

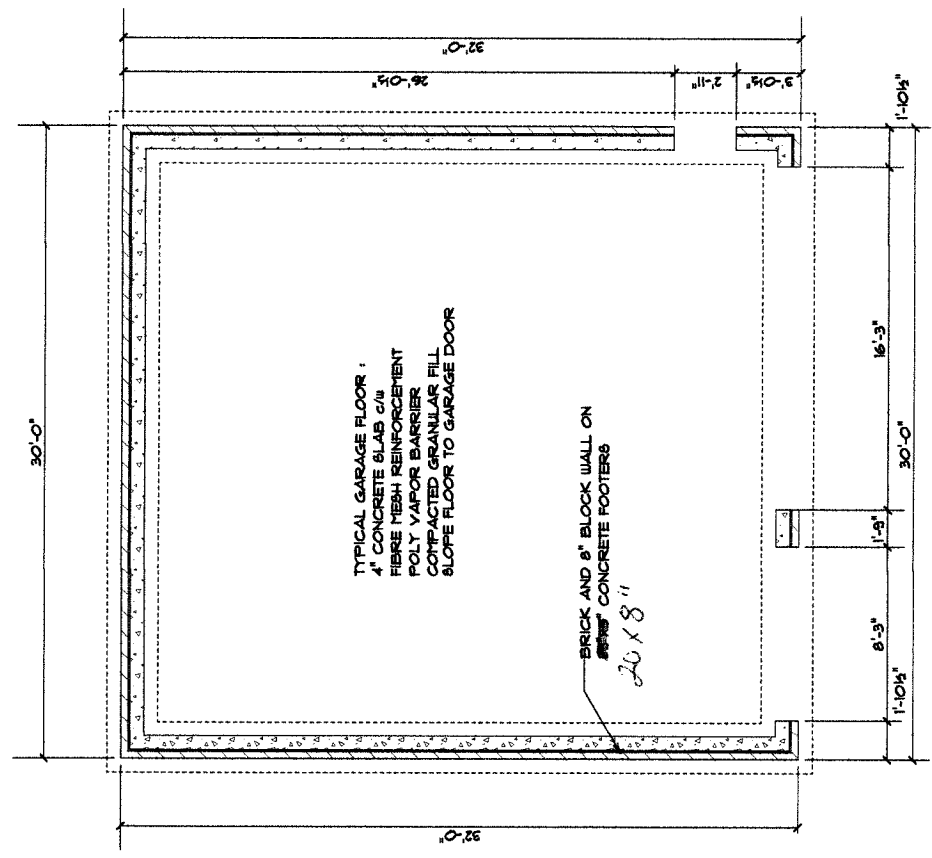
NOTICE TO CONTRACTOR  
 All construction shall comply with applicable Building Codes  
 and be subject to final inspection and certification.

APPROVED  
 Licensed Building Official  
 Permit holder responsible for  
 all construction on this code.

08/07/2020

*[Signature]*

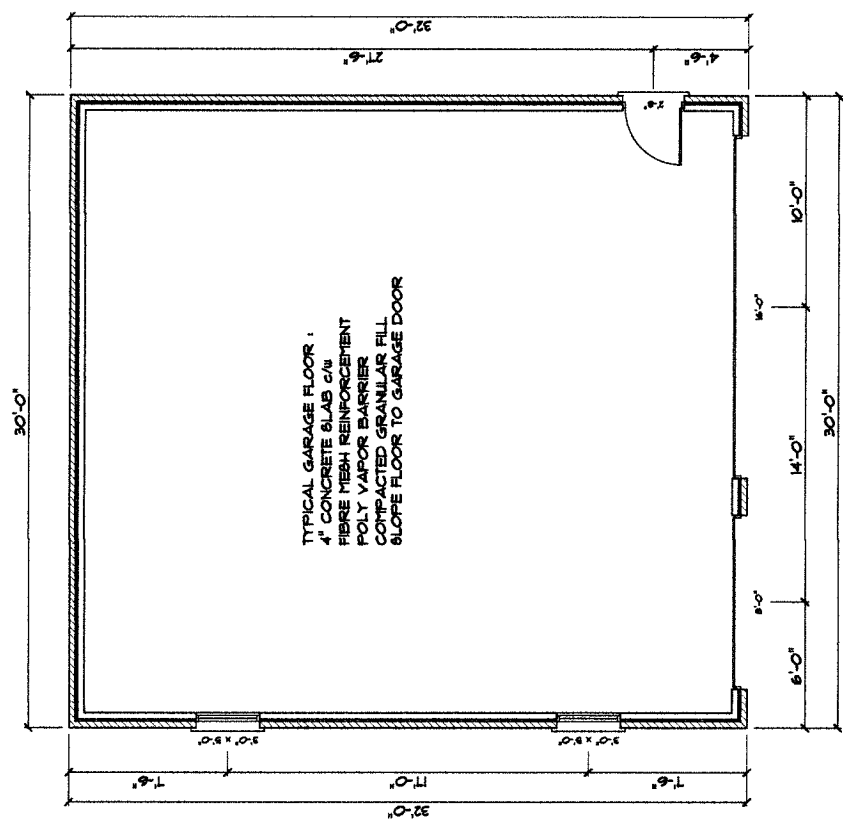
**Harnett  
 COUNTY**  
 NORTH CAROLINA



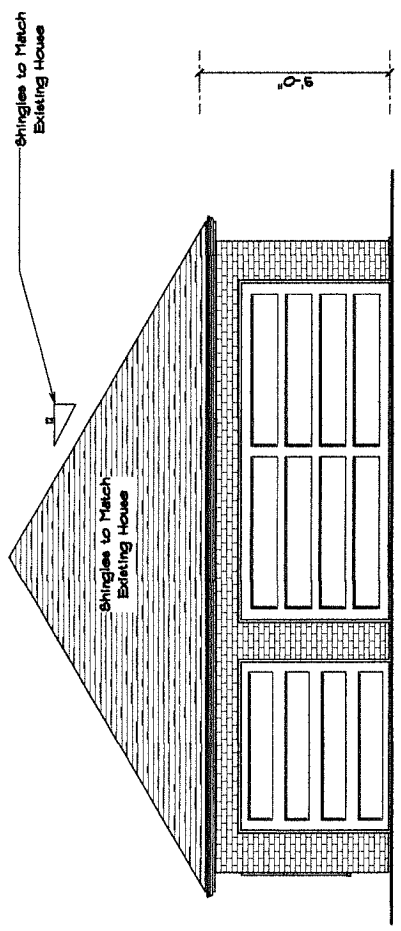
**FOUNDATION PLAN**  
 SCALE 1/4" = 1'-0"



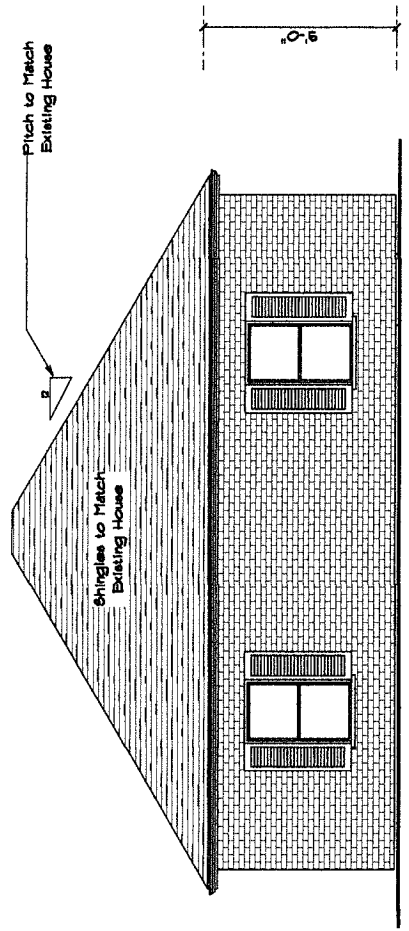
689 Turner Ashby Rd,  
Martinsville, VA 24112



**FLOOR PLAN**  
SCALE 1/4" = 1'-0"

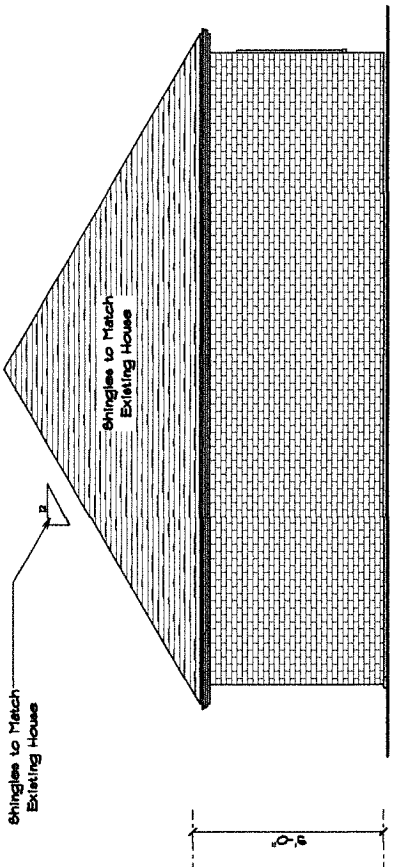


**FRONT ELEVATION**  
SCALE: 1/4" = 1'-0"

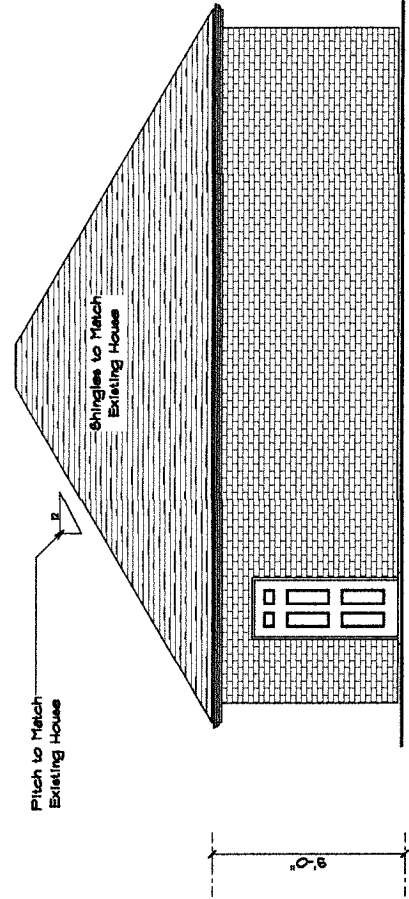


**LEFT ELEVATION**  
SCALE: 1/4" = 1'-0"

2x10 Headers  
Windows + door



**REAR ELEVATION**  
SCALE: 1/4" = 1'-0"



**RIGHT ELEVATION**  
SCALE: 1/4" = 1'-0"

688 Turner Ashby Rd,  
Martinsville, VA 24112





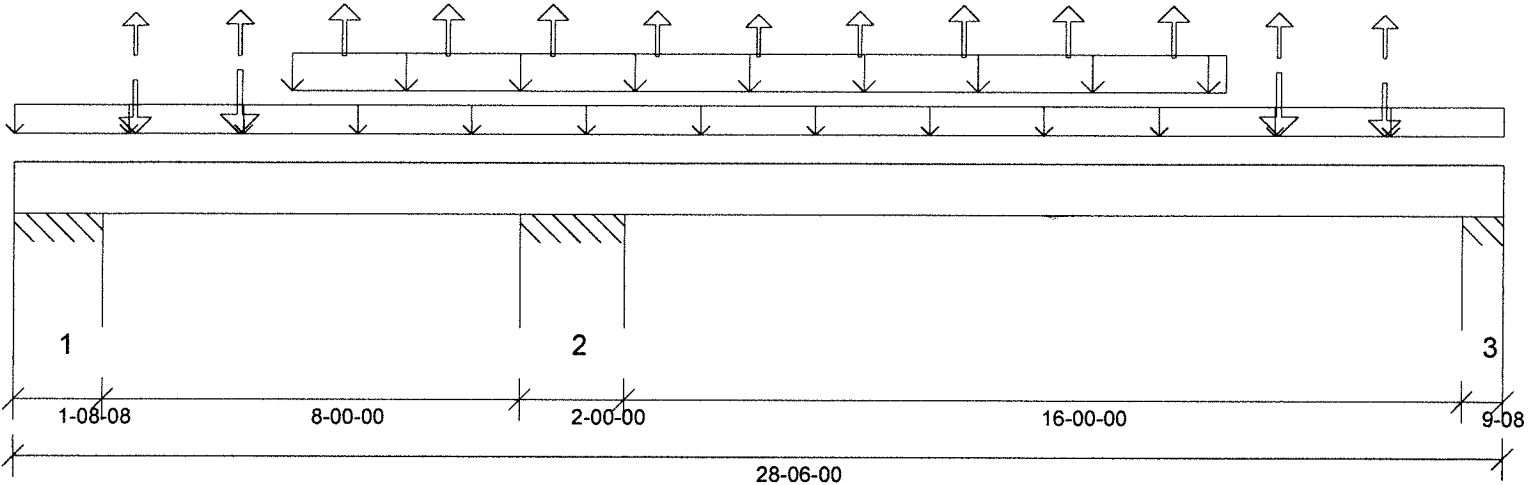
**Job: Wesselman garage**  
 Member Type: Beam | Level: 1st Floor  
 MiTek SAPPHIRE™ Structure Version 8.3.3.247.Update7  
 Designed by Single Member Design Engine

**Label: GDH-i9**

Page: 1 of 2  
 Date: 06/29/2020 14:45:21

**Member: 2 - 2.0 RigidLam DF LVL 1-3/4 x 11-7/8**

**Status: Design Passed**



Graphical Illustration - Not To Scale  
 Member Cut Length - 28'-6"  
 MemberPitch - 0/12

**Design Information:**

Building Code: IRC2015	Floor Dead Load: 10.0 lb/ft²	Roof Dead Load: 10.0 lb/ft²	Ground Snow Load: 20.0 lb/ft²
Design Methodology: ASD	Floor Live Load: 40.0 lb/ft²	Roof Live Load: 20.0 lb/ft²	
	Unbraced Length Top: 2'-2 13/16"	Bottom: 28'-6"	

**Design Results:**

	Location	Design	Control	Result	LDF	Load Combination
Critical Moment (Pos)	21'- 6 1/16"	5209.11 lb ft	24256.81 lb ft	Passed - 21%	1.15	D + Lr
Critical Moment (Neg)	11'- 7"	-8027.61 lb ft	13450.50 lb ft	Passed - 60%	1.15	D + Lr
Critical Shear	12'- 8 3/8"	2504.23 lb	9240.73 lb	Passed - 27%	1.15	D + Lr
Live Load Deflection	20'- 7 13/16"	0'- 1/16"	0'- 3/4" (L/360)	Passed - L/999	-	0.75(L + Lr + 0.6W)
Total Load Deflection	20'- 8 1/4"	0'- 3/16"	0'- 1" (L/240)	Passed - L/931	-	D + 0.75(L + Lr + 0.6W)
Max. Reaction			<u>Supported MiT</u> <u>Supporting MiT</u>			
	0'- 1 1/2"	-1027.97 lb	18375.00 lb    -	Passed - 6%	1.15	D + Lr
	1'- 7"	2358.61 lb	18375.00 lb    32413.50 lb	Passed - 13%	1.15	D + Lr
	9'- 10"	-3604.52 lb	18375.00 lb    -	Passed - 20%	1.15	D + Lr
	11'- 7"	7485.78 lb	18375.00 lb    17762.50 lb	Passed - 42%	1.15	D + Lr
	27'- 9 1/2"	1554.93 lb	24937.48 lb    43989.71 lb	Passed - 6%	1.15	D + Lr

**Design Notes:**

\* Member design assumed proper ply to ply connection. Verify connection between plies according to code specification

**Loading:**

Type	Start	End	Source	Maximum Load Magnitudes			
				Dead	Floor Live	Roof Live	Snow
Self Weight	0'	28'- 6"	Self Weight	11 lb/ft	-	-	-
Uniform	0'	28'- 6"	User Load	108 lb/ft	-	-	-
Uniform	5'- 3 3/4"	23'- 2 1/4"	Smoothed Load	75 lb/ft	-	85 lb/ft	39 lb/ft
Point	2'- 3 3/4"	2'- 3 3/4"	J2(Cond04)	73.00 lb	-	101.00 lb	46.00 lb
Point	4'- 3 3/4"	4'- 3 3/4"	J4(Cond05)	106.00 lb	-	127.00 lb	58.00 lb
Point	6'- 3 3/4"	6'- 3 3/4"	J7(Cond17)	-	-	-	-
Point	8'- 3 3/4"	8'- 3 3/4"	J7(Cond05)	-	-	-	-
Point	10'- 3 3/4"	10'- 3 3/4"	J7(Cond13)	-	-	-	-
Point	12'- 3 3/4"	12'- 3 3/4"	J7(Cond04)	-	-	-	-
Point	14'- 3"	14'- 3"	J7(Cond01)	-	-	-	-
Point	16'- 2 1/4"	16'- 2 1/4"	J7(Cond07)	-	-	-	-
Point	18'- 2 1/4"	18'- 2 1/4"	J7(Cond15)	-	-	-	-
Point	20'- 2 1/4"	20'- 2 1/4"	J7(Cond18)	-	-	-	-
Point	22'- 2 1/4"	22'- 2 1/4"	J7(Cond16)	-	-	-	-
Point	24'- 2 1/4"	24'- 2 1/4"	J4(Cond07)	106.00 lb	-	127.00 lb	58.00 lb
Point	26'- 2 1/4"	26'- 2 1/4"	J2(Cond02)	73.00 lb	-	101.00 lb	46.00 lb

**Support Information:**

Support	Start	End	Source	Maximum Analysis Reactions			
				Dead	Floor Live	Roof Live	Snow
1	0'	1'- 8 1/2"	E8(i5)	594.00 lb	-	707.00/315.00 lb	65.00 lb
==>	0'- 1 1/2"	0'- 1 1/2"	E8(i5)	152.00 lb	-	85.00/310.00 lb	18.00 lb
==>	1'- 7"	1'- 7"	E8(i5)	442.00 lb	-	622.00/-5.00 lb	47.00 lb
2	9'- 8 1/2"	11'- 8 1/2"	E6(i7)	3273.00 lb	-	1844.00 lb	649.00 lb
==>	9'- 10"	9'- 10"	E6(i7)	-	-	430.00 lb	-
==>	11'- 7"	11'- 7"	E6(i7)	3273.00 lb	-	1414.00 lb	649.00 lb
3	27'- 8 1/2"	28'- 6"	E4(i3)	1215.00 lb	-	440.00/-6.00 lb	190.00 lb

**Errors, Warnings & Notes:**

\* The dead loads used in the design of this member were applied to the structure as projected dead loads.

- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.

- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.



**Job: Wesselman garage**  
Member Type: Beam | Level: 1st Floor  
MiTek SAPPHIRE™ Structure Version 8.3.3.247.Update7  
Designed by Single Member Design Engine

**Label: GDH-i9**

Page: 2 of 2  
Date: 06/29/2020 14:45:21

**Member: 2 - 2.0 RigidLam DF LVL 1-3/4 x 11-7/8**

**Status: Design Passed**

- 
- \* The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.
  - \* Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.

**Trenco**

818 Soundside Rd  
Edenton, NC 27932

Re: Wesselman garage

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

Pages or sheets covered by this seal: E14564185 thru E14564193

My license renewal date for the state of North Carolina is December 31, 2020.

North Carolina COA: C-0844



June 29, 2020

Gilbert, Eric

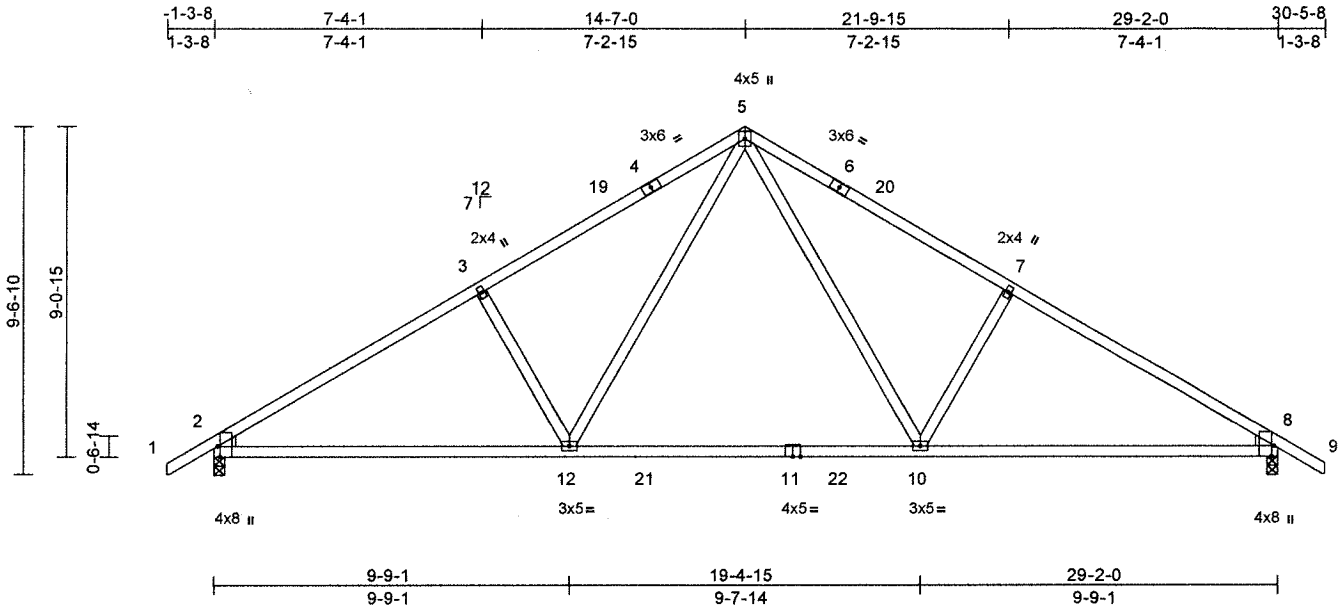
**IMPORTANT NOTE:** The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes),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

Job	Truss	Truss Type	Qty	Ply	Job Reference (optional)	E14564185
Wesselman garage	A	Common	2	1		

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

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

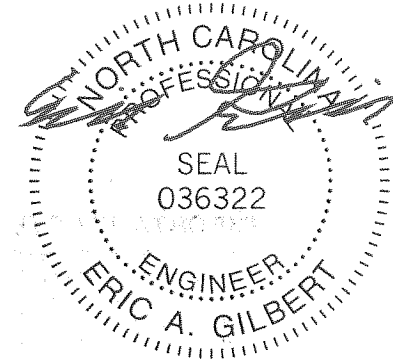
loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.81	Vert(LL)	-0.45	10-12	>777	240	MT20	244/190
now (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.98	Vert(CT)	-0.61	10-12	>571	180		
CDL	10.0	Rep Stress Incr	YES	WB	0.22	Horz(CT)	0.06	8	n/a	n/a		
CLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
CDL	10.0											
											Weight: 143 lb	FT = 20%

- MEMBER**
- TOP CHORD 2x4 SP No.2
  - BOT CHORD 2x4 SP No.2
  - VEBS 2x4 SP No.2 \*Except\* 10-7,12-3;2x4 SP No.3
  - WEDGE Left: 2x4 SP No.3  
Right: 2x4 SP No.3
- BRACING**
- TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins.
  - BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
- REACTIONS** (size) 2=0-3-8, 8=0-3-8
- Max Horiz 2=-183 (LC 13)
  - Max Uplift 2=-5 (LC 15), 8=-5 (LC 16)
  - Max Grav 2=1242 (LC 2), 8=1242 (LC 2)
- FORCES** (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-2=-0/48, 2-3=-1786/325, 3-19=-1627/354, 4-19=-1526/355, 4-5=-1508/375, 5-6=-1508/375, 6-20=-1526/355, 7-20=-1627/354, 7-8=-1786/325, 8-9=0/48
  - BOT CHORD 2-12=-159/1589, 12-21=0/1036, 11-21=0/1036, 11-22=0/1036, 10-22=0/1036, 8-10=-162/1462
  - VEBS 5-10=-112/739, 7-10=-412/241, 5-12=-112/739, 3-12=-412/241

- 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) \* 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) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 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

- 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





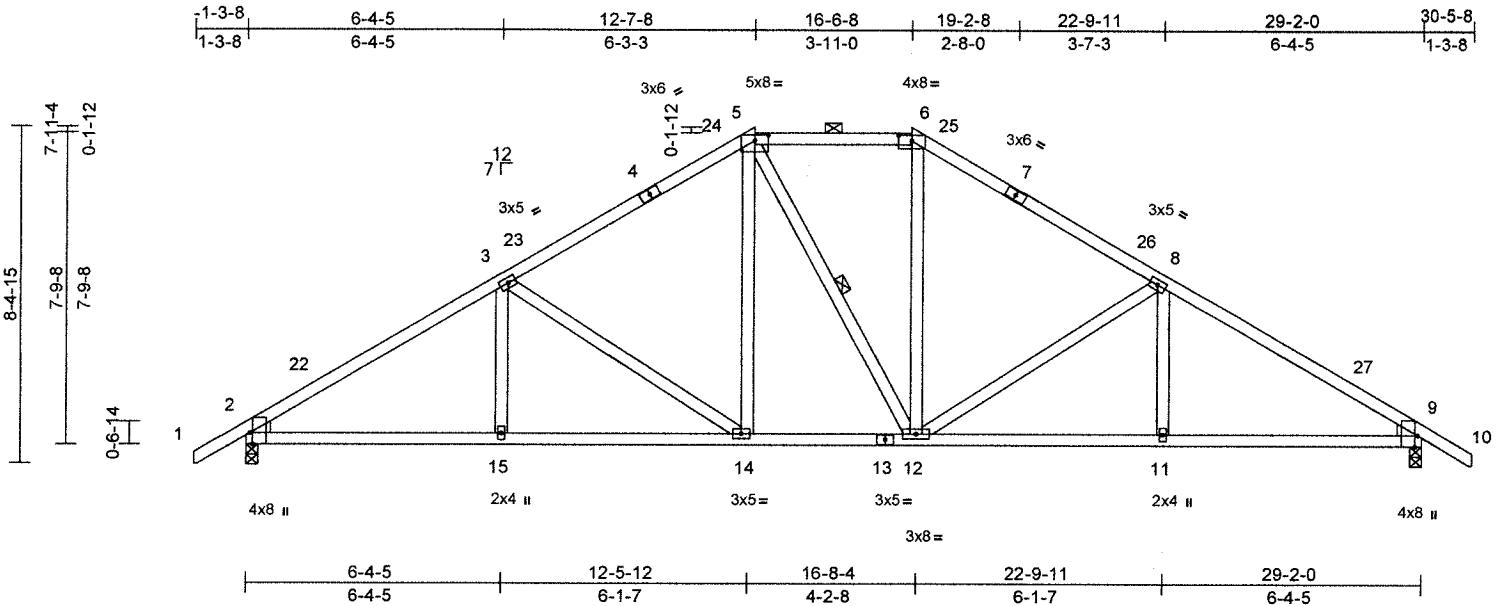
Job	Truss	Truss Type	Qty	Ply	Job Reference (optional)	E14564186
Wesselman garage	A1	Hip	2	1		

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

Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Mon Jun 29 14:24:05

Page: 1

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Scale = 1:57.2

Plate Offsets (X, Y): [2:0-3-8,Edge], [5:0-4-0,0-1-11], [6:0-4-0,0-1-11], [9:0-3-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in (loc)	I/defl	L/d	PLATES	GRIP		
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.65	Vert(LL)	-0.10	14-15	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.19	14-15	>999	180		
CDL	10.0	Rep Stress Incr	YES	WB	0.57	Horz(CT)	0.08	9	n/a	n/a		
TCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
CDL	10.0											
										Weight: 165 lb	FT = 20%	

**MEMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.2 \*Except\* 3-15,8-11:2x4 SP No.3  
WEDGE Left: 2x4 SP No.3  
Right: 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 3-5-2 oc purlins, except 2-0-0 oc purlins (4-11-2 max.): 5-6.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.  
WEBS 1 Row at midpt 5-12

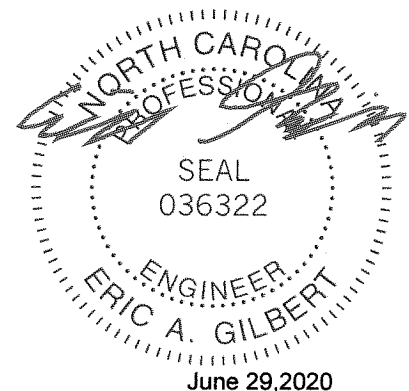
**REACTIONS**  
(size) 2=0-3-8, 9=0-3-8  
Max Horiz 2=159 (LC 13)  
Max Grav 2=1441 (LC 38), 9=1441 (LC 38)

**FORCES**  
(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/48, 2-22=-2218/290, 3-22=-2012/322,  
3-23=-1655/286, 4-23=-1510/303,  
4-24=-1492/316, 5-24=-1384/320,  
5-6=-1297/319, 6-25=-1385/320,  
7-25=-1493/316, 7-26=-1512/303,  
8-26=-1656/286, 8-27=-2012/321,  
9-27=-2218/290, 9-10=0/48  
BOT CHORD 2-15=-166/1827, 14-15=-166/1827,  
13-14=-31/1296, 12-13=-31/1296,  
11-12=-171/1827, 9-11=-171/1827  
WEBS 3-15=0/124, 3-14=-623/166, 5-14=-30/445,  
5-12=-135/137, 6-12=-29/445,  
8-12=-621/166, 8-11=0/124

- 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=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.
- 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.
- 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

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

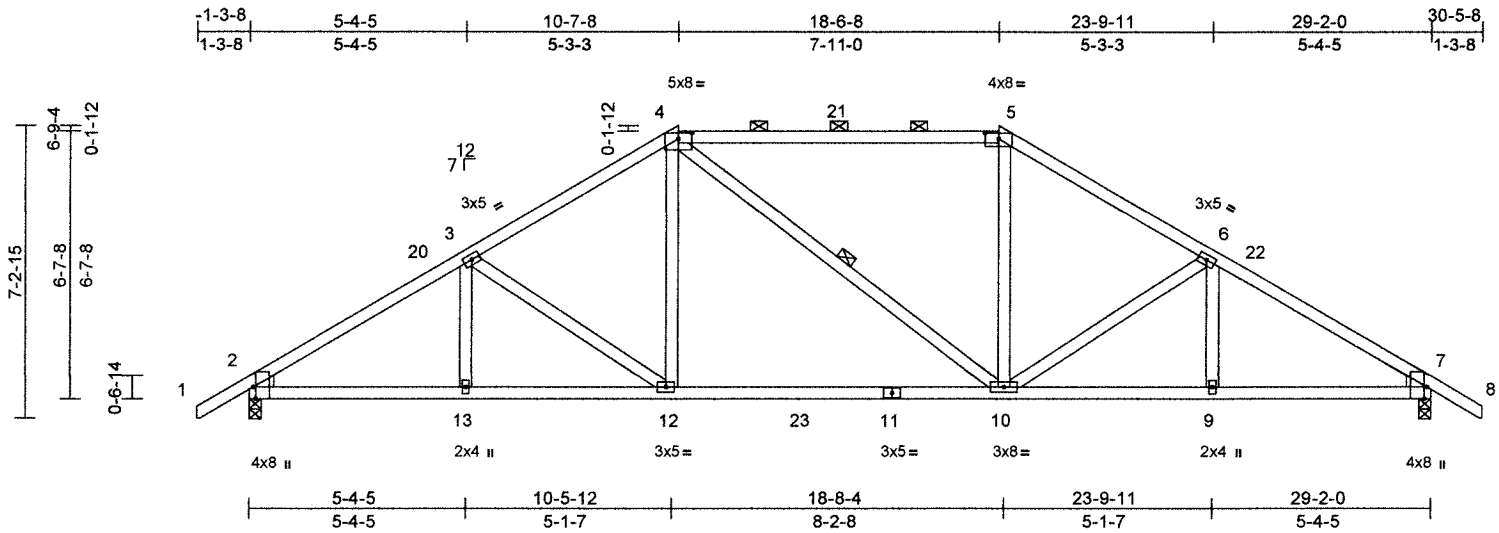


Job	Truss	Truss Type	Qty	Ply	Job Reference (optional)	E14564187
Wesselman garage	A2	Hip	2	1		

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

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Page: 1



Scale = 1:56.8

Plate Offsets (X, Y): [2:0-3-8,Edge], [4:0-4-0,0-1-11], [5:0-4-0,0-1-11], [7:0-3-8,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	0.81	Vert(LL)	-0.12	10-12	>999	240	MT20	244/190
Snw (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.67	Vert(CT)	-0.27	10-12	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.30	Horz(CT)	0.07	7	n/a	n/a		
TCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
TCDL	10.0											
											Weight: 158 lb	FT = 20%

**MEMBER**

- TOP CHORD 2x4 SP No.2 \*Except\* 4-5:2x4 SP 2400F 2.0E
- JOINT CHORD 2x4 SP No.2
- WEBS 2x4 SP No.2 \*Except\* 3-13,6-9:2x4 SP No.3
- WEDGE Left: 2x4 SP No.3  
Right: 2x4 SP No.3

**BRACING**

- TOP CHORD Structural wood sheathing directly applied or 3-9-5 oc purlins, except 2-0-0 oc purlins (4-5-15 max.): 4-5.
- JOINT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
- WEBS 1 Row at midpt 4-10

**REACTIONS**

- (size) 2=0-3-8, 7=0-3-8
- Max Horiz 2=-136 (LC 13)
- Max Grav 2=1391 (LC 38), 7=1391 (LC 38)

**FORCES**

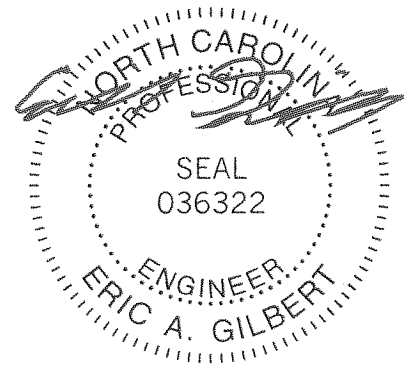
- (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-2=0/48, 2-20=-2064/318, 3-20=-1875/333, 3-4=-1618/332, 4-21=-1292/329, 5-21=-1292/329, 5-6=-1618/331, 6-22=-1875/333, 7-22=-2063/318, 7-8=0/48
- JOINT CHORD 2-13=-185/1692, 12-13=-185/1692, 12-23=-82/1291, 11-23=-82/1291, 10-11=-82/1291, 9-10=-191/1692, 7-9=-191/1692
- WEBS 3-13=0/75, 3-12=-469/130, 4-12=0/494, 4-10=-135/129, 5-10=0/430, 6-10=-468/130, 6-9=0/74

**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
- 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, with BCDL = 10.0psf.
- 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.
- 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



June 29, 2020

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

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20681

ENGINEERING BY  
**TRENCO**  
 A MITTEK COMPANY

818 Soundside Road  
 Edenton, NC 27932

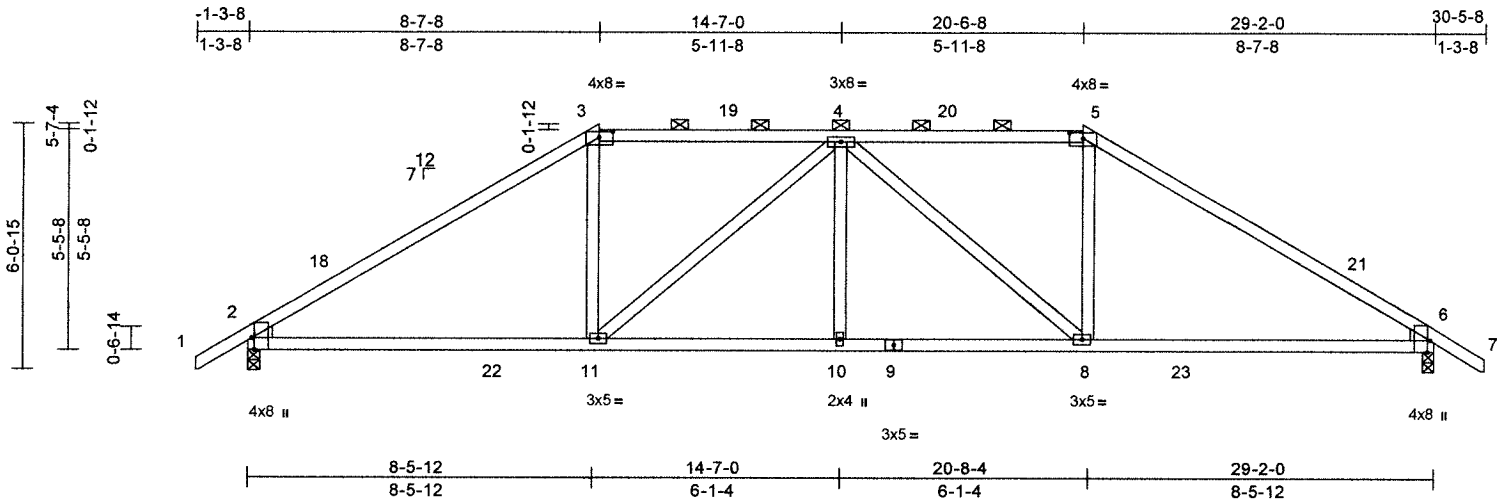
Job	Truss	Truss Type	Qty	Ply		E14564188
Wesselman garage	A3	Hip	2	1	Job Reference (optional)	

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

Run: 8:33 S May 6 2020 Print: 8:330 S May 6 2020 MiTek Industries, Inc. Mon Jun 29 14:24:06

Page: 1

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Scale = 1:56.7

Plate Offsets (X, Y): [2:0-3-8,Edge], [3:0-4-0,0-1-11], [5:0-4-0,0-1-11], [6:0-3-8,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	0.77	Vert(LL)	-0.17	8-17	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.29	8-17	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.62	Horz(CT)	0.07	6	n/a	n/a		
3CLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
3CDL	10.0											
											Weight: 142 lb	FT = 20%

**UMBER**

TOP CHORD 2x4 SP 2400F 2.0E \*Except\* 3-5:2x4 SP No.2  
 BOT CHORD 2x4 SP No.2  
 WEBS 2x4 SP No.3 \*Except\* 11-4,8-4:2x4 SP No.2  
 WEDGE Left: 2x4 SP No.3  
 Right: 2x4 SP No.3

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 3-10-5 oc purlins, except 2-0-0 oc purlins (4-0-12 max.): 3-5.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=0-3-8, 6=0-3-8  
 Max Horiz 2=113 (LC 13)  
 Max Grav 2=1323 (LC 38), 6=1323 (LC 38)

**FORCES**

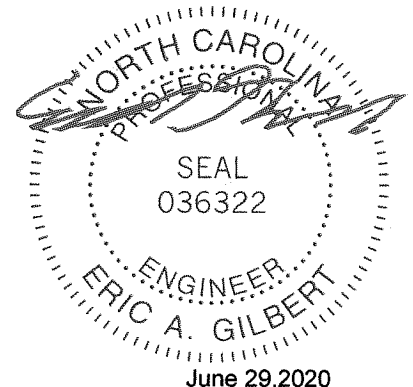
(lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/55, 2-18=-1749/290, 3-18=-1654/329, 3-19=-1420/345, 4-19=-1423/345, 4-20=-1423/345, 5-20=-1420/345, 5-21=-1654/329, 6-21=-1749/290, 6-7=0/55  
 BOT CHORD 2-22=-139/1435, 11-22=-139/1435, 10-11=-191/1850, 9-10=-191/1850, 8-9=-191/1850, 8-23=-142/1435, 6-23=-142/1435  
 WEBS 3-11=0/511, 4-11=-562/102, 4-10=0/109, 4-8=-562/102, 5-8=0/511

**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) 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) Provide adequate drainage to prevent water ponding.
- 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) 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



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

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



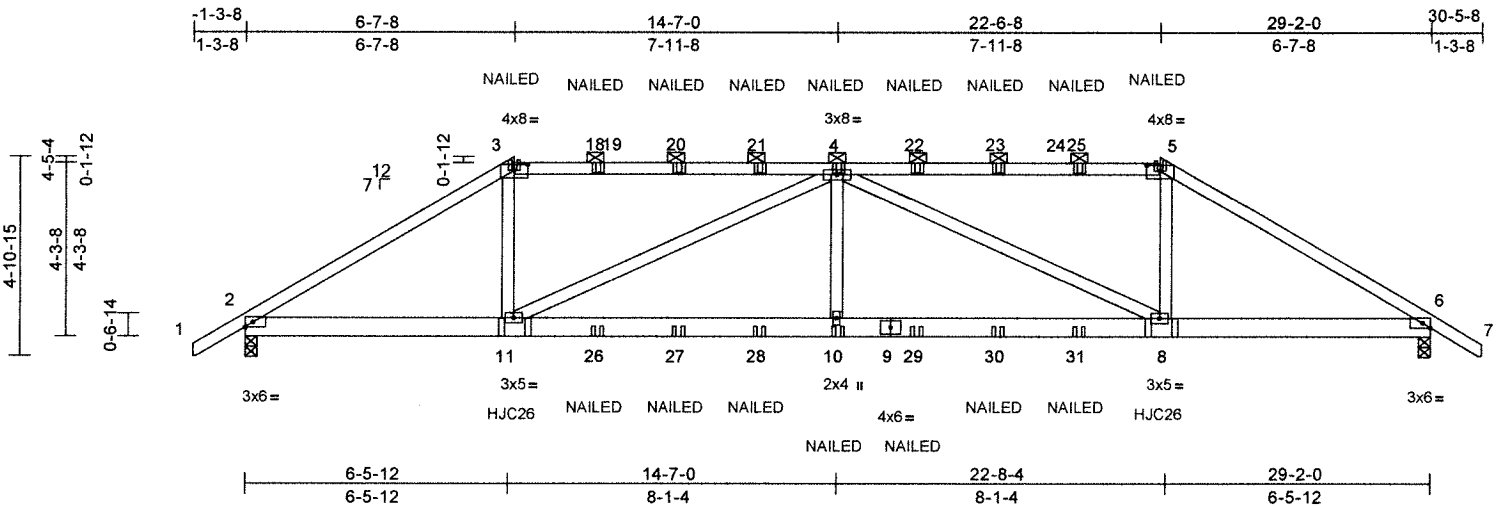
818 Soundside Road  
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Job Reference (optional)	E14564189
Wesselman garage	AM	Hip Girder	2	2		

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

Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Mon Jun 29 14:24:08  
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Page: 1



Scale = 1:56.6

Plate Offsets (X, Y): [3:0-4-0,0-1-11], [5:0-4-0,0-1-11]

loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	I/defl	L/d	PLATES	GRIP
CLL (roof)	20.0	Plate Grip DOL	1.15	TC	Vert(LL)	-0.11	8-10	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	Vert(CT)	-0.23	8-10	>999	180		
CDL	10.0	Rep Stress Incr	NO	WB	Horz(CT)	0.06	6	n/a	n/a		
3CLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH							
3CDL	10.0										
										Weight: 322 lb	FT = 20%

**LUMBER**

TOP CHORD 2x4 SP No.2 \*Except\* 3-5:2x4 SP No.1  
 BOT CHORD 2x6 SP No.2  
 WEBS 2x4 SP No.3 \*Except\* 11-4,8-4:2x4 SP No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 5-9-15 oc purlins, except 2-0-0 oc purlins (5-7-10 max.): 3-5.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=0-3-8, 6=0-3-8  
 Max Horiz 2=-89 (LC 9)  
 Max Uplift 2=-147 (LC 11), 6=-147 (LC 12)  
 Max Grav 2=2411 (LC 2), 6=2413 (LC 2)

**FORCES**

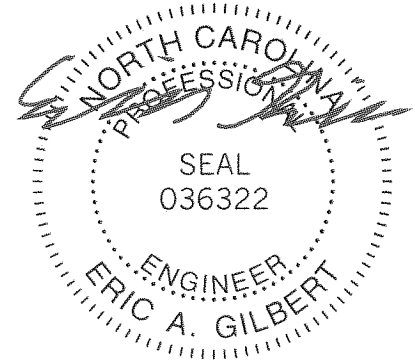
(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/55, 2-3=-4130/260, 3-18=-3447/254, 18-19=-3447/254, 19-20=-3448/254, 20-21=-3449/254, 4-21=-3451/255, 4-22=-3456/255, 22-23=-3454/255, 23-24=-3453/254, 24-25=-3453/255, 5-25=-3452/254, 5-6=-4135/261, 6-7=0/55  
 BOT CHORD 2-11=-240/3500, 11-26=-347/5088, 26-27=-347/5088, 27-28=-347/5088, 10-28=-347/5088, 9-10=-347/5088, 9-29=-347/5088, 29-30=-347/5088, 30-31=-347/5088, 8-31=-347/5088, 6-8=-164/3505  
 WEBS 3-11=0/1417, 4-11=-1900/212, 4-10=0/489, 4-8=-1894/211, 5-8=0/1416

**NOTES**

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:  
 Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.  
 Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.  
 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.
- One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 6. This connection is for uplift only and does not consider lateral forces.

- 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.
  - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
  - Use USP HJC26 (With 16-16d nails into Girder & 10d nails into Truss) or equivalent spaced at 15-11-4 oc max. starting at 6-7-14 from the left end to 22-7-2 to connect truss(es) to back face of bottom chord.
  - Fill all nail holes where hanger is in contact with lumber.
  - "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
- LOAD CASE(S)** Standard
- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
 Uniform Loads (lb/ft)  
 Vert: 1-3=-48, 3-5=-58, 5-7=-48, 12-15=-20  
 Concentrated Loads (lb)



Continued on page 2

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

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**Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20681  
 ANSI/TPI Quality Criteria, DSB-89 and BCSI Building Component

ENGINEERING BY  
**TRENCO**  
 A MITEK COMPANY

818 Soundside Road  
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Job Reference (optional)	E14564189
Wesselman garage	AM	Hip Girder	2	2		

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

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Page: 2

Vert: 3=-100 (B), 5=-100 (B), 11=-419 (B), 10=-59 (B), 8=-419 (B), 4=-95 (B), 18=-95 (B), 20=-95 (B), 21=-95 (B), 22=-95 (B), 23=-95 (B), 25=-95 (B), 26=-59 (B), 27=-59 (B), 28=-59 (B), 29=-59 (B), 30=-59 (B), 31=-59 (B)

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

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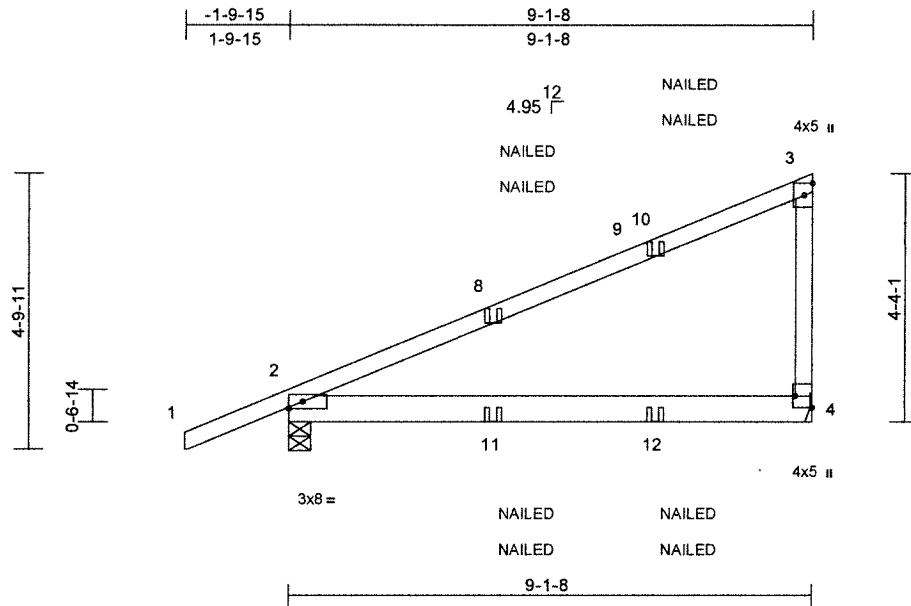
818 Soundside Road  
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Job Reference (optional)	E14564190
Wesselman garage	CG	Diagonal Hip Girder	4	1		

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

Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MITek Industries, Inc. Mon Jun 29 14:24:09  
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Page: 1



Scale = 1:40

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

loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
CLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.92	Vert(LL)	-0.09	4-7	>999	240	MT20	244/190
now (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.61	Vert(CT)	-0.21	4-7	>504	180		
CDL	10.0	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.02	2	n/a	n/a		
CLL	0.0*	Code	IRC2015/TPI2014	Matrix-MSH								
CDL	10.0											
											Weight: 44 lb	FT = 20%

**LUMBER**

- TOP CHORD 2x4 SP No.1
- BOT CHORD 2x6 SP No.2
- VEBS 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=0-4-9, 4= Mechanical
- Max Horiz 2=133 (LC 10)
- Max Uplift 2=-38 (LC 7), 4=-40 (LC 8)
- Max Grav 2=512 (LC 2), 4=425 (LC 2)

**FORCES**

- (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-2=0/52, 2-8=-244/348, 8-9=-134/23, 9-10=-121/25, 3-10=-81/20, 3-4=-237/83
- BOT CHORD 2-11=-139/91, 11-12=-46/91, 4-12=-46/91

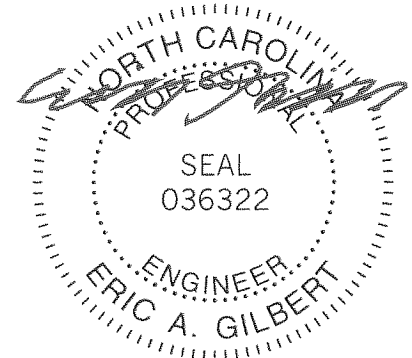
**NOTES**

- Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TC DL=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=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 40 lb uplift at joint 4.
- 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.
- 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.
- "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidelines.
- 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, 4-5=-20  
 Concentrated Loads (lb)  
 Vert: 10=-55 (F=-27, B=-27), 11=-5 (F=-2, B=-2), 12=-47 (F=-24, B=-24)



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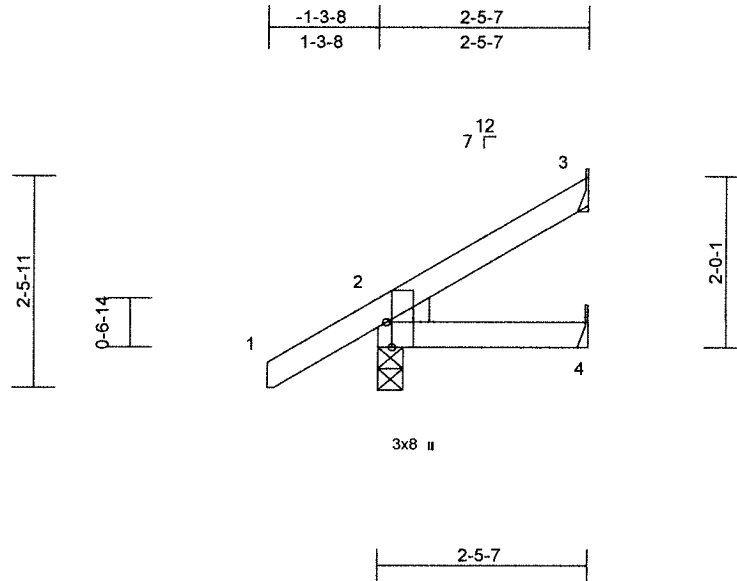
818 Soundside Road  
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Job Reference (optional)	E14564191
Wesselman garage	J2	Jack-Open	8	1		

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

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Page: 1



Scale = 1:26.9

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	I/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.14	Vert(LL)	0.00	4-7	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.07	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		
TCLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP								
TCDL	10.0											
											Weight: 11 lb	FT = 20%

**MEMBER**

- TOP CHORD 2x4 SP No.2
- BOT CHORD 2x4 SP No.2
- WEDGE Left: 2x4 SP No.3

**BRACING**

- TOP CHORD Structural wood sheathing directly applied or 2-5-7 oc purlins.
- BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

- (size) 2=0-3-8, 3= Mechanical, 4= Mechanical
- Max Horiz 2=53 (LC 15)
- Max Uplift 2=-4 (LC 15), 3=-20 (LC 15)
- Max Grav 2=190 (LC 2), 3=55 (LC 29), 4=27 (LC 29)

**FORCES**

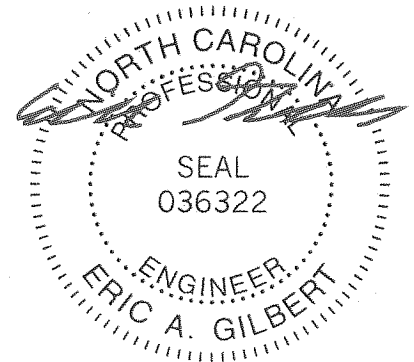
- (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-2=0/48, 2-3=-66/60
- BOT CHORD 2-4=-54/58

**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 20 lb uplift at joint 3.
- 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.
- 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



June 29, 2020

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ENGINEERING BY  
**TRENCO**  
 A MITEK AFFILIATE

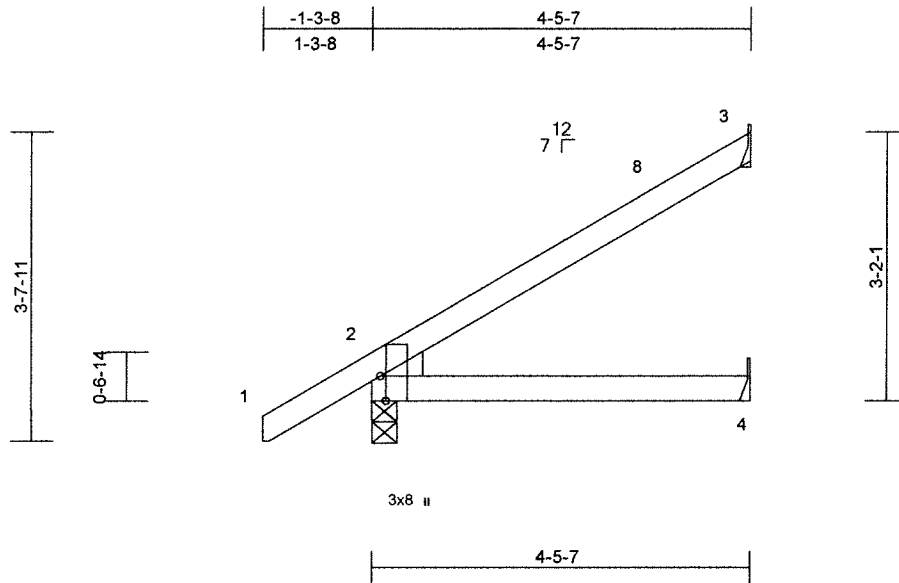
818 Soundside Road  
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Job Reference (optional)
Wesselman garage	J4	Jack-Open	8	1	E14564192

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

Run: 8.33 S May 6 2020 Print: 8.330 S May 6 2020 MiTek Industries, Inc. Mon Jun 29 14:24:09  
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Page: 1



Scale = 1:27.1

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

loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
CLL (roof)	20.0	Plate Grip DOL	1.15	TC	Vert(LL)	-0.02	4-7	>999	240	MT20	244/190
now (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	Vert(CT)	-0.04	4-7	>999	180		
CDL	10.0	Rep Stress Incr	YES	WB	Horz(CT)	0.01	3	n/a	n/a		
3CLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP							
3CDL	10.0									Weight: 17 lb	FT = 20%

**UMBER**

OP CHORD 2x4 SP No.2  
OT CHORD 2x4 SP No.2  
VEDGE Left: 2x4 SP No.3

**BRACING**

OP CHORD Structural wood sheathing directly applied or 4-5-7 oc purlins.  
OT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**EACTIONS**

(size) 2=0-3-8, 3= Mechanical, 4= Mechanical  
Max Horiz 2=84 (LC 15)  
Max Uplift 3=40 (LC 15)  
Max Grav 2=261 (LC 2), 3=115 (LC 29), 4=57 (LC 29)

**ORCES**

(lb) - Maximum Compression/Maximum Tension

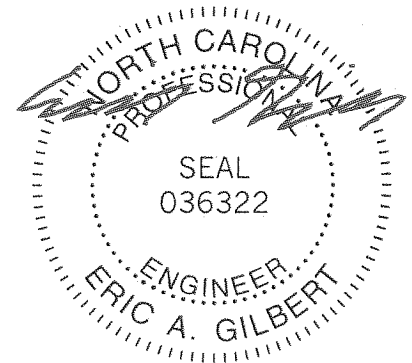
OP CHORD 1-2=0/48, 2-8=-106/50, 3-8=-45/60  
OT CHORD 2-4=-55/109

**OTES**

- 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 40 lb uplift at joint 3.
- 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



June 29, 2020

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

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

818 Soundside Road  
Edenton, NC 27832

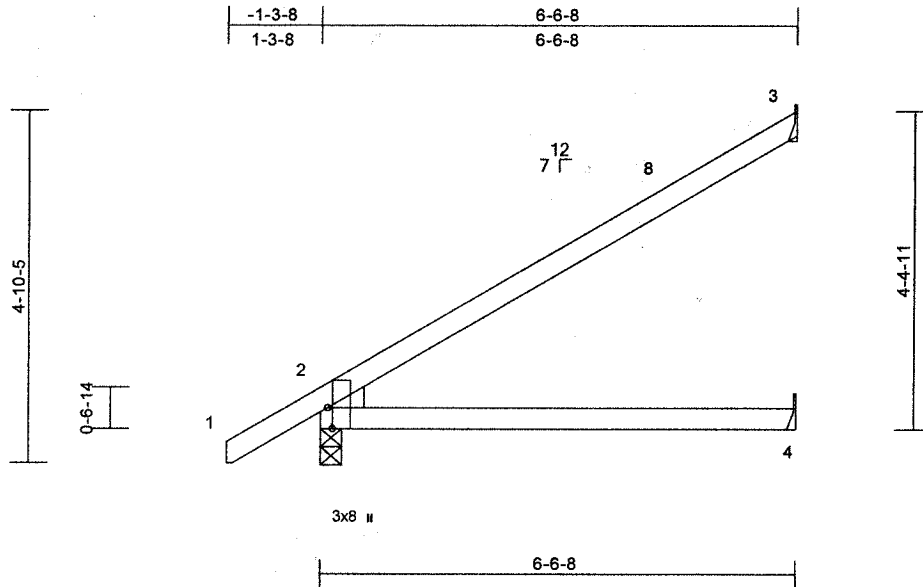


Job	Truss	Truss Type	Qty	Ply	Job Reference (optional)	E14564193
Wesselman garage	J7	Jack-Open	18	1		

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Page: 1



Scale = 1:31.6

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

loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/def	L/d	PLATES	GRIP
CLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.64	0.08	4-7	>919	240	MT20	244/190
now (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.49	Vert(CT)	-0.18	4-7	>426		
CDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.03	3	n/a		
CLL	0.0*	Code	IRC2015/TPI2014	Matrix-MP							
CDL	10.0									Weight: 24 lb	FT = 20%

**UMBER**

- OP CHORD 2x4 SP No.2
- OT CHORD 2x4 SP No.2
- EDGE Left: 2x4 SP No.3

**BRACING**

- OP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
- OT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

- (size) 2=0-3-8, 3= Mechanical, 4= Mechanical
- Max Horiz 2=117 (LC 15)
- Max Uplift 3=61 (LC 15)
- Max Grav 2=342 (LC 2), 3=175 (LC 29), 4=86 (LC 29)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

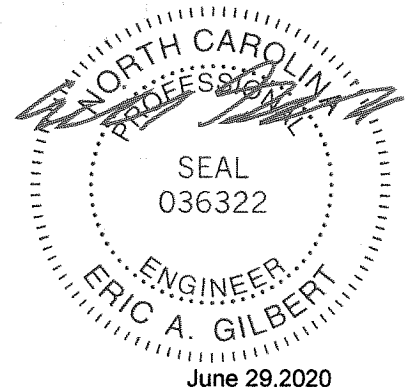
- OP CHORD 1-2=0/48, 2-8=-167/76, 3-8=-68/87
- OT CHORD 2-4=-94/162

**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
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- 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 connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 61 lb uplift at joint 3.
- 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



**WARNING** - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITTEK REFERENCE PAGE MI-7473 rev. 10/3/2015 BEFORE USE.

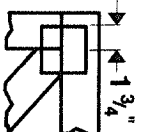
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall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

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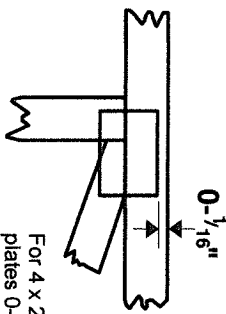
818 Soundside Road  
Edenton, NC 27932

# 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 2020 software or upon request.

## PLATE SIZE

4 X 4

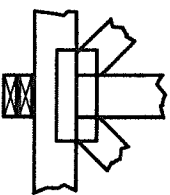
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## 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



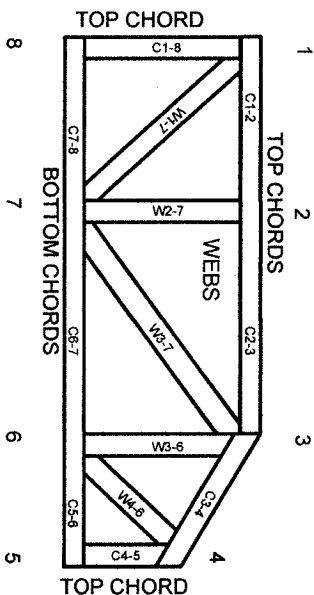
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

## Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-89: Design Standard for Bracing, 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/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

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



# General Safety Notes

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

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



