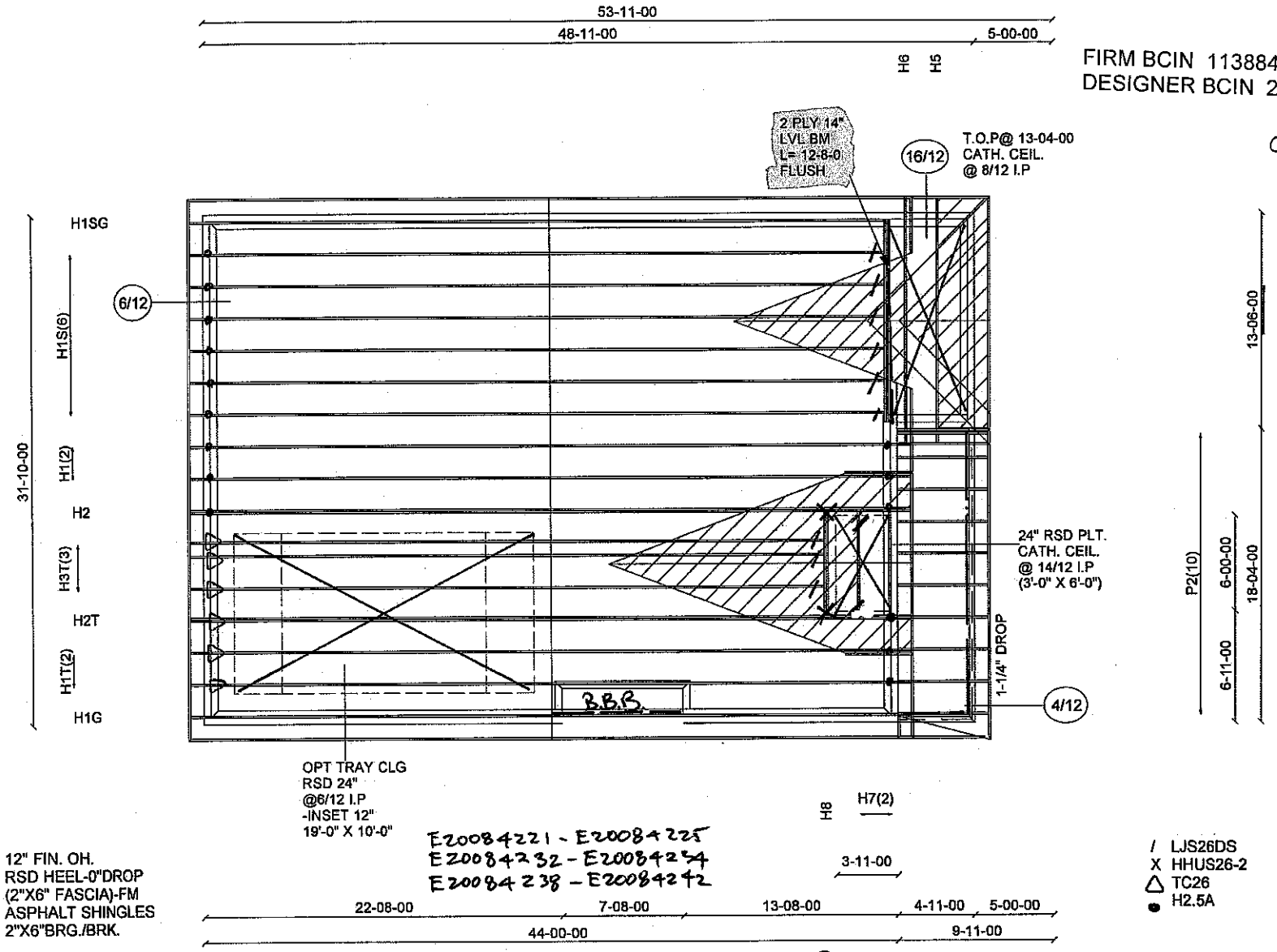
ALPA-BARRIE

FIRM BCIN 113884
DESIGNER BCIN 25593



E20084221 - E20084225
E20084232 - E20084234
E20084238 - E20084242

12" FIN. OH.
RSD HEEL-0"DROP
(2"X6" FASCIA)-FM
ASPHALT SHINGLES
2"X6"BRG./BRK.

/ LJS26DS
X HHUS26-2
△ TC26
● H2.5A

CORELLI

ALL CONVENTIONAL FRAMING TO CONFORM WITH PART 9 O.B.C. LATEST EDITION. ROOF RAFTERS THAT CROSS OVER TRUSSES TO BE 2X4 SPF #2 @ 24" O.C WITH A VERT. POST TO THE TRUSS UNDERNEATH AT EACH CROSS POINT. VERT. POSTS LONGER THAN 6' TO HAVE LATERAL BRACING SO THAT THE DISTANCE BETWEEN END POINTS & BETWEEN ROWS OF BRACING DOES NOT EXCEED 6'

Mitek V. 8.2.0

CONVENTIONAL FRAMING BY OTHERS

Job Track: 39002	Builder / Location: GOLD PARK HOMES / BRAMPTON	Model / Elevation: 38-8 / B OPT TRAY (4BED)
Layout ID: 244141	Project: MCLAUGHLIN AND MAYFIELD	
Plan Log: 76069	Date: 2020-08-10 Designer: AMANDA	

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.

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
323264	H1		1	TRUSS DESC. JT 39002	E20084221

Alpa Roof Truss, Maple

Version 8.330 S May 6 2020 MiTek Industries, Inc. Mon Aug 10 11:20:35 2020 Page 1

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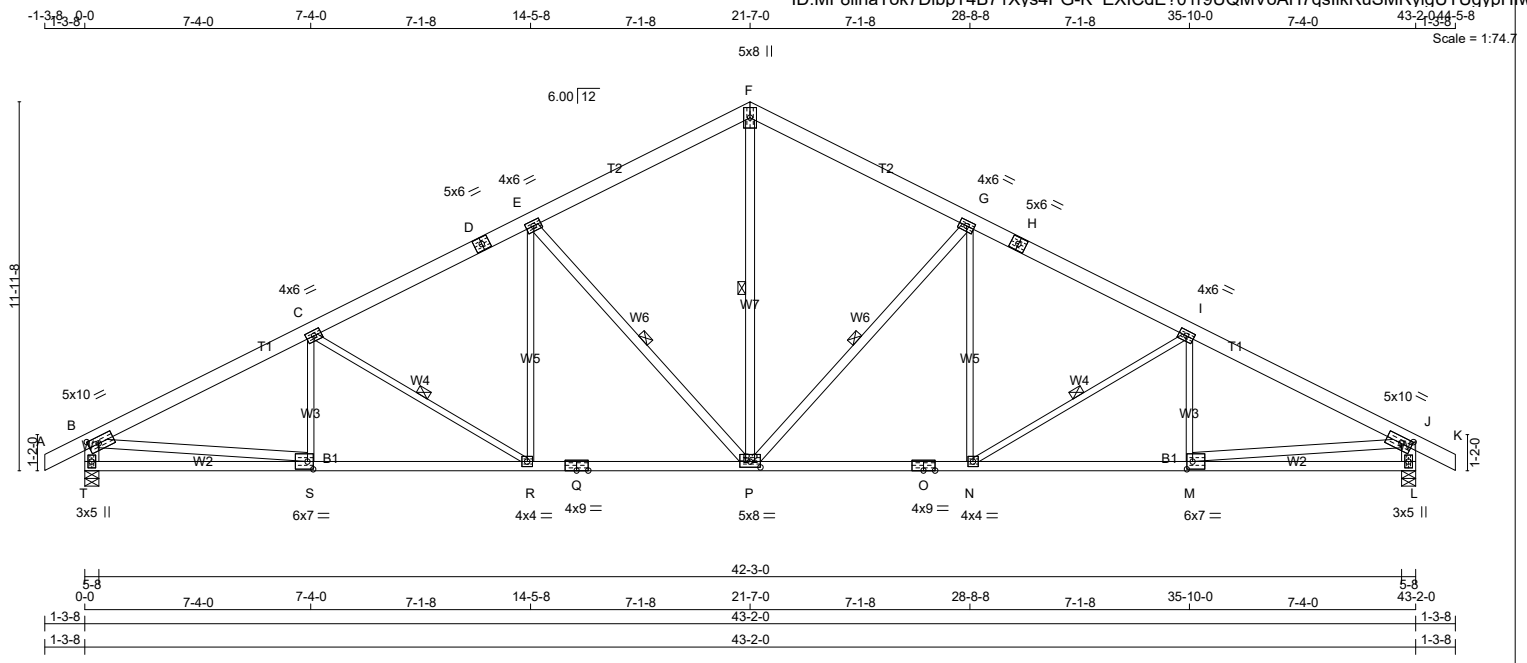

TOTAL WEIGHT = 4 X 228 = 911 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - D	2x6	DRY	No.2	SPF
D - F	2x6	DRY	No.2	SPF
F - H	2x6	DRY	No.2	SPF
H - K	2x6	DRY	No.2	SPF
T - B	2x6	DRY	No.2	SPF
L - J	2x6	DRY	No.2	SPF
T - Q	2x4	DRY	No.2	SPF
Q - O	2x4	DRY	No.2	SPF
O - L	2x4	DRY	No.2	SPF
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF
P - F	2x4	DRY	No.2	SPF
P - G	2x4	DRY	No.2	SPF
E - P	2x4	DRY	No.2	SPF
B - S	2x4	DRY	No.2	SPF
M - J	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMVW-t	MT20	5.0	10.0	2.50	4.00
C, E, G, I						
C	TMWW-t	MT20	4.0	6.0		
D	TS-t	MT20	5.0	6.0		
F	TTW+p	MT20	5.0	8.0		
H	TS-t	MT20	5.0	6.0		
J	TMVW-t	MT20	5.0	10.0	2.50	4.00
L	BMV1+p	MT20	3.0	5.0		
M	BMWW-t	MT20	6.0	7.0	3.00	2.25
N	BMWW-t	MT20	4.0	4.0		
O	BS-t	MT20	4.0	9.0		
P	BMWWW-t	MT20	5.0	8.0	2.25	4.00
Q	BS-t	MT20	4.0	9.0		
R	BMWW-t	MT20	4.0	4.0		
S	BMWW-t	MT20	6.0	7.0	3.00	2.25
T	BMV1+p	MT20	3.0	5.0		

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

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

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG	REQRD BRG
T	3270	0	3270	207	-400	5-8	5-2
L	3270	0	3270	0	-400	5-8	5-2

PROVIDE ANCHORAGE AT BEARING JOINT T FOR 400 LBS FACTORED UPLIFT

PROVIDE ANCHORAGE AT BEARING JOINT L FOR 400 LBS FACTORED UPLIFT

PROVIDE FOR 207 LBS FACTORED HORIZONTAL REACTION AT JOINTT

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
T	2431	1382 / 0	453 / 0	0 / 0	77 / -668	595 / 0	0 / 0
L	2431	1382 / 0	453 / 0	0 / 0	77 / -668	595 / 0	0 / 0
HORIZONTAL REACTIONS							
T	---	0 / 0	0 / 0	0 / 0	148 / -148	0 / 0	0 /0

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

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 3.50 FT.

MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 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 F-P, G-P, I-N, E-P, C-R.

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: (18)

CHORDS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	CSI (LC)	MAX UNBRAC LENGTH
A- B	0 / 38	-105.2	-105.2	0.08 (2)	10.00
B- C	-4930 / 570	-105.2	-105.2	0.59 (2)	3.50
C- D	-4287 / 550	-105.2	-105.2	0.54 (2)	3.77
D- E	-4287 / 550	-105.2	-105.2	0.54 (2)	3.77
E- F	-3310 / 499	-105.2	-105.2	0.47 (2)	4.25
F- G	-3310 / 499	-105.2	-105.2	0.47 (3)	4.25
G- H	-4287 / 550	-105.2	-105.2	0.54 (3)	3.77
H- I	-4287 / 550	-105.2	-105.2	0.54 (3)	3.77
I- J	-4930 / 571	-105.2	-105.2	0.59 (3)	3.50
J- K	0 / 38	-105.2	-105.2	0.08 (3)	10.00
T- B	-3151 / 438	0.0	0.0	0.20 (1)	5.96
L- J	-3151 / 438	0.0	0.0	0.20 (1)	5.96
T- S	-197 / 217	-39.5	-39.5	0.38 (17)	6.25
S- R	-598 / 4433	-39.5	-39.5	0.97 (1)	6.25
R- Q	-398 / 3838	-39.5	-39.5	0.86 (1)	6.25
Q- P	-398 / 3838	-39.5	-39.5	0.86 (1)	6.25
P- O	-232 / 3838	-39.5	-39.5	0.86 (1)	6.25
O- N	-232 / 3838	-39.5	-39.5	0.86 (1)	6.25
N- M	-392 / 4433	-39.5	-39.5	0.97 (1)	6.25
M- L	-5 / 11	-39.5	-39.5	0.38 (17)	10.00

WEBS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
P- F	-281 / 2323	0.37 (1)
P- G	-1572 / 378	0.95 (3)
N- G	-35 / 739	0.17 (3)
N- I	-887 / 237	0.42 (3)
M- I	-253 / 200	0.08 (8)
E- P	-1572 / 378	0.95 (2)
R- E	-35 / 739	0.17 (2)
C- R	-887 / 236	0.42 (2)
S- C	-253 / 200	0.08 (7)
B- S	-404 / 4457	0.72 (1)
M- J	-404 / 4457	0.72 (1)

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

DESIGN CRITERIA

SPECIFIED LOADS:

TOP	CH.	LL =	30.1	PSF
		DL =	6.0	PSF
BOT	CH.	LL =	10.5	PSF
		DL =	7.4	PSF
TOTAL	LOAD	=	54.0	PSF

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 27.2 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 30.1 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.44")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.25")
ALLOWABLE DEFL.(TL)= L/180 (2.88")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.37")

CSI: TC=0.59/1.00 (B-C:2) , BC=0.97/1.00 (R-S:1) , WB=0.95/1.00 (E-P:2) , SSI=0.28/1.00 (B-C:2)

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

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 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) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.86 (B) (INPUT = 0.90)
JSI METAL= 0.86 (M) (INPUT = 1.00)

CONTINUED ON PAGE 2

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
323264	H1G		1	TRUSS DESC. JT 39002	E20084222

Alpa Roof Truss, Maple

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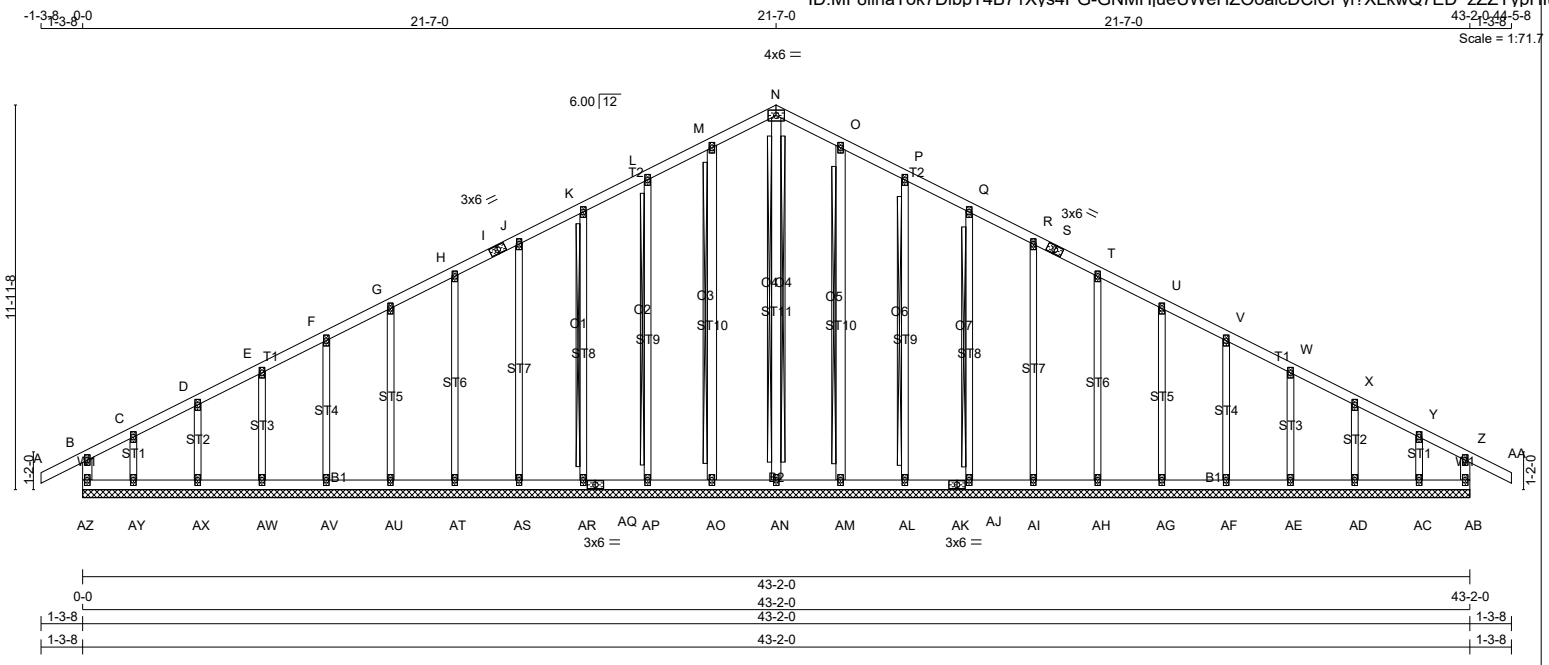

TOTAL WEIGHT = 225 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
AZ- B	2x4	DRY	No.2	SPF
A - I	2x4	DRY	No.2	SPF
I - N	2x4	DRY	No.2	SPF
N - S	2x4	DRY	No.2	SPF
S - AA	2x4	DRY	No.2	SPF
AB- Z	2x4	DRY	No.2	SPF
AZ- AQ	2x4	DRY	No.2	SPF
AQ- AK	2x4	DRY	No.2	SPF
AK- AB	2x4	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF
EXCEPT				
AN- N	2x4	DRY	No.2	SPF
AO- M	2x4	DRY	No.2	SPF
AM- O	2x4	DRY	No.2	SPF
ALL GABLE WEBS				
	2x3	DRY	No.2	SPF
EXCEPT				
ST1	2x4	DRY	No.2	SPF
ST2	2x4	DRY	No.2	SPF
ST12	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

GABLE STUDS SPACED AT 2-0-0 OC.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMV+p	MT20	2.0	4.0		
C, D, E, F, G, H, J, K, L, M, O, P, Q, R, T, U, V, W, X, Y						
C	TMW+w	MT20	2.0	4.0		
I	TS-t	MT20	3.0	6.0		
N	TTW-p	MT20	4.0	6.0		
S	TS-t	MT20	3.0	6.0		
Z	TMV+p	MT20	2.0	4.0		
AB	BMV1+p	MT20	2.0	4.0		
AC, AD, AE, AF, AG, AH, AI, AJ, AL, AM, AN, AO, AP, AR, AS, AT, AU, AV, AW, AX, AY						
AC	BMW1+w	MT20	2.0	4.0		
AK	BS-t	MT20	3.0	6.0		
AQ	BS-t	MT20	3.0	6.0		

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

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

BEARINGS

THIS TRUSS DESIGNED FOR CONTINUOUS BEARINGS.

THIS TRUSS REQUIRES RIGID SHEATHING ON EXPOSED FACE.

PROVIDE ANCHORAGE AT ALL BEARING JOINTS FOR 150 LBS FACTORED UPLIFT EXCEPT AY:211 LBS,AC:172 LBS.

PROVIDE FOR 207 LBS FACTORED HORIZONTAL REACTION AT JOINTAZ

HORIZONTAL REACTIONS

	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
AZ	---	0 / 0	0 / 0	0 / 0	148 / -148	0 / 0	0 /0

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

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

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

2x4 DRY SPF No.2 I-BRACE AT N-AN
2x4 DRY SPF No.2 T-BRACE AT M-AO, L-AP, K-AR, O-AM, P-AL, Q-AJ

FASTEN T AND I-BRACES TO NARROW EDGE OF WEB WITH ONE ROW PER PLY OF 3" COMMON WIRE NAILS @ 6" O.C. WITH 3" MINIMUM END DISTANCE. BRACE MUST COVER 90% OF WEB LENGTH.

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

LOADING

TOTAL LOAD CASES: (18)

CHORDS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD FROM (PLF)	TO	LC1 MAX CSI (LC)	MAX. UNBRAC LENGTH	WEBS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
AZ- B	-324 / 66	0.0	0.0	0.11 (13)	7.81	AN- N	-244 / 0	0.19 (14)
A- B	0 / 37	-105.2	-105.2	0.16 (2)	10.00	AO- M	-263 / 79	0.22 (2)
B- C	-214 / 74	-105.2	-105.2	0.12 (2)	6.25	AP- L	-236 / 101	0.18 (2)
C- D	-143 / 94	-105.2	-105.2	0.06 (2)	6.25	AR- K	-244 / 95	0.14 (2)
D- E	-98 / 127	-105.2	-105.2	0.06 (2)	6.25	AS- J	-242 / 95	0.29 (2)
E- F	-49 / 157	-105.2	-105.2	0.06 (2)	6.25	AT- H	-242 / 95	0.20 (2)
F- G	-25 / 189	-105.2	-105.2	0.06 (2)	6.25	AU- G	-241 / 95	0.13 (2)
G- H	-23 / 220	-105.2	-105.2	0.06 (2)	6.25	AV- F	-242 / 94	0.09 (2)
H- I	-22 / 252	-105.2	-105.2	0.06 (2)	6.25	AW- E	-237 / 97	0.06 (2)
I- J	-22 / 252	-105.2	-105.2	0.06 (2)	6.25	AX- D	-257 / 84	0.05 (2)
J- K	-21 / 284	-105.2	-105.2	0.06 (2)	6.25	AY- C	-153 / 152	0.03 (13)
K- L	-19 / 315	-105.2	-105.2	0.06 (2)	6.25	AM- O	-263 / 75	0.22 (3)
L- M	-18 / 351	-105.2	-105.2	0.07 (2)	6.25	AL- P	-236 / 102	0.18 (3)
M- N	-16 / 371	-105.2	-105.2	0.09 (14)	6.25	AJ- Q	-244 / 95	0.14 (3)
N- O	-14 / 363	-105.2	-105.2	0.09 (14)	6.25	AI- R	-242 / 95	0.29 (3)
O- P	-11 / 320	-105.2	-105.2	0.07 (3)	6.25	AH- T	-242 / 95	0.20 (3)
P- Q	-9 / 265	-105.2	-105.2	0.06 (3)	10.00	AG- U	-241 / 95	0.13 (3)
Q- R	-6 / 228	-105.2	-105.2	0.06 (3)	10.00	AF- V	-242 / 95	0.09 (3)
R- S	-7 / 197	-105.2	-105.2	0.06 (3)	6.25	AE- W	-237 / 96	0.06 (3)
S- T	-7 / 197	-105.2	-105.2	0.06 (3)	6.25	AD- X	-257 / 87	0.05 (3)
T- U	-9 / 165	-105.2	-105.2	0.06 (3)	10.00	AC- Y	-149 / 133	0.03 (14)
U- V	-10 / 133	-105.2	-105.2	0.06 (3)	6.25			
V- W	-12 / 102	-105.2	-105.2	0.06 (3)	6.25			
W- X	-42 / 71	-105.2	-105.2	0.06 (3)	6.25			
X- Y	-89 / 40	-105.2	-105.2	0.06 (3)	6.25			
Y- Z	-152 / 33	-105.2	-105.2	0.12 (3)	6.25			
Z-AA	0 / 37	-105.2	-105.2	0.16 (3)	10.00			
AB- Z	-313 / 25	0.0	0.0	0.09 (14)	7.81			
AZ-AY	-25 / 192	-39.5	-39.5	0.11 (13)	6.25			

DESIGN CRITERIA

SPECIFIED LOADS:

TOP	CH.	LL =	30.1	PSF
		DL =	6.0	PSF
BOT	CH.	LL =	10.5	PSF
		DL =	7.4	PSF
TOTAL	LOAD	=	54.0	PSF

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.
-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(80 % OF 27.2 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 30.1 P.S.F. SPECIFIED ROOF LIVE LOAD

CSI: TC=0.16/1.00 (Z-AA:3) , BC=0.11/1.00 (AY-AZ:13) , WB=0.29/1.00 (J-AS:2) , SSI=0.16/1.00 (B-AZ:13)

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

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
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) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.38 (Z) (INPUT = 0.90)
JSI METAL= 0.21 (AZ) (INPUT = 1.00)

CONTINUED ON PAGE 2

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
AZ	BMV1+p	MT20	2.0	4.0		

LOADING

TOTAL LOAD CASES: (18)

CHORDS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 MAX CSI (LC)	MAX. UNBRAC LENGTH	WEBS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
AY-AX	-30 / 193	-39.5	-39.5	0.04 (14)	6.25			
AX-AW	-35 / 194	-39.5	-39.5	0.03 (14)	6.25			
AW-AV	-39 / 195	-39.5	-39.5	0.03 (14)	6.25			
AV-AU	-42 / 196	-39.5	-39.5	0.03 (14)	6.25			
AU-AT	-44 / 196	-39.5	-39.5	0.03 (14)	6.25			
AT-AS	-46 / 197	-39.5	-39.5	0.03 (14)	6.25			
AS-AR	-48 / 197	-39.5	-39.5	0.03 (14)	6.25			
AR-AQ	-49 / 198	-39.5	-39.5	0.03 (14)	6.25			
AQ-AP	-49 / 198	-39.5	-39.5	0.03 (14)	6.25			
AP-AO	-51 / 198	-39.5	-39.5	0.03 (14)	6.25			
AO-AN	-52 / 198	-39.5	-39.5	0.03 (14)	6.25			
AN-AM	-52 / 198	-39.5	-39.5	0.03 (14)	6.25			
AM-AL	-51 / 198	-39.5	-39.5	0.03 (14)	6.25			
AL-AK	-49 / 197	-39.5	-39.5	0.03 (14)	6.25			
AK-AJ	-49 / 197	-39.5	-39.5	0.03 (14)	6.25			
AJ-AI	-48 / 196	-39.5	-39.5	0.03 (14)	6.25			
AI-AH	-46 / 196	-39.5	-39.5	0.03 (14)	6.25			
AH-AG	-44 / 195	-39.5	-39.5	0.03 (14)	6.25			
AG-AF	-41 / 193	-39.5	-39.5	0.03 (14)	6.25			
AF-AE	-39 / 192	-39.5	-39.5	0.03 (14)	6.25			
AE-AD	-39 / 190	-39.5	-39.5	0.04 (14)	6.25			
AD-AC	-38 / 188	-39.5	-39.5	0.04 (14)	6.25			
AC-AB	-36 / 183	-39.5	-39.5	0.11 (14)	6.25			

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING
AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN) AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

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

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
323264	H1S		1	TRUSS DESC. JT 39002	E20084223

Alpa Roof Truss, Maple

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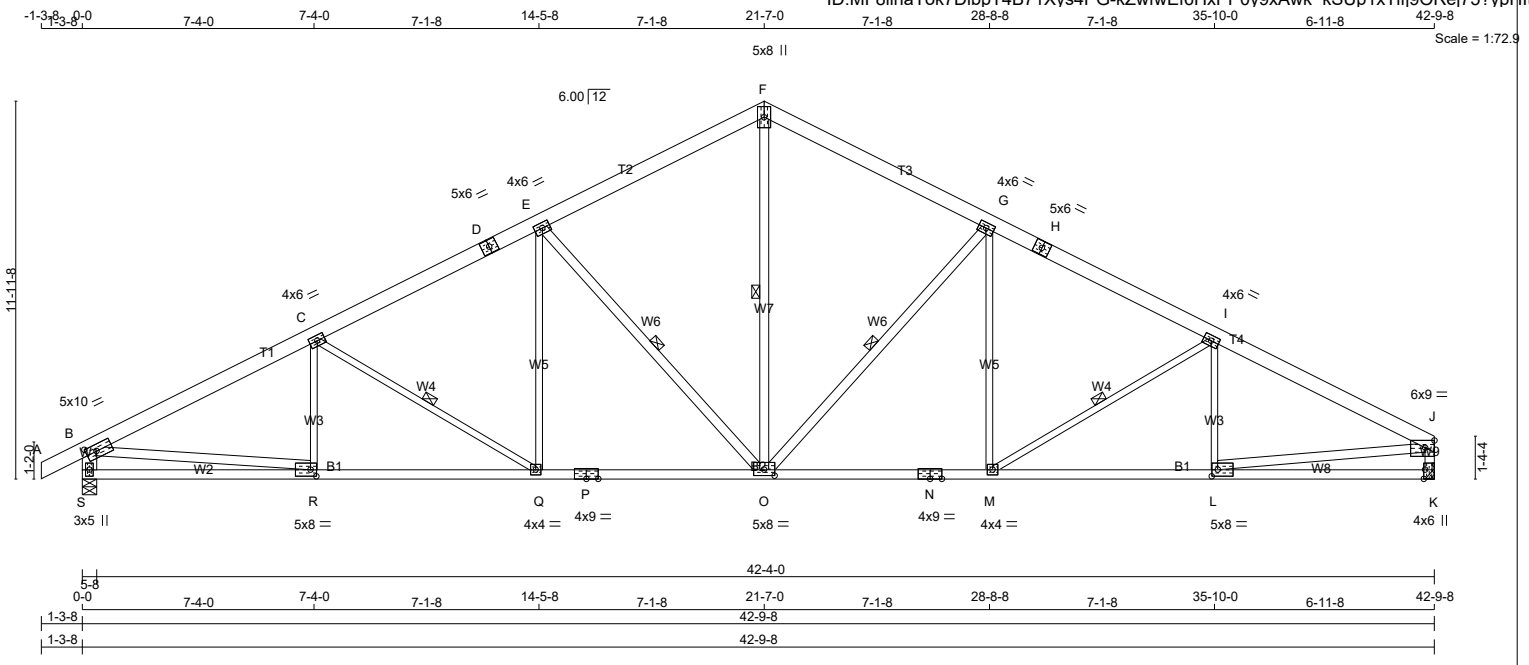

TOTAL WEIGHT = 6 X 223 = 1340 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - D	2x6	DRY	No.2	SPF
D - F	2x6	DRY	No.2	SPF
F - H	2x6	DRY	No.2	SPF
H - J	2x6	DRY	No.2	SPF
S - B	2x6	DRY	No.2	SPF
K - J	2x4	DRY	No.2	SPF
S - P	2x4	DRY	No.2	SPF
P - N	2x4	DRY	No.2	SPF
N - K	2x4	DRY	No.2	SPF
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF
E - O	2x4	DRY	No.2	SPF
O - F	2x4	DRY	No.2	SPF
O - G	2x4	DRY	No.2	SPF
B - R	2x4	DRY	No.2	SPF
L - J	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMVW-t	MT20	5.0	10.0	2.50	4.00
C, E, G, I						
C	TMWW-t	MT20	4.0	6.0		
D	TS-t	MT20	5.0	6.0		
F	TTW+p	MT20	5.0	8.0		
H	TS-t	MT20	5.0	6.0		
J	TMVW-p	MT20	6.0	9.0	2.75	Edge
K	BMV1+t	MT20	4.0	6.0	Edge	0.50
L	BMWW-t	MT20	5.0	8.0	2.50	2.25
M	BMWW-t	MT20	4.0	4.0		
N	BS-t	MT20	4.0	9.0		
O	BMWWW-t	MT20	5.0	8.0	2.25	4.00
P	BS-t	MT20	4.0	9.0		
Q	BMWW-t	MT20	4.0	4.0		
R	BMWW-t	MT20	5.0	8.0	2.50	2.25
S	BMV1+p	MT20	3.0	5.0		

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

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG	REQRD BRG
S	3243	0	3243	220	-398	5-8	5-1
K	3096	0	3096	0	-360	MECHANICAL	

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

PROVIDE ANCHORAGE AT BEARING JOINT S FOR 398 LBS FACTORED UPLIFT
PROVIDE ANCHORAGE AT BEARING JOINT K FOR 360 LBS FACTORED UPLIFT

PROVIDE FOR 220 LBS FACTORED HORIZONTAL REACTION AT JOINTS

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
S	2410	1371 / 0	449 / 0	0 / 0	77 / -664	590 / 0	0 / 0
K	2310	1287 / 0	449 / 0	0 / 0	81 / -626	573 / 0	0 / 0
HORIZONTAL REACTIONS							
S	---	0 / 0	0 / 0	0 / 0	157 / -127	0 / 0	0 /0

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

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 3.52 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

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

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF C-Q, E-O, F-O, G-O, I-M.

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: (18)

CHORDS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 MAX CSI (LC)	MAX. UNBRAC LENGTH	WEBS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
A- B	0 / 38	-105.2	-105.2	0.08 (2)	10.00	R- C	-249 / 202	0.08 (7)
B- C	-4880 / 566	-105.2	-105.2	0.59 (2)	3.52	C- Q	-890 / 237	0.42 (2)
C- D	-4233 / 545	-105.2	-105.2	0.54 (2)	3.79	Q- E	-35 / 741	0.17 (2)
D- E	-4233 / 545	-105.2	-105.2	0.54 (2)	3.79	E- O	-1573 / 378	0.95 (2)
E- F	-3253 / 491	-105.2	-105.2	0.47 (2)	4.29	O- F	-277 / 2274	0.37 (1)
F- G	-3254 / 494	-105.2	-105.2	0.48 (3)	4.28	O- G	-1509 / 369	0.91 (3)
G- H	-4178 / 534	-105.2	-105.2	0.54 (3)	3.80	M- G	-21 / 664	0.15 (6)
H- I	-4178 / 534	-105.2	-105.2	0.54 (3)	3.80	M- I	-738 / 213	0.35 (3)
I- J	-4674 / 540	-105.2	-105.2	0.51 (3)	3.65	L- I	-355 / 162	0.11 (8)
S- B	-3124 / 436	0.0	0.0	0.20 (1)	5.98	B- R	-400 / 4412	0.71 (1)
K- J	-2984 / 396	0.0	0.0	0.30 (1)	5.00	L- J	-405 / 4243	0.68 (1)
S- R	-210 / 188	-39.5	-39.5	0.38 (17)	6.25			
R- Q	-608 / 4389	-39.5	-39.5	0.96 (1)	6.25			
Q- P	-407 / 3789	-39.5	-39.5	0.85 (1)	6.25			
P- O	-407 / 3789	-39.5	-39.5	0.85 (1)	6.25			
O- N	-237 / 3742	-39.5	-39.5	0.84 (1)	6.25			
N- M	-237 / 3742	-39.5	-39.5	0.84 (1)	6.25			
M- L	-388 / 4204	-39.5	-39.5	0.91 (1)	6.25			
L- K	-7 / 14	-39.5	-39.5	0.36 (17)	10.00			

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

DESIGN CRITERIA

SPECIFIED LOADS:

TOP	CH.	LL =	30.1	PSF
		DL =	6.0	PSF
BOT	CH.	LL =	10.5	PSF
		DL =	7.4	PSF
TOTAL	LOAD	=	54.0	PSF

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 27.2 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 30.1 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.43")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.24")
ALLOWABLE DEFL.(TL)= L/180 (2.85")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.35")

CSI: TC=0.59/1.00 (B-C:2) , BC=0.96/1.00 (Q-R:1) , WB=0.95/1.00 (E-O:2) , SSI=0.28/1.00 (B-C:2)

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

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 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) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.85 (B) (INPUT = 0.90)
JSI METAL= 0.85 (N) (INPUT = 1.00)

CONTINUED ON PAGE 2

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
323264	H1SG		1	TRUSS DESC. JT 39002	E20084224

Alpa Roof Truss, Maple

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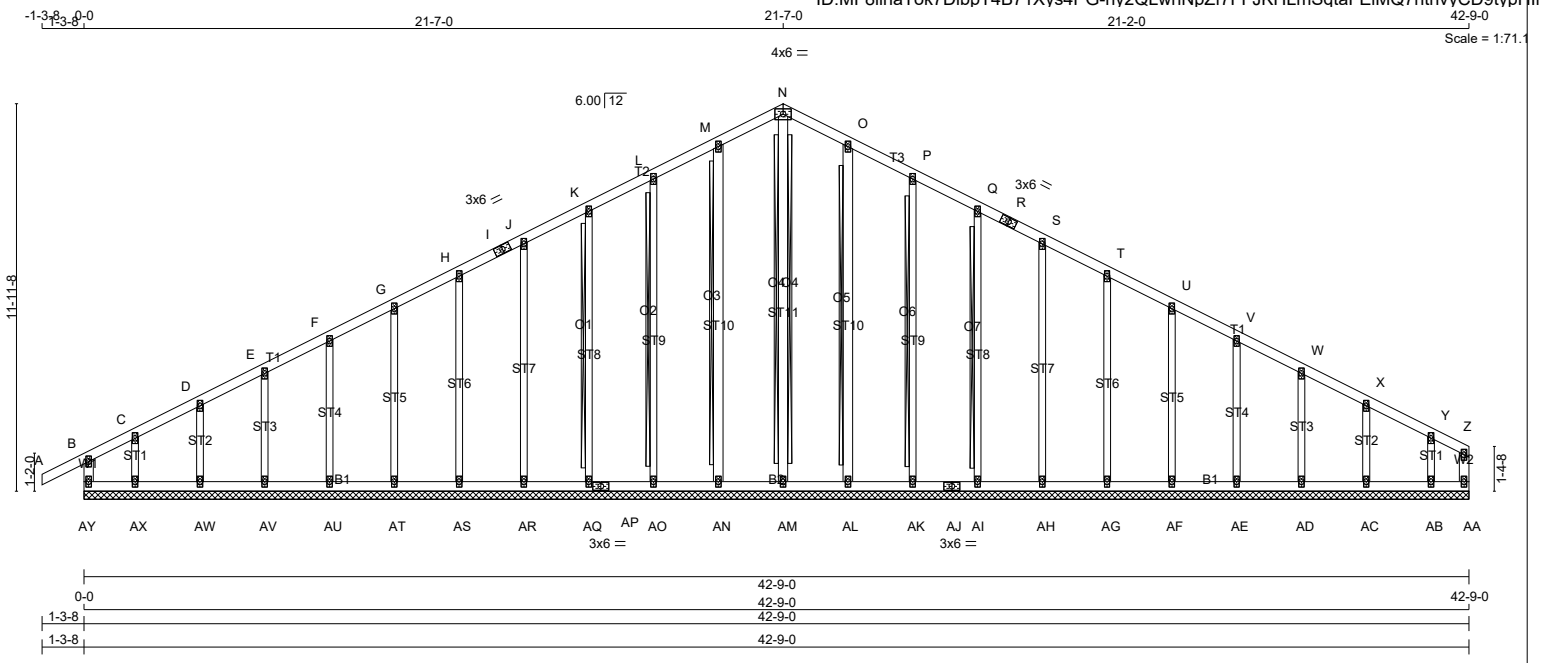

TOTAL WEIGHT = 223 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
AY- B	2x4	DRY	No.2	SPF
A - I	2x4	DRY	No.2	SPF
I - N	2x4	DRY	No.2	SPF
N - R	2x4	DRY	No.2	SPF
R - Z	2x4	DRY	No.2	SPF
AA- Z	2x4	DRY	No.2	SPF
AY- AP	2x4	DRY	No.2	SPF
AP- AJ	2x4	DRY	No.2	SPF
AJ - AA	2x4	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF
EXCEPT				
AM- N	2x4	DRY	No.2	SPF
AN- M	2x4	DRY	No.2	SPF
AL- O	2x4	DRY	No.2	SPF
ALL GABLE WEBS	2x3	DRY	No.2	SPF
EXCEPT				
ST1	2x4	DRY	No.2	SPF
ST2	2x4	DRY	No.2	SPF
ST12	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

GABLE STUDS SPACED AT 2-0-0 OC.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMV+p	MT20	2.0	4.0		
C, D, E, F, G, H, J, K, L, M, O, P, Q, S, T, U, V, W, X, Y						
C	TMW+w	MT20	2.0	4.0		
I	TS-t	MT20	3.0	6.0		
N	TTW-p	MT20	4.0	6.0		
R	TS-t	MT20	3.0	6.0		
Z	TMV+p	MT20	2.0	4.0		
AA	BMV1+p	MT20	2.0	4.0		
AB, AC, AD, AE, AF, AG, AH, AI, AK, AL, AM, AN, AO, AQ, AR, AS, AT, AU, AV, AW, AX						
AB	BMW1+w	MT20	2.0	4.0		
AJ	BS-t	MT20	3.0	6.0		
AP	BS-t	MT20	3.0	6.0		

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

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

BEARINGS

THIS TRUSS DESIGNED FOR CONTINUOUS BEARINGS.

THIS TRUSS REQUIRES RIGID SHEATHING ON EXPOSED FACE.

PROVIDE ANCHORAGE AT ALL BEARING JOINTS FOR 150 LBS FACTORED UPLIFT EXCEPT AX:214 LBS,AB:228 LBS.

PROVIDE FOR 219 LBS FACTORED HORIZONTAL REACTION AT JOINTAY

HORIZONTAL REACTIONS

	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
AY	---	0 / 0	0 / 0	0 / 0	157 / -127	0 / 0	0 /0

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

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

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

2x4 DRY SPF No.2 I-BRACE AT N-AM
2x4 DRY SPF No.2 T-BRACE AT M-AN, L-AO, K-AQ, O-AL, P-AK, Q-AI

FASTEN T AND I-BRACES TO NARROW EDGE OF WEB WITH ONE ROW PER PLY OF 3" COMMON WIRE NAILS @ 6" O.C. WITH 3" MINIMUM END DISTANCE. BRACE MUST COVER 90% OF WEB LENGTH.

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

LOADING

TOTAL LOAD CASES: (18)

CHORDS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 FROM TO (PLF)	MAX CSI (LC)	MAX. UNBRAC LENGTH	WEBS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
AY- B	-327 / 66	0.0 0.0	0.12 (13)	7.81	AM- N	-244 / 0	0.19 (14)
A- B	0 / 37	-105.2 -105.2	0.16 (2)	10.00	AN- M	-263 / 79	0.22 (2)
B- C	-218 / 74	-105.2 -105.2	0.12 (2)	6.25	AO- L	-236 / 100	0.18 (2)
C- D	-147 / 94	-105.2 -105.2	0.06 (2)	6.25	AQ- K	-244 / 95	0.14 (2)
D- E	-102 / 127	-105.2 -105.2	0.06 (2)	6.25	AR- J	-242 / 95	0.29 (2)
E- F	-54 / 158	-105.2 -105.2	0.06 (2)	6.25	AS- H	-242 / 95	0.20 (2)
F- G	-28 / 189	-105.2 -105.2	0.06 (2)	6.25	AT- G	-241 / 95	0.13 (2)
G- H	-26 / 221	-105.2 -105.2	0.06 (2)	6.25	AU- F	-242 / 94	0.09 (2)
H- I	-25 / 252	-105.2 -105.2	0.06 (2)	6.25	AV- E	-237 / 97	0.06 (2)
I- J	-25 / 252	-105.2 -105.2	0.06 (2)	6.25	AW- D	-257 / 84	0.05 (2)
J- K	-23 / 284	-105.2 -105.2	0.06 (2)	6.25	AX- C	-148 / 153	0.03 (13)
K- L	-22 / 315	-105.2 -105.2	0.06 (2)	6.25	AL- O	-262 / 75	0.22 (3)
L- M	-21 / 351	-105.2 -105.2	0.07 (2)	6.25	AK- P	-236 / 102	0.18 (3)
M- N	-19 / 371	-105.2 -105.2	0.09 (14)	6.25	AI- Q	-244 / 95	0.14 (3)
N- O	-17 / 363	-105.2 -105.2	0.09 (14)	6.25	AH- S	-242 / 95	0.29 (3)
O- P	-14 / 320	-105.2 -105.2	0.06 (14)	6.25	AG- T	-242 / 95	0.20 (3)
P- Q	-11 / 265	-105.2 -105.2	0.06 (14)	6.25	AF- U	-242 / 95	0.13 (3)
Q- R	-9 / 224	-105.2 -105.2	0.06 (3)	6.25	AE- V	-242 / 95	0.09 (3)
R- S	-9 / 224	-105.2 -105.2	0.06 (3)	6.25	AD- W	-239 / 96	0.06 (3)
S- T	-12 / 193	-105.2 -105.2	0.06 (3)	6.25	AC- X	-249 / 88	0.04 (3)
T- U	-16 / 161	-105.2 -105.2	0.06 (3)	6.25	AB- Y	-186 / 162	0.03 (14)
U- V	-20 / 129	-105.2 -105.2	0.06 (3)	6.25			
V- W	-25 / 98	-105.2 -105.2	0.06 (3)	6.25			
W- X	-42 / 67	-105.2 -105.2	0.06 (3)	6.25			
X- Y	-89 / 36	-105.2 -105.2	0.06 (3)	6.25			
Y- Z	-163 / 33	-105.2 -105.2	0.08 (14)	6.25			
AA- Z	-122 / 20	0.0 0.0	0.09 (14)	7.81			
AY-AX	-22 / 163	-39.5 -39.5	0.11 (13)	6.25			
AX-AW	-22 / 164	-39.5 -39.5	0.03 (14)	6.25			

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	30.1	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	10.5	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	54.0	PSF

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.
-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(80 % OF 27.2 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 30.1 P.S.F. SPECIFIED ROOF LIVE LOAD

CSI: TC=0.16/1.00 (A-B:2) , BC=0.11/1.00 (AA-AB:14) , WB=0.29/1.00 (S-AH:3) , SSI=0.16/1.00 (B-AY:13)

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

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
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) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.38 (O) (INPUT = 0.90)
JSI METAL= 0.21 (B) (INPUT = 1.00)

CONTINUED ON PAGE 2

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
323264	H1SG		1	TRUSS DESC. JT 39002	E20084224(2)

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
AY	BMV1+p	MT20	2.0	4.0		

LOADING

TOTAL LOAD CASES: (18)

CHORDS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH	WEBS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
AW-AV	-23 / 166	-39.5	-39.5	0.03 (14)	6.25			
AV-AU	-26 / 166	-39.5	-39.5	0.03 (14)	6.25			
AU-AT	-29 / 167	-39.5	-39.5	0.03 (14)	6.25			
AT-AS	-32 / 168	-39.5	-39.5	0.03 (14)	6.25			
AS-AR	-34 / 168	-39.5	-39.5	0.03 (14)	6.25			
AR-AQ	-36 / 169	-39.5	-39.5	0.03 (14)	6.25			
AQ-AP	-38 / 169	-39.5	-39.5	0.03 (14)	6.25			
AP-AO	-38 / 169	-39.5	-39.5	0.03 (14)	6.25			
AO-AN	-39 / 169	-39.5	-39.5	0.03 (14)	6.25			
AN-AM	-41 / 170	-39.5	-39.5	0.03 (14)	6.25			
AM-AL	-41 / 170	-39.5	-39.5	0.03 (14)	6.25			
AL-AK	-40 / 169	-39.5	-39.5	0.03 (14)	6.25			
AK-AJ	-40 / 168	-39.5	-39.5	0.03 (14)	6.25			
AJ-AI	-40 / 168	-39.5	-39.5	0.03 (14)	6.25			
AI-AH	-40 / 168	-39.5	-39.5	0.03 (14)	6.25			
AH-AG	-40 / 167	-39.5	-39.5	0.03 (14)	6.25			
AG-AF	-39 / 166	-39.5	-39.5	0.03 (14)	6.25			
AF-AE	-39 / 165	-39.5	-39.5	0.03 (14)	6.25			
AE-AD	-38 / 164	-39.5	-39.5	0.03 (14)	6.25			
AD-AC	-38 / 162	-39.5	-39.5	0.03 (14)	6.25			
AC-AB	-37 / 160	-39.5	-39.5	0.04 (14)	6.25			
AB-AA	-35 / 153	-39.5	-39.5	0.11 (14)	6.25			

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING
AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN) AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

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

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
323264	H2		2	TRUSS DESC. JT 39002	E20084225

Alpa Roof Truss, Maple

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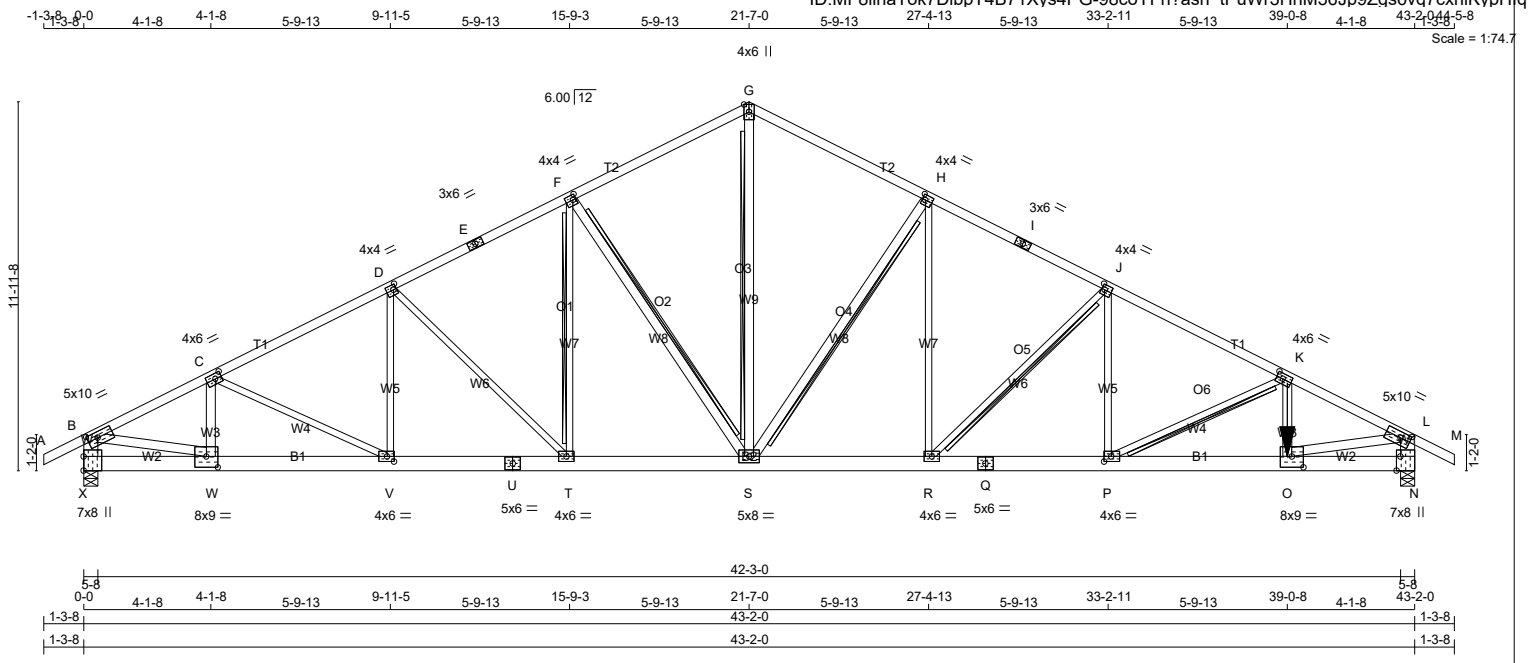

TOTAL WEIGHT = 4 X 233 = 931 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - E	2x4	DRY	No.2	SPF
E - G	2x4	DRY	No.2	SPF
G - I	2x4	DRY	No.2	SPF
I - M	2x4	DRY	No.2	SPF
X - B	2x6	DRY	No.2	SPF
N - L	2x6	DRY	No.2	SPF
X - U	2x6	DRY	No.2	SPF
U - Q	2x6	DRY	No.2	SPF
Q - N	2x6	DRY	No.2	SPF
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF
S - G	2x4	DRY	No.2	SPF
S - H	2x4	DRY	No.2	SPF
O - K	2x4	DRY	No.2	SPF
F - S	2x4	DRY	No.2	SPF
W - C	2x4	DRY	No.2	SPF
B - W	2x4	DRY	No.2	SPF
O - L	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

DESIGN CONSISTS OF 2 TRUSSES BUILT SEPARATELY THEN FASTENED TOGETHER AS FOLLOWS:

CHORDS	#ROWS	SURFACE SPACING (IN)	LOAD(PLF)
TOP CHORDS : (0.122"X3") SPIRAL NAILS			
A- E	1	12	TOP
E- G	1	12	TOP
G- I	1	12	TOP
I- M	1	12	TOP
X- B	2	12	TOP
N- L	2	12	TOP
BOTTOM CHORDS : (0.122"X3") SPIRAL NAILS			
X- U	2	12	TOP
U- Q	2	12	TOP
Q- N	2	12	SIDE(203.9)
WEBS : (0.122"X3") SPIRAL NAILS			
2x3	1	6	
K- O	2	3	SIDE(803.7)
2x4	1	6	

NAILS TO BE DRIVEN FROM ONE SIDE ONLY.

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	UPLIFT	IN-SX	IN-SX
X	3630	0	3630	207	-325	5-8	1-15
N	7085	0	7085	0	0	5-8	5-8

PROVIDE ANCHORAGE AT BEARING JOINT X FOR 325 LBS FACTORED UPLIFT

PROVIDE FOR 207 LBS FACTORED HORIZONTAL REACTION AT JOINTX

UNFACTORED REACTIONS

	1ST LCASE	MAX./MIN. COMPONENT REACTIONS					
JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
X	2687	1544 / 0	458 / 0	0 / 0	83 / -673	686 / 0	0 / 0
N	5159	3094 / 0	546 / 0	0 / 0	206 / -781	1519 / 0	0 / 0
HORIZONTAL REACTIONS							
X	---	0 / 0	0 / 0	0 / 0	148 / -148	0 / 0	0 /0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) X, N
BEARING SIZE FACTOR = 1.15 AT JNT(S) N (BASED ON SUPPORT DEPTH = 1-8)

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 2.72 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

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

2x6 DRY SPF No.2 T-BRACE AT G-S, H-S, F-S
2x4 DRY SPF No.2 T-BRACE AT J-R, K-P, F-T

FASTEN T AND I-BRACES TO NARROW EDGE OF WEB WITH ONE ROW PER PLY OF 3" COMMON WIRE NAILS @ 6" O.C. WITH 3" MINIMUM END DISTANCE. BRACE MUST COVER 90% OF WEB LENGTH.

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

LOADING

TOTAL LOAD CASES: (18)

CHORDS						WEBS		
MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 MAX CSI (LC)	MAX. UNBRAC LENGTH	MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
A- B	0 / 37	-105.2	-105.2	0.09 (2)	10.00	S- G	-186 / 3118	0.28 (1)
B- C	-5221 / 436	-105.2	-105.2	0.33 (2)	3.99	S- H	-2353 / 190	0.40 (3)
C- D	-5422 / 437	-105.2	-105.2	0.45 (1)	3.87	R- H	0 / 1816	0.22 (3)
D- E	-4824 / 393	-105.2	-105.2	0.48 (2)	4.01	R- J	-2303 / 0	0.77 (3)
E- F	-4824 / 393	-105.2	-105.2	0.48 (2)	4.01	P- J	0 / 1723	0.21 (3)
F- G	-4061 / 356	-105.2	-105.2	0.42 (2)	4.35	P- K	-3257 / 0	0.65 (3)
G- H	-4061 / 356	-105.2	-105.2	0.42 (3)	4.35	O- K	0 / 2550	0.23 (2)
H- I	-5371 / 282	-105.2	-105.2	0.52 (1)	3.80	F- S	-1478 / 367	0.25 (2)
I- J	-5371 / 282	-105.2	-105.2	0.52 (1)	3.80	T- F	-93 / 843	0.10 (2)
J- K	-7070 / 100	-105.2	-105.2	0.62 (1)	3.33	D- T	-909 / 244	0.64 (2)
K- L	-10153 / 0	-105.2	-105.2	0.61 (3)	2.72	V- D	-11 / 310	0.04 (17)
L- M	0 / 37	-105.2	-105.2	0.09 (3)	10.00	C- V	-3 / 331	0.04 (3)
X- B	-3531 / 340	0.0	0.0	0.12 (1)	7.45	W- C	-730 / 140	0.05 (1)
N- L	-6577 / 0	0.0	0.0	0.23 (1)	5.80	B- W	-323 / 4774	0.42 (1)
						O- L	0 / 9256	0.82 (1)
X- W	-196 / 217	-39.5	-39.5	0.05 (1)	6.25			
W- V	-514 / 4692	-39.5	-39.5	0.37 (1)	6.25			
V- U	-388 / 4852	-39.5	-39.5	0.35 (1)	6.25			
U- T	-388 / 4852	-39.5	-39.5	0.35 (1)	6.25			
T- S	-215 / 4320	-39.5	-39.5	0.34 (1)	6.25			
S- R	0 / 4808	-39.5	-39.5	0.37 (1)	10.00			
R- Q	0 / 6333	-39.5	-39.5	0.45 (1)	10.00			
Q- P	0 / 6333	-39.5	-39.5	0.45 (1)	10.00			
P- O	0 / 9097	-39.5	-39.5	0.69 (1)	10.00			
O- N	-5 / 11	-220.6	-220.6	0.22 (1)	10.00			

DESIGN CRITERIA

*** SPECIAL LOADS ANALYSIS ***
GEOMETRY AND/OR BASIC LOADS CHANGED BY USER.
LOADS WERE DERIVED FROM USER INPUT
NO FURTHER MODIFICATIONS WERE MADE

SPECIFIED LOADS:

TOP	CH.	LL =	30.1	PSF
		DL =	6.0	PSF
BOT	CH.	LL =	10.5	PSF
		DL =	7.4	PSF
TOTAL	LOAD	=	54.0	PSF

SPACING = 24.0 IN. C/C

GIRDER TYPE: CStdGirder
START DISTANCE = 39-0-8
START SPAN CARRIED = 6-6-0
END DISTANCE = 43-2-0
END SPAN CARRIED = 6-6-0
END WALL WIDTH = 0-0
APPLIED TO FRONT SIDE OF BOTTOM CHORD.
- ADDT'L LOADS BASED ON 100 % OF GSL.

*** NON STANDARD GIRDER ***
ADDT'L USER-DEFINED LOADS APPLIED TO ALL LOAD CASES.

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 27.2 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 30.1 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.44")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.17")
ALLOWABLE DEFL.(TL)= L/180 (2.88")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.25")

CSI: TC=0.62/1.00 (J-K:1) , BC=0.69/1.00 (O-P:1) , WB=0.82/1.00 (L-O:1) , SSI=0.17/1.00 (N-O:1)

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

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE HEELS OFF

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

CONTINUED ON PAGE 2

GIRDER NAILING ASSUMES NAILED HANGERS ARE FASTENED WITH MIN. 3-0 INCH NAILS.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMVW-t	MT20	5.0	10.0	2.25	4.00
C	TMWW-t	MT20	4.0	6.0	2.00	2.50
D, F, H, J						
D	TMWW-t	MT20	4.0	4.0	2.00	1.25
E	TS-t	MT20	3.0	6.0		
G	TTW+p	MT20	4.0	6.0	Edge	
I	TS-t	MT20	3.0	6.0		
K	TMWW-t	MT20	4.0	6.0	2.00	2.50
L	TMVW-t	MT20	5.0	10.0	2.25	4.00
N	BMV1+p	MT20	7.0	8.0	Edge	1.50
O	BMWW-t	MT20	8.0	9.0	4.25	4.50
P	BMWW-t	MT20	4.0	6.0	2.00	2.75
Q	BS-t	MT20	5.0	6.0		
R	BMWW-t	MT20	4.0	6.0		
S	BMWWW-t	MT20	5.0	8.0		
T	BMWW-t	MT20	4.0	6.0		
U	BS-t	MT20	5.0	6.0		
V	BMWW-t	MT20	4.0	6.0	2.00	2.75
W	BMWW-t	MT20	8.0	9.0	4.25	4.50
X	BMV1+p	MT20	7.0	8.0	5.50	

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

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

FACTORED CONCENTRATED LOADS (LBS)

JT	LOC.	LC1	MAX-	MAX+	FACE	DIR.	TYPE	HEEL	CONN.
O	39-0-8	-1114	-1247	---	FRONT	VERT	DEAD	---	C1
O	39-0-8	-2322	-2322	---	FRONT	VERT	SNOW	---	C1

CONNECTION REQUIREMENTS

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

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN) AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

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= 0.86 (B) (INPUT = 0.90)
JSI METAL= 0.74 (B) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
244139	H1T		1	TRUSS DESC. JT 39002	E20084232

Alpa Roof Truss, Maple

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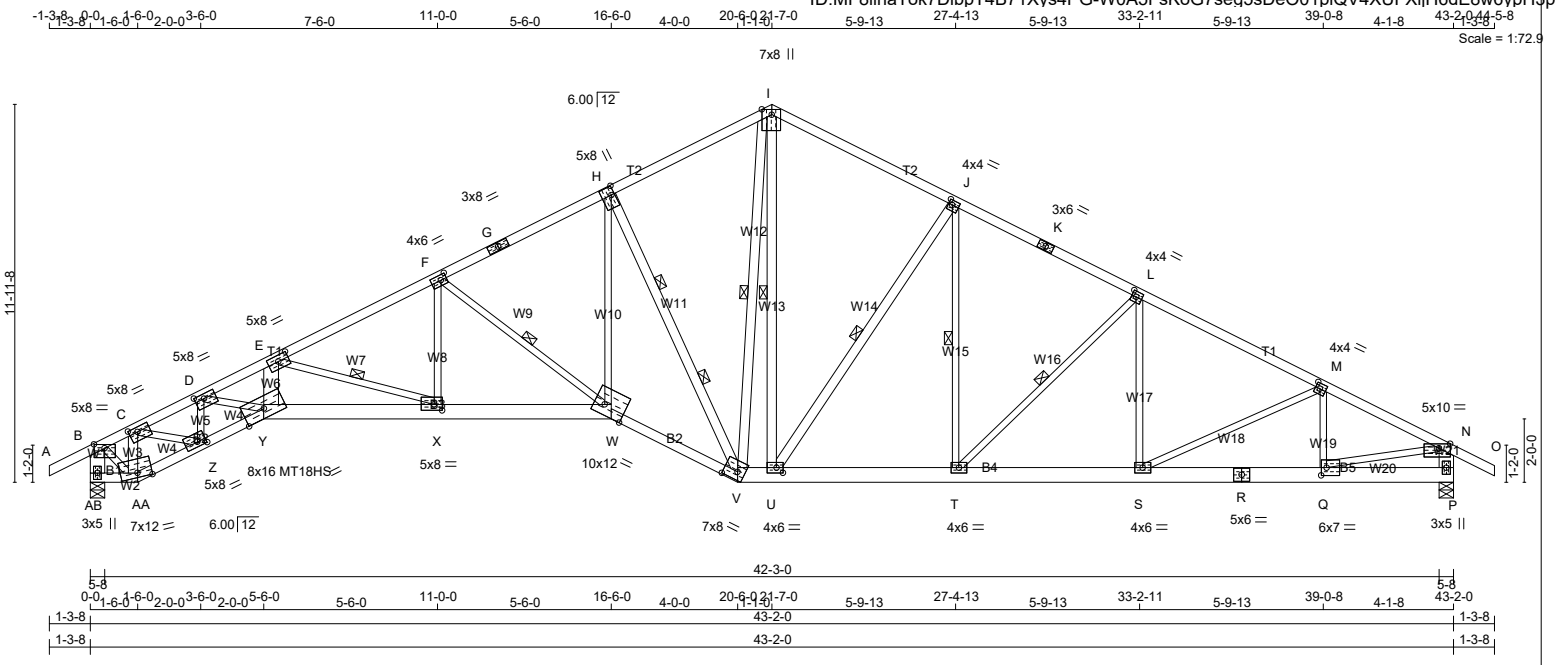

TOTAL WEIGHT = 2 X 236 = 472 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - G	2x4	DRY	1650F 1.5E	SPF
G - I	2x4	DRY	1650F 1.5E	SPF
I - K	2x4	DRY	1650F 1.5E	SPF
K - O	2x4	DRY	1650F 1.5E	SPF
AB- B	2x6	DRY	No.2	SPF
P - N	2x6	DRY	No.2	SPF
AB- AA	2x4	DRY	No.2	SPF
AA- Y	2x4	DRY	1650F 1.5E	SPF
Y - W	2x6	DRY	1650F 1.5E	SPF
W - V	2x4	DRY	1650F 1.5E	SPF
V - R	2x6	DRY	No.2	SPF
R - P	2x6	DRY	No.2	SPF
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF
AA- C	2x4	DRY	No.2	SPF
Y - E	2x6	DRY	No.2	SPF
H - V	2x4	DRY	No.2	SPF
U - I	2x4	DRY	No.2	SPF
U - J	2x4	DRY	No.2	SPF
V - I	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMVW-p	MT20	5.0	8.0	1.50	4.00
C	TMWW-t	MT20	5.0	8.0	1.75	3.25
D	TMWW-t	MT20	5.0	8.0	1.75	3.50
E	TMWW-t	MT20	5.0	8.0	2.25	4.00
F	TMWW-t	MT20	4.0	6.0	2.00	2.25
G	TS-t	MT20	3.0	8.0		
H	TMWW+t	MT20	5.0	8.0	3.25	1.25
I	TTWW+p	MT20	7.0	8.0	Edge	3.75
J	TMWW-t	MT20	4.0	4.0	1.75	1.50
K	TS-t	MT20	3.0	6.0		
L	TMWW-t	MT20	4.0	4.0	2.00	1.75
M	TMWW-t	MT20	4.0	4.0	2.00	1.75
N	TMVW-p	MT20	5.0	10.0	Edge	4.25
P	BMV1+p	MT20	3.0	5.0		
Q	BMWW-t	MT20	6.0	7.0	3.00	2.00
R	BS-t	MT20	5.0	6.0		

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

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

BEARINGS

	FACTORED GROSS REACTION		MAXIMUM FACTORED GROSS REACTION			INPUT BRG	REQRD BRG
JT	VERT	HORZ	DOWN	HORZ	UPLIFT	IN-SX	IN-SX
AB	3269	0	3269	209	-400	5-8	5-2
P	3264	0	3264	0	-399	5-8	5-2

PROVIDE ANCHORAGE AT BEARING JOINT AB FOR 400 LBS FACTORED UPLIFT

PROVIDE ANCHORAGE AT BEARING JOINT P FOR 399 LBS FACTORED UPLIFT

PROVIDE FOR 209 LBS FACTORED HORIZONTAL REACTION AT JOINTAB

ALLOW FOR 0.4" OF HORIZONTAL MOVEMENT DUE TO TOTAL LOAD

UNFACTORED REACTIONS

	1ST LCASE	MAX./MIN. COMPONENT REACTIONS					
JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
AB	2429	1381 / 0	453 / 0	0 / 0	77 / -668	595 / 0	0 / 0
P	2426	1379 / 0	453 / 0	0 / 0	77 / -667	594 / 0	0 / 0
HORIZONTAL REACTIONS							
AB	---	0 / 0	0 / 0	0 / 0	149 / -146	0 / 0	0 /0

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

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 2.03 FT.

MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 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 E-X, F-W, I-U, J-U, J-T, L-T, I-V.
2 LATERAL BRACE(S) AT 1/ 3 LENGTH OF H-V.

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: (18)

CHORDS						WEBS			
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1	MAX CSI (LC)	MAX. UNBRAC LENGTH	MEMB.	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
A- B	0 / 37	-105.2	-105.2	0.13 (2)	10.00	AA- C	-2745 / 407		0.29 (1)
B- C	-3133 / 391	-105.2	-105.2	0.17 (2)	4.36	Y- E	-317 / 2375		0.28 (1)
C- D	-6901 / 912	-105.2	-105.2	0.37 (1)	2.92	E- X	-3369 / 639		0.76 (1)
D- E	-10678 / 1444	-105.2	-105.2	0.69 (1)	2.03	X- F	-105 / 1315		0.30 (1)
E- F	-6732 / 822	-105.2	-105.2	0.82 (1)	2.74	F- W	-1938 / 363		0.62 (2)
F- G	-5081 / 645	-105.2	-105.2	0.64 (1)	3.23	W- H	-380 / 3617		0.81 (1)
G- H	-5081 / 645	-105.2	-105.2	0.64 (1)	3.23	H- V	-3808 / 595		0.90 (1)
H- I	-3400 / 527	-105.2	-105.2	0.47 (2)	3.95	U- I	-218 / 1460		0.23 (3)
I- J	-3290 / 514	-105.2	-105.2	0.63 (3)	3.83	U- J	-1543 / 360		0.87 (3)
J- K	-4082 / 542	-105.2	-105.2	0.72 (3)	3.45	T- J	-86 / 914		0.21 (3)
K- L	-4082 / 542	-105.2	-105.2	0.72 (3)	3.45	T- L	-947 / 235		0.42 (3)
L- M	-4714 / 579	-105.2	-105.2	0.66 (1)	3.36	S- L	0 / 340		0.08 (6)
M- N	-4626 / 554	-105.2	-105.2	0.47 (3)	3.47	S- M	-116 / 217		0.09 (3)
N- O	0 / 37	-105.2	-105.2	0.13 (3)	10.00	Q- M	-629 / 161		0.11 (1)
AB- B	-3239 / 411	0.0	0.0	0.21 (1)	5.89	B-AA	-336 / 3191		0.72 (1)
P- N	-3166 / 413	0.0	0.0	0.20 (1)	5.95	Q- N	-431 / 4232		0.95 (1)
						C- Z	-479 / 3742		0.84 (1)
AB-AA	-197 / 216	-39.5	-39.5	0.03 (14)	6.25	Z- D	-2785 / 405		0.41 (1)
AA- Z	-500 / 2800	-39.5	-39.5	0.41 (1)	6.25	D- Y	-458 / 3553		0.80 (1)
Z- Y	-1036 / 6943	-39.5	-39.5	0.90 (1)	6.25	V- I	-291 / 1224		0.21 (13)
Y- X	-1314 / 9254	-39.5	-39.5	0.75 (1)	6.25				
X- W	-704 / 6037	-39.5	-39.5	0.51 (1)	6.25				
W- V	-475 / 5142	-39.5	-39.5	0.69 (1)	6.25				
V- U	-151 / 2922	-39.5	-39.5	0.40 (1)	6.25				
U- T	-214 / 3657	-39.5	-39.5	0.49 (1)	6.25				
T- S	-309 / 4220	-39.5	-39.5	0.56 (1)	6.25				
S- R	-413 / 4159	-39.5	-39.5	0.60 (1)	6.25				

DESIGN CRITERIA

SPECIFIED LOADS:

TOP	CH.	LL =	30.1	PSF
		DL =	6.0	PSF
BOT	CH.	LL =	10.5	PSF
		DL =	7.4	PSF
TOTAL LOAD		=	54.0	PSF

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.
-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(80 % OF 27.2 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 30.1 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.44")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.50")
ALLOWABLE DEFL.(TL)= L/180 (2.88")
CALCULATED VERT. DEFL.(TL) = L/ 734 (0.71")

CSI: TC=0.82/1.00 (E-F:1) , BC=0.90/1.00 (Y-Z:1) , WB=0.95/1.00 (N-Q:1) , SSI=0.30/1.00 (I-J:3)

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

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 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) (PSI)		SHEAR (PLI)		SECTION (PLI)	
	MAX	MIN	MAX	MIN	MAX	MIN
MT20	650	371	1747	788	1987	1873
MT18HS	586	403	2455	1382	3163	3004

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.90 (K) (INPUT = 0.90)
JSI METAL= 0.93 (Y) (INPUT = 1.00)

CONTINUED ON PAGE 2

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
S	BMWW-t	MT20	4.0	6.0		
T	BMWW-t	MT20	4.0	6.0		
U	BMWW-t	MT20	4.0	6.0	2.00	2.50
V	BBWW-h	MT20	7.0	8.0	3.00	5.25
W	BBWW-h	MT20	10.0	12.0	3.75	8.00
X	BMWW-t	MT20	5.0	8.0	2.25	3.00
Y	BBWW-h	MT18HS	8.0	16.0	Edge	
Z	BMWW-t	MT20	5.0	8.0	1.75	3.25
AA	BBWW-m	MT20	7.0	12.0	1.75	5.50
AB	BMV1+p	MT20	3.0	5.0		

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

LOADING

TOTAL LOAD CASES: (18)

CHORDS					WEBS		
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	LC1	MAX CSI (LC)	MAX. UNBRAC LENGTH	MEMB.	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
FR-TO		FROM TO				FR-TO		
R- Q	-413 / 4159	-39.5 -39.5		0.60 (1)	6.25			
Q- P	-5 / 11	-39.5 -39.5		0.08 (1)	10.00			

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING
AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN) AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

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

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
244139	H2T		2	TRUSS DESC. JT 39002	E20084233

Alpa Roof Truss, Maple

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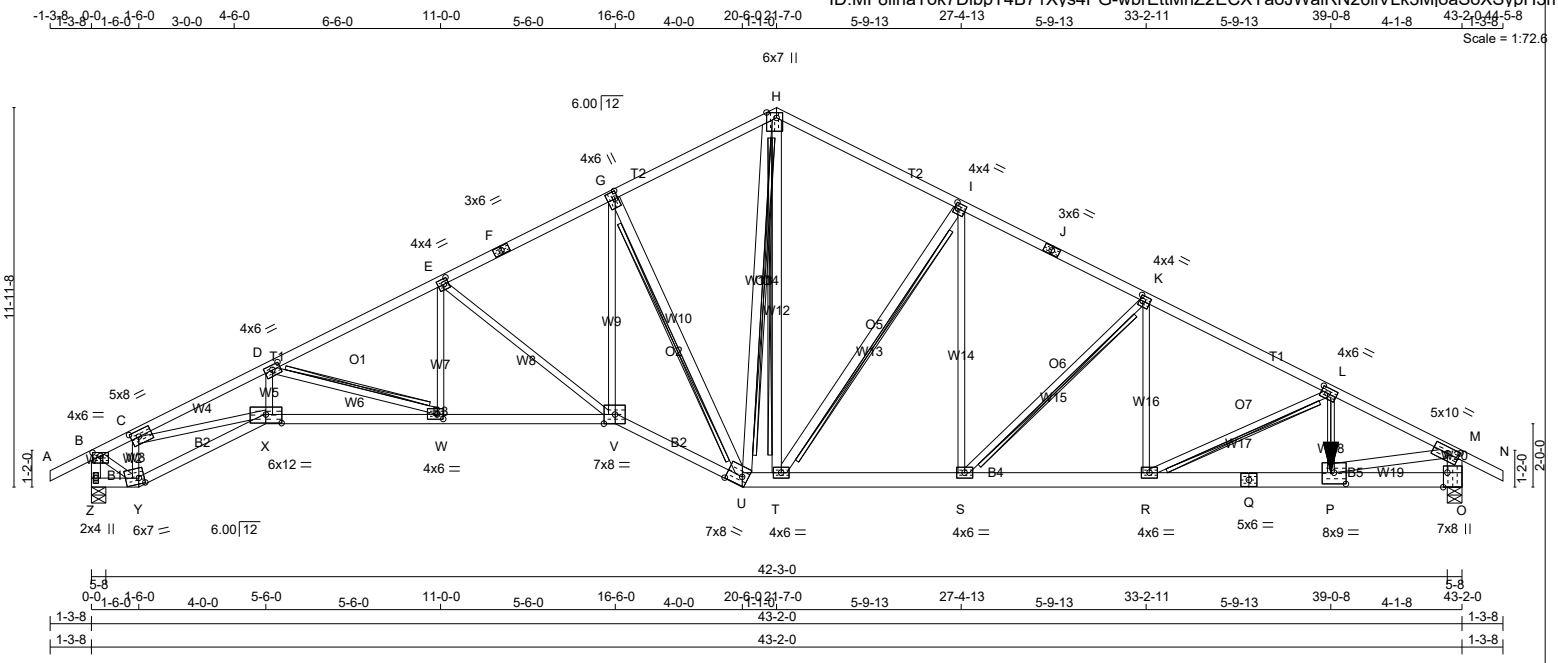

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - F	2x4	DRY	1650F 1.5E	SPF
F - H	2x4	DRY	1650F 1.5E	SPF
H - J	2x4	DRY	1650F 1.5E	SPF
J - N	2x4	DRY	1650F 1.5E	SPF
Z - B	2x4	DRY	No.2	SPF
O - M	2x6	DRY	No.2	SPF
Z - Y	2x4	DRY	No.2	SPF
Y - X	2x4	DRY	No.2	SPF
X - V	2x4	DRY	No.2	SPF
V - U	2x4	DRY	No.2	SPF
U - Q	2x6	DRY	No.2	SPF
Q - O	2x6	DRY	No.2	SPF
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF
T - H	2x4	DRY	No.2	SPF
T - I	2x4	DRY	No.2	SPF
P - M	2x4	DRY	No.2	SPF
U - H	2x4	DRY	No.2	SPF
G - U	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

DESIGN CONSISTS OF 2 TRUSSES BUILT SEPARATELY THEN FASTENED TOGETHER AS FOLLOWS:

CHORDS	#ROWS	SURFACE SPACING (IN)	LOAD(PLF)
TOP CHORDS : (0.122"X3") SPIRAL NAILS			
A- F	1	12	TOP
F- H	1	12	TOP
H- J	1	12	TOP
J- N	1	12	TOP
Z- B	1	12	TOP
O- M	2	12	TOP
BOTTOM CHORDS : (0.122"X3") SPIRAL NAILS			
Z- Y	1	12	TOP
Y- X	1	12	TOP
X- V	1	12	TOP
V- U	1	12	TOP
U- Q	2	12	TOP
Q- O	2	7	SIDE(414.5)
WEBS : (0.122"X3") SPIRAL NAILS			
L- P	1	2	SIDE(620.6)

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	UPLIFT	IN-SX	IN-SX
Z	3633	0	3633	209	-326	5-8	2-11
O	7083	0	7083	0	0	5-8	5-8

PROVIDE ANCHORAGE AT BEARING JOINT Z FOR 326 LBS FACTORED UPLIFT

PROVIDE FOR 209 LBS FACTORED HORIZONTAL REACTION AT JOINTZ

ALLOW FOR 0.3" OF HORIZONTAL MOVEMENT DUE TO TOTAL LOAD

UNFACTORED REACTIONS

	1ST LCASE	MAX./MIN. COMPONENT REACTIONS					
JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
Z	2689	1545 / 0	458 / 0	0 / 0	83 / -674	686 / 0	0 / 0
O	5157	3092 / 0	546 / 0	0 / 0	206 / -781	1519 / 0	0 / 0
HORIZONTAL REACTIONS							
Z	---	0 / 0	0 / 0	0 / 0	149 / -146	0 / 0	0 /0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) Z, O
BEARING SIZE FACTOR = 1.15 AT JNT(S) O (BASED ON SUPPORT DEPTH = 1-8)

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 3.14 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

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

2x4 DRY SPF No.2 T-BRACE AT D-W, K-S, L-R
2x6 DRY SPF No.2 T-BRACE AT H-T, I-T, H-U, G-U

FASTEN T AND I-BRACES TO NARROW EDGE OF WEB WITH ONE ROW PER PLY OF 3" COMMON WIRE NAILS @ 6" O.C. WITH 3" MINIMUM END DISTANCE. BRACE MUST COVER 90% OF WEB LENGTH.

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

LOADING

TOTAL LOAD CASES: (18)

CHORDS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX. CSI (LC)	MAX. UNBRAC LENGTH
A- B	0 / 37	-105.2	-105.2	0.07 (2)	10.00
B- C	-3596 / 332	-105.2	-105.2	0.13 (2)	5.41
C- D	-11800 / 1115	-105.2	-105.2	0.41 (1)	3.14
D- E	-7651 / 601	-105.2	-105.2	0.37 (1)	3.86
E- F	-5998 / 451	-105.2	-105.2	0.30 (1)	4.32
F- G	-5998 / 451	-105.2	-105.2	0.30 (1)	4.32
G- H	-4153 / 374	-105.2	-105.2	0.24 (2)	5.05
H- I	-4044 / 360	-105.2	-105.2	0.32 (3)	5.02
I- J	-5371 / 281	-105.2	-105.2	0.37 (3)	4.46
J- K	-5371 / 281	-105.2	-105.2	0.37 (3)	4.46
K- L	-7065 / 99	-105.2	-105.2	0.38 (3)	4.01
L- M	-10150 / 0	-105.2	-105.2	0.32 (3)	3.45
M- N	0 / 37	-105.2	-105.2	0.07 (3)	10.00
Z- B	-3603 / 337	0.0	0.0	0.20 (1)	6.18
O- M	-6576 / 0	0.0	0.0	0.23 (1)	5.80
Z- Y	-197 / 216	-39.5	-39.5	0.02 (14)	6.25
Y- X	-448 / 3178	-39.5	-39.5	0.34 (1)	6.25
X- W	-1066 / 10374	-39.5	-39.5	1.00 (1)	6.25
W- V	-508 / 6868	-39.5	-39.5	0.69 (1)	6.25
V- U	-277 / 6038	-39.5	-39.5	0.59 (1)	6.25
U- T	-14 / 3595	-39.5	-39.5	0.25 (1)	6.25
T- S	0 / 4808	-39.5	-39.5	0.36 (1)	10.00

WEBS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
Y- C	-3174 / 381	0.25 (1)
C- X	-685 / 7744	0.96 (1)
X- D	-229 / 2521	0.31 (1)
D- W	-3668 / 584	0.59 (1)
W- E	-77 / 1309	0.16 (1)
E- V	-1972 / 335	0.91 (2)
V- G	-277 / 4024	0.50 (1)
T- H	-81 / 2131	0.19 (3)
T- I	-2399 / 187	0.41 (3)
S- I	0 / 1867	0.23 (3)
S- K	-2292 / 0	0.77 (3)
R- K	0 / 1710	0.21 (3)
R- L	-3259 / 0	0.66 (3)
P- L	0 / 2551	0.32 (2)
B- Y	-289 / 3726	0.46 (1)
P- M	0 / 9253	0.82 (1)
U- H	-292 / 1225	0.11 (2)
G- U	-4166 / 501	0.66 (1)

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	= 30.1	PSF
		DL	= 6.0	PSF
BOT	CH.	LL	= 10.5	PSF
		DL	= 7.4	PSF
TOTAL	LOAD		= 54.0	PSF

SPACING = 24.0 IN. C/C

GIRDER TYPE: CStdGirder
START DISTANCE = 39-0-8
START SPAN CARRIED = 6-6-0
END DISTANCE = 43-2-0
END SPAN CARRIED = 6-6-0
END WALL WIDTH = 0-0
APPLIED TO FRONT SIDE OF BOTTOM CHORD.
- ADDT'L LOADS BASED ON 100 % OF GSL.

*** NON STANDARD GIRDER ***
ADDT'L USER-DEFINED LOADS APPLIED TO ALL LOAD CASES.

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.
-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(80 % OF 27.2 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 30.1 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.44")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.35")
ALLOWABLE DEFL.(TL)= L/180 (2.88")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.51")

CSI: TC=0.41/1.00 (C-D:1) , BC=1.00/1.00 (W-X:1) , WB=0.96/1.00 (C-X:1) , SSI=0.17/1.00 (O-P:1)

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

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE HEELS OFF

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

CONTINUED ON PAGE 2

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
244139	H2T		2	TRUSS DESC. JT 39002	E20084233(2)

2x3	1	6
2x4	1	6

NAILS TO BE DRIVEN FROM ONE SIDE ONLY.

GIRDER NAILING ASSUMES NAILED HANGERS ARE FASTENED WITH MIN. 3-0 INCH NAILS.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMVW-p	MT20	4.0	6.0	1.25	3.00
C	TMWW-t	MT20	5.0	8.0	2.25	3.00
D	TMWW-t	MT20	4.0	6.0	1.75	3.00
E	TMWW-t	MT20	4.0	4.0	2.00	1.75
F	TS-t	MT20	3.0	6.0		
G	TMWW+t	MT20	4.0	6.0	2.75	1.00
H	TTWW+p	MT20	6.0	7.0	Edge	3.75
I	TMWW-t	MT20	4.0	4.0	2.00	1.25
J	TS-t	MT20	3.0	6.0		
K	TMWW-t	MT20	4.0	4.0	2.00	1.25
L	TMWW-t	MT20	4.0	6.0	2.00	2.50
M	TMVW-t	MT20	5.0	10.0	2.25	4.50
O	BMV1+t	MT20	7.0	8.0	Edge	1.50
P	BMWW-t	MT20	8.0	9.0	4.25	4.50
Q	BS-t	MT20	5.0	6.0		
R, S, T						
R	BMWW-t	MT20	4.0	6.0		
U	BBWW-h	MT20	7.0	8.0	3.25	5.75
V	BBWW-l	MT20	7.0	8.0	Edge	4.25
W	BMWW-t	MT20	4.0	6.0	1.75	2.25
X	BBWW-l	MT20	6.0	12.0	3.25	6.00
Y	BBWW-m	MT20	6.0	7.0	2.25	2.00
Z	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

LOADING

TOTAL LOAD CASES: (18)

CHORDS MEMB. FR-TO	MAX. FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 MAX CSI (LC)	WEBS MAX. MEMB. FR-TO	FACTORED FORCE (LBS)	MAX CSI (LC) UNBRAC LENGTH
S- R	0 / 6328	-39.5	-39.5	0.45 (1)			10.00
R- Q	0 / 9094	-39.5	-39.5	0.69 (1)			10.00
Q- P	0 / 9094	-39.5	-39.5	0.69 (1)			10.00
P- O	-5 / 11	-220.6	-220.6	0.21 (1)			10.00

FACTORED CONCENTRATED LOADS (LBS)

JT	LOC.	LC1	MAX-	MAX+	FACE	DIR.	TYPE	HEEL	CONN.
P	39-0-8	-1114	-1247	---	FRONT	VERT	DEAD	---	C1
P	39-0-8	-2322	-2322	---	FRONT	VERT	SNOW	---	C1

CONNECTION REQUIREMENTS

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

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING
AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN) AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) 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 (Z) (INPUT = 0.90)
JSI METAL= 0.88 (Q) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
244139	H3T		1	TRUSS DESC. JT 39002	E20084234

Alpa Roof Truss, Maple

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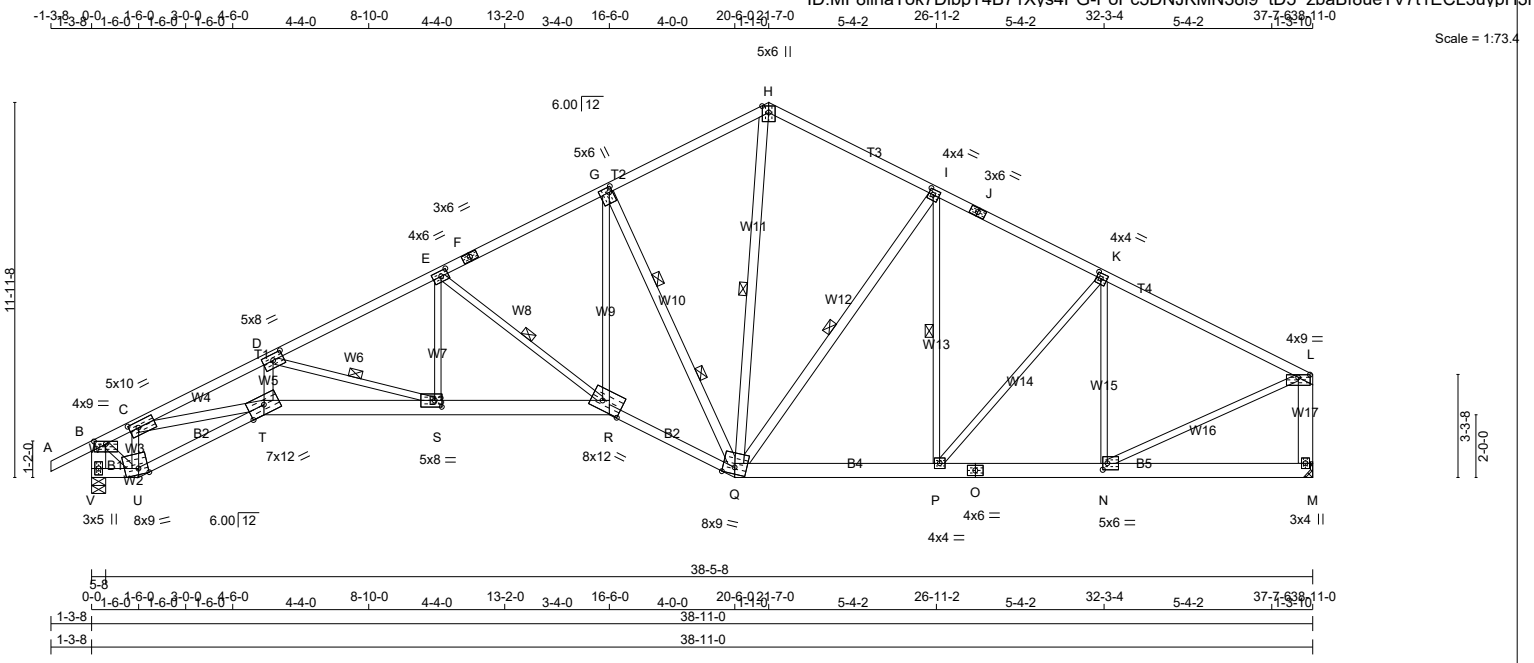

TOTAL WEIGHT = 3 X 208 = 625 lb

[M][F]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - F	2x4	DRY	1650F 1.5E	SPF
F - H	2x4	DRY	1650F 1.5E	SPF
H - J	2x4	DRY	No.2	SPF
J - L	2x4	DRY	No.2	SPF
V - B	2x6	DRY	No.2	SPF
M - L	2x6	DRY	No.2	SPF
V - U	2x4	DRY	No.2	SPF
U - T	2x4	DRY	No.2	SPF
T - R	2x6	DRY	1650F 1.5E	SPF
R - Q	2x4	DRY	No.2	SPF
Q - O	2x6	DRY	No.2	SPF
O - M	2x6	DRY	No.2	SPF
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF
T - D	2x4	DRY	No.2	SPF
Q - H	2x4	DRY	No.2	SPF
C - T	2x4	DRY	No.2	SPF
G - Q	2x4	DRY	No.2	SPF
Q - I	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMVW-p	MT20	4.0	9.0	1.00	4.50
C	TMWW-t	MT20	5.0	10.0	2.25	3.50
D	TMWW-t	MT20	5.0	8.0	2.25	4.00
E	TMWW-t	MT20	4.0	6.0	2.00	2.75
F	TS-t	MT20	3.0	6.0		
G	TMWW+t	MT20	5.0	6.0	2.00	1.25
H	TTW+p	MT20	5.0	6.0	2.50	2.50
I	TMWW-t	MT20	4.0	4.0	2.00	1.75
J	TS-t	MT20	3.0	6.0		
K	TMWW-t	MT20	4.0	4.0	2.00	1.75
L	TMVW-p	MT20	4.0	9.0	1.00	4.50
M	BMV1+p	MT20	3.0	4.0		
N	BMWW-t	MT20	5.0	6.0	2.50	1.75
O	BS-t	MT20	4.0	6.0		
P	BMWW-t	MT20	4.0	4.0		
Q	BBWWW-m	MT20	8.0	9.0	Edge	
R	BBWW-h	MT20	8.0	12.0	3.50	7.75

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

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

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG	REQRD BRG
V	2961	0	2961	260	-375	5-8	4-2
M	2814	0	2814	0	-305	MECHANICAL	

A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT M. MINIMUM BEARING LENGTH AT JOINT M = 3-10.

PROVIDE ANCHORAGE AT BEARING JOINT V FOR 375 LBS FACTORED UPLIFT
PROVIDE ANCHORAGE AT BEARING JOINT M FOR 305 LBS FACTORED UPLIFT

PROVIDE FOR 260 LBS FACTORED HORIZONTAL REACTION AT JOINTV

ALLOW FOR 0.4" OF HORIZONTAL MOVEMENT DUE TO TOTAL LOAD

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
V	2200	1253 / 0	409 / 0	0 / 0	75 / -614	538 / 0	0 / 0
M	2099	1169 / 0	409 / 0	0 / 0	59 / -553	521 / 0	0 / 0
HORIZONTAL REACTIONS							
V	---	0 / 0	0 / 0	0 / 0	185 / -123	0 / 0	0 /0

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

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 2.26 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 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 H-Q, D-S, E-R, I-Q, I-P.
2 LATERAL BRACE(S) AT 1/ 3 LENGTH OF G-Q.

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: (18)

CHORDS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	0 / 37	-105.2	-105.2	0.13 (2)	10.00
B- C	-2856 / 380	-105.2	-105.2	0.15 (2)	4.56
C- D	-9510 / 1367	-105.2	-105.2	0.75 (1)	2.26
D- E	-5841 / 760	-105.2	-105.2	0.56 (1)	3.09
E- F	-4278 / 588	-105.2	-105.2	0.39 (1)	3.68
F- G	-4278 / 588	-105.2	-105.2	0.39 (1)	3.68
G- H	-2762 / 477	-105.2	-105.2	0.35 (2)	4.44
H- I	-2562 / 464	-105.2	-105.2	0.47 (1)	3.89
I- J	-2991 / 421	-105.2	-105.2	0.61 (3)	3.46
J- K	-2991 / 421	-105.2	-105.2	0.61 (3)	3.46
K- L	-2850 / 346	-105.2	-105.2	0.79 (3)	3.35
V- B	-2932 / 387	0.0	0.0	0.19 (1)	6.14
M- L	-2698 / 341	0.0	0.0	0.30 (1)	6.35
V- U	-247 / 165	-39.5	-39.5	0.03 (11)	6.25
U- T	-533 / 2680	-39.5	-39.5	0.54 (1)	6.25
T- S	-1295 / 8314	-39.5	-39.5	0.68 (1)	6.25
S- R	-664 / 5240	-39.5	-39.5	0.45 (1)	6.25
R- Q	-434 / 4331	-39.5	-39.5	0.80 (1)	6.25
Q- P	-150 / 2664	-39.5	-39.5	0.42 (1)	6.25
P- O	-165 / 2575	-39.5	-39.5	0.37 (1)	6.25
O- N	-165 / 2575	-39.5	-39.5	0.37 (1)	6.25
N- M	-20 / 42	-39.5	-39.5	0.14 (17)	6.25

WEBS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
U- C	-2565 / 443	0.37 (1)
T- D	-285 / 2096	0.34 (1)
R- G	-362 / 3207	0.72 (1)
B- U	-334 / 2941	0.66 (1)
Q- H	-310 / 1915	0.31 (1)
S- E	-102 / 1221	0.27 (1)
D- S	-3205 / 658	0.76 (1)
E- R	-1884 / 359	0.60 (2)
C- T	-852 / 6157	0.99 (1)
G- Q	-3432 / 577	0.82 (1)
Q- I	-928 / 257	0.58 (3)
P- I	-94 / 365	0.08 (6)
P- K	-132 / 331	0.18 (10)
N- K	-871 / 178	0.59 (1)
N- L	-223 / 2809	0.63 (1)

DESIGN CRITERIA

SPECIFIED LOADS:

TOP	CH.	LL =	30.1	PSF
		DL =	6.0	PSF
BOT	CH.	LL =	10.5	PSF
		DL =	7.4	PSF
TOTAL	LOAD	=	54.0	PSF

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.
-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(80 % OF 27.2 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 30.1 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.30")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.43")
ALLOWABLE DEFL.(TL)= L/180 (2.59")
CALCULATED VERT. DEFL.(TL) = L/ 760 (0.61")

CSI: TC=0.79/1.00 (K-L:3) , BC=0.80/1.00 (Q-R:1) , WB=0.99/1.00 (C-T:1) , SSI=0.33/1.00 (K-L:3)

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

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 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) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) 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= 1.00 (T) (INPUT = 1.00)

CONTINUED ON PAGE 2

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
244139	H3T		1	TRUSS DESC. JT 39002	E20084234(2)

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
S	BMWW-t	MT20	5.0	8.0	2.50	2.75
T	BBWW-h	MT20	7.0	12.0	Edge	6.25
U	BBWW-m	MT20	8.0	9.0	Edge	3.75
V	BMV1+p	MT20	3.0	5.0		

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

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING
AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN) AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

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

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
323265	H5		1	TRUSS DESC. JT 39002	E20084238

Alpa Roof Truss, Maple

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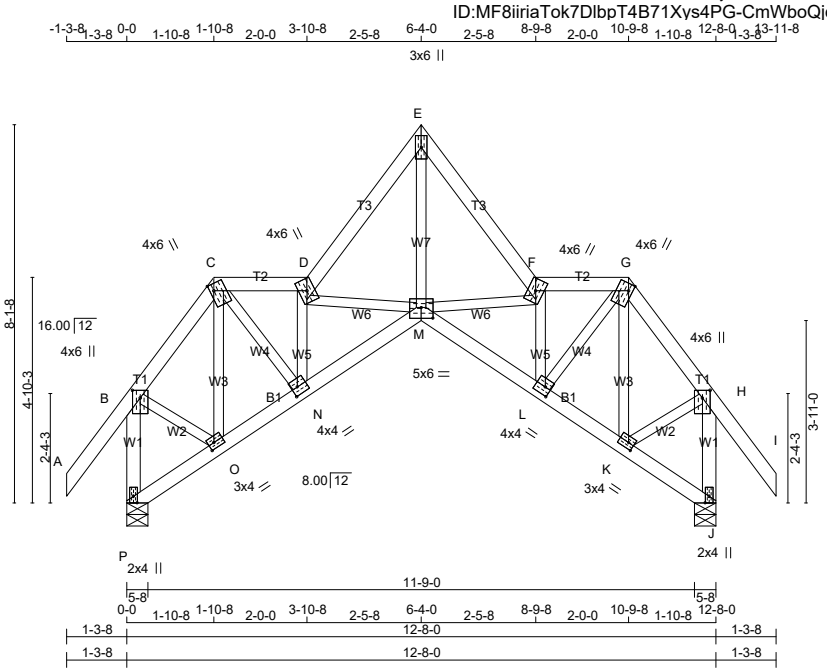

TOTAL WEIGHT = 73 lb

[M][F]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - 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 - I	2x4	DRY	No.2	SPF
P - B	2x4	DRY	No.2	SPF
J - H	2x4	DRY	No.2	SPF
P - M	2x4	DRY	No.2	SPF
M - J	2x4	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
B	TMVW+p	MT20	4.0	6.0	2.00	2.00
C	TTWW+m	MT20	4.0	6.0	1.75	1.00
D	TTWW+m	MT20	4.0	6.0		
E	TTW+p	MT20	3.0	6.0		
F	TTWW+m	MT20	4.0	6.0		
G	TTWW+m	MT20	4.0	6.0	1.75	1.00
H	TMVW+p	MT20	4.0	6.0	2.00	2.00
J	BMV1+p	MT20	2.0	4.0	Edge	
K	BMWW-t	MT20	3.0	4.0	1.50	1.50
L	BMWW-t	MT20	4.0	4.0	2.00	1.50
M	BBWWW-p	MT20	5.0	6.0	2.75	3.00
N	BMWW-t	MT20	4.0	4.0	2.00	1.50
O	BMWW-t	MT20	3.0	4.0	1.50	1.50
P	BMV1+p	MT20	2.0	4.0	Edge	

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	UPLIFT	IN-SX	IN-SX
P	774	0	774	0	0	5-8	1-8
J	774	0	774	0	0	5-8	1-8

UNFACTORED REACTIONS

	1ST LCASE	MAX./MIN. COMPONENT REACTIONS					
JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
P	547	361 / 0	0 / 0	0 / 0	0 / 0	187 / 0	0 / 0
J	547	361 / 0	0 / 0	0 / 0	0 / 0	187 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) P, 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.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH	WEBS MEMB.	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
FR-TO						FR-TO		
A- B	0 / 48	-84.9	-84.9	0.12 (1)	10.00	O- C	-263 / 0	0.06 (1)
B- C	-516 / 0	-84.9	-84.9	0.09 (1)	6.25	C- N	0 / 690	0.16 (1)
C- D	-719 / 0	-84.9	-84.9	0.05 (1)	6.25	N- D	-826 / 0	0.13 (1)
D- E	-866 / 0	-84.9	-84.9	0.07 (1)	6.25	D- M	-238 / 0	0.04 (1)
E- F	-866 / 0	-84.9	-84.9	0.07 (1)	6.25	M- E	0 / 1169	0.26 (1)
F- G	-719 / 0	-84.9	-84.9	0.05 (1)	6.25	M- F	-238 / 0	0.04 (1)
G- H	-516 / 0	-84.9	-84.9	0.09 (1)	6.25	L- F	-826 / 0	0.13 (1)
H- I	0 / 48	-84.9	-84.9	0.12 (1)	10.00	L- G	0 / 690	0.16 (1)
P- B	-762 / 0	0.0	0.0	0.11 (1)	7.81	K- G	-263 / 0	0.06 (1)
J- H	-762 / 0	0.0	0.0	0.11 (1)	7.81	B- O	0 / 313	0.07 (1)
						K- H	0 / 313	0.07 (1)
P- O	0 / 3	-18.5	-18.5	0.02 (4)	10.00			
O- N	0 / 326	-18.5	-18.5	0.07 (1)	10.00			
N- M	0 / 911	-18.5	-18.5	0.17 (1)	10.00			
M- L	0 / 911	-18.5	-18.5	0.17 (1)	10.00			
L- K	0 / 326	-18.5	-18.5	0.07 (1)	10.00			
K- J	0 / 3	-18.5	-18.5	0.02 (4)	10.00			

DESIGN CRITERIA

SPECIFIED LOADS:

TOP	CH.	LL =	23.3	PSF
		DL =	6.0	PSF
BOT	CH.	LL =	0.0	PSF
		DL =	7.4	PSF
TOTAL	LOAD	=	36.7	PSF

SPACING = 24.0 IN. C/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, 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 27.2 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 23.3 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (0.42")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.04")
ALLOWABLE DEFL.(TL)= L/360 (0.42")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.07")

CSI: TC=0.12/1.00 (H-I:1) , BC=0.17/1.00 (M-N:1) , WB=0.26/1.00 (E-M:1) , SSI=0.07/1.00 (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

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= 0.83 (M) (INPUT = 0.90)
JSI METAL= 0.37 (J) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
323265	H6		1	TRUSS DESC. JT 39002	E20084239

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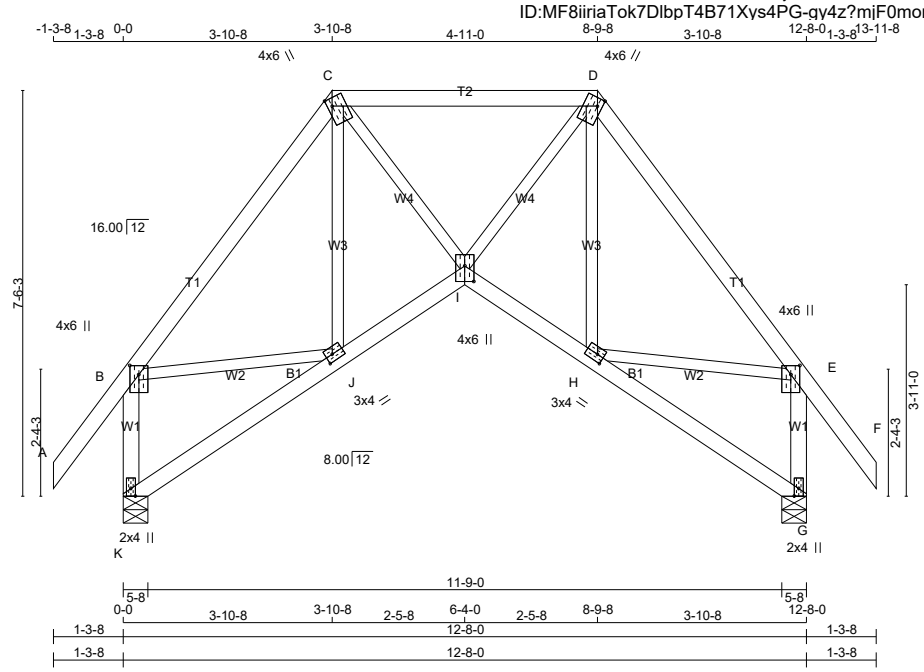

TOTAL WEIGHT = 68 lb

[M][F]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - C	2x4	DRY	No.2	SPF
C - D	2x4	DRY	No.2	SPF
D - F	2x4	DRY	No.2	SPF
K - B	2x4	DRY	No.2	SPF
G - E	2x4	DRY	No.2	SPF
K - I	2x4	DRY	No.2	SPF
I - G	2x4	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
B	TMVW+p	MT20	4.0	6.0	2.00	2.00
C	TTWW+m	MT20	4.0	6.0	1.75	1.00
D	TTWW+m	MT20	4.0	6.0	1.75	1.00
E	TMVW+p	MT20	4.0	6.0	2.00	2.00
G	BMV1+p	MT20	2.0	4.0	Edge	
H	BMWW-t	MT20	3.0	4.0	1.50	1.50
I	BBWW+p	MT20	4.0	6.0	3.50	2.00
J	BMWW-t	MT20	3.0	4.0	1.50	1.50
K	BMV1+p	MT20	2.0	4.0	Edge	

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	UPLIFT	IN-SX	IN-SX
K	774	0	774	0	0	5-8	1-8
G	774	0	774	0	0	5-8	1-8

UNFACTORED REACTIONS

	1ST LCASE	MAX./MIN. COMPONENT REACTIONS					
JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
K	547	361 / 0	0 / 0	0 / 0	0 / 0	187 / 0	0 / 0
G	547	361 / 0	0 / 0	0 / 0	0 / 0	187 / 0	0 / 0

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

BRACING

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

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

LOADING

TOTAL LOAD CASES: (4)

CHORDS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 MAX CSI (LC)	MAX. UNBRAC LENGTH	WEBS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
A- B	0 / 48	-84.9	-84.9	0.12 (1)	10.00	J- C	-131 / 8	0.05 (1)
B- C	-621 / 0	-84.9	-84.9	0.17 (1)	6.25	C- I	0 / 322	0.07 (1)
C- D	-563 / 0	-84.9	-84.9	0.27 (1)	6.25	I- D	0 / 322	0.07 (1)
D- E	-621 / 0	-84.9	-84.9	0.17 (1)	6.25	H- D	-131 / 8	0.05 (1)
E- F	0 / 48	-84.9	-84.9	0.12 (1)	10.00	B- J	0 / 372	0.08 (1)
K- B	-744 / 0	0.0	0.0	0.10 (1)	7.81	H- E	0 / 372	0.08 (1)
G- E	-744 / 0	0.0	0.0	0.10 (1)	7.81			
K- J	0 / 4	-18.5	-18.5	0.06 (4)	10.00			
J- I	0 / 436	-18.5	-18.5	0.10 (1)	10.00			
I- H	0 / 436	-18.5	-18.5	0.10 (1)	10.00			
H- G	0 / 4	-18.5	-18.5	0.06 (4)	10.00			

DESIGN CRITERIA

SPECIFIED LOADS:

TOP	CH.	LL =	23.3	PSF
		DL =	6.0	PSF
BOT	CH.	LL =	0.0	PSF
		DL =	7.4	PSF
TOTAL	LOAD	=	36.7	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 27.2 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 23.3 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (0.42")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.01")
ALLOWABLE DEFL.(TL)= L/360 (0.42")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.02")

CSI: TC=0.27/1.00 (C-D:1) , BC=0.10/1.00 (H-I:1) , WB=0.08/1.00 (E-H:1) , SSI=0.16/1.00 (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

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

NAIL VALUES

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

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.61 (H) (INPUT = 0.90)
JSI METAL= 0.36 (G) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
323265	H7		1	TRUSS DESC. JT 39002	E20084240

Alpa Roof Truss, Maple

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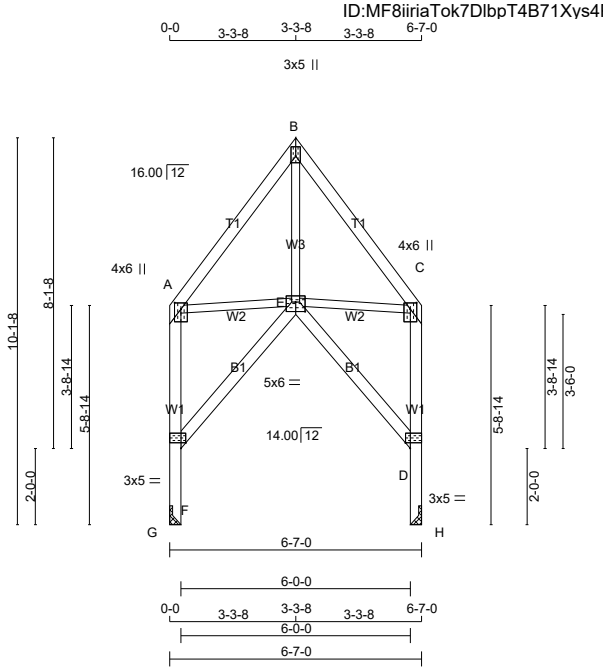


TOTAL WEIGHT = 2 X 45 = 90 lb [M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - B	2x4	DRY	No.2	SPF
B - C	2x4	DRY	No.2	SPF
G - A	2x4	DRY	No.2	SPF
H - C	2x4	DRY	No.2	SPF
F - E	2x4	DRY	No.2	SPF
E - D	2x4	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	TTW+p	MT20	3.0	5.0	2.00	Edge
C	TMVW+p	MT20	4.0	6.0	2.00	2.00
D	BVM-p	MT20	3.0	5.0	1.75	Edge
E	BBWWW-p	MT20	5.0	6.0	3.00	3.00
F	BVM-p	MT20	3.0	5.0	1.75	Edge

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	UPLIFT	IN-SX	IN-SX
G	340	0	340	0	0	MECHANICAL	
H	340	0	340	0	0	MECHANICAL	

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

UNFACTORED REACTIONS

	1ST LCASE	MAX./MIN. COMPONENT REACTIONS					
JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
G	242	153 / 0	0 / 0	0 / 0	0 / 0	88 / 0	0 / 0
H	242	153 / 0	0 / 0	0 / 0	0 / 0	88 / 0	0 / 0

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. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 CSI (LC)	MAX UNBRAC LENGTH	WEBS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
A- B	-253 / 0	-84.9	-84.9	0.13 (1)	6.25	E- B	0 / 115	0.03 (4)
B- C	-253 / 0	-84.9	-84.9	0.13 (1)	6.25	A- E	0 / 141	0.03 (1)
G- F	-340 / 0	0.0	0.0	0.04 (1)	7.81	E- C	0 / 141	0.03 (1)
F- A	-327 / 0	0.0	0.0	0.07 (1)	7.81			
H- D	-340 / 0	0.0	0.0	0.04 (1)	7.81			
D- C	-327 / 0	0.0	0.0	0.07 (1)	7.81			
F- E	0 / 25	-18.5	-18.5	0.04 (4)	10.00			
E- D	0 / 25	-18.5	-18.5	0.04 (4)	10.00			

DESIGN CRITERIA

SPECIFIED LOADS:

TOP	CH.	LL =	23.3	PSF
		DL =	6.0	PSF
BOT	CH.	LL =	0.0	PSF
		DL =	7.4	PSF
TOTAL	LOAD	=	36.7	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

(55 % OF 27.2 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 23.3 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (0.22")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/360 (0.22")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.01")

CSI: TC=0.13/1.00 (A-B:1) , BC=0.04/1.00 (E-F:4) , WB=0.03/1.00 (B-E:4) , SSI=0.07/1.00 (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) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

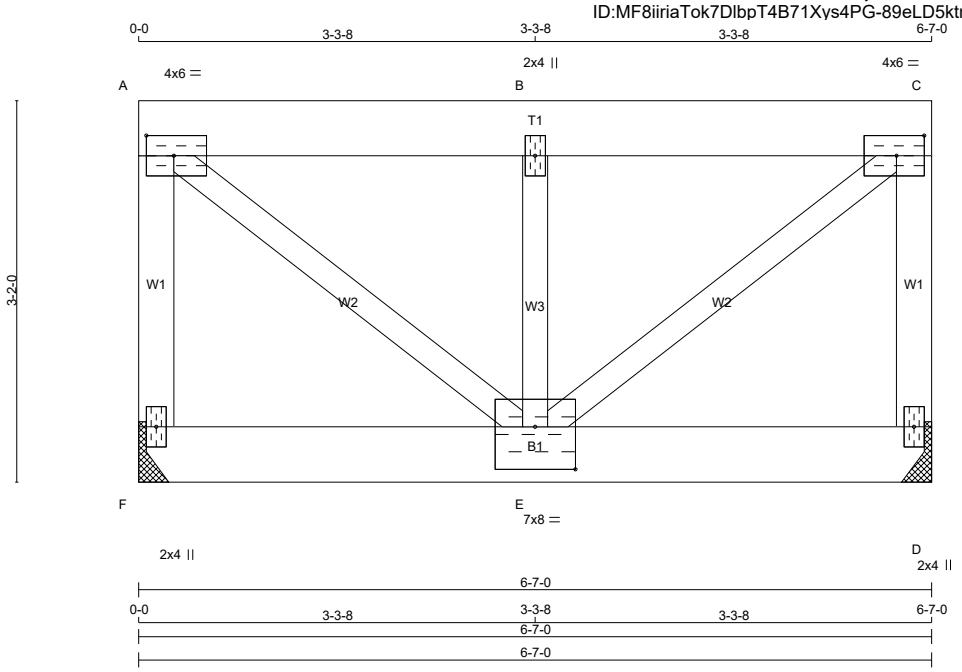
PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.21 (B) (INPUT = 0.90)
JSI METAL= 0.11 (C) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
323265	H8		2	TRUSS DESC. JT 39002	E20084241

Alpa Roof Truss, Maple

Scale = 1:19.1



TOTAL WEIGHT = 2 X 37 = 73 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
F - A	2x4	DRY	No.2	SPF
A - C	2x6	DRY	No.2	SPF
D - C	2x4	DRY	No.2	SPF
F - D	2x6	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF

DRY: SEASONED LUMBER.

DESIGN CONSISTS OF **2** TRUSSES BUILT SEPARATELY THEN FASTENED TOGETHER AS FOLLOWS:

CHORDS	#ROWS	SURFACE SPACING (IN)	LOAD(PLF)
TOP CHORDS : (0.122"X3") SPIRAL NAILS			
F- A	1	12	TOP
C- D	1	12	TOP
A- C	2	12	TOP
BOTTOM CHORDS : (0.122"X3") SPIRAL NAILS			
F- D	2	5	SIDE(477.0)
WEBS : (0.122"X3") SPIRAL NAILS			
2x3	1	6	

NAILS TO BE DRIVEN FROM ONE SIDE ONLY.

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.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW-t	MT20	4.0	6.0	2.00	2.75
B	TMW+w	MT20	2.0	4.0		
C	TMVW-t	MT20	4.0	6.0	2.00	2.75
D	BMV1+p	MT20	2.0	4.0		
E	BMWWW-t	MT20	7.0	8.0	4.25	4.00
F	BMV1+p	MT20	2.0	4.0		

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

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

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG	REQRD BRG
F	3480	0	3480	0	0	IN-SX	IN-SX
D	3480	0	3480	0	0	MECHANICAL	
						MECHANICAL	

A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT F, D. MINIMUM BEARING LENGTH AT JOINT F = 2-3, JOINT D = 2-3.

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
F	2471	1568 / 0	0 / 0	0 / 0	0 / 0	902 / 0	0 / 0
D	2471	1568 / 0	0 / 0	0 / 0	0 / 0	902 / 0	0 / 0

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. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 CSI (LC)	MAX UNBRAC LENGTH	WEBS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
F- A	-2184 / 0	0.0	0.0	0.17 (1)	7.54	A- E	0 / 3140	0.39 (1)
A- B	-2425 / 0	-84.9	-84.9	0.09 (1)	6.25	E- B	-181 / 0	0.02 (1)
B- C	-2425 / 0	-84.9	-84.9	0.09 (1)	6.25	E- C	0 / 3140	0.39 (1)
D- C	-2184 / 0	0.0	0.0	0.17 (1)	7.54			
F- E	0 / 0	-972.4	-972.4	0.37 (1)	10.00			
E- D	0 / 0	-972.4	-972.4	0.37 (1)	10.00			

DESIGN CRITERIA

SPECIFIED LOADS:

TOP	CH.	LL =	23.3	PSF
		DL =	6.0	PSF
BOT	CH.	LL =	0.0	PSF
		DL =	7.4	PSF
TOTAL	LOAD	=	36.7	PSF

SPACING = 24.0 IN. C/C

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

GIRDER TYPE: CStdGirder
START DISTANCE = 0-0
START SPAN CARRIED = 38-11-0
END DISTANCE = 6-7-0
END SPAN CARRIED = 38-11-0
END WALL WIDTH = 0-0
APPLIED TO FRONT SIDE OF BOTTOM CHORD.
- ADDT'L LOADS BASED ON 55 % OF GSL.

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 27.2 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 23.3 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (0.22")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.02")
ALLOWABLE DEFL.(TL)= L/360 (0.22")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.04")

CSI: TC=0.17/1.00 (A-F:1) , BC=0.37/1.00 (D-E:1) , WB=0.39/1.00 (A-E:1) , SSI=0.63/1.00 (E-F: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

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

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) 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 (C) (INPUT = 0.90)
JSI METAL= 0.33 (A) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
323265	P2		1	TRUSS DESC. JT 39002	E20084242

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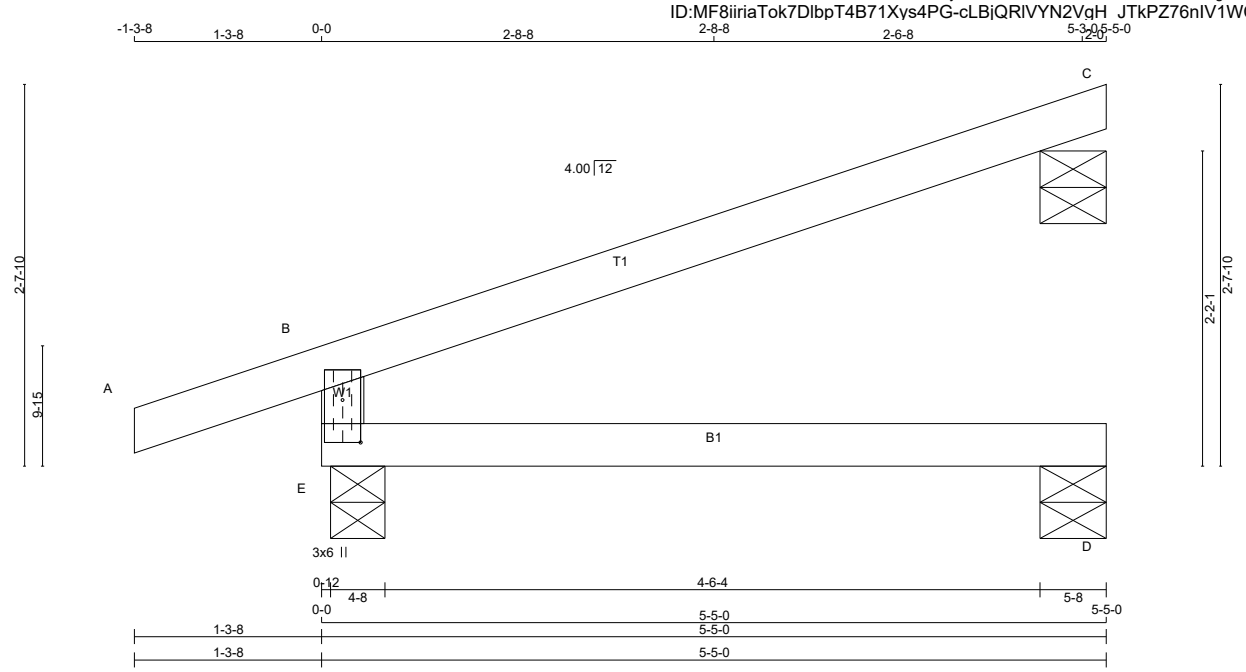
Scale: 3/4"=1'



TOTAL WEIGHT = 10 X 15 = 147 lb

[M]

LUMBER

N. L. G. A. RULES

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

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B						
E						
E	TMBMV1+p	MT20	3.0	6.0	3.50	1.50

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

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

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
E	461	0	461	0	0	4-8	1-8
D	40	0	45	0	0	5-8	1-8
C	172	0	172	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 COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
E	324	220 / 0	0 / 0	0 / 0	0 / 0	105 / 0	0 / 0
D	32	0 / 0	0 / 0	0 / 0	0 / 0	32 / 0	0 / 0
C	119	95 / 0	0 / 0	0 / 0	0 / 0	24 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) E, D, 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 MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 FROM	TO	MAX CSI (LC)	WEBS MAX. UNBRAC LENGTH	MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
A- B	0 / 18	-84.9	-84.9	0.11 (1)	10.00			
B- C	-18 / 0	-84.9	-84.9	0.42 (1)	6.25			
E- B	-401 / 0	0.0	0.0	0.12 (4)	7.81			
E- D	0 / 0	-18.5	-18.5	0.12 (4)	10.00			

PATTERN-LOADING CHECK APPLIED TO THIS TRUSS.

DESIGN CRITERIA

SPECIFIED LOADS:

TOP	CH.	LL =	23.3	PSF
		DL =	6.0	PSF
BOT	CH.	LL =	0.0	PSF
		DL =	7.4	PSF
TOTAL	LOAD	=	36.7	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 27.2 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 23.3 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/360 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.02")

CSI: TC=0.42/1.00 (B-C:1) , BC=0.12/1.00 (D-E:4) , WB=0.00/1.00 (n/a:0) , SSI=0.21/1.00 (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) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.39 (E) (INPUT = 0.90)
JSI METAL= 0.08 (E) (INPUT = 1.00)

TECHNICAL BULLETIN

H – Seismic and Hurricane Ties

SIMPSON Strong-Tie®

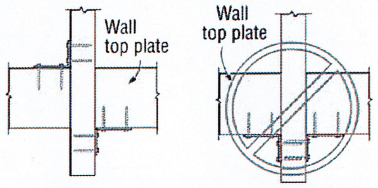
The H connector series provides wind and seismic ties for trusses and rafters.
Material: 18 gauge **Finish:** G90 galvanized

Design: • Factored resistances are in accordance with CSA O86-14
- Factored resistances have been increased 15%. No further increase is permitted.

Installation: • Use all specified fasteners
- Nails: 8d = 0.131" dia. x 2½" long common wire, 8d x 1½" = 0.131" x 1½ long, 10d x 1½" = 0.146" x 1½" long
- H1 can be installed with flanges facing outwards
- Hurricane ties do not replace solid blocking

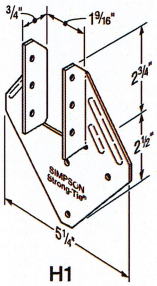
Factored resistances for more than one direction for a single connection cannot be added together. A factored load which can be divided into components in the directions given must be evaluated as follows: Factored Shear/Resisting Shear + Factored Tension/Resisting Tension ≤ 1.0.

Hurricane Tie Installations to Achieve Twice the Load (Top View)

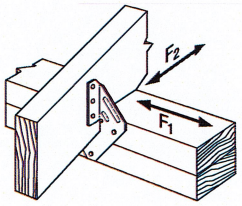


Install diagonally across from each other for minimum 2x truss.

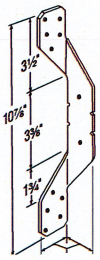
Nailing into both sides of a single ply 2x truss may cause the wood to split.



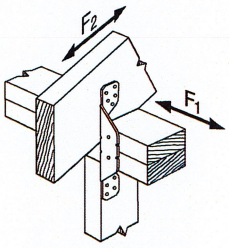
H1



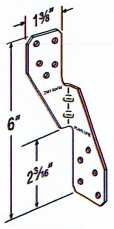
H1 Installation



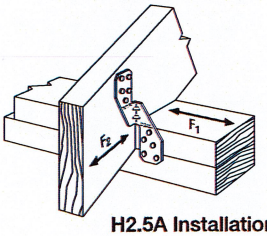
H2A



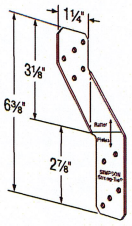
H2A Installation



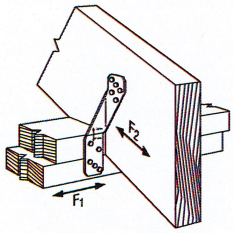
H2.5A



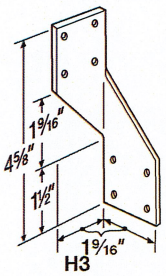
H2.5A Installation



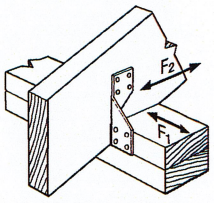
H2.5T



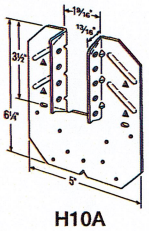
H2.5T Installation
(Nails into both top plates)



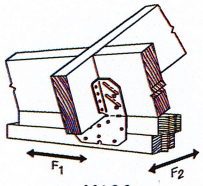
H3



H3 Installation



H10A



H10A Installation

Model No.	Ga.	Fasteners			Factored Resistance (lb.)					
					D.Fir-L			S-P-F		
					Uplift	Normal		Uplift	Normal	
		To Rafter	To Plates	To Studs		F_1	F_2		F_1	F_2
					(K_D=1.15)			(K_D=1.15)		
H1	18	(6) 8d x 1½"	(4) 8d	—	740	685	300	680	485	215
H2A	18	(5) 8d x 1½"	(2) 8d x 1½"	(5) 8d x 1½"	830	220	75	590	155	55
H2.5A	18	(5) 8d	(5) 8d	—	805	160	160	755	160	160
H2.5T	18	(5) 8d	(5) 8d	—	835	175	240	740	160	210
H3	18	(4) 8d	(4) 8d	—	740	180	265	615	125	190
H10A	18	(9) 10d x 1½"	(9) 10d x 1½"	—	1735	795	410	1505	565	290

1. Factored resistances have been increased 15% for earthquake or wind loading with no further increase allowed.
2. Factored resistances are for one anchor. A minimum rafter thickness of 2½" must be used when framing anchors are installed on each side of the joist and on the same side of the plate.
3. When cross-grain bending or cross-grain tension cannot be avoided, mechanical reinforcement to resist such forces should be considered.
4. Hurricane ties are shown installed on the outside of the wall for clarity. Installation on the inside of the wall is acceptable. For a Continuous Load Path, connections must be on same side of the wall.

LIMIT STATES DESIGN

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T-SPECH20 3/20 exp. 6/22

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TECHNICAL BULLETIN

HUS/LJS – Double Shear Joist Hangers

SIMPSON Strong-Tie®

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:

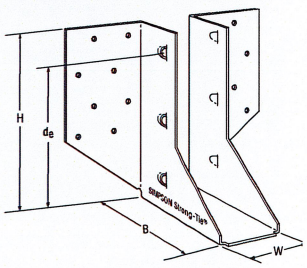
- Factored resistances are in accordance with CSA O86 -14.
- Uplift resistances have been increased 15%. No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these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

Installation:

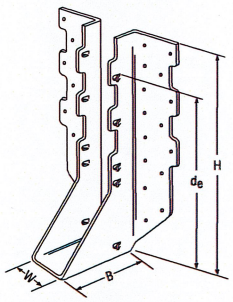
- Use all specified fasteners
- Nails: 16d = 0.162" dia. x 3½" long common wire
- Double shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads
- Not designed for welded or nailer applications

Options:

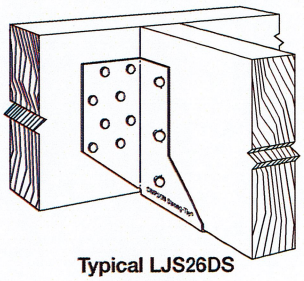
- See current catalogue for options



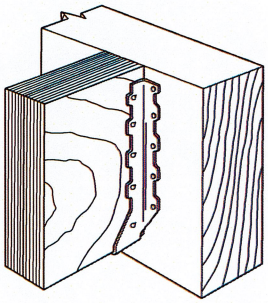
LJS26DS



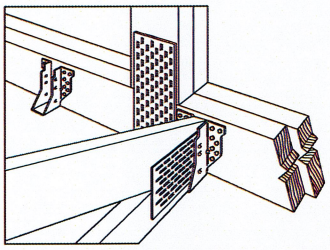
HUS210
(HUS26, HUS28, similar)



Typical LJS26DS Installation



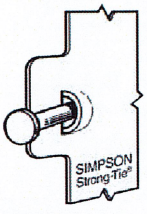
Typical HUS Installation



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

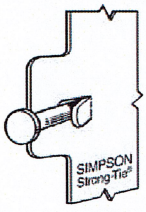
Model No.	Ga.	Dimensions (in.)				Fasteners		Factored Resistance (lb.)			
								D.Fir-L		S-P-F	
		W	H	B	d_e[1]	Face	Joist	Uplift (K_D=1.15) lb.	Normal (K_D=1.00) lb.	Uplift (K_D=1.15) lb.	Normal (K_D=1.00) lb.
LJS26DS	18	1 9/16	5	3½	4⅝	(16) 16d	(6) 16d	2055	4265	1460	4115
HUS26	16	1⅝	5⅜	3	3 15/16	(14) 16d	(6) 16d	2705	4940	2065	3875
HUS28	16	1⅝	7 3/32	3	6 3/32	(22) 16d	(8) 16d	3605	5365	2675	4345
HUS210	16	1⅝	9 3/32	3	7 31/32	(30) 16d	(10) 16d	4505	5795	4010	4740
HUS1.81/10	16	1 13/16	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.

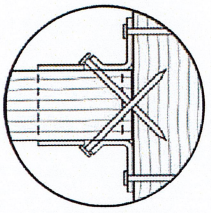


Dome Double Shear Nailing prevents tabs breaking off (available on some models).

U.S. Patent 5,603,580



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



Double Shear Nailing Top View.

LIMIT STATES DESIGN

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TECHNICAL BULLETIN

HHUS – Double Shear Joist Hangers

SIMPSON Strong-Tie®

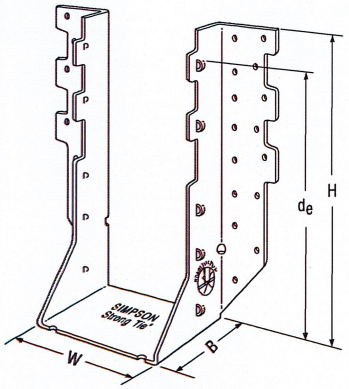
All HHUS hangers have double shear nailing. This patented innovation distributes the load through two points on each joist nail for greater strength. It also allows the use of fewer nails, faster installation and the use of common nails for all connections. Do not bend or remove tabs.

Material: 14 gauge

Finish: G90 galvanized

Design:

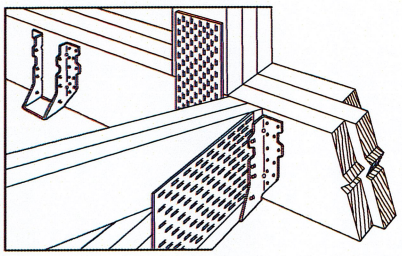
- Factored resistances are in accordance with CSA O86-14.
- Uplift resistances have been increased 15%. No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these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



HHUS410

Installation:

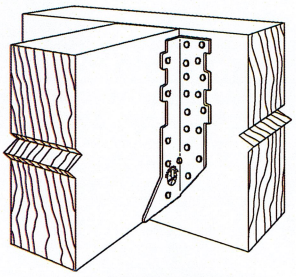
- Use all specified fasteners
- Nails: 16d = 0.162" dia. x 3½" long common wire
- Double shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads
- Not designed for welded or nailer applications



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

Options:

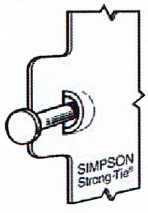
- See current catalogue for options



Typical HHUS Installation

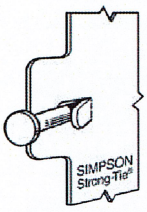
Model No.	Ga.	Dimensions (in.)				Fasteners		Factored Resistance (lb.)			
								D.Fir-L		S-P-F	
		W	H	B	d_e[1]	Face	Joist	Uplift (K_D=1.15)	Normal (K_D=1.00)	Uplift (K_D=1.15)	Normal (K_D=1.00)
HHUS26-2	14	3 5/16	5 13/16	3	3 15/16	(14) 16d	(6) 16d	2850	7335	2065	5205
HHUS28-2	14	3 5/16	7 7/32	3	6 5/32	(22) 16d	(8) 16d	3765	8940	2675	6345
HHUS210-2	14	3 5/16	9 3/32	3	8	(30) 16d	(10) 16d	4670	9660	4235	7000
HHUS210-3	14	4 11/16	9	3	7 15/16	(30) 16d	(10) 16d	4670	9670	4235	6865
HHUS210-4	14	6 1/8	8 29/32	3	7 27/32	(30) 16d	(10) 16d	4670	10155	4235	7210
HHUS46	14	3 5/8	5 13/32	3	3 15/16	(14) 16d	(6) 16d	2540	7335	2065	5205
HHUS48	14	3 5/8	7 1/8	3	6 1/8	(22) 16d	(8) 16d	3765	8940	2675	6345
HHUS410	14	3 5/8	9	3	8	(30) 16d	(10) 16d	4670	9855	4235	7000
HHUS5.50/10	14	5 1/2	9	3	8	(30) 16d	(10) 16d	4670	10155	4235	7210
HHUS7.25/10	14	7 1/4	9	3 5/16	7 29/32	(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.

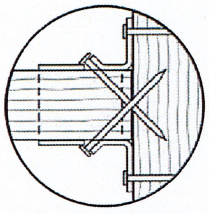


Dome Double Shear Nailing prevents tabs breaking off (available on some models).

U.S. Patent 5,603,580



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



Double Shear Nailing Top View.

LIMIT STATES DESIGN

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T-SPECHHUS20 3/20 exp. 6/22

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TECHNICAL BULLETIN

TC – Truss Connectors

SIMPSON Strong-Tie®

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

Material: 16 gauge

Finish: G90 galvanized

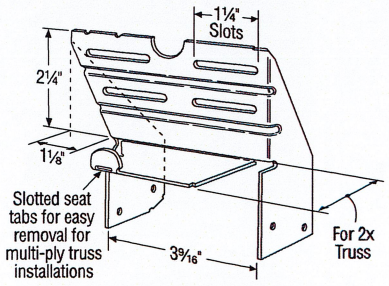
Design: Factored resistances are in accordance with CSA 086-14

Installation:

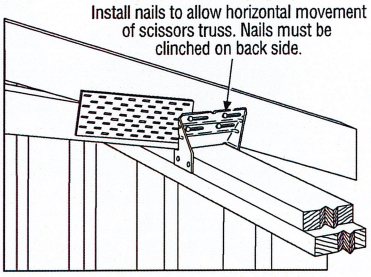
- Use all specified fasteners.
- Nails: 10d = 0.148" dia. x 3" long common wire, 10d x 1½ = 0.148" dia. x 1½" long.
- Drive 10d nails into the truss at the inside end of the slotted holes (inside end is towards the centre of the truss) and clinch on the back side. Do not seat these nails into the truss–allow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

Optional TC Installation:

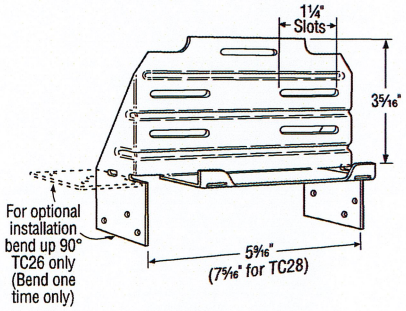
- Bend one flange up 90°. Drive specified nails into the top and face of the top plates or install Titen® screws into the top and face of masonry wall. See optional load tables and installation details.



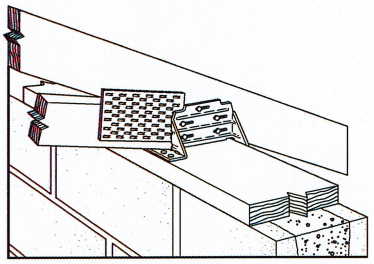
TC24
U.S. Patent 4,932,173



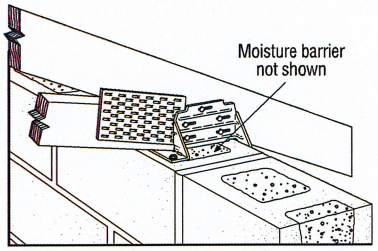
Typical TC24 Installation



TC26
(TC28 Similiar)



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



Optional TC26 Installation for Grouted Concrete Block using Titen Screws

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

Optional TC Installation Table

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

1. Factored resistances have been increased 15% for earthquake or wind loading; no further increase allowed; reduce where other loads govern.
2. Grout strength is 15 MPa minimum.
3. Optional TC26 installation with 10d nails requires minimum 3" top plate thickness.
4. TC26 fastened to grouted concrete block with (6) – ⅜" x 2¼" Titen screws has a factored uplift resistance of 275 lb.

LIMIT STATES DESIGN

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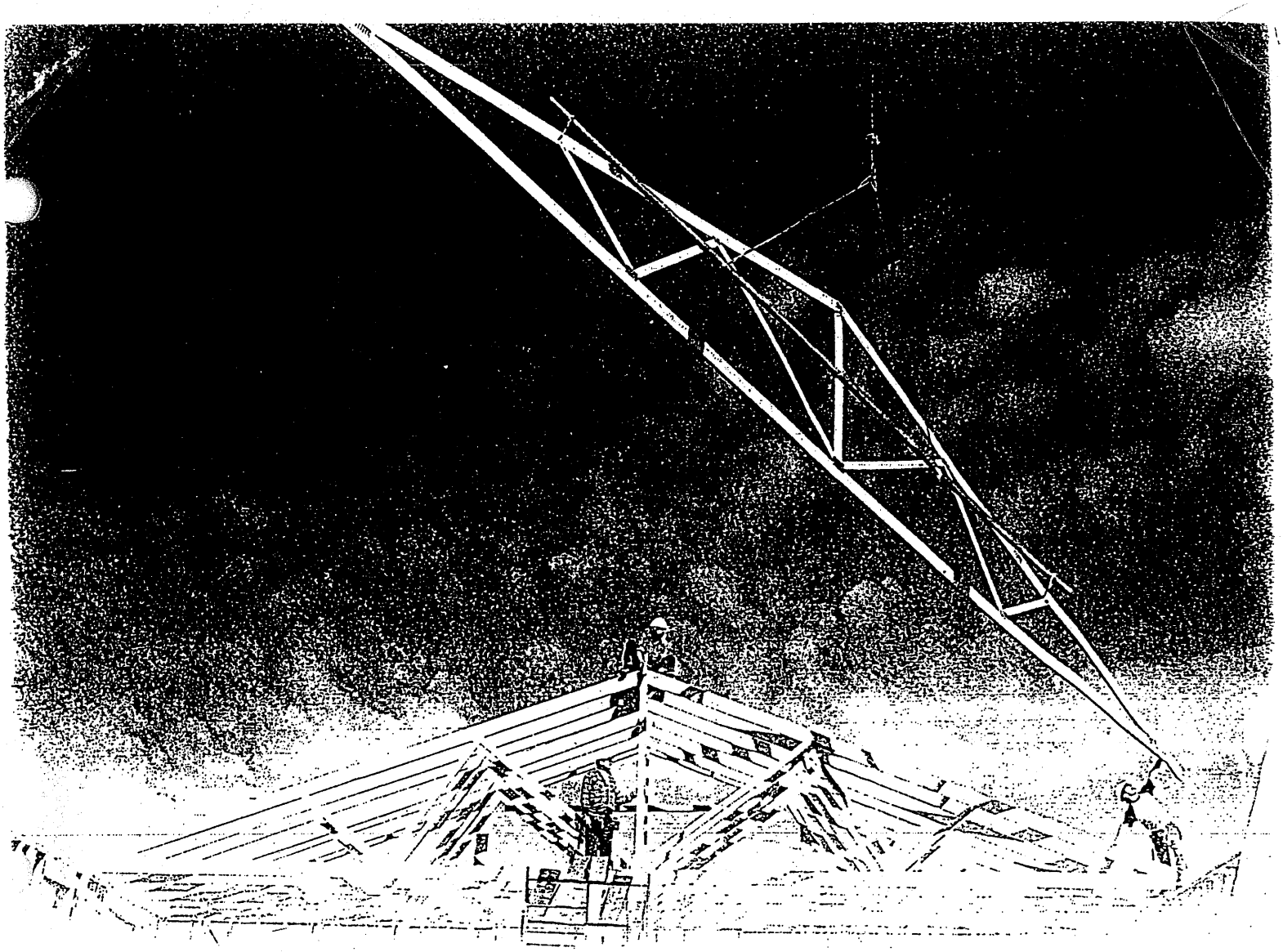
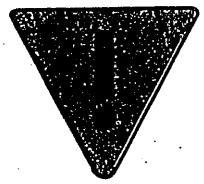


Wood Truss Installation

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

Table of Content

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.

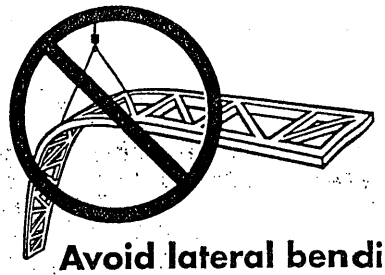
Special Design Requirements

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

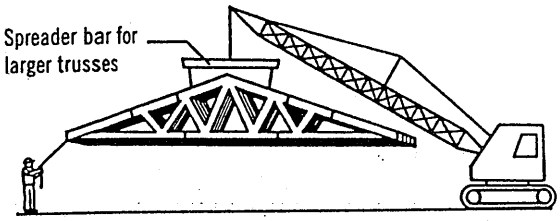
Beginning with the unloading process, and throughout all phases of construction, care must be taken to avoid **lateral bending** of trusses, which can cause damage to the lumber and metal connector plates at the joints.

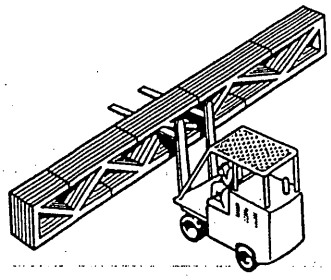


Avoid lateral bending

- **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.**

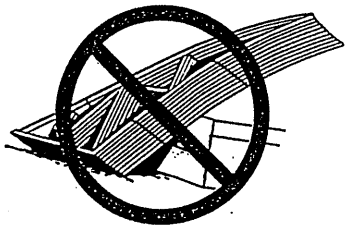
2 Job Site Handling





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.

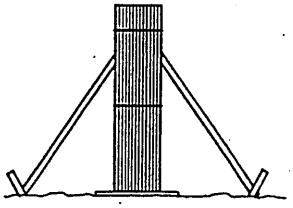


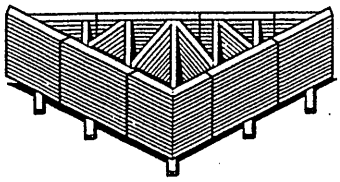
Do not store unbraced bundles upright

If trusses are stored vertically they shall be braced in a manner that will prevent tipping or topping. Generally cuting 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.



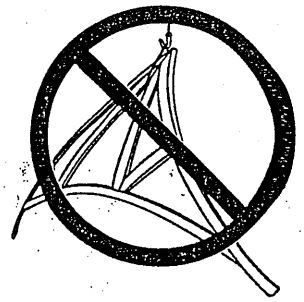


Care should be exercised when removing banding to avoid damaging trusses.

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.

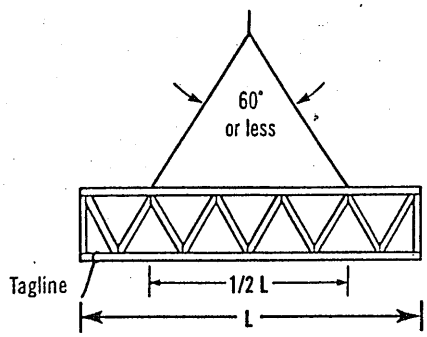
3 Hoisting

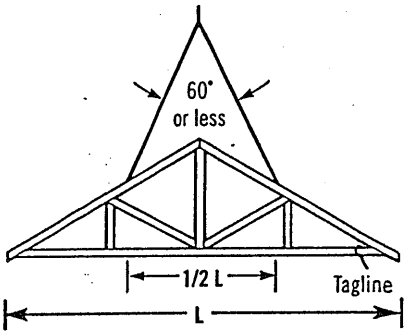
All trusses that are erected one at a time shall be held safely in position by the erection equipment until such time as all necessary bracing has been installed and the ends of the trusses are securely fastened to the building.



Avoid lateral bending

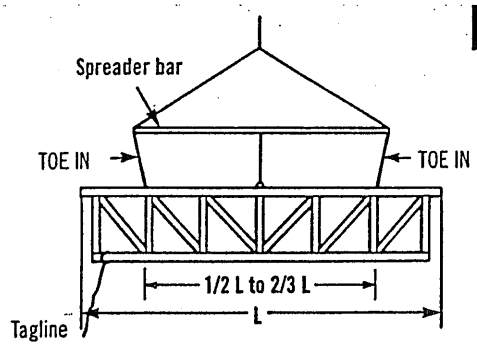
L ≤ 30'

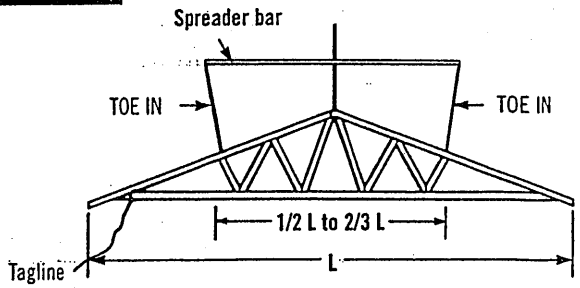




Truss sling is acceptable where these criteria are met.

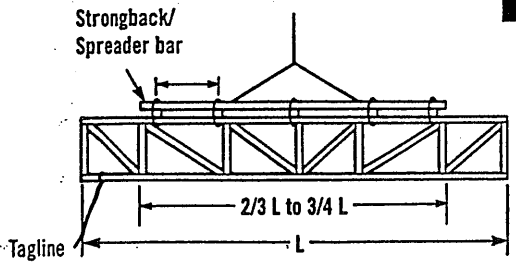
30' < L ≤ 60'

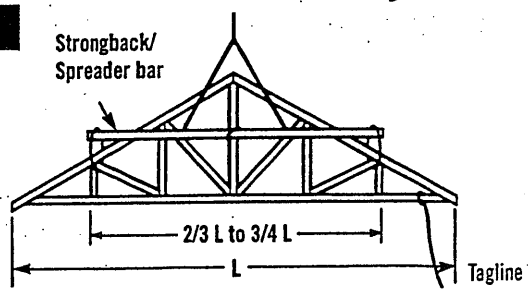




Use spreader bar in all other cases. It should be noted that the lines from the ends of the spreader bar "**TOE IN**"; if these lines should "**TOE OUT**" the truss may fold in half.

L > 60'





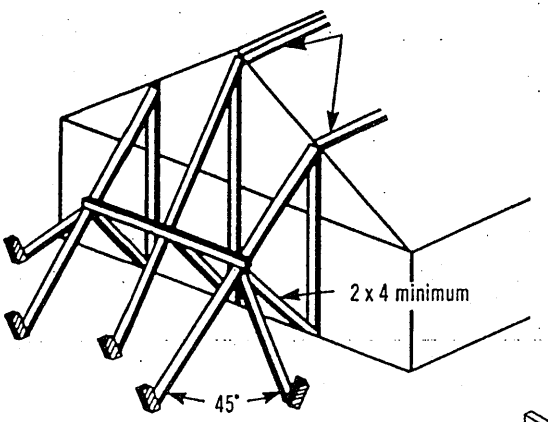
For lifting trusses with spans in excess of 60 feet, it is recommended that a strongback/spreader bar be used as illustrated. The strongback/spreader bar should be attached to the top chord and web members at intervals of approximately 10 feet. Further, the strongback/spreader bar should be at or above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

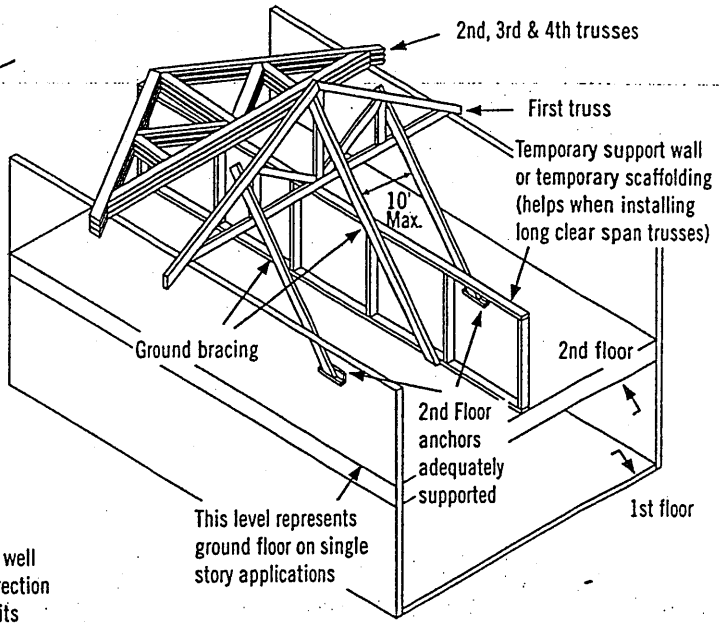
One satisfactory method ties the first unit of trusses off to a series of braces that are attached to a stake driven into the ground and securely anchored. The ground brace itself should be supported as shown below or it is apt to buckle. Additional ground braces in the opposite direction, inside the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

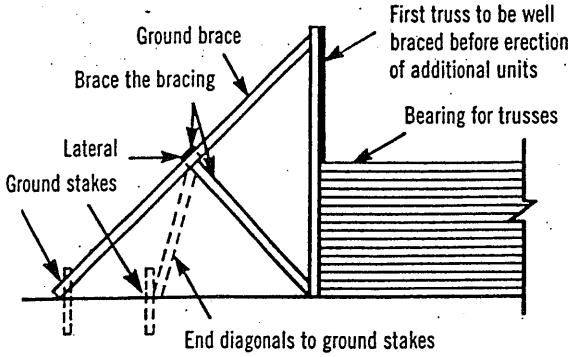


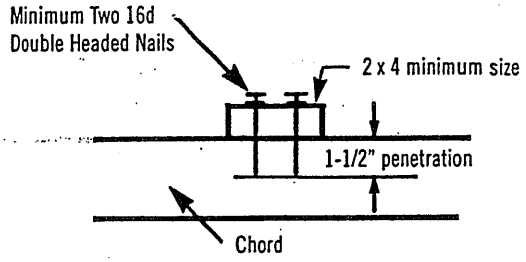
Note: Locate ground braces for first truss directly in line with all rows of top chord continuous lateral bracing (either temporary or permanent).

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.





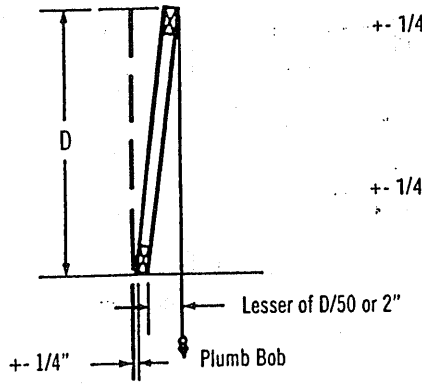


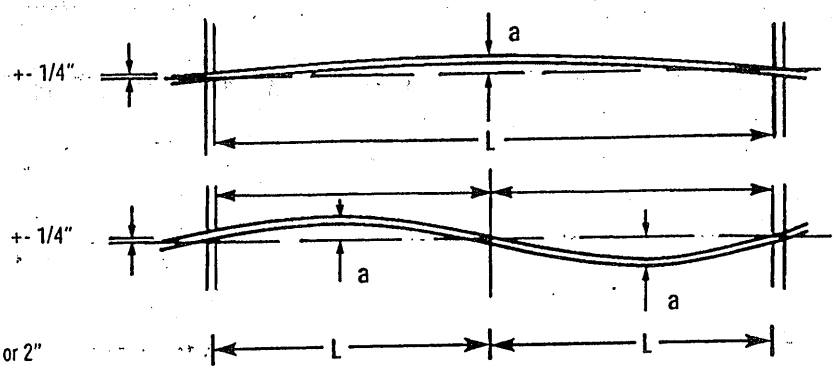
Inadequate size of bracing material or inadequate fastening is a major cause of erection dominoing.

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.

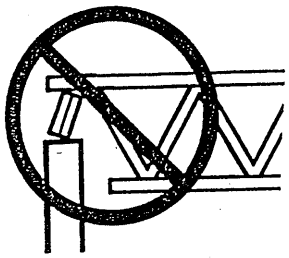
When sheathing, make sure nails are driven into the top chord of the trusses.



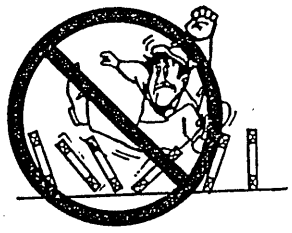


L = 16' to 32', a = 1"
L = 32' & over, a = 2"

6 Bracing

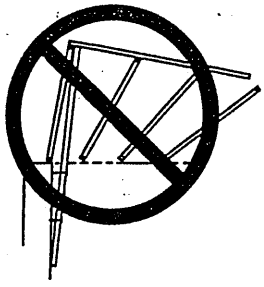


Do not install trusses on temporarily connected supports



Do not walk on unbraced trusses

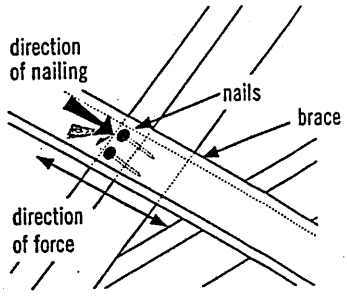
Do not walk on trusses or gable ends lying flat



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.



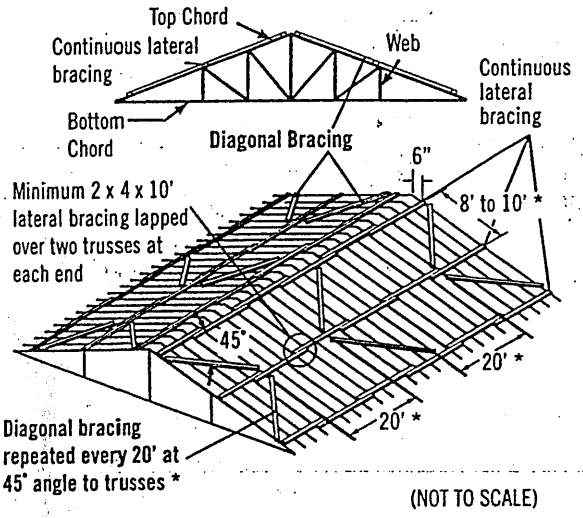
Well nailed (perpendicular to force)

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.

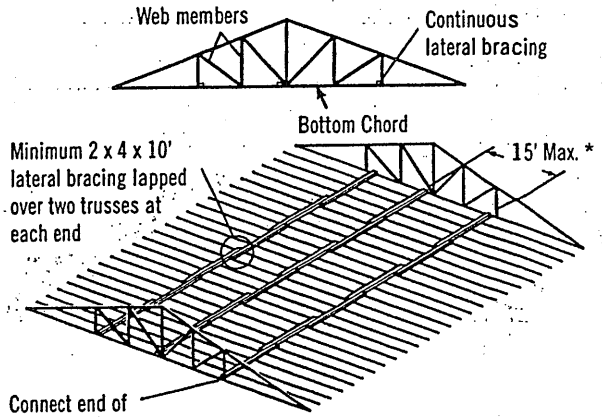


(NOT TO SCALE)

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.

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.

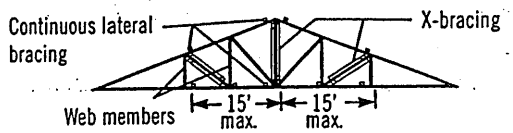


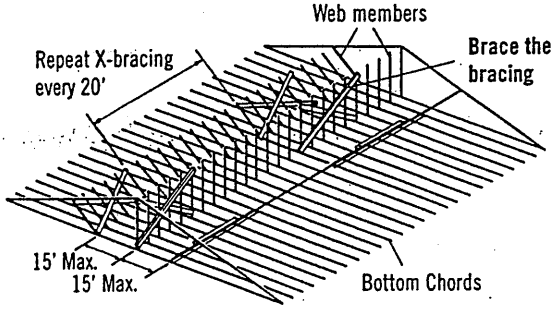
* Long spans, heavy loads or other spacing configurations may require closer spacing between lateral bracing and closer intervals between diagonals. Consult the building designer or HIB and DSB (*Recommended Design Specification for Temporary Bracing of Metal-Plate Connected Wood Trusses*) for details.

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.

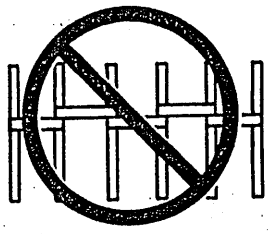
X-bracing should be installed on vertical web members wherever possible, at or near lateral bracing. Plywood or OSB may be substituted for X-bracing.



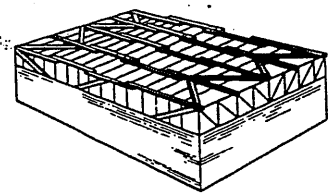


Note: Top chords and some web members are not shown, in order to make drawings more readable.

Diagonal or cross-bracing is very important!



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

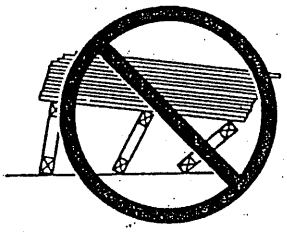


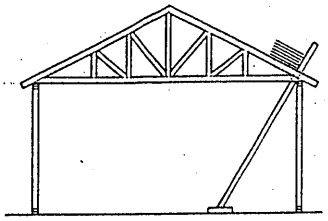
Bracing requirements using the same principles apply to parallel chord trusses

8 Stacking Materials

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

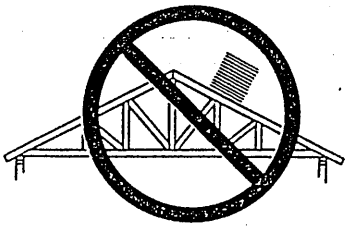
Never stack materials on unbraced or inadequately braced trusses

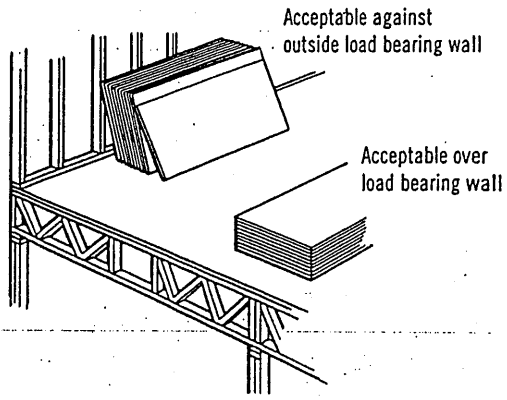




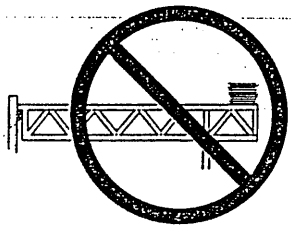
Proper distribution of construction materials is a must during construction.

Never stack materials near a peak

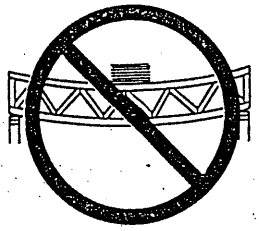


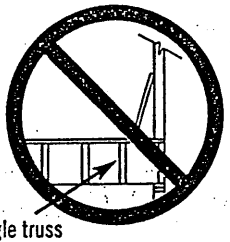


Never stack materials on the cantilever of a truss

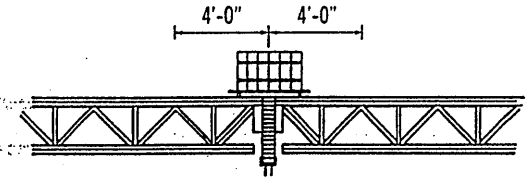


Always stack materials over two or more trusses.



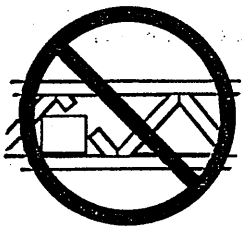


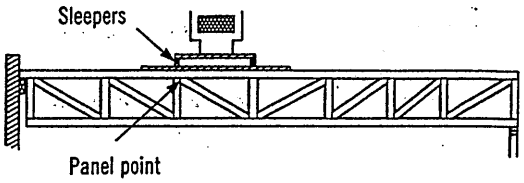
Never overload small groups or single trusses. Position load over as many trusses as possible.



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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