ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 31855-31855A
    23 WOODGROVE

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by   84 Components - #2383.

Pages or sheets covered by this seal: I52806925 thru I52806925

My license renewal date for the state of North Carolina is   December 31, 2022.

North Carolina COA: C-0844

NORTH CAROLINA
PROFESSIONAL
SEAL
036322
ERIC A. GILBERT
ENGINEER

June 29,2022

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.

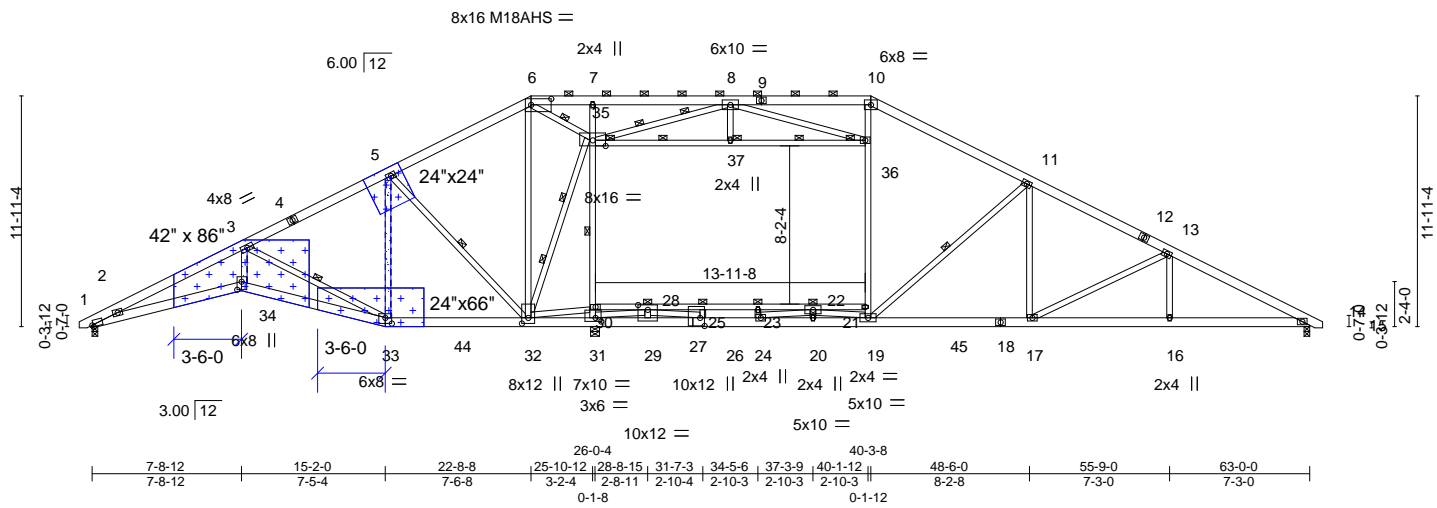| Job	Truss	Truss Type	Qty	Ply	23 WOODGROVE	
31855-31855A	AR	ATTIC	4	1		I52806925
					Job Reference (optional)	

84 Components (Dunn), Dunn, NC - 28334,

8.530 s Dec 6 2021 MiTek Industries, Inc. Tue Jun 28 14:10:36 2022 Page 1
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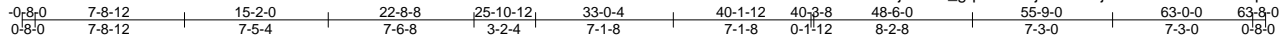
Scale = 1:119.2

ATTACH 3/4" PLYWOOD OR OSB GUSSET (23/32" RATED SHEATHING 48/24 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.

Plate Offsets (X,Y)-- [2:0-0-12,Edge], [6:1-0-8,0-3-12], [27:0-5-0,0-2-12], [28:0-6-0,0-3-0], [31:0-3-8,0-2-4], [32:0-3-8,0-4-0], [33:0-4-0,0-3-8], [34:0-5-0,0-2-12], [35:0-8-0,0-3-8]

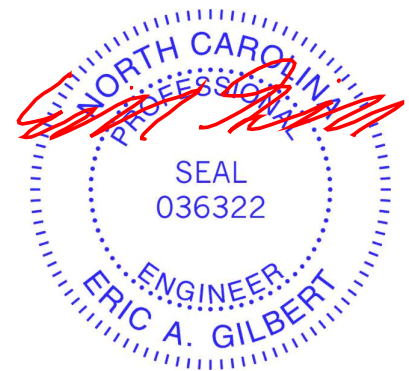| LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.95	Vert(LL)	-0.45	21-22	>991	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.91	21-22	>488	180	M18AHS	186/179
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.98	Horz(CT)	0.31	14	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-MS		Attic	-0.23	21-30	743	360	Weight: 552 lb	FT = 20%

LUMBER-
TOP CHORD   2x6 SP No.2
BOT CHORD   2x6 SP No.2 *Except*
27-33,18-27: 2x6 SP DSS, 21-30: 2x4 SP No.2
WEBS   2x4 SP *Except*
3-33,5-33,5-32,6-32,6-35,11-19,11-17,35-36,8-35,8-36: 2x4 SP
No.2
7-31,10-19: 2x4 SP DSS, 32-35: 2x4 SP No.1

BRACING-
TOP CHORD   Structural wood sheathing directly applied or 3-0-13 oc purlins,
except
2-0-0 oc purlins (2-2-0 max.): 6-10.
BOT CHORD   Rigid ceiling directly applied or 10-0-0 oc bracing,   Except:
8-5-2 oc bracing: 31-32
8-9-11 oc bracing: 29-31.
3-3-0 oc bracing: 21-30
WEBS   1 Row at midpt   3-33, 5-32, 6-35, 30-35, 11-19, 35-37, 36-37
2 Rows at 1/3 pts   8-35, 32-35
JOINTS   1 Brace at Jt(s): 35, 36, 37

REACTIONS.   (size)   2=0-3-8, 31=0-5-8, 14=0-3-8
Max Horz   2=-194(LC 17)
Max Uplift   2=-8(LC 12), 14=-119(LC 13)
Max Grav   2=1417(LC 2), 31=2857(LC 2), 14=2068(LC 27)

FORCES.   (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD   2-3=-4641/519, 3-5=-2009/265, 5-6=-1408/192, 6-7=-188/3194, 7-8=-198/3350,
8-10=-2570/235, 10-11=-2806/194, 11-13=-3534/298, 13-14=-3998/367
BOT CHORD   2-34=-371/4205, 33-34=-363/4063, 32-33=0/1744, 31-32=0/2268, 29-31=0/2441,
26-29=0/2441, 24-26=0/4431, 20-24=0/4004, 19-20=0/4004, 17-19=-12/3100,
16-17=-224/3510, 14-16=-224/3510, 28-30=0/572, 25-28=-2516/0, 23-25=-2516/0,
22-23=-2516/0
WEBS   3-34=-103/2090, 3-33=-2492/431, 5-33=-35/542, 5-32=-919/344, 6-32=-196/3049,
6-35=-5028/478, 30-31=-1745/419, 30-35=-1716/528, 7-35=-447/153, 19-21=0/1214,
21-36=0/1443, 10-36=0/911, 11-19=-978/366, 11-17=-31/546, 13-17=-566/237,
13-16=0/262, 35-37=-1802/0, 36-37=-1801/0, 28-29=-706/0, 25-26=-304/0,
23-24=-281/0, 8-35=-3982/485, 8-36=0/2107, 32-35=-3120/0, 28-31=-1063/155,
26-28=0/2088, 19-22=-1894/0, 22-24=-148/638

NOTES-
1) Repair Condition: web from joint 34 to joint 3 is a damaged section.
2) Repair Condition: web from joint 33 to joint 5 is a damaged section.
3) N/A
4) Unbalanced roof live loads have been considered for this design.
5) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope)
gable end zone and C-C Exterior(2) zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip
DOL=1.60

June 29,2022

[Seal: NORTH CAROLINA PROFESSIONAL ENGINEER, SEAL 036322, ERIC A. GILBERT]

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Job	Truss	Truss Type	Qty	Ply	23 WOODGROVE	
						I52806925
31855-31855A	AR	ATTIC	4	1	Job Reference (optional)	

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ID:hSPrWMHNLCMfmXJlhBDjiGz8N_g-pcXZMLj60KuUXjLBV1ztI5CIOx61GQp4iLVLHllz1k3H

NOTES-

6) WARNING: This long span truss requires extreme care and experience for proper and safe handling and erection. For general handling and erection guidance, see Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses ("BCSI"), jointly produced by SBCA and TPI. The building owner or the owner's authorized agent shall contract with a qualified registered design professional for the design and inspection of the temporary installation restraint/bracing and the permanent individual truss member restraint/bracing. MiTek assumes no responsibility for truss manufacture, handling, erection, or bracing.

7) Provide adequate drainage to prevent water ponding.

8) All plates are MT20 plates unless otherwise indicated.

9) All plates are 4x6 MT20 unless otherwise indicated.

10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.

12) Ceiling dead load (5.0 psf) on member(s). 35-37, 36-37; Wall dead load (5.0psf) on member(s).30-35, 21-36

13) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 28-30, 25-28, 23-25, 22-23, 21-22

14) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.

15) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 31, and 14. This connection is for uplift only and does not consider lateral forces.

16) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

17) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

18) Attic room checked for L/360 deflection.

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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.

1 3/4"

0-1/16"

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

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

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

PLATE SIZE

4 x 4

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

LATERAL BRACING LOCATION

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

BEARING

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

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.

DSB-89: Design Standard for Bracing.

BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System

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

6-4-8

TOP CHORD

1
2
3

TOP CHORDS

WEBS

BOTTOM CHORDS

8
7
6
5

4

TOP CHORD

C1-8, C1-2, W1-7, C7-8, W2-7, C2-3, C6-7, W3-7, W3-6, C5-6, W4-6, C3-4, C4-5

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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⚠ 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 T or 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.