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: I62421349 thru I62421350

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

North Carolina COA: C-0844

December 8,2023

Johnson, Andrew

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.

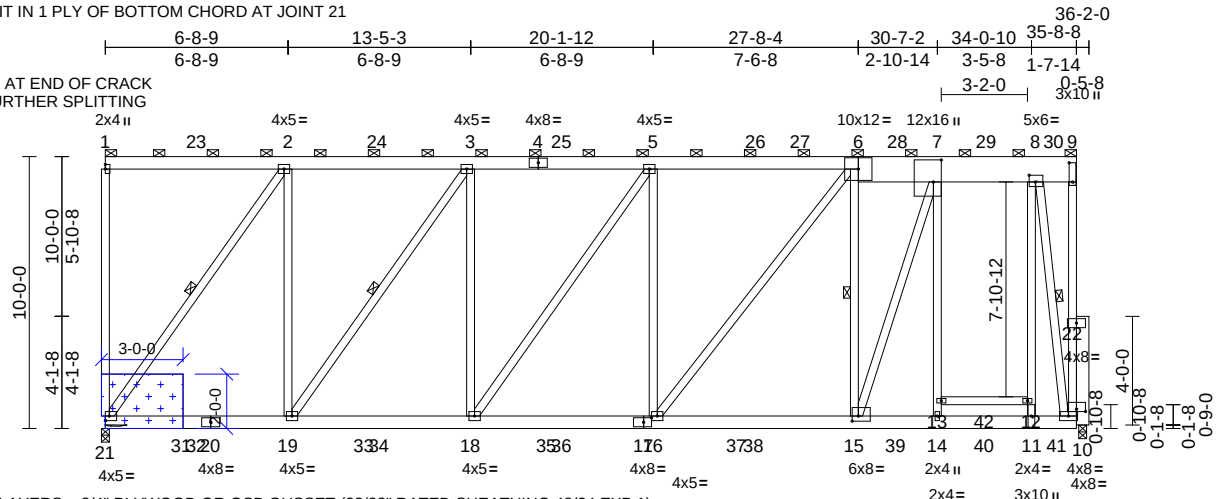
Job	Truss	Truss Type	Qty	Ply	Senters Assisted Living-Roof-Main Bldg PART A
MF2300043-01	A43	Attic Girder	1	2	I62421349 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Dec 07 06:57:36 Page: 1

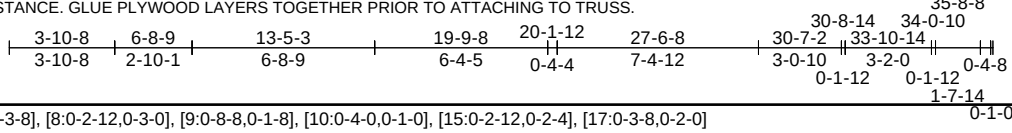
ID:RmBELp0NnyOEgKJAMnK1UCzb1TN-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

REPAIR: 0-10-0 SPLIT IN 1 PLY OF BOTTOM CHORD AT JOINT 21

DRILL 1/4" HOLE AT END OF CRACK TO PREVENT FURTHER SPLITTING



ATTACH < 2 LAYERS > 3/4" PLYWOOD OR OSB GUSSET (23/32" RATED SHEATHING 48/24 EXP 1) TO DAMAGED FACE OF TRUSS WITH (0.131" X 3.0") NAILS PER THE FOLLOWING NAIL SCHEDULE:
2 X 3'S - 2 ROWS, 2 X 4'S - 3 ROWS, 2 X 6'S AND LARGER - 4 ROWS: SPACED @ 3" O.C.
USE 2" MEMBER END DISTANCE. GLUE PLYWOOD LAYERS TOGETHER PRIOR TO ATTACHING TO TRUSS.



Scale = 1:84.7

Plate Offsets (X, Y): [7:0-9-12,0-3-8], [8:0-2-12,0-3-0], [9:0-8-8,0-1-8], [10:0-4-0,0-1-0], [15:0-2-12,0-2-4], [17:0-3-8,0-2-0]

Loading	(psf)	Spacing	3-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.45	Vert(LL)	-0.14	15-16	>999	360	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.00	BC	0.74	Vert(CT)	-0.35	15-16	>999	240		
TCDL	20.0	Rep Stress Incr	NO	WB	1.00	Horz(CT)	0.05	10	n/a	n/a		
BCLL	0.0*	Code	IBC2015/TPI2014	Matrix-MSH		Wind(LL)	0.12	15-16	>999	240		
BCDL	10.0										Weight: 799 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2 *Except* 6-9:2x12 SP 2400F 2.0E

BOT CHORD 2x6 SP No.2 *Except* 13-12:2x4 SP No.3, 20-21:2x6 SP 2400F 2.0E

WEBS 2x4 SP No.2 *Except* 21-1,5-16,6-15,2-19,3-18:2x4 SP No.3, 9-10,7-14,8-11,8-10:2x4 SP No.1

OTHERS 2x6 SP No.2

BRACING

TOP CHORD 2-0-0 oc purlins (6-0-0 max.) (Switched from sheeted: Spacing > 2-8-0).

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

WEBS 1 Row at midpt 6-15, 2-21, 3-19, 8-10

REACTIONS (size) 10=0-3-8, 21=0-3-8
Max Horiz 21=-13 (LC 10)
Max Uplift 10=-424 (LC 10), 21=-485 (LC 10)
Max Grav 10=4283 (LC 1), 21=4168 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/0, 2-3=-2518/290, 3-5=-3788/436, 5-7=-4019/461, 7-8=-1253/132, 8-9=-11/93

BOT CHORD 19-21=-278/2518, 18-19=-423/3788, 16-18=-448/4019, 15-16=-322/2944, 14-15=-132/1252, 11-14=-131/1235, 10-11=-131/1229, 12-13=-1/18

WEBS 1-21=-448/98, 9-10=-265/2297, 5-16=-567/227, 13-14=-701/116, 7-13=-525/131, 11-12=-79/1282, 8-12=-65/1473, 6-16=-203/1758, 6-15=-4320/620, 2-19=-140/2765, 2-21=-4375/505, 3-18=0/1159, 3-19=-2206/252, 5-18=-420/44, 7-15=-639/5665, 8-10=-7190/771

NOTES

1) 2-ply truss to be connected together as follows:
Top chords connected with 16d (0.162"x 3.5") nails as follows: 2x6 - 2 rows staggered at 0-9-0 oc clinched, 2x12 - 2 rows staggered 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, 2x4 - 1 row 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) 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) 0-1-12 to 10-1-12, Interior (1) 10-1-12 to 25-8-8, Exterior (2) 25-8-8 to 35-8-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
4) 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
5) Provide adequate drainage to prevent water ponding.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
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) Bearings are assumed to be: Joint 21 SP 2400F 2.0E crushing capacity of 805 psi, Joint 10 SP No.2 crushing capacity of 565 psi.
9) Bearing at joint(s) 10 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 485 lb uplift at joint 21 and 424 lb uplift at joint 10.
11) This truss is designed in accordance with the 2015 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
12) 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.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
14) 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)

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Vert: 1-9=-120, 11-21=-110 (F=-80), 10-11=-30, 12-13=-110 (F=-80)

Job	Truss	Truss Type	Qty	Ply	Senters Assisted Living-Roof-Main Bldg PART A
MF2300043-01	A49	Attic	1	1	I62421350 Job Reference (optional)

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Dec 07 06:57:38

ID:8K9tbA6KSwxtBp4lTXUSxOzb1UY-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

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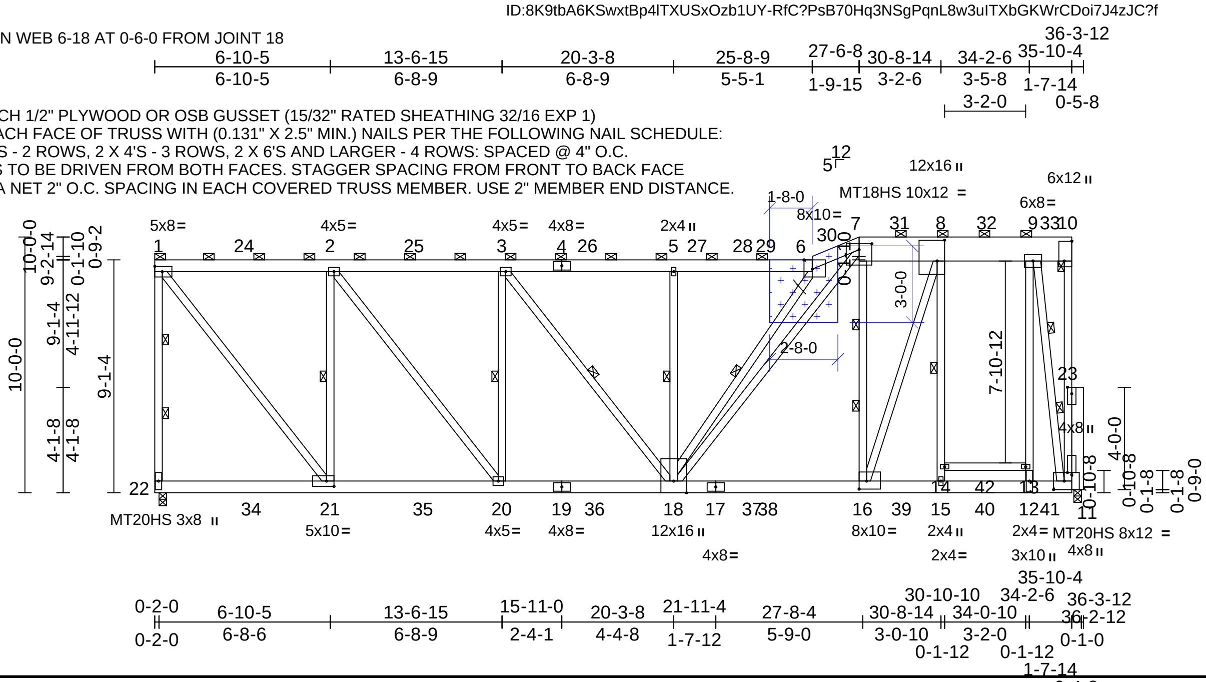
REPAIR: BREAK IN WEB 6-18 AT 0-6-0 FROM JOINT 18

ATTACH 1/2" PLYWOOD OR OSB GUSSET (15/32" RATED SHEATHING 32/16 EXP 1)
TO EACH FACE OF TRUSS WITH (0.131" X 2.5" MIN.) NAILS PER THE FOLLOWING NAIL SCHEDULE:
2 X 3'S - 2 ROWS, 2 X 4'S - 3 ROWS, 2 X 6'S AND LARGER - 4 ROWS: SPACED @ 4" O.C.
NAILS TO BE DRIVEN FROM BOTH FACES. STAGGER SPACING FROM FRONT TO BACK FACE
FOR A NET 2" O.C. SPACING IN EACH COVERED TRUSS MEMBER. USE 2" MEMBER END DISTANCE.



Scale = 1:90.1

Plate Offsets (X, Y): [6:0-3-14,Edge], [7:0-6-0,0-2-12], [8:0-9-12,0-3-8], [10:Edge,0-3-8], [11:0-5-0,0-4-0], [11:0-1-0,0-2-0], [16:0-3-8,0-3-12], [21:0-3-8,0-2-8], [23:0-3-0,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.98	Vert(LL)	-0.30	18-20	>999	360	MT20HS	187/143
Snow (Pf)	20.0	Lumber DOL	1.00	BC	0.87	Vert(CT)	-0.52	18-20	>829	240	MT20	244/190
TCDL	20.0	Rep Stress Incr	NO	WB	0.88	Horz(CT)	0.06	11	n/a	n/a	MT18HS	244/190
BCLL	0.0*	Code	IBC2015/TPI2014	Matrix-MSH		Wind(LL)	0.12	18-20	>999	240		
BCDL	10.0										Weight: 407 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2 *Except* 7-10:2x12 SP 2400F 2.0E

BOT CHORD 2x6 SP No.2 *Except* 14-13:2x4 SP No.3

WEBS 2x4 SP No.2 *Except* 22-1:2x4 SP No.1, 5-18,21-2,20-3,6-18:2x4 SP No.3, 11-9:2x4 SP 2400F 2.0E

OTHERS 2x6 SP No.2

BRACING

TOP CHORD Sheathed or 2-4-11 oc purlins, except end verticals, and 2-0-0 oc purlins (3-6-1 max.): 1-6, 7-10.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

WEBS 1 Row at midpt 3-18, 5-18, 8-15, 2-21, 3-20, 6-18

WEBS 2 Rows at 1/3 pts 1-22, 7-16, 9-11

REACTIONS (size) 11=0-3-8, 22=0-3-8
Max Horiz 22=311 (LC 13)
Max Uplift 11=-108 (LC 11), 22=-225 (LC 10)
Max Grav 11=3247 (LC 37), 22=2772 (LC 37)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-22=-2708/247, 1-2=-1827/238, 2-3=-2761/284, 3-5=-2913/290, 5-6=-2918/291, 6-7=-3708/425, 7-8=-1895/261, 8-9=-908/205, 9-10=-105/112, 10-11=-156/2125

BOT CHORD 21-22=-270/219, 20-21=-169/1827, 18-20=-131/2761, 16-18=-111/2037, 15-16=-90/907, 12-15=-91/897, 11-12=-92/894, 13-14=-1/11

WEBS 3-18=-33/294, 5-18=-1026/169, 7-16=-2959/237, 8-16=-183/3479, 14-15=-296/147, 8-14=-123/264, 12-13=-171/649, 9-13=-172/828, 9-11=-5543/562, 7-18=-253/2721, 2-21=-2201/297, 1-21=-243/2959, 2-20=-134/1521, 3-20=-1049/177, 6-18=-1460/194

NORTH CAROLINA
PROFESSIONAL
SEAL
45844
ENGINEER
ANDREW JOHNSON

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) 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) 0-1-12 to 10-1-12, Interior (1) 10-1-12 to 25-8-9, Exterior (2) 25-8-9 to 35-8-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) 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
4) Unbalanced snow loads have been considered for this design.
5) Provide adequate drainage to prevent water ponding.
6) All plates are MT20 plates unless otherwise indicated.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
10) Bearing at joint(s) 11 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 225 lb uplift at joint 22 and 108 lb uplift at joint 11.
12) This truss is designed in accordance with the 2015 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
13) 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.
14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
15) Attic room checked for L/360 deflection.
16) 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

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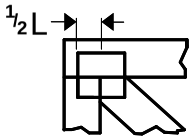
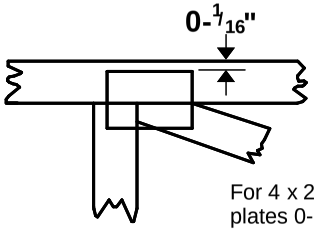
Uniform Loads (lb/ft)
Vert: 1-6=-80, 6-7=-80, 7-10=-80, 15-22=-20,
12-15=-100 (F=-80), 11-12=-20, 13-14=-100 (F=-80)

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.

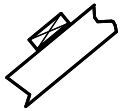
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

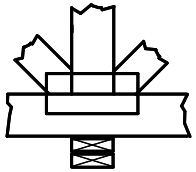
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

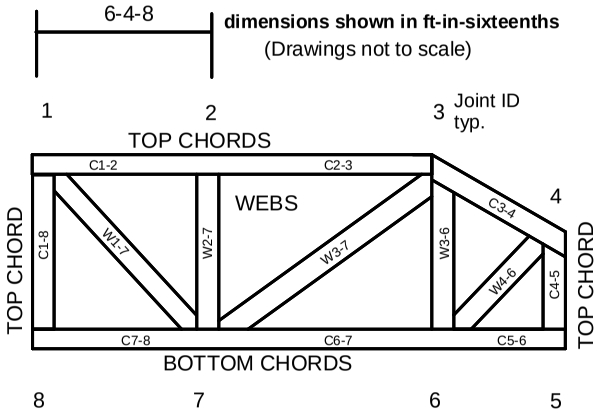


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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
A MiTek Affiliate

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.