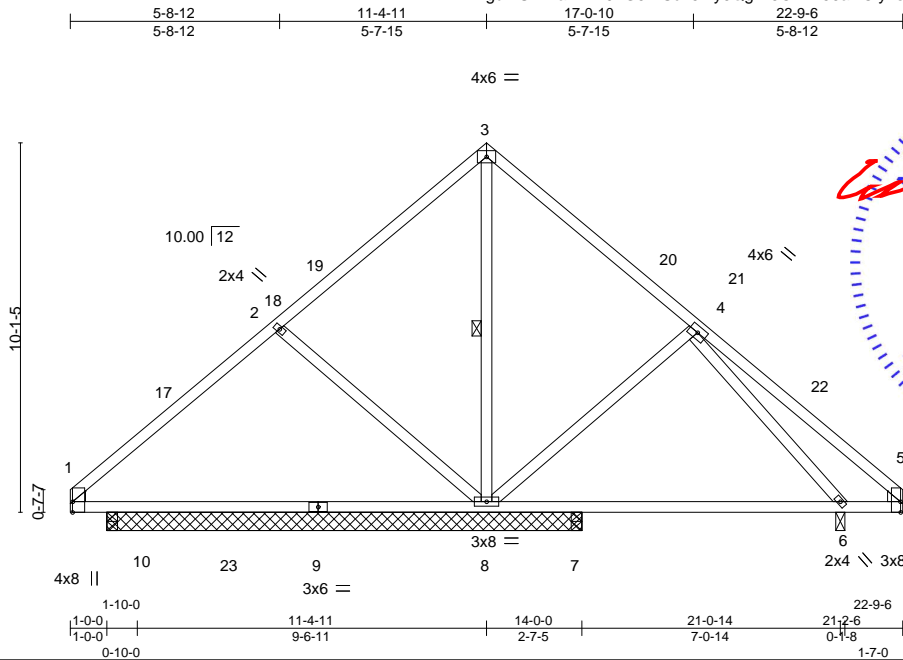


Plate Offsets (X,Y)-- [1:0-3-8,Edge], [5:0-3-8,Edge]

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL 2-0-0	TC 0.41	Vert(LL) -0.21	8-10	>595	360	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.75	Vert(CT) -0.40	8-10	>306	240		
BCLL 0.0 *	Rep Stress Incr YES	WB 0.41	Horz(CT) 0.00	6	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014	Matrix-MS	Wind(LL) -0.01	6-7	>999	240		
							Weight: 125 lb	FT = 20%

LUMBER-

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

WEDGE
 Left: 2x4 SP No.3 , Right: 2x4 SP No.3

BRACING-

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
 WEBS 1 Row at midpt 3-8

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

REACTIONS.

All bearings 0-3-8 except (jt=length) 8=13-0-0, 6=0-3-0.
 (lb) - Max Horz 8=277(LC 9)
 Max Uplift All uplift 100 lb or less at joint(s) 6, 10 except 8=228(LC 13)
 Max Grav All reactions 250 lb or less at joint(s) 7 except 8=928(LC 1), 6=543(LC 24), 10=509(LC 19)

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

TOP CHORD 1-17=-359/32, 2-17=-254/53
 WEBS 2-8=-375/254, 3-8=-435/165, 4-8=-344/269, 4-6=-364/42

NOTES-

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCCL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 0-0-0 to 3-0-0, Interior(1) 3-0-0 to 11-4-11, Exterior(2) 11-4-11 to 15-7-10, Interior(1) 15-7-10 to 22-9-6 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, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 6, 10 except (jt=lb) 8=228.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S)

- Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-3=-60, 3-5=-60, 11-14=-20
- Dead + 0.75 Roof Live (balanced) + 0.75 Uninhab. Attic Storage: Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-3=-50, 3-5=-50, 11-23=-20, 9-23=-50, 9-14=-20
- Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25
 Uniform Loads (plf)
 Vert: 1-3=-20, 3-5=-20, 11-14=-20

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Continued on page 2

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

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

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



818 Soundside Road
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	157311346
MASTER_D_ROOF_2ND_STORY	E01A	COMMON	1	1	Job Reference (optional)	

Builders FirstSource, Apex, NC 27523

8.630 s Mar 9 2023 MiTek Industries, Inc. Tue Mar 21 16:27:28 2023 Page 2
 ID:gumUxvIraMNw9nG5WSc76My6QgB-5O2?T56aDOIy?sZFPRkmN?IERmHcn2uP6RrQ8HzYfQZ

LOAD CASE(S)

- 4) Dead + 0.6 C-C Wind (Pos. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-17=31, 3-17=24, 3-20=31, 5-20=24, 10-11=40, 6-10=-12, 6-14=40
 Horz: 1-17=-43, 3-17=-36, 3-20=43, 5-20=36
- 5) Dead + 0.6 C-C Wind (Pos. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-19=24, 3-19=31, 3-22=24, 5-22=31, 10-11=40, 6-10=-12, 6-14=40
 Horz: 1-19=-36, 3-19=-43, 3-22=36, 5-22=43
- 6) Dead + 0.6 C-C Wind (Neg. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-3=-56, 3-5=-56, 10-11=-13, 6-10=-20, 6-14=-13
 Horz: 1-3=36, 3-5=36
- 7) Dead + 0.6 C-C Wind (Neg. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-3=-56, 3-5=-56, 10-11=-13, 6-10=-20, 6-14=-13
 Horz: 1-3=36, 3-5=36
- 8) Dead + 0.6 MWFRS Wind (Pos. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-3=-15, 3-5=14, 10-11=10, 10-14=-12
 Horz: 1-3=3, 3-5=26
- 9) Dead + 0.6 MWFRS Wind (Pos. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-3=14, 3-5=-15, 6-11=-12, 6-14=10
 Horz: 1-3=-26, 3-5=-3
- 10) Dead + 0.6 MWFRS Wind (Neg. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-3=-36, 3-5=-7, 10-11=2, 10-14=-20
 Horz: 1-3=16, 3-5=13
- 11) Dead + 0.6 MWFRS Wind (Neg. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-3=-7, 3-5=-36, 6-11=-20, 6-14=2
 Horz: 1-3=-13, 3-5=-16
- 12) Dead + 0.6 MWFRS Wind (Pos. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-18=34, 3-18=20, 3-5=8, 11-14=-12
 Horz: 1-18=-46, 3-18=-32, 3-5=20
- 13) Dead + 0.6 MWFRS Wind (Pos. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-3=8, 3-21=20, 5-21=34, 11-14=-12
 Horz: 1-3=-20, 3-21=32, 5-21=46
- 14) Dead + 0.6 MWFRS Wind (Pos. Internal) 3rd Parallel: Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-3=20, 3-5=8, 11-14=-12
 Horz: 1-3=-32, 3-5=20
- 15) Dead + 0.6 MWFRS Wind (Pos. Internal) 4th Parallel: Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-3=8, 3-5=20, 11-14=-12
 Horz: 1-3=-20, 3-5=32
- 16) Dead + 0.6 MWFRS Wind (Neg. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-18=13, 3-18=-1, 3-5=-13, 11-14=-20
 Horz: 1-18=-33, 3-18=-19, 3-5=7
- 17) Dead + 0.6 MWFRS Wind (Neg. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-3=-13, 3-21=-1, 5-21=13, 11-14=-20
 Horz: 1-3=-7, 3-21=19, 5-21=33
- 18) Dead + Uninhabitable Attic Storage: Lumber Increase=1.25, Plate Increase=1.25
 Uniform Loads (plf)
 Vert: 1-3=-20, 3-5=-20, 11-23=-20, 9-23=-60, 9-14=-20
- 19) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-3=-62, 3-5=-40, 10-11=-4, 10-23=-20, 9-23=-50, 9-14=-20
 Horz: 1-3=12, 3-5=10
- 20) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-3=-40, 3-5=-62, 11-23=-20, 9-23=-50, 6-9=-20, 6-14=-4
 Horz: 1-3=-10, 3-5=12
- 21) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-18=-26, 3-18=-36, 3-5=-45, 11-23=-20, 9-23=-50, 9-14=-20
 Horz: 1-18=-24, 3-18=-14, 3-5=5

Continued on page 3

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818 Soundside Road
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	I57311346
MASTER_D_ROOF_2ND_STORY	E01A	COMMON	1	1	Job Reference (optional)	

Builders FirstSource, Apex, NC 27523

8.630 s Mar 9 2023 MiTek Industries, Inc. Tue Mar 21 16:27:28 2023 Page 3
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LOAD CASE(S)

- 22) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60
 Uniform Loads (plf)
 Vert: 1-3=-45, 3-21=-36, 5-21=-26, 11-23=-20, 9-23=-50, 9-14=-20
 Horz: 1-3=-5, 3-21=14, 5-21=24
- 23) 1st Dead + Roof Live (unbalanced): Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-3=-60, 3-5=-20, 11-14=-20
- 24) 2nd Dead + Roof Live (unbalanced): Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-3=-20, 3-5=-60, 11-14=-20
- 25) 3rd Dead + 0.75 Roof Live (unbalanced) + 0.75 Uninhab. Attic Storage: Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-3=-50, 3-5=-20, 11-23=-20, 9-23=-50, 9-14=-20
- 26) 4th Dead + 0.75 Roof Live (unbalanced) + 0.75 Uninhab. Attic Storage: Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-3=-20, 3-5=-50, 11-23=-20, 9-23=-50, 9-14=-20

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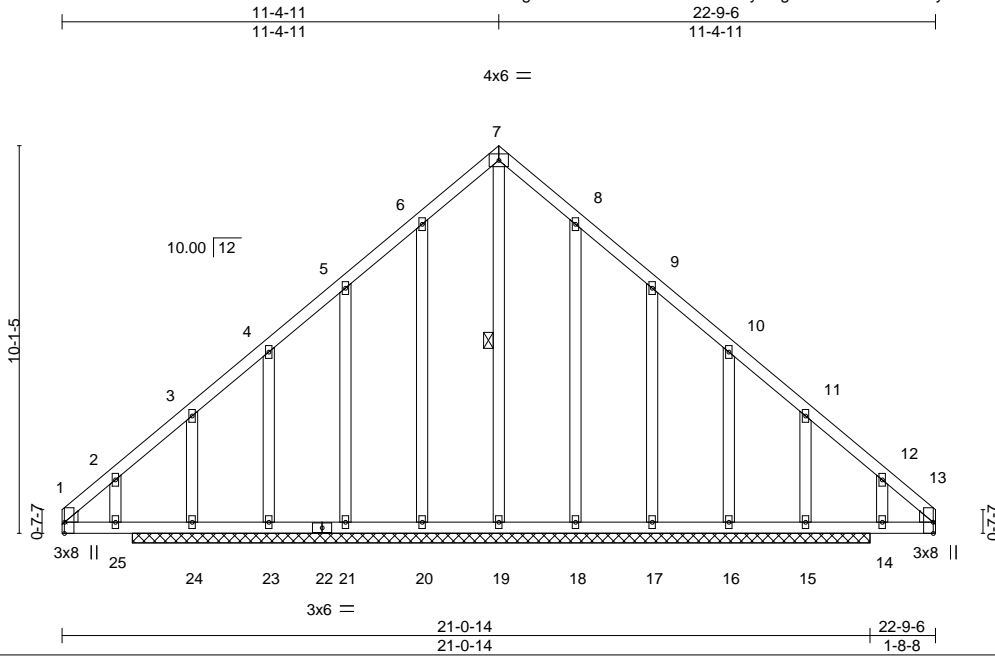
Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST	501G	GABLE	1	1	157311347

Builders FirstSource (Apex, NC),

Apex, NC - 27523,

8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:29 2023 Page 1

ID: gumUxvIraMNw9nG5WSc76My6QgB-91BdRCWlhZSknyxwTwYwG707eFgqIhV5c3NJSIzYfke



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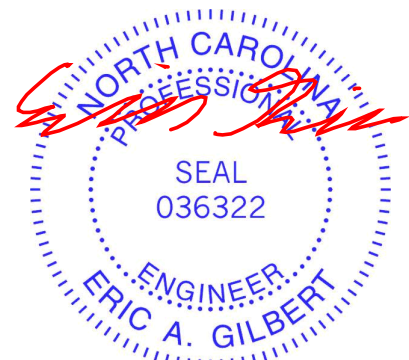
Plate Offsets (X, Y)--	[1:0-3-8,Edge], [13:0-3-8,Edge]				
LOADING (psf)	SPACING- 2-0-0	CSI.	DEFL. in (loc) l/defl L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL 1.15	TC 0.32	Vert(LL) n/a - n/a 999	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.44	Vert(CT) n/a - n/a 999		
BCLL 0.0 *	Rep Stress Incr NO	WB 0.20	Horz(CT) 0.01 15 n/a n/a		
BCDL 10.0	Code IRC2015/TPI2014	Matrix-S		Weight: 162 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 10-0-0 oc purlins.
BOT CHORD 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
OTHERS 2x4 SP No.3	WEBS 1 Row at midpt 7-19
WEDGE	
Left: 2x4 SP No.3 , Right: 2x4 SP No.3	

REACTIONS. All bearings 19-2-14.
 (lb) - Max Horz 24=286(LC 10)
 Max Uplift All uplift 100 lb or less at joint(s) 21, 17 except 20=101(LC 12), 23=310(LC 9), 24=260(LC 13), 18=101(LC 13), 16=307(LC 8), 15=257(LC 12)
 Max Grav All reactions 250 lb or less at joint(s) 20, 21, 18, 17 except 19=419(LC 22), 23=373(LC 10), 24=451(LC 20), 16=369(LC 11), 15=448(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-2=-159/257, 2-3=-109/259, 3-4=-133/262, 4-5=-77/257, 5-6=-161/298, 6-7=-234/340, 7-8=-234/339, 8-9=-161/296, 9-10=-77/257, 10-11=-130/260, 11-12=-107/258, 12-13=-158/256
 WEBS 7-19=-378/168

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) 0-0-0 to 3-0-0, Exterior(2) 3-0-0 to 11-4-11, Corner(3) 11-4-11 to 14-4-11, Exterior(2) 14-4-11 to 22-9-6 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
 - 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - 4) All plates are 2x4 MT20 unless otherwise indicated.
 - 5) Gable studs spaced at 2-0-0 oc.
 - 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
 - 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 21, 17 except (i=lb) 20=101, 23=310, 24=260, 18=101, 16=307, 15=257.
 - 9) Non Standard bearing condition. Review required.



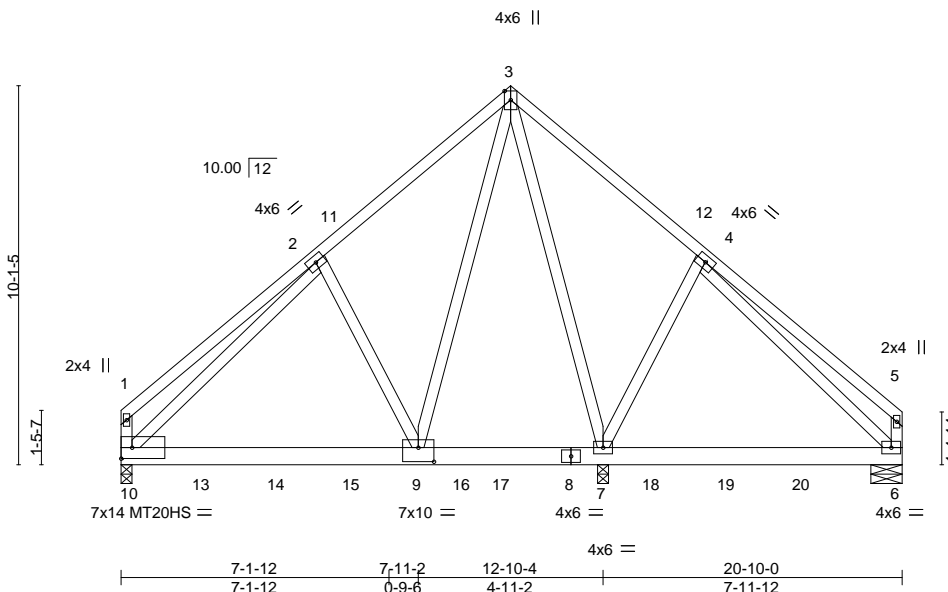
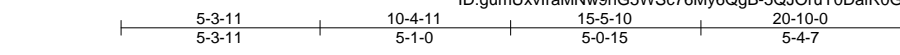
March 21, 2023

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

Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY
MASTER_D_ROOF_2ND_ST	602-2PL	COMMON	1	2	157311348

Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:31 2023 Page 1



Scale = 1:61.5

Plate Offsets (X,Y)--	[9:0-5-0,0-4-8]
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LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.81	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.59	Vert(LL) -0.11 9-10 >999 360	MT20HS	187/143
BCLL 0.0 *	Lumber DOL 1.15	WB 0.65	Vert(CT) -0.23 9-10 >664 240		
BCDL 10.0	Rep Stress Incr NO	Matrix-MS	Horz(CT) 0.01 6 n/a n/a		
	Code IRC2015/TPI2014		Wind(LL) 0.10 9-10 >999 240	Weight: 317 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD 2x6 SP DSS *Except* 6-8: 2x6 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.2	

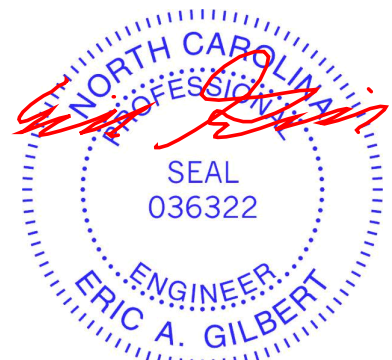
REACTIONS.
(size) 10=0-3-8, 6=0-10-0, 7=0-3-8
Max Horz 10=-299(LC 25)
Max Uplift 10=-394(LC 8), 6=-83(LC 9), 7=-481(LC 9)
Max Grav 10=2670(LC 1), 6=897(LC 1), 7=3554(LC 1)

FORCES.
(lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-10=-707/238, 1-2=-964/276, 2-3=-2016/430, 3-4=-501/175, 4-5=-551/181, 5-6=-442/177
BOT CHORD 9-10=-370/1586, 7-9=-202/791, 6-7=-64/433
WEBS 3-9=-590/2986, 2-9=-303/345, 2-10=-1230/162, 3-7=-1756/277, 4-7=-331/275

- NOTES-**
- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Webs connected as follows: 2x4 - 1 row at 0-9-0 oc.
 - All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
 - Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-10; Vult=140mph Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; 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
 - All plates are MT20 plates unless otherwise indicated.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 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) 6 except (jt=lb) 10=394, 7=481.
 - Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 747 lb down and 124 lb up at 2-0-12, 747 lb down and 124 lb up at 4-0-12, 747 lb down and 124 lb up at 6-0-12, 747 lb down and 124 lb up at 8-0-12, 747 lb down and 124 lb up at 10-0-12, 747 lb down and 124 lb up at 12-0-12, 367 lb down and 35 lb up at 14-0-12, and 367 lb down and 35 lb up at 16-0-12, and 367 lb down and 35 lb up at 18-0-12 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 21, 2023

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	CHESAPEAKE/307/MASTER D ROOF 2ND STORY	I57311348
MASTER_D_ROOF_2ND_ST	502-2PL	COMMON	1	2	Job Reference (optional)	

Builders FirstSource (Apex, NC), Apex, NC - 27523,

8.630 s Nov 19 2022 MiTek Industries, Inc. Tue Mar 21 16:06:31 2023 Page 2
 ID:gumUxvIraMNw9nG5WSsc76My6QgB-5QJOruY0DaiR0G5JaKaOLQ5KP2IwmU_O3NsQXezYfkc

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, 6-10=-20

Concentrated Loads (lb)

Vert: 8=-747(B) 9=-747(B) 13=-747(B) 14=-747(B) 15=-747(B) 17=-747(B) 18=-332(B) 19=-332(B) 20=-332(B)

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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.



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

Numbering System

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



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

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

PRODUCT CODE APPROVALS

ICC-ES Reports:

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

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

Lumber design values are in accordance with ANSI/TP1 section 6.3 These truss designs rely on lumber values established by others.

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MITek Engineering Reference Sheet: Mill-7473 rev. 5/19/2020



General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to 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/TP1 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TP1 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Rewriting pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TP1 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.