ENGINEERING BY TRENCO
A MiTek Affiliate

RE: 21020047-A
164 Crossings-Roof

Trenco
818 Soundside Rd
Edenton, NC 27932

Site Information:

Customer: Capitol City Homes Project Name: 21020047-A
Lot/Block: 164 Model: Havenbrook A
Address: 79 LaKe Crest Trail Subdivision: Crossing at AC
City: Spring Lake State: NC

General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):

Design Code: IRC2015/TPI2014 Design Program: MiTek 20/20 8.3
Wind Code: ASCE 7-10 Wind Speed: 130 mph
Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 26 individual, dated Truss Design Drawings and 0 Additional Drawings.

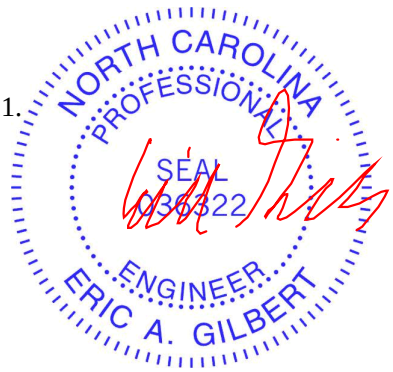
No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	E14607799	PB1	2/5/2021	21	E14607819	V2	2/5/2021
2	E14607800	PB1GE	2/5/2021	22	E14607820	V3	2/5/2021
3	E14607801	PB1GR	2/5/2021	23	E14607821	V4	2/5/2021
4	E14607802	T1	2/5/2021	24	E14607822	V5	2/5/2021
5	E14607803	T1A	2/5/2021	25	E14607823	V6	2/5/2021
6	E14607804	T1AGE	2/5/2021	26	E14607824	V7	2/5/2021
7	E14607805	T1GE	2/5/2021				
8	E14607806	T2	2/5/2021				
9	E14607807	T2GE	2/5/2021				
10	E14607808	T3	2/5/2021				
11	E14607809	T3GE	2/5/2021				
12	E14607810	T4	2/5/2021				
13	E14607811	T4A	2/5/2021				
14	E14607812	T4GE	2/5/2021				
15	E14607813	T5	2/5/2021				
16	E14607814	T5GR	2/5/2021				
17	E14607815	T5SE	2/5/2021				
18	E14607816	T6	2/5/2021				
19	E14607817	T6GE	2/5/2021				
20	E14607818	V1	2/5/2021				

The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Carter Components (Sanford, NC)).

Truss Design Engineer's Name: Gilbert, Eric

My license renewal date for the state of North Carolina is December 31, 2021.

North Carolina COA: C-0844



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 TRENCO. Any project specific information included is for TRENCO customers file reference purpose only, and was not taken into account in the preparation of these designs. 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.

February 05, 2021

Gilbert, Eric

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	E14607799
21020047-A	PB1	Piggyback	1	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:25

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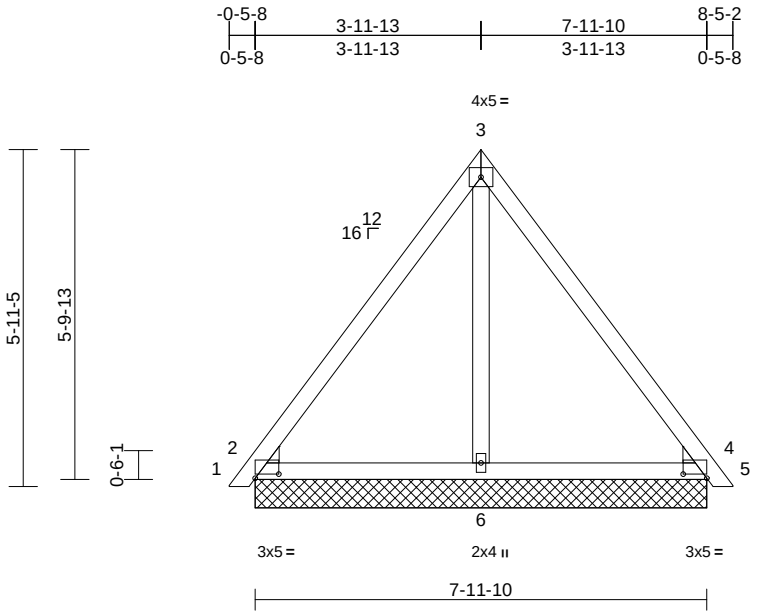

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Plate Offsets (X, Y): [2:0-5-0,0-0-14], [4:0-5-0,0-0-14]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 42 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
OTHERS	2x4 SP No.2
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) 2=7-11-10, 4=7-11-10, 6=7-11-10, 7=7-11-10, 10=7-11-10

Max Horiz 2=-122 (LC 9), 7=-122 (LC 9)

Max Uplift 2=-36 (LC 14), 4=-29 (LC 13), 7=-36 (LC 14), 10=-29 (LC 13)

Max Grav 2=239 (LC 2), 4=239 (LC 2), 6=171 (LC 2), 7=239 (LC 2), 10=239 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/11, 2-3=-229/168, 3-4=-220/168, 4-5=0/11
BOT CHORD	2-6=-158/170, 4-6=-32/99
WEBS	3-6=-143/119

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
9) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

July 10,2020

ENGINEERING BY TRENCO
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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	
21020047-A	PB1GE	Piggyback	1	1	Job Reference (optional)	E14607800

Carter Components (Sanford), Sanford, NC - 27332,

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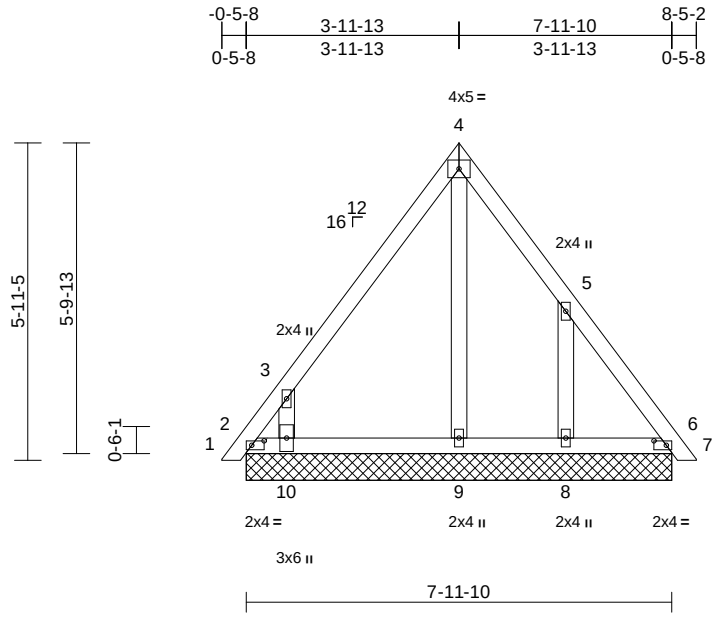

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Plate Offsets (X, Y): [2:0-2-13,0-1-0], [6:0-2-12,0-1-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.23	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 47 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3 *Except* 9-4:2x4 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 (size) 2=7-11-10, 6=7-11-10, 8=7-11-10, 9=7-11-10, 10=7-11-10, 11=7-11-10, 14=7-11-10
Max Horiz 2=-122 (LC 9), 11=-122 (LC 9)
Max Uplift 2=-155 (LC 11), 6=-8 (LC 10), 8=-138 (LC 14), 10=-208 (LC 13), 11=-155 (LC 11), 14=-8 (LC 10)
Max Grav 2=184 (LC 13), 6=119 (LC 25), 8=237 (LC 26), 9=131 (LC 28), 10=357 (LC 25), 11=184 (LC 13), 14=119 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/11, 2-3=-340/283, 3-4=-141/79, 4-5=-130/125, 5-6=-119/87, 6-7=0/11
BOT CHORD 2-10=-93/136, 9-10=-93/136, 8-9=-93/136, 6-8=-93/136
WEBS 3-10=-482/481, 4-9=-82/32, 5-8=-269/260

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 6, 10, and 8. This connection is for uplift only and does not consider lateral forces.
9) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

July 10,2020

ENGINEERING BY TRENCO
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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof
21020047-A	PB1GR	Piggyback	1	2	E14607801
					Job Reference (optional)

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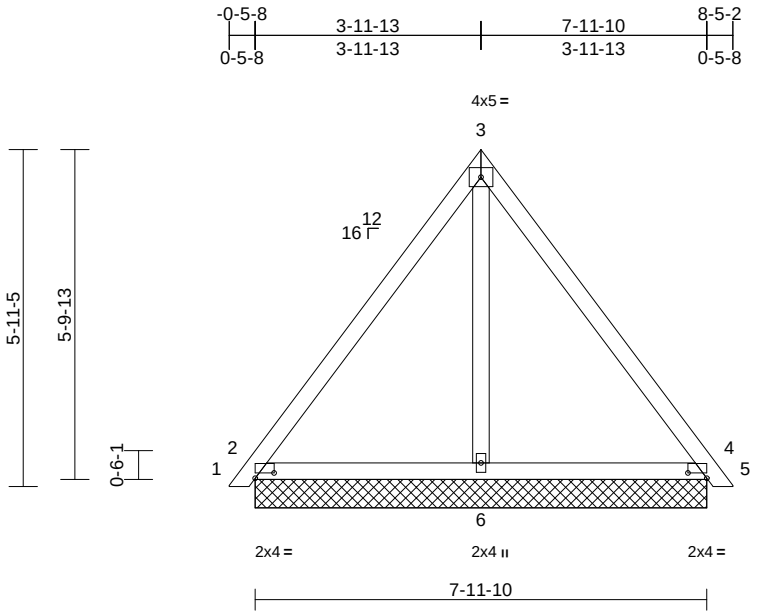

Scale = 1:40.7

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.15	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 83 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
OTHERS	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 (size) 2=7-11-10, 4=7-11-10, 6=7-11-10, 7=7-11-10, 10=7-11-10
Max Horiz 2=-122 (LC 9), 7=-122 (LC 9)
Max Uplift 2=-37 (LC 14), 4=-30 (LC 13), 7=-37 (LC 14), 10=-30 (LC 13)
Max Grav 2=239 (LC 2), 4=239 (LC 2), 6=170 (LC 2), 7=239 (LC 2), 10=239 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/11, 2-3=-229/170, 3-4=-222/170, 4-5=0/11
BOT CHORD	2-6=-181/195, 4-6=-32/99
WEBS	3-6=-147/121

NOTES

1) 2-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
5) 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.
6) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 4-0-0 oc.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
11) 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.
12) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

July 10,2020

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	
21020047-A	T1		3	1	Job Reference (optional)	E14607802

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:28 Page: 1

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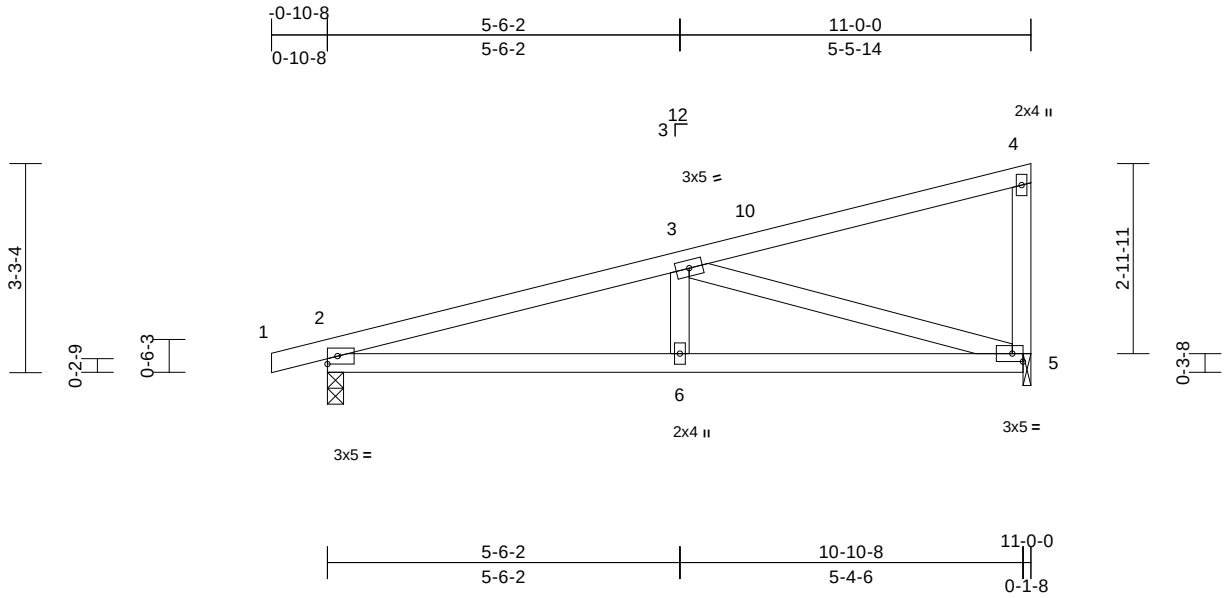

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.32	Vert(LL)	-0.02	6-9	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.05	5-6	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.01	5	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 48 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 5-3:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-11-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-0, 5=0-1-8
Max Horiz 2=92 (LC 14)
Max Uplift 2=-37 (LC 11), 5=-20 (LC 15)
Max Grav 2=489 (LC 2), 5=432 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-905/267, 3-10=-89/28, 4-10=-61/42, 4-5=-140/97
BOT CHORD 2-6=-342/843, 5-6=-342/843
WEBS 3-6=0/113, 3-5=-850/313

NOTES

1) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
2) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 5.
8) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 5. This connection is for uplift only and does not consider lateral forces.
9) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof
21020047-A	T1A		3	1	E14607803 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:28 Page: 1

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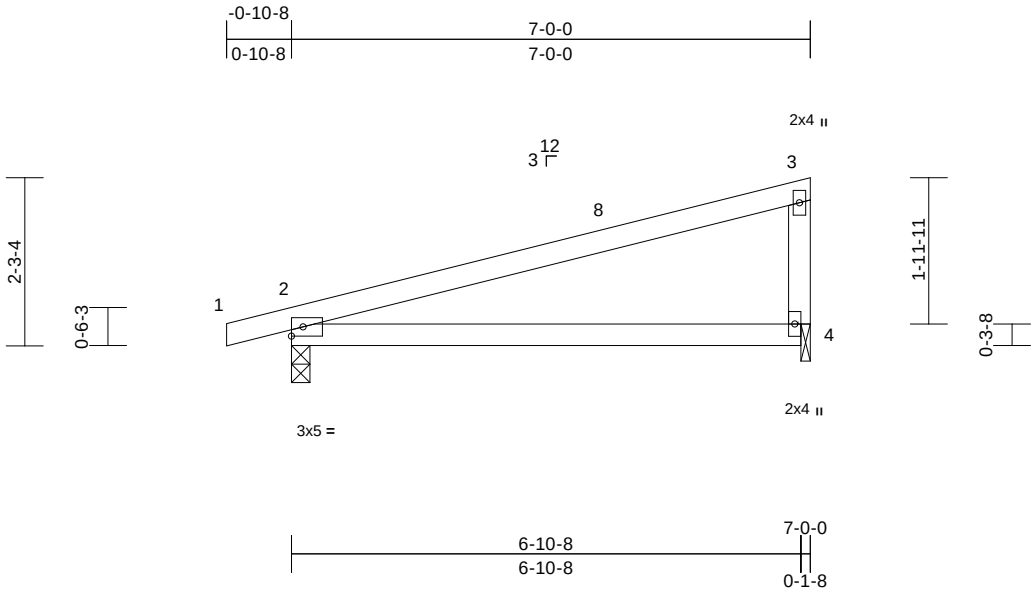

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.77	Vert(LL)	0.10	4-7	>861	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.22	4-7	>381	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.03	2	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 25 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS (size) 2=0-3-0, 4=0-1-8
Max Horiz 2=61 (LC 14)
Max Uplift 2=-33 (LC 11), 4=-13 (LC 15)
Max Grav 2=330 (LC 2), 4=271 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-8=-164/79, 3-8=-64/55, 3-4=-184/137
BOT CHORD 2-4=-180/116

NOTES

1) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
2) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
8) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
9) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	
21020047-A	T1AGE		1	1	Job Reference (optional)	E14607804

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:28 Page: 1
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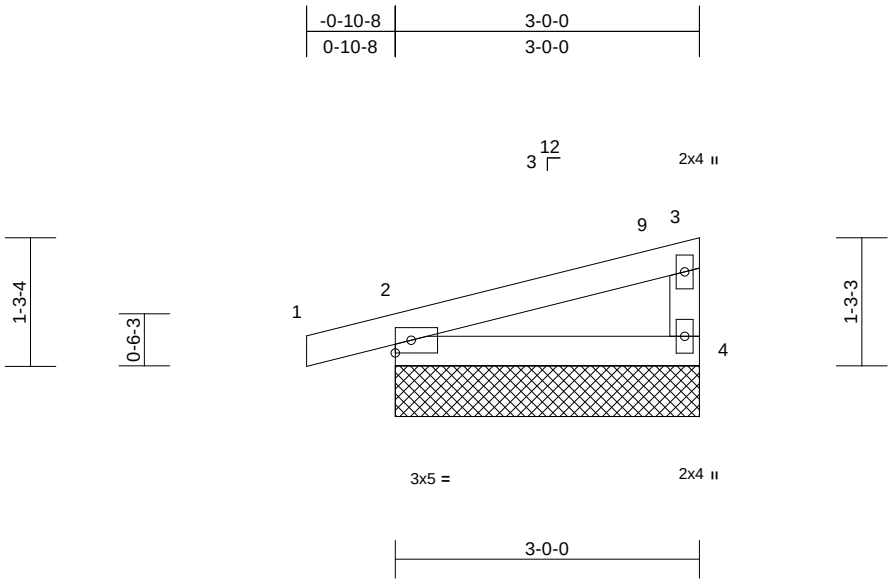

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.10	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 12 lb	FT = 20%

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

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

REACTIONS (size) 2=3-0-0, 4=3-0-0, 5=3-0-0
Max Horiz 2=30 (LC 14), 5=30 (LC 14)
Max Uplift 2=-31 (LC 11), 4=-3 (LC 15), 5=-31 (LC 11)
Max Grav 2=175 (LC 2), 4=109 (LC 2), 5=175 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-9=-52/45, 3-9=-27/25, 3-4=-72/59
BOT CHORD 2-4=-48/34

NOTES
1) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 2-0-0 oc.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
10) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	
21020047-A	T1GE		1	1	Job Reference (optional)	E14607805

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:28

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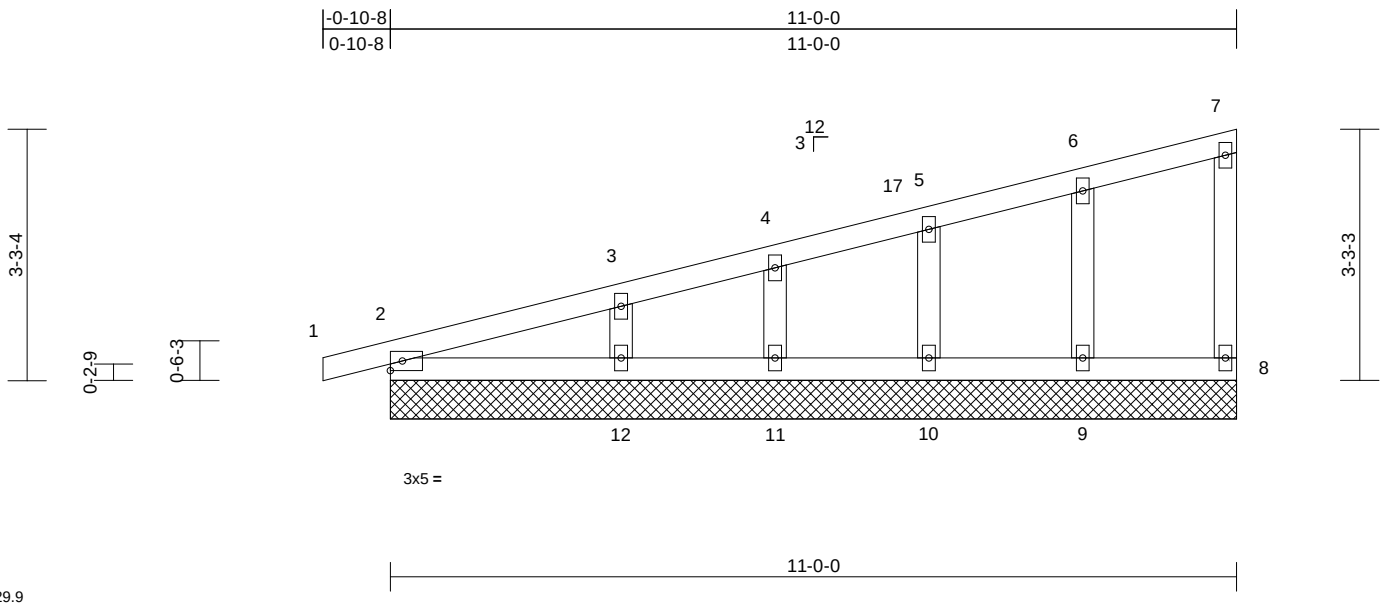

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 47 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS (size) 2=11-0-0, 8=11-0-0, 9=11-0-0, 10=11-0-0, 11=11-0-0, 12=11-0-0, 13=11-0-0

Max Horiz 2=92 (LC 14), 13=92 (LC 14)

Max Uplift 2=-18 (LC 11), 8=-2 (LC 12), 9=-9 (LC 11), 10=-10 (LC 15), 11=-7 (LC 11), 12=-19 (LC 15), 13=-18 (LC 11)

Max Grav 2=161 (LC 2), 8=63 (LC 22), 9=168 (LC 22), 10=166 (LC 2), 11=135 (LC 2), 12=232 (LC 2), 13=161 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/16, 2-3=-153/86, 3-4=-118/69, 4-17=-96/58, 5-17=-91/63, 5-6=-71/54, 6-7=-52/47, 7-8=-47/34
BOT CHORD	2-12=-110/72, 11-12=-47/52, 10-11=-47/52, 9-10=-47/52, 8-9=-47/52
WEBS	6-9=-128/88, 5-10=-123/83, 4-11=-105/71, 3-12=-163/112

NOTES

1) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 2-0-0 oc.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 8, 9, 10, 11, and 12. This connection is for uplift only and does not consider lateral forces.
11) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	E14607806
21020047-A	T2	Monopitch	3	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:29 Page: 1

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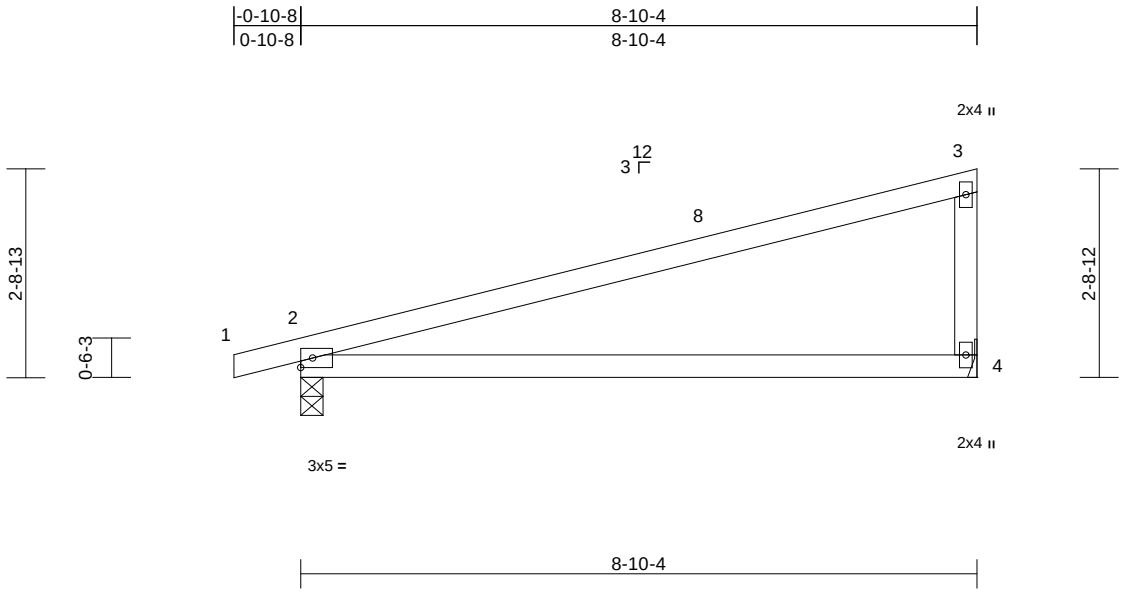

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	0.22	4-7	>485	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.54	4-7	>195	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.05	2	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 31 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 9-0-12 oc bracing.

REACTIONS (size) 2=0-3-8, 4= Mechanical
Max Horiz 2=75 (LC 14)
Max Uplift 2=-35 (LC 11), 4=-16 (LC 15)
Max Grav 2=403 (LC 2), 4=346 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-8=-231/98, 3-8=-76/68, 3-4=-239/163
BOT CHORD 2-4=-247/148

NOTES

1) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
2) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 16 lb uplift at joint 4.
8) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
9) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	
21020047-A	T2GE	Monopitch Supported Gable	1	1	Job Reference (optional)	E14607807

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:29 Page: 1

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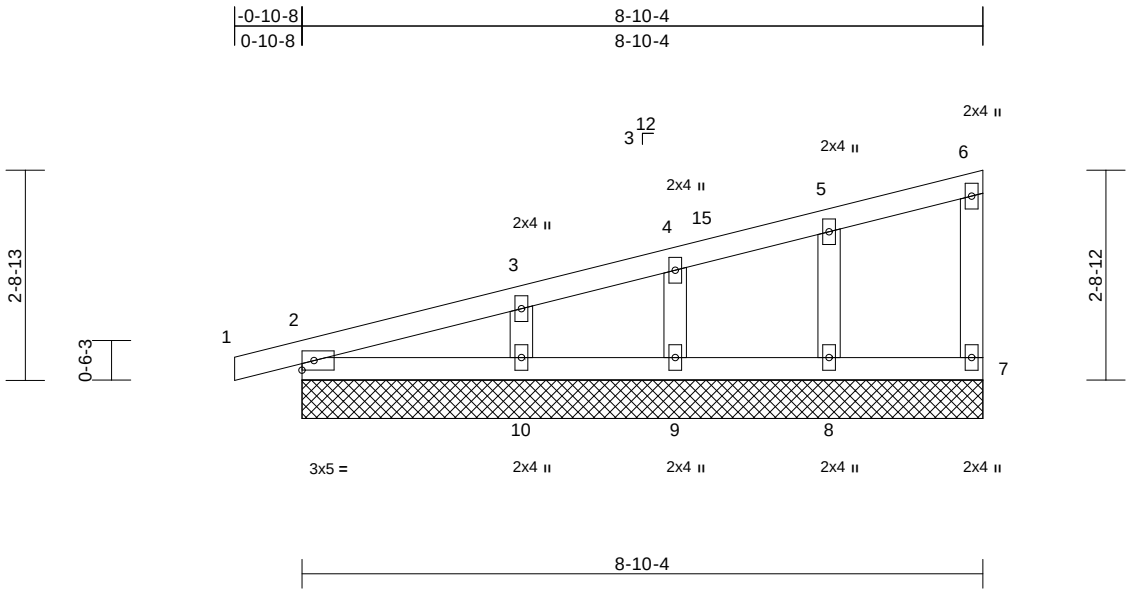

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 37 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS (size) 2=8-10-4, 7=8-10-4, 8=8-10-4, 9=8-10-4, 10=8-10-4, 11=8-10-4

Max Horiz 2=75 (LC 14), 11=75 (LC 14)

Max Uplift 2=-21 (LC 11), 7=-1 (LC 12), 8=-10 (LC 15), 9=-8 (LC 11), 10=-17 (LC 15), 11=-21 (LC 11)

Max Grav 2=156 (LC 2), 7=57 (LC 2), 8=178 (LC 2), 9=136 (LC 2), 10=222 (LC 2), 11=156 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/16, 2-3=-129/75, 3-4=-94/58, 4-15=-70/44, 5-15=-65/51, 5-6=-44/38, 6-7=-43/38
BOT CHORD	2-10=-93/61, 9-10=-41/45, 8-9=-41/45, 7-8=-41/45
WEBS	5-8=-132/95, 4-9=-106/78, 3-10=-157/115

NOTES

1) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 2-0-0 oc.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 7, 8, 9, and 10. This connection is for uplift only and does not consider lateral forces.
11) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	E14607808
21020047-A	T3	Monopitch	7	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:29 Page: 1

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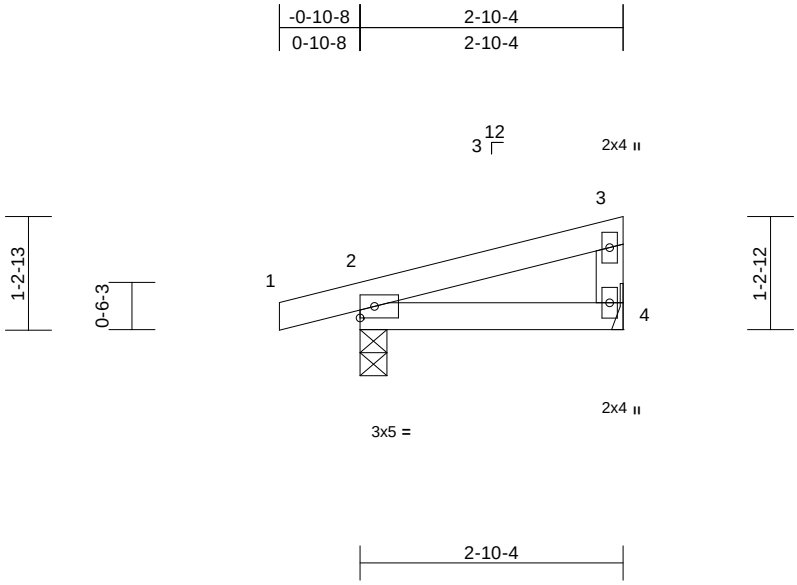

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	0.00	4-7	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	0.00	4-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 11 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-10-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 4= Mechanical
Max Horiz 2=29 (LC 14)
Max Uplift 2=-31 (LC 11), 4=-4 (LC 15)
Max Grav 2=169 (LC 2), 4=100 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-50/45, 3-4=-68/56
BOT CHORD 2-4=-44/31

NOTES

1) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
2) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 4 lb uplift at joint 4.
8) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
9) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	
21020047-A	T3GE	Monopitch Supported Gable	1	1	Job Reference (optional)	E14607809

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:29 Page: 1
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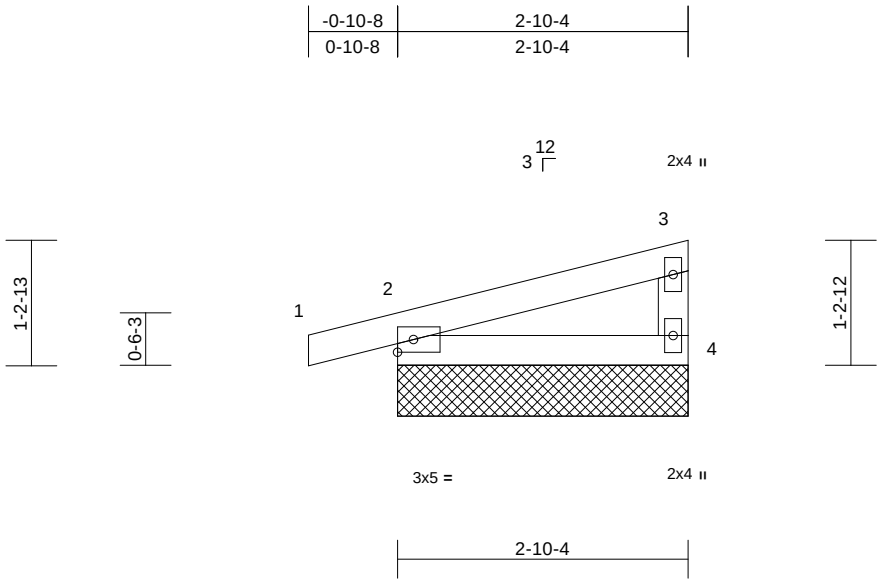

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 11 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-10-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=2-10-4, 4=2-10-4, 5=2-10-4
Max Horiz 2=29 (LC 14), 5=29 (LC 14)
Max Uplift 2=-31 (LC 11), 4=-3 (LC 15), 5=-31 (LC 11)
Max Grav 2=169 (LC 2), 4=103 (LC 2), 5=169 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-50/45, 3-4=-68/56
BOT CHORD 2-4=-44/31

NOTES
1) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 2-0-0 oc.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
10) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	E14607810
21020047-A	T4	Common	7	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:30

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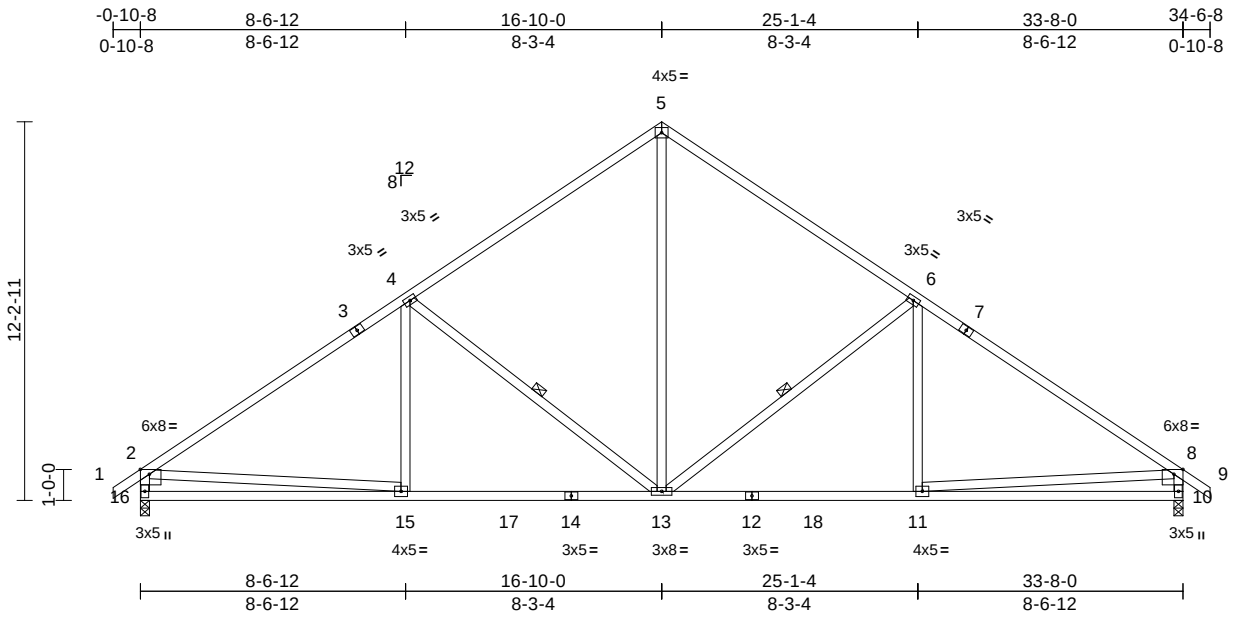

Scale = 1:74.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.92	Vert(LL)	-0.12	13-15	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.68	Vert(CT)	-0.23	13-15	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.48	Horz(CT)	0.05	10	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 205 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 6-13, 4-13

REACTIONS (size) 10=0-3-8, 16=0-3-8
Max Horiz 16=256 (LC 12)
Max Grav 10=1396 (LC 2), 16=1396 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/43, 2-3=-1806/292, 3-4=-1582/321, 4-5=-1303/358, 5-6=-1303/358, 6-7=-1582/321, 7-8=-1806/292, 8-9=0/43, 2-16=-1317/298, 8-10=-1317/298
BOT CHORD 15-16=-247/634, 15-17=-121/1550, 14-17=-121/1550, 13-14=-121/1550, 12-13=-119/1397, 12-18=-119/1397, 11-18=-119/1397, 10-11=-171/517
WEBS 5-13=-190/896, 6-13=-653/234, 6-11=0/226, 4-13=-653/234, 4-15=0/226, 2-15=0/1036, 8-11=0/1045

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
3) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) All plates are 3x5 MT20 unless otherwise indicated.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	E14607811
21020047-A	T4A	Common	10	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:30 Page: 1

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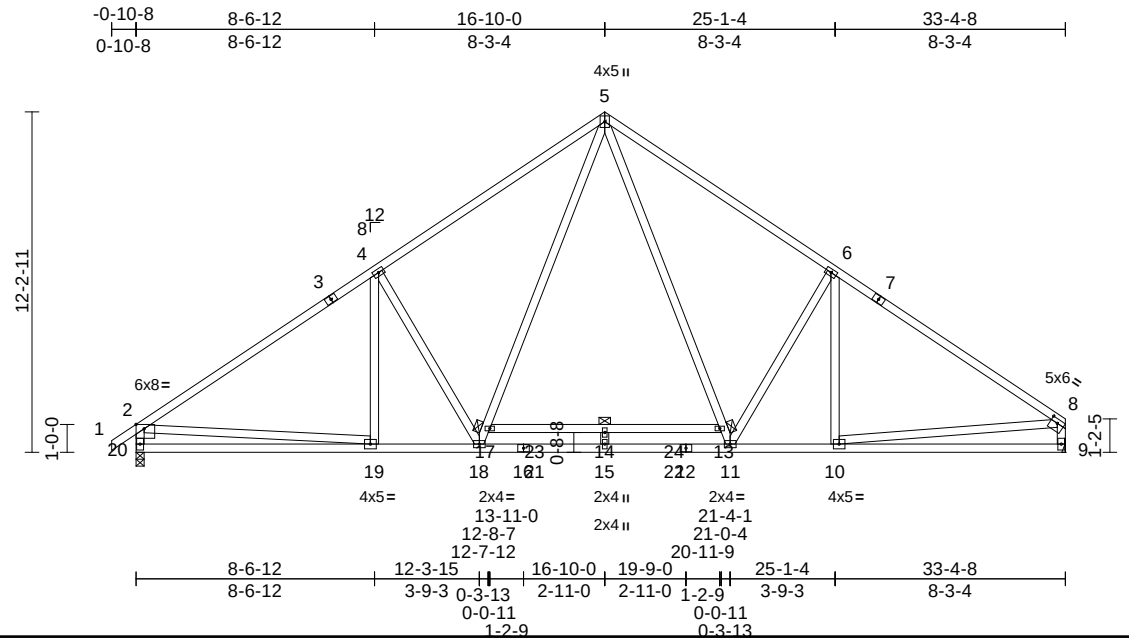

Scale = 1:82.7

Plate Offsets (X, Y): [2:0-3-8,Edge], [8:Edge,0-1-12]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.89	Vert(LL)	-0.32	14	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.84	Vert(CT)	-0.66	14	>604	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.44	Horz(CT)	0.04	9	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 227 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.1 *Except* 1-3:2x4 SP No.2

BOT CHORD 2x4 SP 2400F 2.0E *Except* 12-16:2x4 SP No.1, 17-13:2x4 SP No.2

WEBS 2x4 SP No.2 *Except* 9-8,15-14:2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:
6-0-0 oc bracing: 13-17

REACTIONS (size) 9= Mechanical, 20=0-3-8
Max Horiz 20=254 (LC 12)
Max Grav 9=1564 (LC 26), 20=1617 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/43, 2-3=-2137/60, 3-4=-1927/90, 4-5=-1988/165, 5-6=-1974/165, 6-7=-1879/87, 7-8=-2082/56, 2-20=-1521/153, 8-9=-1469/104

BOT CHORD 19-20=-232/701, 18-19=0/1829, 16-18=0/1364, 16-21=0/1364, 15-21=0/1364, 15-22=0/1364, 12-22=0/1364, 11-12=0/1364, 10-11=0/1644, 9-10=-67/279, 17-23=-82/0, 14-23=-82/0, 14-24=-82/0, 13-24=-82/0

WEBS 6-10=-186/15, 4-19=-128/11, 2-19=0/1252, 8-10=0/1419, 4-18=-459/304, 17-18=-42/846, 5-17=0/987, 5-13=0/953, 11-13=-41/812, 6-11=-423/305, 14-15=-98/0

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
3) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) 200.0lb AC unit load placed on the bottom chord, 16-10-0 from left end, supported at two points, 5-0-0 apart.
6) All plates are 3x5 MT20 unless otherwise indicated.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) Refer to girder(s) for truss to truss connections.
9) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	
21020047-A	T4GE	Common Supported Gable	2	1	Job Reference (optional)	E14607812

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:30 Page: 1
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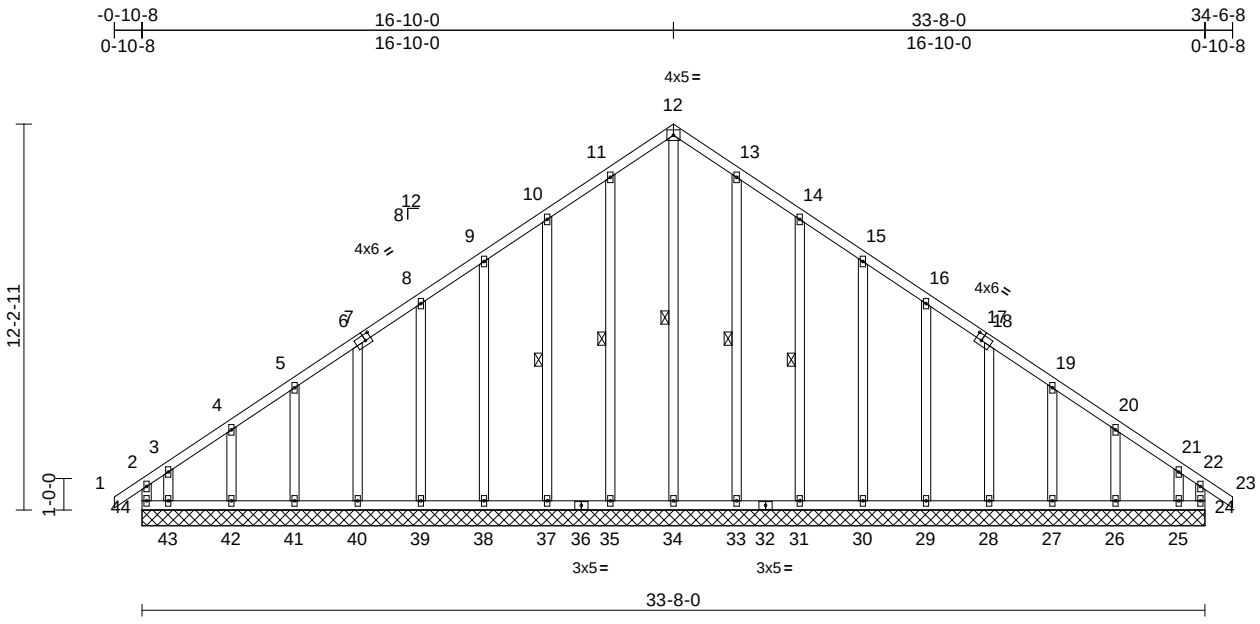

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Plate Offsets (X, Y): [7:0-2-4,0-2-4], [17:0-2-4,0-2-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.20	Horz(CT)	0.01	24	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 268 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.2 *Except* 41-5,42-4,43-3,27-19,26-20,25-21:2x4 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 6-0-0 oc bracing.
WEBS	1 Row at midpt 12-34, 11-35, 10-37, 13-33, 14-31

REACTIONS (size) 24=33-8-0, 25=33-8-0, 26=33-8-0, 27=33-8-0, 28=33-8-0, 29=33-8-0, 30=33-8-0, 31=33-8-0, 33=33-8-0, 34=33-8-0, 35=33-8-0, 37=33-8-0, 38=33-8-0, 39=33-8-0, 40=33-8-0, 41=33-8-0, 42=33-8-0, 43=33-8-0, 44=33-8-0

Max Horiz 44=256 (LC 12)

Max Uplift 24=-137 (LC 12), 25=-162 (LC 9), 26=-24 (LC 14), 27=-31 (LC 14), 28=-29 (LC 14), 29=-30 (LC 14), 30=-29 (LC 14), 31=-35 (LC 14), 33=-19 (LC 14), 35=-20 (LC 13), 37=-35 (LC 13), 38=-29 (LC 13), 39=-30 (LC 13), 40=-29 (LC 13), 41=-31 (LC 13), 42=-23 (LC 13), 43=-223 (LC 10), 44=-232 (LC 11)

Max Grav 24=222 (LC 9), 25=203 (LC 12), 26=169 (LC 26), 27=165 (LC 26), 28=166 (LC 26), 29=166 (LC 26), 30=166 (LC 26), 31=166 (LC 26), 33=171 (LC 26), 34=229 (LC 14), 35=174 (LC 25), 37=165 (LC 25), 38=166 (LC 25), 39=166 (LC 25), 40=166 (LC 25), 41=166 (LC 25), 42=167 (LC 2), 43=268 (LC 11), 44=312 (LC 10)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-44=-205/143, 1-2=0/43, 2-3=-245/215, 3-4=-168/161, 4-5=-146/142, 5-6=-133/135, 6-7=-121/120, 7-8=-119/134, 8-9=-152/178, 9-10=-200/236, 10-11=-252/298, 11-12=-294/347, 12-13=-294/347, 13-14=-252/298, 14-15=-200/236, 15-16=-152/178, 16-17=-102/120, 17-18=-104/106, 18-19=-77/79, 19-20=-87/82, 20-21=-112/102, 21-22=-172/148, 22-23=0/43, 22-24=-151/119

BOT CHORD 43-44=-117/138, 42-43=-117/138, 41-42=-117/138, 40-41=-117/138, 39-40=-117/138, 38-39=-117/138, 37-38=-117/138, 36-37=-117/138, 35-36=-117/138, 34-35=-117/138, 33-34=-117/138, 32-33=-117/138, 31-32=-117/138, 30-31=-117/138, 29-30=-117/138, 28-29=-117/138, 27-28=-117/138, 26-27=-117/138, 25-26=-117/138, 24-25=-117/138

WEBS 12-34=-313/204, 11-35=-134/63, 10-37=-134/90, 9-38=-126/80, 8-39=-128/82, 6-40=-128/82, 5-41=-127/81, 4-42=-131/83, 3-43=-150/130, 13-33=-131/63, 14-31=-134/90, 15-30=-126/80, 16-29=-128/82, 18-28=-128/82, 19-27=-127/81, 20-26=-131/83, 21-25=-159/124

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33

July 10,2020

Continued on page 2

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

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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) Gable requires continuous bottom chord bearing.
8) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
9) Gable studs spaced at 2-0-0 oc.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
11) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 44, 24, 35, 37, 38, 39, 40, 41, 42, 43, 33, 31, 30, 29, 28, 27, 26, and 25. This connection is for uplift only and does not consider lateral forces.
12) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	E14607813
21020047-A	T5	Piggyback Base	1	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:31

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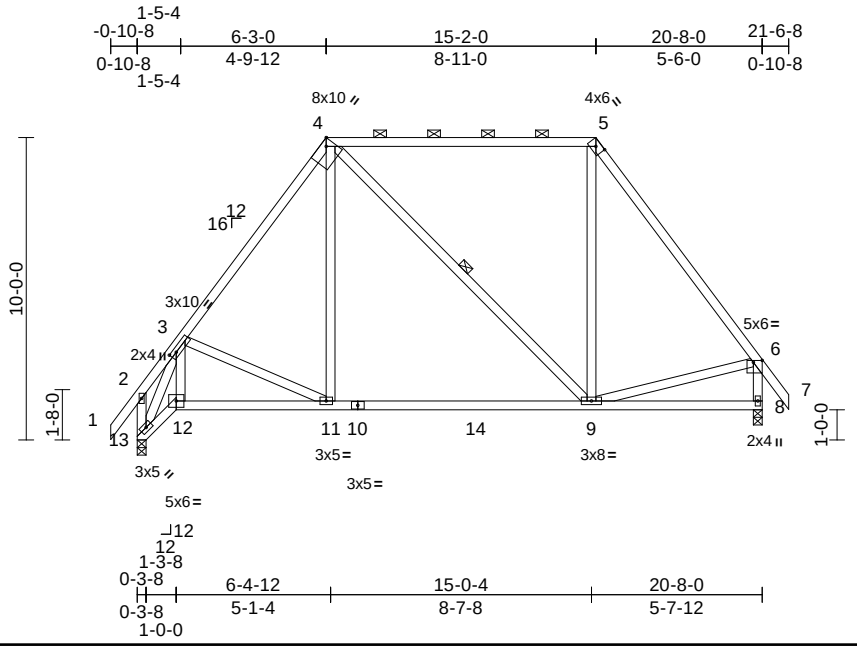

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Plate Offsets (X, Y): [3:0-2-9,0-1-8], [4:0-2-13,Edge], [5:0-3-2,0-2-0], [6:0-3-8,0-0-12]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.68	Vert(LL)	-0.17	9-11	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.65	Vert(CT)	-0.29	9-11	>844	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.30	Horz(CT)	0.03	8	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 149 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 4-5:2x4 SP 2400F 2.0E

BOT CHORD 2x4 SP No.2

WEBS 2x4 SP No.2 *Except* 12-3,13-2,13-3,8-6:2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5.

BOT CHORD Rigid ceiling directly applied or 9-11-9 oc bracing.

WEBS 1 Row at midpt 4-9

REACTIONS (size) 8=0-3-8, 13=0-3-8
Max Horiz 13=-242 (LC 11)
Max Grav 8=876 (LC 2), 13=876 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/62, 2-3=-117/100, 3-4=-826/232, 4-5=-431/230, 5-6=-788/205, 6-7=0/62, 2-13=-157/95, 6-8=-837/209

BOT CHORD 12-13=-354/904, 11-12=-246/653, 10-11=-82/525, 10-14=-82/525, 9-14=-82/525, 8-9=-111/204

WEBS 3-12=-206/588, 3-11=-265/226, 4-11=0/354, 4-9=-151/101, 5-9=0/213, 3-13=-1316/282, 6-9=-56/431

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
3) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=18.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) 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.
8) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	
21020047-A	T5GR	Piggyback Base Girder	1	2	Job Reference (optional)	E14607814

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:31 Page: 1

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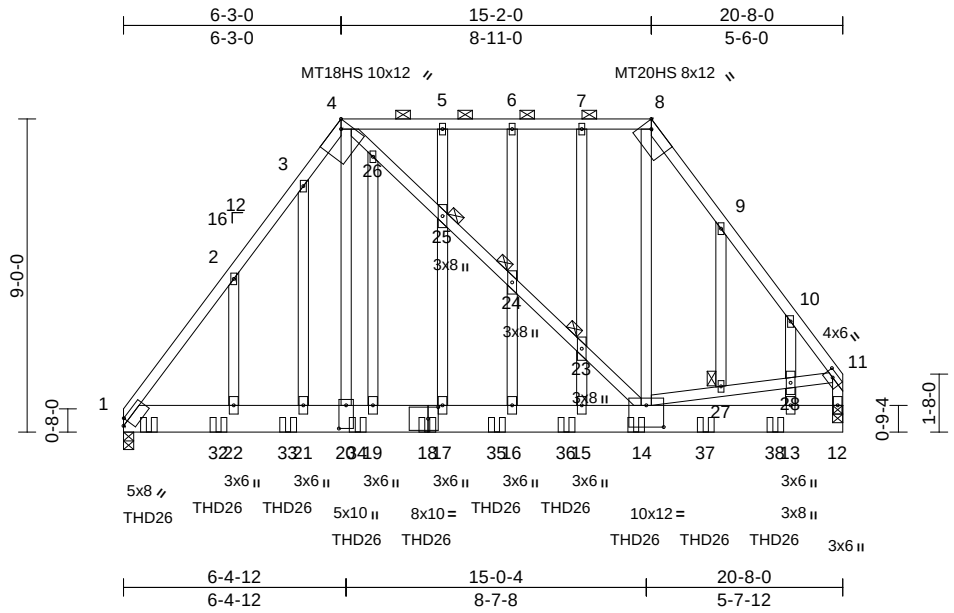

Scale = 1:66.2

Plate Offsets (X, Y): [1:0-2-3,0-1-8], [4:0-2-13,Edge], [8:0-2-13,Edge], [11:0-2-12,0-1-12], [14:0-6-0,0-7-8], [18:0-3-8,0-4-0], [20:0-8-0,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.86	Vert(LL)	-0.10	16-17	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.38	Vert(CT)	-0.23	16-17	>999	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	NO	WB	0.84	Horz(CT)	0.02	12	n/a	n/a	MT20HS	187/143
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 492 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x10 SP 2400F 2.0E
WEBS 2x4 SP No.2 *Except* 14-11:2x4 SP No.1, 12-11:2x4 SP No.3
OTHERS 2x4 SP No.3 *Except* 23-7,17-25,19-26,21-3:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-1-4 oc purlins, except 2-0-0 oc purlins (5-4-3 max.): 4-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS 1 Brace at Jt(s): 23, 24, 25, 27

REACTIONS (size) 1=0-3-8, (req. 0-3-9), 12=0-3-8
Max Horiz 1=177 (LC 29)
Max Grav 1=8664 (LC 2), 12=7878 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-7859/0, 2-3=-7965/0, 3-4=-7794/0, 4-5=-4484/0, 5-6=-4484/0, 6-7=-4484/0, 7-8=-4484/0, 8-9=-7131/0, 9-10=-7512/0, 10-11=-7115/0
BOT CHORD 1-32=0/4691, 22-32=0/4691, 22-33=0/4691, 21-33=0/4691, 20-21=0/4691, 20-34=0/4793, 19-34=0/4793, 18-19=0/4793, 17-18=0/4793, 17-35=0/4793, 16-35=0/4793, 16-36=0/4793, 15-36=0/4793, 14-15=0/4793, 14-37=0/0, 37-38=0/0, 13-38=0/0, 12-13=0/0
WEBS 4-20=0/5914, 4-26=-289/9, 25-26=-543/0, 24-25=-435/0, 23-24=-516/0, 14-23=-520/0, 8-14=0/5246, 14-27=0/4511, 27-28=0/4411, 11-28=0/4344, 11-12=-6079/0, 7-23=0/204, 15-23=0/199, 6-24=-232/0, 16-24=-114/27, 5-25=-29/185, 17-25=-86/87, 19-26=0/395, 3-21=-37/176, 2-22=-318/117, 9-27=0/398, 10-28=-579/19, 13-28=-1078/0

NOTES

1) 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: 2x10 - 2 rows staggered at 0-7-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.33
5) 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.
6) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=18.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10, Lu=50-0-0
7) Provide adequate drainage to prevent water ponding.
8) All plates are MT20 plates unless otherwise indicated.
9) All plates are 2x4 MT20 unless otherwise indicated.
10) Gable studs spaced at 2-0-0 oc.
11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
12) WARNING: Required bearing size at joint(s) 1 greater than input bearing size.
13) 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.
14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
15) Use USP THD26 (With 18-16d nails into Girder & 12-10d x 1-1/2 nails into Truss) or equivalent spaced at 2-0-0 oc max. starting at 0-8-12 from the left end to 18-8-12 to connect truss(es) to back face of bottom chord.
16) Fill all nail holes where hanger is in contact with lumber.

July 10,2020

Continued on page 2

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

LOAD CASE(S) Standard

1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (lb/ft)
   Vert: 1-4=-48, 4-8=-58, 8-11=-48, 12-29=-20
   Concentrated Loads (lb)
   Vert: 18=-1287 (B), 14=-1287 (B), 31=-1290 (B), 32=-1287 (B), 33=-1287 (B), 34=-1287 (B), 35=-1287 (B), 36=-1287 (B), 37=-1287 (B), 38=-1287 (B)

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	
21020047-A	T5SE	Piggyback Base Structural Gable	1	1	Job Reference (optional)	E14607815

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:33

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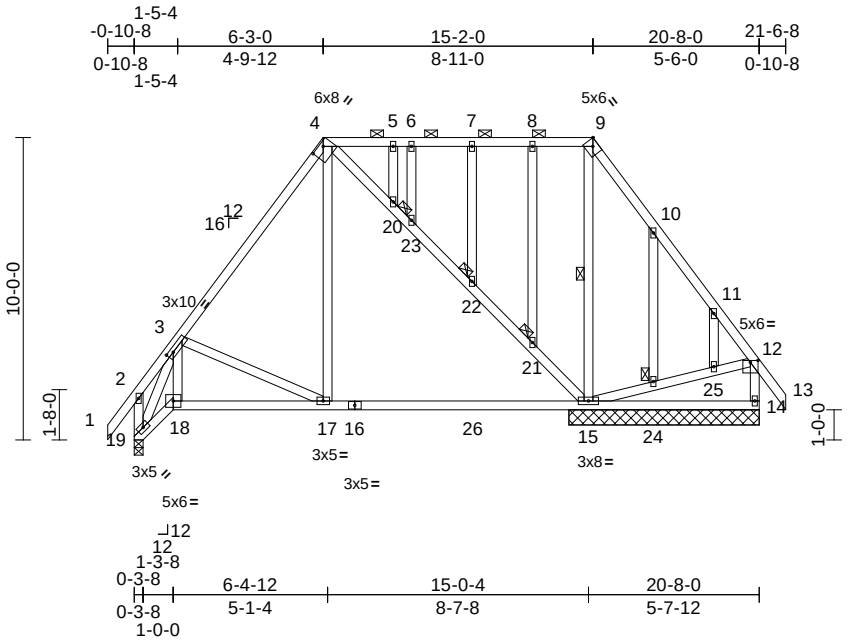

Scale = 1:76.2

Plate Offsets (X, Y): [3:0-2-9,0-1-8], [4:0-4-12,0-1-8], [9:0-2-13,Edge], [12:0-3-0,0-0-12]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.65	Vert(LL)	-0.17	15-17	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.27	15-17	>650	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.55	Horz(CT)	0.02	14	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 183 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.2 *Except* 18-3,19-2,19-3,14-12:2x4 SP No.3
OTHERS	2x4 SP No.3 *Except* 21-8,24-10:2x4 SP No.2

BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 4-9.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS	1 Row at midpt 9-15
JOINTS	1 Brace at Jt(s): 20, 21, 22, 24

REACTIONS (size) 14=6-3-8, 15=6-3-8, 19=0-3-8
Max Horiz 19=-242 (LC 11)
Max Uplift 14=-28 (LC 29), 15=-37 (LC 13)
Max Grav 14=125 (LC 30), 15=1068 (LC 2), 19=599 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/62, 2-3=-70/139, 3-4=-507/122, 4-5=-19/100, 5-6=-19/100, 6-7=-19/100, 7-8=-19/100, 8-9=-19/100, 9-10=-44/277, 10-11=-125/215, 11-12=-161/230, 12-13=0/62, 2-19=-112/132, 12-14=-87/101
BOT CHORD	18-19=-354/699, 17-18=-246/503, 16-17=-84/336, 16-26=-84/336, 15-26=-84/336, 14-15=-60/134
WEBS	3-18=-206/463, 3-17=-304/239, 4-17=-4/369, 4-20=-502/134, 20-23=-488/113, 22-23=-522/140, 21-22=-544/159, 15-21=-553/154, 9-15=-501/194, 3-19=-934/150, 15-24=-366/335, 24-25=-341/314, 12-25=-332/306, 5-20=-30/28, 8-21=-24/12, 7-22=-50/28, 6-23=-64/38, 10-24=-93/80, 11-25=-55/33

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=18.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10, Lu=50-0-0
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
9) Gable studs spaced at 2-0-0 oc.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
11) Bearing at joint(s) 19 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
12) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 14 and 15. This connection is for uplift only and does not consider lateral forces.
13) 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.
14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	
21020047-A	T6		1	1	Job Reference (optional)	E14607816

Carter Components (Sanford), Sanford, NC - 27332,

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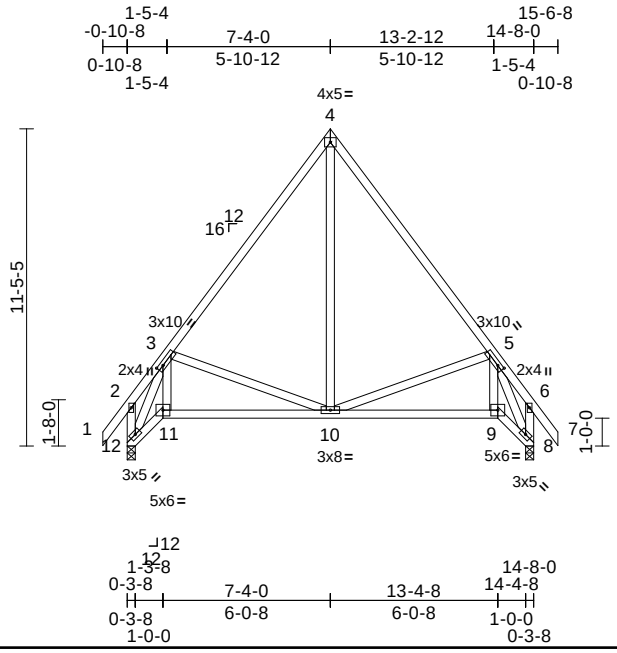

Scale = 1:83.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.52	Vert(LL)	-0.02	9-10	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.28	Vert(CT)	-0.06	9-10	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.26	Horz(CT)	0.05	8	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 116 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 10-4,10-5,10-3:2x4 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 9-6-9 oc bracing.

REACTIONS (size) 8=0-3-8, 12=0-3-8
Max Horiz 12=-279 (LC 11)
Max Uplift 8=-7 (LC 13), 12=-7 (LC 14)
Max Grav 8=636 (LC 2), 12=636 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/62, 2-3=-98/226, 3-4=-517/201, 4-5=-526/201, 5-6=-100/198, 6-7=0/62, 2-12=-101/239, 6-8=-114/212
BOT CHORD 11-12=-381/870, 10-11=-271/602, 9-10=-96/473, 8-9=-125/674
WEBS 4-10=-128/408, 5-10=-349/289, 5-9=-32/495, 3-10=-389/310, 3-11=-208/632, 3-12=-1177/339, 5-8=-1241/343

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
3) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) Bearing at joint(s) 12, 8 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 12 and 8. This connection is for uplift only and does not consider lateral forces.
8) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof
21020047-A	T6GE		1	1	E14607817
					Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:33

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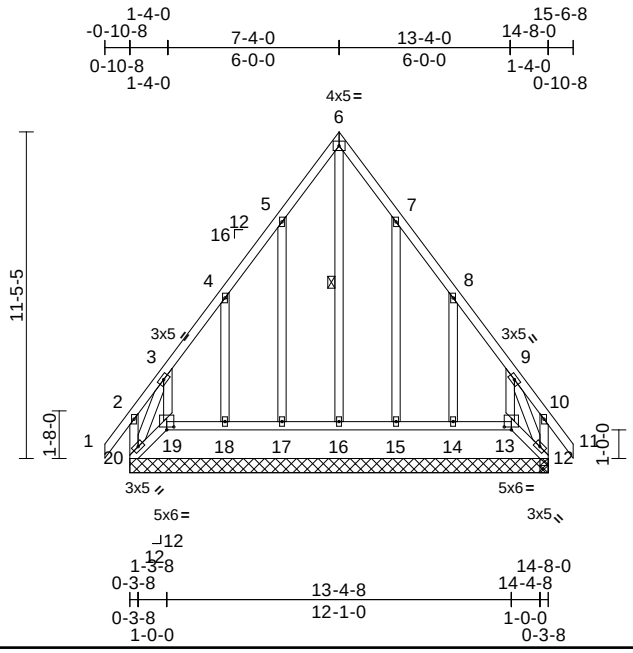

Scale = 1:80.8

Plate Offsets (X, Y): [13:0-3-0,0-1-4], [19:0-3-0,0-1-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.17	Vert(LL)	0.00	19-20	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	0.00	13-14	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.20	Horz(CT)	0.00	12	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 132 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* 16-6,17-5,15-7:2x4 SP No.2

BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 6-16

REACTIONS (size) 12=14-8-0, 13=14-8-0, 14=14-8-0, 15=14-8-0, 16=14-8-0, 17=14-8-0, 18=14-8-0, 19=14-8-0, 20=14-8-0

Max Horiz 20=-279 (LC 11)

Max Uplift 12=-93 (LC 10), 13=-134 (LC 14), 14=-109 (LC 14), 15=-96 (LC 14), 16=-5 (LC 12), 17=-97 (LC 13), 18=-108 (LC 13), 19=-346 (LC 10), 20=-397 (LC 11)

Max Grav 12=200 (LC 25), 13=164 (LC 26), 14=208 (LC 26), 15=204 (LC 26), 16=273 (LC 14), 17=206 (LC 25), 18=205 (LC 25), 19=434 (LC 11), 20=473 (LC 12)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/62, 2-3=-87/108, 3-4=-162/152, 4-5=-140/160, 5-6=-269/323, 6-7=-269/323, 7-8=-135/160, 8-9=-131/111, 9-10=-90/109, 10-11=0/62, 2-20=-138/131, 10-12=-140/130

BOT CHORD 19-20=-282/328, 18-19=-195/235, 17-18=-195/235, 16-17=-195/235, 15-16=-195/235, 14-15=-195/235, 13-14=-195/235, 12-13=-273/326

WEBS 3-20=-516/442, 9-12=-503/404, 6-16=-442/299, 5-17=-209/180, 4-18=-231/214, 3-19=-387/408, 7-15=-210/180, 8-14=-232/214, 9-13=-368/401

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
8) Gable studs spaced at 2-0-0 oc.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 19, 20, and 12. This connection is for uplift only and does not consider lateral forces.
11) One RT16A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 13. This connection is for uplift only and does not consider lateral forces.
12) One RT16A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 16, 17, 18, 15, and 14. This connection is for uplift only and does not consider lateral forces.
13) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	E14607818
21020047-A	V1	Valley	1	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332,

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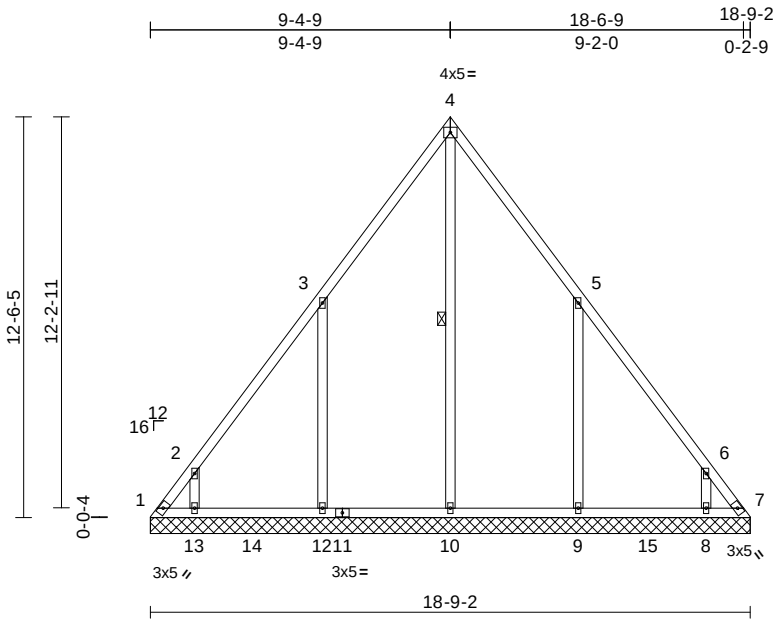

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.36	Horiz(TL)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-SH								
BCDL	10.0										Weight: 114 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.2 *Except* 13-2,8-6:2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-10

REACTIONS (size) 1=18-9-2, 7=18-9-2, 8=18-9-2, 9=18-9-2, 10=18-9-2, 12=18-9-2, 13=18-9-2
Max Horiz 1=-260 (LC 9)
Max Uplift 1=-228 (LC 11), 7=-195 (LC 12), 8=-165 (LC 14), 9=-226 (LC 14), 12=-226 (LC 13), 13=-165 (LC 13)
Max Grav 1=304 (LC 13), 7=288 (LC 14), 8=347 (LC 25), 9=546 (LC 25), 10=349 (LC 27), 12=547 (LC 24), 13=347 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-452/368, 2-3=-243/196, 3-4=-222/206, 4-5=-222/206, 5-6=-211/154, 6-7=-452/368
BOT CHORD 1-13=-186/249, 13-14=-186/249, 12-14=-186/249, 11-12=-186/249, 10-11=-186/249, 9-10=-186/249, 9-15=-186/249, 8-15=-186/249, 7-8=-186/249
WEBS 4-10=-211/117, 3-12=-455/394, 2-13=-363/318, 5-9=-455/394, 6-8=-363/318

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
5) All plates are 2x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1, 7, 12, 13, 9, and 8. This connection is for uplift only and does not consider lateral forces.
10) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	E14607819
21020047-A	V2	Valley	1	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:34

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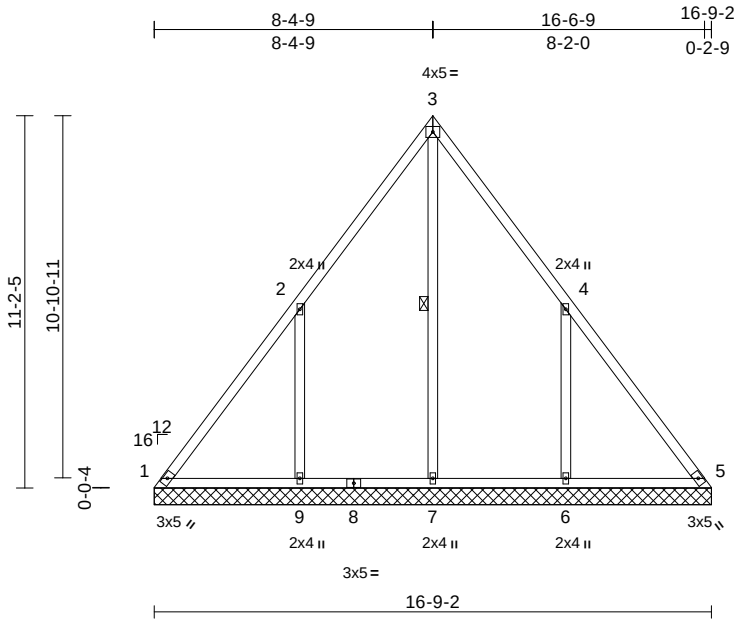

Scale = 1:69.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.29	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.18	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.24	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-SH								
BCDL	10.0										Weight: 97 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 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.
WEBS 1 Row at midpt 3-7

REACTIONS (size) 1=16-9-2, 5=16-9-2, 6=16-9-2, 7=16-9-2, 9=16-9-2
Max Horiz 1=-231 (LC 9)
Max Uplift 1=-53 (LC 11), 5=-23 (LC 12), 6=-250 (LC 14), 9=-250 (LC 13)
Max Grav 1=232 (LC 25), 5=209 (LC 24), 6=537 (LC 25), 7=343 (LC 27), 9=537 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-238/205, 2-3=-200/181, 3-4=-200/181, 4-5=-231/185
BOT CHORD 1-9=-165/224, 8-9=-165/224, 7-8=-165/224, 6-7=-165/224, 5-6=-165/224
WEBS 3-7=-169/83, 2-9=-481/418, 4-6=-481/418

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1, 5, 9, and 6. This connection is for uplift only and does not consider lateral forces.
9) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	
21020047-A	V3	Valley	1	1	Job Reference (optional)	E14607820

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:34 Page: 1
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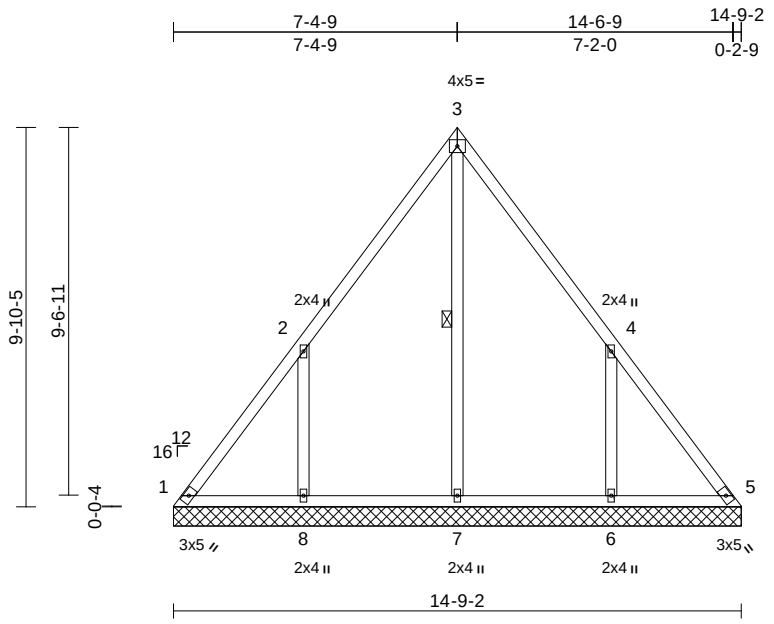

Scale = 1:59.9

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.24	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.19	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0 *	Code	IRC2015/TPI2014	Matrix-SH								
BCDL	10.0										Weight: 83 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3 *Except* 7-3:2x4 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.
WEBS 1 Row at midpt 3-7

REACTIONS (size) 1=14-9-2, 5=14-9-2, 6=14-9-2, 7=14-9-2, 8=14-9-2
Max Horiz 1=-203 (LC 9)
Max Uplift 1=-66 (LC 11), 5=-40 (LC 12), 6=-219 (LC 14), 8=-219 (LC 13)
Max Grav 1=195 (LC 25), 5=175 (LC 24), 6=476 (LC 25), 7=343 (LC 27), 8=476 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-221/184, 2-3=-191/159, 3-4=-181/159, 4-5=-219/167
BOT CHORD 1-8=-134/191, 7-8=-134/191, 6-7=-134/191, 5-6=-134/191
WEBS 3-7=-128/42, 2-8=-435/388, 4-6=-435/388

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1, 5, 8, and 6. This connection is for uplift only and does not consider lateral forces.
9) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	E14607821
21020047-A	V4	Valley	1	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332,

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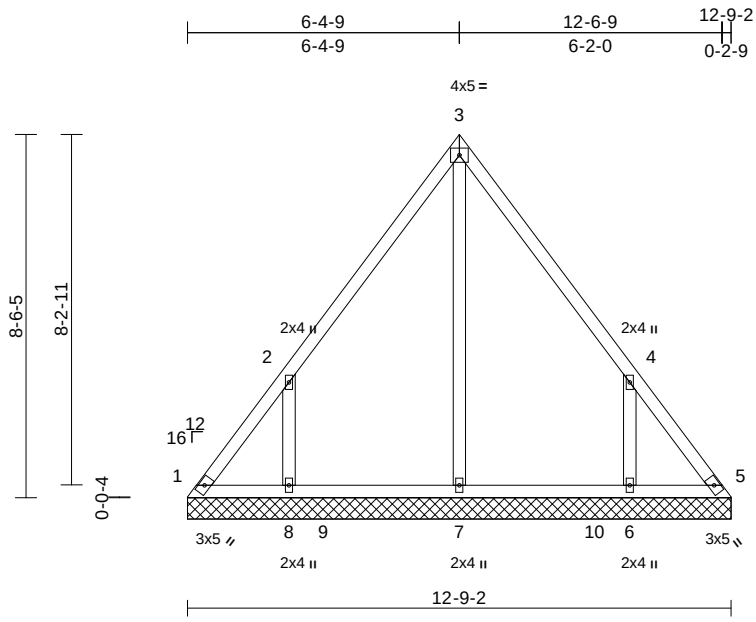

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.23	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.18	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-SH								
BCDL	10.0										Weight: 69 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3 *Except* 7-3:2x4 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 (size) 1=12-9-2, 5=12-9-2, 6=12-9-2, 7=12-9-2, 8=12-9-2
Max Horiz 1=-174 (LC 9)
Max Uplift 1=-90 (LC 11), 5=-67 (LC 12), 6=-198 (LC 14), 8=-198 (LC 13)
Max Grav 1=168 (LC 10), 5=145 (LC 9), 6=414 (LC 25), 7=331 (LC 27), 8=414 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-221/173, 2-3=-188/138, 3-4=-169/138, 4-5=-221/167
BOT CHORD 1-8=-105/157, 8-9=-105/157, 7-9=-105/157, 7-10=-105/157, 6-10=-105/157, 5-6=-105/157
WEBS 3-7=-119/7, 2-8=-412/378, 4-6=-412/378

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1, 5, 8, and 6. This connection is for uplift only and does not consider lateral forces.
9) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	
21020047-A	V5	Valley	1	1	Job Reference (optional)	E14607822

Carter Components (Sanford), Sanford, NC - 27332,

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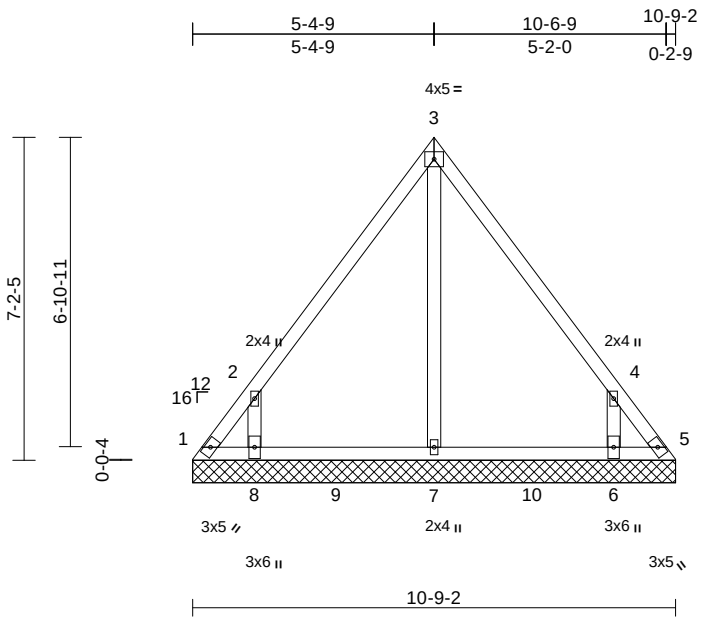

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.15	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.13	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-SH								
BCDL	10.0										Weight: 55 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3 *Except* 7-3:2x4 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 (size) 1=10-9-2, 5=10-9-2, 6=10-9-2, 7=10-9-2, 8=10-9-2
Max Horiz 1=-146 (LC 9)
Max Uplift 1=-151 (LC 11), 5=-132 (LC 12), 6=-206 (LC 14), 8=-206 (LC 13)
Max Grav 1=176 (LC 13), 5=167 (LC 14), 6=405 (LC 25), 7=301 (LC 24), 8=405 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-279/221, 2-3=-186/116, 3-4=-171/116, 4-5=-279/221
BOT CHORD 1-8=-77/124, 8-9=-77/124, 7-9=-77/124, 7-10=-77/124, 6-10=-77/124, 5-6=-77/124
WEBS 3-7=-115/0, 2-8=-457/433, 4-6=-457/433

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1, 5, 8, and 6. This connection is for uplift only and does not consider lateral forces.
9) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	E14607823
21020047-A	V6	Valley	1	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332,

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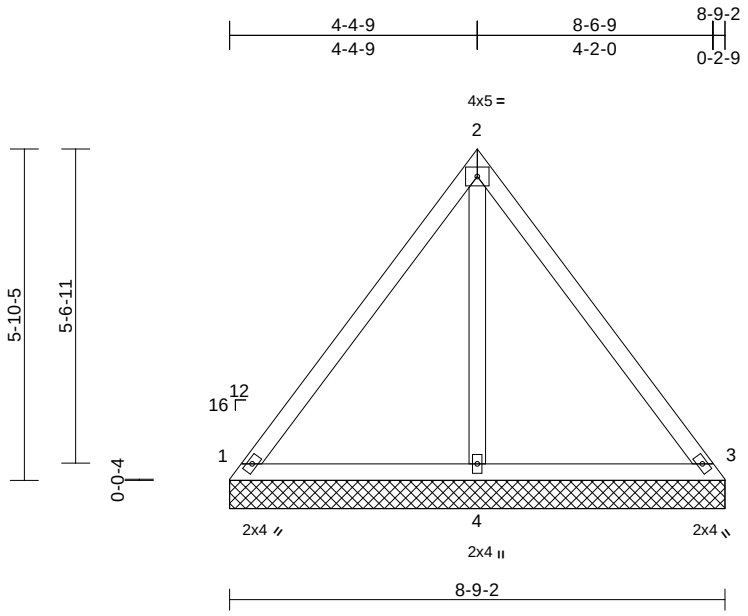

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.48	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-P								
BCDL	10.0										Weight: 41 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 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 (size) 1=8-9-2, 3=8-9-2, 4=8-9-2
Max Horiz 1=117 (LC 12)
Max Uplift 1=-30 (LC 14), 3=-23 (LC 13)
Max Grav 1=210 (LC 2), 3=210 (LC 2), 4=236 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-172/73, 2-3=-158/73
BOT CHORD 1-4=-47/87, 3-4=-47/87
WEBS 2-4=-134/41

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=13.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 3. This connection is for uplift only and does not consider lateral forces.
9) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 10,2020

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

Job	Truss	Truss Type	Qty	Ply	164 Crossings-Roof	
21020047-A	V7		1	1	Job Reference (optional)	E14607824

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Fri Jul 10 15:42:35 Page: 1
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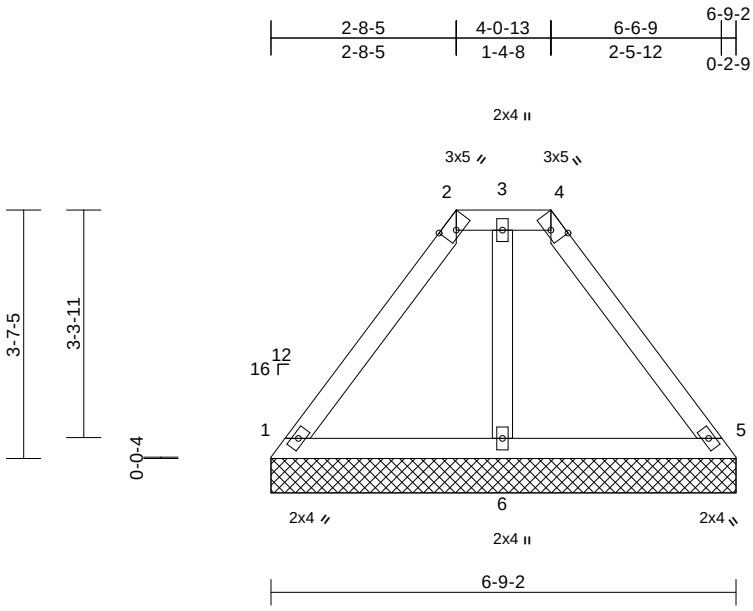

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Plate Offsets (X, Y): [2:0-2-3,Edge], [4:0-2-3,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.15	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.07	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-SH								
BCDL	10.0										Weight: 29 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 2-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=6-9-2, 5=6-9-2, 6=6-9-2
Max Horiz 1=-71 (LC 9)
Max Uplift 1=-33 (LC 14), 5=-30 (LC 14)
Max Grav 1=185 (LC 2), 5=185 (LC 2), 6=133 (LC 28)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-161/130, 2-3=-145/155, 3-4=-145/155, 4-5=-160/130
BOT CHORD 1-6=-21/78, 5-6=-21/78
WEBS 3-6=-56/24

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) 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=1.33
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) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=20.0 psf (ground snow); Pf=18.9 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.10, Lu=50-0-0
5) Provide adequate drainage to prevent water ponding.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 5. This connection is for uplift only and does not consider lateral forces.
10) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

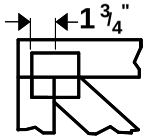
LOAD CASE(S) Standard

July 10,2020

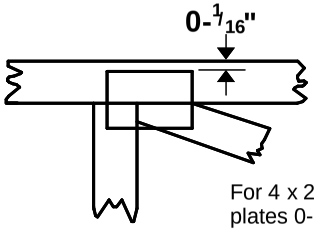
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

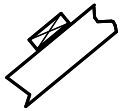
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

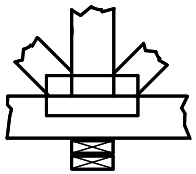
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

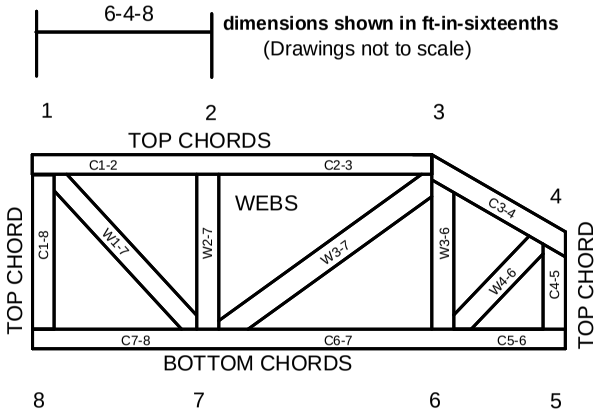


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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.

MiTek
ENGINEERING BY TRENCO
A MiTek Affiliate

MiTek Engineering Reference Sheet: MII-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/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.