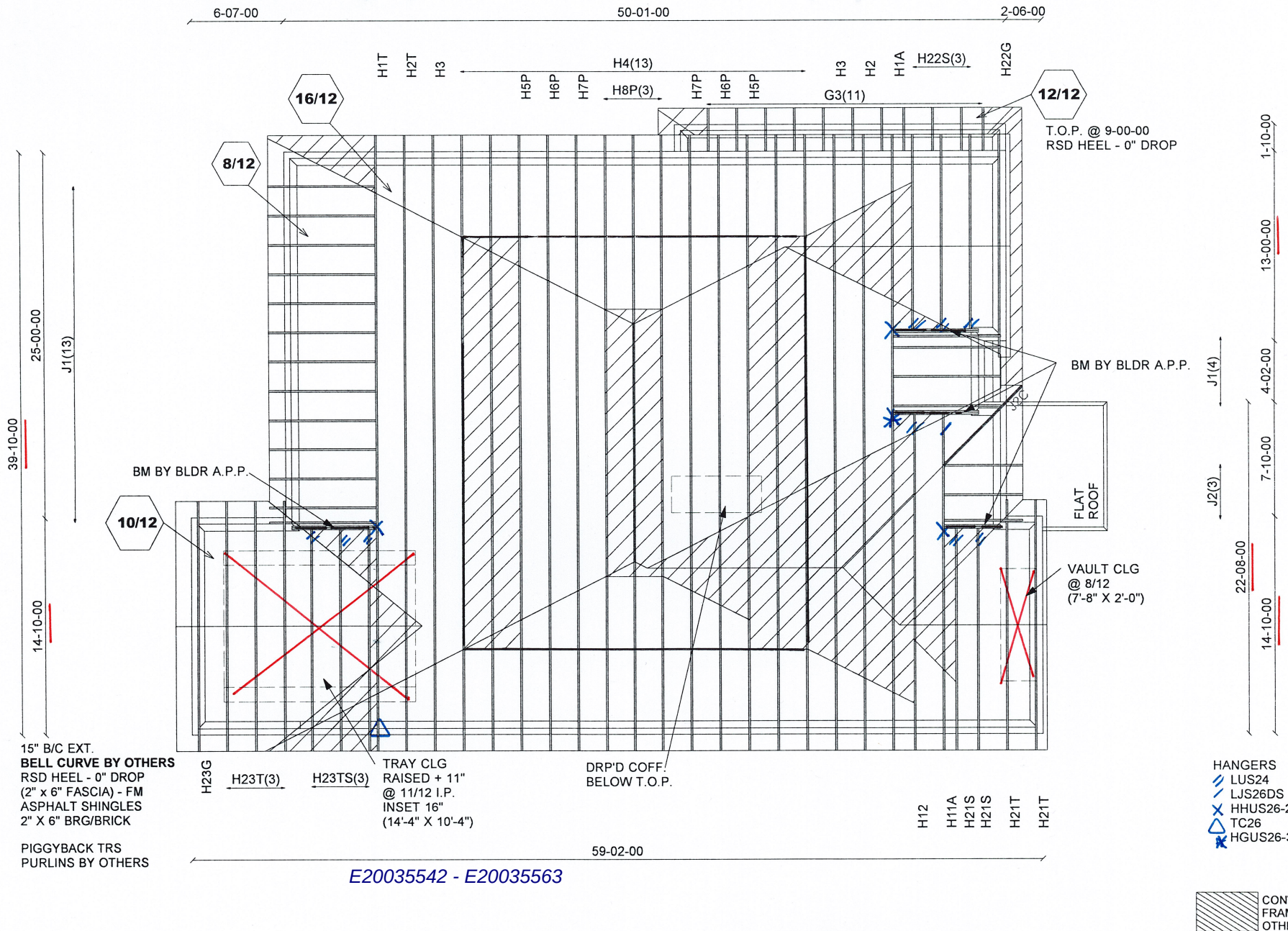


Job Track: **45147**
Layout ID: **318466**
Plan Log: **105728**

Builder / Location:
GOLD PARK HOMES / VAUGHAN
Project: **PINE VALLEY**
Date: 2020-03-17 Designer: AMANDA

OAKGROVE

Model / Elevation:
5003 / B REAR UPG

THESE DRAWINGS CONSTITUTE THE PROPERTY OF ALPA ROOF TRUSSES INC., SHALL NOT BE REPRODUCED, PUBLISHED, OR REDISTRIBUTED IN ANY MANNER OR UTILIZED FOR ANY PURPOSE OTHER THAN THE MANUFACTURE OF TRUSSES BY ALPA ROOF TRUSSES INC AND WILL BE RETRACTED BY ALPA ROOF TRUSSES INC IF UTILIZED FOR ANY OTHER PURPOSE.

EWP DESIGN INC.

(905) 832-2250

FAX (905) 832-0286

RESPONSIBILITIES AND SPECIFICATIONS

RESPONSIBILITIES

1. EWP DESIGN INC. is responsible for the design of trusses as individual components.
2. It is the responsibility of others to ascertain that the design loads utilized on each drawing meet or exceed the actual dead load imposed by the structure, the live load imposed by the intended use and the snow load imposed by local building code or authorities with jurisdictions.
3. All dimensions are to be verified by the owner, contractor, architect or other authorities with jurisdictions before truss fabrication.
4. EWP DESIGN INC. bears no responsibility for the erection of trusses. Persons erecting trusses are cautioned to seek professional advice regarding the temporary and permanent bracing for the system. Bracing shown on EWP DESIGN INC. drawing is specified for the truss as a component only and forms an integral part of the truss design.
5. It is the truss manufacturer's responsibility to ensure that trusses are manufactured in conformance with specifications of EWP DESIGN INC. as outlined below.

SPECIFICATIONS

1. Trusses designed by EWP DESIGN INC. conform to the relevant section of the Ontario Building Code of Canada (Part 9 or Part 4) or to the Canadian code for farm buildings, whichever applies to the building type, as indicated on the EWP DESIGN INC. drawings, and conform to the design procedures established by the Truss Plate Institute of Canada. Unit stresses used for truss designs are as per the edition of CSA-O86 shown on EWP DESIGN INC. drawings.
2. Lumber is to be the size, species and grade as specified on EWP DESIGN INC. drawings.
3. Moisture content of lumber shall not exceed 19% in service unless specified otherwise.
4. Metal connector plates shall be applied to both faces of truss at each joint and shall be positioned as specified.
5. Top chords of trusses are assumed to be continuously braced laterally by roof sheathing or by purlins at intervals not exceeding 12.5 times the thickness of top chord member.
6. Bottom chords shall be laterally braced at intervals not exceeding 3M (10') o.c., where rigid ceiling is not applied directly to the underside of chords.

THESE DRAWINGS CONSTITUTE THE PROPERTY OF EWP DESIGN INC., SHALL NOT BE REPRODUCED, PUBLISHED, OR REDISTRIBUTED IN ANY MANNER OR UTILIZED FOR ANY PURPOSE OTHER THAN THE MANUFACTURE OF TRUSSES BY THE ALPA LUMBER GROUP, AND WILL BE RETRACTED BY EWP DESIGN INC. IF UTILIZED FOR ANY OTHER PURPOSE.

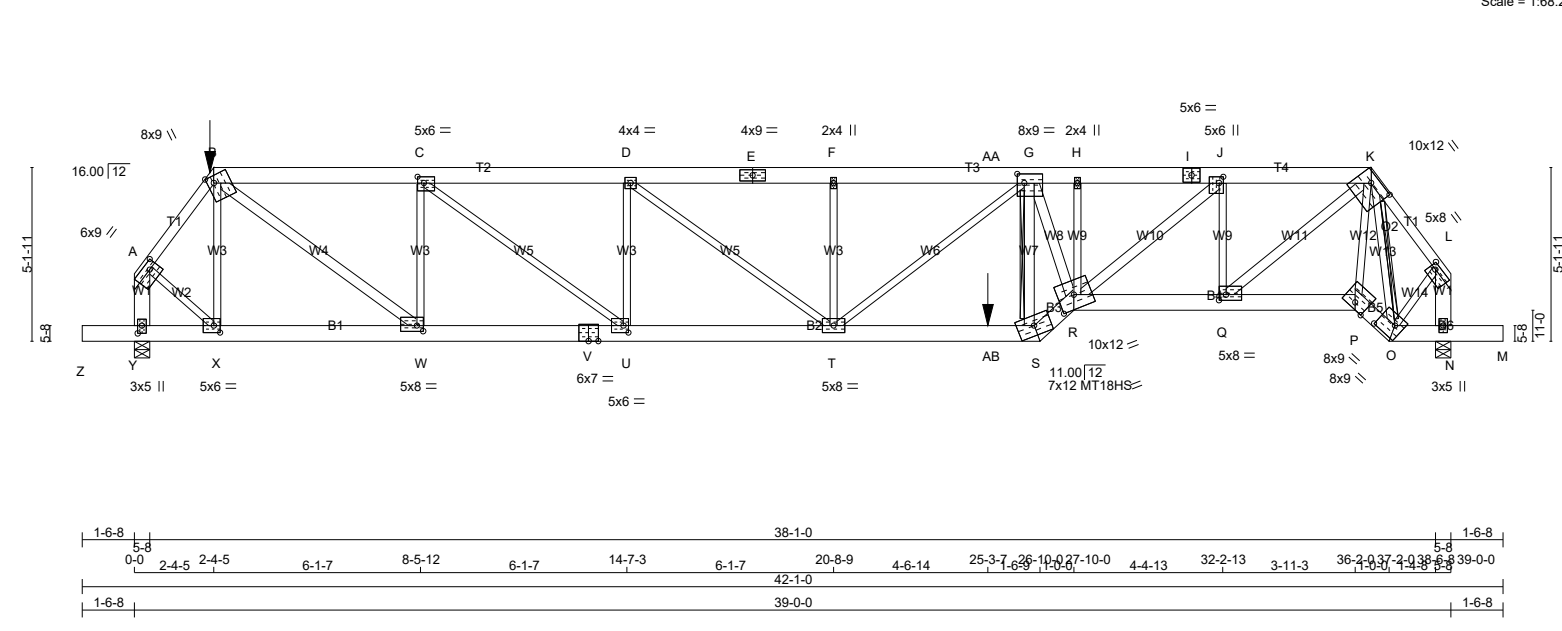
JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
318466	H1T	1	1	TRUSS DESC. JT 45147	E20035542

Alpa Roof Truss, Maple

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ID:Rbextx08A5M1Jnp0FFBKG3yNySB-S2ktWX8maEFMYs9SHKDOwvBxYAUkS9YrcpakA4zzXQ38

Scale = 1:68.2



LUMBER N. L. G. A. RULES CHORDS SIZE LUMBER DESCR. A - B 2x4 DRY No.2 SPF B - E 2x6 DRY No.2 SPF E - I 2x6 DRY No.2 SPF I - K 2x6 DRY No.2 SPF K - L 2x4 DRY No.2 SPF N - A 2x6 DRY No.2 SPF Y - L 2x6 DRY No.2 SPF Z - V 2x6 DRY 2100F 1.8E SPF V - S 2x6 DRY 2100F 1.8E SPF S - R 2x6 DRY 1650F 1.5E SPF R - P 2x6 DRY 2100F 1.8E SPF P - O 2x6 DRY 1650F 1.5E SPF O - M 2x6 DRY 2100F 1.8E SPF ALL WEBS 2x3 DRY No.2 SPF EXCEPT B - W 2x4 DRY No.2 SPF S - G 2x4 DRY No.2 SPF G - R 2x4 DRY No.2 SPF R - J 2x4 DRY No.2 SPF Q - K 2x4 DRY No.2 SPF DRY: SEASONED LUMBER.				DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER BEARINGS FACTORED GROSS REACTION MAXIMUM FACTORED INPUT REQD GROSS REACTION DOWN HORZ UPLIFT BRG IN-SX JT 3941 0 3941 0 0 5-8 4-11 Y 3472 0 3472 0 0 5-8 3-8 N UNFACTORED REACTIONS 1ST LCASE MAX./MIN. COMPONENT REACTIONS JT COMBINED SNOW LIVE PERM.LIVE WIND DEAD SOIL Y 2804 1743 / 0 0 / 0 0 / 0 1061 / 0 0 / 0 N 2463 1572 / 0 0 / 0 0 / 0 891 / 0 0 / 0 BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) Y, N BEARING SIZE FACTOR = 1.15 AT JNT(S) Y, N (BASED ON SUPPORT DEPTH = 1-8) BRACING TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 2.33 FT. MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT. OR RIGID CEILING DIRECTLY APPLIED. ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED. 2x4 DRY SPF No.2 T-BRACE AT G-S, K-O FASTEN T AND I-BRACES TO NARROW EDGE OF WEB WITH ONE ROW PER PLY OF 3" COMMON WIRE NAILS @ 6" O.C. WITH 3" MINIMUM END DISTANCE. BRACE MUST COVER 90% OF WEB LENGTH. END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW LOADING TOTAL LOAD CASES: (4) CHORDS MAX. FACTORED FORCE VERT. LOAD LC1 MAX. FACTORED FORCE VERT. LOAD LC1 MAX. FACTORED FORCE VERT. LOAD LC1 MEMB. (LBS) (PLF) CSI (LC) UNBRAC LENGTH FR-TO FR-TO A-B -3171 / 0 -78.0 -78.0 0.23 (1) 3.73 X-B -950 / 0 0.34 (1) B-C -5642 / 0 -153.5 -153.5 0.70 (1) 3.05 B-W 0 / 4736 0.84 (1) C-D -7726 / 0 -153.5 -153.5 0.94 (1) 2.34 W-C -2641 / 0 0.93 (1) D-E -8423 / 0 -153.5 -153.5 0.90 (1) 2.34 C-U 0 / 2624 0.65 (1) E-F -8423 / 0 -153.5 -153.5 0.90 (1) 2.34 U-D -1459 / 0 0.52 (1) F-AA -8423 / 0 -153.5 -153.5 0.89 (1) 2.33 D-T 0 / 879 0.22 (1) AA-G -8423 / 0 -78.0 -78.0 0.89 (1) 2.33 T-F -880 / 0 0.31 (1) G-H -8243 / 0 -78.0 -78.0 0.77 (1) 2.39 T-G 0 / 1475 0.37 (1) H-I -8232 / 0 -78.0 -78.0 0.77 (1) 2.46 S-G -5338 / 0 0.84 (1) I-J -8232 / 0 -78.0 -78.0 0.77 (1) 2.46 G-R 0 / 3686 0.65 (1) J-K -5389 / 0 -78.0 -78.0 0.33 (1) 3.55 R-H 0 / 387 0.10 (1) K-L -2379 / 0 -78.0 -78.0 0.17 (1) 4.29 R-J 0 / 3724 0.66 (1) Y-A -3805 / 0 0.0 0.0 0.31 (1) 5.44 Q-J -2879 / 0 0.72 (1) N-L -3241 / 0 0.0 0.0 0.26 (1) 5.84 Q-K 0 / 4437 0.78 (1) P-K 0 / 1668 0.41 (1) K-O -2894 / 0 0.61 (1) O-X 0 / 2234 0.55 (1) O-L 0 / 1892 0.47 (1) Z-Y 0 / 0 -96.5 -96.5 0.05 (1) 10.00 Y-X 0 / 0 -36.4 -36.4 0.07 (4) 10.00 X-W 0 / 1879 -36.4 -36.4 0.16 (1) 10.00 W-V 0 / 5642 -36.4 -36.4 0.37 (1) 10.00 V-U 0 / 5642 -36.4 -36.4 0.37 (1) 10.00 U-T 0 / 7726 -36.4 -36.4 0.53 (1) 10.00 T-AB 0 / 7276 -36.4 -36.4 0.85 (1) 10.00 AB-S 0 / 7276 -18.5 -18.5 0.85 (1) 10.00 S-R 0 / 9332 -18.5 -18.5 0.76 (1) 10.00 R-Q 0 / 5389 -18.5 -18.5 0.30 (1) 10.00 Q-P 0 / 2014 -18.5 -18.5 0.12 (1) 10.00 P-O 0 / 2401 -18.5 -18.5 0.20 (1) 10.00 O-N 0 / 0 -18.5 -18.5 0.05 (1) 10.00 N-M 0 / 0 -96.5 -96.5 0.05 (1) 10.00				DESIGN CRITERIA *** SPECIAL LOADS ANALYSIS *** GEOMETRY AND/OR BASIC LOADS CHANGED BY USER. LOADS WERE DERIVED FROM USER INPUT NO FURTHER MODIFICATIONS WERE MADE SPECIFIED LOADS: TOP CH. LL = 21.0 PSF DL = 6.0 PSF BOT CH. LL = 0.0 PSF DL = 7.4 PSF TOTAL LOAD = 34.4 PSF SPACING = 24.0 IN. C/C LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM GIRDER TYPE: CPrimeHip SIDE SETBACK = 2-4-5 END SETBACK = 5-10-8 END WALL WIDTH = 0-0 CORNER FRAMING TYPE: CONVENTIONAL END JACK TYPE: CONVENTIONAL APPLIED TO FRONT SIDE - ADDT'L LOADS BASED ON 55 % OF GSL. LOADS APPLIED TO FIRST 25-3-7 OF SPAN MEASURED FROM THE LEFT. *** NON STANDARD GIRDER *** ADDT'L USER-DEFINED LOADS APPLIED TO ALL LOAD CASES. THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBC2015 THIS DESIGN COMPLIES WITH: - PART 9 OF CBC2018 , ABC 2019 - PART 9 OF OBC 2012 (2019 AMENDMENT) - CSA 086-14 - TPIC 2014 DESIGN ASSUMPTIONS -OVERHANG NOT TO BE ALTERED OR CUT OFF. (55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD ALLOWABLE DEFL.(LL)= L/360 (1.30") CALCULATED VERT. DEFL.(LL) = L/ 999 (0.46") ALLOWABLE DEFL.(TL)= L/360 (1.30") CALCULATED VERT. DEFL.(TL) = L/ 542 (0.86") CANTILEVER DEFLECTION: ALLOWABLE DEFL.(LL)= L/120 (0.19") CALCULATED VERT. DEFL.(LL) = L/ 385 (0.05") ALLOWABLE DEFL.(TL)= L/120 (0.19") CALCULATED VERT. DEFL.(TL) = L/ 203 (0.09") CSI: TC=0.94/1.00 (C-D:1) , BC=0.85/1.00 (S-T:1) , WB=0.93/1.00 (C-W:1) , SSI=0.54/1.00 (S-T:1) DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.00 COMP=1.00 SHEAR=1.00 TENS= 1.00 COMPANION LIVE LOAD FACTOR = 1.00			
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LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2



JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
318466	H1T	1	1	TRUSS DESC. JT 45147	E20035542(2)

PLATES (table is in inches)							FACTORED CONCENTRATED LOADS (LBS)										AUTOSOLVE HEELS OFF			
JT	TYPE	PLATES	W	LEN	Y	X	JT	LOC.	LC1	MAX-	MAX+	FACE	DIR.	TYPE	HEEL	CONN.	TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .			
R	BBWWW-m	MT20	10.0	12.0	5.00	5.75	B	2-4-5	-134	-134	---	FRONT	VERT	TOTAL	---	C1				
S	BBW-m	MT18HS	7.0	12.0			AB	25-3-7	-1034	-1034	---	FRONT	VERT	TOTAL	---	C1				
T	BMWWW-t	MT20	5.0	8.0																
U	BMWW-t	MT20	5.0	6.0	2.50	1.75														
V	BS-t	MT20	6.0	7.0																
W	BMWW-t	MT20	5.0	8.0	2.00	2.25														
X	BMWW-t	MT20	5.0	6.0	2.50	2.25														
Y	BMV1+p	MT20	3.0	5.0	2.75	1.50														
Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.																	NAIL VALUES			
																	PLATE GRIP(DRY) SHEAR SECTION			
																	(PSI) (PLI) (PLI)			
																	MAX MIN MAX MIN MAX MIN			
																	MT20 650 371 1747 788 1987 1873			
																	MT18HS 586 403 2455 1382 3163 3004			
																	PLATE PLACEMENT TOL. = 0.250 inches			
																	PLATE ROTATION TOL. = 5.0 Deg.			
																	JSI GRIP= 0.90 (U) (INPUT = 0.90)			
																	JSI METAL= 1.00 (J) (INPUT = 1.00)			

Scale = 1:68.5

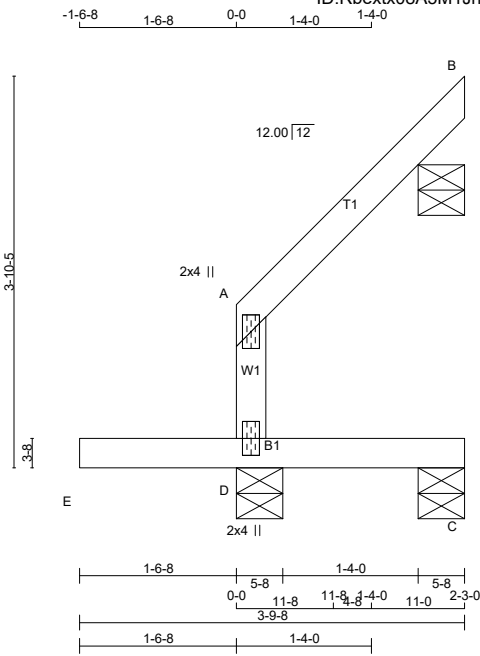
JSI GRIP= 0.90 (M) (INPUT = 0.90)
JSI METAL= 0.83 (S) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
318466	G3	11	1	TRUSS DESC. JT 45147	E20035544

Alpa Roof Truss, Maple

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Scale = 1:22.7

TOTAL WEIGHT = 11 X 10 = 106 lb

LUMBER				
N. L. G. A. RULES				
CHORDS	SIZE	DRY	LUMBER	DESCR.
A - B	2x4	DRY	No.2	SPF
D - A	2x4	DRY	No.2	SPF
E - C	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)				
JT	TYPE	PLATES	W	LEN Y X
A	TMV+p	MT20	2.0	4.0
D	BMV1+p	MT20	2.0	4.0

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

JT	FACTORED GROSS REACTION		MAXIMUM FACTORED GROSS REACTION		INPUT BRG	REQRD BRG
	VERT	HORZ	DOWN	HORZ		
B	78	0	78	0	5-8	5-8
C	16	0	17	0	5-8	1-8
D	272	0	272	0	5-8	1-8

BEVELED PLATE OR SHIM REQUIRED TO PROVIDE FULL BEARING SURFACE WITH TRUSS CHORD AT JT(S): B

UNFACTORED REACTIONS

JT	COMBINED	MAX./MIN. COMPONENT REACTIONS					
		1ST LCASE	SNOW	LIVE	PERM.LIVE	WIND	DEAD
B	54	42 / 0	0 / 0	0 / 0	0 / 0	0 / 0	12 / 0
C	12	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	12 / 0
D	194	117 / 0	0 / 0	0 / 0	0 / 0	0 / 0	77 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) B, C, D

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 10.00 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED.

LOADING

TOTAL LOAD CASES: (5)

MEMB.	CHORDS			WEBS		
	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	FACTORED HORZ. LOAD (LC)	MAX. FACTORED UNBRACED LENGTH FR-TO	MAX. FACTORED FORCE (LBS)	MAX. FACTORED HORZ. LOAD (LC)
A-B	-7 / 0	-78.0	-78.0 0.05 (1)	10.00		
D-A	-98 / 0	0.0	0.0 0.03 (1)	7.81		
E-D	0 / 0	-96.5	-96.5 0.16 (5)	10.00		
D-C	0 / 0	-18.5	-18.5 0.03 (4)	10.00		

CANTILEVER ANALYSIS HAS BEEN CONSIDERED IN THIS DESIGN

PATTERN-LOADING CHECK APPLIED TO THIS TRUSS.

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	21.0	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	0.0	PSF
	DL	=	7.4	PSF
TOTAL LOAD	=	34.4	PSF	

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018, ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- OVERHANG NOT TO BE ALTERED OR CUT OFF.

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(TL)= L/360 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.01")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.01")

CSI: TC=0.05/1.00 (A-B:1) , BC=0.16/1.00 (D-E:5) ,
WB=0.00/1.00 (n/a:0) , SSI=0.12/1.00 (D-E:5)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10
COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE HEELS OFF

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES
PLATE GRIP(DRY) SHEAR SECTION
(PSI) (PLI) (PLI)
MAX MIN MAX MIN MAX MIN
MT20 650 371 1747 788 1987 1873

PLATE PLACEMENT TOL. = 0.250 inches

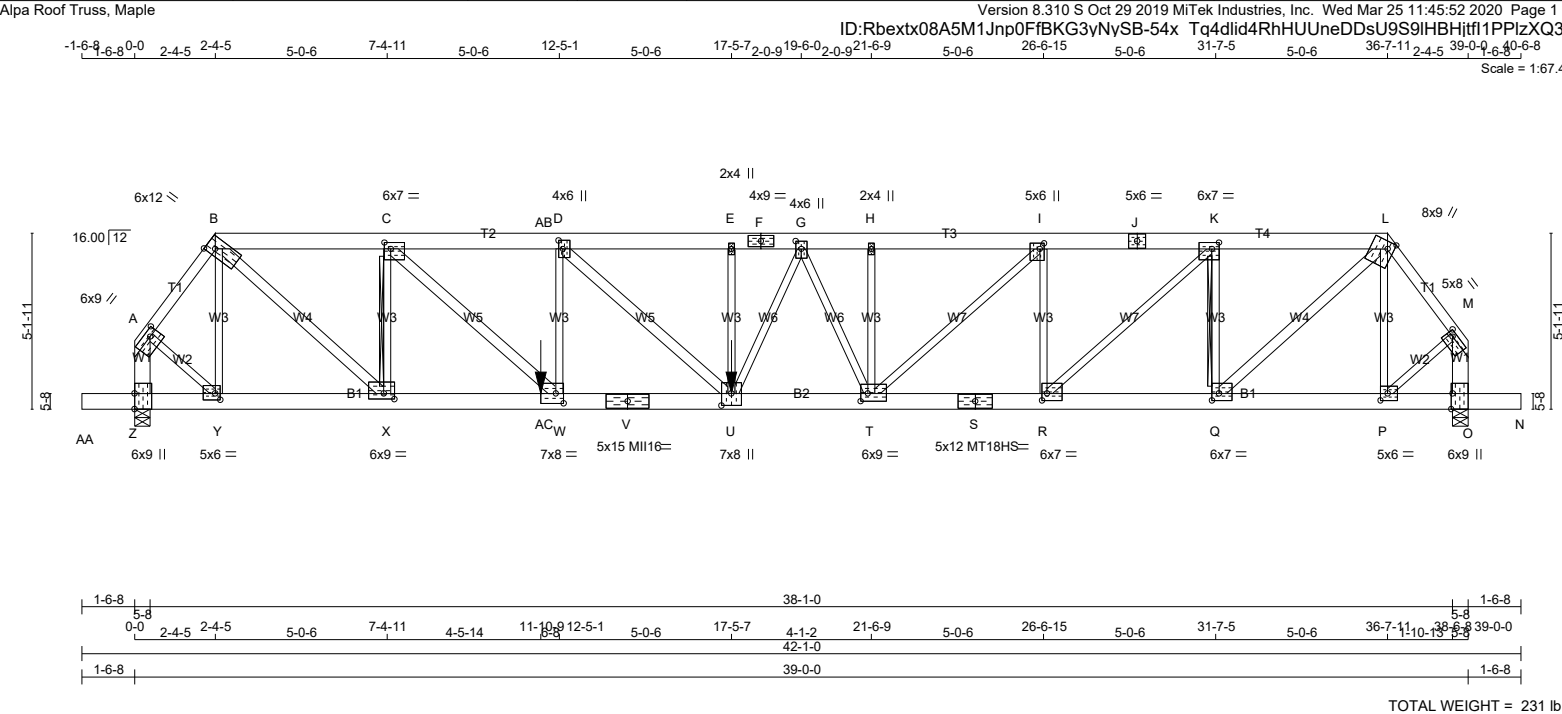
PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.07 (A) (INPUT = 0.90)
JSI METAL= 0.05 (A) (INPUT = 1.00)

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2



JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
318466	H1A	1	1	TRUSS DESC. JT 45147	E20035545



LUMBER N. L. G. A. RULES CHORDS SIZE A - B 2x4 DRY No.2 SPF B - F 2x6 DRY 1650F 1.5E SPF F - J 2x6 DRY 1650F 1.5E SPF J - L 2x6 DRY 1650F 1.5E SPF L - M 2x4 DRY No.2 SPF Z - A 2x6 DRY No.2 SPF O - M 2x6 DRY No.2 SPF AA- V 2x6 DRY 1650F 1.5E SPF V - S 2x6 DRY 1650F 1.5E SPF S - N 2x6 DRY 1650F 1.5E SPF ALL WEBS 2x3 DRY No.2 SPF EXCEPT B - X 2x4 DRY 1650F 1.5E SPF C - W 2x4 DRY No.2 SPF D - U 2x4 DRY No.2 SPF Q - L 2x4 DRY 1650F 1.5E SPF DRY: SEASONED LUMBER.	DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER BEARINGS FACTORED GROSS REACTION JT VERT 4555 Z 3693 O 3693 MAXIMUM FACTORED GROSS REACTION DOWN 4555 0 3693 0 3693 INPUT BRG IN-SX 5-8 5-8 5-8 REQRD BRG IN-SX 5-8 5-8 5-8 UNFACTORED REACTIONS 1ST LCASE MAX./MIN. COMPONENT REACTIONS JT COMBINED SNOW LIVE PERM.LIVE WIND DEAD SOIL Z 3207 2187 / 0 0 / 0 0 / 0 1020 / 0 0 / 0 O 2606 1743 / 0 0 / 0 0 / 0 863 / 0 0 / 0 BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) Z, O BEARING SIZE FACTOR = 1.15 AT JNT(S) Z, O (BASED ON SUPPORT DEPTH = 1-8) BRACING TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 2.63 FT. MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT. OR RIGID CEILING DIRECTLY APPLIED. ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED. 2x4 DRY SPF No.2 T-BRACE AT C-X, K-Q FASTEN T AND I-BRACES TO NARROW EDGE OF WEB WITH ONE ROW PER PLY OF 3" COMMON WIRE NAILS @ 6" O.C. WITH 3" MINIMUM END DISTANCE. BRACE MUST COVER 90% OF WEB LENGTH. END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW LOADING TOTAL LOAD CASES: (4) CHORDS MAX. FACTORED FORCE (LBS) FACTORED VERT. LOAD (PLF) MAX. CSI (LC) WEB S. MAX. FACTORED FORCE (LBS) MAX. CSI (LC) MEMB. FR-TO FROM TO UNBRACED LENGTH FR-TO A-B -3691 / 0 -78.0 -78.0 0.28 (1) 3.43 Y-B -1266 / 0 0.45 (1) B-C -6429 / 0 -78.0 -78.0 0.23 (1) 3.85 B-X 0 / 5796 0.74 (1) C-AB -10070 / 0 -78.0 -78.0 0.40 (1) 3.04 X-C -3787 / 0 0.80 (1) AB-D -10070 / 0 -156.0 -156.0 0.40 (1) 3.04 C-W 0 / 4974 0.88 (1) D-E -11511 / 0 -156.0 -156.0 0.64 (1) 2.63 W-D -2006 / 0 0.71 (1) E-F -11511 / 0 -78.0 -78.0 0.41 (1) 2.84 D-U 0 / 1968 0.35 (1) F-G -11511 / 0 -78.0 -78.0 0.41 (1) 2.84 U-E -478 / 0 0.17 (1) G-H -10061 / 0 -78.0 -78.0 0.32 (1) 3.09 U-G 0 / 1758 0.44 (1) H-I -10061 / 0 -78.0 -78.0 0.42 (1) 3.02 G-T -1860 / 0 0.78 (1) I-J -7819 / 0 -78.0 -78.0 0.29 (1) 3.50 T-H -300 / 0 0.11 (1) J-K -7819 / 0 -78.0 -78.0 0.29 (1) 3.50 T-I 0 / 3064 0.76 (1) K-L -5079 / 0 -78.0 -78.0 0.18 (1) 4.29 R-I -2464 / 0 0.87 (1) L-M -2953 / 0 -78.0 -78.0 0.21 (1) 3.87 R-K 0 / 3743 0.93 (1) Z-A -4414 / 0 0.0 0.0 0.36 (1) 5.07 Q-K -2996 / 0 0.63 (1) O-M -3549 / 0 0.0 0.0 0.29 (1) 5.62 Q-L 0 / 4548 0.58 (1) AA-Z 0 / 0 -96.5 -96.5 0.06 (1) 10.00 P-L -990 / 0 0.35 (1) Z-Y 0 / 0 -18.5 -18.5 0.04 (1) 10.00 A-Y 0 / 2600 0.64 (1) Y-X 0 / 2183 -18.5 -18.5 0.22 (1) 10.00 P-M 0 / 2080 0.51 (1) X-AC 0 / 6429 -18.5 -18.5 0.66 (1) 10.00 AC-W 0 / 6429 -112.0 -112.0 0.66 (1) 10.00 W-V 0 / 10070 -112.0 -112.0 0.97 (1) 10.00 V-U 0 / 10070 -112.0 -112.0 0.97 (1) 10.00 U-T 0 / 10807 -18.5 -18.5 0.95 (1) 10.00 T-S 0 / 7819 -18.5 -18.5 0.70 (1) 10.00 S-R 0 / 7819 -18.5 -18.5 0.70 (1) 10.00 R-Q 0 / 5079 -18.5 -18.5 0.45 (1) 10.00 Q-P 0 / 1747 -18.5 -18.5 0.18 (1) 10.00 P-O 0 / 0 -18.5 -18.5 0.03 (1) 10.00 O-N 0 / 0 -96.5 -96.5 0.06 (1) 10.00	DESIGN CRITERIA *** SPECIAL LOADS ANALYSIS *** GEOMETRY AND/OR BASIC LOADS CHANGED BY USER. LOADS WERE DERIVED FROM USER INPUT NO FURTHER MODIFICATIONS WERE MADE SPECIFIED LOADS: TOP CH. LL = 21.0 PSF DL = 6.0 PSF BOT CH. LL = 0.0 PSF DL = 7.4 PSF TOTAL LOAD = 34.4 PSF SPACING = 24.0 IN./C LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM GIRDER TYPE: CStdGirder START DISTANCE = 11-10-9 START SPAN CARRIED = 5-10-8 END DISTANCE = 17-5-7 END SPAN CARRIED = 5-10-8 END WALL WIDTH = 0-0 APPLIED TO FRONT SIDE OF BOTTOM CHORD. - ADDTL LOADS BASED ON 55 % OF GSL. *** NON STANDARD GIRDER *** ADDTL USER-DEFINED LOADS APPLIED TO ALL LOAD CASES. THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBC 2015 THIS DESIGN COMPLIES WITH: - PART 9 OF CBC 2018 , ABC 2019 - PART 9 OF OBC 2012 (2019 AMENDMENT) - CSA 086-14 - TPIC 2014 (55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD ALLOWABLE DEFL.(LL)= L/360 (1.30") CALCULATED VERT. DEFL.(LL)= L/ 933 (0.50") ALLOWABLE DEFL.(TL)= L/360 (1.30") CALCULATED VERT. DEFL.(TL)= L/ 527 (0.89") CANTILEVER DEFLECTION: ALLOWABLE DEFL.(LL)= L/120 (0.19") CALCULATED VERT. DEFL.(LL)= L/ 999 (0.00") ALLOWABLE DEFL.(TL)= L/120 (0.19") CALCULATED VERT. DEFL.(TL)= L/ 999 (0.00") CSI: TC=0.64/1.00 (D-E:1), BC=0.97/1.00 (U-W:1), WB=0.93/1.00 (K-R:1), SSI=0.68/1.00 (W-X:1) DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.00 COMP=1.00 SHEAR=1.00 TENS= 1.00 COMPANION LIVE LOAD FACTOR = 1.00 AUTOSOLVE HEELS OFF TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT. CONTINUED ON PAGE 2
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LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2



JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
318466	H1A	1	1	TRUSS DESC. JT 45147	E20035545(2)

PLATES (table is in inches)							FACTORED CONCENTRATED LOADS (LBS)							NAIL VALUES						
JT	TYPE	PLATES	W	LEN	Y	X	JT	LOC.	LC1	MAX-	MAX+	FACE	DIR.	TYPE	HEEL	CONN.	PLATE	GRIP(DRY)	SHEAR	SECTION
V	BS-t	MII16	5.0	15.0			U	17-5-7	-2233	-2233	---	FRONT	VERT	TOTAL	---	C1		(PSI)	(PLI)	(PLI)
W	BMWW-t	MT20	7.0	8.0	3.50	2.75												MAX MIN	MAX MIN	MAX MIN
X	BMWW-t	MT20	6.0	9.0	2.00	3.75	AC	11-10-9	-1000	-1000	---	FRONT	VERT	TOTAL	---	C1	MT20	650 371	1747 788	1987 1873
Y	BMWW-t	MT20	5.0	6.0	2.25	1.75											MII16	438 302	2547 1256	4283 1816
Z	BMV1+t	MT20	6.0	9.0	Edge												MT18HS	586 403	2455 1382	3163 3004

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

- 1) C1: A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED.

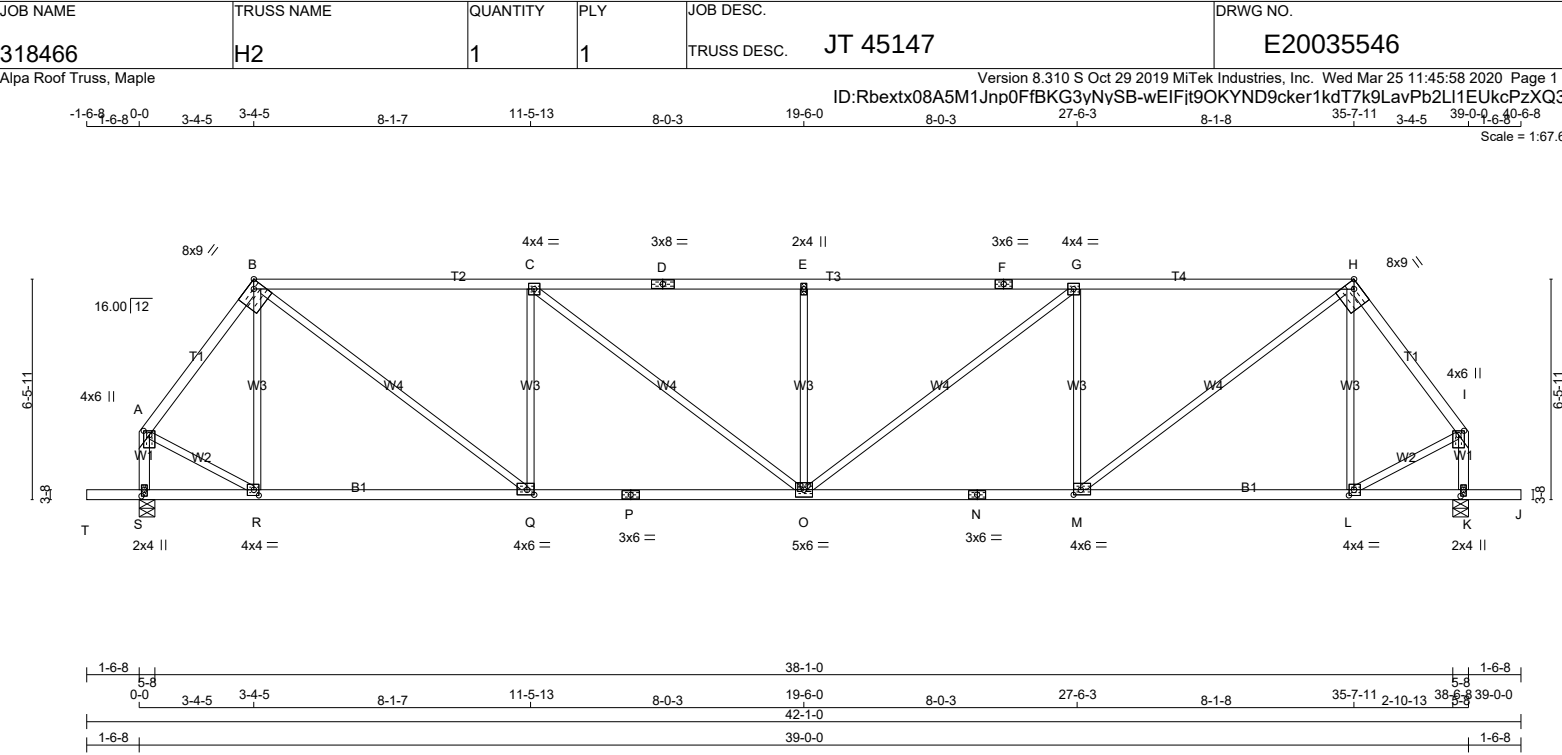
PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.90 (I) (INPUT = 0.90)
JSI METAL= 0.94 (S) (INPUT = 1.00)

LATERAL BRACE(S) SHOWN SHALL BE
2X4 SPF#2

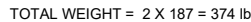




LUMBER N. L. G. A. RULES CHORDS SIZE A - B 2x4 DRY No.2 SPF B - D 2x4 DRY 2100F 1.8E SPF D - F 2x4 DRY 2100F 1.8E SPF F - H 2x4 DRY 2100F 1.8E SPF H - I 2x4 DRY No.2 SPF S - A 2x4 DRY No.2 SPF K - I 2x4 DRY No.2 SPF T - P 2x4 DRY No.2 SPF P - N 2x4 DRY No.2 SPF N - J 2x4 DRY No.2 SPF ALL WEBS 2x3 DRY No.2 SPF EXCEPT DRY: SEASONED LUMBER.				DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER BEARINGS FACTORED GROSS REACTION JT VERT 2030 0 S 2030 0 K 2030 0 MAXIMUM FACTORED GROSS REACTION DOWN 2030 0 HORZ 0 0 UPLIFT 0 0 INPUT BRG IN-SX 5-8 3-0 REQRD BRG IN-SX 3-0 3-0 UNFACTORED REACTIONS 1ST LCASE MAX./MIN. COMPONENT REACTIONS JT COMBINED SNOW LIVE PERM.LIVE WIND DEAD SOIL S 1447 883 / 0 0 / 0 0 / 0 0 / 0 564 / 0 0 / 0 K 1447 883 / 0 0 / 0 0 / 0 0 / 0 564 / 0 0 / 0 BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) S, K BRACING TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 4.16 FT. MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED. ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED. LOADING TOTAL LOAD CASES: (4) CHORDS MEMB. MAX. FACTORED FORCE (LBS) VERT. LOAD LC1 MAX (PLF) CSI (LC) MAX. UNBRAC LENGTH FR-TO FROM TO A-B -1614 / 0 -78.0 -78.0 0.21 (1) 5.02 B-C -2566 / 0 -78.0 -78.0 0.68 (1) 4.48 C-D -3036 / 0 -78.0 -78.0 0.74 (1) 4.16 D-E -3036 / 0 -78.0 -78.0 0.74 (1) 4.16 E-F -3036 / 0 -78.0 -78.0 0.74 (1) 4.16 F-G -3036 / 0 -78.0 -78.0 0.74 (1) 4.16 G-H -2566 / 0 -78.0 -78.0 0.68 (1) 4.48 H-I -1614 / 0 -78.0 -78.0 0.21 (1) 5.02 S-A -1873 / 0 0.0 0.0 0.22 (1) 6.13 K-I -1873 / 0 0.0 0.0 0.22 (1) 6.13 WEBS MEMB. MAX. FACTORED FORCE (LBS) MAX. CSI (LC) FR-TO FROM TO R-B -318 / 0 0.22 (1) B-Q 0 / 2018 0.45 (1) Q-C -1065 / 0 0.73 (1) C-O 0 / 593 0.13 (1) O-E -578 / 0 0.39 (1) E-G 0 / 593 0.13 (1) G-M -1065 / 0 0.73 (1) M-H 0 / 2018 0.45 (1) H-L -318 / 0 0.22 (1) A-R 0 / 1060 0.24 (1) L-I 0 / 1060 0.24 (1) T-S 0 / 0 -96.5 -96.5 0.16 (1) 10.00 S-R 0 / 0 -18.5 -18.5 0.18 (4) 10.00 R-Q 0 / 956 -18.5 -18.5 0.33 (4) 10.00 Q-P 0 / 2566 -18.5 -18.5 0.54 (1) 10.00 P-O 0 / 2566 -18.5 -18.5 0.54 (1) 10.00 O-N 0 / 2566 -18.5 -18.5 0.54 (1) 10.00 N-M 0 / 2566 -18.5 -18.5 0.54 (1) 10.00 M-L 0 / 956 -18.5 -18.5 0.33 (4) 10.00 L-K 0 / 0 -18.5 -18.5 0.18 (4) 10.00 K-J 0 / 0 -96.5 -96.5 0.16 (1) 10.00				DESIGN CRITERIA SPECIFIED LOADS: TOP CH. LL = 21.0 PSF DL = 6.0 PSF BOT CH. LL = 0.0 PSF DL = 7.4 PSF TOTAL LOAD = 34.4 PSF SPACING = 24.0 IN. C/C LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBC 2015 THIS DESIGN COMPLIES WITH: - PART 9 OF CBC 2018, ABC 2019 - PART 9 OF OBC 2012 (2019 AMENDMENT) - CSA 086-14 - TPIC 2014 (55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD ALLOWABLE DEFL.(LL)= L/360 (1.30") CALCULATED VERT. DEFL.(LL) = L/999 (0.16") ALLOWABLE DEFL.(TL)= L/360 (1.30") CALCULATED VERT. DEFL.(TL) = L/999 (0.33") CANTILEVER DEFLECTION: ALLOWABLE DEFL.(LL)= L/120 (0.19") CALCULATED VERT. DEFL.(LL) = L/999 (0.01") ALLOWABLE DEFL.(TL)= L/120 (0.19") CALCULATED VERT. DEFL.(TL) = L/999 (0.01") CSI: TC=0.74/1.00 (E-G:1), BC=0.54/1.00 (O-Q:1), WB=0.73/1.00 (G-M:1), SSI=0.30/1.00 (G-H:1) DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10 COMPANION LIVE LOAD FACTOR = 1.00 TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT. NAIL VALUES PLATE GRIP(DRY) SHEAR SECTION (PSI) (PLI) (PLI) MAX MIN MAX MIN MAX MIN MT20 650 371 1747 788 1987 1873 PLATE PLACEMENT TOL. = 0.250 inches PLATE ROTATION TOL. = 5.0 Deg. JSI GRIP= 0.90 (Q) (INPUT = 0.90) JSI METAL= 0.84 (P) (INPUT = 1.00)			
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LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

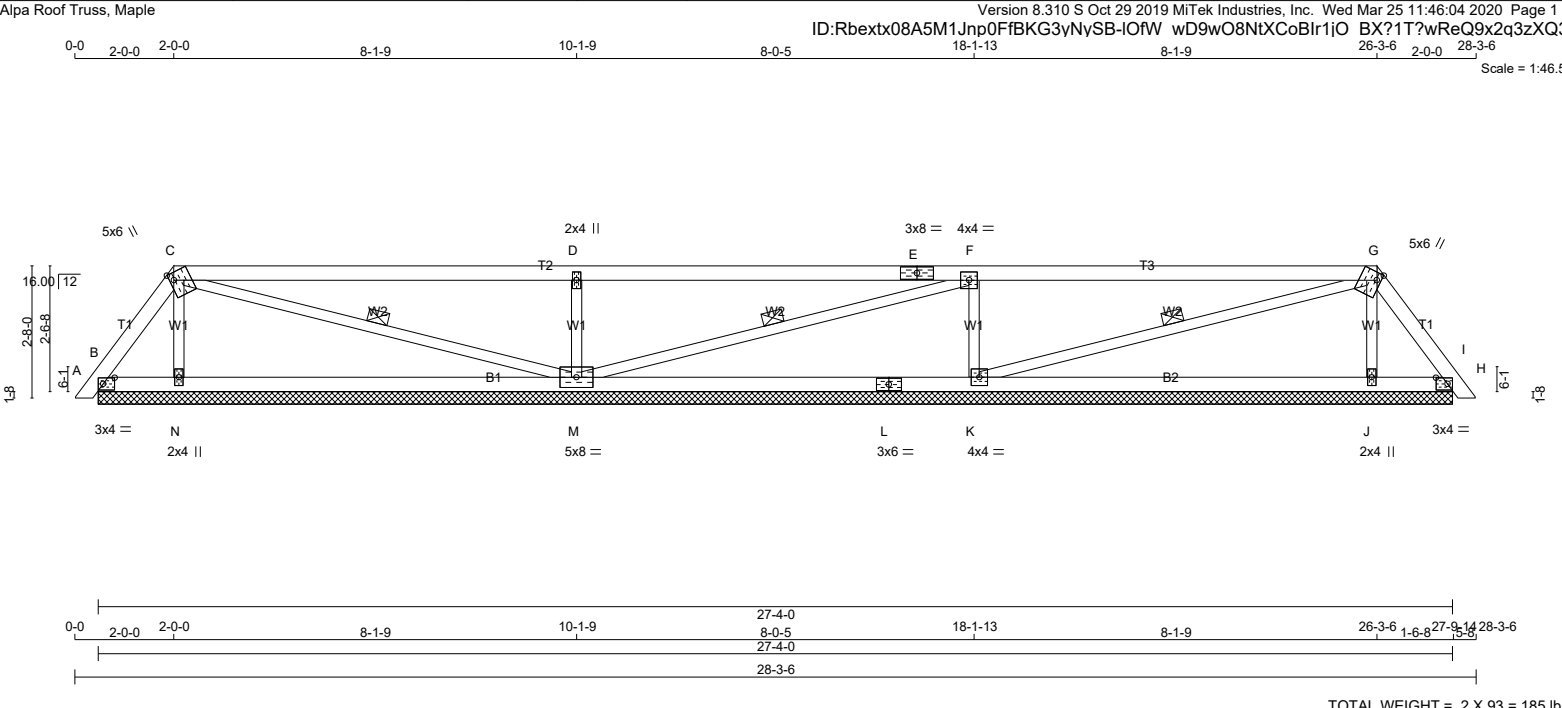


Scale = 1:67.6

S-R	0/0	-96.5	-96.5	0.16 (1)	10.00
R-Q	0/0	-18.5	-18.5	0.16 (4)	10.00
Q-P	0/986	-18.5	-18.5	0.31 (4)	10.00
P-O	0/2152	-18.5	-18.5	0.46 (1)	10.00
O-N	0/2152	-18.5	-18.5	0.46 (1)	10.00
N-M	0/2152	-18.5	-18.5	0.46 (1)	10.00
M-L	0/2152	-18.5	-18.5	0.46 (1)	10.00
L-K	0/986	-18.5	-18.5	0.31 (4)	10.00
K-J	0/0	-18.5	-18.5	0.16 (4)	10.00
J-I	0/0	-96.5	-96.5	0.16 (1)	10.00

JSI GRIP= 0.88 (A) (INPUT = 0.90)
JSI METAL= 0.69 (O) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
318466	H5P	2	1	TRUSS DESC. JT 45147	E20035549



LUMBER N. L. G. A. RULES CHORDS SIZE LUMBER DESCR. A - C 2x4 DRY No.2 SPF C - E 2x4 DRY No.2 SPF E - G 2x4 DRY No.2 SPF G - I 2x4 DRY No.2 SPF B - L 2x4 DRY No.2 SPF L - H 2x4 DRY No.2 SPF ALL WEBS 2x3 DRY No.2 SPF DRY: SEASONED LUMBER.				DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER BEARINGS FACTORED GROSS REACTION MAXIMUM FACTORED GROSS REACTION INPUT REQRD JT VERT HORZ DOWN HORZ UPLIFT IN-SX IN-SX B 119 0 119 0 -6 27-4-0 (11-4-8)2-15 N 374 0 374 0 0 27-4-0 (11-4-8)2-15 M 860 0 860 0 0 27-4-0 (11-4-8)2-15 K 842 0 842 0 0 27-4-0 (11-4-8)2-15 J 365 0 365 0 0 27-4-0 (11-4-8)2-15 H 132 0 132 0 -4 27-4-0 (11-4-8)2-15 VALUE IN PARENTHESIS INDICATES EFFECTIVE BEARING LENGTH PROVIDE ANCHORAGE AT BEARING JOINT B FOR 150 LBS FACTORED UPLIFT PROVIDE ANCHORAGE AT BEARING JOINT H FOR 150 LBS FACTORED UPLIFT UNFACTORED REACTIONS 1ST LCASE MAX./MIN. COMPONENT REACTIONS JT COMBINED SNOW LIVE PERM.LIVE WIND DEAD SOIL B 79 83 / 0 0 / 0 0 / 0 0 / -4 0 / 0 N 273 127 / 0 0 / 0 0 / 0 0 / 0 146 / 0 0 / 0 M 612 382 / 0 0 / 0 0 / 0 0 / 0 230 / 0 0 / 0 K 599 372 / 0 0 / 0 0 / 0 0 / 0 227 / 0 0 / 0 J 268 123 / 0 0 / 0 0 / 0 0 / 0 145 / 0 0 / 0 H 87 90 / 0 0 / 0 0 / 0 0 / 0 0 / -3 0 / 0 BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) B, N, M, K, J, H BRACING TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT. MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED. ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED. 1 LATERAL BRACE(S) AT 1/2 LENGTH OF C-M, F-M, G-K. LOADING TOTAL LOAD CASES: (4) CHORDS MAX. FACTORED WEBS MAX. FACTORED MEMB. FORCE (LBS) VERT. LOAD (PLF) MAX. CSI (LC) UNBRAC LENGTH FR-TO MEMB. FORCE (LBS) MAX. CSI (LC) FR-TO FROM TO A-B 0 / 10 -78.0 -78.0 0.01 (1) 10.00 N-C -237 / 0 0.04 (1) B-C -82 / 0 -78.0 -78.0 0.03 (1) 6.25 C-M -38 / 0 0.02 (1) C-D 0 / 1 -78.0 -78.0 0.69 (1) 10.00 M-D -692 / 0 0.11 (1) D-E 0 / 0 -78.0 -78.0 0.69 (1) 10.00 M-F -26 / 0 0.01 (1) E-F 0 / 0 -78.0 -78.0 0.69 (1) 10.00 K-F -685 / 0 0.11 (1) F-G -23 / 0 -78.0 -78.0 0.69 (1) 6.25 K-G -22 / 0 0.01 (1) G-H -98 / 0 -78.0 -78.0 0.03 (1) 6.25 J-G -228 / 0 0.04 (1) H-I 0 / 10 -78.0 -78.0 0.01 (1) 10.00 B-N 0 / 47 -18.5 -18.5 0.20 (4) 10.00 N-M 0 / 36 -18.5 -18.5 0.24 (4) 10.00 M-L 0 / 24 -18.5 -18.5 0.24 (4) 10.00 L-K 0 / 24 -18.5 -18.5 0.24 (4) 10.00 K-J 0 / 45 -18.5 -18.5 0.24 (4) 10.00 J-H 0 / 56 -18.5 -18.5 0.20 (4) 10.00				DESIGN CRITERIA SPECIFIED LOADS: TOP CH. LL = 21.0 PSF DL = 6.0 PSF BOT CH. LL = 0.0 PSF DL = 7.4 PSF TOTAL LOAD = 34.4 PSF SPACING = 24.0 IN./C LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBC 2015 THIS DESIGN COMPLIES WITH: - PART 9 OF CBC 2018 , ABC 2019 - PART 9 OF OBC 2012 (2019 AMENDMENT) - CSA 086-14 - TPIC 2014 (55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD CSI: TC=0.69/1.00 (F-G:1) , BC=0.24/1.00 (J-K:4) , WB=0.11/1.00 (D-M:1) , SSI=0.30/1.00 (F-G:1) DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10 COMPANION LIVE LOAD FACTOR = 1.00 TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT . NAIL VALUES PLATE GRIP(DRY) SHEAR SECTION (PSI) (PLI) (PLI) MAX MIN MAX MIN MAX MIN MT20 650 371 1747 788 1987 1873 PLATE PLACEMENT TOL. = 0.250 inches PLATE ROTATION TOL. = 5.0 Deg. JSI GRIP= 0.79 (K) (INPUT = 0.90) JSI METAL= 0.54 (E) (INPUT = 1.00)			
PLATES (table is in inches) JT TYPE PLATES W LEN Y X B TMB1-I MT20 3.0 4.0 1.50 2.75 C TTWW+m MT20 5.0 6.0 1.75 1.00 D TMW+w MT20 2.0 4.0 E TS-t MT20 3.0 8.0 F TMWW-t MT20 4.0 4.0 G TTWW+m MT20 5.0 6.0 1.75 1.00 H TMB1-I MT20 3.0 4.0 1.50 2.75 J BMW1+w MT20 2.0 4.0 K BMWW1-t MT20 4.0 4.0 L BS-t MT20 3.0 6.0 M BMWW1-t MT20 5.0 8.0 N BMW1+w MT20 2.0 4.0				TOTAL WEIGHT = 2 X 93 = 185 lb [M]							
LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2											

Alpa Roof Truss, Maple

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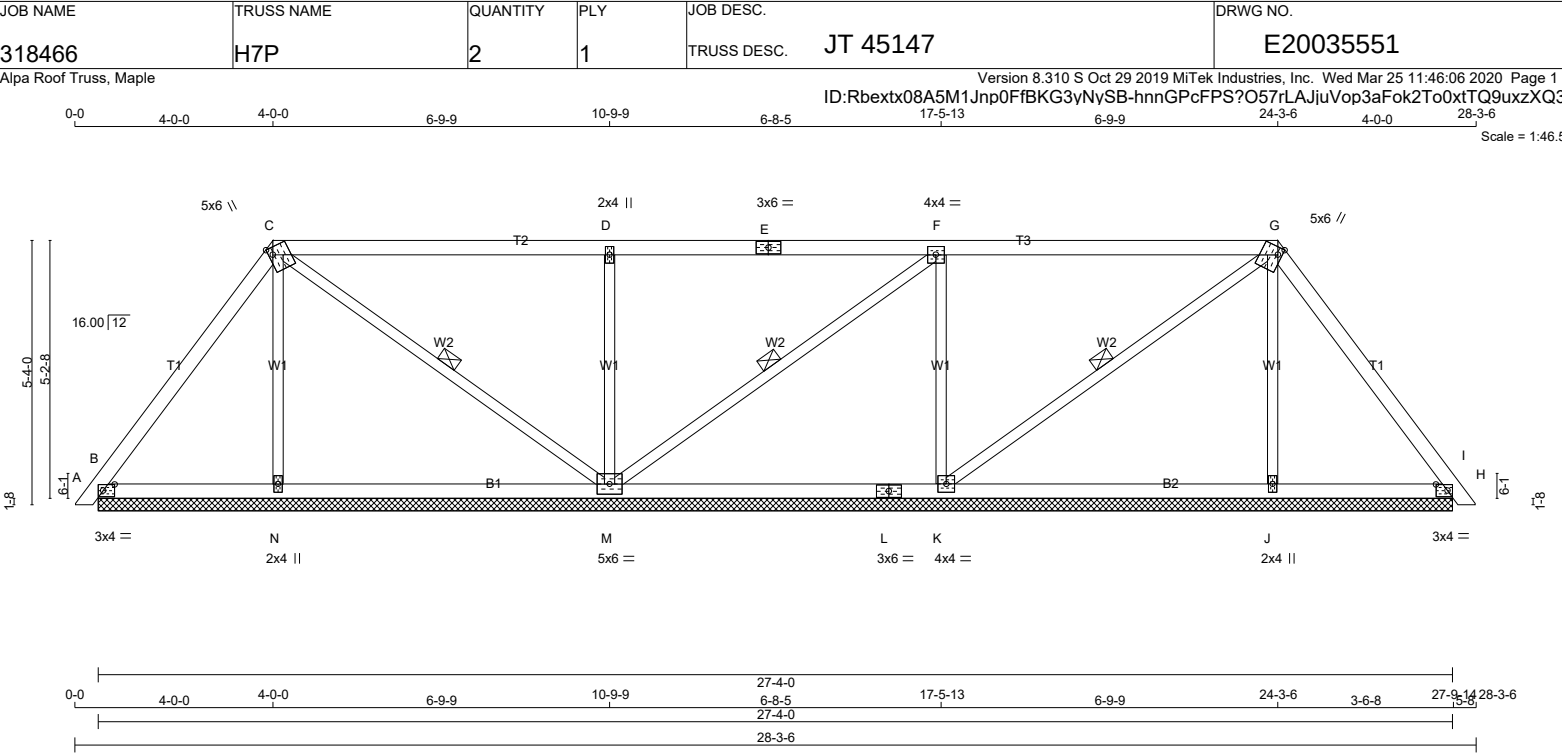
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Scale = 1:46.3

The drawing illustrates a roof truss system with the following details:

- Top View:** Shows the plan of the truss with a total length of 28'-3-6". Key dimensions include 0'-0", 3'-0-0", 3'-0-0", 7'-5-9", 10'-5-9", 7'-4-5", 17'-9-13", 7'-5-9", 25'-3-6", 3'-0-0", and 28'-3-6".
- Side View:** Shows the elevation of the truss with a total height of 16'-0-0". Key dimensions include 4'-0-0", 3'-10-8", 16'-0-0", 6'-1", and 1'-3".
- Bottom View:** Shows the base of the truss with a total length of 28'-3-6". Key dimensions include 0'-0", 3'-0-0", 3'-0-0", 7'-5-9", 10'-5-9", 27'-4-0", 7'-4-5", 17'-9-13", 7'-5-9", 25'-3-6", 2'-6-8", and 27'-9-14".
- Members and Connections:** The truss consists of various members labeled with alphanumeric codes (e.g., T1, T2, T3, W1, W2, B1, B2, C, D, E, F, G, H, I, J, K, L, M, N) and their respective sizes (e.g., 5x6, 2x4, 3x6, 4x4, 3x4). Connections are indicated by symbols like double lines (||) and single lines (=).
- Scale:** The drawing is scaled at 1:46.3.

TOTAL WEIGHT = 2 X 98 = 196 lb



LUMBER

N. L. G. A. RULES

CHORDS	SIZE	LUMBER	DESCR.
A - C	2x4	DRY	No.2
C - E	2x4	DRY	No.2
E - G	2x4	DRY	No.2
G - I	2x4	DRY	No.2
B - L	2x4	DRY	No.2
L - H	2x4	DRY	No.2

ALL WEBS 2x3 DRY

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMB1-I	MT20	3.0	4.0	1.50	2.75
C	TTWW+m	MT20	5.0	6.0	1.75	1.00
D	TMW+w	MT20	2.0	4.0		
E	TS-t	MT20	3.0	6.0		
F	TMWW-t	MT20	4.0	4.0		
G	TTWW+m	MT20	5.0	6.0	1.75	1.00
H	TMB1-I	MT20	3.0	4.0	1.50	2.75
J	BMW1+w	MT20	2.0	4.0		
K	BMWW1-t	MT20	4.0	4.0		
L	BS-t	MT20	3.0	6.0		
M	BMWW1-t	MT20	5.0	6.0		
N	BMW1+w	MT20	2.0	4.0		

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2



DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION		MAXIMUM FACTORED GROSS REACTION		INPUT BRG	REQRD BRG
	VERT	HORZ	DOWN	HORZ		
B	258	0	258	0	27-4-0 (11-4-8)	11-3
N	321	0	321	0	27-4-0 (11-4-8)	11-3
M	831	0	831	0	27-4-0 (11-4-8)	11-3
K	665	0	665	0	27-4-0 (11-4-8)	11-3
J	315	0	315	0	27-4-0 (11-4-8)	11-3
H	303	0	303	0	27-4-0 (11-4-8)	11-3

VALUE IN PARENTHESIS INDICATES EFFECTIVE BEARING LENGTH

UNFACTORED REACTIONS

JT	1ST LCASE	MAX / MIN	COMPONENT REACTIONS
B	COMBINED	SNOW	LIVE
N	180	129 / 0	0 / 0
M	234	115 / 0	0 / 0
K	589	379 / 0	0 / 0
J	474	290 / 0	0 / 0
H	230	112 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) B, N, M, K, J, H

BRACING
TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED.

1 LATERAL BRACE(S) AT 1/2 LENGTH OF C-M, F-M, G-K.

LOADING
TOTAL LOAD CASES: (4)

CHORDS				WEBS			
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	MAX. FACTORED CSI (LC)	MEMB.	MAX. FACTORED FORCE (LBS)	MAX. FACTORED CSI (LC)	
FR-TO		FROM TO		FR-TO			
A-B	0 / 10	-78.0 -78.0	0.01 (1)	N-C	-213 / 0	0.09 (1)	
B-C	-92 / 0	-78.0 -78.0	0.17 (1)	C-M	-107 / 0	0.05 (1)	
C-D	0 / 38	-78.0 -78.0	0.49 (1)	M-D	-578 / 0	0.23 (1)	
D-E	0 / 38	-78.0 -78.0	0.49 (1)	M-F	-107 / 0	0.05 (1)	
E-F	0 / 38	-78.0 -78.0	0.49 (1)	K-F	-514 / 0	0.21 (1)	
F-G	-48 / 0	-78.0 -78.0	0.48 (1)	K-G	-41 / 0	0.02 (1)	
G-H	-147 / 0	-78.0 -78.0	0.17 (1)	J-G	-207 / 0	0.08 (1)	
H-I	0 / 10	-78.0 -78.0	0.01 (1)				
B-N	0 / 54	-18.5 -18.5	0.13 (4)				
N-M	0 / 49	-18.5 -18.5	0.17 (4)				
M-L	0 / 48	-18.5 -18.5	0.17 (4)				
L-K	0 / 48	-18.5 -18.5	0.17 (4)				
K-J	0 / 82	-18.5 -18.5	0.17 (4)				
J-H	0 / 86	-18.5 -18.5	0.13 (4)				

DESIGN CRITERIA

SPECIFIED LOADS:
TOP CH. LL = 21.0 PSF
DL = 6.0 PSF
BOT CH. LL = 0.0 PSF
DL = 7.4 PSF
TOTAL LOAD = 34.4 PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018, ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

CSI: TC=0.49/1.00 (D-F:1), BC=0.17/1.00 (J-K:4), WB=0.23/1.00 (D-M:1), SSI=0.25/1.00 (F-G:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10
COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT.

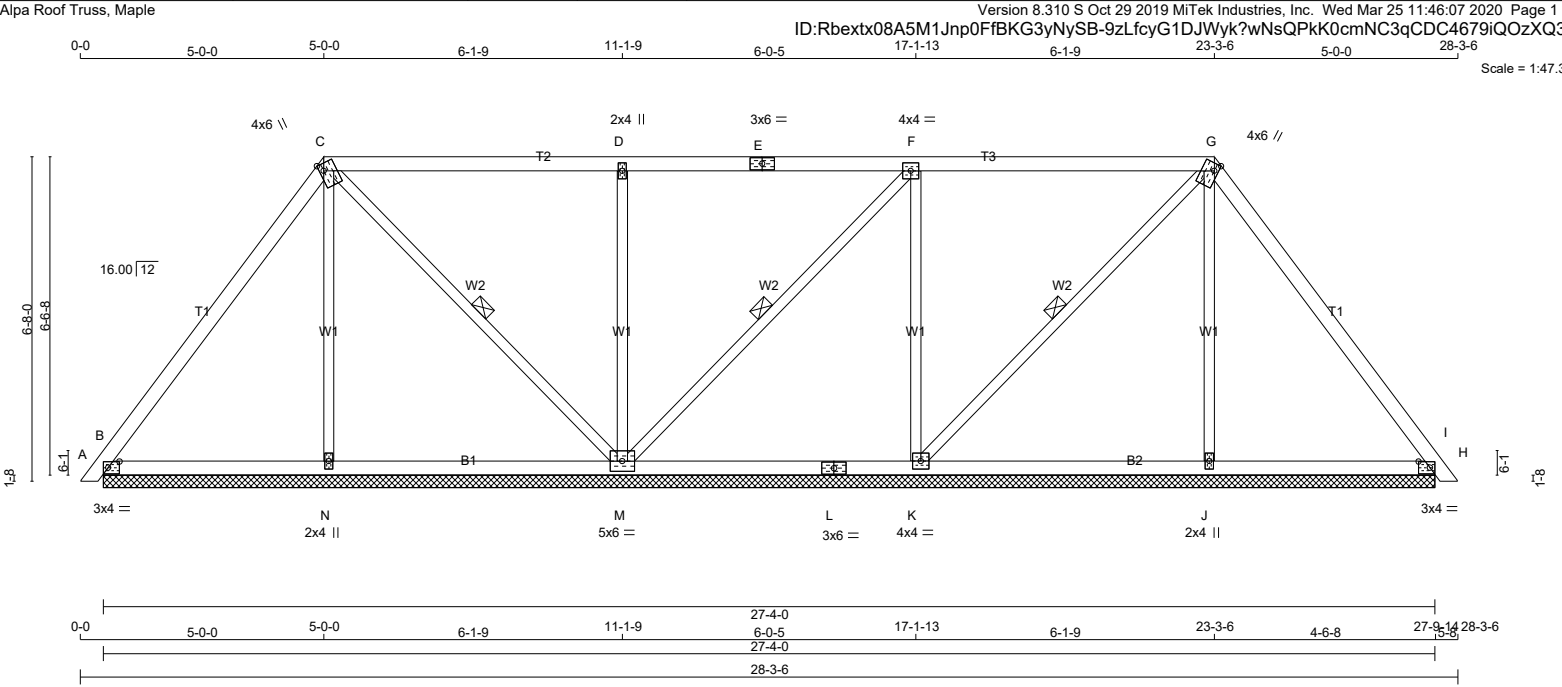
NAIL VALUES
PLATE GRIP(DRY) SHEAR SECTION (PSI) (PLI) (PLI)
MAX MIN MAX MIN MAX MIN
MT20 650 371 1747 788 1987 1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.62 (C) (INPUT = 0.90)
JSI METAL= 0.23 (E) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
318466	H8P	3	1	TRUSS DESC. JT 45147	E20035552



LUMBER				DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER				DESIGN CRITERIA			
N. L. G. A. RULES				BEARINGS				SPECIFIED LOADS:			
CHORDS	SIZE	LUMBER	DESCR.	FACTORED GROSS REACTION	MAXIMUM FACTORED GROSS REACTION	INPUT BRG	REQRD BRG	TOP CH.	LL	DL	PSF
A - C	2x4	DRY	No.2	VERT	HORZ	DOWN	UPLIFT	BOT CH.	LL	DL	PSF
C - E	2x4	DRY	No.2	B	306	0	306	0	0	0	0
E - G	2x4	DRY	No.2	N	308	0	308	0	0	0	0
G - I	2x4	DRY	No.2	M	834	0	834	0	0	0	0
B - L	2x4	DRY	No.2	K	572	0	572	0	0	0	0
L - H	2x4	DRY	No.2	J	307	0	307	0	0	0	0
ALL WEBS	2x3	DRY	No.2	H	365	0	365	0	0	0	0
DRY: SEASONED LUMBER.				TOTAL WEIGHT = 3 X 111 = 332 lb				[M]			

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMB1-I	MT20	3.0	4.0	1.50	2.75
C	TTWW+m	MT20	4.0	6.0	1.75	1.00
D	TMW+w	MT20	2.0	4.0		
E	TS-t	MT20	3.0	6.0		
F	TMWW-t	MT20	4.0	4.0		
G	TTWW+m	MT20	4.0	6.0	1.75	1.00
H	TMB1-I	MT20	3.0	4.0	1.50	2.75
J	BMW1+w	MT20	2.0	4.0		
K	BMWW1-t	MT20	4.0	4.0		
L	BS-t	MT20	3.0	6.0		
M	BMWWW1-t	MT20	5.0	6.0		
N	BMW1+w	MT20	2.0	4.0		

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2



UNFACTORED REACTIONS

JT	1ST LCASE	MAX / MIN	COMPONENT REACTIONS
JT	COMBINED	SNOW	LIVE
B	215	148 / 0	0 / 0
N	225	107 / 0	0 / 0
M	590	389 / 0	0 / 0
K	408	248 / 0	0 / 0
J	224	106 / 0	0 / 0
H	256	179 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) B, N, M, K, J, H

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.

MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED.

1 LATERAL BRACE(S) AT 1/2 LENGTH OF C-M, F-M, G-K.

LOADING

TOTAL LOAD CASES: (4)

CHORDS				WEBS			
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	MAX LC1 CSI (LC)	MEMB.	MAX. FACTORED FORCE (LBS)	MAX UNBRAC LENGTH	FACTORED CSI (LC)
FR-TO		FROM	TO	FR-TO			
A-B	0 / 10	-78.0	-78.0 0.01 (1)	N-C	-199 / 0	10.00	0.14 (1)
B-C	-87 / 0	-78.0	-78.0 0.27 (1)	C-M	-139 / 0	6.25	0.07 (1)
C-D	0 / 50	-78.0	-78.0 0.40 (1)	M-D	-521 / 0	10.00	0.36 (1)
D-E	0 / 49	-78.0	-78.0 0.40 (1)	M-F	-142 / 0	10.00	0.07 (1)
E-F	0 / 49	-78.0	-78.0 0.40 (1)	K-F	-418 / 0	10.00	0.29 (1)
F-G	-49 / 0	-78.0	-78.0 0.39 (1)	K-G	-59 / 0	6.25	0.03 (1)
G-H	-160 / 0	-78.0	-78.0 0.28 (1)	J-G	-198 / 0	6.25	0.14 (1)
H-I	0 / 10	-78.0	-78.0 0.01 (1)			10.00	
B-N	0 / 52	-18.5	-18.5 0.13 (4)			10.00	
N-M	0 / 48	-18.5	-18.5 0.14 (4)			10.00	
M-L	0 / 50	-18.5	-18.5 0.14 (4)			10.00	
L-K	0 / 50	-18.5	-18.5 0.14 (4)			10.00	
K-J	0 / 91	-18.5	-18.5 0.14 (4)			10.00	
J-H	0 / 94	-18.5	-18.5 0.13 (4)			10.00	

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBC 2015

THIS DESIGN COMPLIES WITH:

- PART 9 OF BCBC 2018, ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

CSI: TC=0.40/1.00 (D-F:1), BC=0.14/1.00 (J-K:4), WB=0.36/1.00 (D-M:1), SSI=0.22/1.00 (F-G:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT.

NAIL VALUES

PLATE	GRIP(DRY)	SHEAR	SECTION
	(PSI)	(PLI)	(PLI)
MAX MIN	MAX MIN	MAX MIN	MAX MIN
MT20	650	371	1747 788 1987 1873

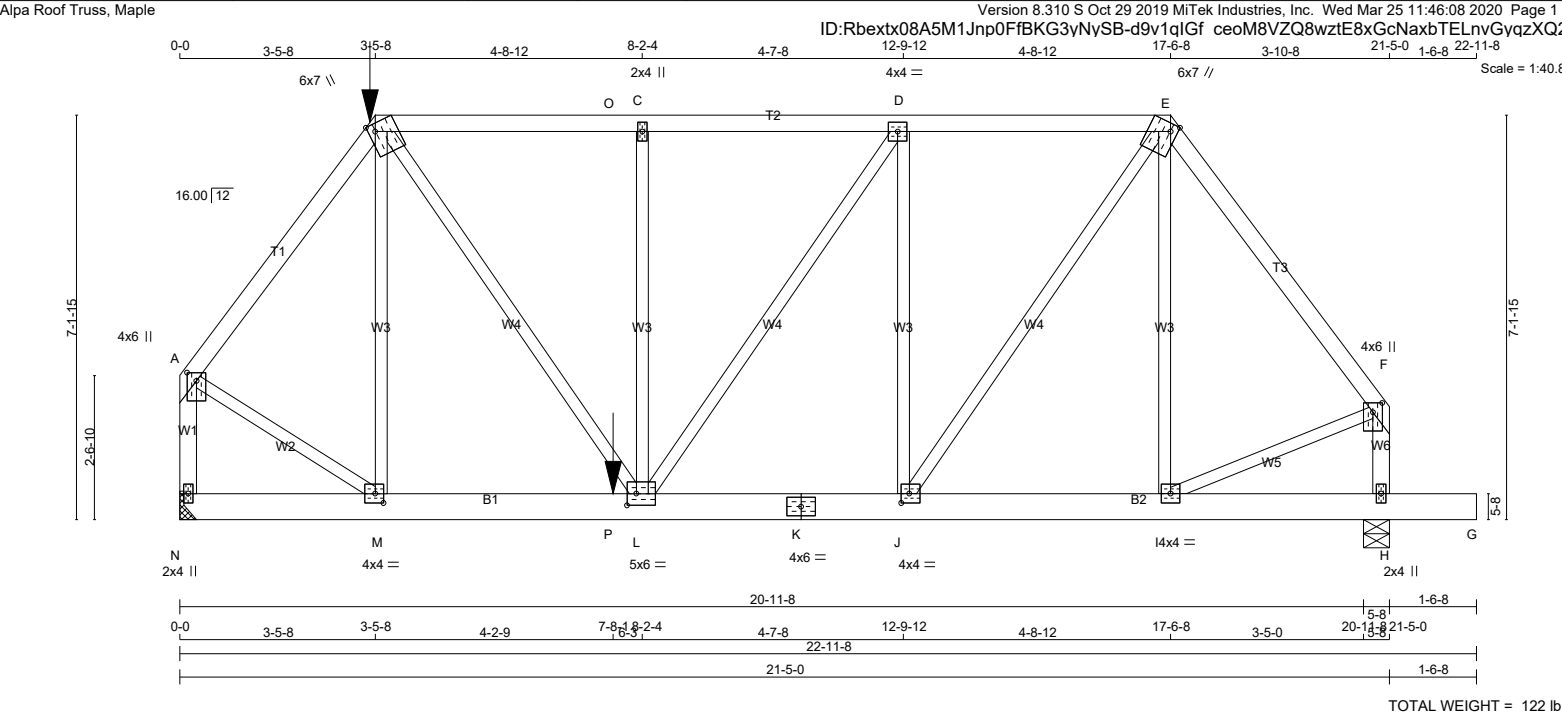
PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.62 (G) (INPUT = 0.90)

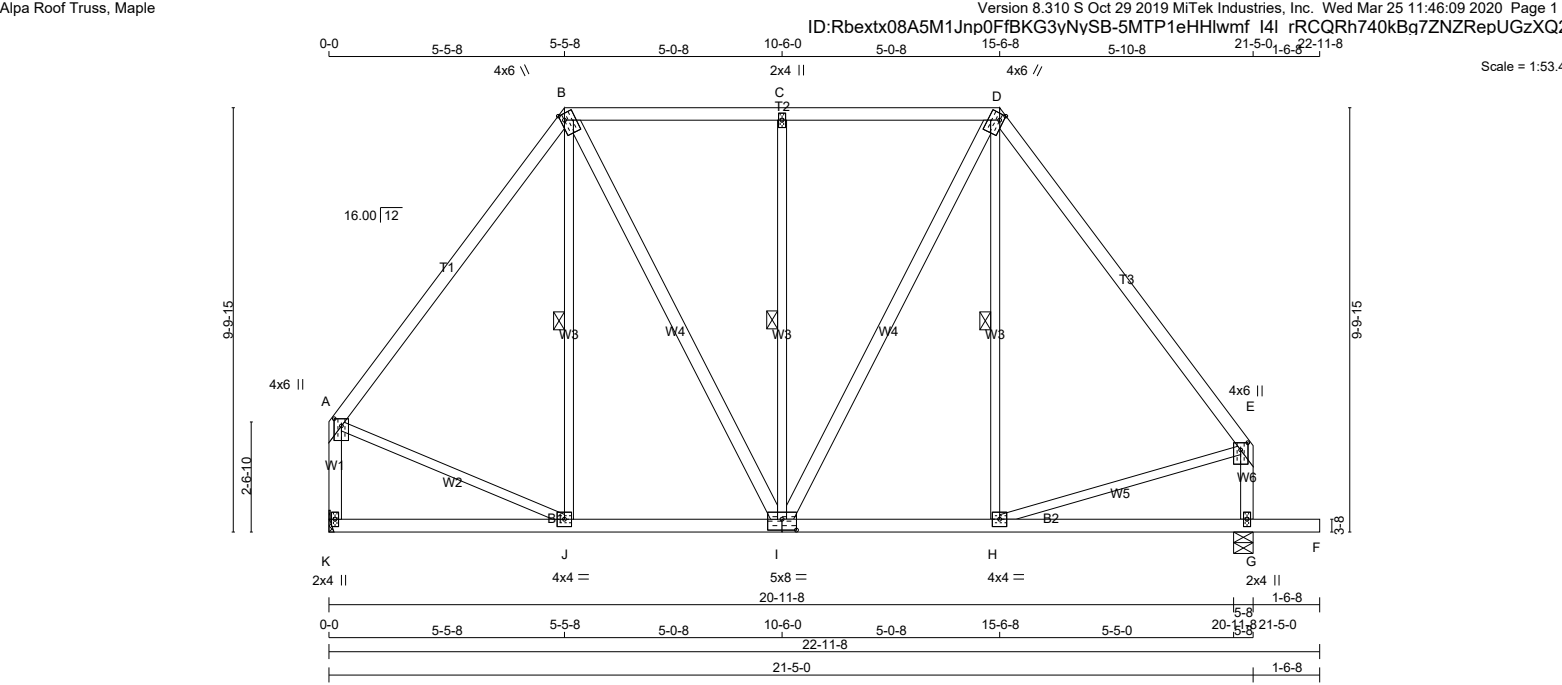
JSI METAL= 0.19 (E) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
318466	H11A	1	1	TRUSS DESC. JT 45147	E20035553



LUMBER N. L. G. A. RULES CHORDS SIZE LUMBER DESCR. A - B 2x4 DRY No.2 SPF B - E 2x4 DRY No.2 SPF E - F 2x4 DRY No.2 SPF N - A 2x4 DRY No.2 SPF H - F 2x4 DRY No.2 SPF N - K 2x6 DRY No.2 SPF K - G 2x6 DRY No.2 SPF ALL WEBS 2x3 DRY No.2 SPF EXCEPT DRY: SEASONED LUMBER.					DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER BEARINGS FACTORED GROSS REACTION MAXIMUM FACTORED GROSS REACTION INPUT REQ'D JT VERT HORZ DOWN HORZ UPLIFT IN-SX IN-SX N 1772 0 1772 0 0 MECHANICAL H 1519 0 1519 0 0 5-8 2-4 A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT N. MINIMUM BEARING LENGTH AT JOINT N = 2-4. UNFACTORED REACTIONS 1ST LCASE MAX./MIN. COMPONENT REACTIONS JT COMBINED SNOW LIVE PERM.LIVE WIND DEAD SOIL N 1255 812 / 0 0 / 0 0 / 0 443 / 0 0 / 0 H 1078 686 / 0 0 / 0 0 / 0 0 / 0 392 / 0 0 / 0 BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) H BRACING TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 4.88 FT. MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT. OR RIGID CEILING DIRECTLY APPLIED. ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED. LOADING TOTAL LOAD CASES: (4) CHORDS WEBS MEMB. MAX. FACTORED FORCE (LBS) FACTORED VERT. LOAD (PLF) MAX. UNBRACED LENGTH FR-TO MAX. FACTORED FORCE (LBS) MAX. FACTORED CSI (LC) FR-TO FROM TO A-B -1413 / 0 -78.0 -78.0 0.23 (1) 5.22 M-B -254 / 0 0.22 (1) B-O -1474 / 0 -114.5 -114.5 0.39 (1) 4.88 B-L 0 / 1107 0.27 (1) O-C -1474 / 0 -78.0 -78.0 0.39 (1) 4.88 L-C -472 / 0 0.40 (1) C-D -1474 / 0 -78.0 -78.0 0.36 (1) 4.93 L-D 0 / 428 0.11 (1) D-E -1233 / 0 -78.0 -78.0 0.27 (1) 5.43 J-D -728 / 0 0.62 (1) E-F -1158 / 0 -78.0 -78.0 0.27 (1) 5.58 J-E 0 / 948 0.23 (1) N-A -1761 / 0 0.0 0.0 0.25 (1) 6.24 I-E -161 / 8 0.14 (1) H-F -1345 / 0 0.0 0.0 0.16 (1) 6.95 A-M 0 / 975 0.24 (1) I-F 0 / 740 0.18 (1) N-M 0 / 0 -27.2 -27.2 0.10 (1) 10.00 M-P 0 / 838 -27.2 -27.2 0.30 (1) 10.00 P-L 0 / 838 -18.5 -18.5 0.30 (1) 10.00 L-K 0 / 1233 -18.5 -18.5 0.24 (1) 10.00 K-J 0 / 1233 -18.5 -18.5 0.24 (1) 10.00 J-I 0 / 688 -18.5 -18.5 0.12 (1) 10.00 I-H 0 / 0 -18.5 -18.5 0.04 (4) 10.00 H-G 0 / 0 -96.5 -96.5 0.08 (1) 10.00 FACTORED CONCENTRATED LOADS (LBS) JT LOC. LC1 MAX- MAX+ FACE DIR TYPE HEEL CONN. B 3-5-8 -107 -107 --- FRONT VERT TOTAL --- C1 P 7-8-1 -749 -749 --- FRONT VERT TOTAL --- C1					DESIGN CRITERIA *** SPECIAL LOADS ANALYSIS *** GEOMETRY AND/OR BASIC LOADS CHANGED BY USER. LOADS WERE DERIVED FROM USER INPUT NO FURTHER MODIFICATIONS WERE MADE SPECIFIED LOADS: TOP CH. LL = 21.0 PSF DL = 6.0 PSF BOT CH. LL = 0.0 PSF DL = 7.4 PSF TOTAL LOAD = 34.4 PSF SPACING = 24.0 IN. C/C LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM GIRDER TYPE: CPrimeHip LEFT SETBACK = 3-5-8 RIGHT SETBACK = 3-10-8 END SETBACK = 3-10-8 END WALL WIDTH = 0-0 CORNER FRAMING TYPE: CONVENTIONAL END JACK TYPE: CONVENTIONAL APPLIED TO FRONT SIDE - ADDTL LOADS BASED ON 55 % OF GSL. LOADS APPLIED TO FIRST 7-8-1 OF SPAN MEASURED FROM THE LEFT. *** NON STANDARD GIRDER *** ADDTL USER-DEFINED LOADS APPLIED TO ALL LOAD CASES. THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCS 2015 THIS DESIGN COMPLIES WITH: - PART 9 OF CBCS 2018, ABC 2019 - PART 9 OF OBC 2012 (2019 AMENDMENT) - CSA 086-14 - TPIC 2014 (55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD ALLOWABLE DEFL.(LL)= L/360 (0.71") CALCULATED VERT. DEFL.(LL)= L/ 999 (0.04") ALLOWABLE DEFL.(TL)= L/360 (0.71") CALCULATED VERT. DEFL.(TL)= L/ 999 (0.08") CANTILEVER DEFLECTION: ALLOWABLE DEFL.(LL)= L/120 (0.19") CALCULATED VERT. DEFL.(LL)= L/ 999 (0.00") ALLOWABLE DEFL.(TL)= L/120 (0.19") CALCULATED VERT. DEFL.(TL)= L/ 999 (0.00") CSI: TC=0.39/1.00 (B-C:1), BC=0.30/1.00 (L-M:1), WB=0.62/1.00 (D-J:1), SSI=0.48/1.00 (L-M:1) DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.00 COMP=1.00 SHEAR=1.00 TENS=1.00 COMPANION LIVE LOAD FACTOR = 1.00				
PLATES (table is in inches) JT TYPE PLATES W LEN Y X A TMVW+p MT20 4.0 6.0 1.75 2.00 B TTWW+m MT20 6.0 7.0 Edge 1.50 C TMW+w MT20 2.0 4.0 D TMWW-t MT20 4.0 4.0 E TTWW+m MT20 6.0 7.0 Edge 1.50 F TMVW+p MT20 4.0 6.0 2.00 2.00 H BMV1+p MT20 2.0 4.0 I BMWW-t MT20 4.0 4.0 J BMWW-t MT20 4.0 4.0 2.00 1.75 K BS-t MT20 4.0 6.0 L BMWWW-t MT20 5.0 6.0 2.50 2.00 M BMWW-t MT20 4.0 4.0 2.00 1.75 N BMV1+p MT20 2.0 4.0 Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.					LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2									
					CONTINUED ON PAGE 2									

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
318466	H12	1	1	TRUSS DESC. JT 45147	E20035554



LUMBER				DESCR.	
N. L. G. A. RULES					
CHORDS	SIZE	LUMBER			
A - B	2x4	DRY	No.2	SPF	
B - D	2x4	DRY	No.2	SPF	
D - E	2x4	DRY	1650F 1.5E	SPF	
K - A	2x4	DRY	No.2	SPF	
G - E	2x4	DRY	No.2	SPF	
K - I	2x4	DRY	No.2	SPF	
I - F	2x4	DRY	No.2	SPF	
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF	
B - I	2x4	DRY	No.2	SPF	
I - D	2x4	DRY	No.2	SPF	

DRY: SEASONED LUMBER.

PLATES (table is in inches)						
JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW+p	MT20	4.0	6.0	2.00	2.00
B	TTWW+m	MT20	4.0	6.0	1.75	1.00
C	TMW+w	MT20	2.0	4.0		
D	TTWW+m	MT20	4.0	6.0	1.75	1.00
E	TMVW+p	MT20	4.0	6.0	2.00	2.00
G	BMV1+p	MT20	2.0	4.0		
H	BMWW-t	MT20	4.0	4.0		
I	BSWWW-l	MT20	5.0	8.0	3.00	4.00
J	BMWW-t	MT20	4.0	4.0		
K	BMV1+p	MT20	2.0	4.0		

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2



DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS		FACTORED GROSS REACTION		MAXIMUM FACTORED GROSS REACTION		INPUT BRG		REQRD BRG	
JT	VERT	HORZ		JT	VERT	HORZ		JT	VERT
K	1033	0		K	1033	0		K	1033
G	1182	0		G	1182	0		G	1182

A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT K. MINIMUM BEARING LENGTH AT JOINT K = 1-8.

UNFACTORED REACTIONS							
JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
K	737	450 / 0	0 / 0	0 / 0	0 / 0	287 / 0	0 / 0
G	843	514 / 0	0 / 0	0 / 0	0 / 0	328 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) G

BRACING
TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT. OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED.

1 LATERAL BRACE(S) AT 1/2 LENGTH OF B-J, C-I, D-H.

END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW

LOADING
TOTAL LOAD CASES: (4)

CHORDS				WEBS			
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	MAX. FACTORED CSI (LC)	MEMB.	MAX. FACTORED FORCE (LBS)	MAX. FACTORED CSI (LC)	
FR-TO		FROM TO		FR-TO			
A-B	-754 / 0	-78.0 -78.0	0.32 (1)	J-B	-54 / 66	0.04 (1)	
B-C	-604 / 0	-78.0 -78.0	0.25 (1)	B-I	0 / 330	0.05 (1)	
C-D	-604 / 0	-78.0 -78.0	0.25 (1)	I-C	-476 / 0	0.31 (1)	
D-E	-790 / 0	-78.0 -78.0	0.31 (1)	I-D	0 / 283	0.05 (1)	
K-A	-993 / 0	0.0 0.0	0.14 (1)	H-D	0 / 91	0.03 (4)	
G-E	-989 / 0	0.0 0.0	0.11 (1)	A-J	0 / 483	0.11 (1)	
				H-E	0 / 489	0.11 (1)	
K-J	0 / 0	-18.5 -18.5	0.15 (4)				
J-I	0 / 450	-18.5 -18.5	0.19 (4)				
I-H	0 / 472	-18.5 -18.5	0.21 (4)				
H-G	0 / 0	-18.5 -18.5	0.16 (4)				
G-F	0 / 0	-96.5 -96.5	0.16 (1)				

DESIGN CRITERIA

SPECIFIED LOADS:			
TOP CH.	LL	=	21.0 PSF
	DL	=	6.0 PSF
BOT CH.	LL	=	0.0 PSF
	DL	=	7.4 PSF
TOTAL LOAD	=	34.4	PSF

SPACING = 24.0 IN./C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF CBC 2018, ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (0.71")
CALCULATED VERT. DEFL.(LL) = L/999 (0.01")
ALLOWABLE DEFL.(TL)= L/360 (0.71")
CALCULATED VERT. DEFL.(TL) = L/999 (0.04")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/999 (0.01")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/999 (0.01")

CSI: TC=0.32/1.00 (A-B:1), BC=0.21/1.00 (H-I:4), WB=0.31/1.00 (C-I:1), SSI=0.19/1.00 (B-C:1)

DOL LUMBER=1.00 NAIL=1.00 LBS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS=1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT.

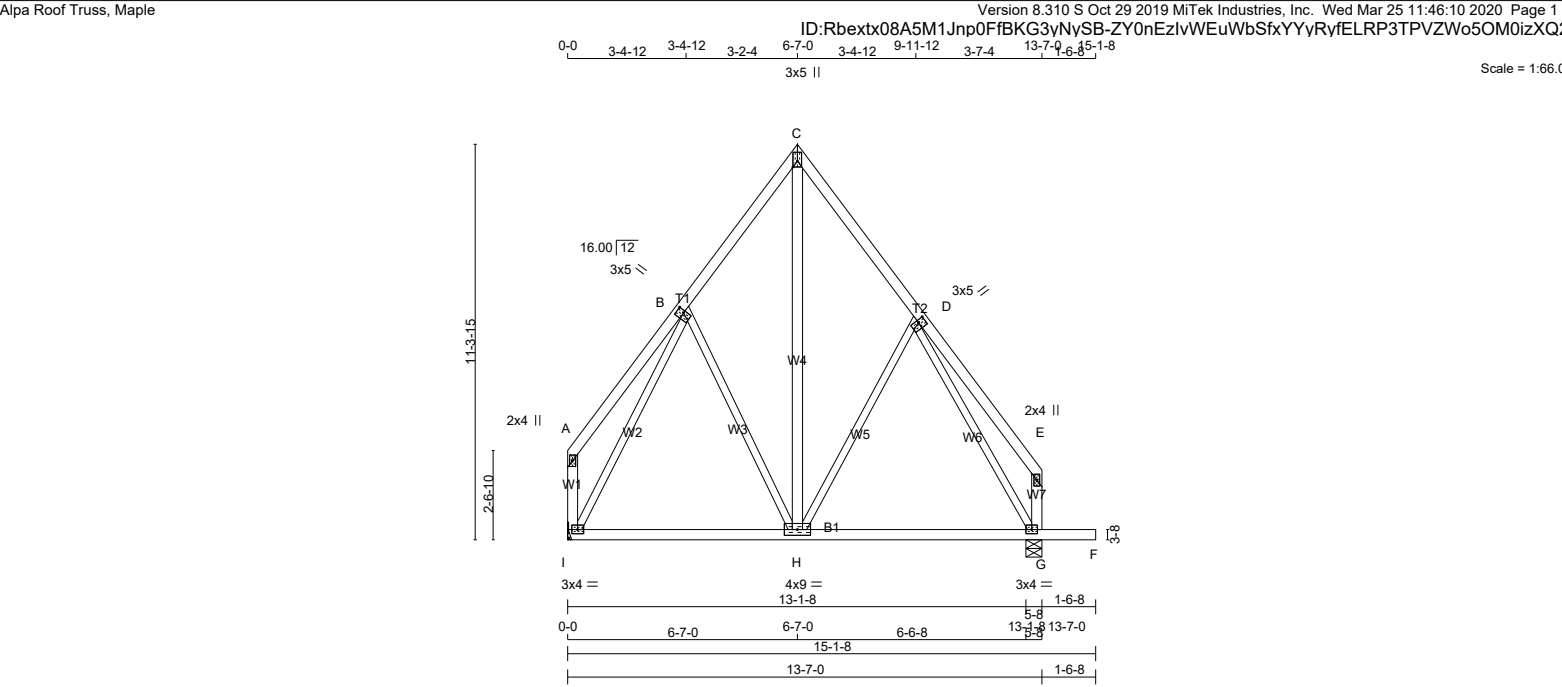
NAIL VALUES
PLATE GRIP(DRY) SHEAR SECTION (PSI) (PLI) (PLI)
MAX MIN MAX MIN MAX MIN
MT20 650 371 1747 788 1987 1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.74 (H) (INPUT = 0.90)
JSI METAL= 0.30 (E) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
318466	H21S	2	1	TRUSS DESC. JT 45147	E20035555



LUMBER					DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER					DESIGN CRITERIA				
N. L. G. A. RULES					BEARINGS					SPECIFIED LOADS:				
CHORDS	SIZE	DRY	LUMBER	DESCR.	FACTORED	MAXIMUM	FACTORED	INPUT	REQRD	TOP	CH.	LL	=	21.0
A - C	2x4	DRY	No.2	SPF	GROSS REACTION	GROSS REACTION	DOWN	BRG	BRG	DL			=	6.0
C - E	2x4	DRY	No.2	SPF	JT	VERT	HORZ	UPLIFT	IN-SX	BOT	CH.	LL	=	0.0
I - A	2x4	DRY	No.2	SPF	I	655	0	655	0	DL			=	7.4
G - E	2x4	DRY	No.2	SPF	G	804	0	804	0	TOTAL LOAD			=	34.4
I - F	2x4	DRY	No.2	SPF										
ALL WEBS	2x3	DRY	No.2	SPF	A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT I. MINIMUM BEARING LENGTH AT JOINT I = 1-8.					SPACING = 24.0 IN. C/C				
EXCEPT										THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015				
H - C	2x4	DRY	No.2	SPF						THIS DESIGN COMPLIES WITH: - PART 9 OF BCBC 2018 , ABC 2019 - PART 9 OF OBC 2012 (2019 AMENDMENT) - CSA 086-14 - TPIC 2014				
DRY: SEASONED LUMBER.										(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD				

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMV+p	MT20	2.0	4.0		
B	TMWW+t	MT20	3.0	5.0	2.25	0.75
C	TTW+p	MT20	3.0	5.0	2.00	Edge
D	TMWW+t	MT20	3.0	5.0	2.25	0.75
E	TMV+p	MT20	2.0	4.0		
G	BMVW1-t	MT20	3.0	4.0		
H	BMWWW-t	MT20	4.0	9.0		
I	BMVW1-t	MT20	3.0	4.0		

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2



CHORDS					WEBS				
MEMB.	FORCE (LBS)	VERT. LOAD (PLF)	MAX. LC1 (LC)	MAX. UNBRAC LENGTH	MEMB.	FORCE (LBS)	MAX. LC1 (LC)	MAX. UNBRAC LENGTH	MEMB.
FR-TO		FROM	TO		FR-TO		FROM	TO	
A-B	0 / 24	-78.0	-78.0	0.14 (1)	10.00	B-H	-96 / 0	0.10 (1)	
B-C	-377 / 0	-78.0	-78.0	0.10 (1)	6.25	H-C	0 / 357	0.06 (1)	
C-D	-379 / 0	-78.0	-78.0	0.12 (1)	6.25	H-D	-135 / 0	0.14 (1)	
D-E	0 / 26	-78.0	-78.0	0.16 (1)	10.00	I-B	-575 / 0	0.58 (1)	
I-A	-95 / 0	0.0	0.0	0.01 (1)	7.81	D-G	-576 / 0	0.55 (1)	
G-E	-101 / 0	0.0	0.0	0.01 (1)	7.81				
I-H	0 / 257	-18.5	-18.5	0.27 (4)	10.00				
H-G	0 / 280	-18.5	-18.5	0.27 (4)	10.00				
G-F	0 / 0	-96.5	-96.5	0.16 (1)	10.00				

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/999 (0.01")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/999 (0.01")

CSI: TC=0.16/1.00 (D-E:1), BC=0.27/1.00 (G-H:4), WB=0.58/1.00 (B-I:1), SSI=0.12/1.00 (F-G:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10
COMP=1.10 SHEAR=1.10 TENS=1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT.

NAIL VALUES
PLATE GRIP(DRY) SHEAR SECTION (PSI) (PLI) (PLI)
MAX MIN MAX MIN MAX MIN
MT20 650 371 1747 788 1987 1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.76 (B) (INPUT = 0.90)
JSI METAL= 0.37 (D) (INPUT = 1.00)

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TOTAL WEIGHT = 2 X 81 = 162 lb

Edge - INDICATES REFERENCE CORNER OF PLATE
TOUCHES EDGE OF CHORD.

TOTAL LOAD CASES: (4)

CHORDS				WEBS			
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	LC1 MAX CSI (LC)	MAX. UNBRAC LENGTH	MEMB.	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
FR-TO		FROM TO			FR-TO		
A-B	-482 / 0	-78.0	-78.0 0.13 (1)	6.25	I-C	0 / 508	0.11 (1)
B-C	-496 / 0	-78.0	-78.0 0.14 (1)	6.25	I-D	-25 / 0	0.01 (1)
C-D	-496 / 0	-78.0	-78.0 0.14 (1)	6.25	H-D	-293 / 0	0.17 (1)
D-E	-482 / 0	-78.0	-78.0 0.13 (1)	6.25	B-I	-25 / 0	0.01 (1)
K-A	-646 / 0	0.0	0.0 0.07 (1)	7.81	J-B	-293 / 0	0.17 (1)
G-E	-646 / 0	0.0	0.0 0.07 (1)	7.81	A-J	0 / 345	0.08 (1)
					H-E	0 / 345	0.08 (1)
L-K	0 / 0	-96.5	-96.5 0.16 (1)	10.00			
K-J	0 / 0	-18.5	-18.5 0.05 (4)	10.00			
J-I	0 / 364	-18.5	-18.5 0.11 (4)	10.00			
I-H	0 / 364	-18.5	-18.5 0.11 (4)	10.00			
H-G	0 / 0	-18.5	-18.5 0.05 (4)	10.00			
G-F	0 / 0	-96.5	-96.5 0.16 (1)	10.00			

JSI GRIP= 0.74 (C) (INPUT = 0.90)
JSI METAL= 0.18 (E) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
318466	H22G	1	1	TRUSS DESC. JT 45147	E20035557

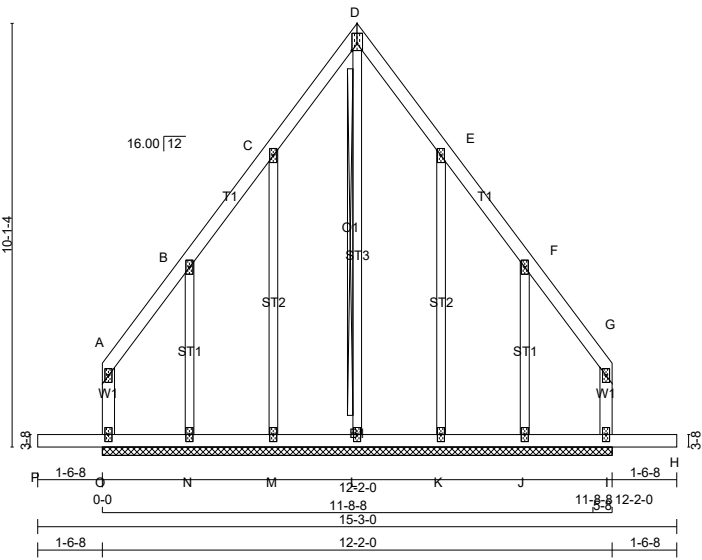
Alpa Roof Truss, Maple

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3x5 II

Scale = 1:55.0



TOTAL WEIGHT = 70 lb

LUMBER N. L. G. A. RULES CHORDS SIZE O - A 2x4 DRY No.2 A - D 2x4 DRY No.2 D - G 2x4 DRY No.2 I - G 2x4 DRY No.2 P - H 2x4 DRY No.2 ALL WEBS 2x3 DRY No.2 ALL GABLE WEBS 2x3 DRY No.2 SPF SPF SPF SPF SPF SPF ALL WEBS 2x3 DRY No.2 ALL GABLE WEBS 2x3 DRY No.2 SPF SP									
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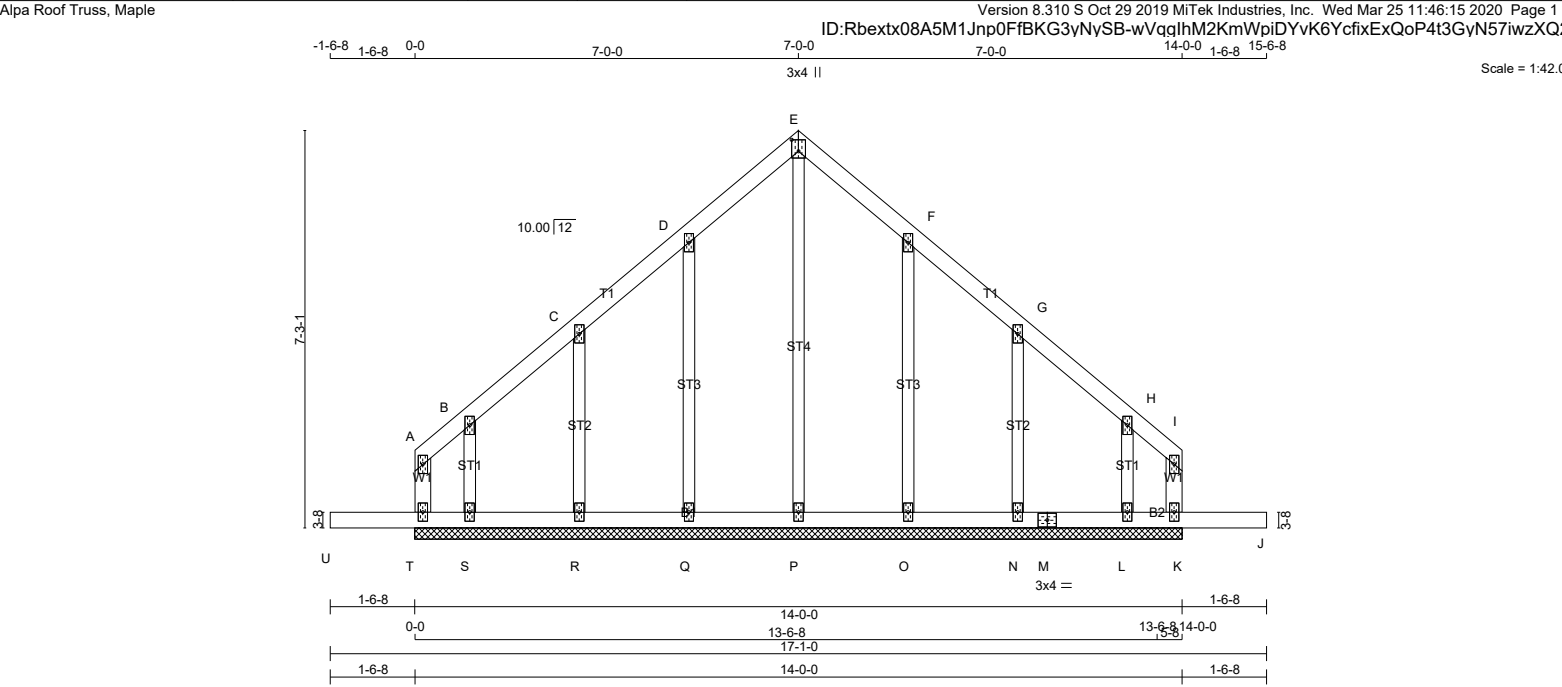
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TOTAL WEIGHT = 3 X 60 = 179 lb

JSI GRIP= 0.30 (E) (INPUT = 0.90)
JSI METAL= 0.15 (A) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
318466	H23G	1	1	TRUSS DESC. JT 45147	E20035559



LUMBER			DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER			DESIGN CRITERIA		
N. L. G. A. RULES			BEARINGS			SPECIFIED LOADS:		
CHORDS	SIZE	LUMBER	DESCR.	THIS TRUSS DESIGNED FOR CONTINUOUS BEARINGS.		TOP CH.	LL	= 21.0 PSF
T - A	2x4	DRY	No.2	THIS TRUSS REQUIRES RIGID SHEATHING ON EXPOSED FACE.		DL	=	6.0 PSF
A - E	2x4	DRY	No.2	BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S)		BOT CH.	LL	= 0.0 PSF
E - I	2x4	DRY	No.2	BRACING		DL	=	7.4 PSF
K - I	2x4	DRY	No.2	TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 10.00 FT.		TOTAL LOAD	=	34.4 PSF
U - M	2x4	DRY	No.2	MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.		SPACING = 24.0 IN. C/C		
M - J	2x4	DRY	No.2	ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED.		THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015		
ALL WEBS	2x3	DRY	No.2	LOADING		THIS DESIGN COMPLIES WITH:		
ALL GABLE WEBS	2x3	DRY	No.2	TOTAL LOAD CASES: (4)		- PART 9 OF BCBC 2018 , ABC 2019		
DRY: SEASONED LUMBER.				CHORDS		- PART 9 OF OBC 2012 (2019 AMENDMENT)		
GABLE STUDS SPACED AT 2'-0" OC.				MAX. FACTORED		- CSA 086-14		
				FORCE (LBS)		- TPIC 2014		

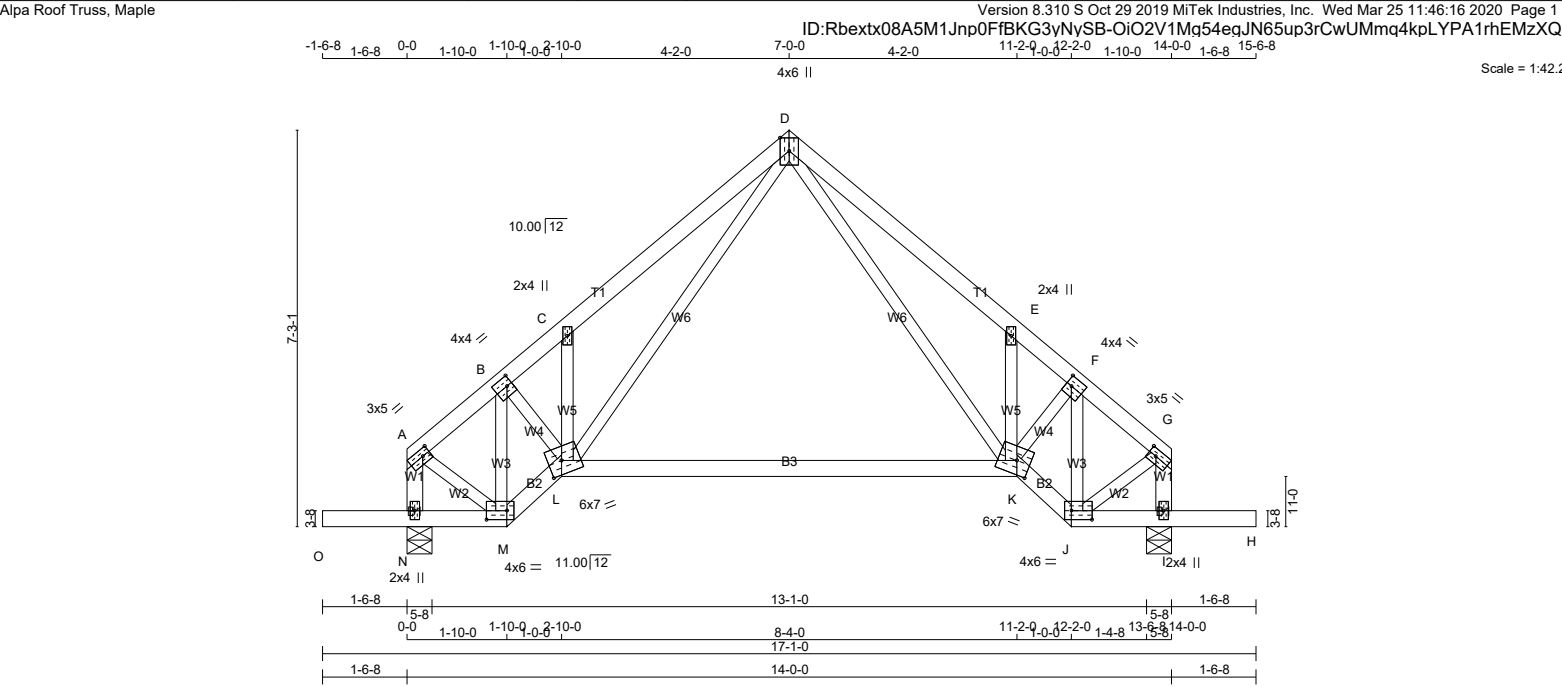
PLATES (table is in inches)					
JT TYPE	PLATES	W	LEN	Y	X
A TMV+p	MT20	2.0	4.0		
B, C, D, F, G, H	MT20	2.0	4.0		
B TMW+w	MT20	3.0	4.0	2.50	1.50
E TTW+p	MT20	2.0	4.0		
I TMV+p	MT20	2.0	4.0		
K BMV1+p	MT20	2.0	4.0		
L, N, O, P, Q, R, S	MT20	2.0	4.0		
L BMW1+w	MT20	3.0	4.0		
M BS-t	MT20	2.0	4.0		
T BMV1+p	MT20	2.0	4.0		

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2



DESIGN ASSUMPTIONS		
-OVERHANG NOT TO BE ALTERED OR CUT OFF.		
(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD		
CSI: TC=0.04/1.00 (E-F:1) , BC=0.16/1.00 (J-K:1) , WB=0.18/1.00 (E-P:1) , SSI=0.12/1.00 (T-U:1)		
DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10		
COMPANION LIVE LOAD FACTOR = 1.00		
TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .		
NAIL VALUES		
PLATE	GRIP(DRY) (PSI)	SHEAR (PLI)
MT20	650	371
MT20	1747	788
MT20	1987	1873
PLATE PLACEMENT TOL. = 0.250 inches		
PLATE ROTATION TOL. = 5.0 Deg.		
JSI GRIP= 0.26 (E) (INPUT = 0.90)		
JSI METAL= 0.08 (D) (INPUT = 1.00)		

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
318466	H23T	3	1	TRUSS DESC. JT 45147	E20035560



LUMBER			
N. L. G. A. RULES			
CHORDS	SIZE	LUMBER	DESCR.
A - D	2x4	DRY	No.2
D - G	2x4	DRY	No.2
N - A	2x4	DRY	No.2
I - G	2x4	DRY	No.2
O - M	2x4	DRY	No.2
M - L	2x4	DRY	No.2
L - K	2x4	DRY	No.2
K - J	2x4	DRY	No.2
J - H	2x4	DRY	No.2
ALL WEBS	2x3	DRY	No.2
EXCEPT			
DRY: SEASONED LUMBER.			

PLATES (table is in inches)					
JT	TYPE	PLATES	W	LEN	Y X
A	TMVW-t	MT20	3.0	5.0	1.50 1.75
B	TMWW-t	MT20	4.0	4.0	2.00 1.25
C	TMW+w	MT20	2.0	4.0	
D	TTWW+p	MT20	4.0	6.0	Edge
E	TMW+w	MT20	2.0	4.0	
F	TMWW-t	MT20	4.0	4.0	2.00 1.25
G	TMVW-t	MT20	3.0	5.0	1.50 1.75
I	BMV1+p	MT20	2.0	4.0	
J	BBWW-l	MT20	4.0	6.0	2.00 4.50
K	BBWWW-m	MT20	6.0	7.0	3.00 3.00
L	BBWWW-m	MT20	6.0	7.0	3.00 3.00
M	BBWW-l	MT20	4.0	6.0	2.00 4.50
N	BMV1+p	MT20	2.0	4.0	
Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.					

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2



DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS		FACTORED	MAXIMUM FACTORED	INPUT	REQRD
		GROSS REACTION	GROSS REACTION	BRG	BRG
JT	VERT	HORZ	DOWN	HORZ	UPLIFT
N	824	0	824	0	0
I	824	0	824	0	0

UNFACTORED REACTIONS		1ST LCASE	MAX./MIN. COMPONENT REACTIONS					
JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL	
N	587	359 / 0	0 / 0	0 / 0	0 / 0	229 / 0	0 / 0	
I	587	359 / 0	0 / 0	0 / 0	0 / 0	229 / 0	0 / 0	

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) N, I

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.

MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED.

LOADING		CHORDS		WEBS	
		MAX. FACTORED	FACTORED	MAX. FACTORED	FACTORED
		MEMB. FORCE (LBS)	VERT. LOAD (PLF) MAX CSI (LC)	MEMB. FORCE (LBS)	MAX CSI (LC)
FR-TO			FROM TO	FR-TO	
A-B	-486 / 0	-78.0	-78.0 0.04 (1)	6.25	D-K 0 / 453
B-C	-724 / 0	-78.0	-78.0 0.12 (1)	6.25	K-E -336 / 0
C-D	-809 / 0	-78.0	-78.0 0.17 (1)	6.25	K-F 0 / 452
D-E	-809 / 0	-78.0	-78.0 0.17 (1)	6.25	J-F -572 / 0
E-F	-724 / 0	-78.0	-78.0 0.12 (1)	6.25	L-D 0 / 453
F-G	-486 / 0	-78.0	-78.0 0.04 (1)	6.25	L-C -336 / 0
N-A	-596 / 0	0.0	0.0 0.06 (1)	7.81	B-L 0 / 452
I-G	-596 / 0	0.0	0.0 0.06 (1)	7.81	M-B -572 / 0
O-N	0 / 0	-96.5	-96.5 0.16 (1)	10.00	A-M 0 / 430
N-M	0 / 0	-18.5	-18.5 0.12 (1)	10.00	J-G 0 / 430
M-L	0 / 473	-18.5	-18.5 0.08 (1)	10.00	
L-K	0 / 349	-18.5	-18.5 0.41 (4)	10.00	
K-J	0 / 473	-18.5	-18.5 0.08 (1)	10.00	
J-I	0 / 0	-18.5	-18.5 0.12 (1)	10.00	
I-H	0 / 0	-96.5	-96.5 0.16 (1)	10.00	

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH. LL = 21.0 PSF

LL = 6.0 PSF

BOT CH. LL = 0.0 PSF

DL = 7.4 PSF

TOTAL LOAD = 34.4 PSF

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBC 2015

THIS DESIGN COMPLIES WITH:

- PART 9 OF CBC 2018, ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS

-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (0.47")

CALCULATED VERT. DEFL.(LL) = L/ 999 (0.01")

ALLOWABLE DEFL.(TL)= L/360 (0.47")

CALCULATED VERT. DEFL.(TL) = L/ 682 (0.25")

CANTILEVER DEFLECTION:

ALLOWABLE DEFL.(LL)= L/120 (0.19")

CALCULATED VERT. DEFL.(LL) = L/ 999 (0.01")

ALLOWABLE DEFL.(TL)= L/120 (0.19")

CALCULATED VERT. DEFL.(TL) = L/ 974 (0.02")

CSI: TC=0.17/1.00 (C-D:1), BC=0.41/1.00 (K-L:4), WB=0.10/1.00 (D-L:1), SSI=0.12/1.00 (N-O:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10

COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES			
PLATE	GRIP(DRY)	SHEAR	SECTION
(PS)	(PLI)	(PLI)	
MAX MIN	MAX MIN	MAX MIN	
MT20	650	371	1747 788 1987 1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.80 (A) (INPUT = 0.90)

JSI METAL= 0.18 (E) (INPUT = 1.00)

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TOTAL WEIGHT = 3 X 66 = 199 lb

CHORDS					WEBS				
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	FACTORED LOAD CSI (LC)	MAX. UNBRAC	MEMB.	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)		
FR-TO		FROM	TO	LENGTH	FR-TO				
A-B	-414 / 0	-78.0	-78.0 0.04 (1)	6.25	M-B	-551 / 0	0.09 (1)		
B-C	-648 / 0	-78.0	-78.0 0.12 (1)	6.25	B-L	0 / 469	0.11 (1)		
C-D	-743 / 0	-78.0	-78.0 0.16 (1)	6.25	L-C	-353 / 0	0.06 (1)		
D-E	-792 / 0	-78.0	-78.0 0.17 (1)	6.25	L-D	0 / 388	0.09 (1)		
E-F	-707 / 0	-78.0	-78.0 0.12 (1)	6.25	D-K	0 / 454	0.10 (1)		
F-G	-476 / 0	-78.0	-78.0 0.04 (1)	6.25	K-E	-336 / 0	0.06 (1)		
N-A	-634 / 0	0.0	0.0 0.07 (1)	7.81	K-F	0 / 442	0.10 (1)		
I-G	-584 / 0	0.0	0.0 0.06 (1)	7.81	J-F	-560 / 0	0.10 (1)		
					A-M	0 / 438	0.10 (1)		
N-M	0 / 0	-18.5	-18.5 0.01 (4)	10.00	J-G	0 / 421	0.09 (1)		
M-L	0 / 391	-18.5	-18.5 0.07 (1)	10.00					
L-K	0 / 336	-18.5	-18.5 0.40 (4)	10.00					
K-J	0 / 462	-18.5	-18.5 0.08 (1)	10.00					
J-I	0 / 0	-18.5	-18.5 0.12 (1)	10.00					
I-H	0 / 0	-96.5	-96.5 0.16 (1)	10.00					

JSI GRIP= 0.79 (G) (INPUT = 0.90)
JSI METAL= 0.19 (C) (INPUT = 1.00)

Version 8.310 S Oct 29 2019 MiTek Industries, Inc. Wed Mar 25 11:46:18 2020 Page 1



TOTAL WEIGHT = $17 \times 18 = 299 \text{ lb}$

DRY: SEASONED LUMBER.

PLATES (table is in inches)

BEARINGS						
JT	FACTORED		MAXIMUM FACTORED		INPUT	REQRD
	VERT	HORZ	DOWN	HORZ	BRG	BRG
D	487	0	487	0	5-8	1-8
B	188	0	188	0	MECHANICAL	
C	41	0	46	0	MECHANICAL	

BEVELED PLATE OR SHIM REQUIRED TO PROVIDE FULL BEARING SURFACE WITH TRUSS
CHORD AT JT(S): B

1ST LCASE	MAX./MIN. COMPONENT REACTIONS
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) D

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.

MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

TOTAL LOAD CASES: (4)

CHORDS					WEBS				
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	LC1	MAX CSI (LC)	MAX. UNBRAC	MEMB.	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)	
FR-TO		FROM	TO		LENGTH	FR-TO			
D-A	-270 / 0	0.0	0.0	0.33 (1)	7.81				
A-B	-23 / 0	-78.0	-78.0	0.33 (1)	6.25				
E-D	0 / 0	-96.5	-96.5	0.16 (1)	10.00				
D-C	0 / 0	-18.5	-18.5	0.19 (4)	10.00				

SPECIFIED LOADS:

TOP	CH.	LL	=	21.0	PSF
		DL	=	6.0	PSF
BOT	CH.	LL	=	0.0	PSF
		DL	=	7.4	PSF
TOTAL LOAD				=	34.4 PSF

THIS TRUSS IS DESIGNED FOR RESIDENTIAL
OR SMALL BUILDING REQUIREMENTS OF PART
9, NBCC 2015

THIS DESIGN COMPLIES WITH:

- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(TL)= L/360 (0.20")
CALCULATED VERT. DEFL.(TL) = L/999 (0.02")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= $L/120$ (0.19")
CALCULATED VERT. DEFL.(LL) = $L/999$ (0.01")
ALLOWABLE DEFL.(TL)= $L/120$ (0.19")
CALCULATED VERT. DEFL.(TL) = $L/999$ (0.01")

CSI: TC=0.33/1.00 (A-D:1), BC=0.19/1.00 (C-D:4),
WB=0.00/1.00 (n/a:0), SSI=0.18/1.00 (A-B:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10
COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE RIGHT HEEL ONLY

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

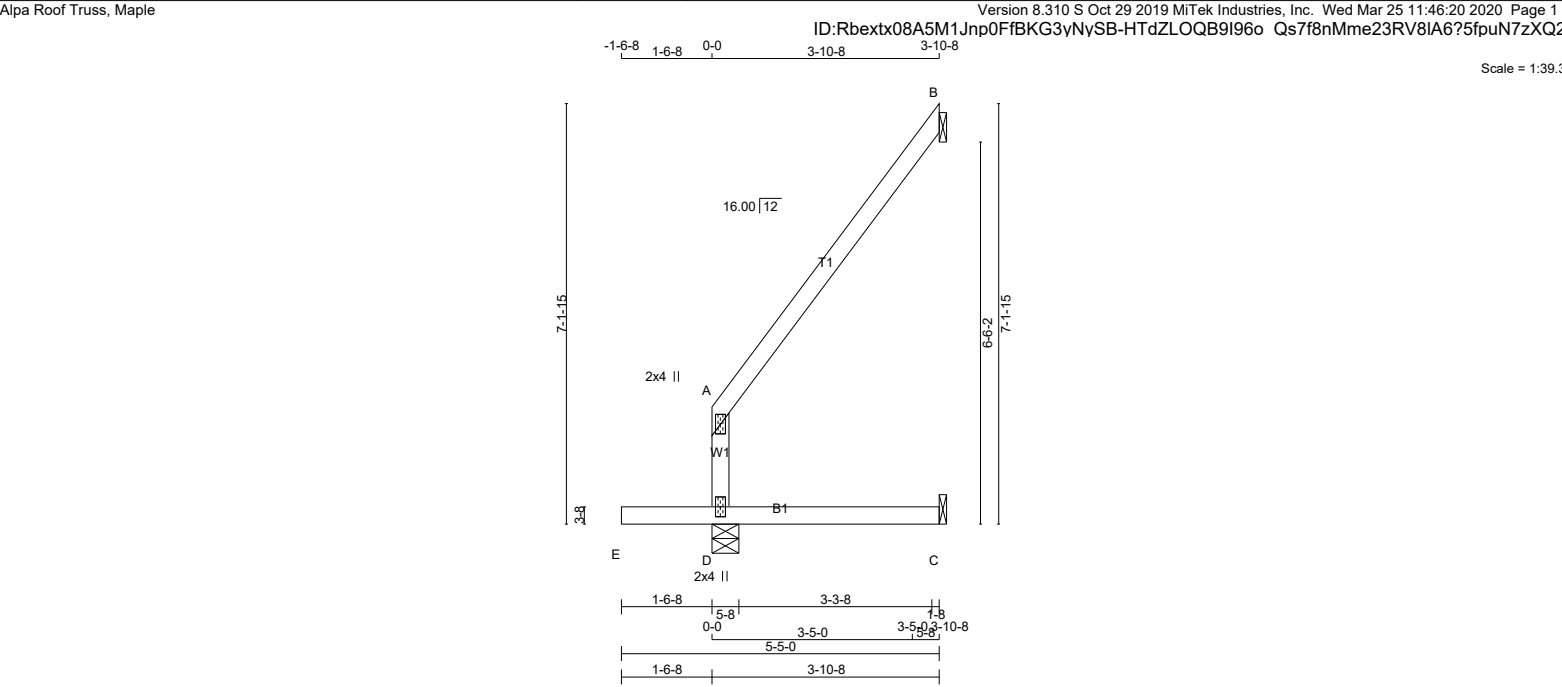
NAIL VALUES						
PLATE	GRIP(DRY)		SHEAR		SECTION	
	(PSI)		(PLI)		(PLI)	
	MAX	MIN	MAX	MIN	MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.17 (A) (INPUT = 0.90)
JSI METAL= 0.14 (A) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
318466	J2	3	1	TRUSS DESC. JT 45147	E20035563



LUMBER				
N. L. G. A. RULES	CHORDS	SIZE	LUMBER	DESCR.
D - A	2x4	DRY	No.2	SPF
A - B	2x4	DRY	No.2	SPF
E - C	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)				
JT	TYPE	PLATES	W	LEN
A	TMV+p	MT20	2.0	4.0
D	BMV1+p	MT20	2.0	4.0

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER									
BEARINGS									
		FACTORED GROSS REACTION		MAXIMUM FACTORED GROSS REACTION		INPUT BRG		REQRD BRG	
JT		VERT	HORZ	DOWN	HORZ	IN-SX		IN-SX	
D	366	0		366	0	5-8		1-8	
B	129	0		129	0	1-8		1-8	
C	27	0		30	0	1-8		1-8	

SEE MITEK STANDARD DETAIL B97791H FOR CONNECTION TO JOINT(S) B , C

UNFACTORED REACTIONS							
JT	1ST LCASE	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
D	261	158 / 0	0 / 0	0 / 0	0 / 0	104 / 0	0 / 0
B	90	70 / 0	0 / 0	0 / 0	0 / 0	20 / 0	0 / 0
C	22	0 / 0	0 / 0	0 / 0	0 / 0	22 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) D

BRACING
TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED.

LOADING
TOTAL LOAD CASES: (7)

CHORDS				WEBS			
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	MAX LC1 (LC)	MAX. UNBRAC LENGTH	MEMB.	MAX. FACTORED FORCE (LBS)	MAX LC1 (LC)
FR-TO		FROM	TO		FR-TO		
D-A	-173 / 0	0.0	0.0 0.11 (1)	7.81			
A-B	-17 / 0	-78.0	-78.0 0.15 (1)	6.25			
E-D	0 / 0	-96.5	-96.5 0.18 (7)	10.00			
D-C	0 / 0	-18.5	-18.5 0.08 (4)	10.00			

CANTILEVER ANALYSIS HAS BEEN CONSIDERED IN THIS DESIGN

PATTERN-LOADING CHECK APPLIED TO THIS TRUSS.

DESIGN CRITERIA

SPECIFIED LOADS:
TOP CH. LL = 21.0 PSF
DL = 6.0 PSF
BOT CH. LL = 0.0 PSF
DL = 7.4 PSF
TOTAL LOAD = 34.4 PSF

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(TL)= L/360 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.01")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.01")

CSI: TC=0.15/1.00 (A-B:1) , BC=0.18/1.00 (D-E:7) ,
WB=0.00/1.00 (n/a:0) , SSI=0.14/1.00 (D-E:7)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10
COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES
PLATE GRIP(DRY) SHEAR SECTION
(PSI) (PLI) (PLI)
MAX MIN MAX MIN MAX MIN
MT20 650 371 1747 788 1987 1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.15 (A) (INPUT = 0.90)
JSI METAL= 0.08 (A) (INPUT = 1.00)

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2



December 18, 2019

Re: Expiration Date for Technical Bulletins Extended to 4/1/2020

Please be advised that the expiration date of the Technical Bulletins listed below has been extended until April 1, 2020.

T-SPECCP17	T-SPECH17	T-SPECDSHGUS17R
T-SPECHGUS17-R	T-SPECHHUS17-R	T-SPECHUS17
T-SPECLF17	T-SPECLT17	T-SPECLU17
T-SPECCLUL17	T-SPECLUS17	T-SPECSUR17
T-SPECTBE17	T-SPECTC17	T-SPECTHGB17
T-SPECTHGBHV17	T-SPECTHGQ17	T-SPECTHGW17
T-SPECLSULSSU17	T-SPECHTHGQ17	T-SPECSTHGQ17

Should you have any questions or concerns regarding the above, please contact me at your convenience.

Sincerely,



Brent Bunting, P.Eng.
Simpson Strong-Tie Canada, Ltd.



LUS – Double Shear Joist Hangers

SIMPSON
Strong-Tie®

All LUS hangers have double shear nailing. This patented innovation distributes the load through two points on each joist nail for greater strength. It also allows the use of fewer nails, faster installation and the use of common nails for all connections.

Material: 18 gauge

Finish: G90 galvanized

Design:

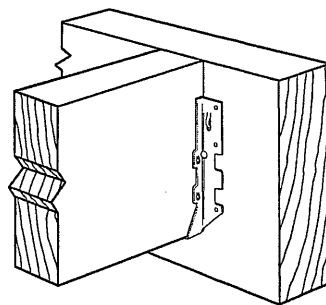
- Factored resistances are in accordance with CSA O86-14.
- Uplift resistances have been increased 15%. No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these loads.

Installation:

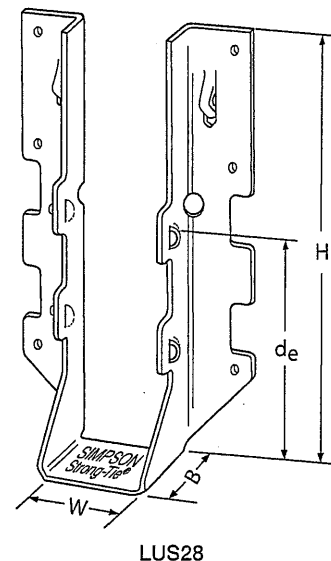
- Use all specified fasteners.
- Nails: 16d = 0.162" dia. x 3½" long common wire, 10d = 0.148" x 3" long common wire.
- Double shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads.
- Not designed for welded or nailer applications.

Options:

- These hangers cannot be modified

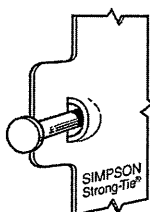


Typical LUS
Installation



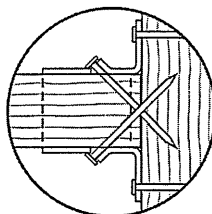
Model No.	Ga.	Dimensions (in.)				Fasteners		Factored Resistance (lb.)			
		W	H	B	d _e ¹	Face	Joist	D.Fir-L		S-P-F	
								Uplift (K _p =1.15)	Normal (K _p =1.00)	Uplift (K _p =1.15)	Normal (K _p =1.00)
LUS24	18	1⅞	3⅞	1¾	1 15/16	(4) 10d	(2) 10d	710	1630	645	1155
LUS24-2	18	3⅞	3⅞	2	1 13/16	(4) 16d	(2) 16d	835	2020	590	1435
LUS26	18	1⅞	4¾	1¾	3⅞	(4) 10d	(4) 10d	1420	2170	1290	1630
LUS26-2	18	3⅞	4⅞	2	4	(4) 16d	(4) 16d	1720	2595	1545	1920
LUS26-3	18	4⅞	4⅞	2	3¼	(4) 16d	(4) 16d	1720	2595	1545	2340
LUS28	18	1⅞	6⅞	1¾	3¾	(6) 10d	(6) 10d	1420	2520	1290	1790
LUS28-2	18	3⅞	7	2	4	(6) 16d	(4) 16d	1720	3325	1545	2575
LUS28-3	18	4⅞	6¼	2	3¼	(6) 16d	(4) 16d	1720	3325	1545	2375
LUS210	18	1⅞	7 13/16	1¾	3⅞	(8) 10d	(4) 10d	1420	2785	1290	2210
LUS210-2	18	3⅞	9	2	6	(8) 16d	(6) 16d	2580	4500	2320	3195
LUS210-3	18	4⅞	8¾	2	5¼	(8) 16d	(6) 16d	2580	3345	2320	2375

1. d_e is the distance from the seat of the hanger to the highest joist nail.

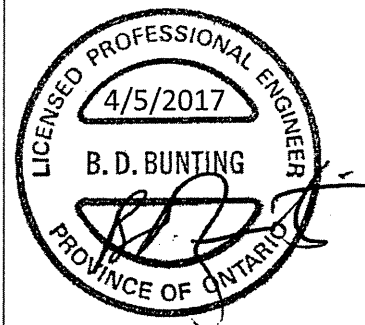


Dome Double Shear Nailing prevents tabs breaking off (available on some models).

U.S. Patent
5,603,580



Double Shear Nailing
Top View.



LIMIT
STATES
DESIGN

This technical bulletin is effective until June 30, 2019, and reflects information available as of March 1, 2017. This information is updated periodically and should not be relied upon after June 30, 2019. Contact Simpson Strong-Tie for current information and limited warranty or see strongtie.com.

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T-SPECLUS17 3/17 exp. 6/19

(800) 999-5099
strongtie.com

HUS/LJS – Double Shear Joist Hangers



All hangers have double shear nailing. This patented innovation distributes the load through two points on each joist nail for greater strength. It also allows the use of fewer nails, faster installation and the use of common nails for all connections. Do not bend or remove tabs.

Material: See table

Finish: G90 galvanized

Design:

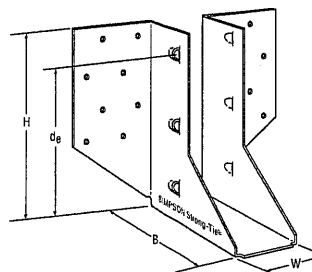
- Factored resistances are in accordance with CSA O86-14.
- Uplift resistances have been increased 15%. No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these loads.

Installation:

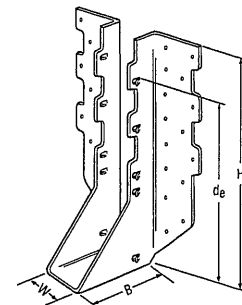
- Use all specified fasteners
- Nails: 16d = 0.162" dia. x 3½" long common wire
- Double shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads
- Not designed for welded or nailer applications

Options:

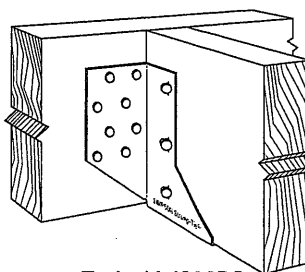
- See current catalogue for options



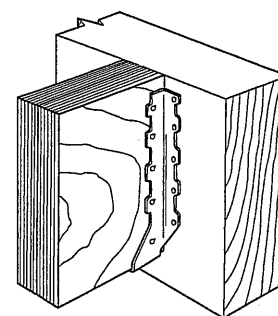
LJS26DS



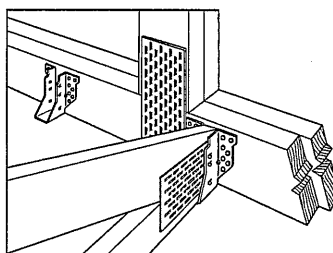
HUS210
(HUS26, HUS28, similar)



Typical LJS26DS
Installation



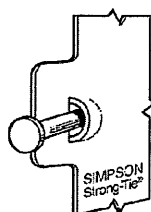
Typical HUS
Installation



Typical HUS Installation
(Truss Designer to provide fastener
quantity for connecting multiple
members together)

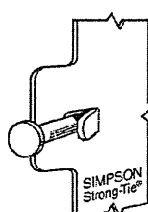
Model No.	Ga.	Dimensions (in.)				Fasteners		Factored Resistance (lb.)			
		W	H	B	d _e ¹	Face	Joist	D.Fir-L		S-P-F	
								Uplift (K ₀ =1.15)	Normal (K ₀ =1.00)	Uplift (K ₀ =1.15)	Normal (K ₀ =1.00)
LJS26DS	18	1⅞	5	3½	4⅝	(16) 16d	(6) 16d	2055	4265	1460	4115
HUS26	16	1⅞	5⅝	3	3⅝	(14) 16d	(6) 16d	2705	4940	2065	3875
HUS28	16	1⅞	7⅝	3	6⅝	(22) 16d	(8) 16d	3605	5365	2675	4345
HUS210	16	1⅞	9⅝	3	7⅝	(30) 16d	(10) 16d	4505	5795	4010	4740
HUS1.81/10	16	1⅞	9	3	8	(30) 16d	(10) 16d	4505	6450	4010	5200

1. d_e is the distance from the seat of the hanger to the highest joist nail.

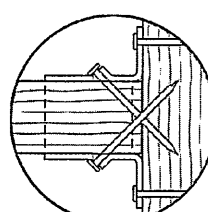


Dome Double Shear Nailing prevents tabs breaking off (available on some models).

U.S. Patent 5,603,580



Double Shear Nailing Side View. Do not bend tab back.



Double Shear Nailing Top View.



LIMIT
STATES
DESIGN

This technical bulletin is effective until June 30, 2019, and reflects information available as of March 1, 2017. This information is updated periodically and should not be relied upon after June 30, 2019. Contact Simpson Strong-Tie for current information and limited warranty or see strongtie.com

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T-SPECHUS17 3/17 exp. 6/19

(800) 999-5099
strongtie.com

HHUS – Double Shear Joist Hangers



All HHUS hangers have double shear nailing. This patented innovation distributes the load through two points on each joist nail for greater strength. It also allows the use of fewer nails, faster installation and the use of common nails for all connections. Do not bend or remove tabs.

Material: 14 gauge

Finish: G90 galvanized

Design:

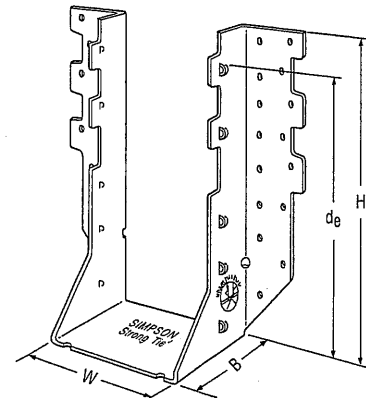
- Factored resistances are in accordance with CSA O86-14.
- Uplift resistances have been increased 15%. No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these loads.

Installation:

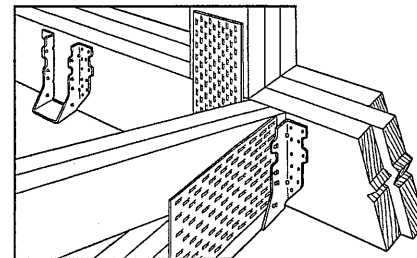
- Use all specified fasteners
- Nails: 16d = 0.162" dia. x 3 1/2" long common wire
- Double shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads
- Not designed for welded or nailer applications

Options:

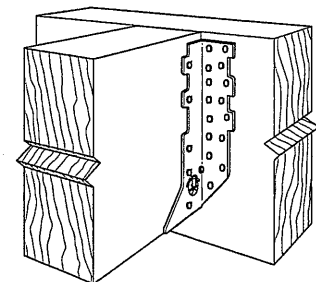
- See current catalogue for options



HHUS410



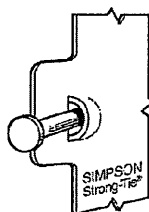
Typical HHUS Installation
(Truss Designer to provide fastener quantity for connecting multiple members together)



Typical HHUS Installation

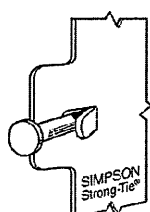
Model No.	Ga.	Dimensions (in.)				Fasteners		Factored Resistance (lb.)			
		W	H	B	d _b ¹	Face	Joist	D.Fir-L		S-P-F	
								Uplift (K _p =1.15)	Normal (K _p =1.00)	Uplift (K _p =1.15)	Normal (K _p =1.00)
HHUS26-2	14	3 5/16	5 13/16	3	3 15/16	(14) 16d	(6) 16d	2850	7335	2065	5205
HHUS28-2	14	3 5/16	7 7/32	3	6 5/32	(22) 16d	(8) 16d	3765	8940	2675	6345
HHUS210-2	14	3 5/16	9 3/32	3	8	(30) 16d	(10) 16d	4745	9660	4310	7000
HHUS210-3	14	4 11/16	9	3	7 15/16	(30) 16d	(10) 16d	4745	10545	4310	7485
HHUS210-4	14	6 1/8	8 29/32	3	7 27/32	(30) 16d	(10) 16d	4745	10545	4310	7485
HHUS46	14	3 5/8	5 13/32	3	3 15/16	(14) 16d	(6) 16d	2540	7335	2065	5205
HHUS48	14	3 5/8	7 1/8	3	6 1/8	(22) 16d	(8) 16d	3765	8945	2267	6345
HHUS410	14	3 5/8	9	3	8	(30) 16d	(10) 16d	4745	9855	4310	7000
HHUS5.50/10	14	5 1/2	9	3	8	(30) 16d	(10) 16d	4745	10545	4310	7485
HHUS7.25/10	14	7 1/4	9	3 5/16	7 29/32	(30) 16d	(10) 16d	4745	10770	4310	7650

1. d_b is the distance from the seat of the hanger to the highest joist nail.

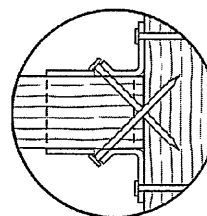


Dome Double Shear Nailing prevents tabs breaking off (available on some models).

U.S. Patent 5,603,580



Double Shear Nailing Side View. Do not bend tab back.



Double Shear Nailing Top View.



LIMIT STATES DESIGN

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HGUS – Double Shear Joist Hangers



All HGUS hangers have double shear nailing. This patented innovation distributes the load through two points on each joist nail for greater strength. It also allows the use of fewer nails, faster installation and the use of common nails for all connections. Do not bend or remove tabs.

Material: 12 gauge

Finish: G90 galvanized

Design:

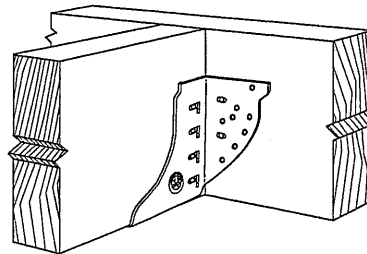
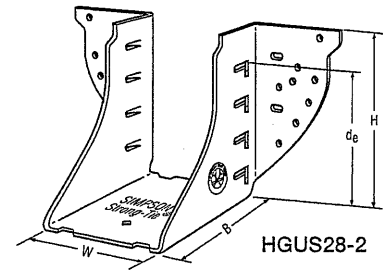
- Factored resistances are in accordance with CSA O86-14.
- Uplift resistances have been increased 15%.
No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these loads.

Installation:

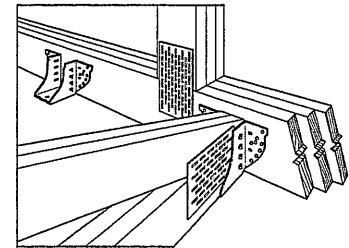
- Use all specified fasteners
- Nails: 16d = 0.162" dia x 3 1/2" long common wire
- Double shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads
- Not designed for welded or nailer applications

Options:

- See current catalogue for options



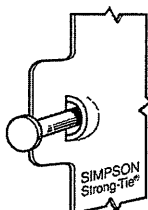
Typical HGUS Installation



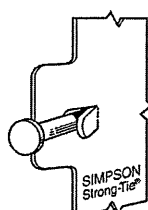
Typical HGUS Installation
(Truss Designer to provide fastener quantity for connecting multiple members together)

Model No.	Ga.	Dimensions (in.)				Fasteners		Factored Resistance (lb.)			
		W	H	B	d _e ¹	Face	Joist	D.Fir-L		S-P-F	
								Uplift (K _p =1.15)	Normal (K _p =1.00)	Uplift (K _p =1.15)	Normal (K _p =1.00)
HGUS26	12	1 5/8	5 3/8	5	4 5/32	(20) 16d	(8) 16d	2685	6625	2685	5700
HGUS26-2	12	3 5/16	5 7/16	4	4 1/8	(20) 16d	(8) 16d	4385	8950	3100	6355
HGUS26-3	12	4 15/16	5 1/2	4	4 1/8	(20) 16d	(8) 16d	4385	8950	3100	6355
HGUS26-4	12	6 9/16	5 7/16	4	4 1/8	(20) 16d	(8) 16d	4385	8950	3100	6355
HGUS28	12	1 5/8	7 1/8	5	6 1/8	(36) 16d	(12) 16d	3310	7675	3100	6900
HGUS28-2	12	3 5/16	7 3/16	4	6 1/8	(36) 16d	(12) 16d	6070	12980	4310	9215
HGUS28-3	12	4 15/16	7 1/4	4	6 3/8	(36) 16d	(12) 16d	6070	12980	4310	9215
HGUS28-4	12	6 9/16	7 3/16	4	6 1/8	(36) 16d	(12) 16d	6070	12980	4310	9215
HGUS210-2	12	3 5/16	9 3/16	4	8 1/8	(46) 16d	(16) 16d	6840	14645	4855	10400
HGUS210-3	12	4 15/16	9 1/4	4	8 3/8	(46) 16d	(16) 16d	6840	14645	4855	10400
HGUS210-4	12	6 9/16	9 3/16	4	8 1/8	(46) 16d	(16) 16d	6840	14645	4855	10400
HGUS212-4	12	6 9/16	10 5/8	4	10 1/8	(56) 16d	(20) 16d	7640	14995	5425	10645
HGUS214-4	12	6 9/16	12 5/8	4	11 1/8	(66) 16d	(22) 16d	10130	16400	7195	11645

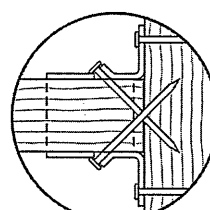
1. d_e is the distance from the seat of the hanger to the highest joist nail.



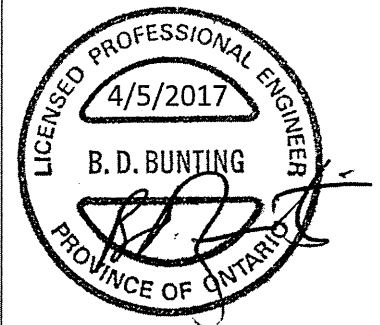
Dome Double Shear Nailing prevents tabs breaking off (available on some models).
U.S. Patent 5,603,580



Double Shear Nailing Side View. Do not bend tab back.



Double Shear Nailing Top View.



LIMIT STATES DESIGN

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TC – Truss Connectors



The TC truss connector is an ideal connector for scissor trusses and can allow horizontal movement up to 1¼". The TC also attaches plated trusses to top plates or sill plates to resist uplift forces. Typically used on one or both ends of truss as determined by the building designer.

Material: 16 gauge

Finish: G90 galvanized

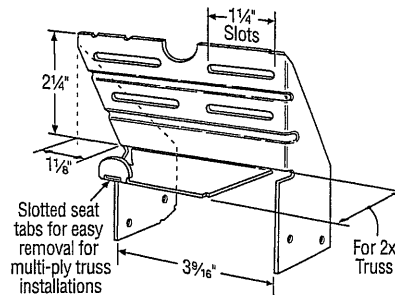
Design: Factored resistances are in accordance with CSA 086-14

Installation:

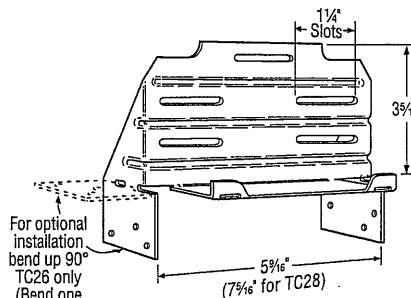
- Use all specified fasteners.
- Nails: 10d = 0.148" dia. x 3" long common wire, 10d x 1½" = 0.148" dia. x 1½" long.
- Drive 10d nails into the truss at the inside end of the slotted holes (inside end is towards the centre of the truss) and clinch on the back side. Do not seat these nails into the truss—allow room under the nail head for movement of the truss with respect to the wall.

Optional TC Installation:

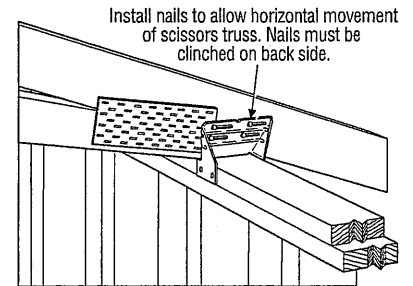
- Bend one flange up 90°. Drive specified nails into the top and face of the top plates or install Titen® screws into the top and face of masonry wall. See optional load tables and installation details.



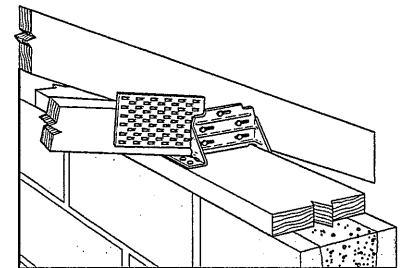
TC24
U.S. Patent 4,932,173



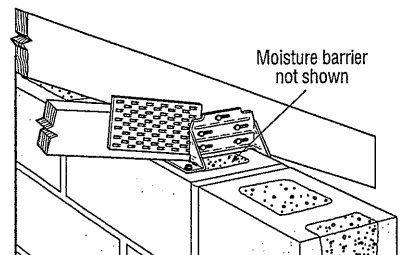
TC26
(TC28 Similar)



Typical TC24 Installation



Optional TC26 Installation for Grouted Concrete Block using a Wood Nailer (8", 10", 12" Wall Installation Similar)



Optional TC26 Installation for Grouted Concrete Block using Titen Screws

Model No.	Fasteners		Factored Resistance	
	Truss	Wall Plates	D.Fir-L	S-P-F
			Uplift (K ₀ =1.15)	Uplift (K ₀ =1.15)
			lb.	lb.
TC24	(4) 10d	(4) 10d	605	430
TC26	(5) 10d	(6) 10d	1015	720
TC28	(5) 10d	(6) 10d	1015	720

Optional TC Installation Table

Model No.	Fasteners		Factored Resistance	
	Truss	Wall Plates	D.Fir-L	S-P-F
			Uplift (K ₀ =1.15)	Uplift (K ₀ =1.15)
			lb.	lb.
TC26	(5) 10d	(6) 10d x 1½"	810	660
	(5) 10d	(6) 10d	930	660

1. Factored resistances have been increased 15% for earthquake or wind loading; no further increase allowed; reduce where other loads govern.
2. Grout strength is 15 MPa minimum.
3. Optional TC26 installation with 10d nails requires minimum 3" top plate thickness.
4. TC26 fastened to grouted concrete block with (6) – ¾" x 2¼" Titen screws has a factored uplift resistance of 275 lb.



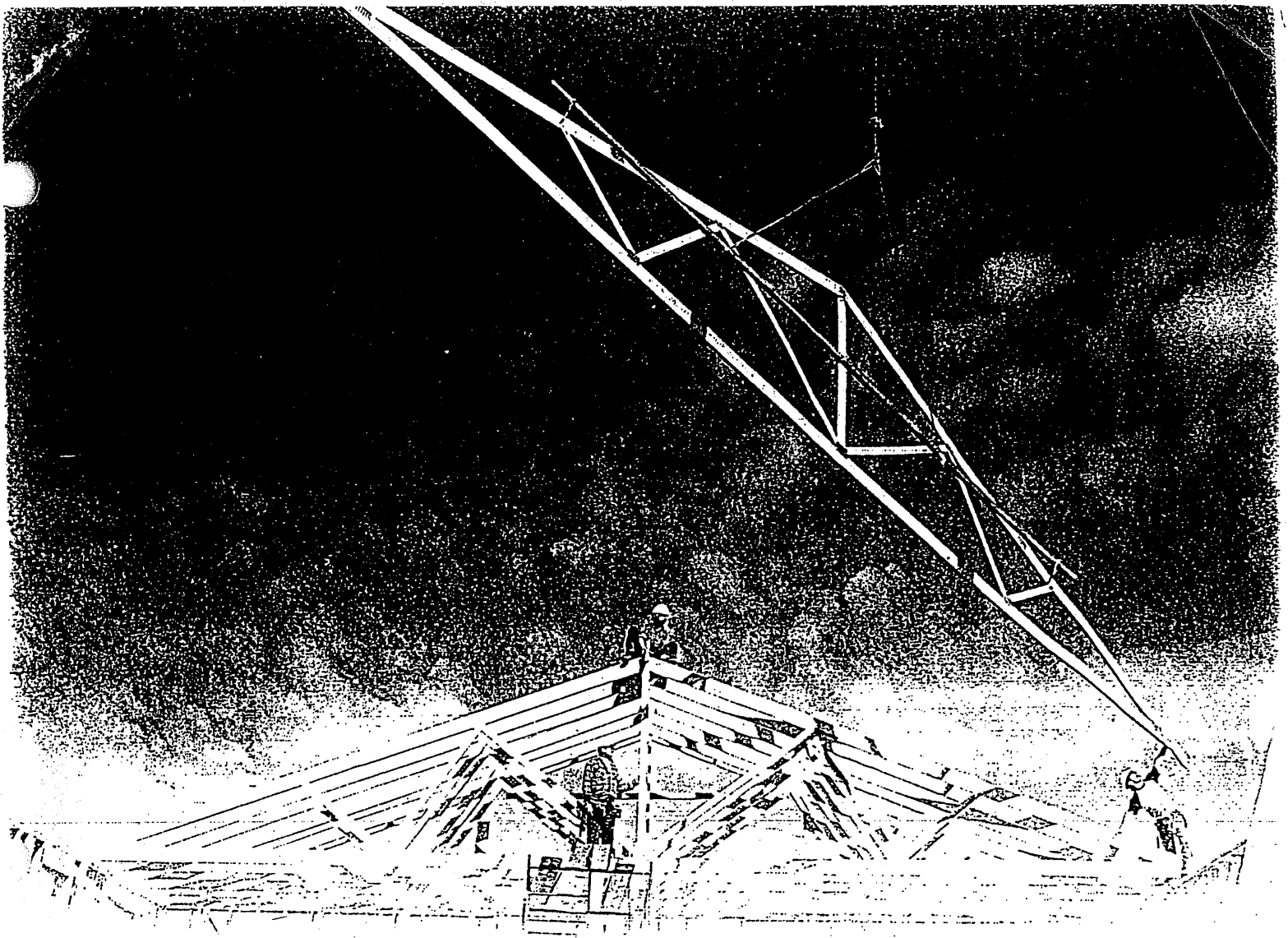
LIMIT
STATES
DESIGN

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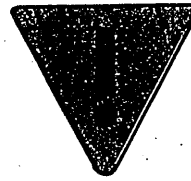
Wood Truss Installation

**A Guide to proper handling, erecting and bracing
metal plate connected wood trusses**

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1 Unloading & Lifting.....	5
2 Job Site Handling.....	5
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7 Bracing Requirements for 3 Planes of Roof.....	9
8 Stacking Materials.....	10
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Warning



General

Familiarity with the Construction Design Documents, the Truss Design Drawings, and Truss Placement Plans (if required by the Construction Design Documents) is required to properly erect, brace, and connect the trusses to the building system.

All of the care and quality involved in the design and manufacture of wood trusses can be jeopardized if the trusses are not properly handled, erected, and braced.

The consequences of improper handling, erecting, and bracing may be a collapse of the structure, which at best is a substantial loss of time and materials, and at worst is a loss of life. The majority of truss accidents occur during truss installation and not as a result of improper design or manufacture.

Prior to truss erection, the builder/erector shall meet with the erection crew for a safety and planning meeting, making sure each crew member understands his or her roles and responsibilities during the erection process.

Temporary Erection Bracing

Trusses are not marked in any way to identify the frequency, or location of temporary erection bracing.

All temporary bracing shall comply with the latest edition of *Commentary and Recommendations for Handling, Installing & Bracing Metal Plate Connected Wood Trusses* (HIB), published by the Truss Plate Institute, and/or as specified in the Construction Design Documents prepared by the building designer.

Permanent Truss Bracing

Permanent bracing for the roof or floor trusses is the responsibility of the building designer and should be shown on the Construction Design Documents. Permanent bracing locations for individual compression members of a wood truss are shown on the Truss Design Drawings, and shall be installed by the building or erection contractor. This bracing is needed for the proper performance of individual trusses within the roof or floor system. The design and connection of the bracing to the truss and then to the overall building system is the responsibility of the building designer, and is in addition to the permanent bracing plan, which is also specified by the building designer.

Special Design Requirements

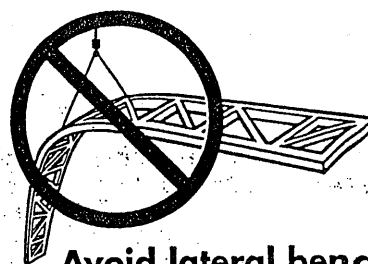
Special design requirements, such as wind bracing, portal bracing, seismic bracing, diaphragms, shear walls, or other load transfer elements and their connections to wood trusses must be considered separately by the building designer, who shall determine size, location, and method of connections for all bracing as needed to resist these forces.

1

Unloading & Lifting

Never handle trusses flat

Beginning with the unloading process, and throughout all phases of construction, care must be taken to avoid lateral bending of trusses, which can cause damage to the lumber and metal connector plates at the joints.

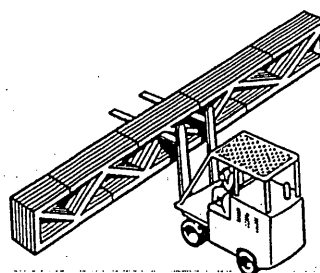
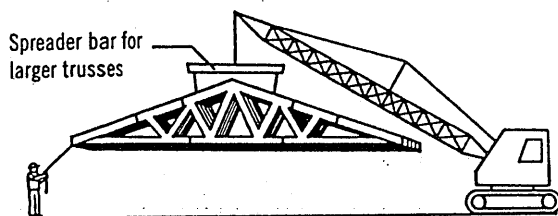


Avoid lateral bending

- Use special care in windy weather.
- If using a crane within 10 feet of an electric line, contact the local power company.
- If using a crane within 5 miles of an airport, contact the airport 30 days prior to erection to learn about any safety regulations that must be followed.

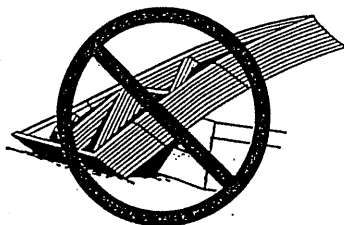
2

Job Site Handling



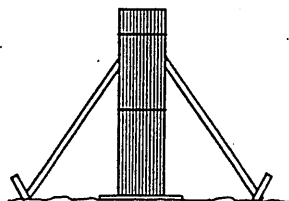
All trusses should be picked up at the top chords in a vertical position only

Proper banding and smooth ground allow for unloading of trusses without damage. This should be done as close to the building site as possible to minimize handling. Do not break banding until installation begins. Hand erection of trusses is allowed, provided excessive lateral bending is prevented.



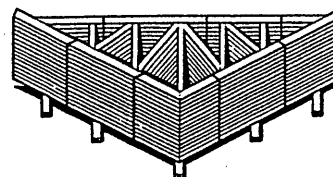
Do not store unbraced bundles upright

If trusses are stored vertically they shall be braced in a manner that will prevent tipping or topping. Generally cutting of the banding is done just prior to installation.



Do not store on uneven ground

If trusses are stored horizontally, blocking should be used on eight to ten foot centers, or as required, to minimize lateral bending and moisture gain.

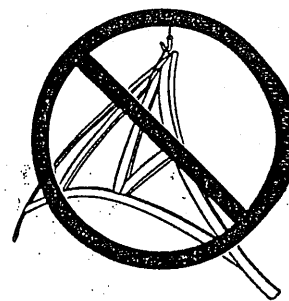


Care should be exercised when removing banding to avoid damaging trusses.

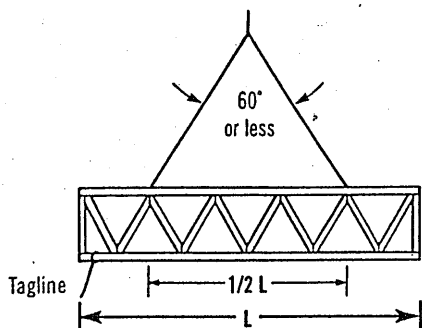
During long term storage, trusses shall be protected from the environment in a manner that provides for adequate ventilation of the trusses. If tarpaulins or other material is used, the ends shall be left open for ventilation. Plastic is not recommended, since it can trap moisture.

3 Hoisting

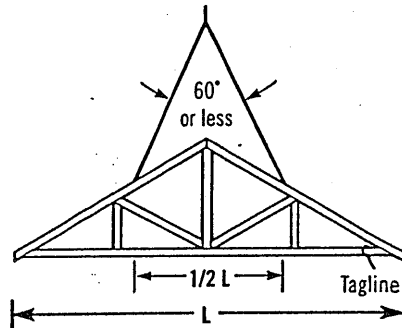
All trusses that are erected one at a time shall be held safely in position by the erection equipment until such time as all necessary bracing has been installed and the ends of the trusses are securely fastened to the building.



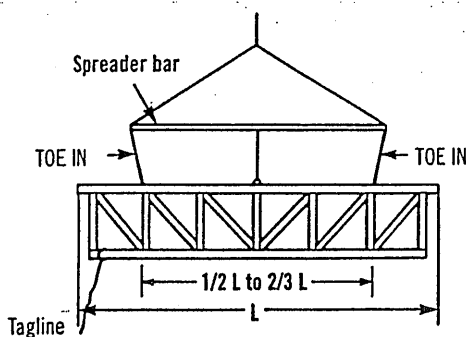
Avoid lateral bending



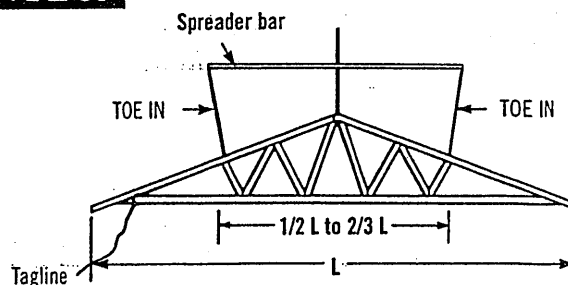
$L \leq 30'$



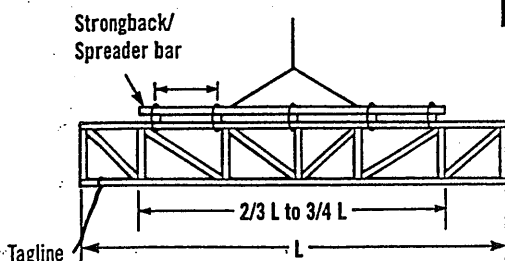
Truss sling is acceptable where these criteria are met.



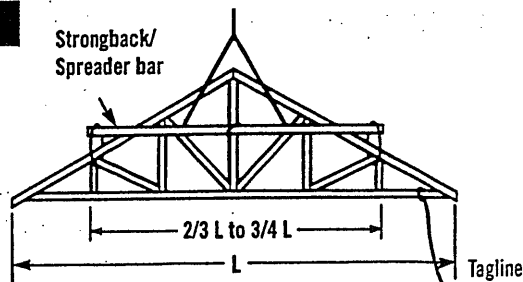
$30' < L \leq 60'$



Use spreader bar in all other cases. It should be noted that the lines from the ends of the spreader bar "TOE IN"; if these lines should "TOE OUT" the truss may fold in half.



$L > 60'$



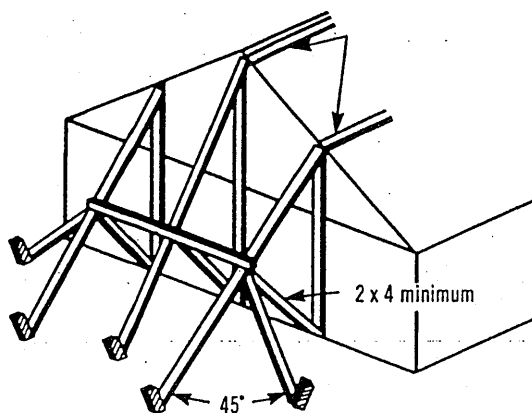
For lifting trusses with spans in excess of 60 feet, it is recommended that a strongback/spreader bar be used as illustrated. The strongback/spreader bar should be attached to the top chord and web members at intervals of approximately 10 feet. Further, the strongback/spreader bar should be at or above the mid-height of the truss to prevent overturning. The strongback/spreader bar can be of any material with sufficient strength to safely carry the weight of the truss and sufficient rigidity to adequately resist bending of the truss.

4 Beginning the Erection Process

It is important for the builder or erection contractor to provide substantial bracing for the first truss erected. The two or more trusses making up the rest of the first set are tied to and rely upon the first truss for stability. Likewise, after this first set of trusses is adequately cross-braced, the remaining trusses installed rely upon this first set for stability. Thus, the performance of the truss bracing system depends to a great extent on how well the first group of trusses is braced.

Ground Brace - Exterior

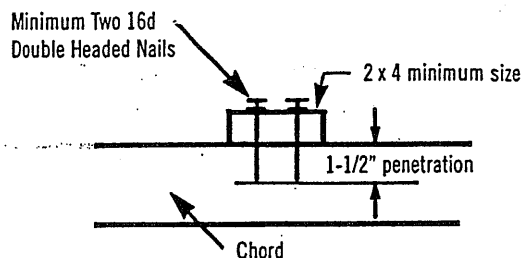
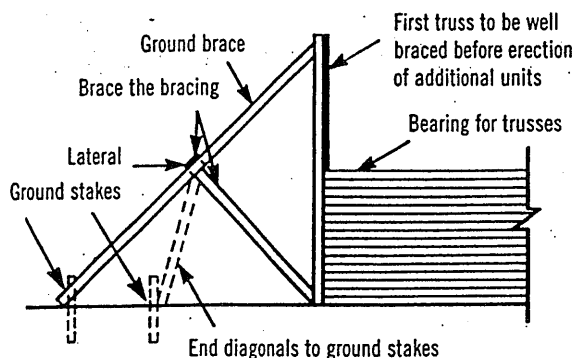
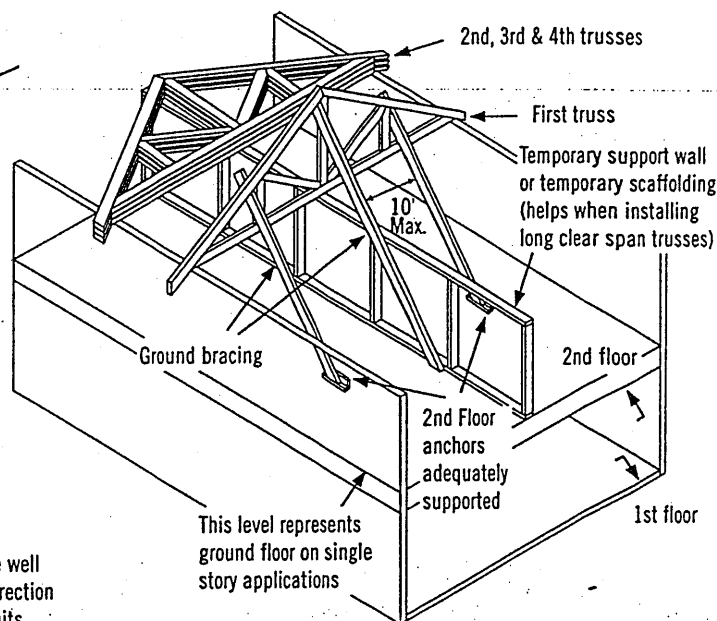
One satisfactory method ties the first unit of trusses off to a series of braces that are attached to a stake driven into the ground and securely anchored. The ground brace itself should be supported as shown below or it is apt to buckle. Additional ground braces in the opposite direction, inside the building, are also recommended.



Note: Locate ground braces for first truss directly in line with all rows of top chord continuous lateral bracing (either temporary or permanent).

Ground Brace - Interior

Another satisfactory method where height of building or ground conditions prohibit bracing from the exterior is to tie the first truss rigidly in place from the interior at the floor level, provided the floor is substantially completed and capable of supporting the ground bracing forces. Securely fasten the first truss to the middle of the building. Brace the bracing similar to exterior ground bracing shown at left. Set trusses from the middle toward the end of the building. Properly cross-brace the first set of trusses before removing floor braces and setting remaining trusses.

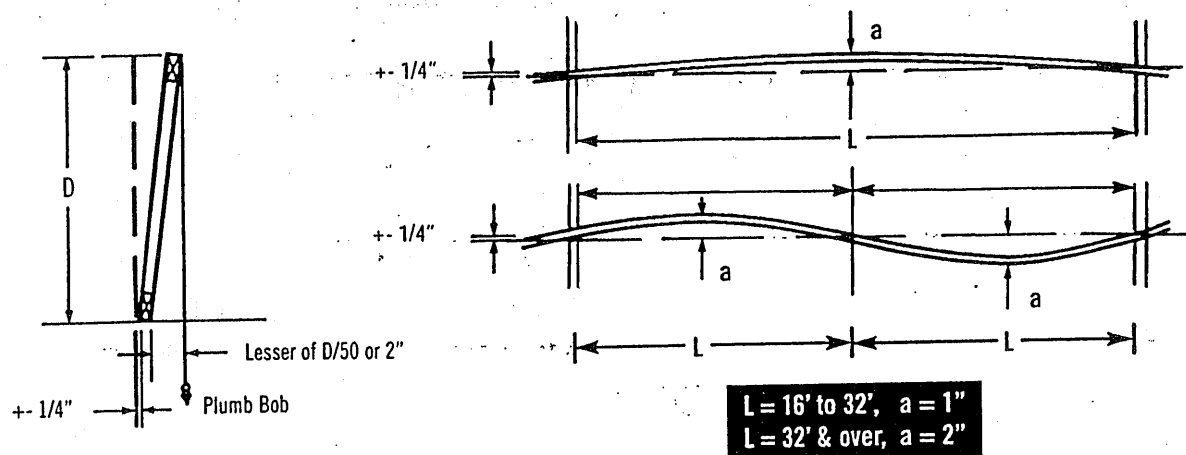


Inadequate size of bracing material or inadequate fastening is a major cause of erection dominoing.

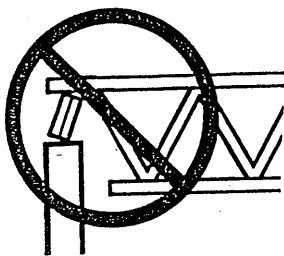
5 Erection Tolerance

Complying with erection tolerances is critical to achieving an acceptable roof or floor line, and to accomplishing effective bracing. Setting trusses within tolerance the first time will prevent the need for the hazardous practice of respacing or adjusting trusses when roof sheathing or roof purlins are installed. Trusses leaning or bowing can cause nails to miss the top chords when sheathing is applied, and create cumulative stresses on the bracing, which is a frequent cause of dominoing.

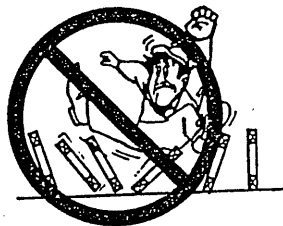
When sheathing, make sure nails are driven into the top chord of the trusses.



6 Bracing



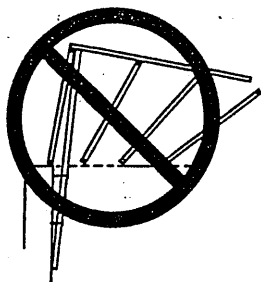
Do not install trusses on temporarily connected supports



Do not walk on unbraced trusses



Do not walk on trusses or gable ends lying flat

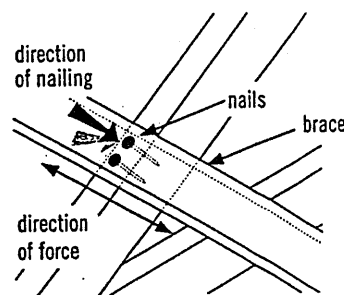


Nails in withdrawal (parallel to force)

All anchors, hangers, tie-downs, seats, bearing ledgers, etc., that are part of the supporting structure shall be accurately and properly placed and permanently attached before truss installation begins. No trusses shall ever be installed on anchors or ties that have temporary connections to the supporting structure.

Nailing scabs to the end of the building to brace the first truss is not recommended.

All nailing of bracing should be done so that nails are driven perpendicular to the direction of force, as shown at right.



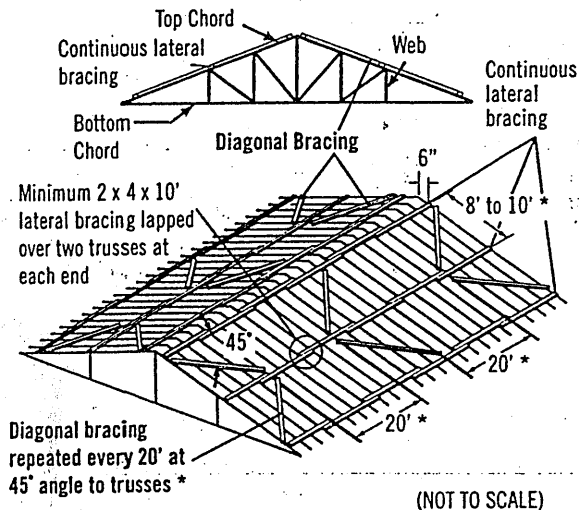
Well nailed (perpendicular to force)

7 Bracing Requirements for 3 Planes of Roof

Temporary erection bracing must be applied to three planes of the roof system to ensure stability: Plane 1) Top Chord (sheathing), Plane 2) Bottom Chord (ceiling plane), and Plane 3) Web Member plane or vertical plane perpendicular to trusses.

1) Top Chord Plane

Most important to the builder or erection contractor is bracing in the plane of the top chord. Truss top chords are susceptible to lateral buckling before they are braced or sheathed.

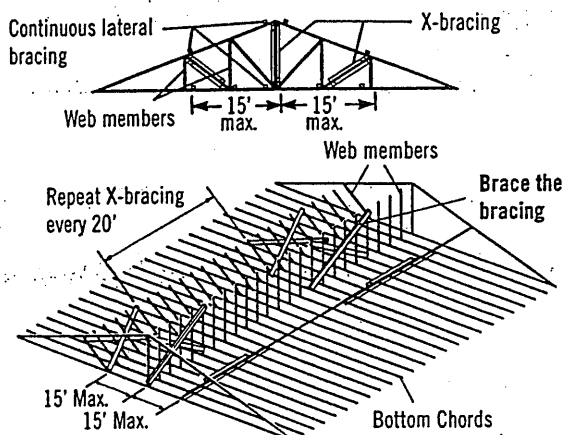


Exact spacing between trusses should be maintained as bracing is installed to avoid the hazardous practice of removing bracing to adjust spacing. This act of "adjusting spacing" can cause trusses to topple if connections are removed at the wrong time.

3) Web Member Plane

"X" bracing, as shown, is critical in preventing trusses from leaning or dominoing. Repeat as shown to create a succession of rigid units.

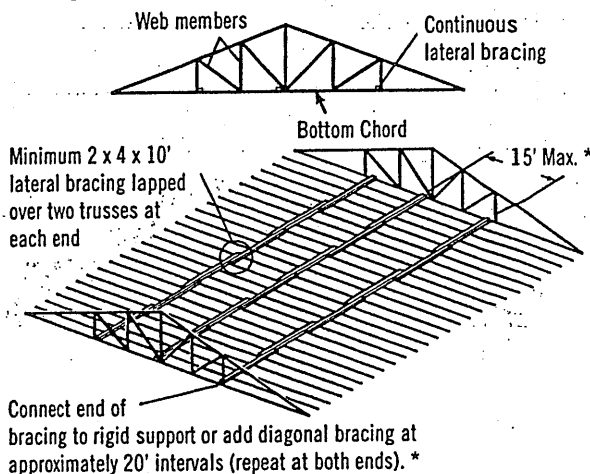
X-bracing should be installed on vertical web members wherever possible, at or near lateral bracing. Plywood or OSB may be substituted for X-bracing.



Note: Top chords and some web members are not shown, in order to make drawings more readable.

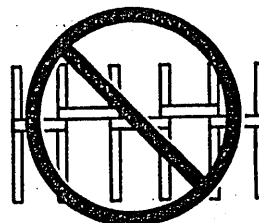
2) Bottom Chord Plane

In order to hold proper spacing on the bottom chord, temporary bracing is recommended on the top of the bottom chord.

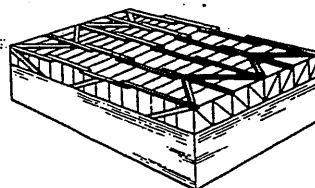


* Long spans, heavy loads or other spacing configurations may require closer spacing between lateral bracing and closer intervals between diagonals. Consult the building designer or HIB and DSB (Recommended Design Specification for Temporary Bracing of Metal-Plate Connected Wood Trusses) for details.

Diagonal or cross-bracing is very important!



Do not use short blocks to brace individual trusses without a specific bracing plan detailing their use

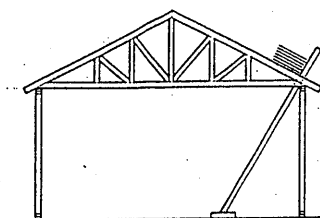
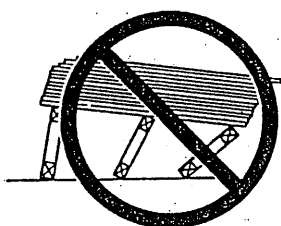


Bracing requirements using the same principles apply to parallel chord trusses

8 Stacking Materials

Do not proceed with building completion until all bracing is securely and properly in place

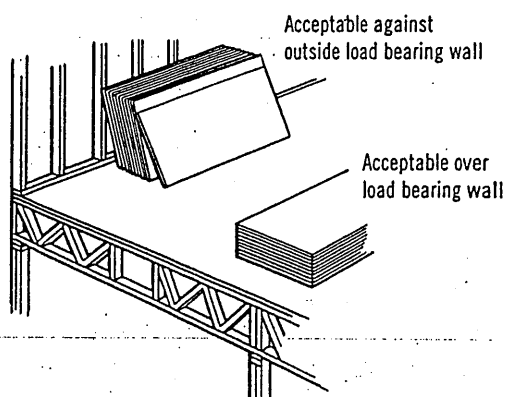
Never stack materials on unbraced or inadequately braced trusses



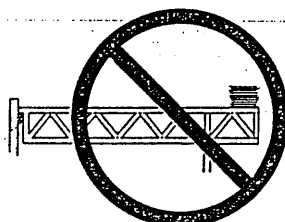
Platform must be rigidly braced

Proper distribution of construction materials is a must during construction.

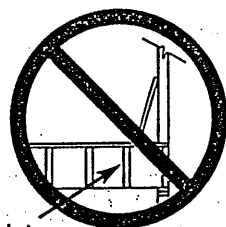
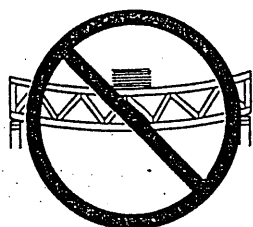
Never stack materials near a peak



Never stack materials on the cantilever of a truss

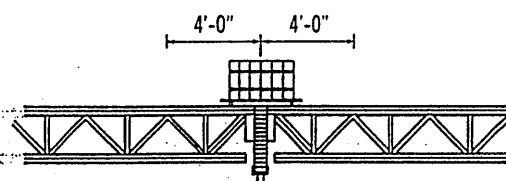


Always stack materials over two or more trusses.



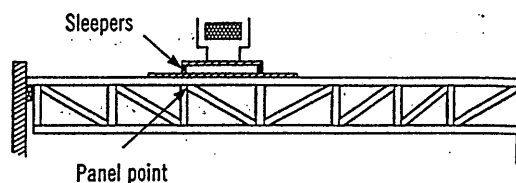
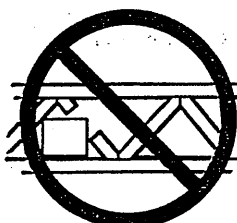
Single truss

Never overload small groups or single trusses. Position load over as many trusses as possible.



Roofing and mechanical contractors are cautioned to stack materials only along outside supporting members or directly over inside supporting members. Trusses are not designed for dynamic loads (i.e., moving vehicles). Extreme care should be taken when loading and stacking construction materials (rolled roofing, mechanical equipment, etc.) on the roof or floor system.

Never cut any structural member of a truss.



Sleepers

Panel point

Sleepers for mechanical equipment should be located at panel points (joints) or over main supporting members, and only on trusses that have been designed for such loads.

Caution Notes

Errors in building lines and/or dimensions, or errors by others shall be corrected by the contractor or responsible construction trade subcontractor or supplier before erection of trusses begins.

Cutting of nonstructural overhangs is considered a part of normal erection and shall be done by the builder or erection contractor.

Any field modification that involves the cutting, drilling, or relocation of any structural truss member or connector plate shall not be done without the approval of the truss manufacturer or a licensed design professional.

The methods and procedures outlined are intended to ensure that the overall construction techniques employed will put floor and roof trusses safely in place in a completed structure. These recommendations for bracing wood trusses originate from the collective experience of leading technical personnel in the wood truss industry, but must, due to the nature of responsibilities involved, be presented only as a guide for use by a qualified building designer, builder, or erection contractor. Thus, the Wood Truss Council of America expressly disclaims any responsibility for damages arising from the use, application, or reliance on the recommendations and information contained herein.

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THE CANADIAN WOOD TRUSS ASSOCIATION



L'ASSOCIATION CANADIENNE DES FABRICANTS DE FERMES DE BOIS

1400 Blair Place, Suite 210, Ottawa, ON K1J 9B8

Tel.: 613-747-5544 Fax: 613-747-6264



Wood Truss Council of America

One WTCA Center

6300 Enterprise Lane, Madison, WI 53719-1140

Tel.: 608-274-4849 Fax: 608-274-3329

wtca@woodtruss.com www.woodtruss.com