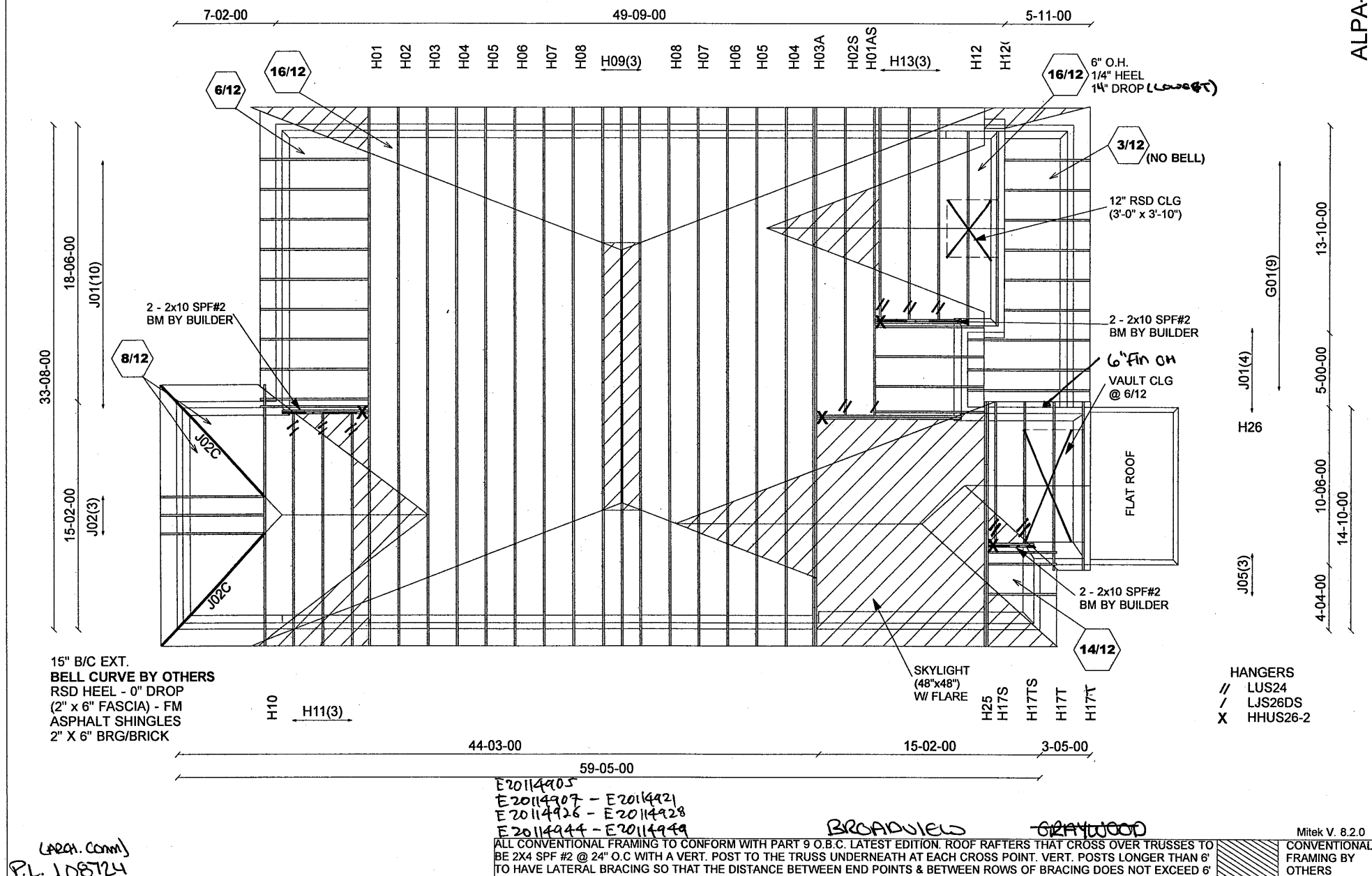




LP201. Conn.)
P.L. 108724



Job Track: **45147**
Layout ID: **324048**
Plan Log: **106926**

Builder / Location:
GOLD PARK HOMES / VAUGHAN

Project: **PINE VALLEY**

Date: **9/21/2020** Designer: EMOZES

Model / Elevation:
4205 / A SKYLIGHT

STD OR OPT GRND FL.

THESE DRAWINGS CONSTITUTE THE PROPERTY OF ALPHA 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 ALPHA ROOF TRUSSES INC AND WILL BE RETRACTED BY ALPHA 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.

Alpa Roof Truss, Maple

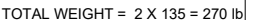
Version 8.330 S May 6 2020 MiTek Industries, Inc. Thu Nov 19 12:00:30 2020 Page 1

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Scale = 1:57.2

LUMBER						DIMENSIONS, SUPPORTS & LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER						DESIGN CRITERIA					
N. L. G. A. RULES		CHORDS		SIZE		LUMBER		DESCR.		FACTORED		MAXIMUM FACTORED		INPUT		REQRD	
A - B		2x4		DRY		No.2		SPF		GROSS REACTION		GROSS REACTION		BRG		BRG	
B - F		2x6		DRY		No.2		SPF		VERT		HORZ		UPLIFT		IN-SX	
F - I		2x6		DRY		No.2		SPF		V		3453		0		3453	
I - J		2x4		DRY		No.2		SPF		L		2899		0		2899	
V - A		2x6		DRY		No.2		SPF									
L - J		2x6		DRY		No.2		SPF									
W - R		2x6		DRY		2100F 1.8E		SPF									
R - O		2x6		DRY		2100F 1.8E		SPF									
O - K		2x6		DRY		2100F 1.8E		SPF									
ALL WEBS						2x3		DRY		No.2		SPF					
EXCEPT																	
B - T						2x4		DRY		No.2		SPF					
N - I						2x4		DRY		No.2		SPF					
DRY: SEASONED LUMBER.																	
PLATES (table is in inches)																	
JT	TYPE	PLATES	W	LEN	Y	X											
A	TMVW-t	MT20	5.0	8.0	1.75	2.00											
B	TTWW+m	MT20	8.0	9.0	2.75	1.75											
C	TMWW-t	MT20	5.0	8.0	2.25	2.75											
D	TMWW-t	MT20	4.0	6.0													
E	TMW+w	MT20	2.0	4.0													
F	TS-t	MT20	5.0	6.0													
G	TMWW-t	MT20	4.0	6.0													
H	TMWW-t	MT20	5.0	8.0	2.25	2.75											
I	TTWW+m	MT20	8.0	9.0	2.75	1.75											
J	TMVW-t	MT20	5.0	8.0	1.75	2.00											
L	BMV1+p	MT20	3.0	5.0													
M	BMWW+t	MT20	4.0	6.0	3.00	1.50											
N	BMWW-t	MT20	5.0	8.0	2.25	2.25											
O	BS-t	MT20	6.0	7.0													
P	BMWW-t	MT20	5.0	6.0	2.00	1.50											
Q	BMWWW-t	MT20	5.0	8.0													
R	BS-t	MT18HS	5.0	12.0													
S	BMWW-t	MT20	5.0	6.0	2.00	1.50											
T	BMWW-t	MT20	5.0	8.0	2.25	2.25											
U	BMWW+t	MT20	4.0	6.0	3.00	1.50											
V	BMV1+p	MT20	3.0	5.0													
LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2																	
																	
BEARINGS																	
FACTORED GROSS REACTION JT VERT HORZ DOWN HORZ UPLIFT IN-SX IN-SX V 3453 0 3453 0 0 5-8 3-7 L 2899 0 2899 0 0 5-8 2-12																	
UNFACTORED REACTIONS																	
1ST LCASE MAX./MIN. COMPONENT REACTIONS JT COMBINED SNOW LIVE PERM.LIVE WIND DEAD SOIL V 2453 1545 / 0 0 / 0 0 / 0 908 / 0 0 / 0 L 2055 1322 / 0 0 / 0 0 / 0 732 / 0 0 / 0																	
BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) V, L BEARING SIZE FACTOR = 1.15 AT JNT(S) V, L (BASED ON SUPPORT DEPTH = 1-8)																	
BRACING TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 2.48 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 MAX. FACTORED FORCE (LBS) FACTORED VERT. LOAD (PLF) MAX. CSI (LC) MAX. UNBRAC LENGTH FR-TO MAX. FACTORED FORCE (LBS) MAX. CSI (LC) FR-TO FROM TO A-B -2360 / 0 -78.0 -78.0 0.10 (1) 4.36 U-B -1177 / 0 0.27 (1) B-C -5158 / 0 -153.5 -153.5 0.47 (1) 3.45 M-I -983 / 0 0.23 (1) C-D -7323 / 0 -153.5 -153.5 0.66 (1) 2.73 A-U 0 / 1957 0.48 (1) D-E -8384 / 0 -153.5 -																	

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

TOTAL LOAD CASES: (4)

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



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, 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

(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)= $L/360$ (1.09")
 CALCULATED VERT. DEFL.(LL) = $L/999$ (0.15")
 ALLOWABLE DEFL.(TL)= $L/360$ (1.09")
 CALCULATED VERT. DEFL.(TL) = $L/999$ (0.31")

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=0.96/1.00 (C-D:1), BC=0.47/1.00 (N-P:1),
WB=0.44/1.00 (G-M:1), SSI=0.26/1.00 (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= 0.90 (M) (INPUT = 0.90)
JSI METAL= 0.74 (O) (INPUT = 1.00)

Alpa Roof Truss, Maple

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ID: cbs6wmTDNhrYK1fJnPX3qbyfLcL-S4yOtapGQJn?nsl yfmliGKIqB0pRCw?TGxOqCyHeH

Scale = 1:57.3

The diagram illustrates a symmetrical roof truss system. Key components include:

- Members:** Top chord (T1, T2, T3), Bottom chord (B1, B2), Verticals (W1, W2, W3, W4), Diagonals (W1, W2, W3, W4), and Bracing (B1, B2).
- Joints:** Labeled A through S, representing various connection points.
- Dimensions:** Horizontal spans are marked at the top (e.g., 1-6-8, 2-11-13, 6-9-3, 9-9-1, 6-7-15, 16-5-0, 6-7-15, 23-1-0, 6-9-3, 29-10-3, 2-11-13, 32-10-0, 1-6-8) and bottom (e.g., 1-6-8, 0-0, 2-11-13, 2-11-13, 6-9-3, 9-9-1, 6-7-15, 31-11-0, 16-5-0, 35-11-0, 6-7-15, 23-1-0, 6-9-3, 29-10-3, 2-11-13, 32-10-0, 1-6-8). Vertical dimensions are 5-11-11 and 3-8.
- Labels:** Material and size specifications are provided for various members, such as 6x7, 4x6, 3x6, 4x4, 2x4, 5x6, and 3x8.

TOTAL WEIGHT = 2 X 142 = 284 lb

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

A circular professional engineer seal for the Province of Ontario. The outer ring contains the text "LICENSED PROFESSIONAL ENGINEER" at the top and "PROVINCE OF ONTARIO" at the bottom. The center of the seal features a stylized "E" shape. Inside the top bar of the "E" is the name "V. WIDYA". Inside the bottom bar of the "E" is the license number "100225448". Below the "E" shape is the date "11/19/2020". There are blue ink scribbles over the seal.

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

NAIL VALUES

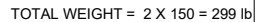
PLATE	GRIP(DRY)	SHEAR	SECTION
	(PSI)	(PLI)	(PLI)
	MAX MIN	MAX MIN	MAX MIN
MT20	650 371	1747 788	1987 1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.89 (P) (INPUT = 0.90)
JSI METAL= 0.63 (O) (INPUT = 1.00)

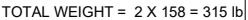
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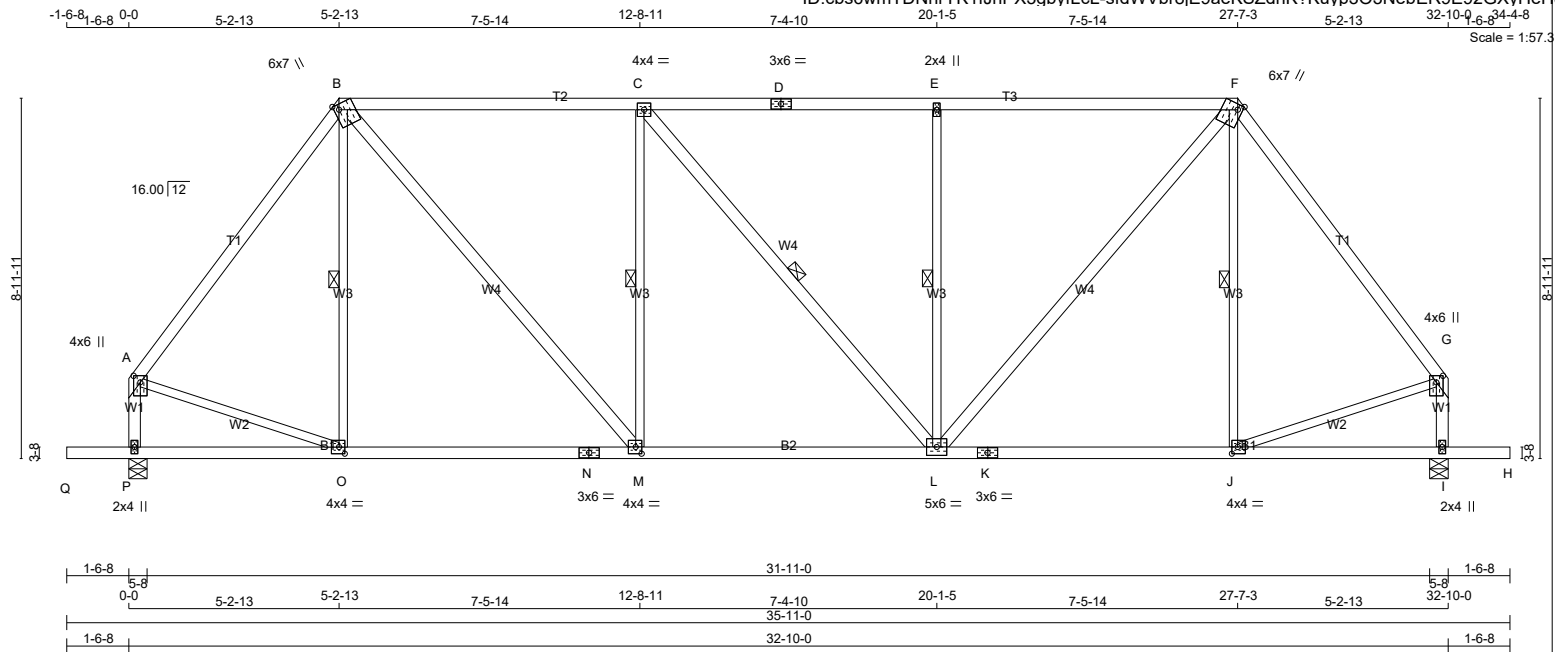
C H O R D S					W E B S				
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	LC1	MAX CSI (LC)	MAX. UNBRAC	MEMB.	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)	
FR-TO		FROM	TO		LENGTH	FR-TO			
A-B	-1346 / 0	-78.0	-78.0	0.24 (1)	5.35	Q-B	-229 / 0	0.19 (1)	
B-C	-1718 / 0	-78.0	-78.0	0.58 (1)	4.41	B-P	0 / 1324	0.30 (1)	
C-D	-1984 / 0	-78.0	-78.0	0.61 (1)	4.13	P-C	-835 / 0	0.69 (1)	
D-E	-1984 / 0	-78.0	-78.0	0.61 (1)	4.13	C-N	0 / 388	0.09 (1)	
E-F	-1984 / 0	-78.0	-78.0	0.61 (1)	4.13	N-D	-452 / 0	0.38 (1)	
F-G	-1718 / 0	-78.0	-78.0	0.58 (1)	4.41	N-F	0 / 388	0.09 (1)	
G-H	-1346 / 0	-78.0	-78.0	0.24 (1)	5.35	M-F	-835 / 0	0.69 (1)	
R-A	-1562 / 0	0.0	0.0	0.18 (1)	6.59	M-G	0 / 1324	0.30 (1)	
J-H	-1562 / 0	0.0	0.0	0.18 (1)	6.59	K-G	-229 / 0	0.19 (1)	
						A-Q	0 / 870	0.20 (1)	
S-R	0 / 0	-96.5	-96.5	0.16 (1)	10.00	K-H	0 / 870	0.20 (1)	
R-Q	0 / 0	-18.5	-18.5	0.12 (4)	10.00				
Q-P	0 / 799	-18.5	-18.5	0.22 (4)	10.00				
P-O	0 / 1718	-18.5	-18.5	0.35 (1)	10.00				
O-N	0 / 1718	-18.5	-18.5	0.35 (1)	10.00				
N-M	0 / 1718	-18.5	-18.5	0.35 (1)	10.00				
M-L	0 / 799	-18.5	-18.5	0.22 (4)	10.00				

JSI GRIP= 0.89 (K) (INPUT = 0.90)
JSI METAL= 0.55 (O) (INPUT = 1.00)

Scale = 1:57.3



JSI GRIP= 0.87 (G) (INPUT = 0.90)
JSI METAL= 0.47 (G) (INPUT = 1.00)



TOTAL WEIGHT = 2 X 164 = 329 lb

LUMBER				
N. L. G. A. RULES				
CHORDS	SIZE		LUMBER	DESCR
A - B	2x4	DRY	No.2	SPF
B - D	2x4	DRY	No.2	SPF
D - F	2x4	DRY	No.2	SPF
F - G	2x4	DRY	No.2	SPF
P - A	2x4	DRY	No.2	SPF
I - G	2x4	DRY	No.2	SPF
Q - N	2x4	DRY	No.2	SPF
N - K	2x4	DRY	No.2	SPF
K - H	2x4	DRY	No.2	SPF
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF
B - M	2x4	DRY	No.2	SPF
C - L	2x4	DRY	No.2	SPF
L - F	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	6.0	7.0	Edge	1.50
C	TMVW-t	MT20	4.0	4.0		
D	TS-t	MT20	3.0	6.0		
E	TMW+m	MT20	2.0	4.0		
F	TTWW+m	MT20	6.0	7.0	Edge	1.50
G	TMVW+p	MT20	4.0	6.0	2.00	2.00
I	BMV1+p	MT20	2.0	4.0		
J, M, O						
J	BMVW-t	MT20	4.0	4.0	2.00	1.75
K	BS-t	MT20	3.0	6.0		
L	BMVWW-t	MT20	5.0	6.0		
N	BS-t	MT20	3.0	6.0		
P	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

JT	FACTORED GROSS REACTION		MAXIMUM FACTORED GROSS REACTION			INPUT BRG	REQRD BRG
	VERT	HORZ	DOWN	HORZ	UPLIFT	IN-SX	IN-SX
P	1732	0	1732	0	0	5-8	2-9
I	1732	0	1732	0	0	5-8	2-9

UNFACTORED REACTIONS

1ST LCASE		MAX./MIN. COMPONENT REACTIONS					
JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
P	1235	754 / 0	0 / 0	0 / 0	0 / 0	481 / 0	0 / 0
I	1235	754 / 0	0 / 0	0 / 0	0 / 0	481 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) P. 1

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 4.39 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-O, C-M, C-L, E-L, F-J.

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	FACTORED			MAX. UNBRAC	MEMB.	MAX. FACTORED	MAX. CSI (LC)	
	FORCE (LBS)	VERT. LOAD (PLF)	LC1	MAX. CSI (LC)			FORCE (LBS)		
FR-TO		FROM	TO		LENGTH	FR-TO			
A-B	-1369 / 0	-78.0	-78.0	0.53 (1)	5.02	O-B	-116 / 49	0.06 (1)	
B-C	-1480 / 0	-78.0	-78.0	0.75 (1)	4.39	B-M	0 / 1013	0.16 (1)	
C-D	-1479 / 0	-78.0	-78.0	0.74 (1)	4.39	M-C	-627 / 0	0.33 (1)	
D-E	-1479 / 0	-78.0	-78.0	0.74 (1)	4.39	C-L	-1 / 0	0.00 (1)	
E-F	-1479 / 0	-78.0	-78.0	0.74 (1)	4.41	L-E	-626 / 0	0.33 (1)	
F-G	-1369 / 0	-78.0	-78.0	0.53 (1)	5.02	L-F	0 / 1011	0.16 (1)	
P-A	-1548 / 0	0.0	0.0	0.18 (1)	6.61	J-F	-115 / 49	0.06 (1)	
I-G	-1548 / 0	0.0	0.0	0.18 (1)	6.61	A-O	0 / 854	0.19 (1)	
						J-G	0 / 854	0.19 (1)	
Q- P	0 / 0	-96.5	-96.5	0.16 (1)	10.00				
P- O	0 / 0	-18.5	-18.5	0.18 (4)	10.00				
O- N	0 / 816	-18.5	-18.5	0.28 (4)	10.00				

J-I	0 / 0	-16.5	-16.5	0.16 (4)	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
		DL =	6.0	PSF
BOT	CH.	LL =	0.0	PSF
		DL =	7.4	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, 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

(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 (1.09")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.06")
ALLOWABLE DEFL.(TL)= L/360 (1.09")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.13")

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=0.75/1.00 (B-C:1) , BC=0.35/1.00 (L-M:1) ,
WB=0.33/1.00 (C-M:1) , SSI=0.27/1.00 (B-C: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 .

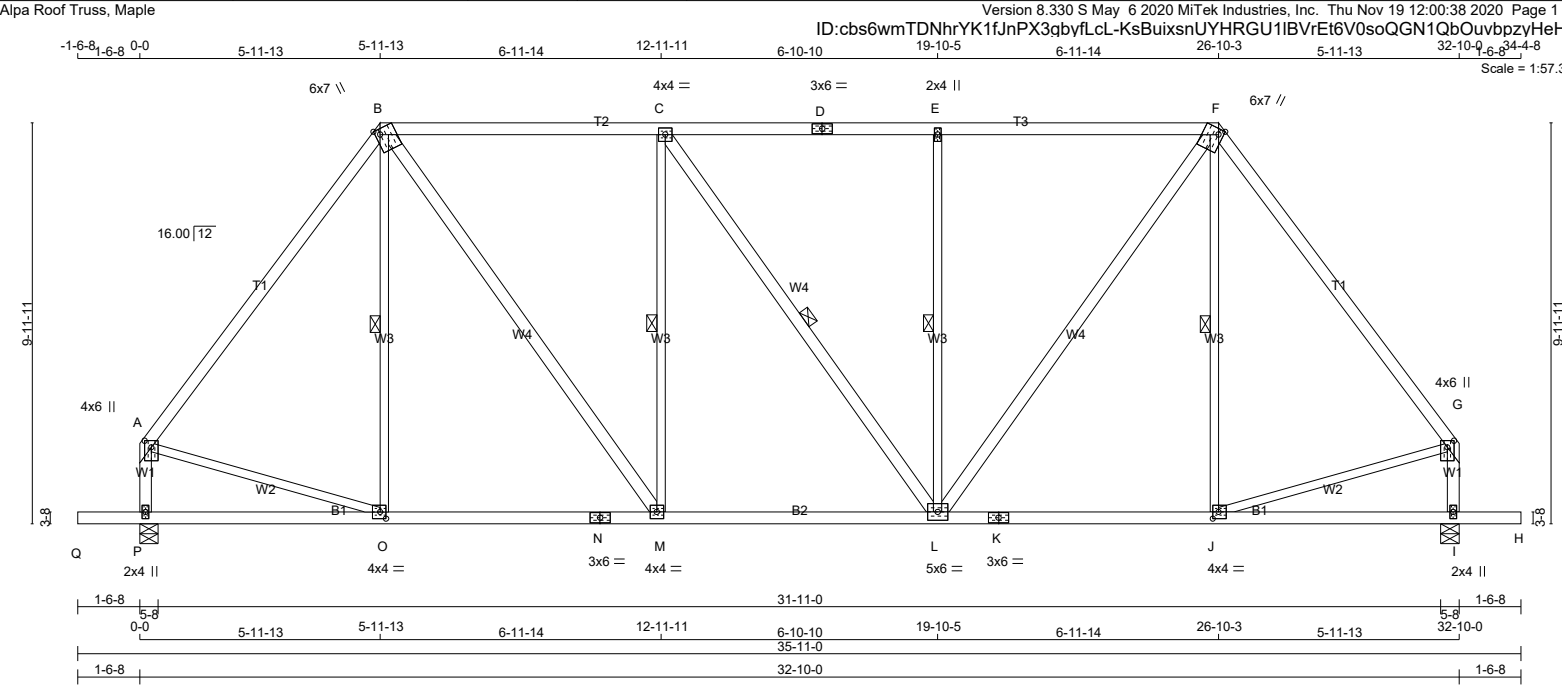
NAIL VALUES						
PLATE	GRIP(DRY)		SHEAR		SECTION	
	(PSI)		(PLI)		(PLI)	
	MAX	MIN	MAX	MIN	MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.88 (L) (INPUT = 0.90)
JSI METAL= 0.48 (G) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
324044	H07		1	TRUSS DESC. JT 45147	E20114912



TOTAL WEIGHT = 2 X 172 = 343 lb

LUMBER			
N. L. G. A. RULES	CHORDS	SIZE	LUMBER
A - B	2x4	DRY	2100F 1.8E
B - D	2x4	DRY	No.2
D - F	2x4	DRY	No.2
F - G	2x4	DRY	2100F 1.8E
P - A	2x4	DRY	No.2
I - G	2x4	DRY	No.2
Q - N	2x4	DRY	No.2
N - K	2x4	DRY	No.2
K - H	2x4	DRY	No.2
ALL WEBS EXCEPT	2x3	DRY	No.2
B - M	2x4	DRY	No.2
C - L	2x4	DRY	No.2
L - F	2x4	DRY	No.2

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	6.0	7.0	Edge 1.50
C	TMWW-t	MT20	4.0	4.0	
D	TS-t	MT20	3.0	6.0	
E	TMW+w	MT20	2.0	4.0	
F	TTWW+m	MT20	6.0	7.0	Edge 1.50
G	TMVW+p	MT20	4.0	6.0	2.00 2.00
I	BMV1+p	MT20	2.0	4.0	
J	BMWW-t	MT20	4.0	4.0	2.00 1.75
K	BS-t	MT20	3.0	6.0	
L	BMWWW-t	MT20	5.0	6.0	
M	BMWW-t	MT20	4.0	4.0	
N	BS-t	MT20	3.0	6.0	
O	BMWW-t	MT20	4.0	4.0	2.00 1.75
P	BMV1+p	MT20	2.0	4.0	

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

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	UPLIFT	IN-SX	IN-SX	IN-SX	IN-SX
P	1732	0	1732	0	0	5-8	2-9		
I	1732	0	1732	0	0	5-8	2-9		

UNFACTORED REACTIONS		1ST LCASE		MAX./MIN. COMPONENT REACTIONS	
JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND
P	1235	754 / 0	0 / 0	0 / 0	0 / 0
I	1235	754 / 0	0 / 0	0 / 0	0 / 0

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

BRACING
TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 4.79 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-O, C-M, C-L, E-L, F-J.

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 VERT. LOAD (PLF)
FR-TO	FROM	TO	FROM
A-B	-1362 / 0	-78.0	-78.0 0.42 (1)
B-C	-1329 / 0	-78.0	-78.0 0.62 (1)
C-D	-1328 / 0	-78.0	-78.0 0.61 (1)
D-E	-1328 / 0	-78.0	-78.0 0.61 (1)
E-F	-1328 / 0	-78.0	-78.0 0.61 (1)
F-G	-1362 / 0	-78.0	-78.0 0.42 (1)
P-A	-1540 / 0	0.0	0.0 0.18 (1)
I-G	-1540 / 0	0.0	0.0 0.18 (1)
Q-P	0 / 0	-96.5	-96.5 0.16 (1)
P-O	0 / 0	-18.5	-18.5 0.18 (4)
O-N	0 / 0	-18.5	-18.5 0.26 (4)

J-I	0 / 0	-10.3	-10.3 0.10 (4)
I-H	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 (1.09")
CALCULATED VERT. DEFL.(LL)= L/999 (0.05")
ALLOWABLE DEFL.(TL)= L/360 (1.09")
CALCULATED VERT. DEFL.(TL)= L/999 (0.11")

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=0.62/1.00 (B-C:1), BC=0.31/1.00 (L-M:1), WB=0.39/1.00 (C-M:1), SSI=0.25/1.00 (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

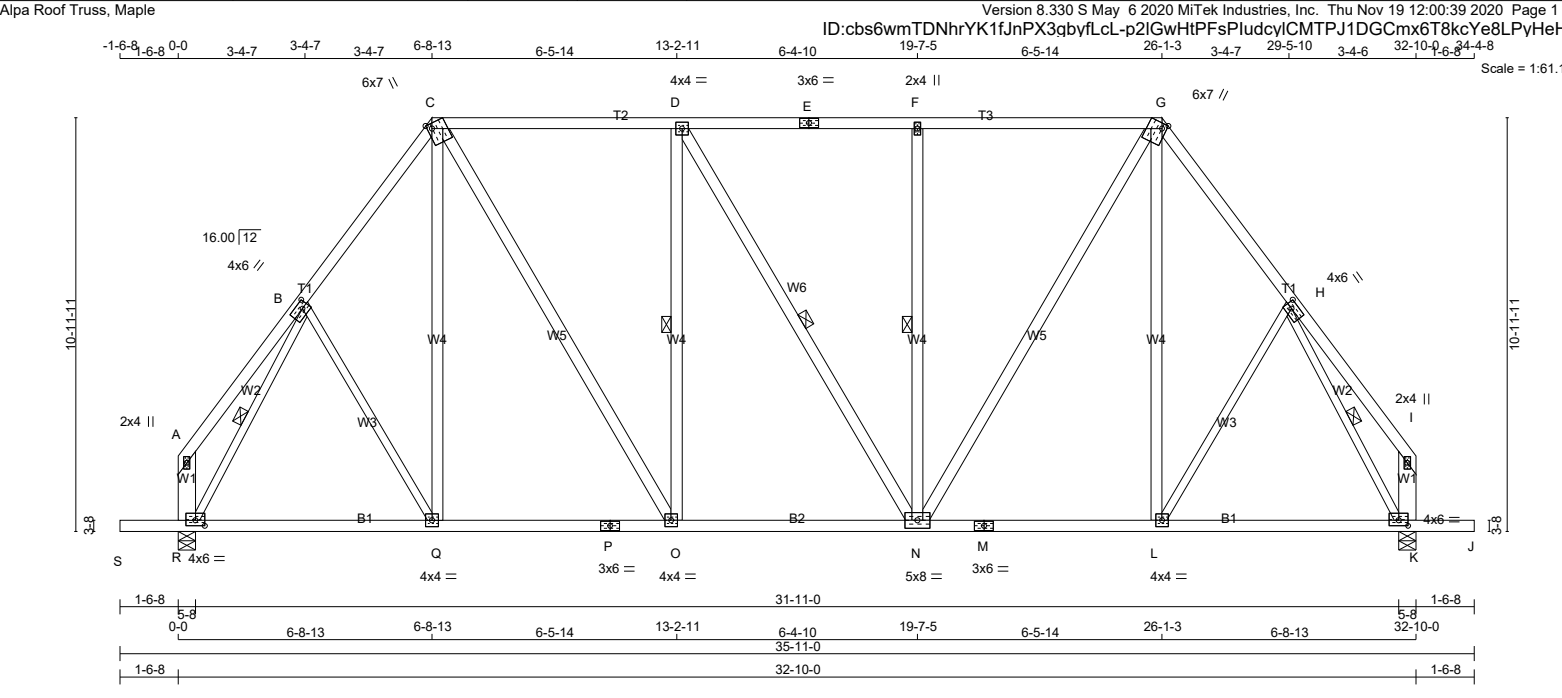
PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.87 (M) (INPUT = 0.90)
JSI METAL= 0.48 (G) (INPUT = 1.00)

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





LUMBER N. L. G. A. RULES CHORDS SIZE LUMBER DESCR.						DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER BEARINGS										DESIGN CRITERIA			
A - C 2x4 DRY No.2 SPF						FACTORED GROSS REACTION MAXIMUM FACTORED GROSS REACTION INPUT REQ'D										SPECIFIED LOADS:			
C - E 2x4 DRY No.2 SPF						JT VERT HORZ DOWN HORZ UPLIFT IN-SX BRG IN-SX BRG										TOP CH. LL = 21.0 PSF			
E - G 2x4 DRY No.2 SPF						R 1732 0 1732 0 0 5-8 1-13										DL = 6.0 PSF			
G - I 2x4 DRY No.2 SPF						K 1732 0 1732 0 0 5-8 1-13										BOT CH. LL = 0.0 PSF			
R - A 2x6 DRY No.2 SPF																DL = 7.4 PSF			
K - I 2x6 DRY No.2 SPF																TOTAL LOAD = 34.4 PSF			
S - P 2x4 DRY No.2 SPF																SPACING = 24.0 IN. C/C			
P - M 2x4 DRY No.2 SPF																LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM			
M - J 2x4 DRY No.2 SPF																THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBC 2015			
ALL WEBS 2x4 DRY No.2 SPF																THIS DESIGN COMPLIES WITH:			
EXCEPT																- PART 9 OF CBC 2018 , ABC 2019			
R - B 2x3 DRY No.2 SPF																- PART 9 OF OBC 2012 (2019 AMENDMENT)			
B - Q 2x3 DRY No.2 SPF																- CSA 086-14			
L - H 2x3 DRY No.2 SPF																- TPIC 2014			
H - K 2x3 DRY No.2 SPF																(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			
DRY: SEASONED LUMBER.																ALLOWABLE DEFL.(LL)= L/360 (1.09")			
																CALCULATED VERT. DEFL.(LL) = L/ 999 (0.05")			
																ALLOWABLE DEFL.(TL)= L/360 (1.09")			
																CALCULATED VERT. DEFL.(TL) = L/ 999 (0.11")			
																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=0.51/1.00 (C-D:1) , BC=0.28/1.00 (L-N:4) , WB=0.49/1.00 (H-K:1) , SSI=0.24/1.00 (C-D: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 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= 0.89 (H) (INPUT = 0.90)			
																JSI METAL= 0.37 (H) (INPUT = 1.00)			

PLATES (table is in inches)					
JT	TYPE	PLATES	W	LEN	Y X
A	TMV+p	MT20	2.0	4.0	
B	TMWW-t	MT20	4.0	6.0	2.00 2.00
C	TTWW+m	MT20	6.0	7.0	Edge 1.50
D	TMWW-t	MT20	4.0	4.0	
E	TS-t	MT20	3.0	6.0	
F	TMW+w	MT20	2.0	4.0	
G	TTWW+m	MT20	6.0	7.0	Edge 1.50
H	TMWW-t	MT20	4.0	6.0	2.00 2.00
I	TMV+p	MT20	2.0	4.0	
K	BMVW1-t	MT20	4.0	6.0	1.75 3.00
L	O, Q				
L	BMWW-t	MT20	4.0	4.0	
M	BS-t	MT20	3.0	6.0	
N	BMWWW-t	MT20	5.0	8.0	
P	BS-t	MT20	3.0	6.0	
R	BMVW1-t	MT20	4.0	6.0	1.75 3.00

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

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



W-M	0 / 0.00	-10.3	-10.3	0.20 (4)	10.00
M-L	0 / 806	-18.5	-18.5	0.28 (4)	10.00
L-K	0 / 783	-18.5	-18.5	0.27 (4)	10.00
K-J	0 / 0	-96.5	-96.5	0.16 (1)	10.00

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



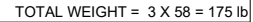
LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2	C- N N- M M- L L- K K- J	0 / 1163 0 / 796 0 / 796 0 / 797 0 / 0	-16.3 -18.5 -18.5 -18.5 -96.5	-16.3 -18.5 -18.5 -18.5 -96.5	0.24 (1) 0.31 (4) 0.31 (4) 0.31 (4) 0.16 (1)	10.00 10.00 10.00 10.00 10.00																								
						AUTOSOLVEHEELS OFF TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT . NAIL VALUES <table> <tr> <th>PLATE</th><th>GRIP(DRY)</th><th>SHEAR</th><th>SECTION</th></tr> <tr> <th>(PSI)</th><th>(PLI)</th><th>(PLI)</th><th>(PLI)</th></tr> <tr> <td>MAX</td><td>MIN</td><td>MAX</td><td>MIN</td></tr> <tr> <td>MT20</td><td>650</td><td>371</td><td>1747</td></tr> <tr> <td></td><td></td><td>788</td><td>1987</td></tr> <tr> <td></td><td></td><td>1873</td><td></td></tr> </table> PLATE PLACEMENT TOL. = 0.250 inches PLATE ROTATION TOL. = 5.0 Deg. JSI GRIP= 0.87 (K) (INPUT = 0.90) JSI METAL= 0.37 (H) (INPUT = 1.00)	PLATE	GRIP(DRY)	SHEAR	SECTION	(PSI)	(PLI)	(PLI)	(PLI)	MAX	MIN	MAX	MIN	MT20	650	371	1747			788	1987			1873	
PLATE	GRIP(DRY)	SHEAR	SECTION																											
(PSI)	(PLI)	(PLI)	(PLI)																											
MAX	MIN	MAX	MIN																											
MT20	650	371	1747																											
		788	1987																											
		1873																												

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CONTINUED ON PAGE 2

Scale = 1:33.7



JSI GRIP= 0.90 (I) (INPUT = 0.90)
JSI METAL= 0.24 (D) (INPUT = 1.00)

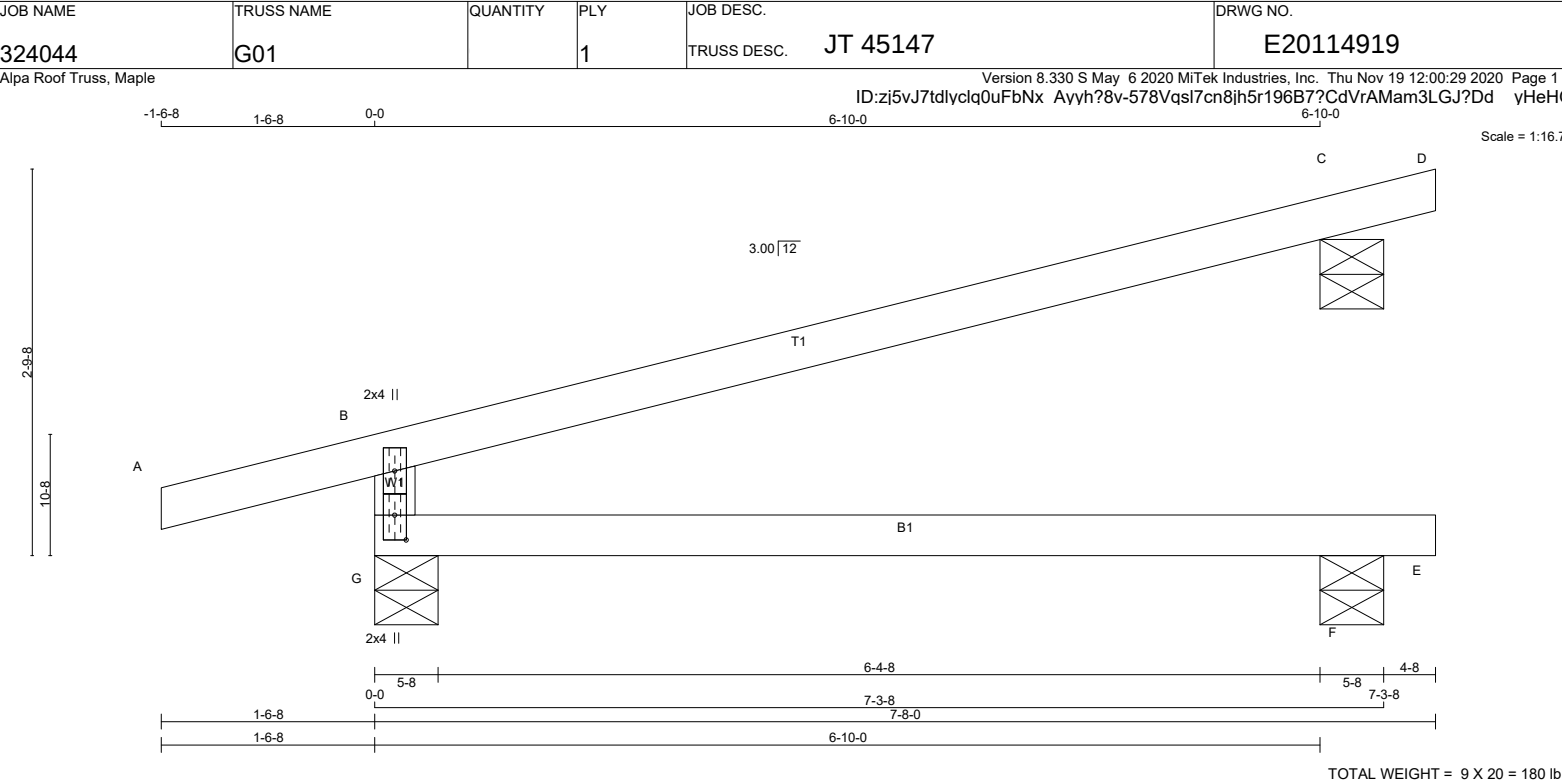
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TOTAL WEIGHT = 3 X 18 = 53 lb

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

Y. WIDYA
100225448
11/19/2020
PROVINCE OF ONTARIO



LUMBER

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

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMV+p	MT20	2.0	4.0		
G	BMV1+p	MT20	2.0	4.0	2.25	1.00

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

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER							
<u>BEARINGS</u>							
JT	FACTORED GROSS REACTION		MAXIMUM FACTORED GROSS REACTION		INPUT BRG	REQRD BRG	
	VERT	HORZ	DOWN	HORZ	UPLIFT	IN-SX	IN-SX
G	546	0	546	0	0	5-8	1-8
F	63	0	71	0	0	5-8	1-8
C	256	0	256	0	0	5-8	5-8

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

UNFACTORED REACTIONS

JT	1ST LCASE	MAX./MIN. COMPONENT REACTIONS	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
G	386	251 / 0	0 / 0	0 / 0	0 / 0	0 / 0	135 / 0	0 / 0
F	51	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	51 / 0	0 / 0
C	177	138 / 0	0 / 0	0 / 0	0 / 0	0 / 0	39 / 0	0 / 0

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

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: (4)

CHORDS				WEBS			
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	MAX. FACTORED VERT. LOAD (LC1)	MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	MAX. FACTORED VERT. LOAD (LC1)
FR-TO		FROM	TO	FR-TO		FROM	TO
A-B	0 / 15	-78.0	-78.0	0.13 (1)	10.00		
B-C	-17 / 0	-78.0	-78.0	0.51 (1)	6.25		
C-D	-6 / 0	-78.0	-78.0	0.02 (1)	10.00		
G-B	-467 / 0	0.0	0.0	0.17 (4)	7.81		
G-F	0 / 0	-18.5	-18.5	0.22 (4)	10.00		
F-E	0 / 0	-18.5	-18.5	0.01 (4)	10.00		

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.(LL)= L/360 (0.24")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/360 (0.24")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.06")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CSI: TC=0.51/1.00 (B-C:1) , BC=0.22/1.00 (F-G:4) , WB=0.00/1.00 (n/a:0) , SSI=0.26/1.00 (B-C: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 HEELS OFF

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

NAIL VALUES

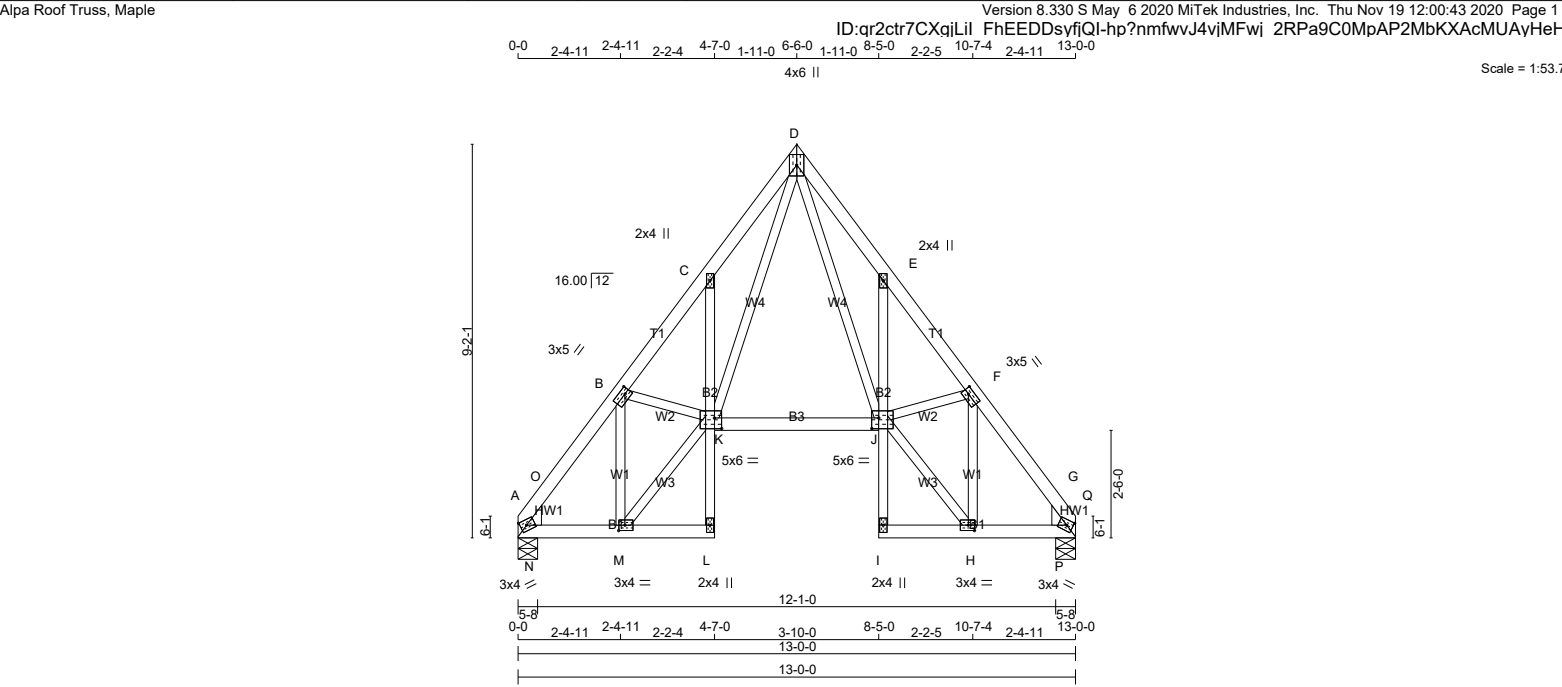
PLATE	GRIP(DRY)	SHEAR	SECTION
	(PSI)	(PLI)	(PLI)
	MAX	MIN	MAX
MT20	650	371	1747
	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.24 (B) (INPUT = 0.90)
JSI METAL= 0.11 (B) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
324044	H12		1	TRUSS DESC. JT 45147	E20114920



LUMBER				DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER								DESIGN CRITERIA				[M][F]					
N. L. G. A. RULES		SIZE		LUMBER		DESCR.		BEARINGS		FACTORED		MAXIMUM FACTORED		INPUT		REQRD		HEEL		SPECIFIED LOADS:	
CHORDS																					
A - D	2x4	DRY	No.2																		
D - G	2x4	DRY	No.2																		
A - L	2x4	DRY	No.2																		
L - C	2x3	DRY	No.2																		
K - J	2x4	DRY	No.2																		
I - E	2x3	DRY	No.2																		
I - G	2x4	DRY	No.2																		
FACTORED																					
GROSS REACTION																					
DOWN																					
HORIZ																					
UPLIFT																					
IN-SX																					
BRG																					
IN-SX																					
2x6 L																					
2x6 R																					
TOTAL LOAD																					
= 21.0 PSF																					
= 6.0 PSF																					
= 0.0 PSF																					
= 7.4 PSF																					
= 34.4 PSF																					

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMBH1-m	MT20	3.0	4.0	1.50	1.75
B	TMWW-t	MT20	3.0	5.0	1.50	1.50
C	TMV+p	MT20	2.0	4.0		
D	TTWW+p	MT20	4.0	6.0		
E	TMV+p	MT20	2.0	4.0		
F	TMWW-t	MT20	3.0	5.0	1.50	1.50
G	TMBH1-m	MT20	3.0	4.0	1.50	1.75
H	BMWW-t	MT20	3.0	4.0	1.50	1.75
I	BMV+p	MT20	2.0	4.0		
J	BVMWWW-I	MT20	5.0	6.0	3.00	2.00
K	BVMWWW-I	MT20	5.0	6.0	3.00	2.00
L	BMV+p	MT20	2.0	4.0		
M	BMWW-t	MT20	3.0	4.0	1.50	1.75

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



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	LENGTH	FR-TO			
A - O	-688 / 0	-78.0 -78.0	0.03 (1)	6.25	D - J	0 / 635	0.14 (1)
O - B	-631 / 0	-78.0 -78.0	0.03 (1)	6.25	H - F	-402 / 0	0.09 (1)
B - C	-866 / 0	-78.0 -78.0	0.04 (1)	6.25	K - D	0 / 635	0.14 (1)
C - D	-858 / 0	-78.0 -78.0	0.06 (1)	6.25	M - B	-402 / 0	0.09 (1)
D - E	-858 / 0	-78.0 -78.0	0.06 (1)	6.25	M - K	0 / 588	0.13 (1)
E - F	-866 / 0	-78.0 -78.0	0.04 (1)	6.25	B - K	0 / 148	0.03 (1)
F - Q	-631 / 0	-78.0 -78.0	0.03 (1)	6.25	J - H	0 / 588	0.13 (1)
Q - G	-688 / 0	-78.0 -78.0	0.03 (1)	6.25	J - F	0 / 148	0.03 (1)
					N - O	-22 / 20	0.00 (1)
					P - Q	-22 / 20	0.00 (1)
A - N	0 / 378	-18.5 -18.5	0.08 (1)	10.00			
N - M	0 / 378	-18.5 -18.5	0.08 (1)	10.00			
M - L	0 / 2	-18.5 -18.5	0.02 (4)	10.00			
L - K	0 / 18	0.0 0.0	0.02 (1)	10.00			
K - C	-153 / 0	0.0 0.0	0.01 (1)	7.81			
K - J	0 / 318	-18.5 -18.5	0.12 (4)	10.00			
I - J	0 / 18	0.0 0.0	0.02 (1)	10.00			
I - F	-153 / 0	0.0 0.0	0.01 (1)	7.81			

THIS DESIGN COMPLIES WITH:

- PART 9 OF CBC 2018 , ABC 2019
- PART 9 OF CBC 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 (0.43")

CALCULATED VERT. DEFL.(LL) = L/ 999 (0.02")

ALLOWABLE DEFL.(TL)= L/360 (0.43")

CALCULATED VERT. DEFL.(TL) = L/ 999 (0.06")

CSI: TC=0.06/1.00 (C-D:1) , BC=0.12/1.00 (J-K:4) , WB=0.14/1.00 (D-J:1) , SSI=0.05/1.00 (J-K:4)

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= 0.87 (K) (INPUT = 0.90)

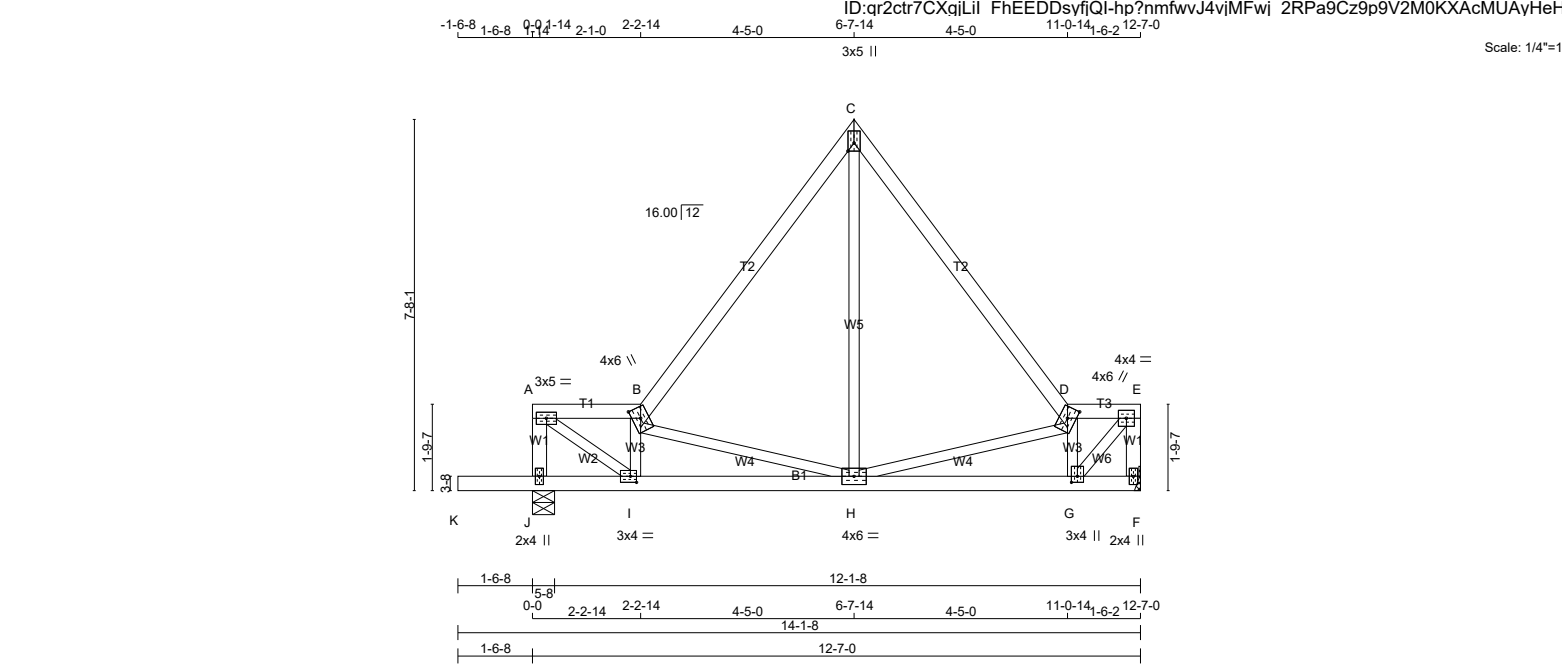
JSI METAL= 0.20 (K) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
324044	H13		1	TRUSS DESC. JT 45147	E20114921

Alpa Roof Truss, Maple

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TOTAL WEIGHT = 3 X 59 = 176 lb

LUMBER				DESCR.	
N. L. G. A. RULES	CHORDS	SIZE	LUMBER		
J - A	2x4	DRY	No.2	SPF	
A - B	2x4	DRY	No.2	SPF	
B - C	2x4	DRY	No.2	SPF	
C - D	2x4	DRY	No.2	SPF	
D - E	2x4	DRY	No.2	SPF	
E - F	2x4	DRY	No.2	SPF	
F - G	2x4	DRY	No.2	SPF	
G - H	2x4	DRY	No.2	SPF	
H - I	2x4	DRY	No.2	SPF	
I - J	2x4	DRY	No.2	SPF	
J - K	2x4	DRY	No.2	SPF	
ALL WEBS	2x3	DRY	No.2	SPF	
DRY: SEASONED LUMBER.					

PLATES (table is in inches)					
JT	TYPE	PLATES	W	LEN	Y X
A	TMVW-t	MT20	3.0	5.0	
B	TTWW+m	MT20	4.0	6.0	2.75 2.00
C	TTW+p	MT20	3.0	5.0	2.00 Edge
D	TTWW+m	MT20	4.0	6.0	2.75 2.00
E	TMVW-t	MT20	4.0	4.0	
F	BMV1+p	MT20	2.0	4.0	
G	BMWW+t	MT20	3.0	4.0	1.50 1.50
H	BMWW+t	MT20	4.0	6.0	
I	BMWW-t	MT20	3.0	4.0	1.50 1.50
J	BMV1+p	MT20	2.0	4.0	

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

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	UPLIFT
J	765	0	765	0	0
F	598	0	598	0	0

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

UNFACTORED REACTIONS		1ST LCASE	MAX./MIN. COMPONENT REACTIONS
JT	COMBINED	SNOW	LIVE
J	545	333 / 0	0 / 0
F	426	260 / 0	0 / 0

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

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: (4)

CHORDS		MEMB.		WEBS	
MEMB.	FORCE (LBS)	MAX. FACTORED	FACTORED	MEMB.	MAX. FACTORED
FR-TO		VERT. LOAD (PLF)	LC1 MAX CSI (LC)	FR-TO	MAX. FACTORED
J-A	-531 / 0	0.0	0.0 0.06 (1)	I-B	-479 / 0
A-B	-655 / 0	-78.0	-78.0 0.05 (1)	G-D	-500 / 0
B-C	-432 / 0	-78.0	-78.0 0.20 (1)	G-E	0 / 742
C-D	-432 / 0	-78.0	-78.0 0.20 (1)	A-I	0 / 799
D-E	-509 / 0	-78.0	-78.0 0.03 (1)	H-C	0 / 344
F-E	-583 / 0	0.0	0.0 0.06 (1)	H-D	-299 / 0
K-J	0 / 0	-96.5	-96.5 0.16 (1)	B-H	-451 / 0
J-I	0 / 0	-18.5	-18.5 0.16 (1)		
I-H	0 / 689	-18.5	-18.5 0.18 (1)		
H-G	0 / 544	-18.5	-18.5 0.15 (1)		
G-F	0 / 0	-18.5	-18.5 0.03 (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

LOADING IN ALL FLAT SECTIONS 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

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 (0.42")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.02")
ALLOWABLE DEFL.(TL)= L/360 (0.42")
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 (0.02")

CSI: TC=0.20/1.00 (C-D:1), BC=0.18/1.00 (H-I:1), WB=0.18/1.00 (A-I:1), SSI=0.12/1.00 (J-K: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)	(PSI)	(PLI)	(PSI)	(PLI)
MAX MIN	MAX MIN	MAX MIN	MAX MIN	MAX MIN	MAX MIN
MT20	650 371	1747 788	1987 1873		

PLATE PLACEMENT TOL. = 0.250 inches

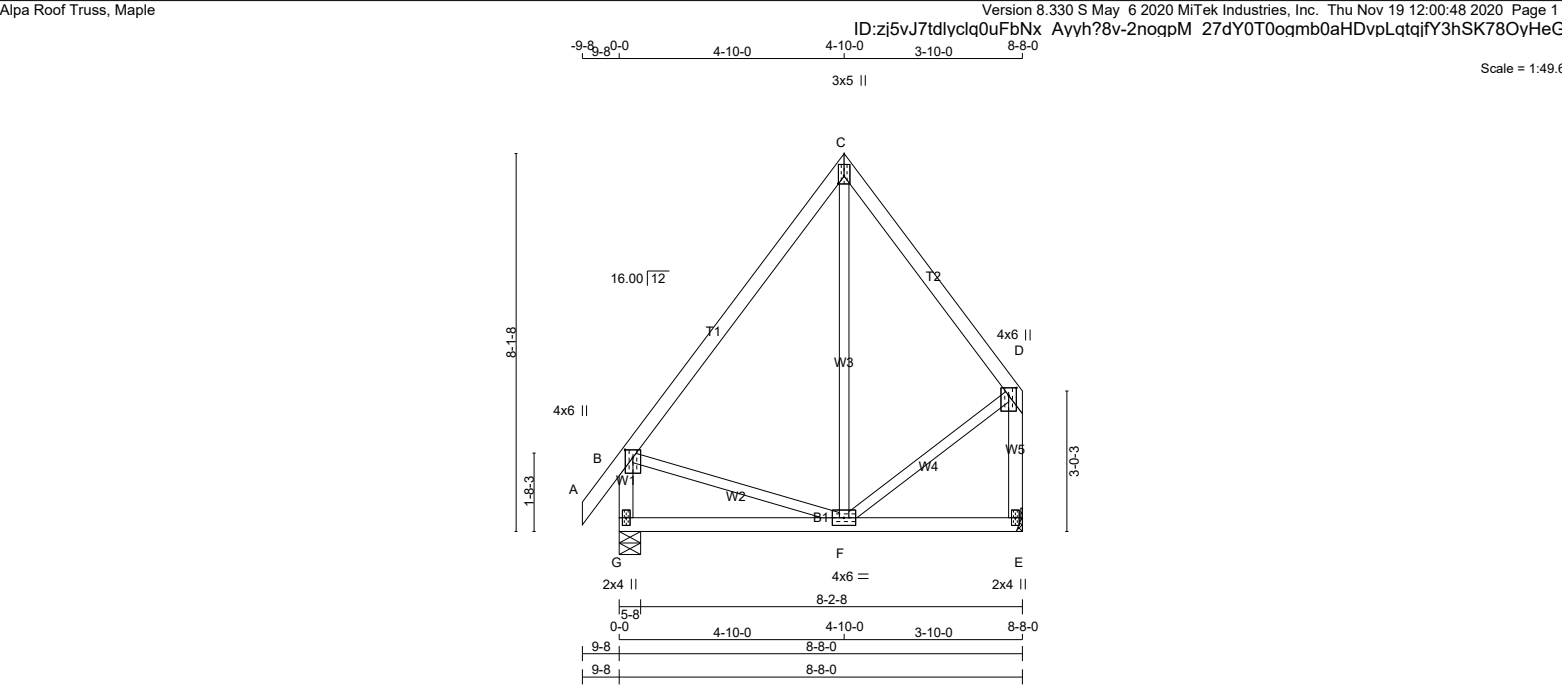
PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.83 (I) (INPUT = 0.90)
JSI METAL= 0.32 (G) (INPUT = 1.00)

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



JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
324044	H17S		1	TRUSS DESC. JT 45147	E20114926



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	MAXIMUM FACTORED	INPUT	REQRD	TOP CH.	LL	=	21.0 PSF
A - C	2x4	DRY	No.2	GROSS REACTION	GROSS REACTION	BRG	BRG	BOT CH.	LL	=	6.0 PSF
C - D	2x4	DRY	No.2	JT	VERT	HORZ	DOWN	IN-SX	LL	=	0.0 PSF
G - B	2x4	DRY	No.2	G	489	0	489	0	DL	=	7.4 PSF
E - D	2x4	DRY	No.2	E	418	0	418	0	TOTAL LOAD	=	34.4 PSF
G - E	2x4	DRY	No.2								
ALL WEBS	2x3	DRY	No.2	A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT E. MINIMUM BEARING LENGTH AT JOINT E = 1-8.				SPACING = 24.0 IN. C/C			
EXCEPT			SPF					THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015			
DRY: SEASONED LUMBER.				UNFACTORED REACTIONS				THIS DESIGN COMPLIES WITH:			
				1ST LCASE				- PART 9 OF BCBC 2018 , ABC 2019			
				MAX./MIN. COMPONENT REACTIONS				- PART 9 OF OBC 2012 (2019 AMENDMENT)			
				JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
				G	347	220 / 0	0 / 0	0 / 0	0 / 0	127 / 0	0 / 0
				E	298	182 / 0	0 / 0	0 / 0	0 / 0	116 / 0	0 / 0
				BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) G				- CSA 086-14			
				BRACING				- TPIC 2014			
				TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.				(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			
				MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.				ALLOWABLE DEFL.(LL)= L/360 (0.29")			
				ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED.				CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")			
				LOADING				ALLOWABLE DEFL.(TL)= L/360 (0.29")			
				TOTAL LOAD CASES: (4)				CALCULATED VERT. DEFL.(TL) = L/ 999 (0.02")			
								CSI: TC=0.23/1.00 (B-C:1) , BC=0.10/1.00 (E-F:4) ,			
								WB=0.03/1.00 (D-F:1) , SSI=0.09/1.00 (B-C: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= 0.25 (B) (INPUT = 0.90)			
								JSI METAL= 0.13 (B) (INPUT = 1.00)			

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

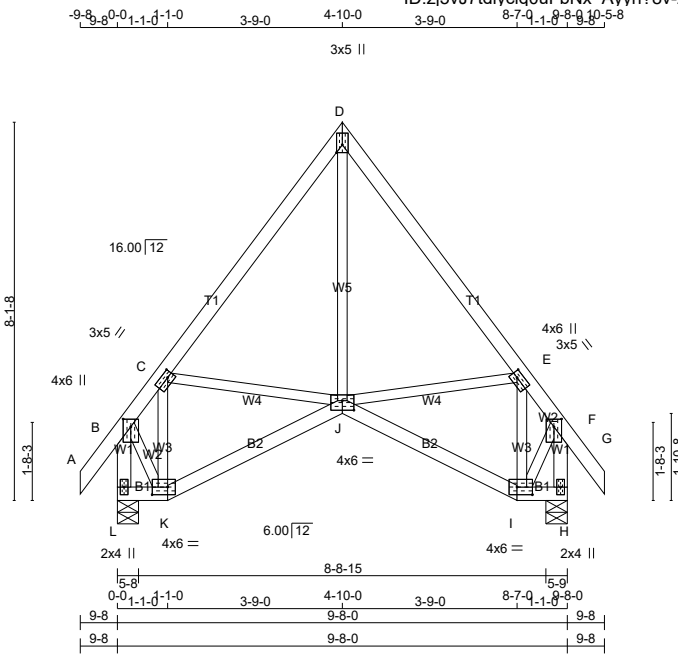


JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
324044	H17T		1	TRUSS DESC. JT 45147	E20114927

Alpa Roof Truss, Maple

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TOTAL WEIGHT = 2 X 54 = 108 lb

[M][F]

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

PLATES (table is in inches)				
JT	TYPE	PLATES	W	LEN Y X
B	TMVW+p	MT20	4.0	6.0 2.00 2.00
C	TMWW-t	MT20	3.0	5.0 1.50 1.50
D	TTW+p	MT20	3.0	5.0 2.00 Edge
E	TMWW-t	MT20	3.0	5.0 1.50 1.50
F	TMVW+p	MT20	4.0	6.0 2.00 2.00
H	BMV1+p	MT20	2.0	4.0
I	BBWW-l	MT20	4.0	6.0 2.00 4.00
J	BBWWW-p	MT20	4.0	6.0 2.50 3.00
K	BBWW-l	MT20	4.0	6.0 2.00 4.00
L	BMV1+p	MT20	2.0	4.0

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

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	UPLIFT
L	537	0	537	0	5-8
H	537	0	537	0	5-9

UNFACTORED REACTIONS		1ST LCASE	MAX./MIN. COMPONENT REACTIONS
JT	COMBINED	SNOW	LIVE PERM.LIVE WIND DEAD SOIL
L	381	241 / 0	0 / 0 0 / 0 140 / 0 0 / 0
H	381	241 / 0	0 / 0 0 / 0 140 / 0 0 / 0

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

LOADING		TOTAL LOAD CASES: (4)			
		CHORDS		WEBS	
MEMB.	FORCE (LBS)	MAX. FACTORED	FACTORED	MAX. FACTORED	FACTORED
		VERT. LOAD (PLF)	CSi (LC)	MAX. UNBRAC	CSi (LC)
FR-TO		FROM	TO	LENGTH	FR-TO
A-B	0 / 28	-78.0	-78.0 0.05 (1)	10.00	J-D 0 / 255 0.06 (1)
B-C	-266 / 0	-78.0	-78.0 0.11 (1)	6.25	J-E 0 / 6 0.00 (4)
C-D	-334 / 0	-78.0	-78.0 0.13 (1)	6.25	I-E -282 / 0 0.05 (1)
D-E	-334 / 0	-78.0	-78.0 0.13 (1)	6.25	C-J 0 / 6 0.00 (4)
E-F	-266 / 0	-78.0	-78.0 0.11 (1)	6.25	K-C -282 / 0 0.05 (1)
F-G	0 / 28	-78.0	-78.0 0.05 (1)	10.00	B-K 0 / 305 0.07 (1)
L-B	-527 / 0	0.0	0.0 0.06 (1)	7.81	I-F 0 / 305 0.07 (1)
H-F	-527 / 0	0.0	0.0 0.06 (1)	7.81	
L-K	0 / 0	-18.5	-18.5 0.01 (4)	10.00	
K-J	0 / 207	-18.5	-18.5 0.09 (4)	10.00	
J-I	0 / 207	-18.5	-18.5 0.09 (4)	10.00	
I-H	0 / 0	-18.5	-18.5 0.01 (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/C

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 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 (0.32")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.01")
ALLOWABLE DEFL.(TL)= L/360 (0.32")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.02")

CSi: TC=0.13/1.00 (D-E:1) , BC=0.09/1.00 (J-K:4) , WB=0.07/1.00 (F-I:1) , SSI=0.08/1.00 (D-E: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)	SECTION (PLI)
	MAX MIN	MAX MIN	MAX MIN
MT20	650 371	1747 788	1987 1873

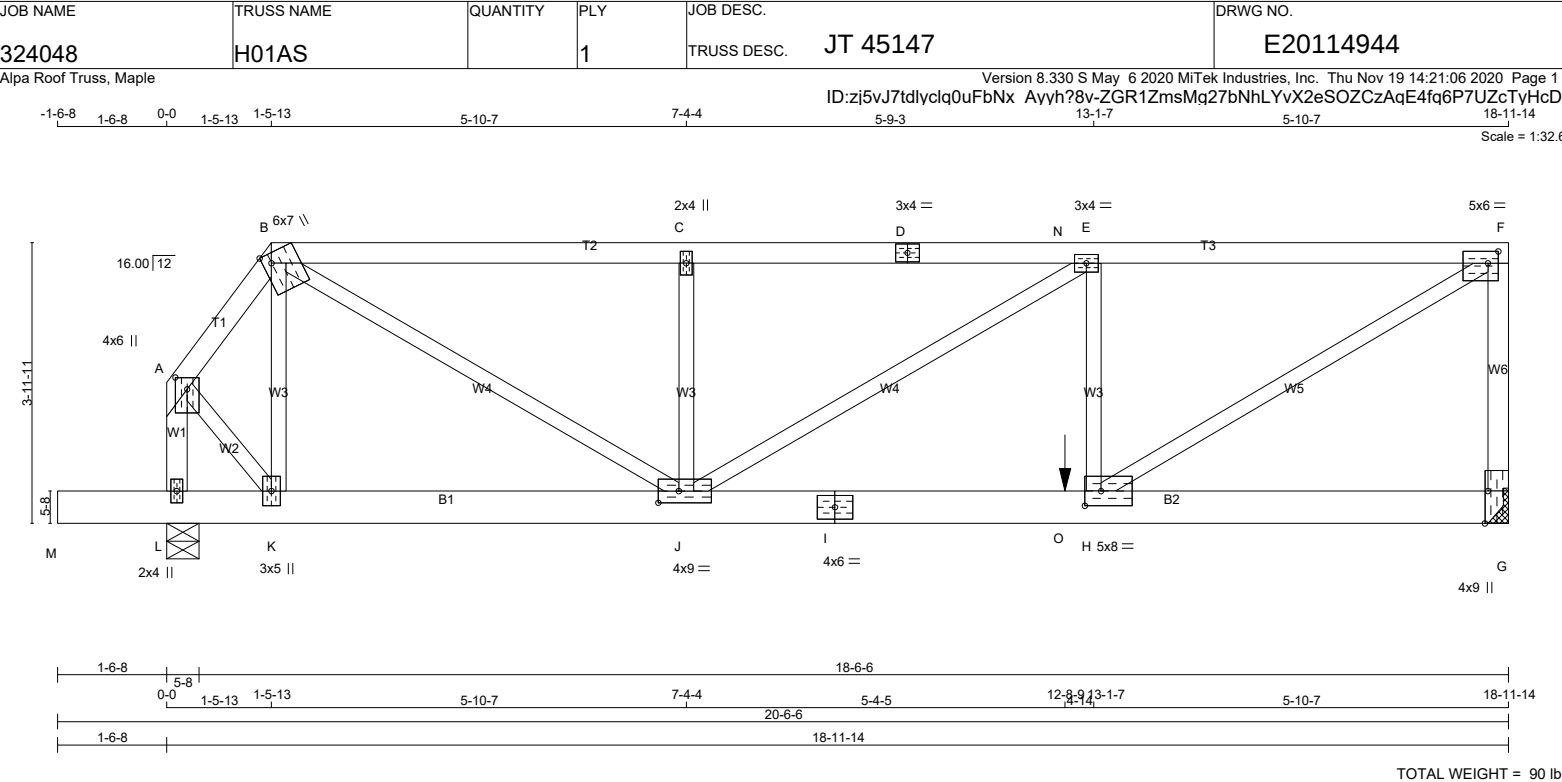
PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.47 (I) (INPUT = 0.90)
JSI METAL= 0.14 (K) (INPUT = 1.00)

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





LUMBER

N. L. G. A. RULES	CHORDS	SIZE	LUMBER	DESCR.
A - B	2x4	DRY	No.2	SPF
B - D	2x4	DRY	No.2	SPF
D - F	2x4	DRY	No.2	SPF
G - F	2x4	DRY	No.2	SPF
L - A	2x4	DRY	No.2	SPF
M - I	2x6	DRY	No.2	SPF
I - G	2x6	DRY	No.2	SPF
ALL WEBS EXCEPT	2x3	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	6.0	7.0	Edge	1.50
C	TMW+w	MT20	2.0	4.0		
D	TS-t	MT20	3.0	4.0		
E	TMWW-t	MT20	3.0	4.0		
F	TMVW-t	MT20	5.0	6.0	2.00	1.75
G	BMV1+t	MT20	4.0	9.0	Edge	0.50
H	BMWW-t	MT20	5.0	8.0	2.50	2.75
I	BS-t	MT20	4.0	6.0		
J	BMWWW-t	MT20	4.0	9.0	2.00	3.50
K	BMWW+t	MT20	3.0	5.0		
L	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 GROSS REACTION	MAXIMUM FACTORED GROSS REACTION	INPUT BRG	REQRD BRG
JT	VERT	HORZ	DOWN	HORZ
G	2110	0	2110	0
L	1518	0	1518	0

A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT G. MINIMUM BEARING LENGTH AT JOINT G = 3-8.

UNFACTORED REACTIONS

JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
G	1491	983 / 0	0 / 0	0 / 0	0 / 0	508 / 0	0 / 0
L	1076	693 / 0	0 / 0	0 / 0	0 / 0	383 / 0	0 / 0

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

BRACING
TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 2.77 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. FACTORED CSI (LC)	MEMB.	MAX. FACTORED FORCE (LBS)	MAX. FACTORED CSI (LC)	
FR-TO		FROM	TO	FR-TO			
A - B	-924 / 0	-78.0	-78.0 0.04 (1)	6.25	K - B	-479 / 0	0.12 (1)
B - C	-2113 / 0	-78.0	-78.0 0.51 (1)	4.13	B - J	0 / 1848	0.46 (1)
C - D	-2113 / 0	-78.0	-78.0 0.79 (1)	3.56	J - C	-438 / 0	0.11 (1)
D - N	-2113 / 0	-78.0	-78.0 0.79 (1)	3.56	J - E	-679 / 0	0.58 (1)
N - E	-2113 / 0	-153.5	-153.5 0.79 (1)	3.56	H - E	-450 / 0	0.11 (1)
E - F	-2689 / 0	-153.5	-153.5 1.00 (1)	2.77	H - F	0 / 3154	0.78 (1)
G - F	-2029 / 0	0.0	0.0 0.47 (1)	5.87	A - K	0 / 756	0.19 (1)
L - A	-1327 / 0	0.0	0.0 0.16 (1)	6.99			
M - L	0 / 0	-96.5	-96.5 0.08 (1)	10.00			
L - K	0 / 0	-18.5	-18.5 0.08 (1)	10.00			
K - J	0 / 532	-18.5	-18.5 0.12 (1)	10.00			
L - I	0 / 2689	-18.5	-18.5 0.55 (1)	10.00			

FACTORED CONCENTRATED LOADS (LBS)

JT	LOC.	LC1	MAX-	MAX+	FACE	DIR.	TYPE	HEEL	CONN.
O	12-8-9	-1061	-1061	---	FRONT	VERT	TOTAL	---	C1

CONNECTION REQUIREMENTS

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

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 = 1-5-13
RIGHT SETBACK = 0-0
END SETBACK = 5-10-8
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 6-3-5 OF SPAN
MEASURED FROM THE RIGHT.

*** 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

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

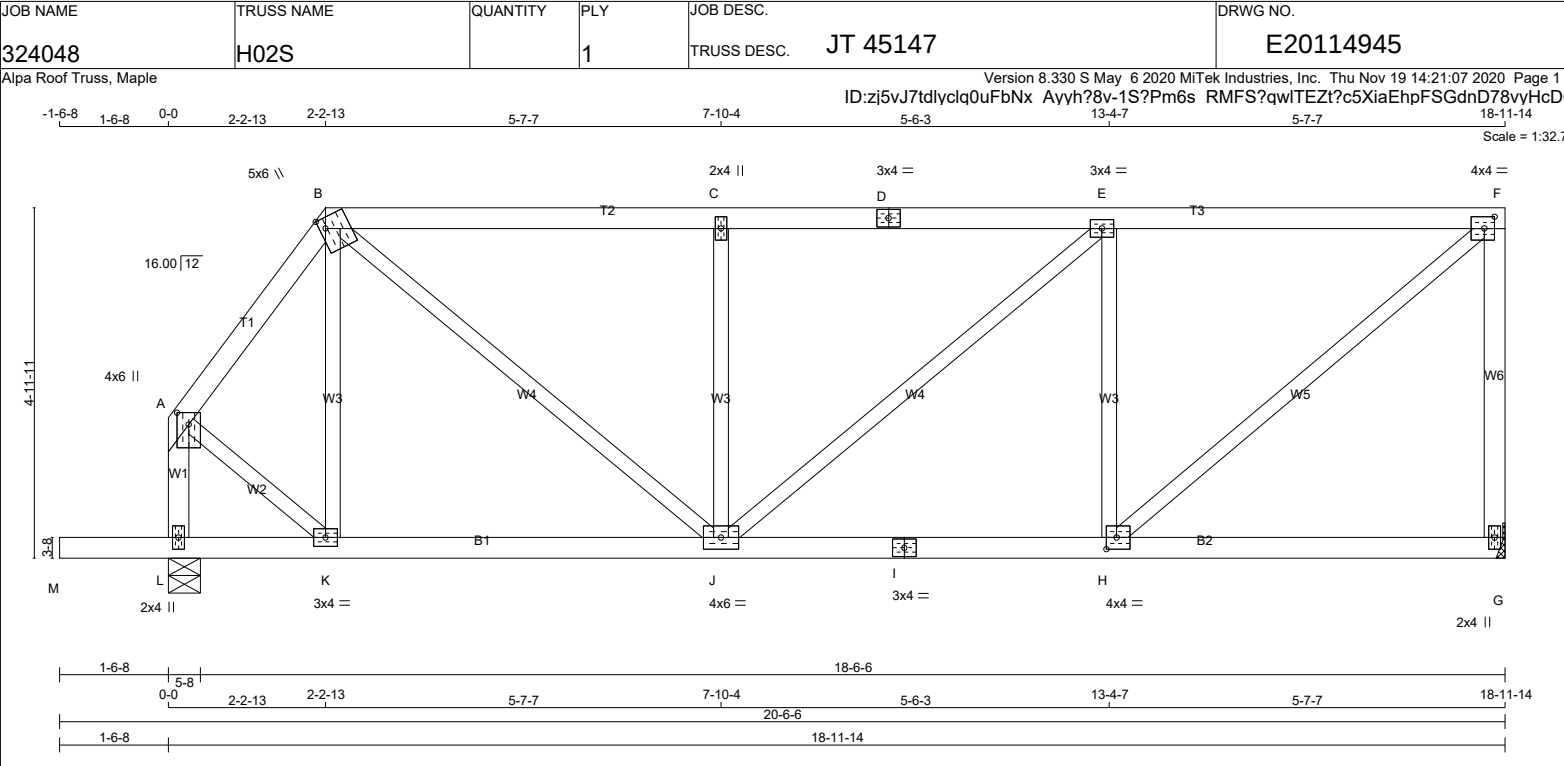
ALLOWABLE DEFL.(LL)= L/360 (0.63")
CALCULATED VERT. DEFL.(LL)= L/999 (0.10")
ALLOWABLE DEFL.(TL)= L/360 (0.63")
CALCULATED VERT. DEFL.(TL)= L/999 (0.18")

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=1.00/1.00 (E-F:1), BC=0.55/1.00 (H-J:1), WB=0.78/1.00 (F-H:1), SSI=0.71/1.00 (H-J:1)

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

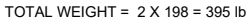
COMPANION LIVE LOAD FACTOR = 1.00
CONTINUED ON PAGE 2



LUMBER N. L. G. A. RULES CHORDS SIZE LUMBER DESCR. A - B 2x4 DRY No.2 SPF B - D 2x4 DRY No.2 SPF D - F 2x4 DRY No.2 SPF G - F 2x4 DRY No.2 SPF L - A 2x4 DRY No.2 SPF M - I 2x4 DRY No.2 SPF I - G 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 MAXIMUM FACTORED INPUT REQRD GROSS REACTION GROSS REACTION BRG BRG JT VERT HORZ DOWN HORZ UPLIFT IN-SX IN-SX G 916 0 916 0 0 MECHANICAL L 1065 0 1065 0 0 5-8 1-9 A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT G. MINIMUM BEARING LENGTH AT JOINT G = 1-8.							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, 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 (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 (0.63") CALCULATED VERT. DEFL.(LL) = L/ 999 (0.03") ALLOWABLE DEFL.(TL)= L/360 (0.63") CALCULATED VERT. DEFL.(TL) = L/ 999 (0.06") 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=0.36/1.00 (F-G:1) , BC=0.22/1.00 (H-J:4) , WB=0.24/1.00 (F-H:1) , SSI=0.20/1.00 (E-F: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= 0.89 (H) (INPUT = 0.90) JSI METAL= 0.30 (I) (INPUT = 1.00)						
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 5.0 6.0 1.75 1.00 C TMW+w MT20 2.0 4.0 D TS-t MT20 3.0 4.0 E TMWW-t MT20 3.0 4.0 F TMVW-t MT20 4.0 4.0 2.00 1.75 G BMV1+p MT20 2.0 4.0 H BMWW-t MT20 4.0 4.0 2.00 1.75 I BS-t MT20 3.0 4.0 J BMWWW-t MT20 4.0 6.0 K BMWW-t MT20 3.0 4.0 L BMV1+p MT20 2.0 4.0							UNFACTORED REACTIONS 1ST LCASE MAX./MIN. COMPONENT REACTIONS JT COMBINED SNOW LIVE PERM.LIVE WIND DEAD SOIL G 653 399 / 0 0 / 0 0 / 0 0 / 0 254 / 0 0 / 0 L 759 463 / 0 0 / 0 0 / 0 0 / 0 296 / 0 0 / 0 BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) L BRACING TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 5.86 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 MAX. FACTORED FACTORED MAX. FACTORED MEMB. FORCE VERT. LOAD LC1 MAX. MEMB. FORCE MAX (LBS) (PLF) CSI (LC) UNBRAC (LBS) CSI (LC) FR-TO FROM TO LENGTH FR-TO A- B -680 / 0 -78.0 -78.0 0.07 (1) 6.25 K- B -186 / 0 0.07 (1) B- C -958 / 0 -78.0 -78.0 0.35 (1) 5.87 B- J 0 / 724 0.16 (1) C- D -958 / 0 -78.0 -78.0 0.35 (1) 5.86 J- C -467 / 0 0.17 (1) D- E -958 / 0 -78.0 -78.0 0.35 (1) 5.86 J- E 0 / 161 0.04 (1) E- F -836 / 0 -78.0 -78.0 0.35 (1) 6.17 H- E -580 / 0 0.21 (1) G- F -874 / 0 0.0 0.0 0.36 (1) 7.81 H- F 0 / 1088 0.24 (1) L- A -912 / 0 0.0 0.0 0.10 (1) 7.81 A- K 0 / 490 0.11 (1) M- L 0 / 0 -96.5 -96.5 0.16 (1) 10.00 L- K 0 / 0 -18.5 -18.5 0.09 (4) 10.00 K- J 0 / 400 -18.5 -18.5 0.14 (4) 10.00 J- I 0 / 836 -18.5 -18.5 0.22 (4) 10.00 I- H 0 / 836 -18.5 -18.5 0.22 (4) 10.00													
LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2																				
																				

E20114946

Scale = 1:57.2



JT	LOC.	LC1	MAX-	MAX+	FACE	DIR.	TYPE	HEEL	CONN.
I	29-10-3	-386	-386	---	FRONT	VERT	TOTAL	---	C1
P	19-1-7	-4537	-4537	---	FRONT	VERT	TOTAL	---	C1
W	25-11-6	-1994	-1994	---	TOP	VERT	TOTAL	---	C1

AUTOSOLVE HEELS OFF

CONTINUED ON PAGE 2

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
324048	H03A		2	TRUSS DESC. JT 45147	E20114946(2)

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW-t	MT20	6.0	9.0	2.00	3.00
B	TTWW-h	MT20	10.0	12.0	3.00	7.50
C	TMWW-t	MT20	5.0	6.0	2.00	2.75
D	TMW+w	MT20	2.0	4.0		
E	TMWW+t	MT20	4.0	6.0		
F	TS-t	MT20	4.0	6.0		
G	TMW+w	MT20	2.0	4.0		
H	TMWW-t	MT20	5.0	6.0	2.00	2.75
I	TTWW-h	MT20	10.0	12.0	3.00	7.50
J	TMVW-t	MT20	6.0	9.0	2.00	3.00
L	BMV1+t	MT20	6.0	9.0	Edge	0.50
M	BMWW-t	MT20	5.0	6.0	2.50	2.25
N	BMWW-t	MT20	6.0	7.0	2.50	2.75
O	BS-t	MT20	6.0	7.0		
P	BMWWW-t	MT20	8.0	9.0	4.25	4.50
Q	BMWWW-t	MT20	8.0	9.0	4.25	4.50
R	BS-t	MT20	6.0	7.0		
S	BMWW-t	MT20	6.0	7.0	2.50	2.75
T	BMWW-t	MT20	5.0	6.0	2.50	2.25
U	BMV1+t	MT20	6.0	9.0	Edge	

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

CONNECTION REQUIREMENTS

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

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

NAIL VALUES

PLATE	GRIP(DRY)	SHEAR	SECTION
	(PS)	(PL)	(PL)
	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 (S) (INPUT = 0.90)

JSI METAL= 0.83 (R) (INPUT = 1.00)

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



TOTAL WEIGHT = 2 X 82 = 164 lb

CONTINUED ON PAGE 2



JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
324048	H25		2	TRUSS DESC. JT 45147	E20114947(2)

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMVW-t	MT20	4.0	9.0	2.00	3.00
C	TTWW+m	MT20	6.0	7.0	Edge	1.50
D	TMW+w	MT20	2.0	4.0		
E	TTWW+m	MT20	6.0	7.0	Edge	1.50
F	TMVW-t	MT20	4.0	9.0	2.00	3.00
H	BMV1+p	MT20	2.0	4.0		
I	BMWW-t	MT20	4.0	4.0		
J	BMWWW-t	MT20	4.0	6.0		
K	BMWW-t	MT20	4.0	4.0		
L	BMV1+p	MT20	2.0	4.0		

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

CSI: TC=0.47/1.00 (D-E:1) , BC=0.22/1.00 (I-J:1) , WB=0.30/1.00 (D-J:1) , SSI=0.31/1.00 (D-E: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 .

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 (J) (INPUT = 0.90)

JSI METAL= 0.28 (H) (INPUT = 1.00)

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

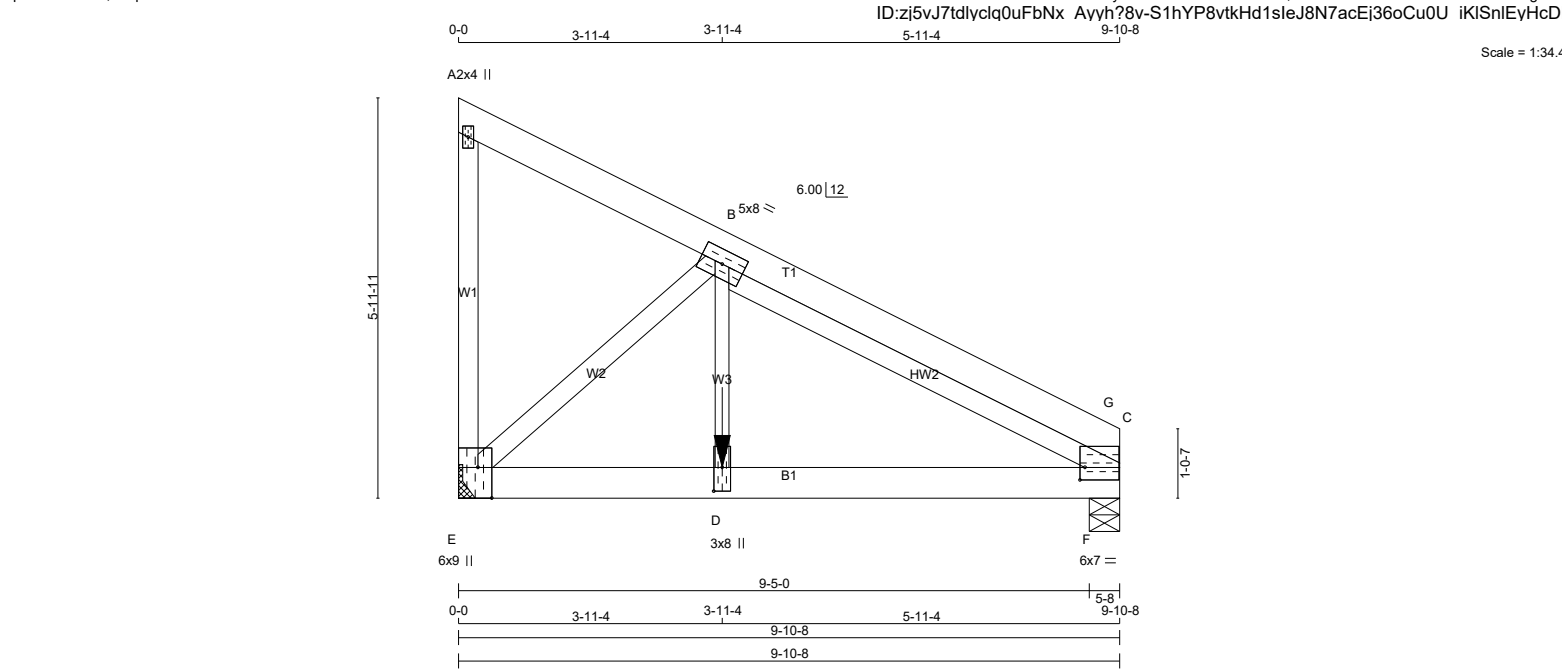


JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
324048	H26		2	TRUSS DESC. JT 45147	E20114948

Alpa Roof Truss, Maple

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ID:zj5vJ7tdlyclq0uFbNx Ayyh?8v-S1hYP8vtKhD1sleJ8N7acEj36oCu0U iKISnIEyHcDN



TOTAL WEIGHT = 2 X 59 = 118 lb

[M]

LUMBER N. L. G. A. RULES CHORDS SIZE LUMBER DESCR. E - A 2x4 DRY No.2 SPF A - C 2x6 DRY No.2 SPF E - C 2x6 DRY No.2 SPF REINFORCING MEMBERS HW2 2x4 DRY No.2 SPF ALL WEBS 2x4 DRY No.2 SPF EXCEPT D - B 2x3 DRY No.2 SPF DRY: SEASONED LUMBER. DESIGN CONSISTS OF <u>2</u> TRUSSES BUILT SEPARATELY THEN FASTENED TOGETHER AS FOLLOWS: CHORDS #ROWS SURFACE SPACING (IN) LOAD(PLF) TOP CHORDS : (0.122"x3") SPIRAL NAILS E- A 1 12 TOP A- C 2 12 SIDE(102.1) BOTTOM CHORDS : (0.122"x3") SPIRAL NAILS E- C 2 12 SIDE(204.9) WEBS : (0.122"x3") SPIRAL NAILS B- D 1 3 SIDE(523.8) 2x4 1 6 NAILS TO BE DRIVEN FROM ONE SIDE ONLY. GIRDER NAILING ASSUMES NAILED HANGERS ARE FASTENED WITH MIN. 3-0 INCH NAILS. TOP - COMPONENTS ARE LOADED FROM THE TOP AND MUST BE PLACED ON TOP EDGE OF ALL PLIES FOR THE LOAD TO BE TRANSFERRED TO EACH PLY. SIDE - PLF SHOWN IS THE EQUIVALENT UDL APPLIED TO ONE SIDE THAT THE CORRESPONDING NAILING PATTERN SHALL BE CAPABLE OF TRANSFERING. REMAINING PLF MUST BE APPLIED ON THE OPPOSITE SIDE OR ON THE TOP.			DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER BEARINGS FACTORED GROSS REACTION MAXIMUM FACTORED GROSS REACTION INPUT BRG REQRD JT VERT HORZ DOWN HORZ UPLIFT IN-SX IN-SX E 4420 0 4420 0 0 MECHANICAL C 3027 0 3027 0 0 5-8 1-10 A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT E. MINIMUM BEARING LENGTH AT JOINT E = 3-0. UNFACTORED REACTIONS 1ST LCASE MAX./MIN. COMPONENT REACTIONS JT COMBINED SNOW LIVE PERM.LIVE WIND DEAD SOIL E 3152 1924 / 0 0 / 0 0 / 0 1228 / 0 0 / 0 C 2158 1317 / 0 0 / 0 0 / 0 841 / 0 0 / 0 BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) C BRACING TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 5.51 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) C H O R D S W E B S MEMB. MAX. FACTORED FORCE VERT. LOAD LC1 MAX. MAX. MEMB. MAX. FACTORED FORCE MAX. (LBS) (PLF) CSI (LC) UNBRAC LENGTH FR-TO (LBS) CSI (LC) FR-TO FROM TO E- A -435 / 0 0.0 0.0 0.12 (1) 7.81 E- B -4614 / 0 0.71 (1) A- B -70 / 0 -306.3 -306.3 0.22 (1) 6.25 D- B 0 / 3399 0.42 (1) B- G -2774 / 0 -306.3 -306.3 0.29 (1) 6.15 F- G 0 / 725 0.00 (1) G- C -3688 / 0 -306.3 -306.3 0.28 (1) 5.51 F- B -1173 / 0 0.39 (1) E- D 0 / 3397 -482.4 -482.4 0.50 (1) 10.00 D- F 0 / 3464 -72.7 -72.7 0.35 (1) 10.00 F- C 0 / 2473 -72.7 -72.7 0.17 (1) 10.00 FACTORED CONCENTRATED LOADS (LBS) JT LOC. LC1 MAX- MAX+ FACE DIR. TYPE HEEL CONN. D 3-11-4 -2091 -2091 --- 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 GIRDER TYPE: CStdGirder START DISTANCE = 0-0 START SPAN CARRIED = 18-11-14 END DISTANCE = 3-11-4 END SPAN CARRIED = 18-11-14 END WALL WIDTH = 0-0 APPLIED TO FRONT SIDE OF BOTTOM CHORD. - ADDTL LOADS BASED ON 55 % OF GSL. GIRDER TYPE: CPrimeHip SIDE SETBACK = 0-0 END SETBACK = 13-8-9 END WALL WIDTH = 0-0 CORNER FRAMING TYPE: CONVENTIONAL END JACK TYPE: CONVENTIONAL APPLIED TO BACK SIDE - 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 (0.33") CALCULATED VERT. DEFL.(LL) = L/ 999 (0.03") ALLOWABLE DEFL.(TL)= L/360 (0.33") CALCULATED VERT. DEFL.(TL) = L/ 999 (0.05") CSI: TC=0.29/1.00 (B-G:1) , BC=0.50/1.00 (D-E:1) , WB=0.71/1.00 (B-E:1) , SSI=0.34/1.00 (D-E: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 RIGHT HEEL ONLY TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .		
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LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

CONTINUED ON PAGE 2

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
324048	H26		2	TRUSS DESC. JT 45147	E20114948(2)

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMV+p	MT20	2.0	4.0		
B	TMWWW-t	MT20	5.0	8.0		
C	TMBMW1-l	MT20	6.0	7.0	2.25	1.00
D	BMW+w	MT20	3.0	8.0	4.25	1.50
E	BMVW1+t	MT20	6.0	9.0	Edge	2.50

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

NAIL VALUES

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

PLATE PLACEMENT TOL. = 0.250 inches

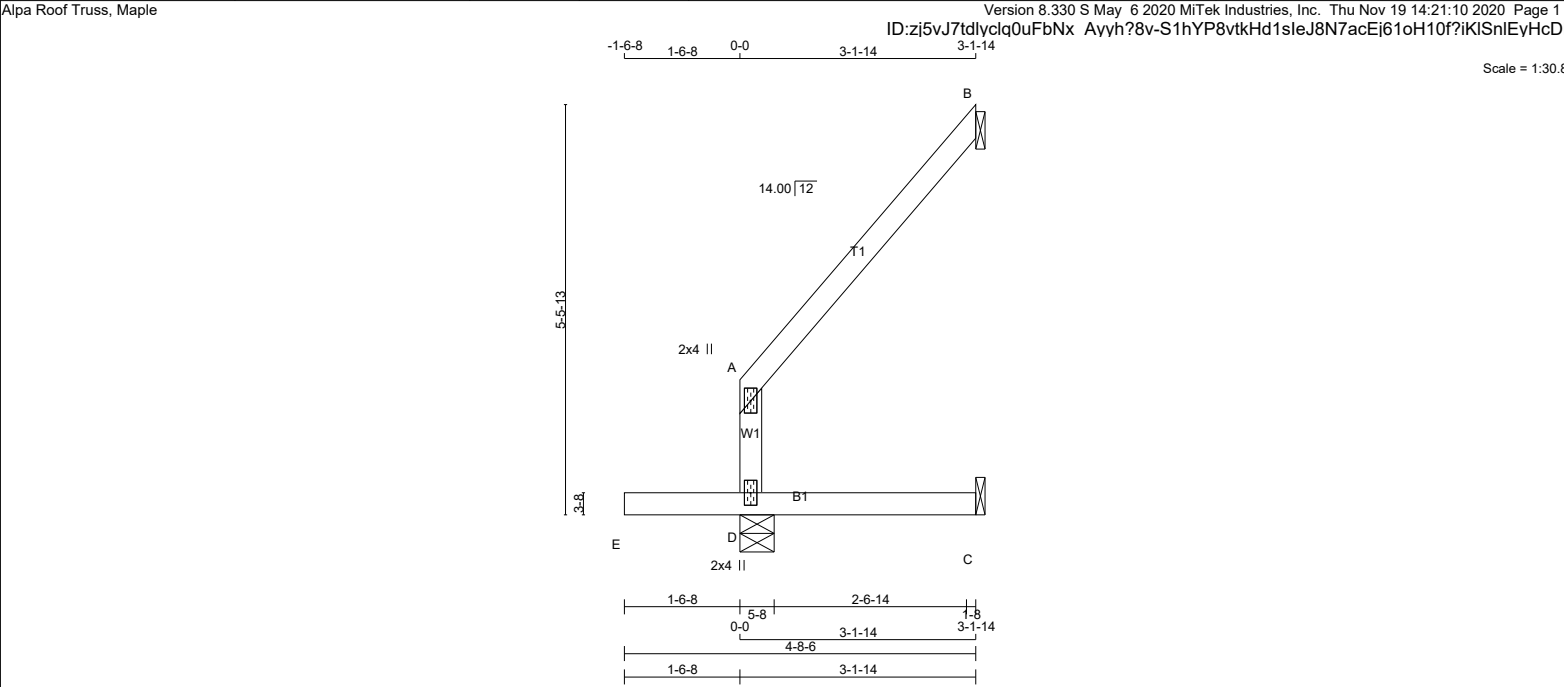
PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.84 (B) (INPUT = 0.90)
JSI METAL= 0.75 (D) (INPUT = 1.00)

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



JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
324048	J05		1	TRUSS DESC. JT 45147	E20114949



LUMBER N. L. G. A. RULES <table><tr><td>CHORDS</td><td>SIZE</td><td>LUMBER</td><td colspan="7">DESCR.</td></tr><tr><td>D - A</td><td>2x4</td><td>DRY</td><td>No.2</td><td colspan="7">SPF</td></tr><tr><td>A - B</td><td>2x4</td><td>DRY</td><td>No.2</td><td colspan="7">SPF</td></tr><tr><td>E - C</td><td>2x4</td><td>DRY</td><td>No.2</td><td colspan="7">SPF</td></tr></table> DRY: SEASONED LUMBER.										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							DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER BEARINGS <table><tr><td></td><td colspan="2">FACTORED GROSS REACTION</td><td colspan="2">MAXIMUM FACTORED GROSS REACTION</td><td colspan="2">INPUT BRG</td><td colspan="2">REQRD BRG</td></tr><tr><td>JT</td><td>VERT</td><td>HORZ</td><td>DOWN</td><td>HORZ</td><td>UPLIFT</td><td>IN-SX</td><td>IN-SX</td><td></td></tr><tr><td>D</td><td>325</td><td>0</td><td>325</td><td>0</td><td>0</td><td>5-8</td><td>1-8</td><td></td></tr><tr><td>B</td><td>107</td><td>0</td><td>107</td><td>0</td><td>0</td><td>1-8</td><td>1-8</td><td></td></tr><tr><td>C</td><td>22</td><td>0</td><td>25</td><td>0</td><td>0</td><td>1-8</td><td>1-8</td><td></td></tr></table> SEE MITEK STANDARD DETAIL B97791H FOR CONNECTION TO JOINT(S) B , C UNFACTORED REACTIONS <table><tr><td></td><td colspan="2">1ST LCASE</td><td colspan="6">MAX./MIN. COMPONENT REACTIONS</td></tr><tr><td>JT</td><td>COMBINED</td><td>SNOW</td><td>LIVE</td><td>PERM.LIVE</td><td>WIND</td><td>DEAD</td><td>SOIL</td><td></td></tr><tr><td>D</td><td>232</td><td>140 / 0</td><td>0 / 0</td><td>0 / 0</td><td>0 / 0</td><td>92 / 0</td><td>0 / 0</td><td></td></tr><tr><td>B</td><td>74</td><td>57 / 0</td><td>0 / 0</td><td>0 / 0</td><td>0 / 0</td><td>16 / 0</td><td>0 / 0</td><td></td></tr><tr><td>C</td><td>18</td><td>0 / 0</td><td>0 / 0</td><td>0 / 0</td><td>0 / 0</td><td>18 / 0</td><td>0 / 0</td><td></td></tr></table> BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) D, B 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) <table><tr><td colspan="3">CHORDS</td><td colspan="7">WEBS</td></tr><tr><td>MEMB.</td><td>MAX. FACTORED FORCE (LBS)</td><td>FACTORED VERT. LOAD (PLF)</td><td>LC1 MAX (PLF)</td><td>MAX. UNBRACED LENGTH</td><td>MEMB.</td><td>MAX. FACTORED FORCE (LBS)</td><td>MAX. UNBRACED LENGTH</td><td></td></tr><tr><td>FR-TO</td><td></td><td>FROM</td><td>TO</td><td></td><td>FR-TO</td><td></td><td></td><td></td></tr><tr><td>D- A</td><td>-139 / 0</td><td>0.0</td><td>0.0</td><td>0.07 (1)</td><td>7.81</td><td></td><td></td><td></td></tr><tr><td>A- B</td><td>-12 / 0</td><td>-78.0</td><td>-78.0</td><td>0.10 (1)</td><td>6.25</td><td></td><td></td><td></td></tr><tr><td>E- D</td><td>0 / 0</td><td>-96.5</td><td>-96.5</td><td>0.18 (7)</td><td>10.00</td><td></td><td></td><td></td></tr><tr><td>D- C</td><td>0 / 0</td><td>-18.5</td><td>-18.5</td><td>0.05 (4)</td><td>10.00</td><td></td><td></td><td></td></tr></table> CANTILEVER ANALYSIS HAS BEEN CONSIDERED IN THIS DESIGN PATTERN-LOADING CHECK APPLIED TO THIS TRUSS.											FACTORED GROSS REACTION		MAXIMUM FACTORED GROSS REACTION		INPUT BRG		REQRD BRG		JT	VERT	HORZ	DOWN	HORZ	UPLIFT	IN-SX	IN-SX		D	325	0	325	0	0	5-8	1-8		B	107	0	107	0	0	1-8	1-8		C	22	0	25	0	0	1-8	1-8			1ST LCASE		MAX./MIN. COMPONENT REACTIONS						JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL		D	232	140 / 0	0 / 0	0 / 0	0 / 0	92 / 0	0 / 0		B	74	57 / 0	0 / 0	0 / 0	0 / 0	16 / 0	0 / 0		C	18	0 / 0	0 / 0	0 / 0	0 / 0	18 / 0	0 / 0		CHORDS			WEBS							MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	LC1 MAX (PLF)	MAX. UNBRACED LENGTH	MEMB.	MAX. FACTORED FORCE (LBS)	MAX. UNBRACED LENGTH		FR-TO		FROM	TO		FR-TO				D- A	-139 / 0	0.0	0.0	0.07 (1)	7.81				A- B	-12 / 0	-78.0	-78.0	0.10 (1)	6.25				E- D	0 / 0	-96.5	-96.5	0.18 (7)	10.00				D- C	0 / 0	-18.5	-18.5	0.05 (4)	10.00				DESIGN CRITERIA SPECIFIED LOADS: <table><tr><td>TOP</td><td>CH.</td><td>LL</td><td>=</td><td>21.0</td><td>PSF</td></tr><tr><td></td><td></td><td>DL</td><td>=</td><td>6.0</td><td>PSF</td></tr><tr><td>BOT</td><td>CH.</td><td>LL</td><td>=</td><td>0.0</td><td>PSF</td></tr><tr><td></td><td></td><td>DL</td><td>=</td><td>7.4</td><td>PSF</td></tr><tr><td colspan="2">TOTAL</td><td>LOAD</td><td>=</td><td>34.4</td><td>PSF</td></tr></table> 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=0.10/1.00 (A-B:1) , BC=0.18/1.00 (D-E:7) , WB=0.00/1.00 (n/a:0) , SSI=0.13/1.00 (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 <table><tr><td>PLATE</td><td>GRIP(DRY)</td><td>SHEAR</td><td>SECTION</td></tr><tr><td>(PSI)</td><td>(PLI)</td><td>(PLI)</td><td></td></tr><tr><td>MAX</td><td>MIN</td><td>MAX</td><td>MIN</td></tr><tr><td>MT20</td><td>650</td><td>371</td><td>1747 788 1987 1873</td></tr></table> PLATE PLACEMENT TOL. = 0.250 inches PLATE ROTATION TOL. = 5.0 Deg. JSI GRIP= 0.11 (A) (INPUT = 0.90) JSI METAL= 0.07 (A) (INPUT = 1.00)										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	PLATE	GRIP(DRY)	SHEAR	SECTION	(PSI)	(PLI)	(PLI)		MAX	MIN	MAX	MIN	MT20	650	371	1747 788 1987 1873
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LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2																																																																																																																																																																																																																																																																																

LUS – Double Shear Joist Hangers



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:

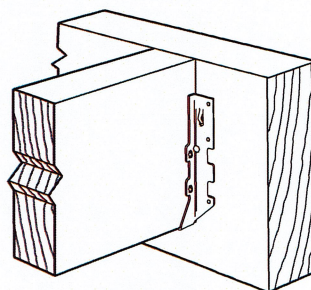
- Factored resistances are in accordance with CSA O86-14.
- Uplift resistances have been increased 15%. No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these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

Installation:

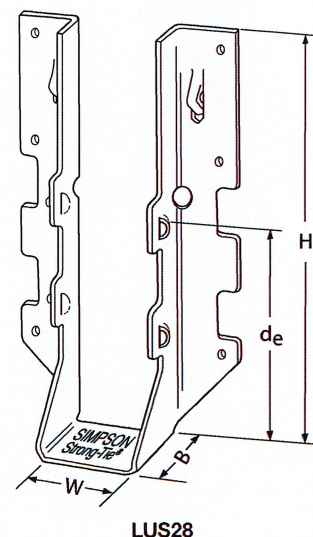
- Use all specified fasteners.
- Nails: 16d = 0.162" dia. x 3½" long common wire, 10d = 0.148" x 3" long common wire.
- Double shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads.
- Not designed for welded or nailer applications.

Options:

- These hangers cannot be modified



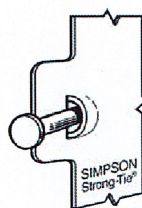
Typical LUS Installation



LUS28

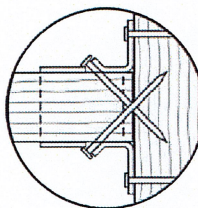
Model No.	Ga.	Dimensions (in.)				Fasteners		Factored Resistance (lb.)			
		W	H	B	d _e ¹	Face	Joist	D.Fir-L		S-P-F	
								Uplift (K _p =1.15)	Normal (K _p =1.00)	Uplift (K _p =1.15)	Normal (K _p =1.00)
LUS24	18	1½	3½	1¾	1 15/16	(4) 10d	(2) 10d	710	1630	645	1155
LUS24-2	18	3½	3½	2	1 13/16	(4) 16d	(2) 16d	835	2020	590	1435
LUS26	18	1½	4¾	1¾	3½	(4) 10d	(4) 10d	1420	2170	1290	1630
LUS26-2	18	3½	4¾	2	4	(4) 16d	(4) 16d	1720	2595	1545	1920
LUS26-3	18	4½	4¾	2	3¼	(4) 16d	(4) 16d	1720	2595	1545	2340
LUS28	18	1½	6½	1¾	3¾	(6) 10d	(6) 10d	1420	2520	1290	1790
LUS28-2	18	3½	7	2	4	(6) 16d	(4) 16d	1720	3325	1545	2575
LUS28-3	18	4½	6¼	2	3¼	(6) 16d	(4) 16d	1720	3325	1545	2375
LUS210	18	1½	7 15/16	1¾	3¾	(8) 10d	(4) 10d	1420	2785	1290	2210
LUS210-2	18	3½	9	2	6	(8) 16d	(6) 16d	2580	4500	2320	3195
LUS210-3	18	4½	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, 2022, and reflects information available as of April 1, 2020. This information is updated periodically and should not be relied upon after June 30, 2022. Contact Simpson Strong-Tie for current information and limited warranty or see strongtie.com.

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T-SPECLUS20 3/20 exp. 6/22

(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:

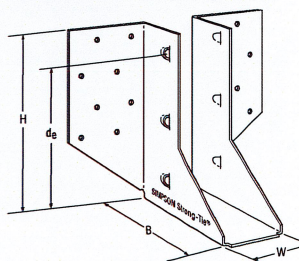
- Factored resistances are in accordance with CSA O86 -14.
- Uplift resistances have been increased 15%. No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these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

Installation:

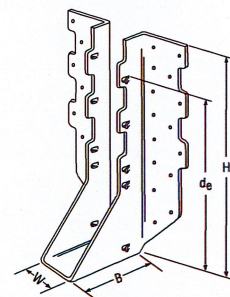
- Use all specified fasteners
- Nails: 16d = 0.162" dia. x 3½" long common wire
- Double shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads
- Not designed for welded or nailer applications

Options:

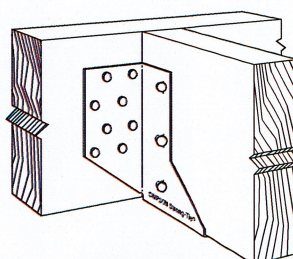
- See current catalogue for options



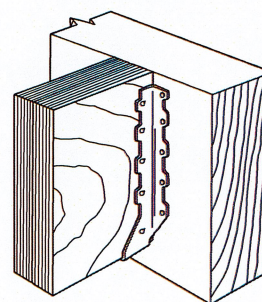
LJS26DS



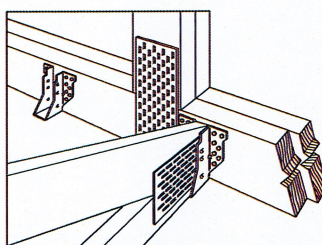
HUS210
(HUS26, HUS28, similar)



Typical LJS26DS
Installation



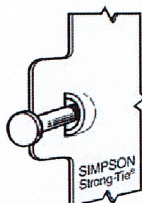
Typical HUS
Installation



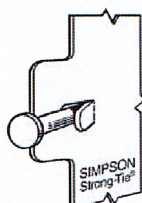
Typical HUS Installation
(Truss Designer to provide fastener quantity for connecting multiple members together)

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) lb.	Normal (K ₀ =1.00) lb.	Uplift (K ₀ =1.15) lb.	Normal (K ₀ =1.00) lb.
LJS26DS	18	1½	5	3½	4⅞	(16) 16d	(6) 16d	2055	4265	1460	4115
HUS26	16	1⅝	5⅞	3	3⅝	(14) 16d	(6) 16d	2705	4940	2065	3875
HUS28	16	1⅝	7⅝	3	6⅝	(22) 16d	(8) 16d	3605	5365	2675	4345
HUS210	16	1⅝	9⅝	3	7⅝	(30) 16d	(10) 16d	4505	5795	4010	4740
HUS1.81/10	16	1⅝	9	3	8	(30) 16d	(10) 16d	4505	6450	4010	5200

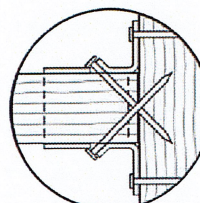
1. d_e is the distance from the seat of the hanger to the highest joist nail.



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, 2022, and reflects information available as of April 1, 2020. This information is updated periodically and should not be relied upon after June 30, 2022. Contact Simpson Strong-Tie for current information and limited warranty or see strongtie.com.

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T-SPECHUS20 3/20 exp. 6/22

(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:

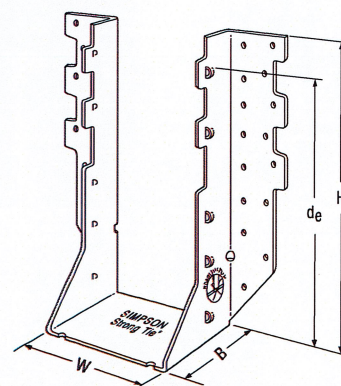
- Factored resistances are in accordance with CSA O86-14.
- Uplift resistances have been increased 15%. No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these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

Installation:

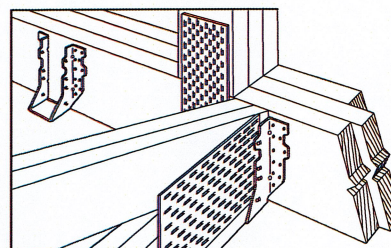
- Use all specified fasteners
- Nails: 16d = 0.162" dia. x 3½" long common wire
- Double shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads
- Not designed for welded or nailer applications

Options:

- See current catalogue for options



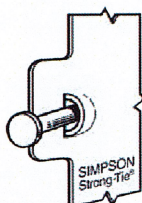
HHUS410



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

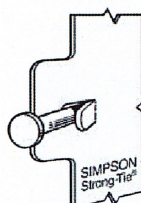
Model No.	Ga.	Dimensions (in.)				Fasteners		Factored Resistance (lb.)			
		W	H	B	d _e ¹	Face	Joist	D.Fir-L		S-P-F	
								Uplift (K ₀ =1.15)	Normal (K ₀ =1.00)	Uplift (K ₀ =1.15)	Normal (K ₀ =1.00)
HHUS26-2	14	3½	5¼	3	3¼	(14) 16d	(6) 16d	2850	7335	2065	5205
HHUS28-2	14	3½	7½	3	6½	(22) 16d	(8) 16d	3765	8940	2675	6345
HHUS210-2	14	3½	9¾	3	8	(30) 16d	(10) 16d	4670	9660	4235	7000
HHUS210-3	14	4¼	9	3	7¼	(30) 16d	(10) 16d	4670	9670	4235	6865
HHUS210-4	14	6¼	8¾	3	7¾	(30) 16d	(10) 16d	4670	10155	4235	7210
HHUS46	14	3¾	5¼	3	3¼	(14) 16d	(6) 16d	2540	7335	2065	5205
HHUS48	14	3¾	7¼	3	6¼	(22) 16d	(8) 16d	3765	8940	2675	6345
HHUS410	14	3¾	9	3	8	(30) 16d	(10) 16d	4670	9855	4235	7000
HHUS5.50/10	14	5½	9	3	8	(30) 16d	(10) 16d	4670	10155	4235	7210
HHUS7.25/10	14	7¼	9	3¾	7¾	(30) 16d	(10) 16d	4670	10155	3370	7210

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

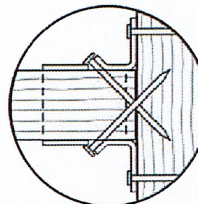


Dome Double Shear Nailing prevents tabs breaking off (available on some models).

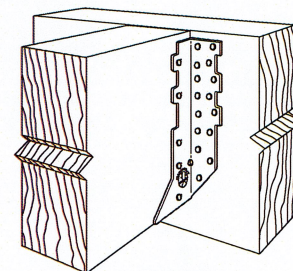
U.S. Patent
5,603,580



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



Double Shear Nailing Top View.



Typical HHUS Installation



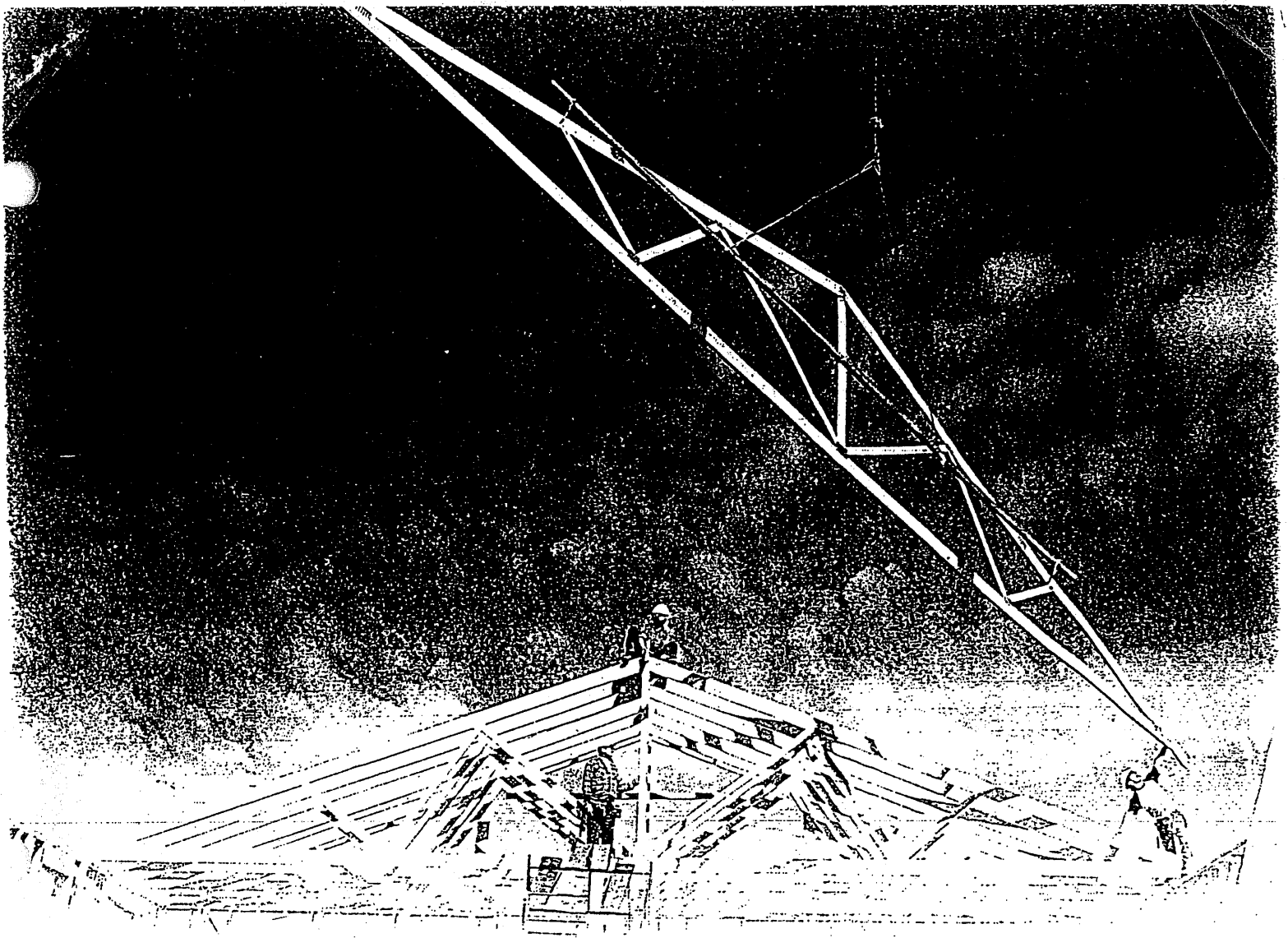
LIMIT
STATES
DESIGN

This technical bulletin is effective until June 30, 2022, and reflects information available as of April 1, 2020. This information is updated periodically and should not be relied upon after June 30, 2022. Contact Simpson Strong-Tie for current information and limited warranty or see strongtie.com.

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T-SPECHHUS20 3/20 exp. 6/22

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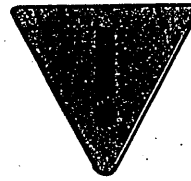
Wood Truss Installation

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

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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

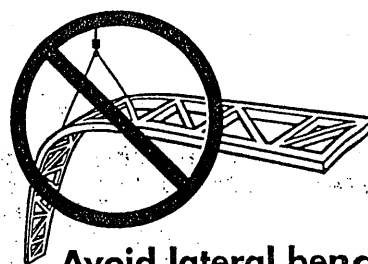
Special design requirements, such as wind bracing, portal bracing, seismic bracing, diaphragms, shear walls, or other load transfer elements and their connections to wood trusses must be considered separately by the building designer, who shall determine size, location, and method of connections for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

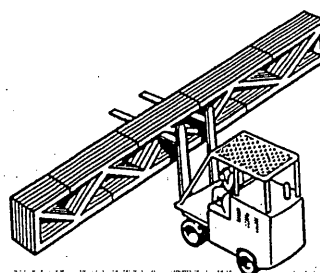
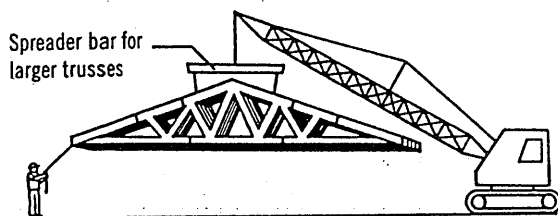


Avoid lateral bending

- 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.

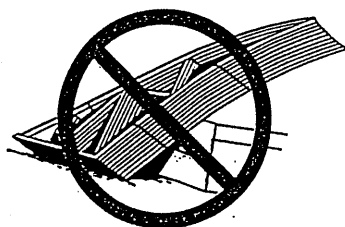
2

Job Site Handling



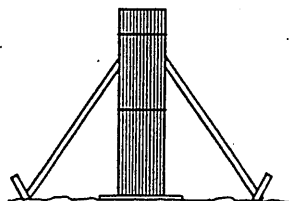
All trusses should be picked up at the top chords in a vertical position only

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.



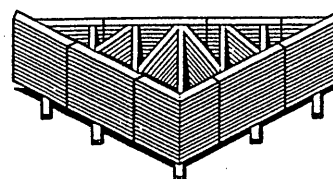
Do not store unbraced bundles upright

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.

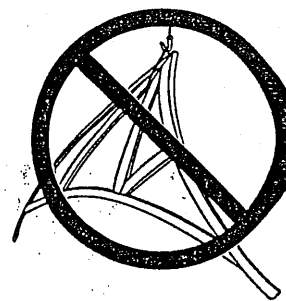


Care should be exercised when removing banding to avoid damaging trusses.

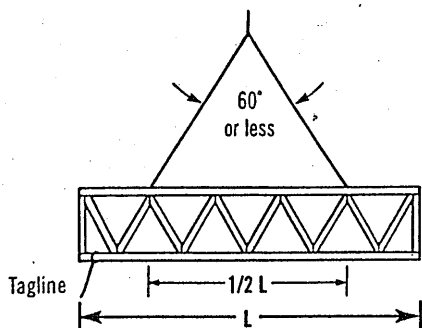
During long term storage, trusses shall be protected from the environment in a manner that provides for adequate ventilation of the trusses. If tarpaulins or other material is used, the ends shall be left open for ventilation. Plastic is not recommended, since it can trap moisture.

3 Hoisting

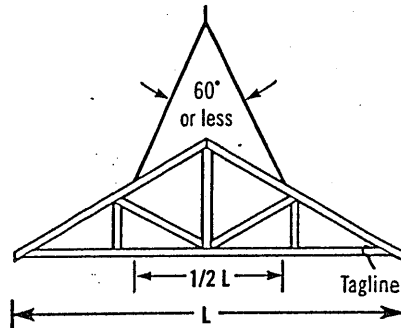
All trusses that are erected one at a time shall be held safely in position by the erection equipment until such time as all necessary bracing has been installed and the ends of the trusses are securely fastened to the building.



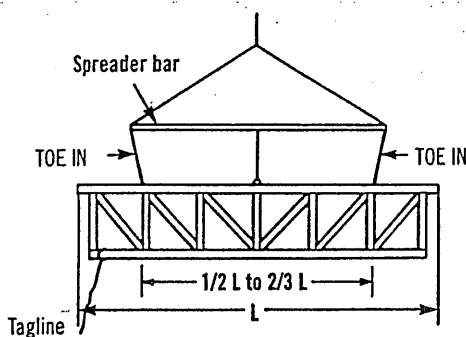
Avoid lateral bending



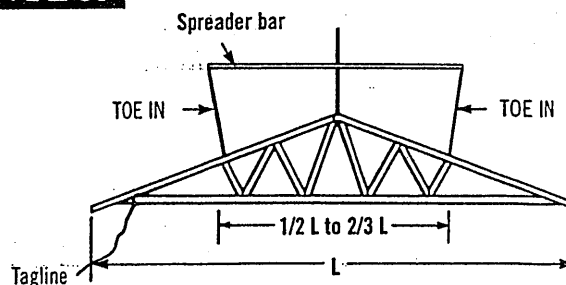
$L \leq 30'$



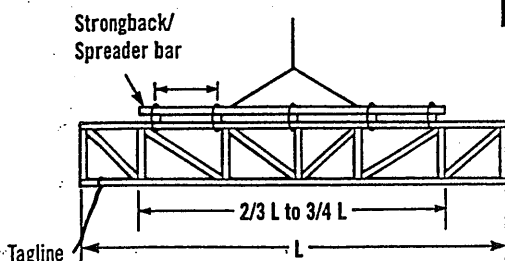
Truss sling is acceptable where these criteria are met.



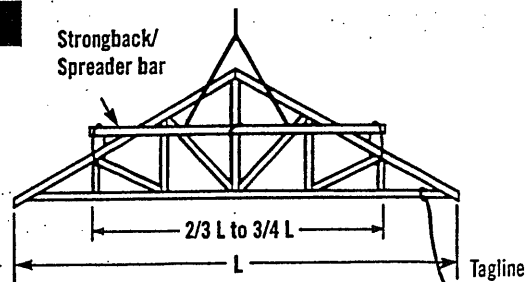
$30' < L \leq 60'$



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.



$L > 60'$



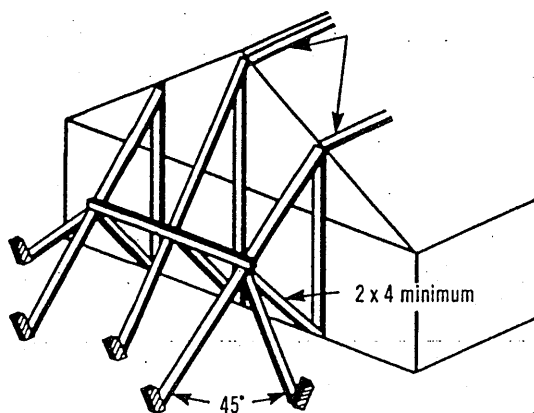
For lifting trusses with spans in excess of 60 feet, it is recommended that a strongback/spreader bar be used as illustrated. The strongback/spreader bar should be attached to the top chord and web members at intervals of approximately 10 feet. Further, the strongback/spreader bar should be at or above 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

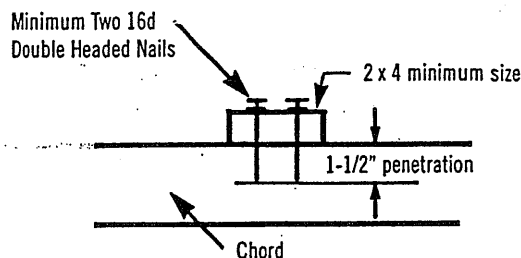
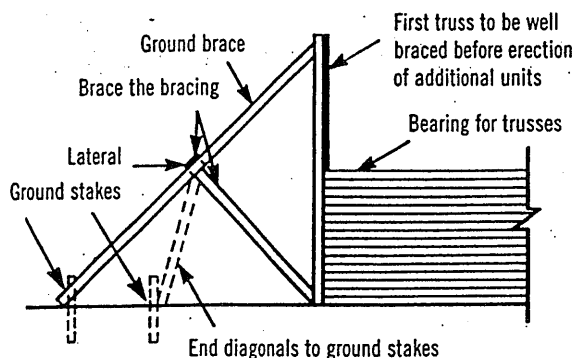
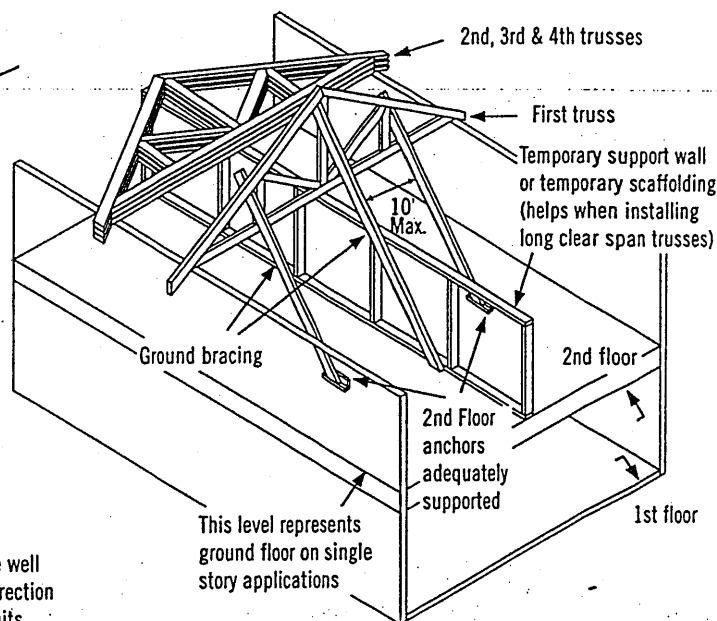
One satisfactory method ties the first unit of trusses off to a series of braces that are attached to a stake driven into the ground and securely anchored. The ground brace itself should be supported as shown below or it is apt to buckle. Additional ground braces in the opposite direction, inside the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

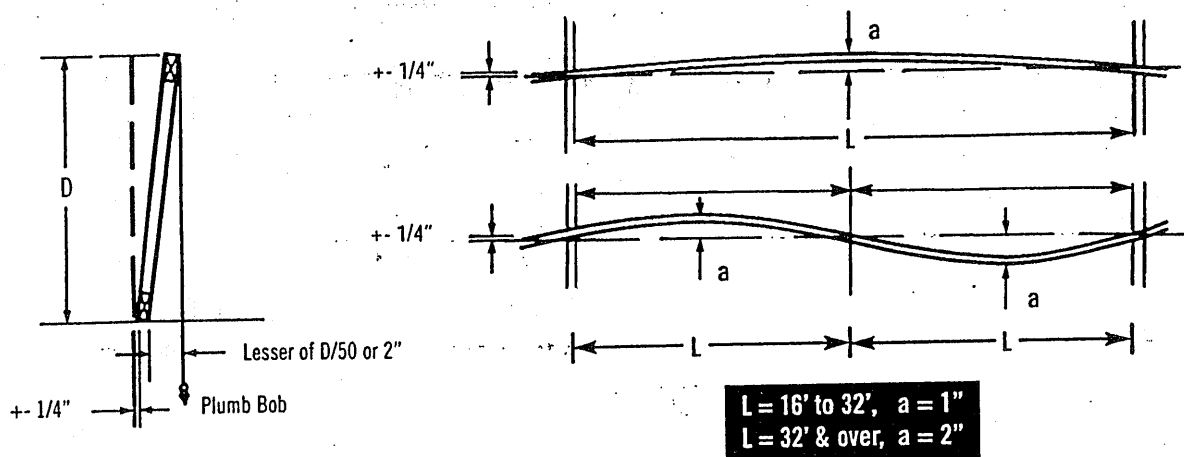


Inadequate size of bracing material or inadequate fastening is a major cause of erection dominoing.

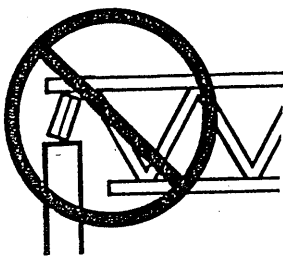
5 Erection Tolerance

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.

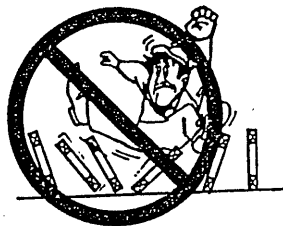
When sheathing, make sure nails are driven into the top chord of the trusses.



6 Bracing



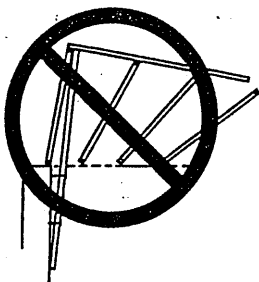
Do not install trusses on temporarily connected supports



Do not walk on unbraced trusses



Do not walk on trusses or gable ends lying flat

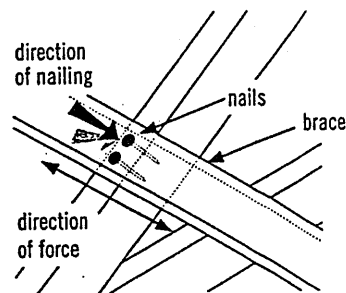


Nails in withdrawal (parallel to force)

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.



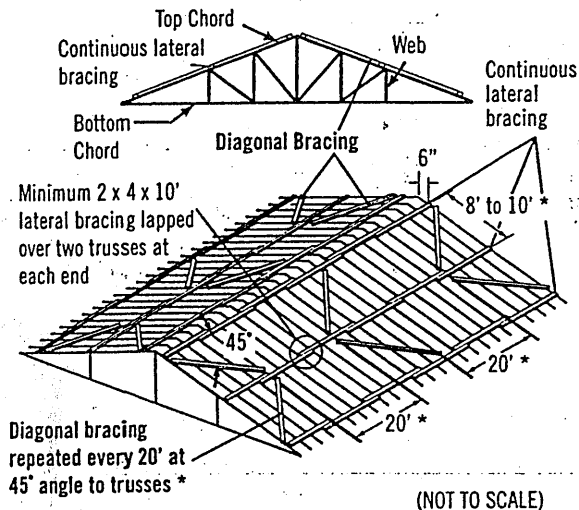
Well nailed (perpendicular to force)

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.

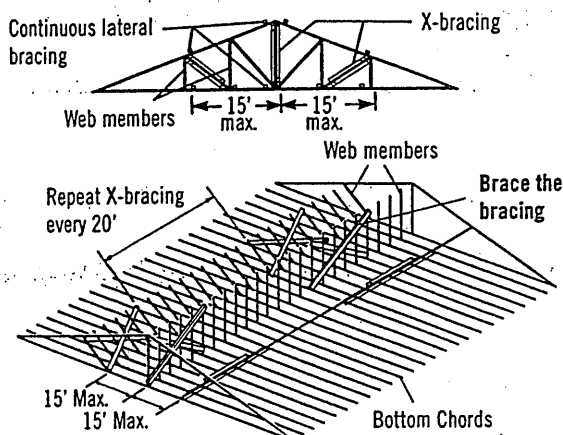


Exact spacing between trusses should be maintained as bracing is installed to avoid the hazardous practice of removing bracing to adjust spacing. This act of "adjusting spacing" can cause trusses to topple if connections are removed at the wrong time.

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.

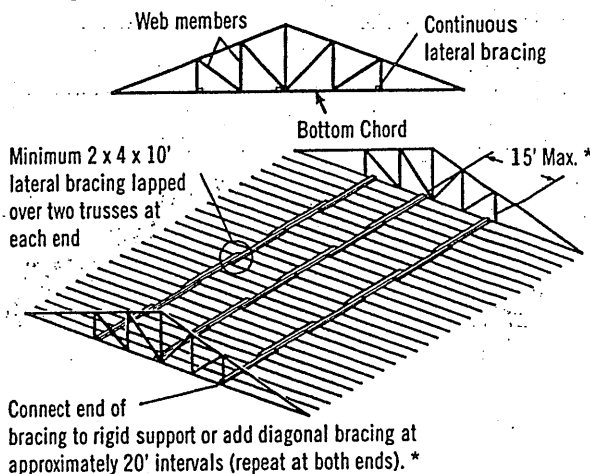
X-bracing should be installed on vertical web members wherever possible, at or near lateral bracing. Plywood or OSB may be substituted for X-bracing.



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

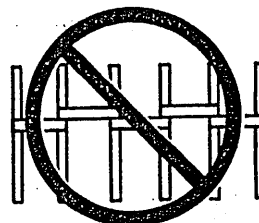
2) Bottom Chord Plane

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

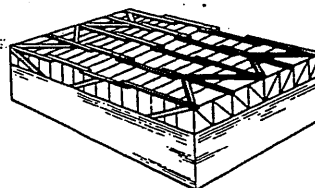


* Long spans, heavy loads or other spacing configurations may require closer spacing between lateral bracing and closer intervals between diagonals. Consult the building designer or HIB and DSB (Recommended Design Specification for Temporary Bracing of Metal-Plate Connected Wood Trusses) for details.

Diagonal or cross-bracing is very important!



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

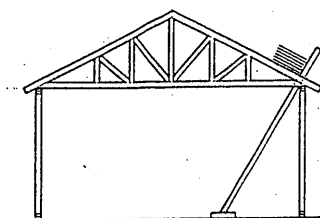
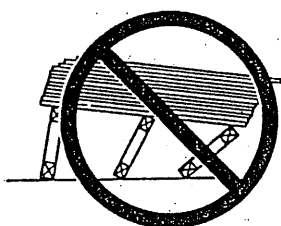


Bracing requirements using the same principles apply to parallel chord trusses

8 Stacking Materials

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

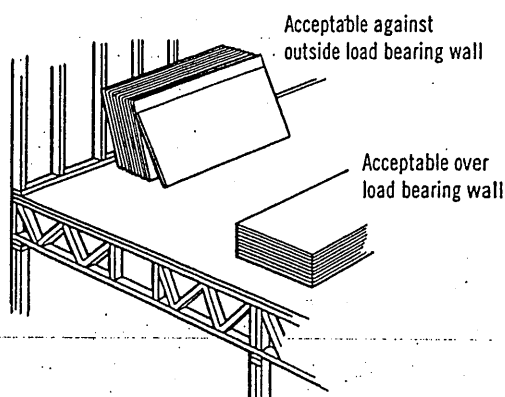
Never stack materials on unbraced or inadequately braced trusses



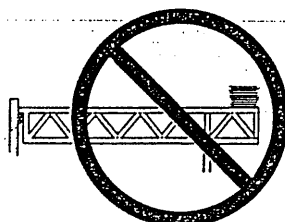
Platform must be rigidly braced

Proper distribution of construction materials is a must during construction.

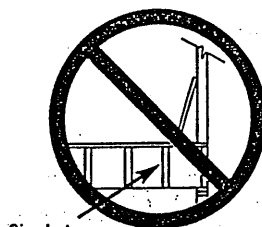
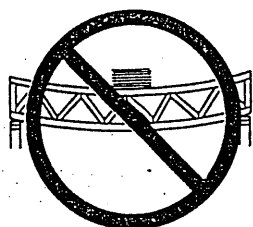
Never stack materials near a peak



Never stack materials on the cantilever of a truss

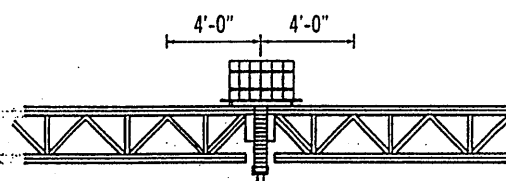


Always stack materials over two or more trusses.



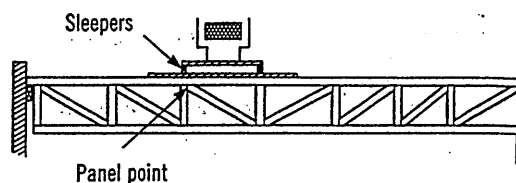
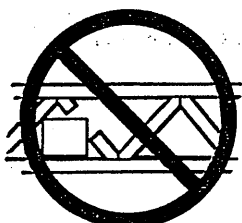
Single truss

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 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



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