

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: REG231
Charleston C Vault Mst.

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

Pages or sheets covered by this seal: I36883560 thru I36883568

My license renewal date for the state of North Carolina is December 31, 2019.

North Carolina COA: C-0844



April 26, 2019

Johnson, Andrew

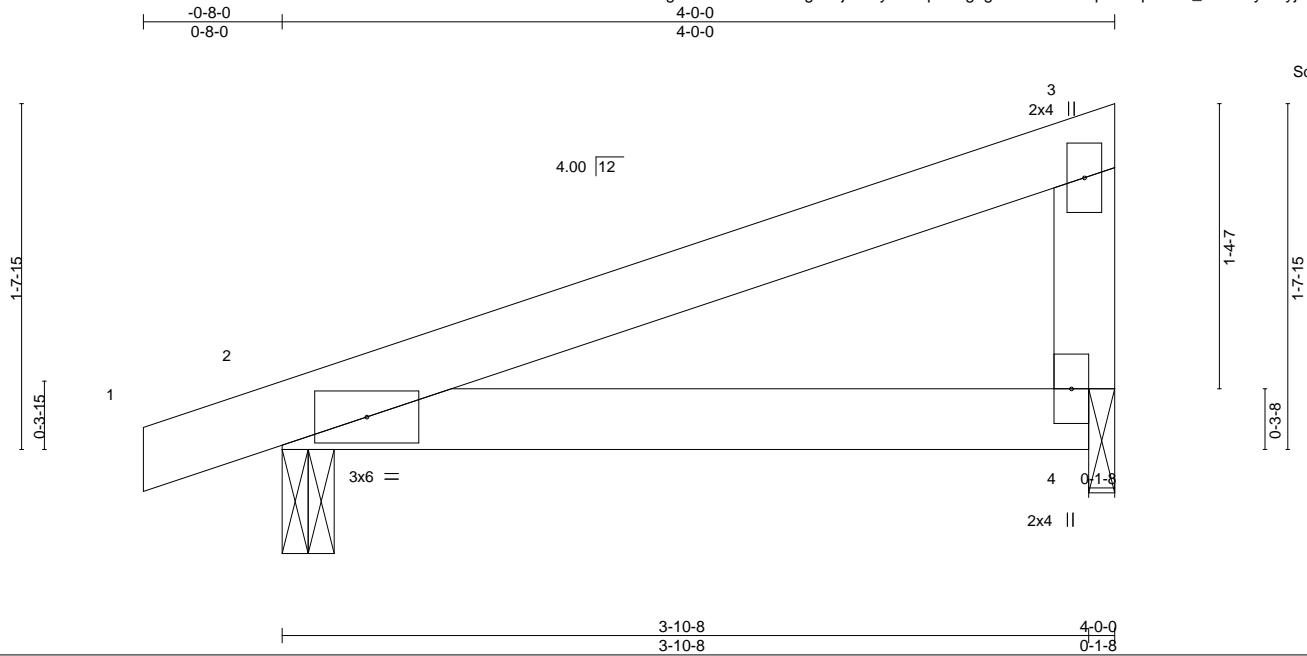
IMPORTANT NOTE: Truss Engineer's responsibility is solely for design of individual trusses based upon design parameters shown on referenced truss drawings. Parameters have not been verified as appropriate for any use. Any location identification specified is for file reference only and has not been used in preparing design. Suitability of truss designs for any particular building is the responsibility of the building designer, not the Truss Engineer, per ANSI/TPI-1, Chapter 2.

Job REG231	Truss P1	Truss Type ROOF TRUSS	Qty 10	Ply 1	Charleston C Vault Mst. Job Reference (optional)	136883560
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84 Components (Dunn), Dunn, NC - 28334,

8.220 s Nov 16 2018 MiTek Industries, Inc. Fri Apr 26 06:54:24 2019 Page 1

ID:g2DilcR?mLzLWmgCWjhlwnyKLOq-3furg1gV6GcVXQahqvWfcqxZtVG_Wu22vyECyjzMWSD
4-0-0
4-0-0



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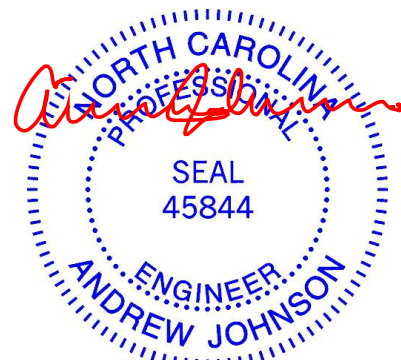
LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP	
TCLL 20.0	Plate Grip DOL	1.15	TC 0.19	Vert(LL)	0.02	4-7	>999	240	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.17	Vert(CT)	-0.02	4-7	>999	180		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.00	Horz(CT)	0.00	2	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-MP							
									Weight: 15 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 4-0-0 oc purlins, except end verticals.
BOT CHORD 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.3	

REACTIONS. (lb/size) 2=198/0-3-0, 4=151/0-1-8
Max Horz 2=45(LC 12)
Max Uplift 2=-57(LC 12), 4=-46(LC 12)

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

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; B=45ft; L=45ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2) zone; cantilever left and right exposed ; end vertical left exposed; porch left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
 - 4) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
 - 5) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
 - 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 57 lb uplift at joint 2 and 46 lb uplift at joint 4.

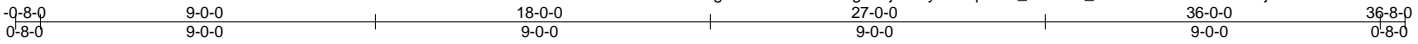


April 26, 2019

Job REG231	Truss T1	Truss Type ROOF TRUSS	Qty 3	Ply 1	Charleston C Vault Mst.	136883561
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84 Components (Dunn), Dunn, NC - 28334,

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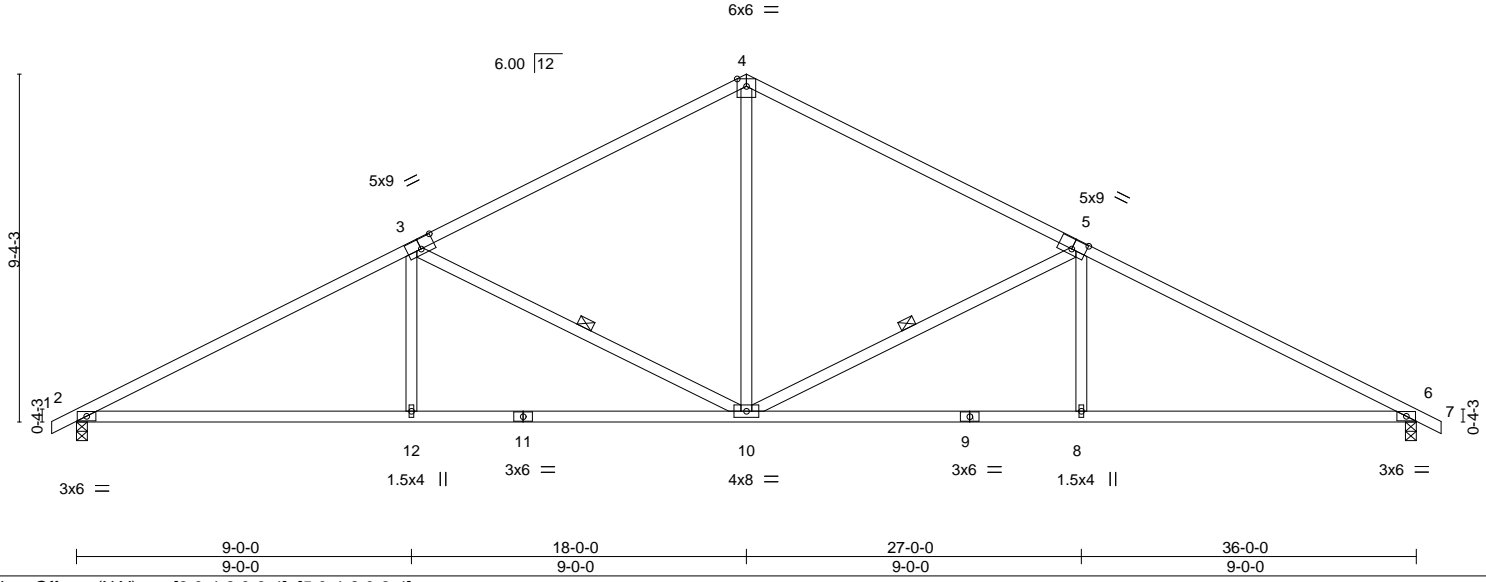


Plate Offsets (X,Y)--	[3:0-4-8,0-3-4], [5:0-4-8,0-3-4]
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LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.91	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.97	Vert(LL) -0.18 8-18 >999 240		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.48	Vert(CT) -0.41 8-18 >999 180		
BCDL 10.0	Rep Stress Incr YES	Matrix-AS	Horz(CT) 0.12 6 n/a n/a		
	Code IRC2015/TPI2014			Weight: 171 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied.
BOT CHORD 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied.
WEBS 2x4 SP No.3	WEBS 1 Row at midpt 5-10, 3-10

REACTIONS. (lb/size) 2=1480/0-3-8, 6=1480/0-3-8
 Max Horz 2=-158(LC 10)
 Max Uplift 2=-89(LC 12), 6=-89(LC 12)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 2-3=-2607/432, 3-4=-1777/377, 4-5=-1777/377, 5-6=-2607/432
 BOT CHORD 2-12=-272/2268, 10-12=-276/2259, 8-10=-277/2259, 6-8=-273/2268
 WEBS 4-10=-120/993, 5-10=-907/252, 5-8=0/381, 3-10=-907/252, 3-12=0/381

NOTES-

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=120mph (3-second gust) Vasd=95mph; TC DL=6.0psf; BC DL=6.0psf; h=30ft; B=45ft; L=45ft; eave=6ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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) 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 89 lb uplift at joint 2 and 89 lb uplift at joint 6.
- 6) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.



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

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TP1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.



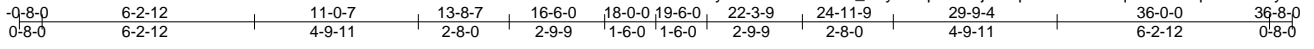
818 Soundside Road
 Edenton, NC 27932

Job REG231	Truss T1A	Truss Type ROOF TRUSS	Qty 6	Ply 1	Charleston C Vault Mst.	136883562
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84 Components (Dunn), Dunn, NC - 28334,

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ID:8En4zySdXf5C8vFO4RD_S?yKLOp-QchKjldwpEodCTedT6qJueHVWqDB26n2EyzexzMWs8



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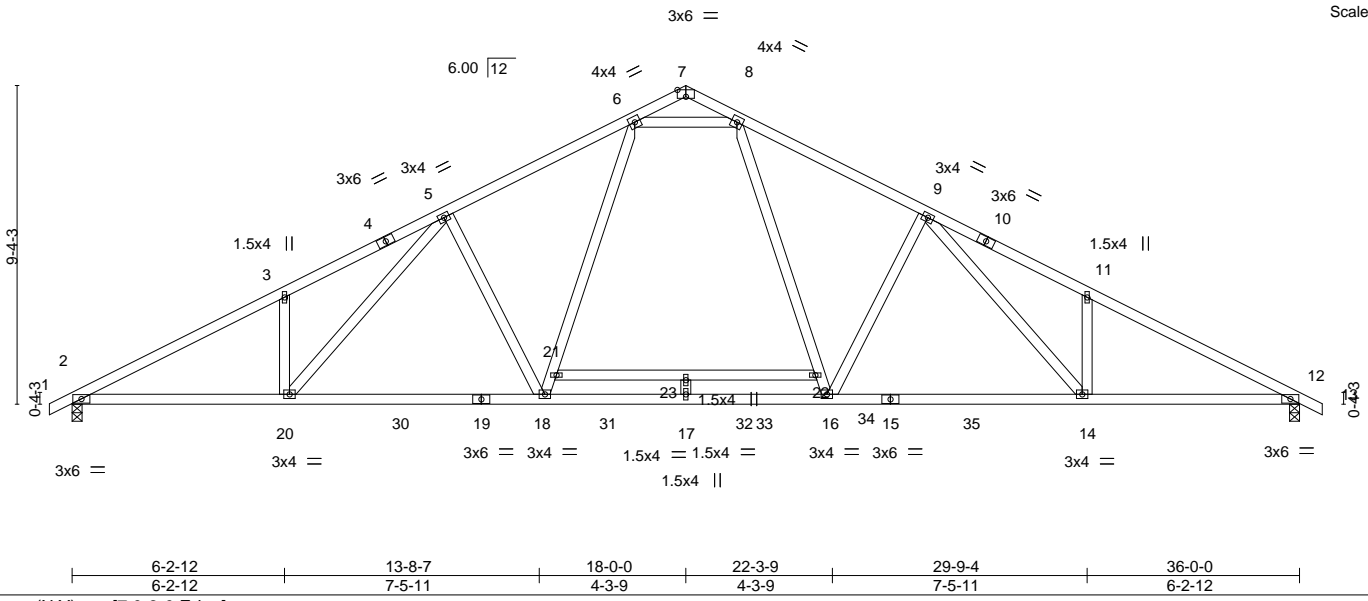


Plate Offsets (X,Y)--	[7:0-3-0,Edge]
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LOADING (psf)	SPACING- 2-0-0	CSI.	DEFL. in (loc) l/defl L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL 1.15	TC 0.71	Vert(LL) -0.25 18-20 >999 240	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.75	Vert(CT) -0.43 18-20 >999 180		
BCLL 0.0 *	Rep Stress Incr YES	WB 0.46	Horz(CT) 0.12 12 n/a n/a		
BCDL 10.0	Code IRC2015/TPI2014	Matrix-AS		Weight: 204 lb	FT = 20%

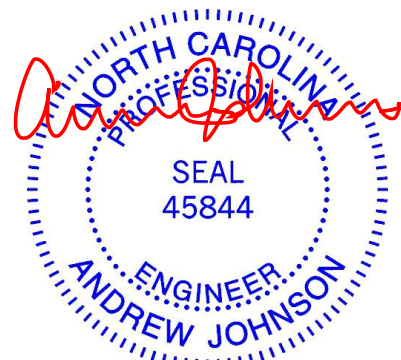
LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied.
BOT CHORD 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied.
WEBS 2x4 SP No.3 *Except* 21-22: 2x4 SP No.2	

REACTIONS. (lb/size) 2=1480/0-3-8, 12=1480/0-3-8
 Max Horz 2=158(LC 11)
 Max Uplift 2=89(LC 12), 12=89(LC 12)
 Max Grav 2=1517(LC 28), 12=1515(LC 30)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 2-3=-2845/437, 3-5=-2838/543, 5-6=-2136/440, 8-9=-2130/440, 9-11=-2834/543,
 11-12=-2842/437
 BOT CHORD 2-20=-305/2482, 18-20=-214/2078, 17-18=-83/1560, 16-17=-83/1560, 14-16=-214/2073,
 12-14=-307/2479
 WEBS 11-14=-328/181, 3-20=-328/181, 5-18=-593/208, 9-16=-593/208, 5-20=-143/653,
 9-14=-142/653, 18-21=-99/743, 6-21=-91/722, 8-22=-91/722, 16-22=-99/743,
 6-8=-1683/481

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-10; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; B=45ft; L=45ft; eave=6ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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) 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 89 lb uplift at joint 2 and 89 lb uplift at joint 12.
 - 6) Load case(s) 26, 27, 28, 29, 30, 31 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
 - 7) MULTIPLE LOADCASES - This design is the composite result of multiple load cases.
 - 8) User moving load cases exist: Review the load cases for details.
 - 9) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
 - 10) ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.
 - 11) 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) Standard Except:



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Continued on page 2

<p>WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 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, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.</p>	<p>ENGINEERING BY TRENCO A MiTek Affiliate</p> <p>818 Soundside Road Edenton, NC 27932</p>
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Job	Truss	Truss Type	Qty	Ply	Charleston C Vault Mst.	I36883562
REG231	T1A	ROOF TRUSS	6	1	Job Reference (optional)	

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

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 ID:8En4zySdXf5C8vFO4RD_S?yKLOp-QchkjldwpEodCTedT6qJueHVWqDB26n2EyzexzMwS8

LOAD CASE(S)

- 26) User defined: Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-7=-60(F), 7-13=-60(F), 24-27=-20(F)
- 27) 1st User Defined Moving Load - User defined: Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-7=-60(F), 7-13=-60(F), 18-24=-20(F), 18-31=-50(F=-20), 27-31=-20(F)
- 28) 2nd User Defined Moving Load - User defined: Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-7=-60(F), 7-13=-60(F), 24-31=-20(F), 17-31=-50(F=-20), 17-27=-20(F)
- 29) 3rd User Defined Moving Load - User defined: Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-7=-60(F), 7-13=-60(F), 17-24=-20(F), 17-32=-50(F=-20), 27-32=-20(F)
- 30) 4th User Defined Moving Load - User defined: Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-7=-60(F), 7-13=-60(F), 24-32=-20(F), 32-34=-50(F=-20), 27-34=-20(F)
- 31) 5th User Defined Moving Load - User defined: Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-7=-60(F), 7-13=-60(F), 24-33=-20(F), 16-33=-50(F=-20), 16-27=-20(F)

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

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.



818 Soundside Road
 Edenton, NC 27932

Job REG231	Truss T1B	Truss Type ROOF TRUSS	Qty 9	Ply 1	Charleston C Vault Mst. Job Reference (optional)	136883563
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84 Components (Dunn), Dunn, NC - 28334,

8.220 s Nov 16 2018 MiTek Industries, Inc. Fri Apr 26 06:54:30 2019 Page 1

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Scale: 3/16"=1'

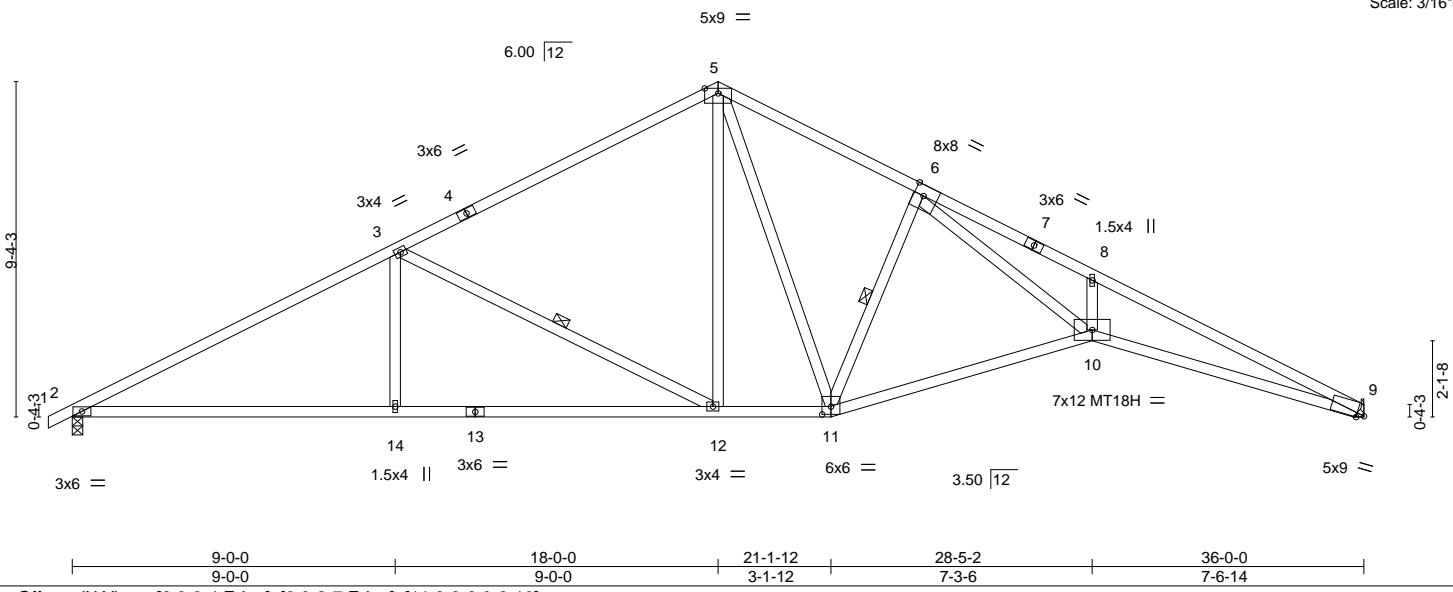


Plate Offsets (X, Y)-- [6:0-3-4,Edge], [9:0-2-7,Edge], [11:0-3-0,0-2-10]

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 0.87	Vert(LL)	-0.41 10-11	>999	240	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.95	Vert(CT)	-0.89 10-11	>484	180	MT18H	244/190
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.93	Horz(CT)	0.42 9	n/a	n/a		
BCDL 10.0	Code IRC2015/TP12014		Matrix-AS						
								Weight: 184 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2 *Except* 7-9: 2x4 SP DSS	TOP CHORD Structural wood sheathing directly applied.
BOT CHORD 2x4 SP No.2 *Except* 9-10: 2x4 SP No.1	BOT CHORD Rigid ceiling directly applied.
WEBS 2x4 SP No.3 *Except* 6-10: 2x4 SP No.2	WEBS 1 Row at midpt 3-12, 6-11

REACTIONS. (lb/size) 2=1480/0-3-8, 9=1440/Mechanical
Max Horz 2=157(LC 11)
Max Uplift 2=-89(LC 12), 9=-70(LC 12)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2622/436, 3-5=-1772/378, 5-6=-1954/448, 6-8=-5671/942, 8-9=-5744/830
BOT CHORD 2-14=-291/2285, 12-14=-291/2285, 11-12=-64/1465, 10-11=-244/2261, 9-10=-689/5265
WEBS 3-14=0/392, 3-12=-931/253, 5-12=-30/559, 6-11=-1239/282, 6-10=-562/3805,
8-10=-278/193, 5-11=-156/679

NOTES-

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; B=45ft; L=45ft; eave=6ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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
- 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 89 lb uplift at joint 2 and 70 lb uplift at joint 9.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.



April 26, 2019

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ENGINEERING BY
TRENCO
A MiTek Affiliate

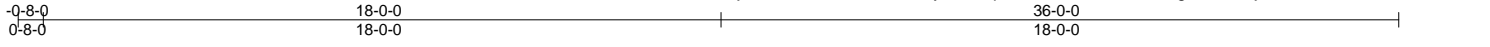
818 Soundside Road
Edenton, NC 27932

Job REG231	Truss T1BGE	Truss Type GABLE	Qty 1	Ply 1	Charleston C Vault Mst. Job Reference (optional)	136883564
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84 Components (Dunn), Dunn, NC - 28334,

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ID:1jSHD9CKvi7SL?ndLtaJDZyKL4T-qBntMmmWDkcNUfBDlgXwWGxzj0bOUYEKbAdFzMWs5



6x6 =

Scale = 1:61.2

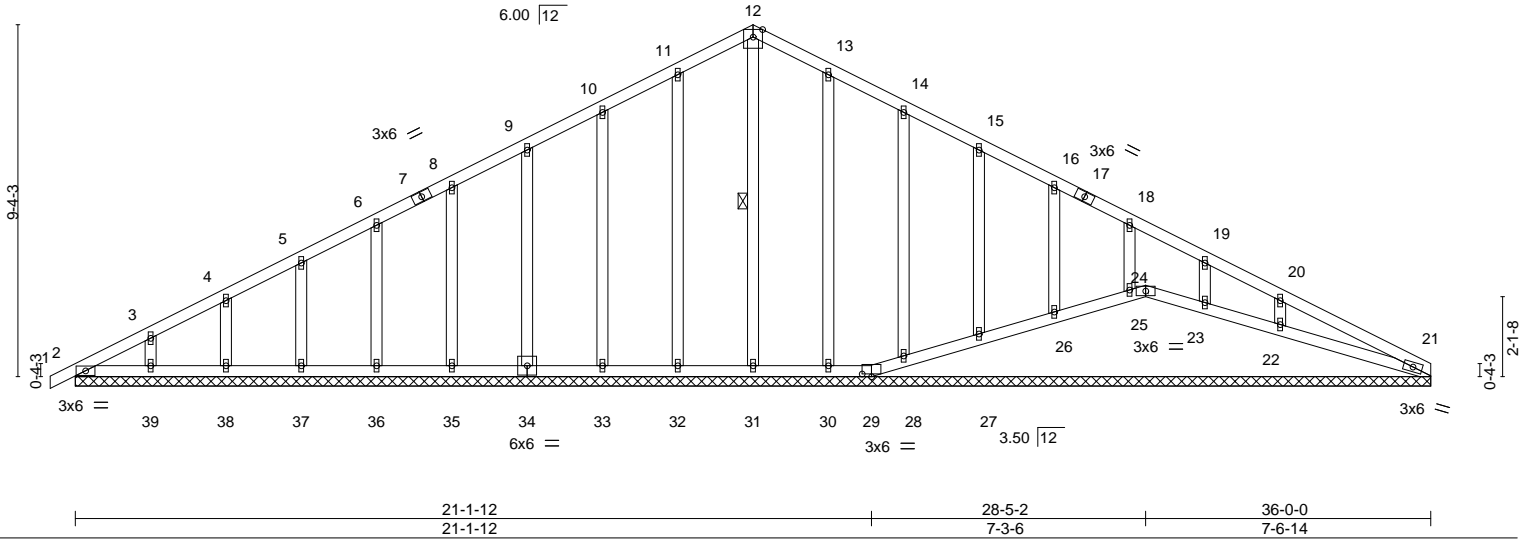


Plate Offsets (X,Y)--	[29:0-3-0,0-0-14]
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LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/def	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.18	Vert(LL)	-0.00	1	n/r	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.13	Vert(CT)	0.00	1	n/r		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.16	Horz(CT)	0.01	21	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S						
								Weight: 220 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. Except:
OTHERS 2x4 SP No.3	6-0-0 oc bracing: 22-23.
	WEBS 1 Row at midpt 12-31

REACTIONS. All bearings 36-0-0.
 (lb) - Max Horz 2=158(LC 11)
 Max Uplift All uplift 100 lb or less at joint(s) 2, 29, 24, 32, 33, 34, 35, 36, 37, 38, 39, 30, 28, 27, 26, 25, 23, 22
 Max Grav All reactions 250 lb or less at joint(s) 2, 29, 24, 21, 31, 32, 33, 34, 35, 36, 37, 38, 39, 30, 28, 27, 26, 25, 23 except 22=329(LC 22)

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=120mph (3-second gust) Vasd=95mph; TC DL=6.0psf; BCDL=6.0psf; h=30ft; B=45ft; L=45ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- All plates are 1.5x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 29, 24, 32, 33, 34, 35, 36, 37, 38, 39, 30, 28, 27, 26, 25, 23, 22.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 24, 28, 27, 26, 25, 23, 22.



April 26, 2019

Job REG231	Truss T1GE	Truss Type ROOF TRUSS	Qty 1	Ply 1	Charleston C Vault Mst. Job Reference (optional)	136883565
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84 Components (Dunn), Dunn, NC - 28334,

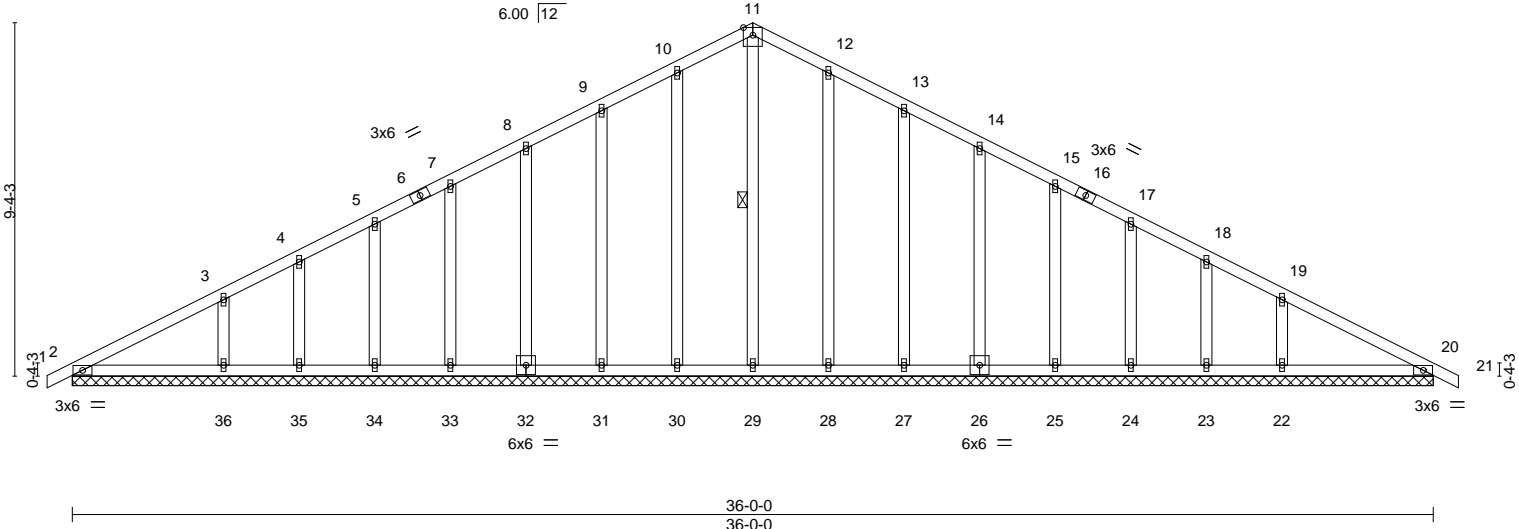
8.220 s Nov 16 2018 MiTek Industries, Inc. Fri Apr 26 06:54:34 2019 Page 1

ID:Vv0fRVDyg?FJz9Mpvb5YmmyKL4S-naUdnSomLt5jzLcQ0i?0xLFIXh0sO1WCVf8JzMWs3



6x6 =

Scale = 1:60.9



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 0.20	Vert(LL)	0.00 21	n/r	120	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.13	Vert(CT)	0.01 21	n/r	90		
BCLL 0.0 *	Rep Stress Incr	NO	WB 0.16	Horz(CT)	0.01 20	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S						
								Weight: 229 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	WEBS 1 Row at midpt 11-29

REACTIONS. All bearings 36-0-0.
 (lb) - Max Horz 2=-158(LC 10)
 Max Uplift All uplift 100 lb or less at joint(s) 30, 31, 32, 33, 34, 35, 36, 28, 27, 26, 25, 24, 23, 22
 Max Grav All reactions 250 lb or less at joint(s) 2, 29, 30, 31, 32, 33, 34, 35, 28, 27, 26, 25, 24, 23, 22
 except 36=320(LC 21), 22=320(LC 22)

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

NOTES-

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=120mph (3-second gust) Vasd=95mph; TC DL=6.0psf; BCDL=6.0psf; h=30ft; B=45ft; L=45ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) All plates are 1.5x4 MT20 unless otherwise indicated.
- 5) Gable requires continuous bottom chord bearing.
- 6) Gable studs spaced at 2-0-0 oc.
- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 30, 31, 32, 33, 34, 35, 36, 28, 27, 26, 25, 24, 23, 22.



April 26, 2019

Job REG231	Truss T2	Truss Type QUEENPOST	Qty 1	Ply 1	Charleston C Vault Mst.	136883566
84 Components (Dunn), Dunn, NC - 28334,					8.220 s Nov 16 2018 MiTek Industries, Inc. Fri Apr 26 06:54:35 2019 Page 1	
ID:dRLSAISFlzD3m3pad8kD?CyKLOo-Fm20_ooOWf?yL7wozjDEY9uOExqCbq?gR9PHrazMwS2					Job Reference (optional)	

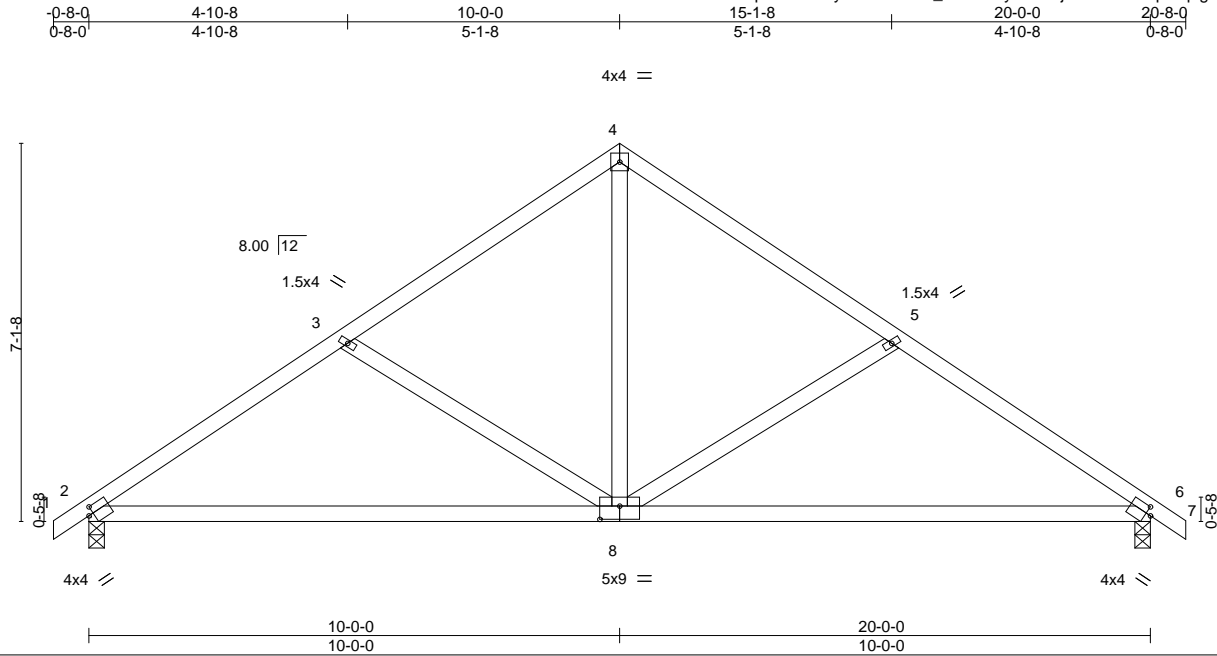


Plate Offsets (X,Y)--	[2:0-1-2,0-1-11], [6:0-1-2,0-1-11], [8:0-4-8,0-3-0]
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LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.37	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.90	Vert(LL) -0.16 8-11 >999 240		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.24	Vert(CT) -0.33 8-11 >735 180		
BCDL 10.0	Rep Stress Incr YES	Matrix-MS	Horz(CT) 0.02 6 n/a n/a		
	Code IRC2015/TPI2014			Weight: 96 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 5-3-8 oc purlins.
BOT CHORD 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.3	

REACTIONS. (lb/size) 2=840/0-3-8, 6=840/0-3-8
 Max Horz 2=135(LC 11)
 Max Uplift 2=58(LC 12), 6=58(LC 12)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 2-3=-1109/157, 3-4=-846/132, 4-5=-846/132, 5-6=-1109/157
 BOT CHORD 2-8=-52/891, 6-8=-53/891
 WEBS 3-8=-328/147, 4-8=-31/587, 5-8=-329/147

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-10; Vult=120mph (3-second gust) Vasd=95mph; TC DL=6.0psf; BC DL=6.0psf; h=30ft; B=45ft; L=45ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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) 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) 2, 6.



April 26, 2019

<p>WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 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, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.</p>	<p>ENGINEERING BY</p> <p>A MiTek Affiliate</p> <p>818 Soundside Road Edenton, NC 27932</p>
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Job REG231	Truss T2GR	Truss Type QUEENPOST	Qty 1	Ply 3	Charleston C Vault Mst.	136883567
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84 Components (Dunn),

Dunn, NC - 28334,

8.220 s Nov 16 2018 MiTek Industries, Inc. Fri Apr 26 06:54:37 2019 Page 1

ID:dRLSAISFlzD3m3pad8kD?CyKLOo-B9AmPUqe2GFfaQ4B58FidazjKkei3djzuTuOwTzMwS0



4x6 ||

Scale = 1:42.8

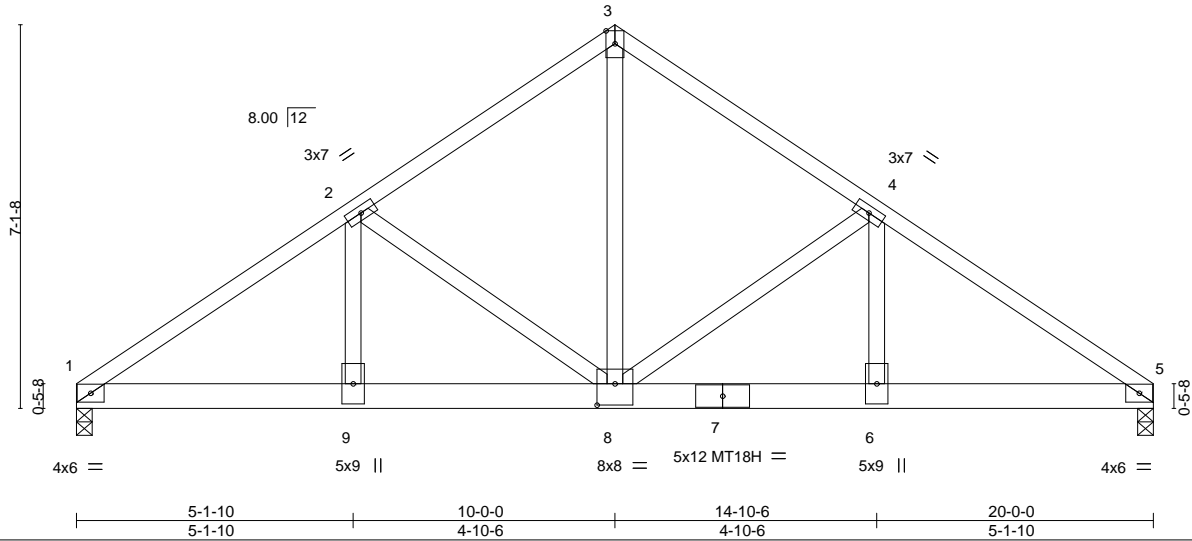


Plate Offsets (X,Y)-- [8:0-4-0,0-4-12]

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 0.40	Vert(LL) -0.08 8-9 >999 240	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.39	Vert(CT) -0.17 8-9 >999 180	MT18H	244/190
BCLL 0.0 *	Rep Stress Incr NO	WB 0.61	Horz(CT) 0.04 5 n/a n/a		
BCDL 10.0	Code IRC2015/TPI2014	Matrix-MS		Weight: 355 lb	FT = 20%

LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x6 SP DSS
 WEBS 2x4 SP No.3 *Except*
 3-8: 2x4 SP No.2

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. (lb/size) 1=7542/0-3-8 (req. 0-4-3), 5=7542/0-3-8 (req. 0-4-3)
 Max Horz 1=127(LC 11)
 Max Uplift 1=636(LC 12), 5=636(LC 12)
 Max Grav 1=7990(LC 17), 5=7990(LC 18)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-2=-11026/953, 2-3=-7474/704, 3-4=-7474/704, 4-5=-11026/953
 BOT CHORD 1-9=-726/9236, 8-9=-726/9236, 6-8=-726/9144, 5-6=-726/9144
 WEBS 3-8=680/7958, 4-8=-3735/386, 4-6=-262/3852, 2-8=-3735/386, 2-9=-262/3851

NOTES-

- 3-ply truss to be connected together with 10d (0.120"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 0-5-0 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=120mph (3-second gust) Vasd=95mph; TC DL=6.0psf; BCDL=6.0psf; h=30ft; B=45ft; L=45ft; eave=6ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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
- 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.
- WARNING: Required bearing size at joint(s) 1, 5 greater than input bearing size.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 1=636, 5=636.
- Girder carries tie-in span(s): 36-0-0 from 0-0-0 to 20-0-0

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, 10-13=-694(F=-674)



April 26, 2019

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

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.



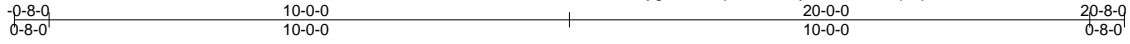
818 Soundside Road
 Edenton, NC 27932

Job REG231	Truss T3GE	Truss Type ROOF TRUSS	Qty 1	Ply 1	Charleston C Vault Mst. Job Reference (optional)	136883568
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84 Components (Dunn), Dunn, NC - 28334,

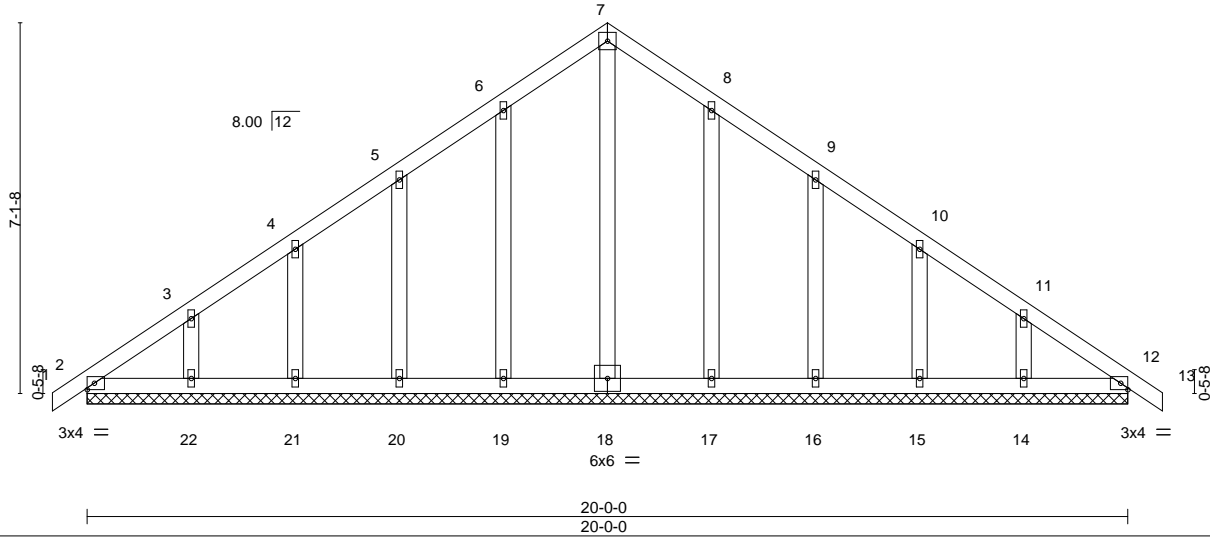
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4x4 =

Scale = 1:44.3



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 0.05	Vert(LL)	0.00	12	n/r	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.04	Vert(CT)	0.00	12	n/r		
BCLL 0.0 *	Rep Stress Incr	NO	WB 0.09	Horz(CT)	0.00	12	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S						
								Weight: 117 lb	FT = 20%

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

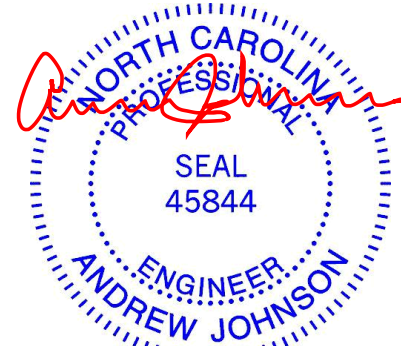
BRACING-
 TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 20-0-0.
 (lb) - Max Horz 2=-135(LC 10)
 Max Uplift All uplift 100 lb or less at joint(s) 2, 19, 20, 21, 22, 17, 16, 15, 14
 Max Grav All reactions 250 lb or less at joint(s) 2, 18, 19, 20, 21, 22, 17, 16, 15, 14, 12

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=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; B=45ft; L=45ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- All plates are 1.5x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 19, 20, 21, 22, 17, 16, 15, 14.



April 26, 2019

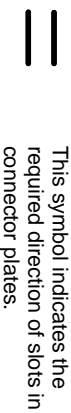
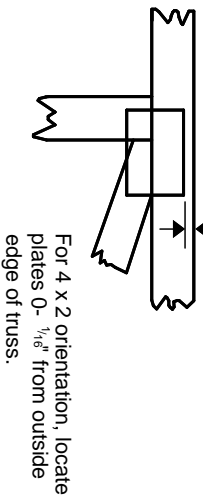
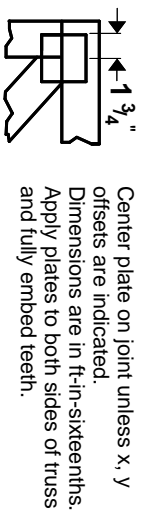
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 BEFORE USE.
 Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.



818 Soundside Road
 Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



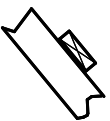
* Plate location details available in **MITrak 20/20 software or upon request.**

PLATE SIZE

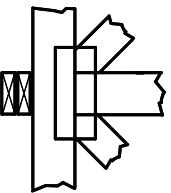
4 X 4

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

LATERAL BRACING LOCATION



BEARING

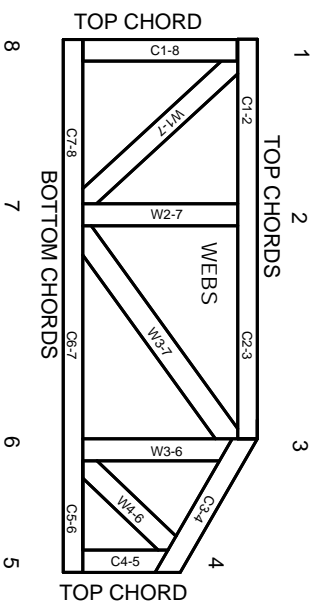


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

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

Numbering System



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

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

PRODUCT CODE APPROVALS

ICC-ES Reports:

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

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

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

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MITteK Engineering Reference Sheet: MII-7473 rev. 10/03/2015



General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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