ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: MF2300043-01
Senters Assisted Living-Roof-Main Bldg PART A

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: I61379425 thru I61379426

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

North Carolina COA: C-0844

October 13,2023

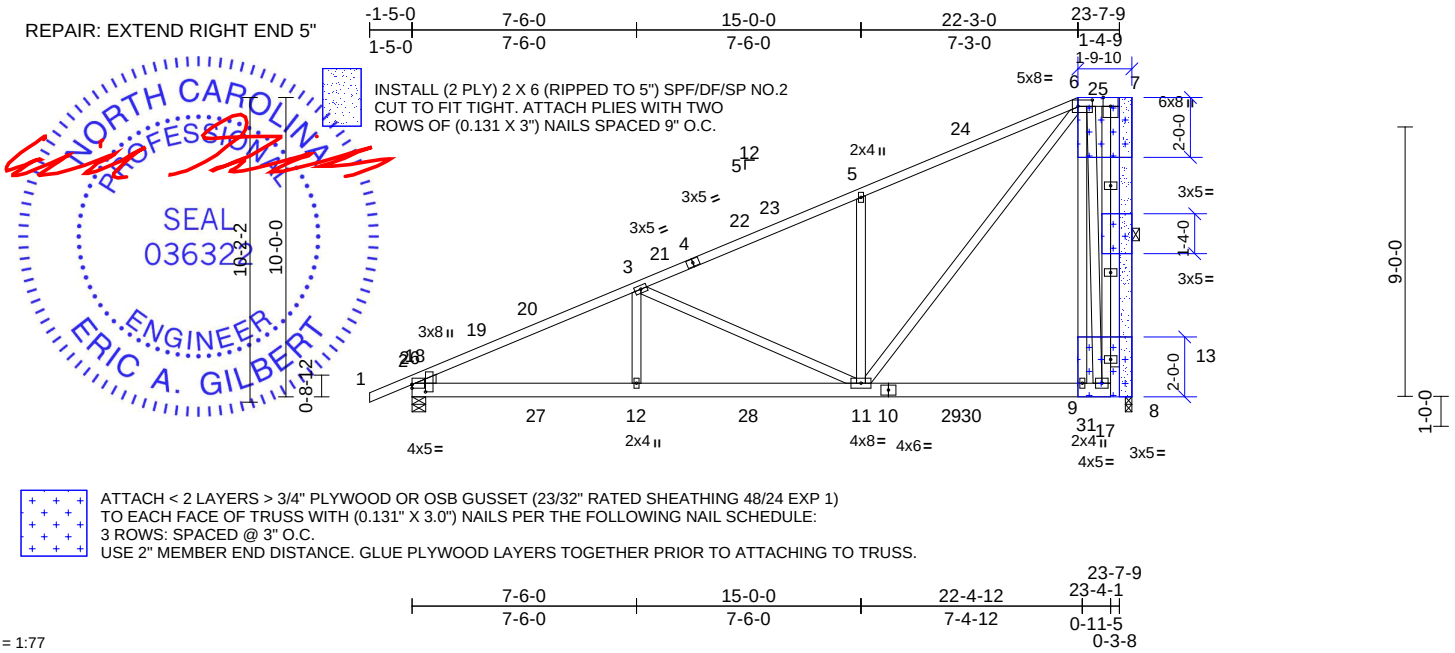
Gilbert, Eric

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

Job	Truss	Truss Type	Qty	Ply	Senters Assisted Living-Roof-Main Bldg PART A
MF2300043-01	A77	Half Hip	1	2	I61379425 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Thu Oct 12 13:03:27 Page: 1
ID:hmm3oiKhgyfYoKIAuEo8Xhzb1Sz-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

REPAIR: EXTEND RIGHT END 5"



ATTACH < 2 LAYERS > 3/4" PLYWOOD OR OSB GUSSET (23/32" RATED SHEATHING 48/24 EXP 1)
TO EACH FACE OF TRUSS WITH (0.131" X 3.0") NAILS PER THE FOLLOWING NAIL SCHEDULE:
3 ROWS: SPACED @ 3" O.C.
USE 2" MEMBER END DISTANCE. GLUE PLYWOOD LAYERS TOGETHER PRIOR TO ATTACHING TO TRUSS.

Scale = 1:77

Plate Offsets (X, Y): [2:Edge,0-1-8], [2:0-2-15,0-5-6], [6:0-5-12,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.77	Vert(LL)	-0.08	11-12	>999	360	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.00	BC	0.49	Vert(CT)	-0.13	11-12	>999	240		
TCDL	20.0	Rep Stress Incr	NO	WB	0.64	Horz(CT)	0.01	17	n/a	n/a		
BCLL	0.0*	Code	IBC2015/TPI2014	Matrix-MSH		Wind(LL)	0.03	11-12	>999	240		
BCDL	10.0										Weight: 386 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 4-6:2x4 SP No.1
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3 *Except* 11-6:2x4 SP No.2
OTHERS 2x4 SP No.3
WEDGE Left: 2x4 SP No.3

BRACING
TOP CHORD Sheathed or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 7-17

REACTIONS (size) 2=0-5-8, 17=0-2-9
Max Horiz 2=350 (LC 14)
Max Uplift 2=-96 (LC 14), 17=-233 (LC 14)
Max Grav 2=1805 (LC 35), 17=1888 (LC 35)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/65, 2-3=-3124/108, 3-5=-1933/51, 5-6=-1965/182, 6-7=-85/11, 8-13=-294/1892, 7-13=-294/1892
BOT CHORD 2-12=-366/2756, 11-12=-366/2756, 9-11=-35/249, 8-9=-33/246
WEBS 6-9=-185/349, 6-8=-1654/222, 3-12=0/383, 5-11=-1085/252, 3-11=-1257/180, 6-11=-287/2271, 7-17=-1890/262

NOTES
1) 2-ply truss to be connected together as follows:
Top chords connected with 16d (0.162"x 3.5") nails as follows: 2x4 - 1 row at 0-9-0 oc clinched.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-10; Vult=125mph (3-second gust) Vasd=99mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) -1-5-0 to 8-7-0, Interior (1) 8-7-0 to 12-3-0, Exterior (2) 12-3-0 to 23-2-5 zone; cantilever left exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
5) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.00 Plate DOL=1.00); Pf=20.0 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.10
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
8) Provide adequate drainage to prevent water ponding.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
11) Bearings are assumed to be: Joint 2 SP No.2 crushing capacity of 565 psi, Joint 17 SP No.3 crushing capacity of 565 psi.
12) Bearing at joint(s) 17 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
13) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 17.
14) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 96 lb uplift at joint 2 and 233 lb uplift at joint 17.
15) This truss is designed in accordance with the 2015 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
16) This truss has been designed for a moving concentrated load of 250.0lb live and 40.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
17) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
18) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 238 lb down and 49 lb up at 22-8-2 on top chord. The design/selection of such connection device(s) is the responsibility of others.
19) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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Continued on page 2

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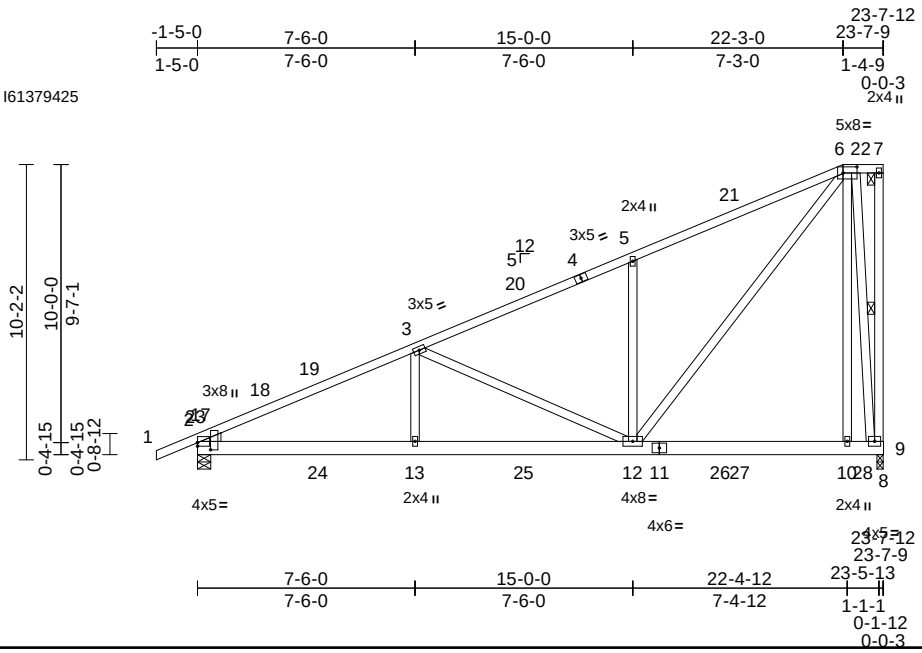
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-6=-80, 6-7=-80, 8-14=-20
Concentrated Loads (lb)
Vert: 25=-225

Job	Truss	Truss Type	Qty	Ply	Senters Assisted Living-Roof-Main Bldg PART A
MF2300043-01	A79	Half Hip	1	2	I61379426 Job Reference (optional)

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

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Thu Oct 12 13:03:30 Page: 1
ID:5LRBQkMZyt16fo1lZMLr9Jzb1Sw-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

REFER TO MITEK REPAIR DRAWING I61379425



Scale = 1:79.4

Plate Offsets (X, Y): [2:Edge,0-1-8], [2:0-2-15,0-5-6], [6:0-5-12,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	1.00	Vert(LL)	-0.07	12-13	>999	360	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.00	BC	0.49	Vert(CT)	-0.12	12-13	>999	240		
TCDL	20.0	Rep Stress Incr	NO	WB	0.69	Horz(CT)	0.02	9	n/a	n/a		
BCLL	0.0*	Code	IBC2015/TPI2014	Matrix-MSH		Wind(LL)	0.02	12-13	>999	240		
BCDL	10.0										Weight: 362 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3 *Except* 12-6:2x4 SP No.2
WEDGE Left: 2x4 SP No.3

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

REACTIONS (size) 2=0-5-8, 9=0-2-9
Max Horiz 2=350 (LC 14)
Max Uplift 2=-94 (LC 14), 9=-189 (LC 14)
Max Grav 2=1794 (LC 35), 9=1722 (LC 35)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/65, 2-3=-3103/155, 3-5=-1905/75, 5-6=-1933/213, 6-7=-4/0, 7-9=-257/155
BOT CHORD 2-13=-429/2738, 12-13=-429/2738, 10-12=-34/231, 9-10=-32/231, 8-9=0/0
WEBS 6-10=-27/411, 6-9=-1780/251, 5-12=-1075/273, 3-13=0/384, 3-12=-1267/213, 6-12=-336/2256

NOTES
1) 2-ply truss to be connected together as follows:
Top chords connected with 16d (0.162"x 3.5") nails as follows: 2x4 - 1 row at 0-9-0 oc clinched.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-10; Vult=125mph (3-second gust) Vasd=99mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; cantilever left exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
5) TCLL: ASCE 7-10; Pr=20.0 psf (roof live load: Lumber DOL=1.00 Plate DOL=1.00); Pf=20.0 psf (flat roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Partially Exp.; Ct=1.10
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
8) Provide adequate drainage to prevent water ponding.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
11) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
12) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 9.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 189 lb uplift at joint 9 and 94 lb uplift at joint 2.
14) This truss is designed in accordance with the 2015 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
15) This truss has been designed for a moving concentrated load of 250.0lb live and 40.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
16) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
17) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-6=-80, 6-7=-80, 9-14=-20, 8-9=-140 (F=-120)

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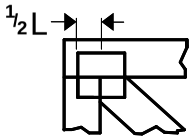
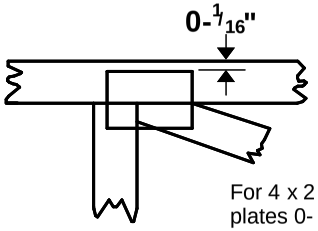
Symbols

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.

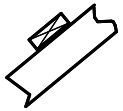
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

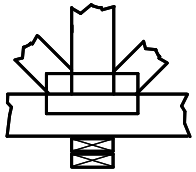
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

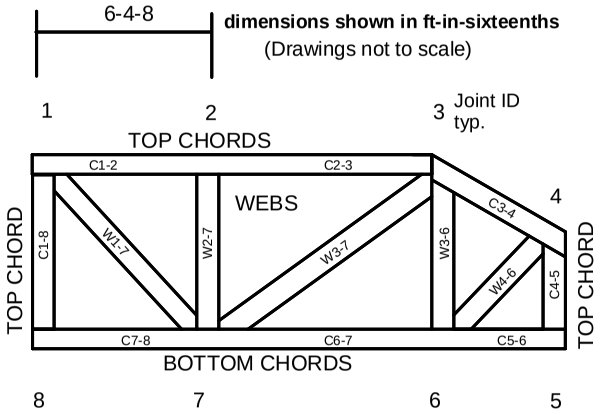


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:

ESR-1988, ESR-2362, ESR-2685, ESR-3282
ESR-4722, ESL-1388

Design General Notes

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

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

MiTek®

ENGINEERING BY TRENCO
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MiTek Engineering Reference Sheet: MII-7473 rev. 1/2/2023

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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