

RE: 21070089-01  
215 Crossing at ACC-Kessler B-Roof

Trenco  
818 Soundside Rd  
Edenton, NC 27932

**Site Information:**

Customer: Capitol City Homes Project Name: 21070089-01  
Lot/Block: 215 Model:  
Address: 42 Kensington Drive Subdivision: Crossings at Anderson Creek  
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 8.4  
Wind Code: ASCE 7-10 Wind Speed: 130 mph  
Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 15 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date
1	I45380350	CJ1	7/14/2021
2	I45380351	J1	7/14/2021
3	I45380352	J2GR	7/14/2021
4	I45380353	J2GRA	7/14/2021
5	I45380354	J3	7/14/2021
6	I45380355	PB1	7/14/2021
7	I45380356	T1	7/14/2021
8	I45380357	T1A	7/14/2021
9	I45380358	T1GR	7/14/2021
10	I45380359	T1GRA	7/14/2021
11	I45380360	T4GE	7/14/2021
12	I45380361	T5	7/14/2021
13	I45380362	T5A	7/14/2021
14	I45380363	T5GE	7/14/2021
15	I45380364	T5SE	7/14/2021

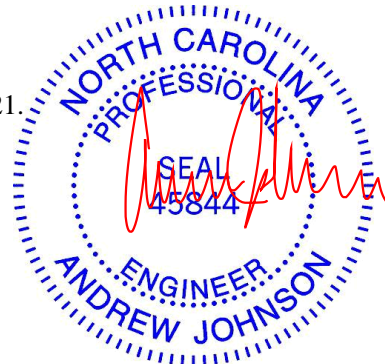
The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Carter Components (Sanford, NC)).

Truss Design Engineer's Name: Johnson, Andrew

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.



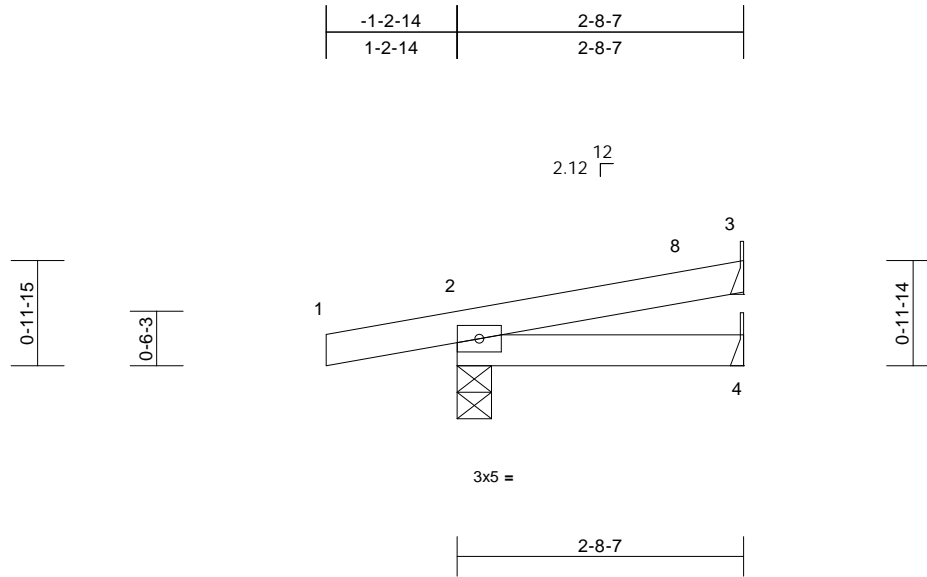
July 14, 2021

Job 21070089-01	Truss CJ1	Truss Type Jack-Open	Qty 2	Ply 1	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	145380350
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.43 S Mar 4 2021 Print: 8.430 S Mar 4 2021 MiTek Industries, Inc. Fri Mar 26 11:24:30  
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Page: 1



Scale = 1:21.7

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	0.13	Vert(LL)	0.00	4-7	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	0.00	4-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 10 lb	FT = 20%

#### LUMBER

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

#### BRACING

TOP CHORD Sheathed or 2-8-7 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(size) 2=0-3-14, 3= Mechanical, 4= Mechanical  
Max Horiz 2=21 (LC 11)  
Max Uplift 2=-44 (LC 11), 3=-14 (LC 15)  
Max Grav 2=197 (LC 2), 3=61 (LC 2), 4=27 (LC 2)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

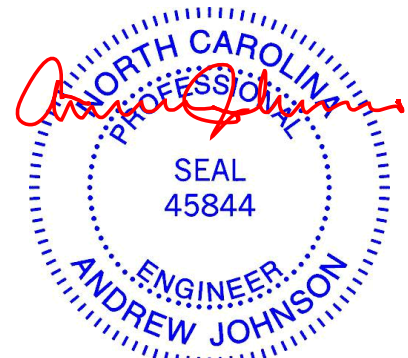
TOP CHORD 1-2=0/16, 2-8=-77/92, 3-8=-9/8  
BOT CHORD 2-4=-64/27

#### NOTES

- 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
- 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
- Unbalanced snow loads have been considered for this  
design.
- 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.

- \* 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to  
bearing plate capable of withstanding 14 lb uplift at joint  
3 and 44 lb uplift at joint 2.

LOAD CASE(S) Standard



March 27, 2021

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

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

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

ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

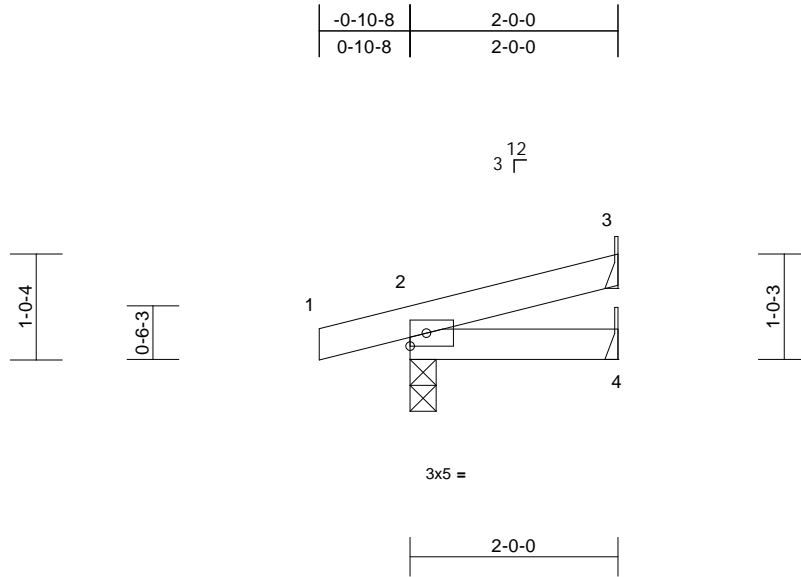
818 Soundside Road  
Edenton, NC 27932

Job 21070089-01	Truss J1	Truss Type Jack-Open	Qty 2	Ply 1	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	145380351
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Carter Components (Sanford), Sanford, NC - 27332,

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Page: 1



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	0.07	Vert(LL)	0.00	4-7	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	0.00	4-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 7 lb	FT = 20%

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

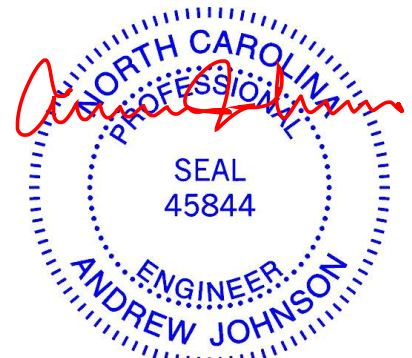
**BRACING**  
TOP CHORD Sheathed or 2-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-3-0, 3= Mechanical, 4= Mechanical  
Max Horiz 2=22 (LC 11)  
Max Uplift 2=-29 (LC 11), 3=-11 (LC 15)  
Max Grav 2=144 (LC 2), 3=47 (LC 2), 4=21 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/16, 2-3=-45/48  
BOT CHORD 2-4=-26/19

- 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.
- 7) Refer to girder(s) for truss to truss connections.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 2 and 11 lb uplift at joint 3.
- LOAD CASE(S)** Standard

- 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 is not designed to support a ceiling and is not intended for use where aesthetics are a consideration.



March 27, 2021

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ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

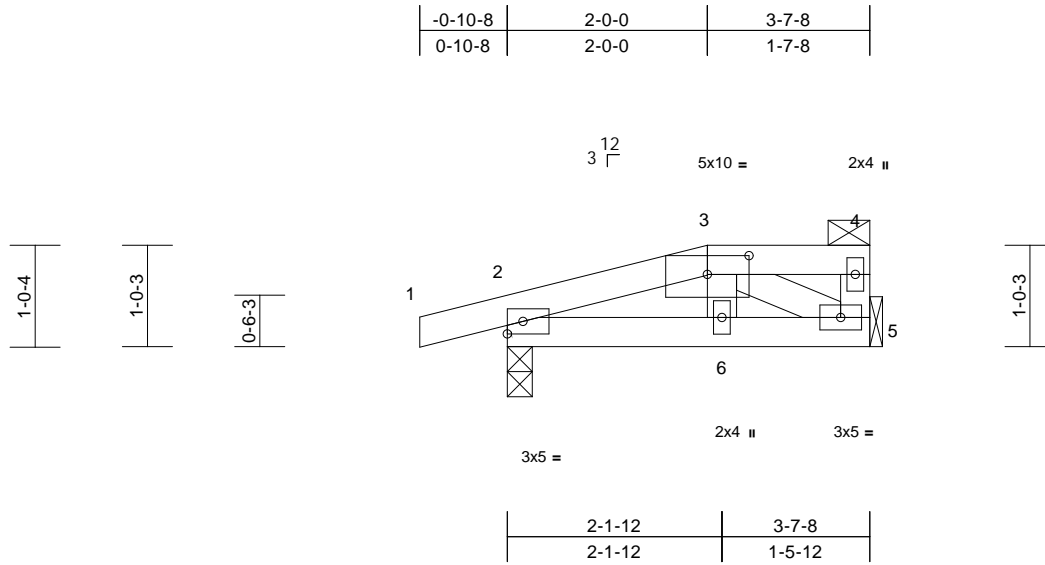
818 Soundside Road  
Edenton, NC 27932

Job 21070089-01	Truss J2GR	Truss Type Half Hip Girder	Qty 1	Ply 1	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	I45380352
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Carter Components (Sanford), Sanford, NC - 27332,

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Page: 1



Scale = 1:23

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

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	Vert(LL)	0.00	6	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	Vert(CT)	0.00	6	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	Horz(CT)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP							
BCDL	10.0									Weight: 15 lb	FT = 20%

**LUMBER**

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

**BRACING**

TOP CHORD Sheathed or 3-7-8 oc purlins, except end verticals, and 2-0-0 oc purlins: 3-4.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=0-3-0, 5= Mechanical  
Max Horiz 2=23 (LC 10)  
Max Uplift 2=-32 (LC 7), 5=-3 (LC 7)  
Max Grav 2=224 (LC 31), 5=138 (LC 30)

**FORCES**

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/16, 2-3=-167/40, 3-4=-8/6, 4-5=-54/11  
BOT CHORD 2-6=-19/148, 5-6=0/153  
WEBS 3-6=0/35, 3-5=-171/0

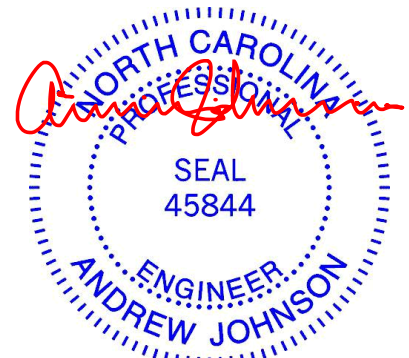
**NOTES**

- 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); cantilever left and right exposed; end vertical left and right exposed; 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=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
- 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) 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.
- 7) Refer to girder(s) for truss to truss connections.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 32 lb uplift at joint 2 and 3 lb uplift at joint 5.
- 9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 37 lb down and 13 lb up at 2-0-0 on top chord, and 15 lb down and 14 lb up at 2-0-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- 11) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

**LOAD CASE(S)** Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-3=-48, 3-4=-58, 5-7=-20  
Concentrated Loads (lb)  
Vert: 6=-7 (F)



March 27, 2021

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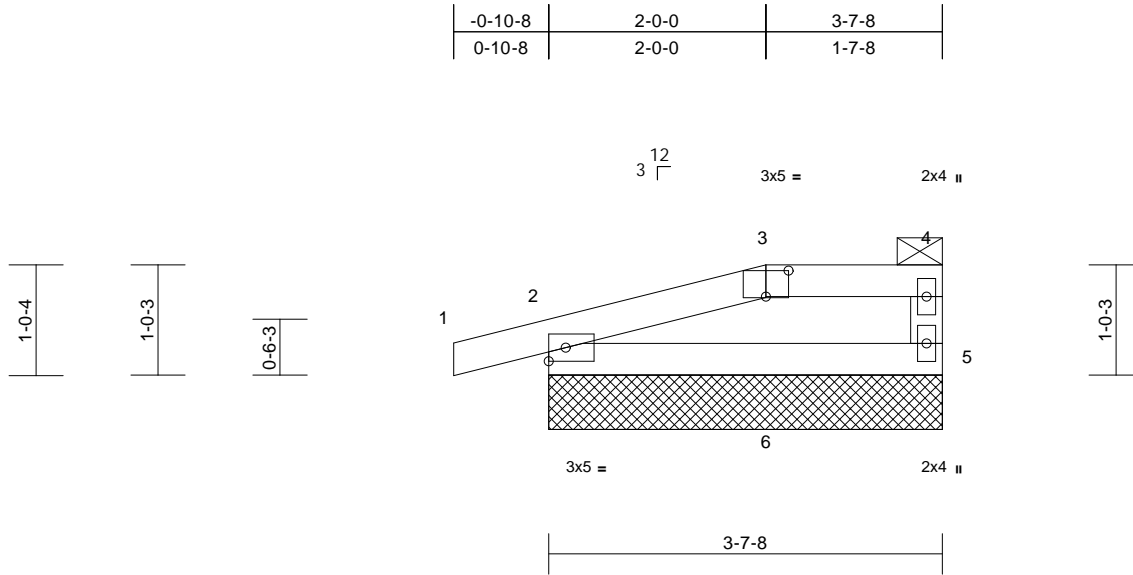
818 Soundside Road  
Edenton, NC 27932

Job 21070089-01	Truss J2GRA	Truss Type Half Hip Girder	Qty 1	Ply 1	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	145380353
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Carter Components (Sanford), Sanford, NC - 27332,

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Page: 1



Loading (psf)		Spacing		CSI		DEFL				PLATES	GRIP			
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	n/a	(loc)	-	l/defl	n/a	999	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	n/a		-	n/a	999			
TCDL	10.0	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	5	n/a	n/a				
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-R										
BCDL	10.0												Weight: 13 lb	FT = 20%

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

**BRACING**  
TOP CHORD Sheathed or 3-7-8 oc purlins, except end verticals, and 2-0-0 oc purlins: 3-4.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=3-7-8, 5=3-7-8  
Max Horiz 2=22 (LC 49)  
Max Uplift 2=-32 (LC 7), 5=-3 (LC 7)  
Max Grav 2=224 (LC 31), 5=138 (LC 30)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/0, 2-3=-134/13, 3-4=-99/14, 4-5=-92/21  
BOT CHORD 2-6=-11/99, 5-6=-11/99

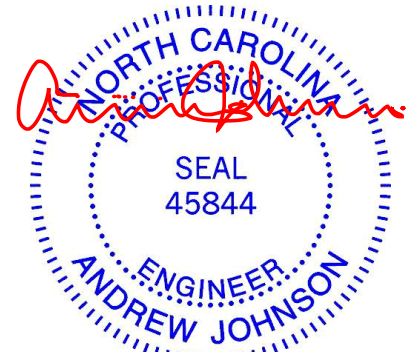
**NOTES**

- Unbalanced roof live loads have been considered for this design.
- 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
- 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.
- 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
- Unbalanced snow loads have been considered for this design.

- 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.
- Provide adequate drainage to prevent water ponding.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- \* 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 3 lb uplift at joint 5 and 32 lb uplift at joint 2.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 37 lb down and 13 lb up at 2-0-0 on top chord, and 15 lb down and 14 lb up at 2-0-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

**LOAD CASE(S)** Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-3=-48, 3-4=-58, 2-5=-20  
Concentrated Loads (lb)  
Vert: 6=-7 (B)



March 27, 2021

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



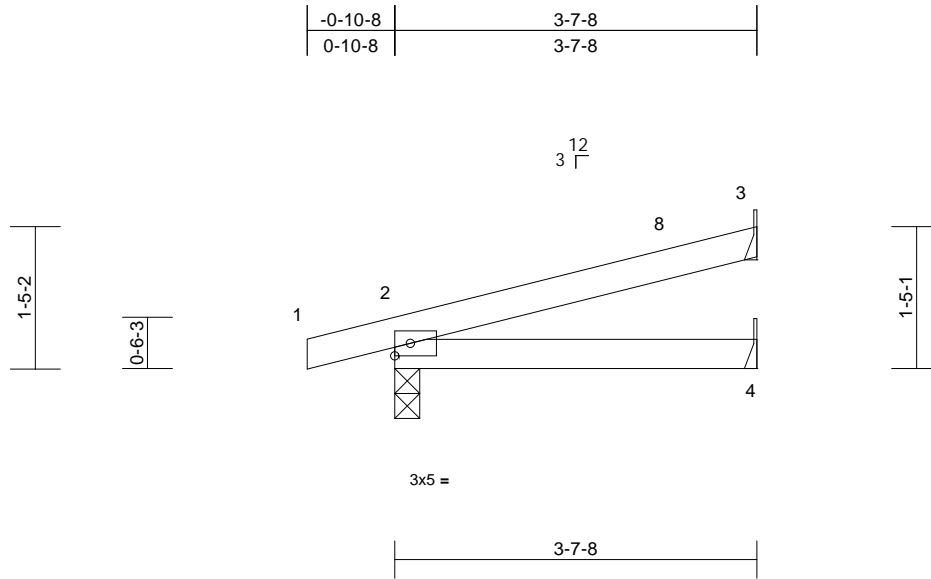
818 Soundside Road  
Edenton, NC 27932

Job 21070089-01	Truss J3	Truss Type Jack-Open	Qty 2	Ply 1	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	145380354
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Carter Components (Sanford), Sanford, NC - 27332,

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Page: 1



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	0.18	Vert(LL)	0.01	4-7	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	-0.01	4-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	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

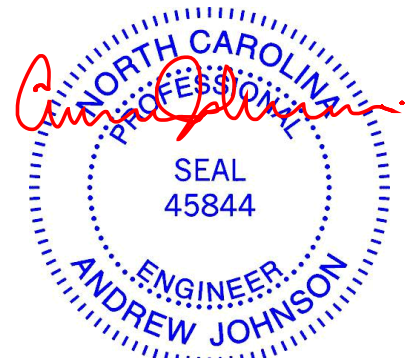
**BRACING**  
TOP CHORD Sheathed or 3-7-8 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-3-0, 3= Mechanical, 4= Mechanical  
Max Horiz 2=33 (LC 11)  
Max Uplift 2=-28 (LC 11), 3=-22 (LC 15)  
Max Grav 2=201 (LC 2), 3=92 (LC 2), 4=44 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/16, 2-8=-70/42, 3-8=-20/18  
BOT CHORD 2-4=-52/42

- 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 22 lb uplift at joint 3 and 28 lb uplift at joint 2.
- LOAD CASE(S)** Standard

- 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.



March 27, 2021

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

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

ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

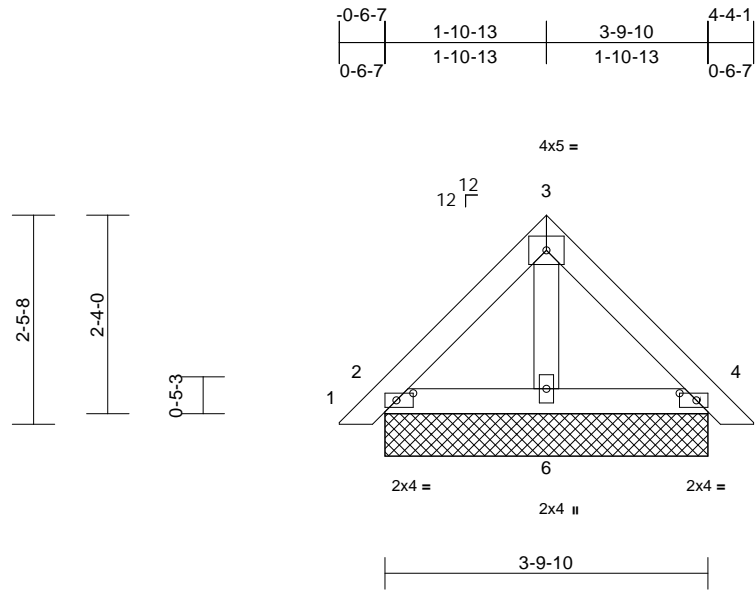
818 Soundside Road  
Edenton, NC 27932

Job 21070089-01	Truss PB1	Truss Type Piggyback	Qty 1	Ply 1	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	I45380355
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.43 S Mar 4 2021 Print: 8.430 S Mar 4 2021 MiTek Industries, Inc. Fri Mar 26 11:24:35  
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Page: 1



Scale = 1:27.1

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

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.01	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-P								
BCDL	10.0										Weight: 18 lb	FT = 20%

**LUMBER**

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

**BRACING**

TOP CHORD Sheathed or 4-11-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=3-9-10, 4=3-9-10, 6=3-9-10  
Max Horiz 2=43 (LC 12)  
Max Uplift 2=-10 (LC 14), 4=-13 (LC 14)  
Max Grav 2=110 (LC 2), 4=110 (LC 2), 6=113 (LC 2)

**FORCES**

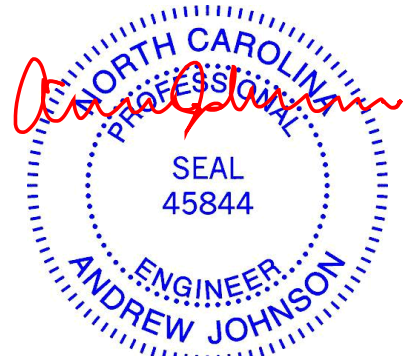
(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/15, 2-3=-65/33, 3-4=-61/34, 4-5=0/15  
BOT CHORD 2-6=-16/39, 4-6=-16/39  
WEBS 3-6=-67/17

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- 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
- 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.
- 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

- 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.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 6-0-0 oc.
- \* 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 2 and 13 lb uplift at joint 4.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

**LOAD CASE(S)** Standard



March 27, 2021

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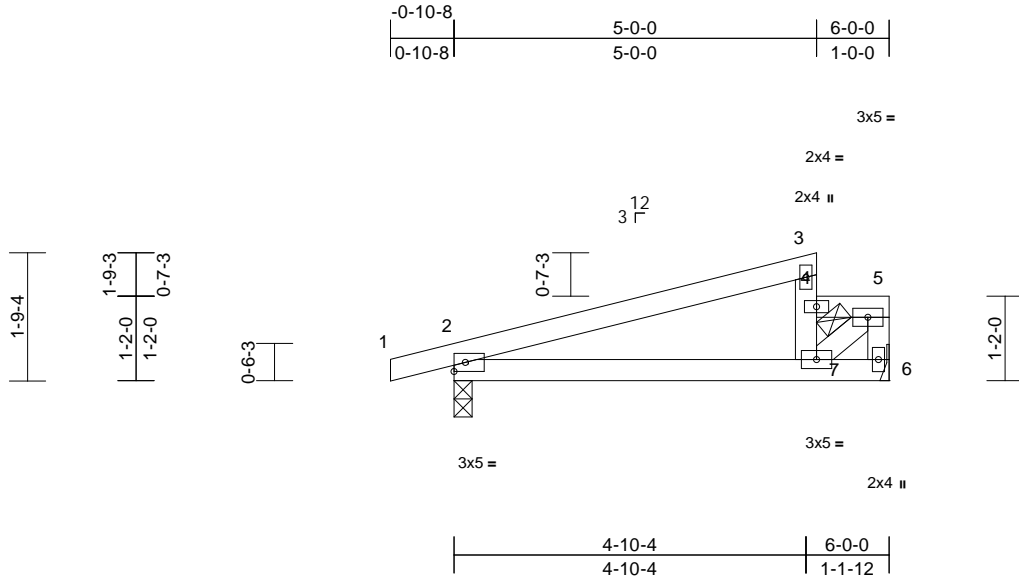
818 Soundside Road  
Edenton, NC 27932

Job 21070089-01	Truss T1	Truss Type Half Hip	Qty 4	Ply 1	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	145380356
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Carter Components (Sanford), Sanford, NC - 27332,

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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	0.55	Vert(LL)	-0.02	7-10	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.04	7-10	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.22	Horz(CT)	0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 23 lb	FT = 20%

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

**BRACING**  
TOP CHORD Sheathed or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins: 4-7, 4-5.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

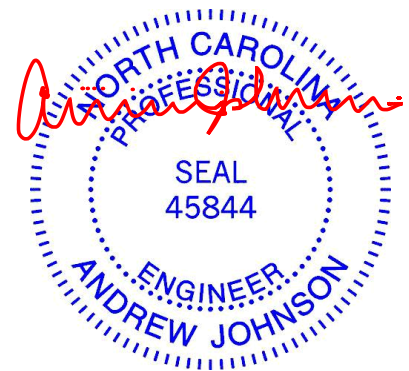
**REACTIONS** (size) 2=0-3-0, 6= Mechanical  
Max Horiz 2=46 (LC 12)  
Max Uplift 2=-32 (LC 11), 6=-10 (LC 15)  
Max Grav 2=356 (LC 35), 6=345 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/16, 2-3=-295/89, 4-7=-205/149, 3-4=-165/116, 4-5=-396/161, 5-6=-387/176  
BOT CHORD 2-7=-133/242, 6-7=-16/17  
WEBS 5-7=-217/526

- 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.
- Provide adequate drainage to prevent water ponding.
- \* 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 6 and 32 lb uplift at joint 2.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 101 lb down and 41 lb up at 4-10-4 on top chord. The design/selection of such connection device(s) is the responsibility of others.

**LOAD CASE(S)** Standard  
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-3=-48, 4-5=-98, 6-8=-20  
Concentrated Loads (lb)  
Vert: 3=-90

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - 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) -0-10-8 to 5-10-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
  - 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
  - Unbalanced snow loads have been considered for this design.



March 27, 2021

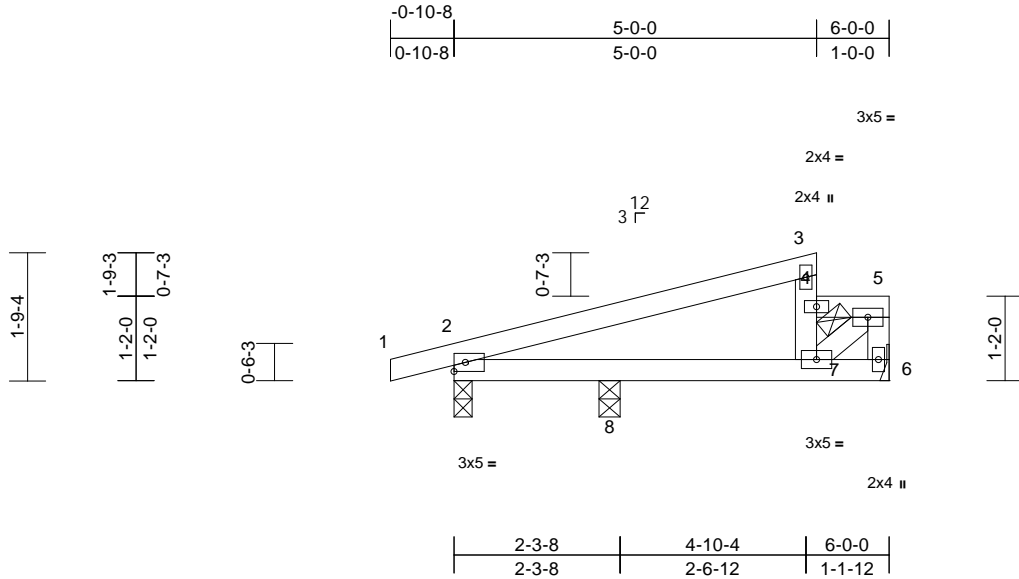


Job 21070089-01	Truss T1A	Truss Type Half Hip	Qty 9	Ply 1	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	145380357
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Carter Components (Sanford), Sanford, NC - 27332,

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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	0.37	Vert(LL)	-0.01	8-11	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.36	Vert(CT)	-0.01	8-11	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.12	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 23 lb	FT = 20%

**LUMBER**

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

**BRACING**

TOP CHORD Sheathed or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins: 4-7, 4-5.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-3-0, 6= Mechanical, 8=0-3-8  
Max Horiz 2=46 (LC 12)  
Max Uplift 2=-36 (LC 11), 6=-10 (LC 15)  
Max Grav 2=241 (LC 35), 6=278 (LC 2), 8=179 (LC 35)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/16, 2-3=-182/128, 4-7=-209/150, 3-4=-173/117, 4-5=-219/106, 5-6=-242/123  
BOT CHORD 2-8=-130/139, 7-8=-83/139, 6-7=-16/17  
WEBS 5-7=-137/291

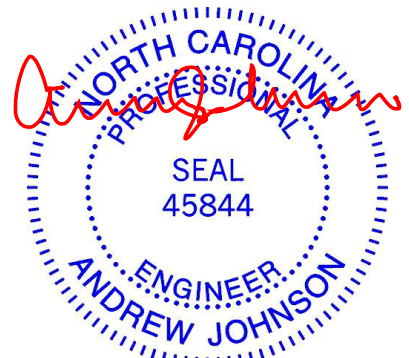
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 6 and 36 lb uplift at joint 2.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 90 lb down and 37 lb up at 4-10-4 on top chord. The design/selection of such connection device(s) is the responsibility of others.

**LOAD CASE(S)** Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-3=-48, 4-5=-98, 6-9=-20  
Concentrated Loads (lb)  
Vert: 3=-80

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- 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) -0-10-8 to 5-10-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
- 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
- Unbalanced snow loads have been considered for this design.



March 27, 2021

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



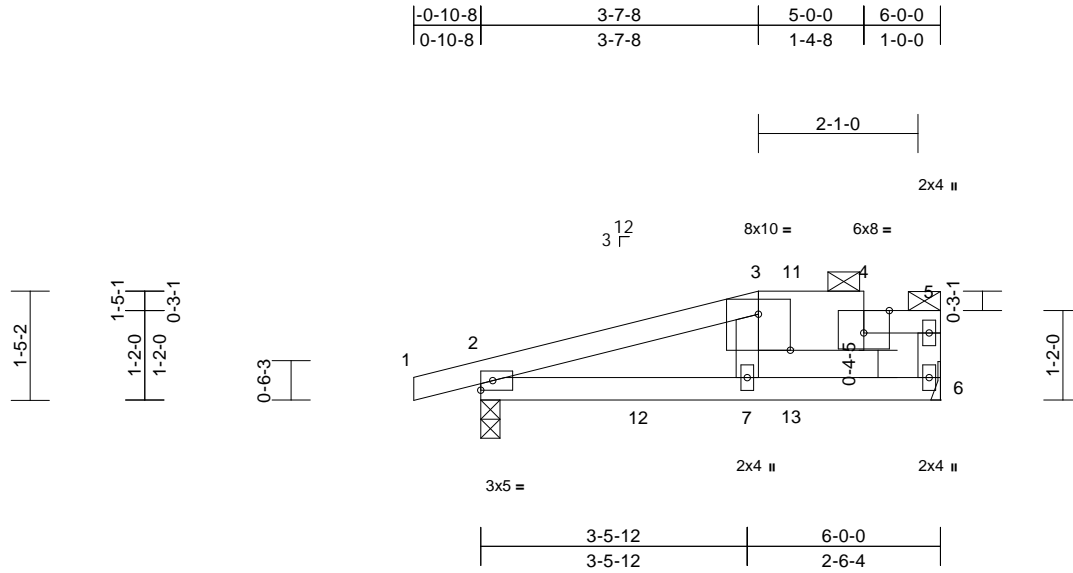
818 Soundside Road  
Edenton, NC 27932

Job 21070089-01	Truss T1GR	Truss Type Roof Special Girder	Qty 1	Ply 2	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	145380358
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.43 S Mar 4 2021 Print: 8.430 S Mar 4 2021 MiTek Industries, Inc. Fri Mar 26 11:24:37  
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Page: 1



Scale = 1:30.1  
Plate Offsets (X, Y): [3:0-5-0,Edge], [4:0-4-0,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	0.27	Vert(LL)	-0.09	7-10	>766	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.71	Vert(CT)	-0.18	7-10	>393	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.03	Horz(CT)	0.02	2	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 50 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2 \*Except\* 3-4:2x10 SP 2400F 2.OE  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3

**BRACING**  
TOP CHORD Sheathed or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins: 3-5.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size) 2=0-3-0, 6= Mechanical  
Max Horiz 2=26 (LC 10)  
Max Uplift 2=41 (LC 7), 6=9 (LC 8)  
Max Grav 2=428 (LC 31), 6=376 (LC 29)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/16, 2-3=-150/69, 3-11=-4/18, 4-11=-9/9, 4-5=-10/7, 5-6=-136/21  
BOT CHORD 2-12=-48/13, 7-12=-34/13, 7-13=-10/7, 6-13=-10/7  
WEBS 3-7=-264/41

**NOTES**

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:  
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x10 - 2 rows staggered at 0-9-0 oc.  
Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc.  
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-10; Vult=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
- 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
- Unbalanced snow loads have been considered for this design.
- 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.
- Provide adequate drainage to prevent water ponding.
- \* 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 9 lb uplift at joint 6 and 41 lb uplift at joint 2.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 61 lb down and 14 lb up at 4-0-12 on top chord, and 118 lb down and 15 lb up at 2-0-12, and 24 lb down at 4-0-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

**LOAD CASE(S)** Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)

Vert: 1-3=-48, 3-4=-58, 4-5=-138, 6-8=-20  
Concentrated Loads (lb)  
Vert: 11=-38 (B), 12=-118 (B), 13=-24 (B)



March 27, 2021

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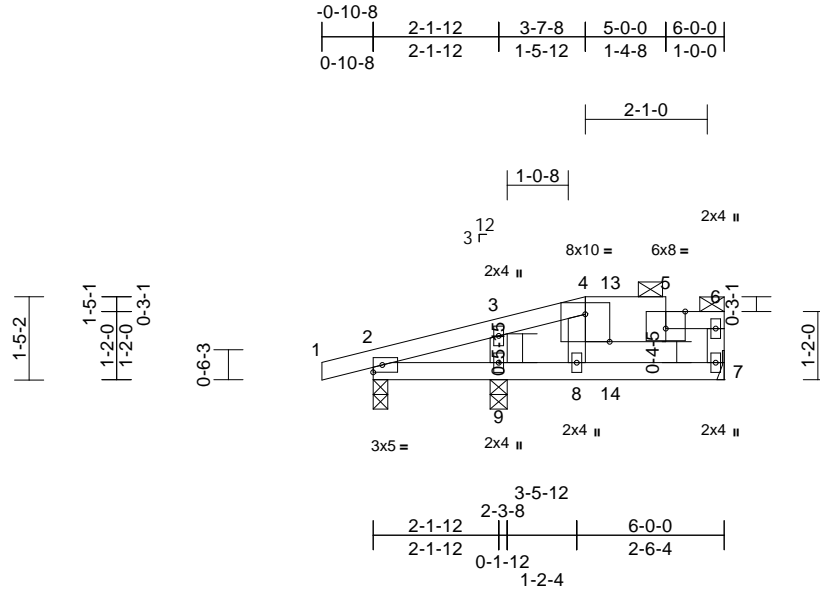
818 Soundside Road  
Edenton, NC 27932

Job 21070089-01	Truss T1GRA	Truss Type Roof Special Girder	Qty 1	Ply 2	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	I45380359
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.43 S Mar 4 2021 Print: 8.430 S Mar 4 2021 MiTek Industries, Inc. Fri Mar 26 11:24:37  
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Page: 1



Scale = 1:39.4  
Plate Offsets (X, Y): [4:0-5-0,Edge], [5:0-4-0,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	0.09	Vert(LL)	-0.01	7-8	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	-0.01	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.02	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 51 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2 \*Except\* 4-5:2x10 SP 2400F 2.0E  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3

**BRACING**  
TOP CHORD Sheathed or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins: 4-6.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size) 2=0-3-0, 7= Mechanical, 9=0-3-8  
Max Horiz 2=26 (LC 10)  
Max Uplift 2=-48 (LC 48), 7=-6 (LC 12), 9=-5 (LC 11)  
Max Grav 2=104 (LC 31), 7=201 (LC 30), 9=390 (LC 31)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/16, 2-3=-24/67, 3-4=-17/13, 4-13=-4/18, 5-13=-9/9, 5-6=-10/7, 6-7=-136/21  
BOT CHORD 2-9=-32/11, 8-9=-17/11, 8-14=-10/7, 7-14=-10/7  
WEBS 3-9=-194/28, 4-8=-109/31

**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, 2x10 - 2 rows staggered at 0-9-0 oc.  
Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc.  
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.

- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=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
- 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
- Unbalanced snow loads have been considered for this design.
- 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.
- Provide adequate drainage to prevent water ponding.
- \* 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 6 lb uplift at joint 7, 48 lb uplift at joint 2 and 5 lb uplift at joint 9.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 61 lb down and 14 lb up at 4-0-12 on top chord, and 24 lb down at 4-0-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- LOAD CASE(S)** Standard  
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-4=-48, 4-5=-58, 5-6=-138, 7-10=-20  
Concentrated Loads (lb)  
Vert: 13=-38 (F), 14=-24 (F)

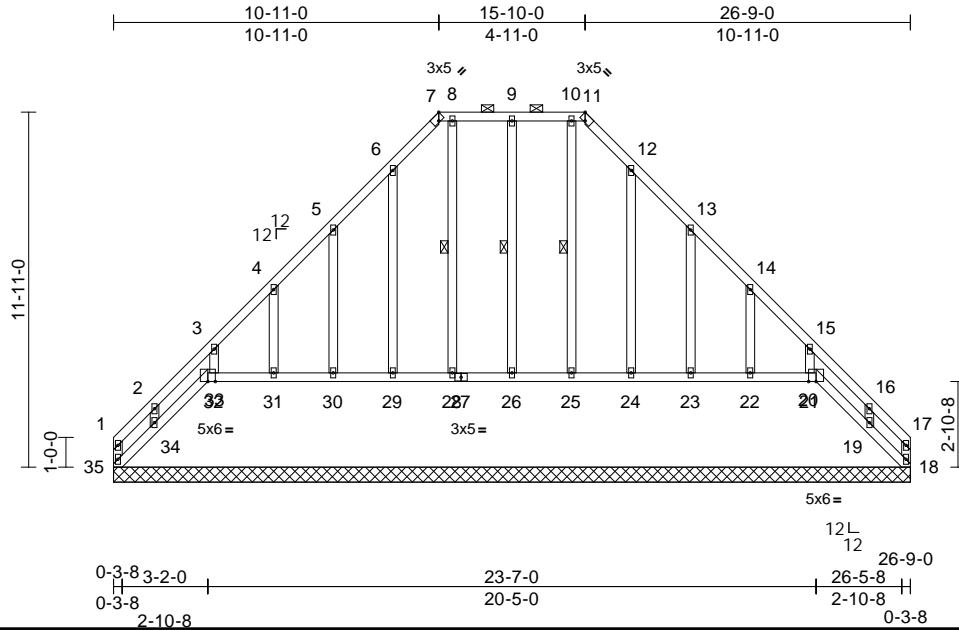


Job 21070089-01	Truss T4GE	Truss Type GABLE	Qty 1	Ply 1	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	I45380360
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.43 S Mar 4 2021 Print: 8.430 S Mar 4 2021 MiTek Industries, Inc. Fri Mar 26 11:24:38  
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Page: 1



Scale = 1:77.3

Plate Offsets (X, Y): [7:0-2-8,Edge], [11:0-2-8,Edge]

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.01	18	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-R								
BCDL	10.0											
											Weight: 187 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*
	26-9,28-8,29-6,25-10,24-12:2x4 SP No.2

**BRACING**

TOP CHORD	Sheathed or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 7-11.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 9-26, 8-28, 10-25

**REACTIONS** (size)

18=26-9-0, 19=26-9-0, 20=26-9-0,
21=26-9-0, 22=26-9-0, 23=26-9-0,
24=26-9-0, 25=26-9-0, 26=26-9-0,
28=26-9-0, 29=26-9-0, 30=26-9-0,
31=26-9-0, 32=26-9-0, 33=26-9-0,
34=26-9-0, 35=26-9-0
Max Horiz 35=232 (LC 9)
Max Uplift 18=43 (LC 10), 19=142 (LC 14),
20=118 (LC 12), 21=67 (LC 14),
22=55 (LC 14), 23=70 (LC 14),
24=21 (LC 14), 26=27 (LC 9),
29=23 (LC 13), 30=69 (LC 13),
31=56 (LC 13), 32=70 (LC 13),
33=74 (LC 12), 34=170 (LC 10),
35=299 (LC 9)
Max Grav 18=84 (LC 11), 19=217 (LC 28),
20=143 (LC 9), 21=174 (LC 28),
22=171 (LC 28), 23=173 (LC 28),
24=164 (LC 28), 25=175 (LC 29),
26=160 (LC 31), 28=182 (LC 30),
29=169 (LC 27), 30=171 (LC 27),
31=171 (LC 27), 32=180 (LC 27),
33=99 (LC 9), 34=244 (LC 27),
35=340 (LC 12)

**FORCES** (lb) - Maximum Compression/Maximum Tension

**TOP CHORD**

1-35=191/153, 1-2=234/208, 2-3=153/140,  
3-4=137/139, 4-5=177/198, 5-6=272/310,  
6-7=320/366, 7-8=252/298, 8-9=252/298,  
9-10=252/298, 10-11=252/298,  
11-12=320/366, 12-13=272/310,  
13-14=177/198, 14-15=105/101,  
15-16=116/101, 16-17=185/160,  
17-18=150/113

**BOT CHORD**

34-35=197/217, 33-34=156/175,  
32-33=109/126, 31-32=109/126,  
30-31=109/126, 29-30=109/126,  
28-29=109/126, 27-28=109/126,  
26-27=109/126, 25-26=109/126,  
24-25=109/126, 23-24=109/126,  
22-23=109/126, 21-22=109/126,  
20-21=109/126, 19-20=169/187,  
18-19=128/147

**WEBS**

9-26=121/114, 8-28=212/149,  
6-29=130/59, 5-30=173/138,  
4-31=152/114, 3-32=158/118,  
2-34=176/151, 10-25=212/149,  
12-24=125/59, 13-23=173/138,  
14-22=152/114, 15-21=158/118,  
16-19=174/149

- 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) 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.



March 27, 2021

Continued on page 2

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

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



818 Soundside Road  
Edenton, NC 27932

Job 21070089-01	Truss T4GE	Truss Type GABLE	Qty 1	Ply 1	215 Crossing at ACC-Kessler B-Roof I45380360 Job Reference (optional)
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Carter Components (Sanford), Sanford, NC - 27332,

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Page: 2

- 11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 299 lb uplift at joint 35, 43 lb uplift at joint 18, 74 lb uplift at joint 33, 118 lb uplift at joint 20, 27 lb uplift at joint 26, 23 lb uplift at joint 29, 69 lb uplift at joint 30, 56 lb uplift at joint 31, 70 lb uplift at joint 32, 170 lb uplift at joint 34, 21 lb uplift at joint 24, 70 lb uplift at joint 23, 55 lb uplift at joint 22, 67 lb uplift at joint 21 and 142 lb uplift at joint 19.
- 12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 33, 20, 26, 28, 29, 30, 31, 32, 34, 25, 24, 23, 22, 21, 19.
- 13) 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

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

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818 Soundside Road  
Edenton, NC 27932

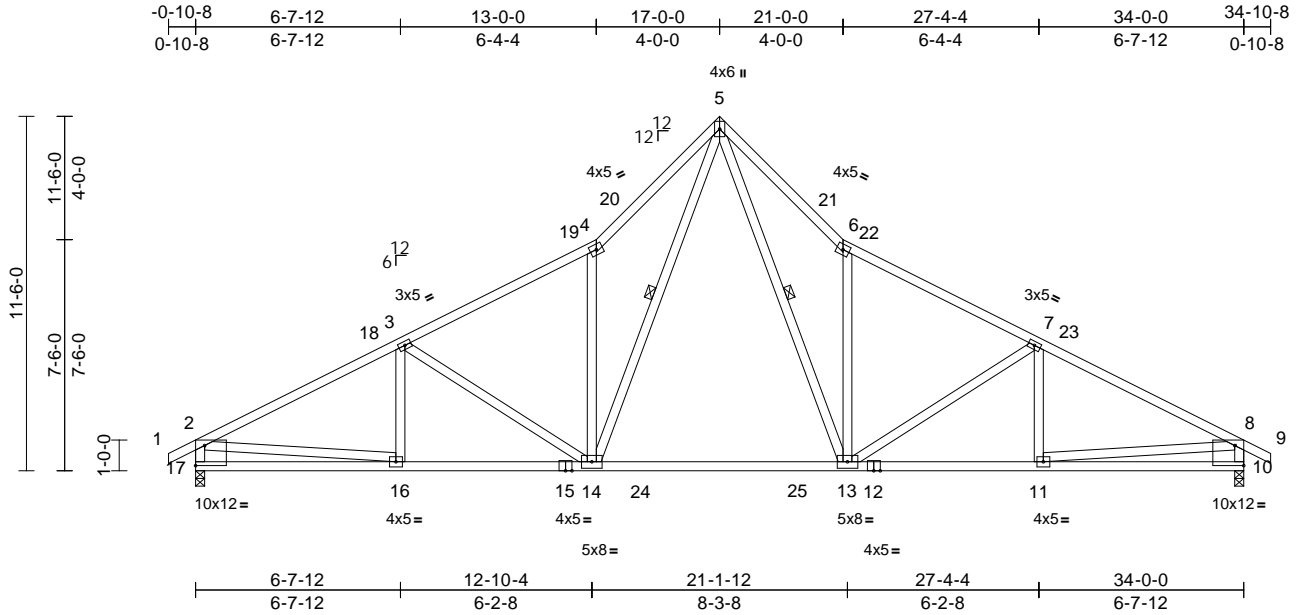
Job 21070089-01	Truss T5	Truss Type Roof Special	Qty 10	Ply 1	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	I45380361
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Carter Components (Sanford), Sanford, NC - 27332,

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Page: 1

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Scale = 1:74.7

Plate Offsets (X, Y): [10:Edge,0-7-13], [17:Edge,0-7-13]

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)	-0.29	13-14	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.82	Vert(CT)	-0.52	13-14	>784	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.93	Horz(CT)	0.06	10	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 222 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.2 \*Except\*  
7-11,3-16,17-2,10-8:2x4 SP No.3

**BRACING**  
TOP CHORD Sheathed or 3-4-9 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.  
WEBS 1 Row at midpt 5-13, 5-14

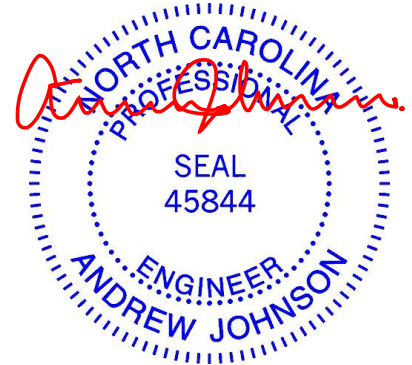
**REACTIONS** (size) 10=0-3-8, 17=0-3-8  
Max Horiz 17=175 (LC 14)  
Max Grav 10=1410 (LC 2), 17=1410 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/34, 2-18=-2123/474, 3-18=-1966/478, 3-19=-1790/455, 4-19=-1619/459, 4-20=-2244/747, 5-20=-2160/772, 5-21=-2160/772, 6-21=-2244/747, 6-22=-1619/459, 7-22=-1790/455, 7-23=-1966/478, 8-23=-2123/474, 8-9=0/34, 2-17=-1341/382, 8-10=-1341/382  
BOT CHORD 16-17=-148/409, 15-16=-324/1823, 14-15=-324/1823, 14-24=0/1049, 24-25=0/1049, 13-25=0/1049, 12-13=-320/1823, 11-12=-320/1823, 10-11=-97/307  
WEBS 5-13=-515/1517, 6-13=-1046/466, 7-13=-411/195, 7-11=-76/105, 5-14=-515/1517, 4-14=-1046/466, 3-14=-411/195, 3-16=-76/105, 2-16=-227/1526, 8-11=-228/1526

- 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
- 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
- Unbalanced snow loads have been considered for this design.
- 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.
- \* 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.

**LOAD CASE(S)** Standard

- NOTES**  
1) Unbalanced roof live loads have been considered for this design.



March 27, 2021

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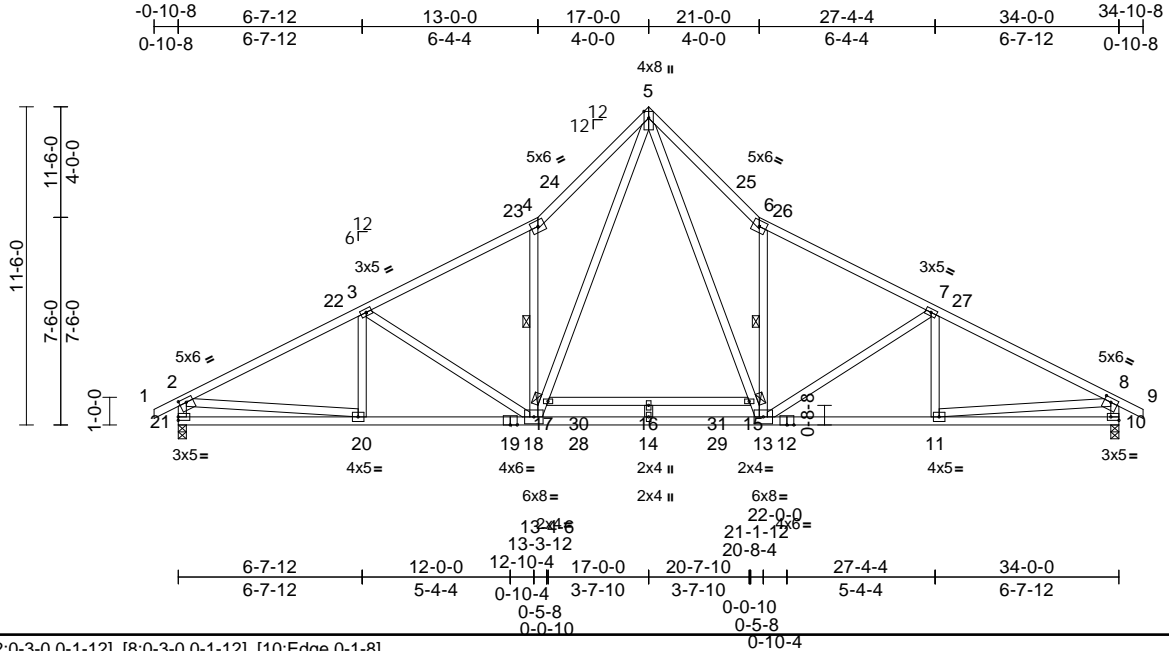
818 Soundside Road  
Edenton, NC 27932

Job 21070089-01	Truss T5A	Truss Type Roof Special	Qty 8	Ply 1	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	I45380362
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Carter Components (Sanford), Sanford, NC - 27332,

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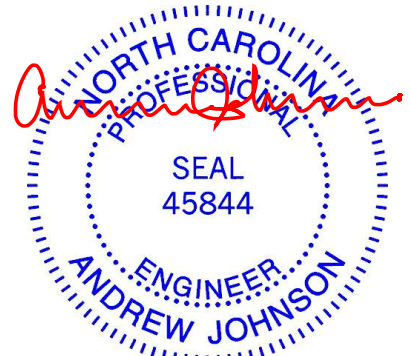
Plate Offsets (X, Y): [2:0-3-0,0-1-12], [8:0-3-0,0-1-12], [10:Edge,0-1-8]

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	0.79	Vert(LL)	-0.33	16	>999	240	MT20 244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-0.71	16	>568	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.50	Horz(CT)	0.06	10	n/a	n/a	
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH							
BCDL	10.0										Weight: 233 lb FT = 20%

- LUMBER**
- TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x4 SP No.2 \*Except\* 19-12:2x4 SP No.1  
 WEBS 2x4 SP No.2 \*Except\*  
 7-11,3-20,21-2,10-8,14-16:2x4 SP No.3
- BRACING**
- TOP CHORD Sheathed or 2-2-0 oc purlins, except end verticals.  
 BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
- WEBS 1 Row at midpt 6-13, 4-18
- REACTIONS** (size) 10=0-3-8, 21=0-3-8  
 Max Horiz 21=175 (LC 13)  
 Max Grav 10=1585 (LC 2), 21=1585 (LC 2)
- FORCES** (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-2=0/34, 2-22=-2434/218, 3-22=-2297/221, 3-23=-2245/153, 4-23=-2103/156, 4-24=-2824/364, 5-24=-2757/389, 5-25=-2757/389, 6-25=-2824/364, 6-26=-2103/156, 7-26=-2245/153, 7-27=-2297/221, 8-27=-2434/218, 8-9=0/34, 2-21=-1512/241, 8-10=-1512/242
- BOT CHORD 20-21=-130/438, 19-20=-94/2205, 18-19=-94/2205, 18-28=0/1166, 14-28=0/1166, 14-29=0/1166, 13-29=0/1166, 12-13=-91/2107, 11-12=-91/2107, 10-11=-78/328, 17-30=-51/207, 16-30=-51/207, 16-31=-51/207, 15-31=-51/207
- WEBS 5-15=-228/1997, 13-15=-296/1949, 6-13=-1236/333, 7-13=-355/244, 7-11=-148/59, 17-18=-296/1950, 5-17=-228/1997, 4-18=-1236/333, 3-18=-355/244, 3-20=-148/59, 2-20=-14/1809, 8-11=-15/1813, 14-16=-44/14

- Unbalanced roof live loads have been considered for this design.
- 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
- 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
- Unbalanced snow loads have been considered for this design.
- 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.
- 200.0lb AC unit load placed on the bottom chord, 17-0-0 from left end, supported at two points, 5-0-0 apart.
- \* 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.

LOAD CASE(S) Standard



March 27, 2021

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

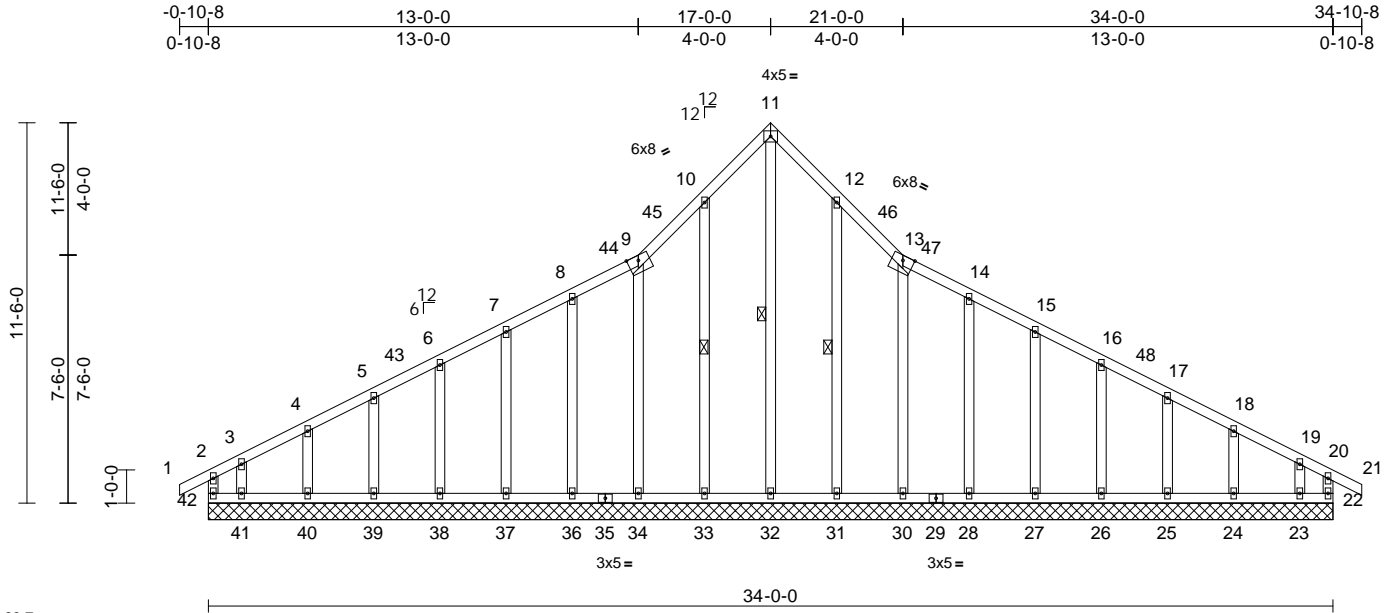
Job 21070089-01	Truss T5GE	Truss Type Roof Special Supported Gable	Qty 1	Ply 1	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	I45380363
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.43 S Mar 4 2021 Print: 8.430 S Mar 4 2021 MiTek Industries, Inc. Fri Mar 26 11:24:41

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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	0.20	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(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.24	Horz(CT)	0.01	22	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-R								
BCDL	10.0											
											Weight: 241 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\*  
32-11,33-10,34-9,36-8,31-12,30-13,28-14:2x  
4 SP No.2

Max Grav 22=167 (LC 16), 23=133 (LC 30),  
24=168 (LC 2), 25=158 (LC 46),  
26=176 (LC 44), 27=178 (LC 44),  
28=189 (LC 44), 30=149 (LC 2),  
31=222 (LC 43), 32=271 (LC 16),  
33=222 (LC 40), 34=149 (LC 2),  
36=189 (LC 41), 37=178 (LC 41),  
38=176 (LC 41), 39=158 (LC 45),  
40=168 (LC 2), 41=157 (LC 29),  
42=207 (LC 12)

WEBS 11-32=423/153, 10-33=182/114,  
9-34=130/166, 8-36=149/86, 7-37=138/81,  
6-38=136/83, 5-39=118/83, 4-40=126/82,  
3-41=95/143, 12-31=182/114,  
13-30=130/166, 14-28=149/86,  
15-27=138/81, 16-26=136/83,  
17-25=118/83, 18-24=126/82,  
19-23=89/141

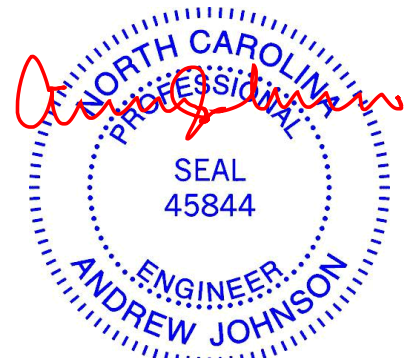
**BRACING**  
TOP CHORD Sheathed or 6-0-0 oc purlins, except end  
verticals.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc  
bracing.

**FORCES** (lb) - Maximum Compression/Maximum  
Tension  
TOP CHORD 2-42=147/60, 1-2=0/34, 2-3=185/113,  
3-4=130/96, 4-5=110/94, 5-43=90/82,  
6-43=83/91, 6-7=81/93, 7-8=71/101,  
8-44=65/126, 9-44=50/136, 9-45=104/243,  
10-45=90/252, 10-11=194/349,  
11-12=194/349, 12-46=90/252,  
13-46=104/243, 13-47=26/136,  
14-47=42/126, 14-15=45/87, 15-16=53/62,  
16-48=52/58, 17-48=59/49, 17-18=80/61,  
18-19=117/67, 19-20=181/89, 20-21=0/34,  
20-22=124/40

**NOTES**  
1) Unbalanced roof live loads have been considered for  
this design.  
2) Wind: ASCE 7-10; Vult=130mph (3-second gust)  
Vasd=103mph; TCCL=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.

**REACTIONS** (size)  
22=34-0-0, 23=34-0-0, 24=34-0-0,  
25=34-0-0, 26=34-0-0, 27=34-0-0,  
28=34-0-0, 30=34-0-0, 31=34-0-0,  
32=34-0-0, 33=34-0-0, 34=34-0-0,  
36=34-0-0, 37=34-0-0, 38=34-0-0,  
39=34-0-0, 40=34-0-0, 41=34-0-0,  
42=34-0-0  
Max Horiz 42=175 (LC 14)  
Max Uplift 22=51 (LC 14), 23=143 (LC 16),  
24=10 (LC 16), 25=22 (LC 16),  
26=19 (LC 16), 27=19 (LC 16),  
28=20 (LC 16), 30=64 (LC 16),  
31=57 (LC 16), 33=58 (LC 15),  
34=56 (LC 15), 36=20 (LC 15),  
37=19 (LC 15), 38=19 (LC 15),  
39=22 (LC 15), 40=9 (LC 15),  
41=160 (LC 15), 42=96 (LC 13)

BOT CHORD 41-42=84/179, 40-41=84/179,  
39-40=84/179, 38-39=84/179,  
37-38=84/179, 36-37=84/179,  
35-36=84/179, 34-35=84/179,  
33-34=84/179, 32-33=84/179,  
31-32=84/179, 30-31=84/179,  
29-30=84/179, 28-29=84/179,  
27-28=84/179, 26-27=84/179,  
25-26=84/179, 24-25=84/179,  
23-24=84/179, 22-23=84/179



March 27, 2021

Continued on page 2

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

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

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



818 Soundside Road  
Edenton, NC 27932



Job 21070089-01	Truss T5GE	Truss Type Roof Special Supported Gable	Qty 1	Ply 1	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	I45380363
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.43 S Mar 4 2021 Print: 8.430 S Mar 4 2021 MiTek Industries, Inc. Fri Mar 26 11:24:41  
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Page: 2

- 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) Unbalanced snow loads have been considered for this design.
- 6) 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.
- 7) All plates are 2x4 MT20 unless otherwise indicated.
- 8) Gable requires continuous bottom chord bearing.
- 9) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 96 lb uplift at joint 42, 51 lb uplift at joint 22, 58 lb uplift at joint 33, 56 lb uplift at joint 34, 20 lb uplift at joint 36, 19 lb uplift at joint 37, 19 lb uplift at joint 38, 22 lb uplift at joint 39, 9 lb uplift at joint 40, 160 lb uplift at joint 41, 57 lb uplift at joint 31, 64 lb uplift at joint 30, 20 lb uplift at joint 28, 19 lb uplift at joint 27, 19 lb uplift at joint 26, 22 lb uplift at joint 25, 10 lb uplift at joint 24 and 143 lb uplift at joint 23.

**LOAD CASE(S)** Standard

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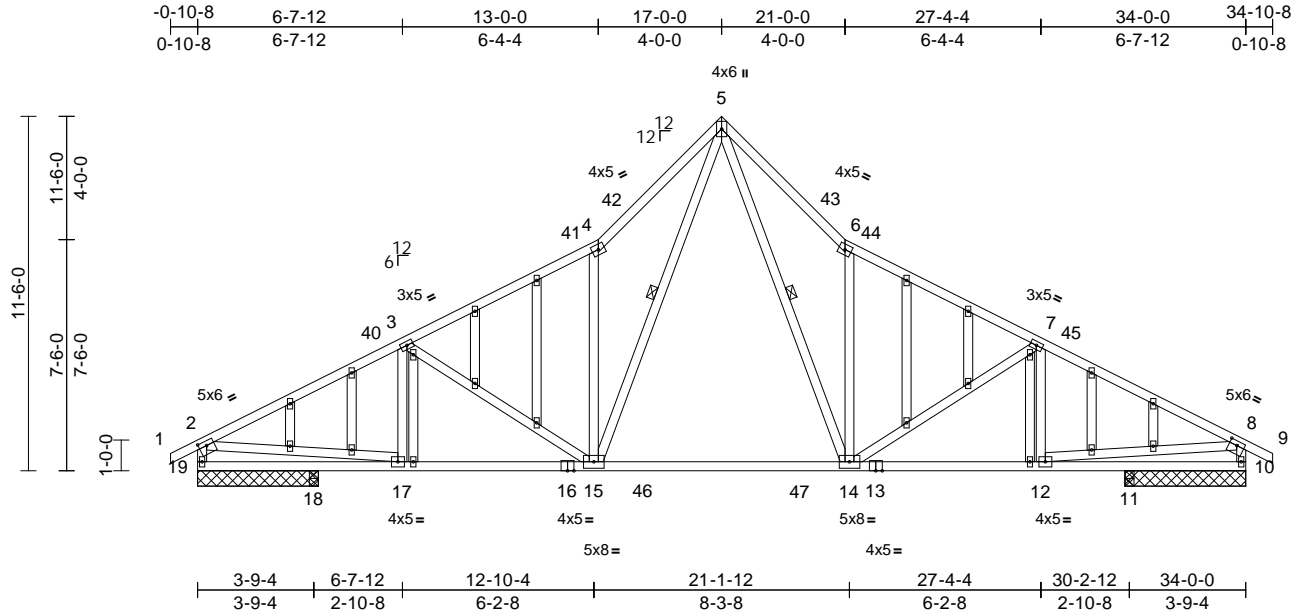
818 Soundside Road  
Edenton, NC 27932

Job 21070089-01	Truss T5SE	Truss Type Roof Special Structural Gable	Qty 1	Ply 1	215 Crossing at ACC-Kessler B-Roof Job Reference (optional)	145380364
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.43 S Mar 4 2021 Print: 8.430 S Mar 4 2021 MiTek Industries, Inc. Fri Mar 26 11:24:42  
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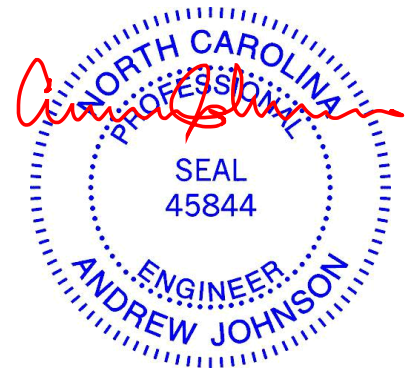


Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.65	Vert(LL)	-0.26	14-15	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.78	Vert(CT)	-0.46	14-15	>694	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.89	Horz(CT)	0.05	10	n/a	n/a		
BCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 266 lb	FT = 20%

LUMBER	
TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.2 *Except* 7-12,3-17,19-2,10-8:2x4 SP No.3
OTHERS	2x4 SP No.3
BRACING	
TOP CHORD	Sheathed or 3-7-5 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 5-14, 5-15
REACTIONS (size)	
	10=3-11-0, 11=0-3-8, 18=0-3-8, 19=3-11-0
Max Horiz	19=175 (LC 14)
Max Uplift	10=32 (LC 16), 19=29 (LC 15)
Max Grav	10=1210 (LC 2), 11=209 (LC 3), 18=211 (LC 29), 19=1210 (LC 2)
FORCES (lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/34, 2-40=-1893/471, 3-40=-1736/475, 3-41=-1679/454, 4-41=-1509/457, 4-42=-2104/745, 5-42=-2019/770, 5-43=-2019/771, 6-43=-2104/745, 6-44=-1509/457, 7-44=-1679/454, 7-45=-1736/475, 8-45=-1893/472, 8-9=0/34, 2-19=-1228/381, 8-10=-1228/381
BOT CHORD	18-19=-175/272, 17-18=-175/272, 16-17=-321/1617, 15-16=-321/1617, 15-46=0/982, 46-47=0/982, 14-47=0/982, 13-14=-317/1617, 12-13=-317/1617, 11-12=-90/183, 10-11=-90/183
WEBS	5-14=-514/1408, 6-14=-997/465, 7-14=-301/194, 7-12=-205/107, 5-15=-513/1406, 4-15=-997/465, 3-15=-301/194, 3-17=-205/106, 2-17=-231/1449, 8-12=-232/1449

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - 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
  - 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.
  - 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
  - Unbalanced snow loads have been considered for this design.
  - 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.
  - All plates are 2x4 MT20 unless otherwise indicated.
  - Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
  - Gable studs spaced at 2-0-0 oc.
  - \* 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.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 19 and 32 lb uplift at joint 10.

**LOAD CASE(S)** Standard



March 27, 2021

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# Symbols

## PLATE LOCATION AND ORIENTATION



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



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



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

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

## PLATE SIZE

**4 X 4**

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

## LATERAL BRACING LOCATION



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

## BEARING



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

### Industry Standards:

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

# Numbering System

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



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

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

## PRODUCT CODE APPROVALS

ICC-ES Reports:

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

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

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

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



# General Safety Notes

## Failure to Follow Could Cause Property Damage or Personal Injury

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