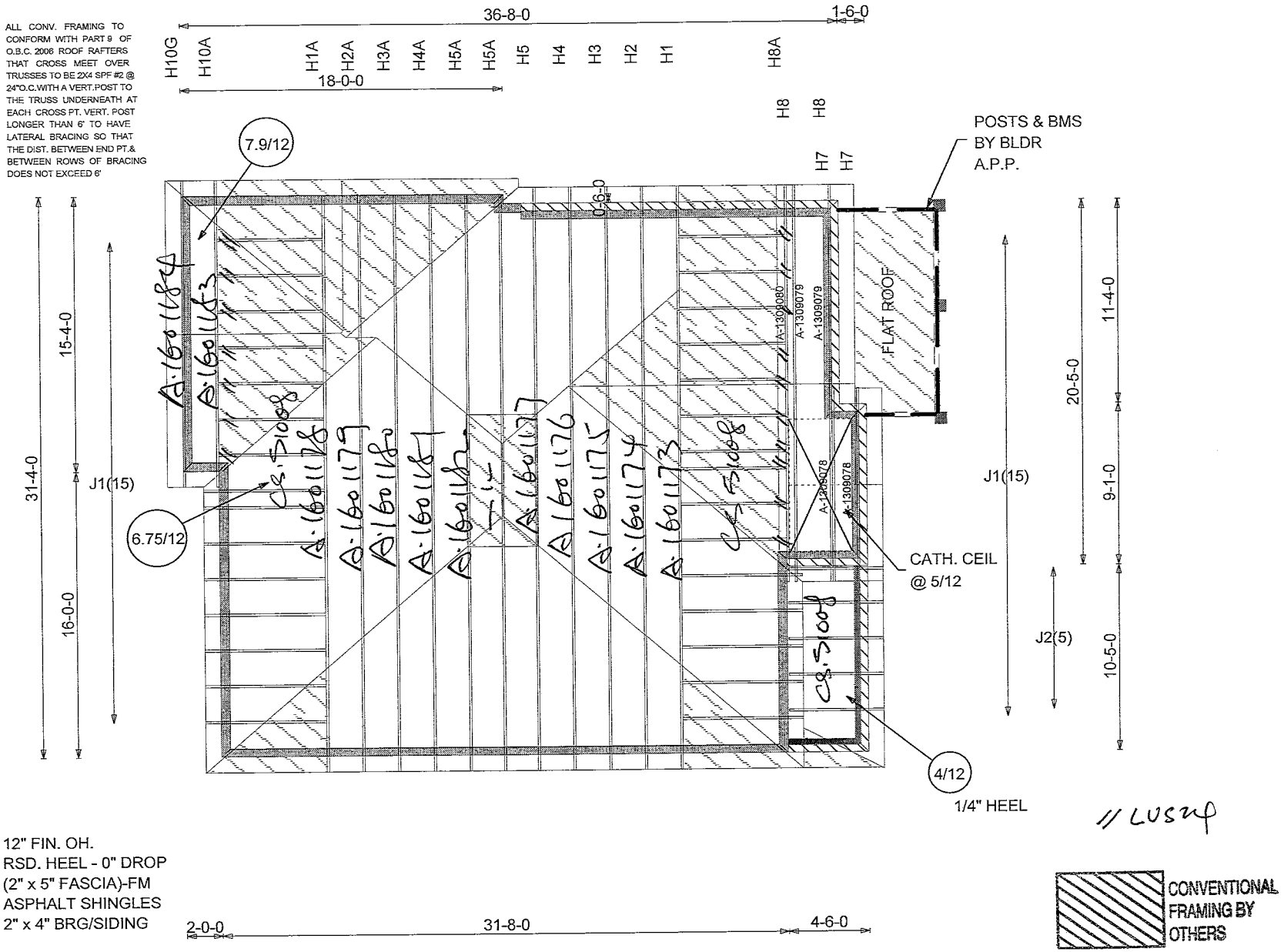


// LUSUP

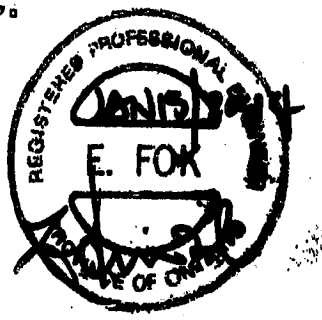
OLP Version 23.0.048

Job Track: 31379	Builder/Location: ESQUIRE HOMES, CLARINGTON		Model / Elevation: 37-2 COR. / B
Layout ID: 263190	Project: NORTHGLEN		
Plan Log: 84245	Date: 01-04-16	Designer: jerzy	Approved By:

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

Stracon Engineering Inc.

69 Graydon Crescent
Richmond Hill, Ontario
L4B 3W7
(905) 832-2250 Fax (905) 832-0286



RESPONSIBILITIES

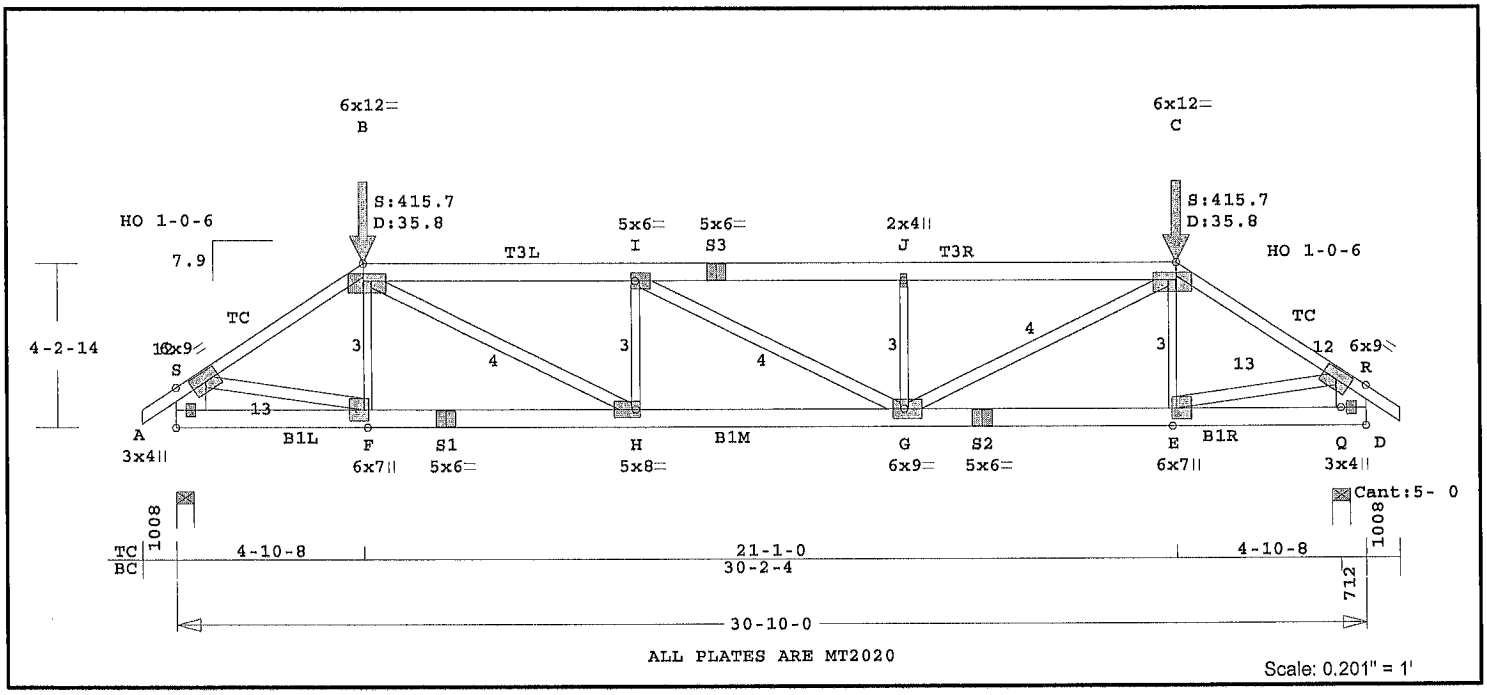
1. Stracon Engineering Inc. is responsible for the design of trusses as individual components.
2. It is the responsibility of others to ascertain that the design loads utilized on this drawing meet or exceed the actual dead load imposed by the structure and the live load imposed by the local building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

SPECIFICATIONS

1. Trusses designed by Stracon Engineering Inc. conforms 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 indicated on the drawings as well as to the procedures established by the truss plate institute of Canada. Unit stresses used are as per CSA-086-09.
2. Lumber is to be the sizes and grade specified.
3. Moisture content of lumber is not to exceed 19% in service unless otherwise specified.
4. Lumber not to be treated with chemicals unless otherwise specified.
5. Plates shall be applied to both faces of the truss at each joint and shall be positioned as specified.
6. The top chord is assumed to be continuously laterally braced by the roof sheathing or purlins at intervals not exceeding 12.5 times in thickness.
7. Where not rigid ceiling is attached directly to the bottom chord, laterally brace the chords at intervals not exceeding 3M (10') o.c.

January 15, 2014

Job	Mark	Quan	Type	Span	P1-H1	Left OH	Right OH	*Engineering*
263190	*H1*	1	HIPP	301000	7.9	10- 8	10- 8	



Robbins Engineering, Inc./Online Plus™

Online Plus -- Version 23.0.048
RUN DATE: 06-JAN-16

	CSI	-Size-	----Lumber----
TC	0.98	2x 4	SPF-#2
--	0.82	2x 6	1650S1.5
	B -S3	S3-C	
BC	0.72	2x 6	1650S1.5
WB	0.72	2x 4	SPF-#2
--	0.15	2x10	SPF-#2
	A -S	Q -R	
--	0.36	2x 3	SPF-#2
	F -B	H -I	G -J E -C

Importance Category : Normal
Condition at Manufacture : Dry
Treatment : Untreated
Service Condition : Dry

Brace truss as follows:

	O.C.	From	To
TC	Cont.	0- 0- 0	30-10- 0
BC	120.0"	0- 0- 0	30-10- 0

psf-Ld	Dead	Live	Snow
TC	3.0	0.0	29.0
BC	7.0	10.5	0.0
TC+BC	10.0	10.5	29.0
Total	49.5	Spacing	24.0"

Lumber Duration Factor 1.00
Plate Duration Factor 1.00
TC Fb=1.00 Fc=1.00 Ft=1.00
BC Fb=1.00 Fc=1.00 Ft=1.00

Unfactored Reactions (Lbs)

Jt	-DL-	-LL-	-SL-
A	613D	637D	1816D
Q	613D	637D	1816D

TL Factored Reactions (Lbs)

Jt	Down	Uplift	Horiz-
A	3808		
Q	3808		

Jt	Brg Size	Required
A	5.5"	4.1"
Q	5.5"	4.1"

Maximum Downward Loadcase
LC# 1 Girder & Snow Load
Dur Fctrs - Lbr 1.00 Plt 1.00

Plf	TC	Beg	End	From	To
Dist	Dead	6	6	0.0	30.8
Dist	Snow	58	58	0.0	30.8
Dist	Dead	6	6	4.9	26.0
Dist	Snow	56	56	4.9	26.0
Plf	BC	Beg	End	From	To
Dist	Dead	28	28	0.0	30.8
Dist	Live	41	41	0.0	30.8

Membr	CSI	P Lbs	M@1st	M@2nd
----------Top Chords----------				
S -S	0.01	10 T	0	-84
S -B	0.98	4756 C	-84	0
B -I	0.82	7351 C	0	-9524
I -S3	0.77	7341 C	-9524	1949
S3-J	0.78	7341 C	1949	-9319
J -C	0.82	7341 C	-9319	0
C -R	0.98	4757 C	0	-84
R -R	0.01	10 T	-84	0
--------Bottom Chords---------				
A -A	0.00	0 T	0	-49
A -F	0.17	0 T	-49	-1957
F -S1	0.41	3971 T	-1957	1521
S1-H	0.42	3971 T	1521	-1343
H -G	0.72	7350 T	-1343	-1118
G -S2	0.40	3973 T	-1118	1920
S2-E	0.43	3973 T	1920	-2016
E -Q	0.17	0 T	-2016	-49
Q -D	0.00	0 T	-49	0
------------Webs------------				
A -S	0.15	3695 C		
S -F	0.72	4055 T		
F -B	0.10	403 C		
B -H	0.68	3838 T		
H -I	0.36	1443 C		
I -G	0.01	10 C		
G -J	0.36	1441 C		
G -C	0.68	3826 T		
E -C	0.10	399 C		
E -R	0.72	4056 T		
Q -R	0.15	3696 C		

TL Defl -0.53" in H -G L/663
TL Panel -0.18" in J -C L/475
(Note - TL = 1.33LL + DL)
LL Defl -0.43" in H -G L/819
Shear // Grain in B -I 0.51

Plates for each ply each face.
PLATING CONFORMS TO TPIC 2011
AND CSA 086.09 LIMIT STATES
VERIFY PLATE VALUES WITH
MITEK CANADA INC.
GRIP BASED ON NET AREA
METHOD FOR SPF LUMBER
CCMC ACCEPTANCE NO:
11996-L, 10319-L
12116-L, 12940-L, 12939-L
Plate - MT20 20 Ga, Net Area
Plate - MT8H 18 Ga, Net Area
Plate - MT16 16 Ga, Net Area

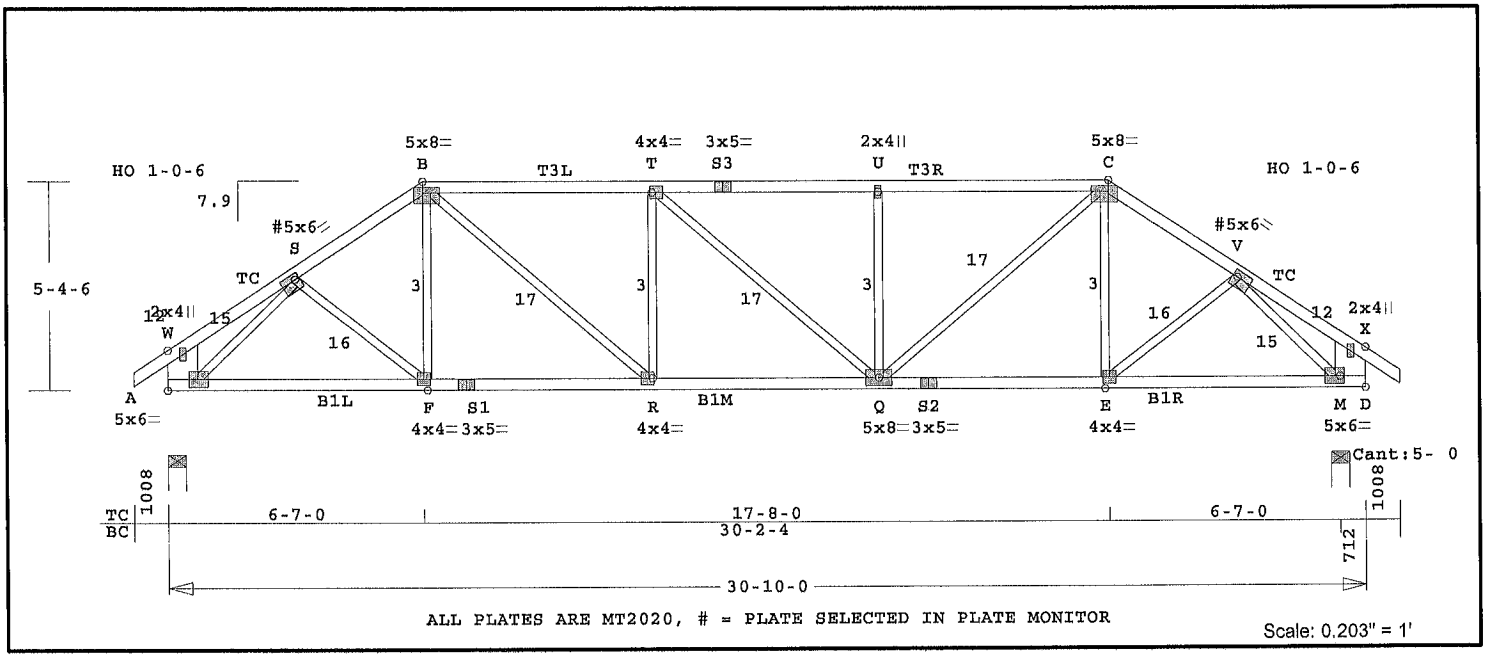
Jt	Type	Plt Size	X	Y	JSI
S	MT20	6.0x 9.0	Ctr	Ctr	0.80
B	MT20	6.0x12.0	Ctr	-0.6	0.85
I	MT20	5.0x 6.0	0.5	Ctr	0.71
S3	MT20	5.0x 6.0	Ctr	Ctr	0.69
J	MT20	2.0x 4.0	Ctr	Ctr	0.46
C	MT20	6.0x12.0	Ctr	-0.6	0.85
R	MT20	6.0x 9.0	Ctr	Ctr	0.80
A	MT20	3.0x 4.0	Ctr	Ctr	0.74
F	MT20	6.0x 7.0	-2.7	0.1	0.86
S1	MT20	5.0x 6.0	Ctr	Ctr	0.77
H	MT20	5.0x 8.0	-1.5	Ctr	0.71
G	MT20	6.0x 9.0	1.0	Ctr	0.79
S2	MT20	5.0x 6.0	Ctr	Ctr	0.77
E	MT20	6.0x 7.0	2.7	0.1	0.86
Q	MT20	3.0x 4.0	Ctr	Ctr	0.74

Placement Tolerance Used 0.25 in.
Allowance For Ineffective Teeth
shall be 10.0%
Allowance for Rotation on Joint
shall be 5.0 deg.

NOTES:
Trusses Manufactured by:
ALPA ROOF TRUSSES INC.
Analysis Conforms To:
TPIC-RES , Standard Formula
NBCC2005
Girder Step Down Hip
Framing Hip Rafters
Jack Open Faced
Setback 5-10- 8
OH Loading
Design Roof Snow Load Use:
Ground Snow Load = 37.6 psf
Rain Load = 8.4 psf
Non-slippery Roof
Importance Factor 1.00
Exposed to Wind Factor 1.00
Balanced Load Factor 0.55
Unbalanced Load Factor 0.00
FABRICATOR NOTES:
1. DESIGN CONFORMS TO OBC
PART 9 2012

A-1601173

Job	Mark	Quan	Type	Span	P1-H1	Left OH	Right OH	*Engineering*
263190	*H2*	1	HIPP	301000	7.9	10- 8	10- 8	



Robbins Engineering, Inc./Online Plus™

Online Plus -- Version 23.0.048
RUN DATE: 06-JAN-16

	CSI	-Size-	----Lumber----
TC	0.50	2x 4	SPF-#2
BC	0.52	2x 4	SPF-#2
WB	0.59	2x 3	SPF-#2
--	0.01	2x10	SPF-#2
	A -W	M -X	

Importance Category : Normal
Condition at Manufacture : Dry
Treatment : Untreated
Service Condition : Dry

Brace truss as follows:

	O.C.	From	To
TC	Cont.	0- 0- 0	30-10- 0
BC	120.0"	0- 0- 0	30-10- 0

psf-Ld	Dead	Live	Snow
TC	3.0	0.0	29.0
BC	7.0	10.5	0.0
TC+BC	10.0	10.5	29.0

Total 49.5 Spacing 24.0"
Lumber Duration Factor 1.00
Plate Duration Factor 1.00
TC Fb=1.10 Fc=1.10 Ft=1.10
BC Fb=1.10 Fc=1.10 Ft=1.10

Unfactored Reactions (Lbs)

Jt	-DL-	-LL-	-SL-
A	314D	324D	946D
M	314D	324D	946D

TL Factored Reactions (Lbs)

Jt	Down	Uplift	Horiz-
A	1973		
M	1973		

Jt	Brg Size	Required
A	5.5"	2.1"
M	5.5"	2.1"

Maximum Downward Loadcase
LC# 1 Snow Loading
Dur Fctrs - Lbr 1.00 Plt 1.00

Plf	TC	Beg	End	From	To
Dist	Dead	6	6	0.0	30.8
Dist	Snow	58	58	0.0	30.8
Plf	BC	Beg	End	From	To
Dist	Dead	14	14	0.0	30.8
Dist	Live	21	21	0.0	30.8

Membr	CSI	P Lbs	M@1st	M@2nd
		--------Top Chords---------		
W -W	0.06	55 T	0	-467
W -S	0.08	6 T	-467	-888
S -B	0.17	2177 C	-888	0
B -T	0.50	2693 C	0	-3768
T -S3	0.41	2692 C	-3768	382
S3-U	0.42	2692 C	382	-3728
U -C	0.50	2691 C	-3728	0
C -V	0.17	2177 C	0	-888
V -X	0.11	6 T	-888	-467
X -X	0.06	55 T	-467	0
		--------Bottom Chords---------		
A -A	0.00	0 T	0	-24
A -F	0.41	1661 T	-24	-1235
F -S1	0.43	1806 T	-1235	-342
S1-R	0.38	1806 T	-342	-748
R -Q	0.52	2693 T	-748	-704
Q -S2	0.37	1806 T	-704	151
S2-E	0.43	1806 T	151	-1245
E -M	0.41	1661 T	-1245	-24
M -D	0.00	0 T	-24	0
		----------Webs----------		
A -W	0.01	244 C		
A -S	0.59	2338 C		
S -F	0.04	187 T		
F -B	0.02	71 T		
B -R	0.26	1166 T		
R -T	0.26	601 C		
T -Q	0.00	1 C		
Q -U	0.26	600 C		
Q -C	0.26	1164 T		
E -C	0.02	72 T		
E -V	0.04	187 T		
V -M	0.59	2338 C		
M -X	0.01	244 C		

TL Defl -0.25" in R -Q L/999
TL Panel -0.17" in U -C L/408
(Note - TL = 1.33LL + DL)
LL Defl -0.20" in R -Q L/999
Shear // Grain in B -T 0.25

Plates for each ply each face.
PLATING CONFORMS TO TPIC 2011
AND CSA 086.09 LIMIT STATES
VERIFY PLATE VALUES WITH
MITEK CANADA INC.
GRIP BASED ON NET AREA
METHOD FOR SPF LUMBER
CCMC ACCEPTANCE NO:
11996-L, 10319-L
12116-L, 12940-L, 12939-L
Plate - MT20 20 Ga, Net Area
Plate - MT8H 20 Ga, Net Area
Plate - MT16 20 Ga, Net Area

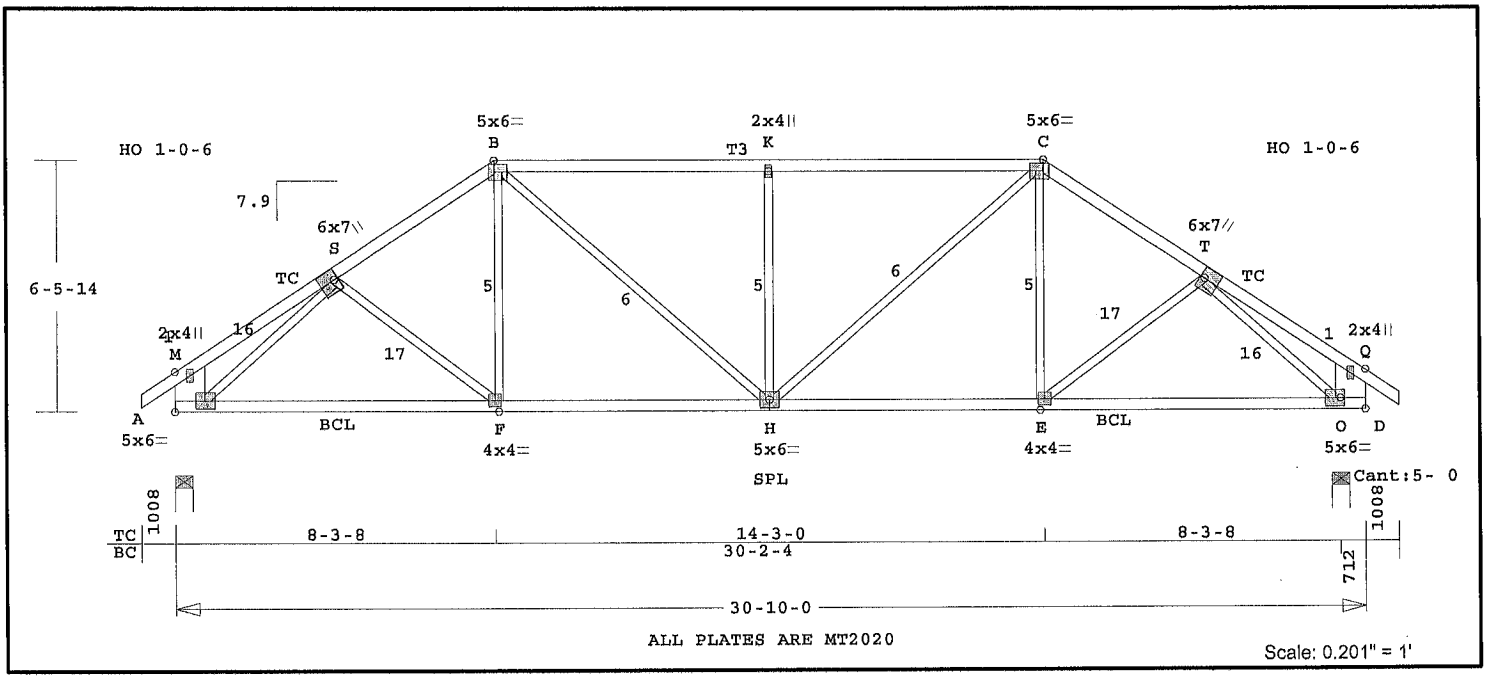
Jt	Type	Plt Size	X	Y	JSI
W	MT20	2.0x 4.0	Ctr	Ctr	0.30
S#	MT20	5.0x 6.0	-0.9	-1.4	0.68
B	MT20	5.0x 8.0	Ctr	-0.8	0.80
T	MT20	4.0x 4.0	Ctr	Ctr	0.46
S3	MT20	3.0x 5.0	Ctr	Ctr	0.52
U	MT20	2.0x 4.0	Ctr	Ctr	0.24
C	MT20	5.0x 8.0	Ctr	-0.8	0.80
V#	MT20	5.0x 6.0	1.0	-1.3	0.67
X	MT20	2.0x 4.0	Ctr	Ctr	0.30
A	MT20	5.0x 6.0	0.2	Ctr	0.76
F	MT20	4.0x 4.0	Ctr	Ctr	0.32
S1	MT20	3.0x 5.0	Ctr	Ctr	0.66
R	MT20	4.0x 4.0	-0.5	Ctr	0.69
Q	MT20	5.0x 8.0	Ctr	Ctr	0.52
S2	MT20	3.0x 5.0	Ctr	Ctr	0.66
E	MT20	4.0x 4.0	Ctr	Ctr	0.32
M	MT20	5.0x 6.0	-0.2	Ctr	0.76

= Plate Monitor used
Placement Tolerance Used 0.25 in.
Allowance For Ineffective Teeth shall be 10.0%
Allowance for Rotation on Joint shall be 5.0 deg.

NOTES:
Trusses Manufactured by:
ALPA ROOF TRUSSES INC.
Analysis Conforms To:
TPIC-RES , Modified Formula
NBCC2005
OH Loading
NOTE: USER MODIFIED PLATES
This design may have plates selected through a plate monitor.
Design Roof Snow Load Use:
Ground Snow Load = 37.6 psf
Rain Load = 8.4 psf
Non-slippery Roof
Importance Factor 1.00
Exposed to Wind Factor 1.00
Balanced Load Factor 0.55
Unbalanced Load Factor 0.00
FABRICATOR NOTES:
1. DESIGN CONFORMS TO OBC PART 9 2012

A-1601174

Job	Mark	Quan	Type	Span	P1-H1	Left OH	Right OH	*Engineering*
263190	*H3*	1	HIPP	301000	7.9	10- 8	10- 8	



Robbins Engineering, Inc./Online Plus™

Online Plus -- Version 23.0.048
RUN DATE: 06-JAN-16

	CSI	-Size-	----Lumber----
TC	0.74	2x 4	SPF-#2
BC	0.54	2x 4	SPF-#2
WB	0.92	2x 3	SPF-#2
--	0.01	2x10	SPF-#2
	A -M	O -Q	

Importance Category : Normal
Condition at Manufacture : Dry
Treatment : Untreated
Service Condition : Dry

Brace truss as follows:

	O.C.	From	To
TC	Cont.	0- 0- 0	30-10- 0
BC	120.0"	0- 0- 0	30-10- 0

psf-Ld	Dead	Live	Snow
TC	3.0	0.0	29.0
BC	7.0	10.5	0.0
TC+BC	10.0	10.5	29.0
Total	49.5	Spacing	24.0"

Lumber Duration Factor 1.00
Plate Duration Factor 1.00
TC Fb=1.10 Fc=1.10 Ft=1.10
BC Fb=1.10 Fc=1.10 Ft=1.10

Unfactored Reactions (Lbs)

Jt	-DL-	-LL-	-SL-
A	314D	324D	946D
O	314D	324D	946D

TL Factored Reactions (Lbs)

Jt	Down	Uplift	Horiz-
A	1973		
O	1973		

Jt	Brg Size	Required
A	5.5"	2.1"
O	5.5"	2.1"

Maximum Downward Loadcase
LC# 1 Snow Loading
Dur Fctrs - Lbr 1.00 Plt 1.00

Plf	TC	Beg	End	From	To
Dist	Dead	6	6	0.0	30.8
Dist	Snow	58	58	0.0	30.8
Plf	BC	Beg	End	From	To
Dist	Dead	14	14	0.0	30.8
Dist	Live	21	21	0.0	30.8

Membr	CSI	P Lbs	M@1st	M@2nd
----------Top Chords----------				
M -M	0.06	55 T	0	-467
M -S	0.15	15 T	-467	-1775
S -B	0.24	2127 C	-1775	0
B -K	0.74	2321 C	0	-6998
K -C	0.74	2321 C	-6998	0
C -T	0.24	2127 C	0	-1775
T -Q	0.22	15 T	-1775	-467
Q -Q	0.06	55 T	-467	0
--------Bottom Chords---------				
A -A	0.00	0 T	0	-24
A -F	0.54	1754 T	-24	-2260
F -H	0.54	1762 T	-2260	0
H -E	0.54	1762 T	0	-2260
E -O	0.54	1754 T	-2260	-24
O -D	0.00	0 T	-24	0
------------Webs------------				
A -M	0.01	268 C		
A -S	0.92	2377 C		
S -F	0.00	4 T		
F -B	0.06	257 T		
B -H	0.17	740 T		
H -K	0.57	828 C		
H -C	0.17	740 T		
E -C	0.06	257 T		
E -T	0.00	4 T		
T -O	0.92	2377 C		
O -Q	0.01	268 C		

TL Defl -0.23" in F -H L/999
TL Panel -0.28" in B -K L/302
(Note - TL = 1.33LL + DL)
LL Defl -0.17" in F -H L/999
Shear // Grain in B -K 0.32

Plates for each ply each face.
PLATING CONFORMS TO TPIC 2011
AND CSA 086.09 LIMIT STATES
VERIFY PLATE VALUES WITH
MITEK CANADA INC.
GRIP BASED ON NET AREA
METHOD FOR SPF LUMBER
CCMC ACCEPTANCE NO:
11996-L, 10319-L
12116-L, 12940-L, 12939-L
Plate - MT20 20 Ga, Net Area
Plate - MT8H 18 Ga, Net Area
Plate - MT16 16 Ga, Net Area

Jt	Type	Plt Size	X	Y	JSI
M	MT20	2.0x 4.0	Ctr	Ctr	0.30
S	MT20	6.0x 7.0	-1.3	-1.1	0.78
B	MT20	5.0x 6.0	Ctr	-0.2	0.63
K	MT20	2.0x 4.0	Ctr	Ctr	0.25
C	MT20	5.0x 6.0	Ctr	-0.2	0.63
T	MT20	6.0x 7.0	1.3	-1.1	0.78
Q	MT20	2.0x 4.0	Ctr	Ctr	0.30
A	MT20	5.0x 6.0	0.2	Ctr	0.77
F	MT20	4.0x 4.0	Ctr	Ctr	0.32
H	MT20	5.0x 6.0	Ctr	Ctr	0.57
E	MT20	4.0x 4.0	Ctr	Ctr	0.32
O	MT20	5.0x 6.0	-0.2	Ctr	0.77

Placement Tolerance Used 0.25 in.
Allowance For Ineffective Teeth
shall be 10.0%
Allowance for Rotation on Joint
shall be 5.0 deg.

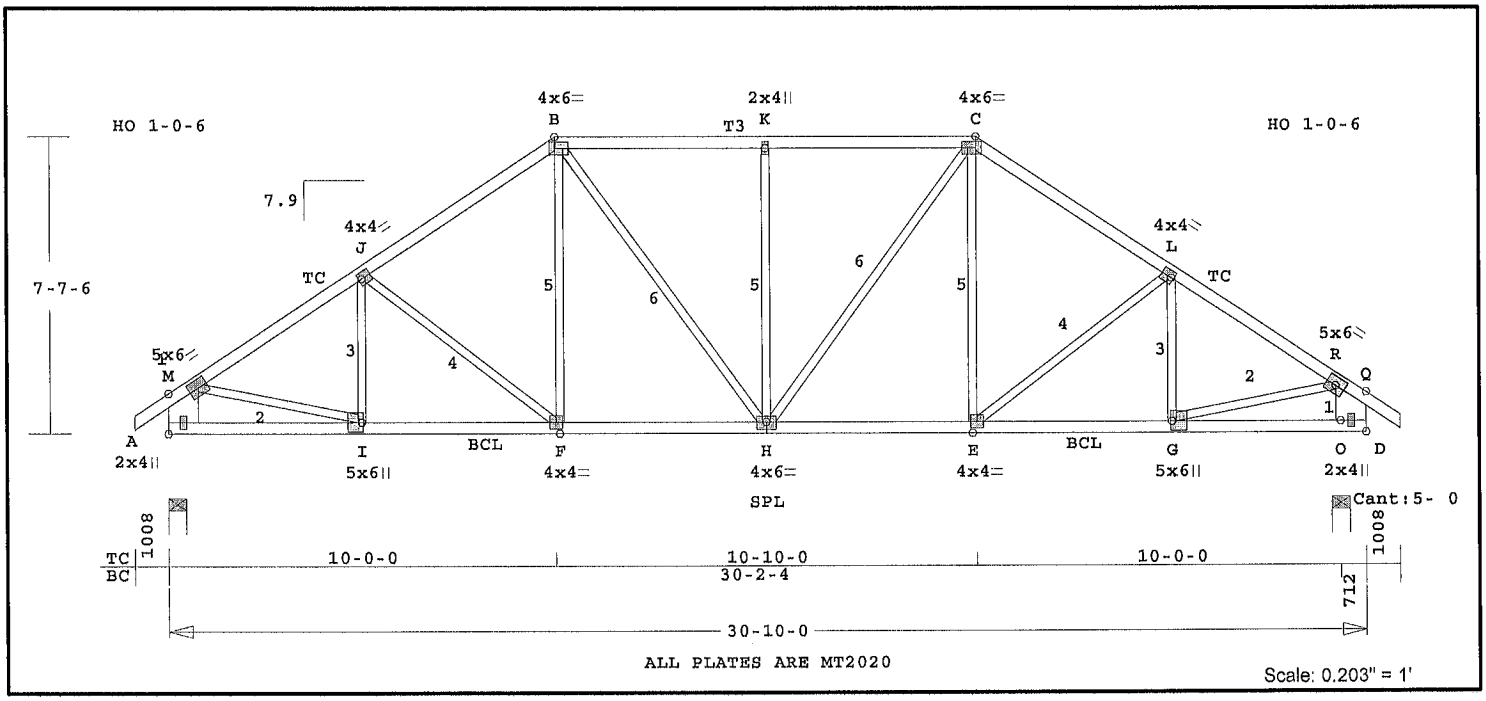
NOTES:
Trusses Manufactured by:
ALPA ROOF TRUSSES INC.
Analysis Conforms To:
TPIC-RES , Modified Formula
NBCC2005

OH Loading
Design Roof Snow Load Use:
Ground Snow Load = 37.6 psf
Rain Load = 8.4 psf
Non-slippery Roof
Importance Factor 1.00
Exposed to Wind Factor 1.00
Balanced Load Factor 0.55
Unbalanced Load Factor 0.00
FABRICATOR NOTES:
1. DESIGN CONFORMS TO OBC
PART 9 2012

REGISTERED PROFESSIONAL ENGINEER
JAN 6/16
E. FOK
PROVINCE OF ONTARIO

A:160117

Job	Mark	Quan	Type	Span	P1-H1	Left OH	Right OH	*Engineering*
263190	*H4*	1	HIPP	301000	7.9	10- 8	10- 8	



Robbins Engineering, Inc./Online Plus™

Online Plus -- Version 23.0.048
RUN DATE: 06-JAN-16

	CSI	-Size-	----Lumber----
TC	0.40	2x 4	SPF-#2
BC	0.41	2x 4	SPF-#2
WB	0.66	2x 3	SPF-#2
--	0.07	2x10	SPF-#2

A -M O -R

Importance Category : Normal
Condition at Manufacture : Dry
Treatment : Untreated
Service Condition : Dry

Brace truss as follows:

	O.C.	From	To
TC	Cont.	0- 0- 0	30-10- 0
BC	120.0"	0- 0- 0	30-10- 0

psf-Ld	Dead	Live	Snow
TC	3.0	0.0	29.0
BC	7.0	10.5	0.0
TC+BC	10.0	10.5	29.0

Total 49.5 Spacing 24.0"
Lumber Duration Factor 1.00
Plate Duration Factor 1.00
TC Fb=1.10 Fc=1.10 Ft=1.10
BC Fb=1.10 Fc=1.10 Ft=1.10

Unfactored Reactions (Lbs)

Jt	-DL-	-LL-	-SL-
A	314D	324D	946D
O	314D	324D	946D

TL Factored Reactions (Lbs)

Jt	Down	Uplift	Horiz-
A	1973		
O	1973		

Jt	Brg Size	Required
A	5.5"	2.1"
O	5.5"	2.1"

Maximum Downward Loadcase
LC# 1 Snow Loading
Dur Fctrs - Lbr 1.00 Plt 1.00

Plf	TC	Beg	End	From	To
Dist Dead	6	6		0.0	30.8
Dist Snow	58	58		0.0	30.8
Plf	BC	Beg	End	From	To
Dist Dead	14	14		0.0	30.8
Dist Live	21	21		0.0	30.8

Membr	CSI	P Lbs	M@1st	M@2nd
--------Top Chords--------				
M -M	0.01	10 T	0	-84
M -J	0.34	2208 C	-84	-3023
J -B	0.34	2011 C	-3023	0
B -K	0.40	1935 C	0	-3979
K -C	0.40	1935 C	-3979	0
C -L	0.34	2011 C	0	-3023
L -R	0.34	2208 C	-3023	-84
R -Q	0.01	10 T	-84	0
--------Bottom Chords--------				
A -A	0.00	0 T	0	-24
A -I	0.09	0 T	-24	-488
I -F	0.41	1869 T	-488	-955
F -H	0.38	1659 T	-955	0
H -E	0.38	1659 T	0	-955
E -G	0.41	1869 T	-955	-488
G -O	0.09	0 T	-488	-24
O -D	0.00	0 T	-24	0
----------Webs----------				
A -M	0.07	1905 C		
M -I	0.43	1909 T		
I -J	0.07	253 C		
J -F	0.21	272 C		
F -B	0.08	336 T		
B -H	0.10	462 T		
H -K	0.66	624 C		
H -C	0.10	462 T		
E -C	0.08	336 T		
E -L	0.21	272 C		
G -L	0.07	253 C		
G -R	0.43	1909 T		
O -R	0.07	1905 C		

TL Defl -0.17" in H -E L/999
TL Panel -0.11" in C -L L/632
(Note - TL = 1.33LL + DL)
LL Defl -0.13" in H -E L/999
Shear // Grain in B -K 0.24

Plates for each ply each face.
PLATING CONFORMS TO TPIC 2011
AND CSA 086.09 LIMIT STATES
VERIFY PLATE VALUES WITH
MITEK CANADA INC.
GRIP BASED ON NET AREA
METHOD FOR SPF LUMBER
CCMC ACCEPTANCE NO:
11996-L, 10319-L
12116-L, 12940-L, 12939-L
Plate - MT20 20 Ga, Net Area
Plate - MT8H 18 Ga, Net Area
Plate - MT16 16 Ga, Net Area

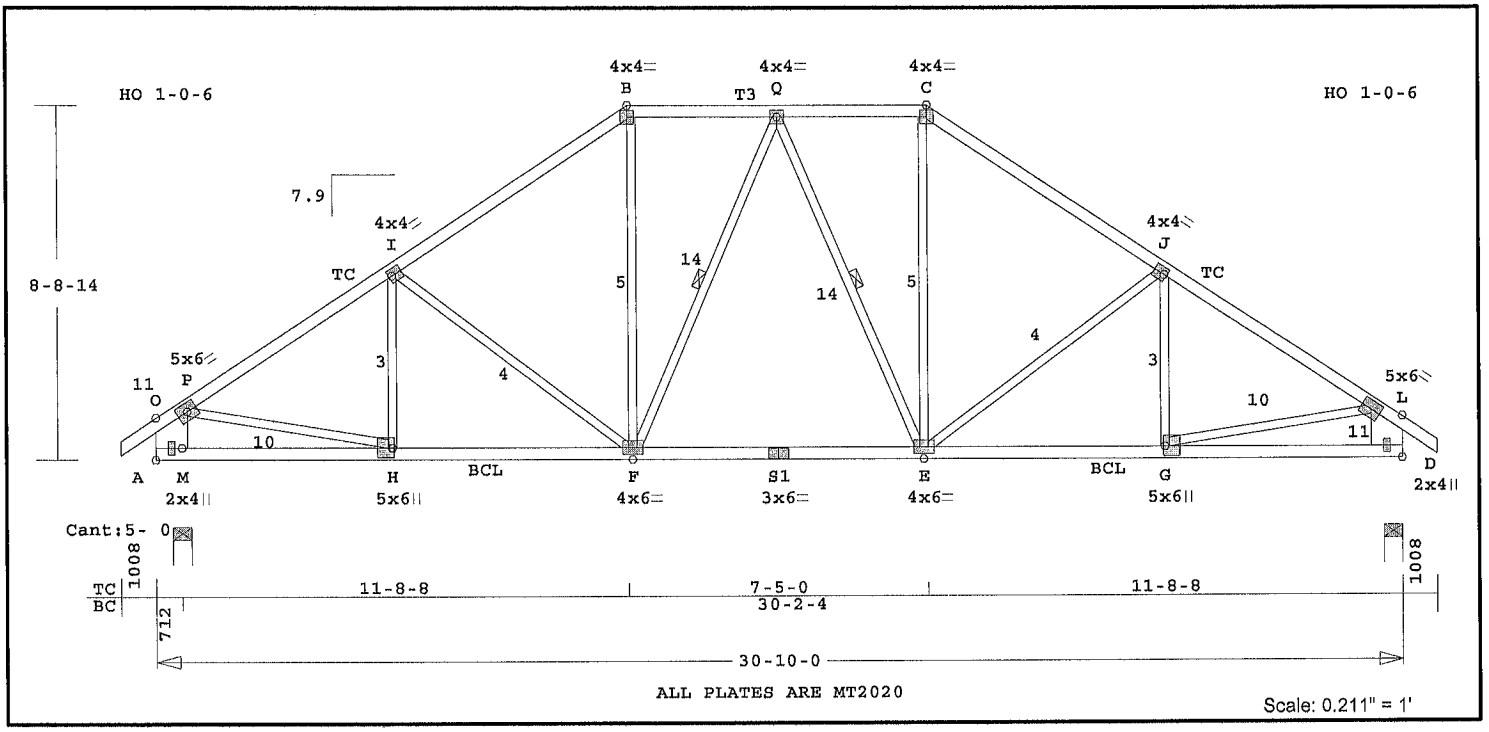
Jt	Type	Plt Size	X	Y	JSI
M	MT20	5.0x 6.0	Ctr	Ctr	0.75
J	MT20	4.0x 4.0	-0.2	-0.1	0.41
B	MT20	4.0x 6.0	Ctr	Ctr	0.66
K	MT20	2.0x 4.0	Ctr	Ctr	0.24
C	MT20	4.0x 6.0	Ctr	Ctr	0.66
L	MT20	4.0x 4.0	0.2	-0.1	0.41
R	MT20	5.0x 6.0	Ctr	Ctr	0.75
A	MT20	2.0x 4.0	Ctr	Ctr	0.57
I	MT20	5.0x 6.0	-2.0	0.1	0.74
F	MT20	4.0x 4.0	Ctr	Ctr	0.32
H	MT20	4.0x 6.0	Ctr	-0.3	0.59
E	MT20	4.0x 4.0	Ctr	Ctr	0.32
G	MT20	5.0x 6.0	2.0	0.1	0.74
O	MT20	2.0x 4.0	Ctr	Ctr	0.57

Placement Tolerance Used 0.25 in.
Allowance For Ineffective Teeth
shall be 10.0%
Allowance for Rotation on Joint
shall be 5.0 deg.

NOTES:
Trusses Manufactured by:
ALPA ROOF TRUSSES INC.
Analysis Conforms To:
TPIC-RES , Modified Formula
NBCC2005
OH Loading
Design Roof Snow Load Use:
Ground Snow Load = 37.6 psf
Rain Load = 8.4 psf
Non-slippery Roof
Importance Factor 1.00
Exposed to Wind Factor 1.00
Balanced Load Factor 0.55
Unbalanced Load Factor 0.00
FABRICATOR NOTES:
1. DESIGN CONFORMS TO OBC
PART 9 2012

A-1601176

Job	Mark	Quan	Type	Span	P1-H1	Left OH	Right OH	Engineering
263190	H5	1	HIPP	301000	7.9	10- 8	10- 8	



Robbins Engineering, Inc./Online Plus™

Online Plus -- Version 23.0.048
RUN DATE: 06-JAN-16

	CSI	-Size-	----Lumber----
TC	0.48	2x 4	SPF-#2
BC	0.45	2x 4	SPF-#2
WB	0.49	2x 3	SPF-#2
--	0.07	2x10	SPF-#2
	M -P	D -L	

Importance Category : Normal
Condition at Manufacture : Dry
Treatment : Untreated
Service Condition : Dry

Brace truss as follows:

	O.C.	From	To
TC	Cont.	0- 0- 0	30-10- 0
BC	120.0"	0- 0- 0	30-10- 0

One Continuous Lateral Brace
F -Q Q -E
All braces 1x4"

psf-Ld	Dead	Live	Snow
TC	3.0	0.0	29.0
BC	7.0	10.5	0.0
TC+BC	10.0	10.5	29.0
Total	49.5	Spacing	24.0"

Lumber Duration Factor 1.00
Plate Duration Factor 1.00
TC Fb=1.10 Fc=1.10 Ft=1.10
BC Fb=1.10 Fc=1.10 Ft=1.10

Unfactored Reactions (Lbs)

Jt	-DL-	-LL-	-SL-
M	314D	324D	946D
D	314D	324D	946D

TL Factored Reactions (Lbs)

Jt	Down	Uplift	Horiz-
M	1973		
D	1973		

Jt	Brg Size	Required
M	5.5"	2.1"
D	5.5"	2.1"

Maximum Downward Loadcase
LC# 1 Snow Loading
Dur Fctrs - Lbr 1.00 Plt 1.00

Plf	TC	Beg	End	From	To
Dist Dead	6	6		0.0	30.8
Dist Snow	58	58		0.0	30.8
Plf	BC	Beg	End	From	To
Dist Dead	14	14		0.0	30.8
Dist Live	21	21		0.0	30.8

Membr	CSI	P Lbs	M@1st	M@2nd
----------Top Chords----------				
O -P	0.01	10 T	0	-84
P -I	0.48	2235 C	-84	-4299
I -B	0.47	1890 C	-4299	0
B -Q	0.18	1557 C	0	-1704
Q -C	0.18	1557 C	-1704	0
C -J	0.47	1890 C	0	-4299
J -L	0.48	2235 C	-4299	-84
L -L	0.01	10 T	-84	0
--------Bottom Chords---------				
A -M	0.00	0 T	0	-24
M -H	0.13	0 T	-24	-799
H -F	0.45	1897 T	-799	-1272
F -S1	0.41	1646 T	-1272	909
S1-E	0.41	1646 T	909	-1272
E -G	0.45	1897 T	-1272	-799
G -D	0.13	0 T	-799	-24
D -D	0.00	0 T	-24	0
------------Webs------------				
M -P	0.07	1897 C		
P -H	0.43	1926 T		
H -I	0.06	169 C		
I -F	0.49	438 C		
F -B	0.15	665 T		
F -Q	0.13	225 C		1 Br
Q -E	0.13	225 C		1 Br
E -C	0.15	665 T		
E -J	0.49	438 C		
G -J	0.06	169 C		
G -L	0.43	1926 T		
D -L	0.07	1897 C		

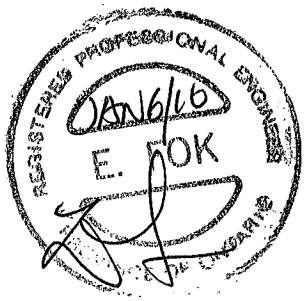
TL Defl -0.21" in F -E L/999
TL Panel -0.21" in I -B L/409
(Note - TL = 1.33LL + DL)
LL Defl -0.14" in F -E L/999
Shear // Grain in I -B 0.21

Plates for each ply each face.
PLATING CONFORMS TO TPIC 2011
AND CSA 086.09 LIMIT STATES
VERIFY PLATE VALUES WITH
MITEK CANADA INC.
GRIP BASED ON NET AREA
METHOD FOR SPF LUMBER
CCMC ACCEPTANCE NO:
11996-L, 10319-L
12116-L, 12940-L, 12939-L
Plate - MT20 20 Ga, Net Area
Plate - MT8H 18 Ga, Net Area
Plate - MT16 16 Ga, Net Area

Jt	Type	Plt Size	X	Y	JSI
P	MT20	5.0x 6.0	Ctr	Ctr	0.75
I	MT20	4.0x 4.0	-0.2	-0.1	0.41
B	MT20	4.0x 4.0	Ctr	Ctr	0.66
Q	MT20	4.0x 4.0	Ctr	Ctr	0.36
C	MT20	4.0x 4.0	Ctr	Ctr	0.66
J	MT20	4.0x 4.0	0.2	-0.1	0.41
L	MT20	5.0x 6.0	Ctr	Ctr	0.75
M	MT20	2.0x 4.0	Ctr	Ctr	0.57
H	MT20	5.0x 6.0	-2.0	0.1	0.76
F	MT20	4.0x 6.0	Ctr	Ctr	0.50
S1	MT20	3.0x 6.0	Ctr	Ctr	0.62
E	MT20	4.0x 6.0	Ctr	Ctr	0.50
G	MT20	5.0x 6.0	2.0	0.1	0.76
D	MT20	2.0x 4.0	Ctr	Ctr	0.57

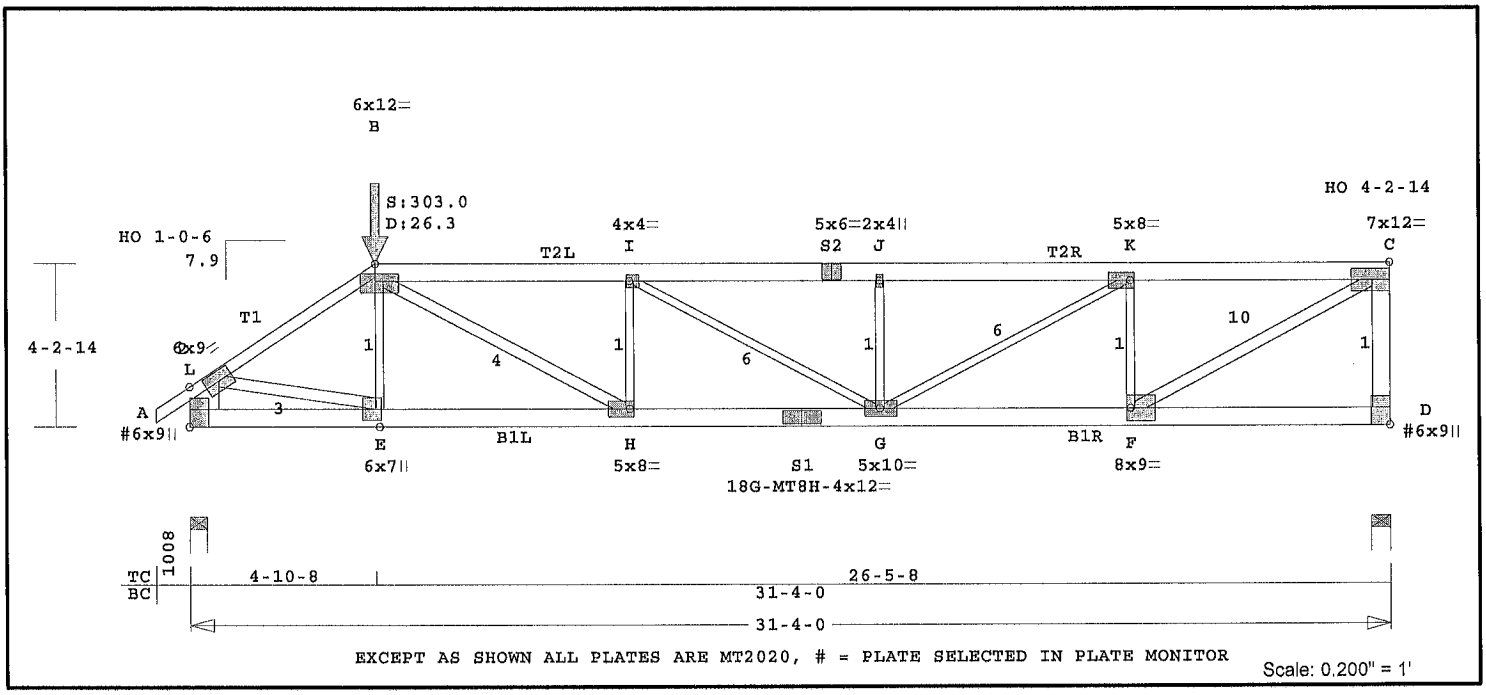
Placement Tolerance Used 0.25 in.
Allowance For Ineffective Teeth
shall be 10.0%
Allowance for Rotation on Joint
shall be 5.0 deg.

NOTES:
Trusses Manufactured by:
ALPA ROOF TRUSSES INC.
Analysis Conforms To:
TPIC-RES , Modified Formula
NBCC2005
OH Loading
Design Roof Snow Load Use:
Ground Snow Load = 37.6 psf
Rain Load = 8.4 psf
Non-slippery Roof
Importance Factor 1.00
Exposed to Wind Factor 1.00
Balanced Load Factor 0.55
Unbalanced Load Factor 0.00
FABRICATOR NOTES:
1. DESIGN CONFORMS TO OBC
PART 9 2012



A-1601177

Job	Mark	Quan	Type	Span	P1-H1	Left OH	Right OH	*Engineering*
263190	*H1A*	1	HHIP	310400	7.9	10- 8	0	



EXCEPT AS SHOWN ALL PLATES ARE MT2020, # = PLATE SELECTED IN PLATE MONITOR

Scale: 0.200" = 1'

Robbins Engineering, Inc./Online Plus™

Online Plus -- Version 23.0.048
RUN DATE: 06-JAN-16

	CSI	-Size-	----Lumber----
TC	0.97	2x 4	SPF-#2
--	0.81	2x 6	1650S1.5
	B -S2	S2-C	
BC	0.71	2x 6	1650S1.5
WB	0.79	2x 4	1650S1.5
--	0.15	2x10	SPF-#2
	A -L		
--	0.70	2x 4	SPF-#2
	L -E	B -H	
--	0.67	2x 3	SPF-#2
	E -B	H -I	I -G G -J
	G -K	F -K	
--	0.41	2x 6	SPF-#2
	D -C		

Importance Category : Normal
Condition at Manufacture : Dry
Treatment : Untreated
Service Condition : Dry

Brace truss as follows:

	O.C.	From	To
TC	Cont.	0- 0- 0	31- 4- 0
BC	120.0"	0- 0- 0	31- 4- 0

psf-Ld	Dead	Live	Snow
TC	3.0	0.0	29.0
BC	7.0	10.5	0.0
TC+BC	10.0	10.5	29.0
Total	49.5	Spacing	24.0"

Lumber Duration Factor 1.00
Plate Duration Factor 1.00
TC Fb=1.00 Fc=1.00 Ft=1.00
BC Fb=1.00 Fc=1.00 Ft=1.00

Unfactored Reactions (Lbs)

Jt	-DL-	-LL-	-SL-
A	617D	651D	1767D
D	615D	644D	1793D

TL Factored Reactions (Lbs)

Jt	Down	Uplift	Horiz-
A	3748		
D	3780		

Jt	Brg Size	Required
A	5.5"	4.1"
D	6.0"	4.1"

Maximum Downward Loadcase
LC# 1 Snow Loading
Dur Fctrs - Lbr 1.00 Plt 1.00

Plf	TC	Beg	End	From	To
Dist	Dead	6	6	0.0	31.3
Dist	Snow	58	58	0.0	31.3
Dist	Dead	6	6	4.9	31.3
Dist	Snow	56	56	4.9	31.3
Plf	BC	Beg	End	From	To
Dist	Dead	14	14	0.0	31.3
Dist	Live	21	21	0.0	31.3
Dist	Dead	14	14	4.9	31.3
Dist	Live	20	20	4.9	31.3
Dist	Dead	14	14	0.0	4.9
Dist	Live	20	20	0.0	4.9

Membr	CSI	P Lbs	M@1st	M@2nd
Top Chords				
L -L	0.01	10 T	0	-84
L -B	0.97	4664 C	-84	0
B -I	0.79	7268 C	0	-8884
I -S2	0.78	7545 C	-8884	1353
S2-J	0.61	7545 C	1353	-5345
J -K	0.81	7545 C	-5345	-9035
K -C	0.68	5316 C	-9035	-58
Bottom Chords				
A -A	0.00	0 T	0	-49
A -E	0.15	0 T	-49	-1721
E -H	0.41	3894 T	-1721	-1180
H -S1	0.71	7267 T	-1180	2379
S1-G	0.69	7267 T	2379	-411
G -F	0.53	5316 T	-411	-2165
F -D	0.21	0 T	-2165	-17
Webs				
A -L	0.15	3630 C		
L -E	0.70	3977 T		
E -B	0.10	405 C		
B -H	0.69	3889 T		
H -I	0.39	1573 C		
I -G	0.08	321 T		
G -J	0.28	1124 C		
G -K	0.64	2576 T		
F -K	0.67	2668 C		
F -C	0.79	6143 T		
D -C	0.41	3614 C		

TL Defl -0.59" in H -G L/621
TL Panel -0.14" in L -B L/445
(Note - TL = 1.33LL + DL)
LL Defl -0.47" in H -G L/769
Shear // Grain in B -I 0.48

Plates for each ply each face.
PLATING CONFORMS TO TPIC 2011
AND CSA 086.09 LIMIT STATES
VERIFY PLATE VALUES WITH
MITEK CANADA INC.
GRIP BASED ON NET AREA
METHOD FOR SPF LUMBER
CCMC ACCEPTANCE NO:
11996-L, 10319-L
12116-L, 12940-L, 12939-L
Plate - MT20 20 Ga, Net Area
Plate - MT8H 20 Ga, Net Area
Plate - MT16 20 Ga, Net Area

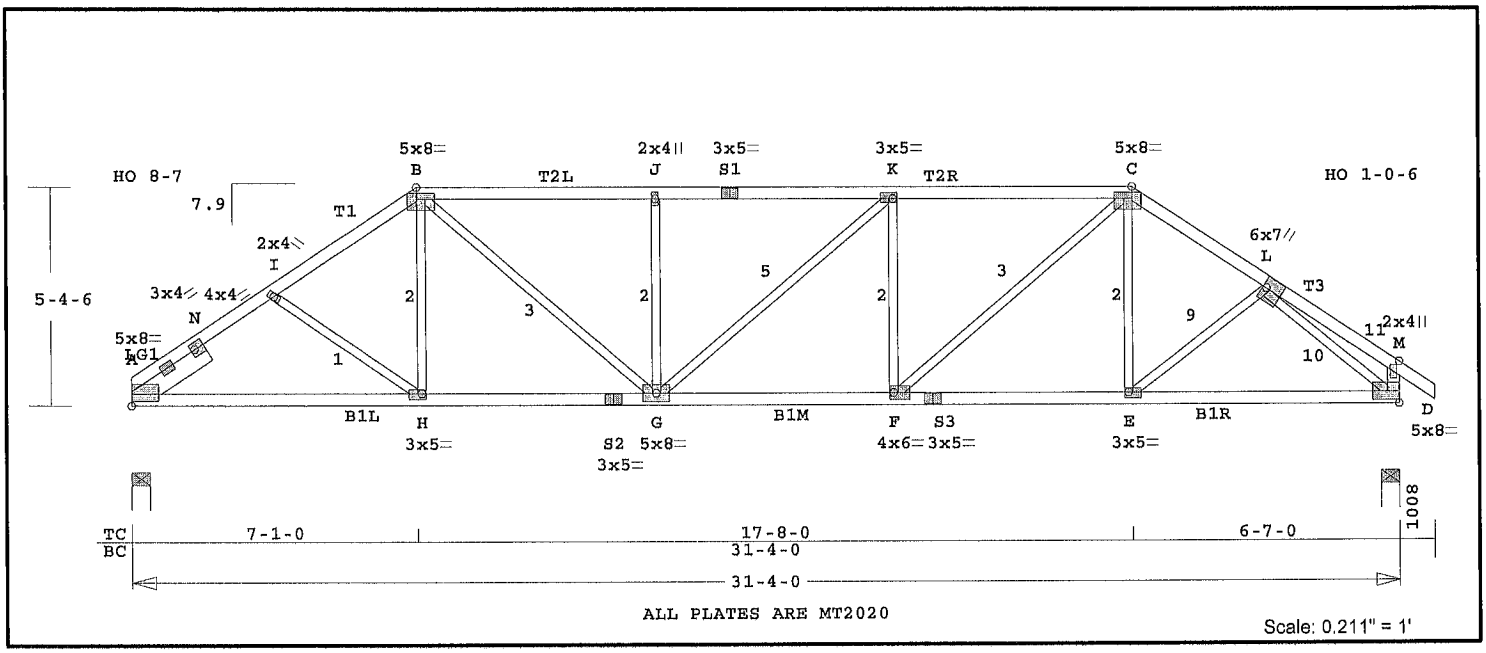
Jt	Type	Plt Size	X	Y	JSI
L	MT20	6.0x 9.0	Ctr	Ctr	0.78
B	MT20	6.0x12.0	Ctr	-0.6	0.85
I	MT20	4.0x 4.0	-0.2	Ctr	0.59
S2	MT20	5.0x 6.0	Ctr	Ctr	0.71
J	MT20	2.0x 4.0	Ctr	Ctr	0.34
K	MT20	5.0x 8.0	-1.5	Ctr	0.75
C	MT20	7.0x12.0	-0.5	Ctr	0.83
A#	MT20	6.0x 9.0	-1.6	-1.0	0.20
E	MT20	6.0x 7.0	-2.5	0.1	0.85
H	MT20	5.0x 8.0	-1.5	Ctr	0.73
S1	MT8H	4.0x12.0	Ctr	Ctr	0.75
G	MT20	5.0x10.0	0.2	Ctr	0.78
F	MT20	8.0x 9.0	2.0	Ctr	0.85
D#	MT20	6.0x 9.0	-0.2	-1.0	0.22

\# = Plate Monitor used
Placement Tolerance Used 0.25 in.
Allowance For Ineffective Teeth
shall be 10.0%
Allowance for Rotation on Joint
shall be 5.0 deg.

NOTES:
Trusses Manufactured by:
ALPA ROOF TRUSSES INC.
Analysis Conforms To:
TPIC-RES , Standard Formula
NBCC2005
OH Loading
NOTE: USER MODIFIED PLATES
This design may have plates
selected through a plate
monitor.
Design Roof Snow Load Use:
Ground Snow Load = 37.6 psf
Rain Load = 8.4 psf
Non-slippery Roof
Importance Factor 1.00
Exposed to Wind Factor 1.00
Balanced Load Factor 0.55
Unbalanced Load Factor 0.00
FABRICATOR NOTES:
1. DESIGN CONFORMS TO OBC
PART 9 2012

A-1601178

Job	Mark	Quan	Type	Span	P1-H1	Left OH	Right OH	Engineering
263190	H2A	1	SP	310400	7.9	0	10- 8	



ALL PLATES ARE MT2020

Scale: 0.211" = 1'

Robbins Engineering, Inc./Online Plus™

Online Plus -- Version 23.0.048
RUN DATE: 06-JAN-16

	CSI	-Size-	----Lumber----
TC	0.52	2x 4	SPF-#2
BC	0.55	2x 4	SPF-#2
WB	0.75	2x 3	SPF-#2
--	0.02	2x 4	SPF-#2
	D -M		
SL	0.09	2x 6	SPF-#2

Importance Category : Normal
Condition at Manufacture : Dry
Treatment : Untreated
Service Condition : Dry

Brace truss as follows:

	O.C.	From	To
TC	Cont.	0- 0- 0	31- 4- 0
BC	120.0"	0- 0- 0	31- 4- 0

psf-Ld	Dead	Live	Snow
TC	3.0	0.0	29.0
BC	7.0	10.5	0.0
TC+BC	10.0	10.5	29.0
Total	49.5	Spacing	24.0"

Lumber Duration Factor 1.00
Plate Duration Factor 1.00
TC Fb=1.10 Fc=1.10 Ft=1.10
BC Fb=1.10 Fc=1.10 Ft=1.10

Unfactored Reactions (Lbs)

Jt	-DL-	-LL-	-SL-
A	312D	327D	905D
D	320D	331D	965D

TL Factored Reactions (Lbs)

Jt	Down	Uplift	Horiz-
A	1911		
D	2013		

Jt	Brg Size	Required
A	5.5"	2.1"
D	5.5"	2.2"

Maximum Downward Loadcase
LC# 1 Snow Loading
Dur Fctrs - Lbr 1.00 Plt 1.00

Plf	TC	Beg	End	From	To
Dist	Dead	6	6	0.0	31.3
Dist	Snow	58	58	0.0	31.3
Plf	BC	Beg	End	From	To
Dist	Dead	14	14	0.0	31.3
Dist	Live	21	21	0.0	31.3

Membr	CSI	P Lbs	M@1st	M@2nd
----------Top Chords----------				
A -N	0.26	1663 C	384	-2642
N -I	0.30	2685 C	-2642	45
I -B	0.28	2493 C	45	0
B -J	0.52	2927 C	0	-3733
J -S1	0.42	2927 C	-3733	508
S1-K	0.44	2927 C	508	-3776
K -C	0.51	2880 C	-3776	0
C -L	0.18	2351 C	0	-1005
L -M	0.13	12 T	-1005	-156
--------Bottom Chords---------				
A -H	0.51	2187 T	-1397	-897
H -S2	0.44	2084 T	-897	23
S2-G	0.43	2084 T	23	-796
G -F	0.55	2880 T	-796	-715
F -S3	0.39	1951 T	-715	-30
S3-E	0.46	1951 T	-30	-1296
E -D	0.45	1869 T	-1296	-3
----------Webs----------				
I -H	0.05	132 C		
H -B	0.06	244 T		
B -G	0.25	1111 T		
G -J	0.26	602 C		
G -K	0.01	62 T		
F -K	0.28	644 C		
F -C	0.28	1224 T		
E -C	0.03	130 T		
E -L	0.02	103 T		
L -D	0.75	2534 C		
D -M	0.02	222 C		
----------Sliders----------				
A -N	0.09	1175 C		

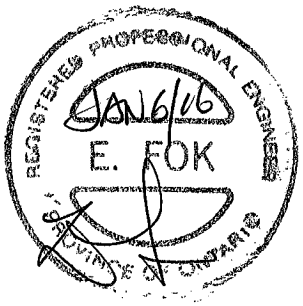
TL Defl -0.29" in G -F L/999
TL Panel -0.17" in B -J L/419
(Note - TL = 1.33LL + DL)
LL Defl -0.23" in G -F L/999
Shear // Grain in B -J 0.25

Plates for each ply each face.
PLATING CONFORMS TO TPIC 2011
AND CSA 086.09 LIMIT STATES
VERIFY PLATE VALUES WITH
MITEK CANADA INC.
GRIP BASED ON NET AREA
METHOD FOR SPF LUMBER
CCMC ACCEPTANCE NO:
11996-L, 10319-L
12116-L, 12940-L, 12939-L
Plate - MT20 20 Ga, Net Area
Plate - MT8H 18 Ga, Net Area
Plate - MT16 16 Ga, Net Area

Jt	Type	Plt Size	X	Y	JSI
A	MT20	5.0x 8.0	4.0	Ctr	0.84
A	MT20	3.0x 4.0	Ctr	Ctr	0.00
N	MT20	4.0x 4.0	-0.2	-0.1	0.41
I	MT20	2.0x 4.0	Ctr	Ctr	0.30
B	MT20	5.0x 8.0	Ctr	-0.8	0.80
J	MT20	2.0x 4.0	Ctr	Ctr	0.24
S1	MT20	3.0x 5.0	Ctr	Ctr	0.57
K	MT20	3.0x 5.0	Ctr	0.2	0.56
C	MT20	5.0x 8.0	Ctr	-0.8	0.81
L	MT20	6.0x 7.0	1.6	-1.2	0.78
M	MT20	2.0x 4.0	Ctr	Ctr	0.30
H	MT20	3.0x 5.0	Ctr	-0.2	0.56
S2	MT20	3.0x 5.0	Ctr	Ctr	0.63
G	MT20	5.0x 8.0	Ctr	Ctr	0.50
F	MT20	4.0x 6.0	0.5	Ctr	0.59
S3	MT20	3.0x 5.0	Ctr	Ctr	0.60
E	MT20	3.0x 5.0	Ctr	-0.2	0.56
D	MT20	5.0x 8.0	-0.5	Ctr	0.71

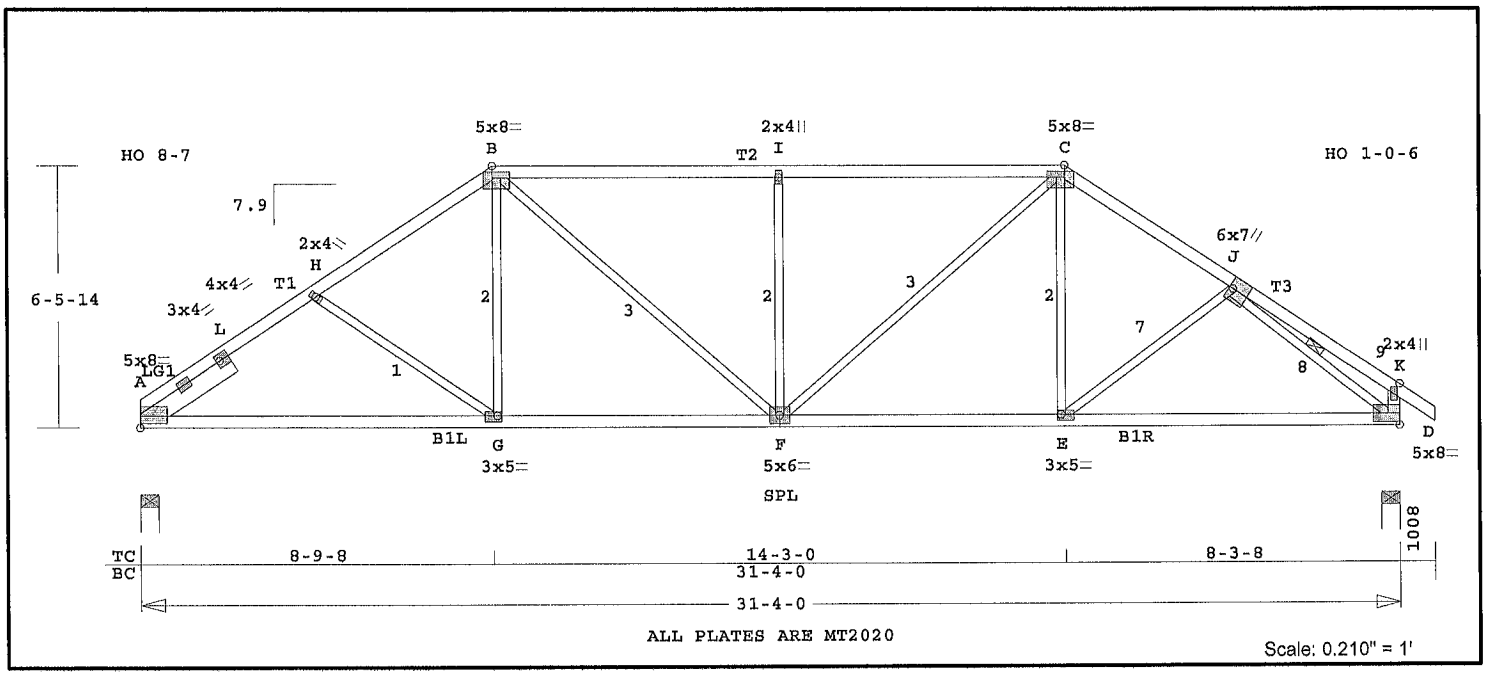
Placement Tolerance Used 0.25 in.
Allowance For Ineffective Teeth
shall be 10.0%
Allowance for Rotation on Joint
shall be 5.0 deg.

NOTES:
Trusses Manufactured by:
ALPA ROOF TRUSSES INC.
Analysis Conforms To:
TPIC-RES , Modified Formula
NBCC2005
OH Loading
Design Roof Snow Load Use:
Ground Snow Load = 37.6 psf
Rain Load = 8.4 psf
Non-slippery Roof
Importance Factor 1.00
Exposed to Wind Factor 1.00
Balanced Load Factor 0.55
Unbalanced Load Factor 0.00
FABRICATOR NOTES:
1. DESIGN CONFORMS TO OBC
PART 9 2012



A-1601179

Job	Mark	Quan	Type	Span	P1-H1	Left OH	Right OH	*Engineering*
263190	*H3A*	1	SP	310400	7.9	0	10- 8	



ALL PLATES ARE MT2020

Scale: 0.210" = 1'

Robbins Engineering, Inc./Online Plus™

Online Plus -- Version 23.0.048
RUN DATE: 06-JAN-16

	CSI	-Size-	----Lumber----
TC	0.76	2x 4	SPF-#2
BC	0.58	2x 4	SPF-#2
WB	0.57	2x 3	SPF-#2
--	0.02	2x 4	SPF-#2
	D -K		
SL	0.09	2x 6	SPF-#2

Importance Category : Normal
Condition at Manufacture : Dry
Treatment : Untreated
Service Condition : Dry

Brace truss as follows:

	O.C.	From	To
TC	Cont.	0- 0- 0	31- 4- 0
BC	120.0"	0- 0- 0	31- 4- 0

One Continuous Lateral Brace
J -D
All braces 1x4"

psf-Ld	Dead	Live	Snow
TC	3.0	0.0	29.0
BC	7.0	10.5	0.0
TC+BC	10.0	10.5	29.0

Total 49.5 Spacing 24.0"
Lumber Duration Factor 1.00
Plate Duration Factor 1.00
TC Fb=1.10 Fc=1.10 Ft=1.10
BC Fb=1.10 Fc=1.10 Ft=1.10

Unfactored Reactions (Lbs)

Jt	-DL-	-LL-	-SL-
A	312D	327D	905D
D	320D	331D	965D

TL Factored Reactions (Lbs)

Jt	Down	Uplift	Horiz-
A	1911		
D	2013		

Jt	Brg Size	Required
A	5.5"	2.1"
D	5.5"	2.2"

Maximum Downward Loadcase
LC# 1 Snow Loading
Dur Fctrs - Lbr 1.00 Plt 1.00

Plf	TC	Beg	End	From	To
Dist	Dead	6	6	0.0	31.3
Dist	Snow	58	58	0.0	31.3
Plf	BC	Beg	End	From	To
Dist	Dead	14	14	0.0	31.3
Dist	Live	21	21	0.0	31.3

Membr	CSI	P Lbs	M@1st	M@2nd
----------Top Chords----------				
A -L	0.20	1750 C	545	-1935
L -H	0.24	2657 C	-1935	-1035
H -B	0.35	2374 C	-1035	0
B -I	0.76	2495 C	0	-6990
I -C	0.76	2495 C	-6990	0
C -J	0.25	2284 C	0	-1936
J -K	0.24	20 T	-1936	-156
--------Bottom Chords---------				
A -G	0.57	2204 T	-1769	-1891
G -F	0.53	1978 T	-1891	0
F -E	0.57	1892 T	0	-2344
E -D	0.58	1939 T	-2344	-3
------------Webs------------				
H -G	0.15	283 C		
G -B	0.09	399 T		
B -F	0.15	685 T		
F -I	0.57	827 C		
F -C	0.18	799 T		
E -C	0.07	307 T		
E -J	0.03	67 C		
J -D	0.55	2558 C	1 Br	
D -K	0.02	248 C		
----------Sliders----------				
A -L	0.09	1046 C		

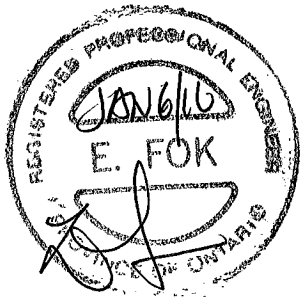
TL Defl -0.28" in G -F L/999
TL Panel -0.28" in I -C L/302
(Note - TL = 1.33LL + DL)
LL Defl -0.20" in G -F L/999
Shear // Grain in B -I 0.32

Plates for each ply each face.
PLATING CONFORMS TO TPIC 2011
AND CSA 086.09 LIMIT STATES
VERIFY PLATE VALUES WITH
MITEK CANADA INC.
GRIP BASED ON NET AREA
METHOD FOR SPF LUMBER
CCMC ACCEPTANCE NO:
11996-L, 10319-L
12116-L, 12940-L, 12939-L
Plate - MT20 20 Ga, Net Area
Plate - MT8H 18 Ga, Net Area
Plate - MT16 16 Ga, Net Area

Jt	Type	Plt Size	X	Y	JSI
A	MT20	5.0x 8.0	4.0	Ctr	0.84
A	MT20	3.0x 4.0	Ctr	Ctr	0.00
L	MT20	4.0x 4.0	-0.2	-0.1	0.37
H	MT20	2.0x 4.0	Ctr	Ctr	0.30
B	MT20	5.0x 8.0	Ctr-0.8		0.80
I	MT20	2.0x 4.0	Ctr	Ctr	0.25
C	MT20	5.0x 8.0	Ctr-0.8		0.81
J	MT20	6.0x 7.0	1.5-1.2		0.80
K	MT20	2.0x 4.0	Ctr	Ctr	0.30
G	MT20	3.0x 5.0	Ctr-0.2		0.60
F	MT20	5.0x 6.0	Ctr	Ctr	0.63
E	MT20	3.0x 5.0	Ctr-0.2		0.56
D	MT20	5.0x 8.0-0.5	Ctr		0.70

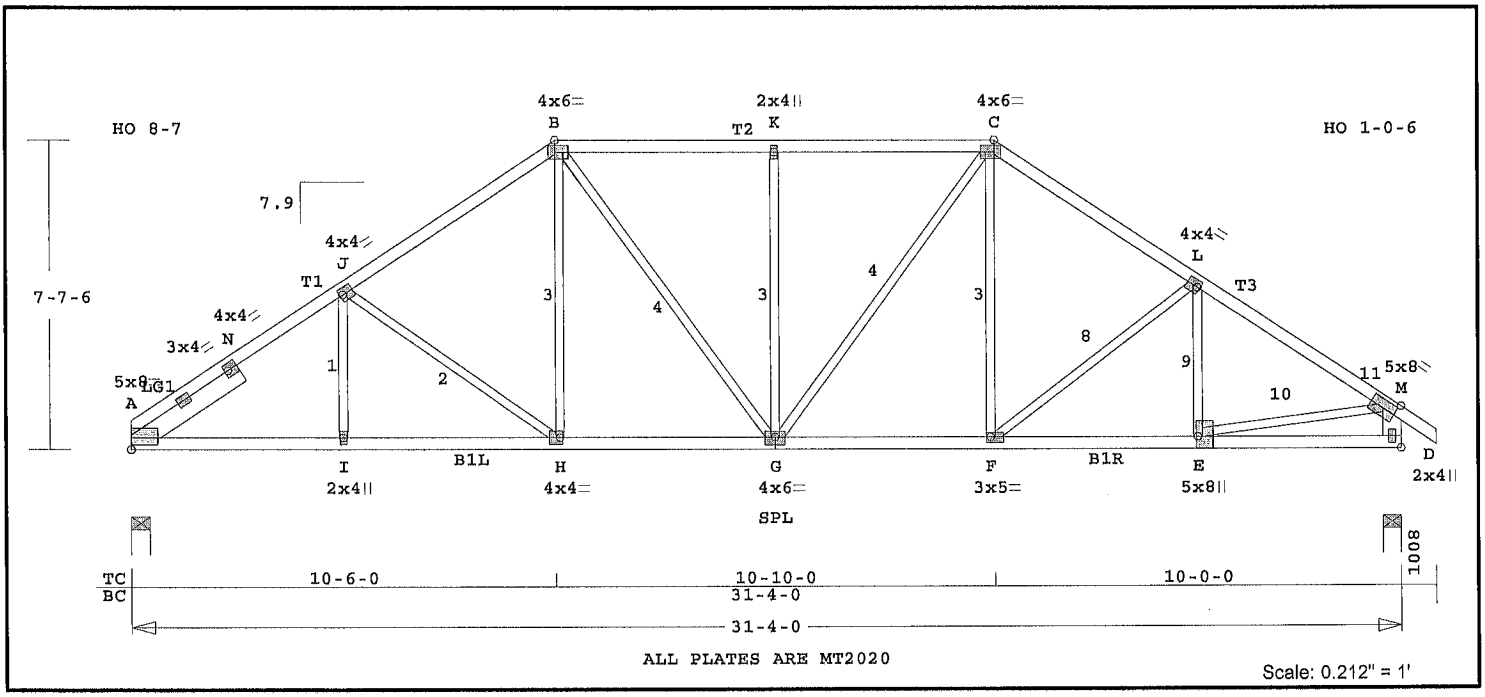
Placement Tolerance Used 0.25 in.
Allowance For Ineffective Teeth
shall be 10.0%
Allowance for Rotation on Joint
shall be 5.0 deg.

NOTES:
Trusses Manufactured by:
ALPA ROOF TRUSSES INC.
Analysis Conforms To:
TPIC-RES , Modified Formula
NBCC2005
OH Loading
Design Roof Snow Load Use:
Ground Snow Load = 37.6 psf
Rain Load = 8.4 psf
Non-slippery Roof
Importance Factor 1.00
Exposed to Wind Factor 1.00
Balanced Load Factor 0.55
Unbalanced Load Factor 0.00
FABRICATOR NOTES:
1. DESIGN CONFORMS TO OBC
PART 9 2012



A-1601180

Job	Mark	Quan	Type	Span	P1-H1	Left OH	Right OH	*Engineering*
263190	*H4A*	1	SP	310400	7.9	0	10- 8	



Robbins Engineering, Inc./Online Plus™

Online Plus -- Version 23.0.048
RUN DATE: 06-JAN-16

	CSI	-Size-	----Lumber----
TC	0.43	2x 4	SPF-#2
BC	0.48	2x 4	SPF-#2
WB	0.66	2x 3	SPF-#2
--	0.12	2x 6	SPF-#2
	D -M		
SL	0.11	2x 6	SPF-#2

Importance Category : Normal
Condition at Manufacture : Dry
Treatment : Untreated
Service Condition : Dry

Brace truss as follows:

	O.C.	From	To
TC	Cont.	0- 0- 0	31- 4- 0
BC	120.0"	0- 0- 0	31- 4- 0

psf-Ld	Dead	Live	Snow
TC	3.0	0.0	29.0
BC	7.0	10.5	0.0
TC+BC	10.0	10.5	29.0
Total	49.5	Spacing	24.0"

Lumber Duration Factor 1.00
Plate Duration Factor 1.00
TC Fb=1.10 Fc=1.10 Ft=1.10
BC Fb=1.10 Fc=1.10 Ft=1.10

Unfactored Reactions (Lbs)

Jt	-DL-	-LL-	-SL-
A	311D	327D	903D
D	321D	331D	967D

TL Factored Reactions (Lbs)

Jt	Down	Uplift	Horiz-
A	1906		
D	2017		

Jt	Brg Size	Required
A	5.5"	2.1"
D	5.5"	2.2"

Maximum Downward Loadcase
LC# 1 Snow Loading
Dur Fctrs - Lbr 1.00 Plt 1.00

Plf	TC	Beg	End	From	To
Dist Dead		6	6	0.0	31.3
Dist Snow		58	58	0.0	31.3
Plf	BC	Beg	End	From	To
Dist Dead		14	14	0.0	31.3
Dist Live		21	21	0.0	31.3

Membr	CSI	P Lbs	M@1st	M@2nd
----------Top Chords----------				
A -N	0.17	1687 C	448	-1634
N -J	0.25	2645 C	-1634	-1957
J -B	0.43	2200 C	-1957	0
B -K	0.41	2067 C	0	-3974
K -C	0.41	2067 C	-3974	0
C -L	0.35	2132 C	0	-3115
L -M	0.36	2363 C	-3115	-29

--------Bottom Chords---------					
A -I	0.47	2213 T	-1021	-194
I -H	0.48	2213 T	-194	-1072
H -G	0.42	1827 T	-1072	0
G -F	0.39	1759 T	0	-952
F -E	0.43	1998 T	-952	-500
E -D	0.10	0 T	-500	-8
----------Webs----------				
I -J	0.03	112 T		
J -H	0.38	483 C		
H -B	0.10	461 T		
B -G	0.09	404 T		
G -K	0.66	623 C		
G -C	0.12	517 T		
F -C	0.08	359 T		
F -L	0.24	309 C		
E -L	0.06	221 C		
E -M	0.46	2030 T		
D -M	0.12	1952 C		
----------Sliders----------				
A -N	0.11	1109 C		

TL Defl -0.20" in H -G L/999
TL Panel -0.19" in J -B L/388
(Note - TL = 1.33LL + DL)
LL Defl -0.15" in H -G L/999
Shear // Grain in B -K 0.24

Plates for each ply each face.
PLATING CONFORMS TO TPIC 2011
AND CSA 086.09 LIMIT STATES
VERIFY PLATE VALUES WITH
MITEK CANADA INC.
GRIP BASED ON NET AREA
METHOD FOR SPF LUMBER
CCMC ACCEPTANCE NO:
11996-L, 10319-L
12116-L, 12940-L, 12939-L
Plate - MT20 20 Ga, Net Area
Plate - MT8H 18 Ga, Net Area
Plate - MT16 16 Ga, Net Area

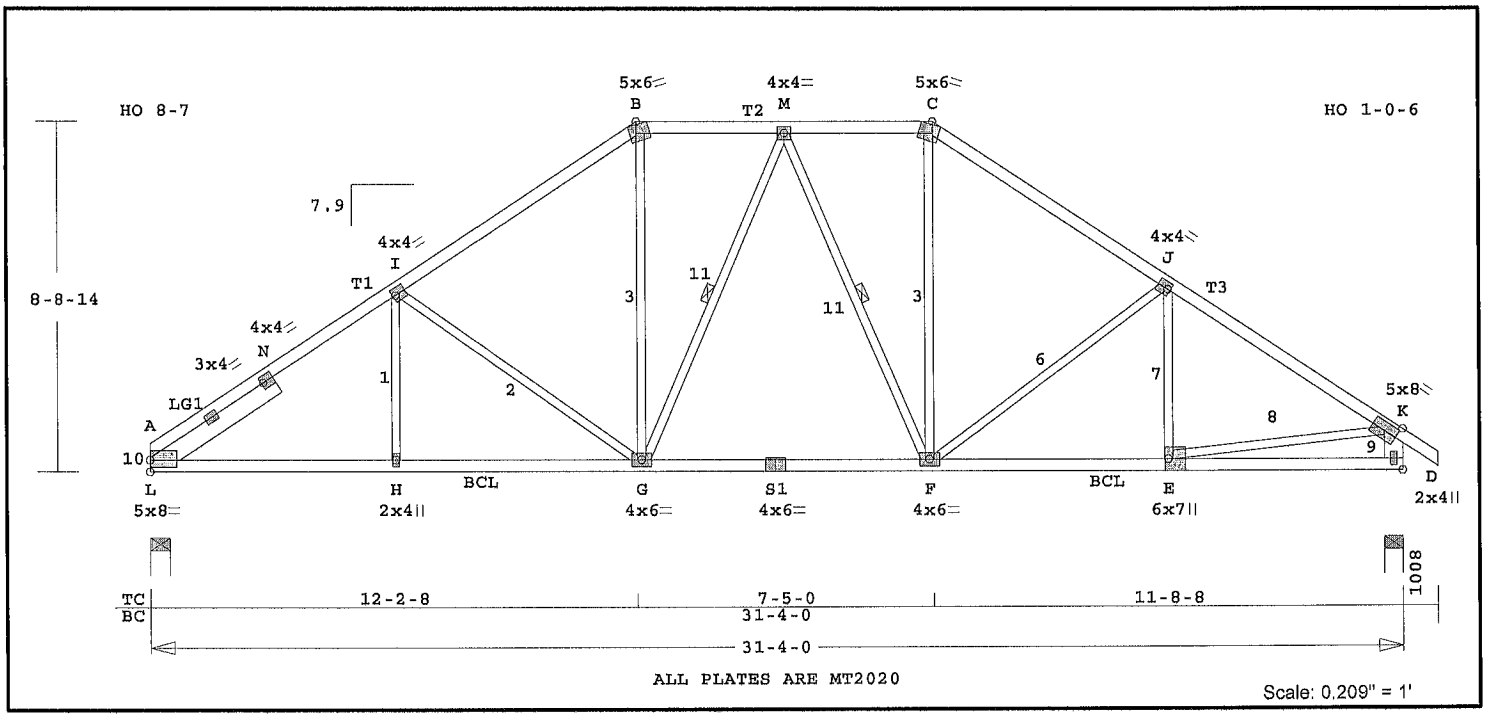
Jt	Type	Plt Size	X	Y	JSI
A	MT20	5.0x 8.0	4.0	Ctr	0.84
A	MT20	3.0x 4.0	Ctr	Ctr	0.00
N	MT20	4.0x 4.0	-0.2	-0.1	0.39
J	MT20	4.0x 4.0	-0.2	-0.1	0.41
B	MT20	4.0x 6.0	-0.2	Ctr	0.66
K	MT20	2.0x 4.0	Ctr	Ctr	0.24
C	MT20	4.0x 6.0	0.2	Ctr	0.66
L	MT20	4.0x 4.0	0.2	-0.1	0.41
M	MT20	5.0x 8.0	Ctr	Ctr	0.68
I	MT20	2.0x 4.0	Ctr	Ctr	0.24
H	MT20	4.0x 4.0	Ctr	Ctr	0.39
G	MT20	4.0x 6.0	Ctr	-0.3	0.65
F	MT20	3.0x 5.0	Ctr	-0.2	0.56
E	MT20	5.0x 8.0	2.0	0.6	0.80
D	MT20	2.0x 4.0	Ctr	Ctr	0.59

Placement Tolerance Used 0.25 in.
Allowance For Ineffective Teeth
shall be 10.0%
Allowance for Rotation on Joint
shall be 5.0 deg.

NOTES:
Trusses Manufactured by:
ALPA ROOF TRUSSES INC.
Analysis Conforms To:
TPIC-RES , Modified Formula
NBCC2005
OH Loading
Design Roof Snow Load Use:
Ground Snow Load = 37.6 psf
Rain Load = 8.4 psf
Non-slippery Roof
Importance Factor 1.00
Exposed to Wind Factor 1.00
Balanced Load Factor 0.55
Unbalanced Load Factor 0.00
FABRICATOR NOTES:
1. DESIGN CONFORMS TO OBC
PART 9 2012

A-160118-1

Job	Mark	Quan	Type	Span	P1-H1	Left OH	Right OH	*Engineering*
263190	*H5A*	2	SP	310400	7.9	0	10- 8	



ALL PLATES ARE MT2020

Scale: 0.209" = 1'

Robbins Engineering, Inc./Online Plus™

Online Plus -- Version 23.0.048
RUN DATE: 06-JAN-16

	CSI	-Size-	----Lumber----
TC	0.58	2x 4	SPF-#2
BC	0.68	2x 4	SPF-#2
WB	0.84	2x 3	SPF-#2
--	0.14	2x 6	SPF-#2
	D -K		
SL	0.15	2x 6	SPF-#2

Importance Category : Normal
Condition at Manufacture : Dry
Treatment : Untreated
Service Condition : Dry

Brace truss as follows:

	O.C.	From	To
TC	Cont.	0- 0- 0	31- 4- 0
BC	120.0"	0- 0- 0	31- 4- 0

One Continuous Lateral Brace
G -M M -F
All braces 1x4"

psf-Ld	Dead	Live	Snow
TC	3.0	0.0	29.0
BC	7.0	10.5	0.0
TC+BC	10.0	10.5	29.0
Total	49.5	Spacing	24.0"

Lumber Duration Factor 1.00
Plate Duration Factor 1.00
TC Fb=1.10 Fc=1.10 Ft=1.10
BC Fb=1.10 Fc=1.10 Ft=1.10

Unfactored Reactions (Lbs)

Jt	-DL-	-LL-	-SL-
A	311D	327D	903D
D	321D	331D	967D

TL Factored Reactions (Lbs)

Jt	Down	Uplift	Horiz-
A	2224		
D	2349		

Jt	Brg Size	Required
A	6.0"	2.4"
D	5.5"	2.5"

Maximum Downward Loadcase
LC# 3 Unbalanced Loading 2
Dur Fctrs - Lbr 1.00 Plt 1.00

Plf	TC	Beg	End	From	To
Dist Dead	6	6		0.0	31.3
Dist Snow	58	58		0.0	31.3
Dist Snow	-58	-58		0.0	0.1
Plf	BC	Beg	End	From	To
Dist Dead	14	14		0.0	31.3
Dist Live	21	21		0.0	31.3

Membr	CSI	P Lbs	M@1st	M@2nd
----------Top Chords----------				
L -N	0.20	2055 C	-591	1513
N -I	0.38	3047 C	-1139	-3123
I -B	0.58	2396 C	-3123	0
B -M	0.19	1990 C	0	-1640
M -C	0.19	1944 C	-1640	0
C -J	0.52	2351 C	0	-4370
J -K	0.55	2792 C	-4370	-29
--------Bottom Chords---------				
L -H	0.57	2568 T	-1357	-1278
H -G	0.68	2568 T	-1278	-2379
G -S1	0.60	2054 T	-2379	1512
S1-F	0.58	2054 T	1512	-2181
F -E	0.63	2362 T	-2181	-1594
E -D	0.23	0 T	-1594	-15
------------Webs------------				
H -I	0.07	322 T		
I -G	0.84	725 C		
G -B	0.21	918 T		
G -M	0.10	174 C		1 Br
M -F	0.17	281 C		1 Br
F -C	0.21	916 T		
F -J	0.61	540 C		
E -J	0.05	151 T		
E -K	0.54	2389 T		
D -K	0.14	2223 C		
----------Sliders-----------				
L -N	0.15	1159 C		

TL Defl -0.30" in G -F L/999
TL Panel -0.31" in I -B L/277
(Note - TL = 1.33LL + DL)
LL Defl -0.23" in G -F L/999
Shear // Grain in C -J 0.22

Plates for each ply each face.
PLATING CONFORMS TO TPIC 2011
AND CSA 086.09 LIMIT STATES
VERIFY PLATE VALUES WITH
MITEK CANADA INC.
GRIP BASED ON NET AREA
METHOD FOR SPF LUMBER
CCMC ACCEPTANCE NO:
11996-L, 10319-L
12116-L, 12940-L, 12939-L
Plate - MT20 20 Ga, Net Area
Plate - MT8H 18 Ga, Net Area
Plate - MT16 16 Ga, Net Area

Jt	Type	Plt Size	X	Y	JSI
L	MT20	5.0x 8.0	4.0	Ctr	0.97
L	MT20	3.0x 4.0	Ctr	Ctr	0.00
N	MT20	4.0x 4.0	-0.2	-0.1	0.41
I	MT20	4.0x 4.0	-0.2	-0.1	0.41
B	MT20	5.0x 6.0	1.0	-3.3	0.55
M	MT20	4.0x 4.0	Ctr	Ctr	0.36
C	MT20	5.0x 6.0	-1.0	-3.3	0.55
J	MT20	4.0x 4.0	0.2	-0.1	0.41
K	MT20	5.0x 8.0	Ctr	Ctr	0.78
H	MT20	2.0x 4.0	Ctr	Ctr	0.24
G	MT20	4.0x 6.0	Ctr	Ctr	0.69
S1	MT20	4.0x 6.0	Ctr	0.2	0.86
F	MT20	4.0x 6.0	Ctr	Ctr	0.69
E	MT20	6.0x 7.0	2.0	Ctr	0.80
D	MT20	2.0x 4.0	Ctr	Ctr	0.67

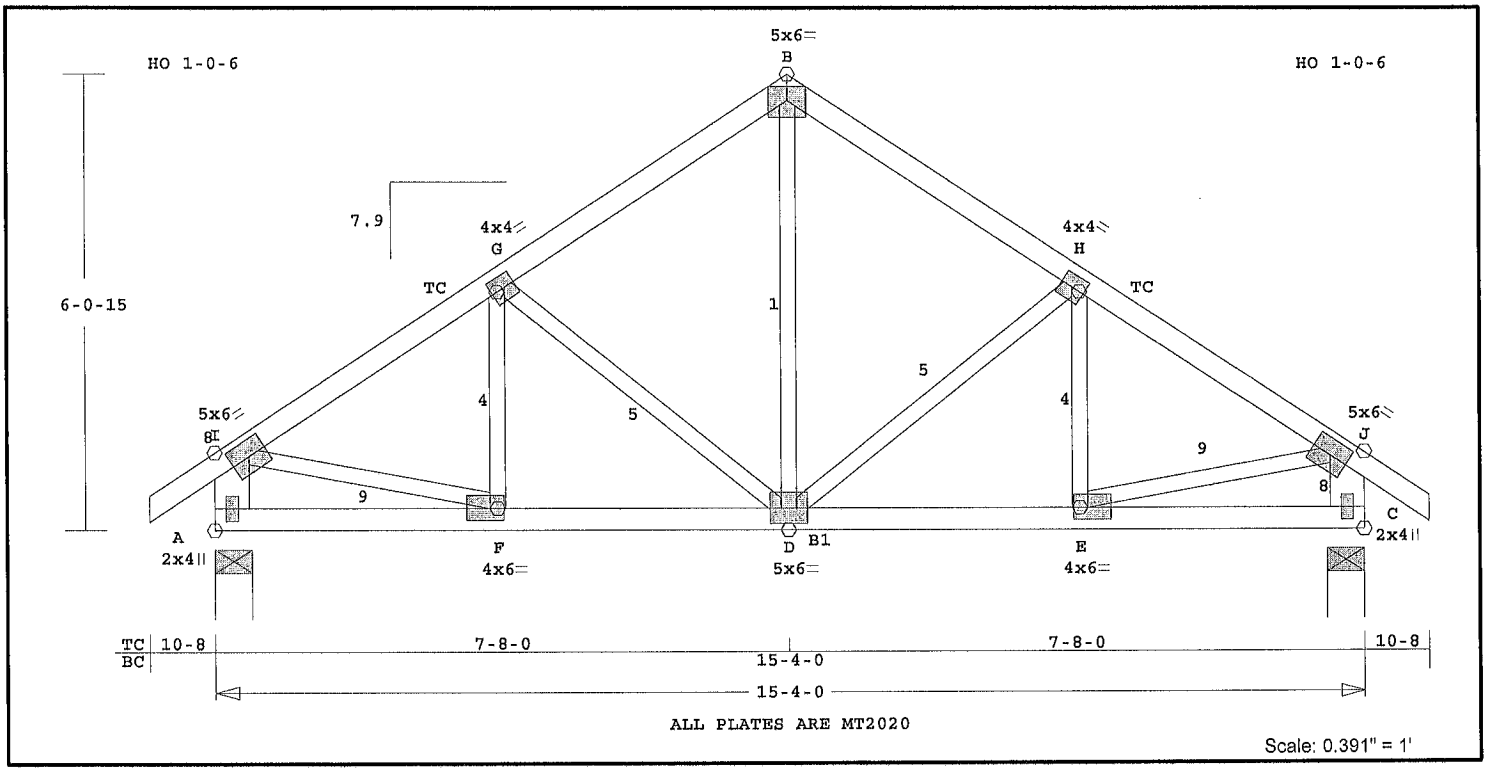
Placement Tolerance Used 0.25 in.

Allowance For Ineffective Teeth
shall be 10.0%
Allowance for Rotation on Joint
shall be 5.0 deg.

NOTES:
Trusses Manufactured by:
ALPA ROOF TRUSSES INC.
Analysis Conforms To:
TPIC-RES , Modified Formula
NBCC2005
OH Loading
Design Roof Snow Load Use:
Ground Snow Load = 37.6 psf
Rain Load = 8.4 psf
Non-slippery Roof
Importance Factor 1.00
Exposed to Wind Factor 1.00
Balanced Load Factor 0.55
Unbalanced Load Factor 0.00
FABRICATOR NOTES:
1. DESIGN CONFORMS TO OBC
PART 9 2012

A-1601182

Job	Mark	Quan	Type	Span	P1-H1	Left OH	Right OH	*Engineering*
263190	*H10A*	1	DUAL	150400	7.9	10- 8	10- 8	



Robbins Engineering, Inc./Online Plus™

Online Plus -- Version 23.0.048
RUN DATE: 06-JAN-16

	CSI	-Size-	----Lumber----
TC	0.42	2x 4	SPF-#2
BC	0.56	2x 4	SPF-#2
WB	0.41	2x 3	SPF-#2
--	0.12	2x 6	SPF-#2
	A -I	C -J	

Importance Category : Normal
Condition at Manufacture : Dry
Treatment : Untreated
Service Condition : Dry

Brace truss as follows:

	O.C.	From	To
TC	Cont.	0- 0- 0	15- 4- 0
BC	120.0"	0- 0- 0	15- 4- 0

psf-Ld	Dead	Live	Snow
TC	3.0	0.0	29.0
BC	7.0	10.5	28.1
TC+BC	10.0	10.5	57.2
Total	77.7	Spacing	24.0"

Lumber Duration Factor 1.00
Plate Duration Factor 1.00
TC Fb=1.00 Fc=1.00 Ft=1.00
BC Fb=1.00 Fc=1.00 Ft=1.00

Unfactored Reactions (Lbs)

Jt	-DL-	-LL-	-SL-
A	307D	317D	928D
C	307D	317D	926D

TL Factored Reactions (Lbs)

Jt	Down	Uplift	Horiz-
A	1934		
C	1932		

Jt	Brg Size	Required
A	6.0"	2.1"
C	6.0"	2.1"

Maximum Downward Loadcase
LC# 1 Girder & Snow Load
Dur Fctrs - Lbr 1.00 Plt 1.00

Plf	TC	Beg	End	From	To
Dist Dead	6	6		0.0	15.3
Dist Snow	58	58		0.0	15.3
Plf	BC	Beg	End	From	To
Dist Dead	33	33		0.0	15.3
Dist Live	41	41		0.0	15.3
Dist Snow	56	56		0.0	15.3

Membr	CSI	P Lbs	M@1st	M@2nd
----------Top Chords----------				
I -G	0.42	1906 C	-257	-1574
G -B	0.39	1440 C	-1574	0
B -H	0.40	1441 C	0	-1624
H -J	0.42	1907 C	-1624	-29
--------Bottom Chords---------				
A -F	0.33	0 T	-46	-2113
F -D	0.55	1606 T	-2113	-2169
D -E	0.56	1610 T	-2169	-2112
E -C	0.33	0 T	-2112	-46
------------Webs------------				
A -I	0.12	1688 C		
I -F	0.41	1652 T		
F -G	0.05	203 T		
G -D	0.23	541 C		
D -B	0.31	1265 T		
D -H	0.24	547 C		
E -H	0.05	202 T		
E -J	0.41	1657 T		
C -J	0.12	1686 C		

TL Defl -0.08" in D -E L/999
TL Panel -0.05" in G -B L/999
(Note - TL = 1.33LL + DL)
LL Defl -0.07" in D -E L/999
Shear // Grain in A -F 0.26

Plates for each ply each face.
PLATING CONFORMS TO TPIC 2011
AND CSA 086.09 LIMIT STATES
VERIFY PLATE VALUES WITH
MITEK CANADA INC.
GRIP BASED ON NET AREA
METHOD FOR SPF LUMBER
CCMC ACCEPTANCE NO:
11996-L, 10319-L
12116-L, 12940-L, 12939-L
Plate - MT20 20 Ga, Net Area
Plate - MT8H 18 Ga, Net Area
Plate - MT16 16 Ga, Net Area

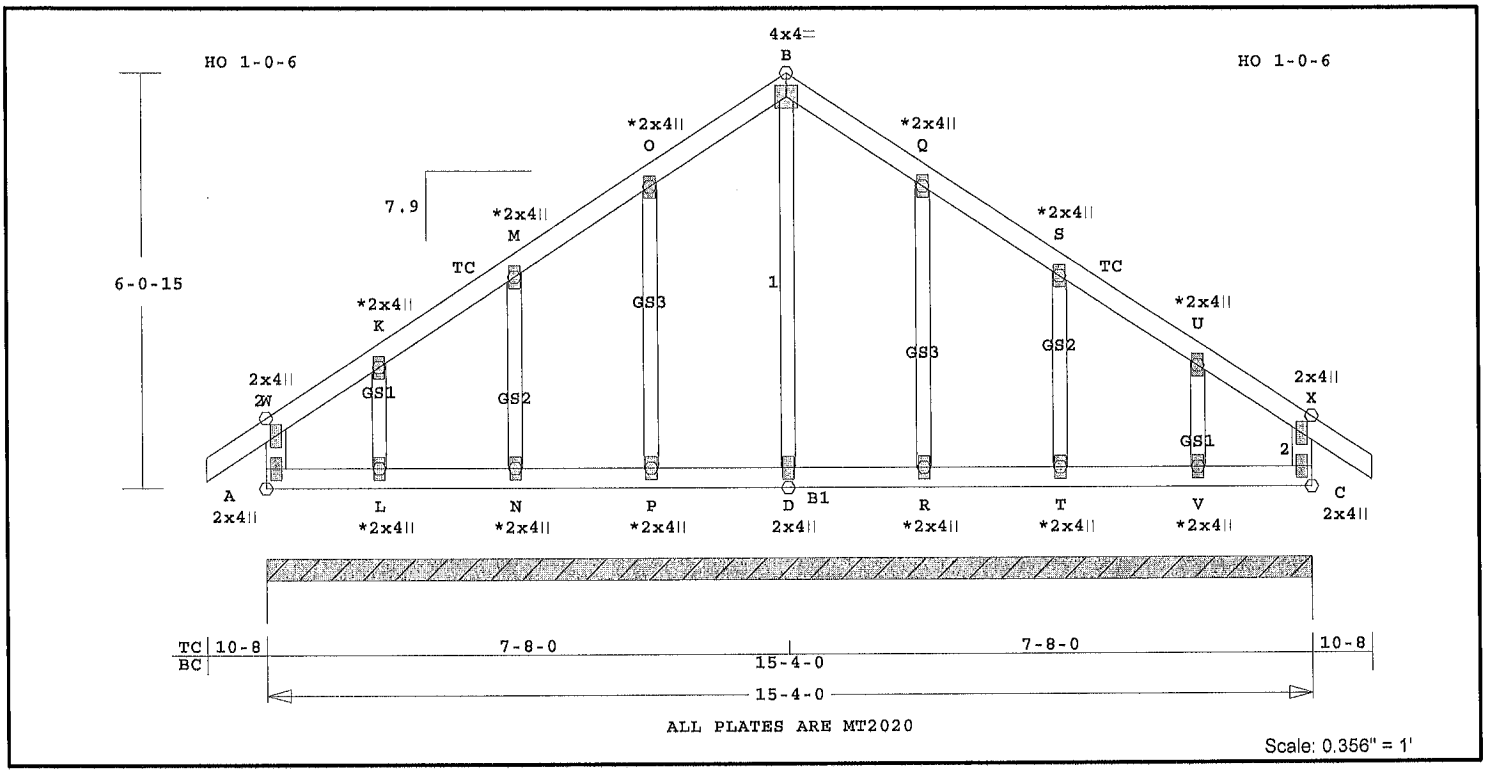
Jt	Type	Plt Size	X	Y	JSI
I	MT20	5.0x 6.0	Ctr	Ctr	0.65
G	MT20	4.0x 4.0	-0.2	-0.1	0.26
B	MT20	5.0x 6.0	Ctr	-0.3	0.76
H	MT20	4.0x 4.0	0.2	-0.1	0.26
J	MT20	5.0x 6.0	Ctr	Ctr	0.65
A	MT20	2.0x 4.0	Ctr	Ctr	0.51
F	MT20	4.0x 6.0	-2.0	Ctr	0.67
D	MT20	5.0x 6.0	Ctr	Ctr	0.71
E	MT20	4.0x 6.0	2.0	Ctr	0.67
C	MT20	2.0x 4.0	Ctr	Ctr	0.51

Placement Tolerance Used 0.25 in.
Allowance For Ineffective Teeth
shall be 10.0%
Allowance for Rotation on Joint
shall be 5.0 deg.

NOTES:
Trusses Manufactured by:
ALPA ROOF TRUSSES INC.
Analysis Conforms To:
TPIC-RES , Standard Formula
NBCC2005
Girder Common
Loading BC
Span 5-10- 8
OH Loading
Use properly rated hangers for loads framing into girder truss.
Design Roof Snow Load Use:
Ground Snow Load = 37.6 psf
Rain Load = 8.4 psf
Non-slippery Roof
Importance Factor 1.00
Exposed to Wind Factor 1.00
Balanced Load Factor 0.55
Unbalanced Load Factor 0.00
FABRICATOR NOTES:
1. DESIGN CONFORMS TO OBC PART 9 2012

A-1601183

Job	Mark	Quan	Type	Span	P1-H1	Left OH	Right OH	*Engineering*
263190	*H10G*	1	DUAL	150400	7.9	10- 8	10- 8	



Robbins Engineering, Inc./Online Plus™

Online Plus -- Version 23.0.048
RUN DATE: 06-JAN-16

	CSI	Size	Lumber
TC	0.06	2x 4	SPF-#2
BC	0.02	2x 4	SPF-#2
WB	0.07	2x 3	SPF-#2
--	0.03	2x 4	SPF-#2
	A -W	C -X	
GW	0.08	2x 3	SPF-#2

Importance Category : Normal
Condition at Manufacture : Dry
Treatment : Untreated
Service Condition : Dry

Brace truss as follows:

	O.C.	From	To
TC	Cont.	0- 0- 0	15- 4- 0
BC	120.0"	0- 0- 0	15- 4- 0

psf-Ld	Dead	Live	Snow
TC	3.0	0.0	29.0
BC	7.0	10.5	0.0
TC+BC	10.0	10.5	29.0
Total	49.5	Spacing	24.0"

Lumber Duration Factor 1.00
Plate Duration Factor 1.00
TC Fb=1.10 Fc=1.10 Ft=1.10
BC Fb=1.10 Fc=1.10 Ft=1.10

Unfactored Reactions (Lbs)

Jt	-DL-	-LL-	-SL-
A	317D	322D	992D

TL Factored Reactions (Lbs)

Jt	Down	Uplift	Horiz-
A	2045		

Jt	Brg Size	Required
A	184.0"	0"-to- 184"

Maximum Downward Loadcase
LC# 1 Snow Loading
Dur Fctrs - Lbr 1.00 Plt 1.00

Plf	TC	Beg	End	From	To
Dist	Dead	6	6	0.0	15.3
Dist	Snow	58	58	0.0	15.3
Plf	BC	Beg	End	From	To
Dist	Dead	14	14	0.0	15.3
Dist	Live	21	21	0.0	15.3

Membr	CSI	P Lbs	M@1st	M@2nd
Top Chords				
W -K	0.04	15 C	-225	-278
K -M	0.05	19 C	-328	-378
M -O	0.06	19 C	-377	-444
O -B	0.06	32 C	-465	0
B -Q	0.06	32 C	0	-461
Q -S	0.06	19 C	-441	-377
S -U	0.05	19 C	-378	-329
U -X	0.04	15 C	-280	-226
Bottom Chords				
A -L	0.01	0 T	-69	-73
L -N	0.02	0 T	-102	-114
N -P	0.02	0 T	-114	-108
P -D	0.02	0 T	-116	-110
D -R	0.02	0 T	-110	-115
R -T	0.02	0 T	-107	-114
T -V	0.02	0 T	-114	-102
V -C	0.01	0 T	-74	-69
Webs				
A -W	0.03	174 C	66	-68
D -B	0.07	126 C		
C -X	0.03	175 C	-66	69
Gable Webs				
L -K	0.04	169 C	29	-50
N -M	0.04	188 C	0	1
P -O	0.08	211 C	8	-21
R -Q	0.08	211 C	-7	20
T -S	0.04	188 C		
V -U	0.04	169 C	-28	49

TL Defl 0.00" in L -N L/999
TL Panel 0.00" in O -B L/999
(Note - TL = 1.33LL + DL)
LL Defl 0.00" in R -T L/999
Shear // Grain in O -B 0.07

Plates for each ply each face.
PLATING CONFORMS TO TPIC 2011
AND CSA 086.09 LIMIT STATES
VERIFY PLATE VALUES WITH
MITEK CANADA INC.
GRIP BASED ON NET AREA
METHOD FOR SPF LUMBER
CCMC ACCEPTANCE NO:
11996-L, 10319-L
12116-L, 12940-L, 12939-L
Plate - MT20 20 Ga, Net Area
Plate - MT8H 18 Ga, Net Area
Plate - MT16 16 Ga, Net Area

Jt	Type	Plt Size	X	Y	JSI
W	MT20	2.0x 4.0	Ctr	Ctr	0.17
K	MT20	2.0x 4.0	Ctr	Ctr	0.00
M	MT20	2.0x 4.0	Ctr	Ctr	0.00
O	MT20	2.0x 4.0	Ctr	Ctr	0.00
B	MT20	4.0x 4.0	Ctr	Ctr	0.46
Q	MT20	2.0x 4.0	Ctr	Ctr	0.00
S	MT20	2.0x 4.0	Ctr	Ctr	0.00
U	MT20	2.0x 4.0	Ctr	Ctr	0.00
X	MT20	2.0x 4.0	Ctr	Ctr	0.17
A	MT20	2.0x 4.0	Ctr	Ctr	0.17
L	MT20	2.0x 4.0	Ctr	Ctr	0.00
N	MT20	2.0x 4.0	Ctr	Ctr	0.00
P	MT20	2.0x 4.0	Ctr	Ctr	0.00
D	MT20	2.0x 4.0	Ctr	Ctr	0.17
R	MT20	2.0x 4.0	Ctr	Ctr	0.00
T	MT20	2.0x 4.0	Ctr	Ctr	0.00
V	MT20	2.0x 4.0	Ctr	Ctr	0.00
C	MT20	2.0x 4.0	Ctr	Ctr	0.17

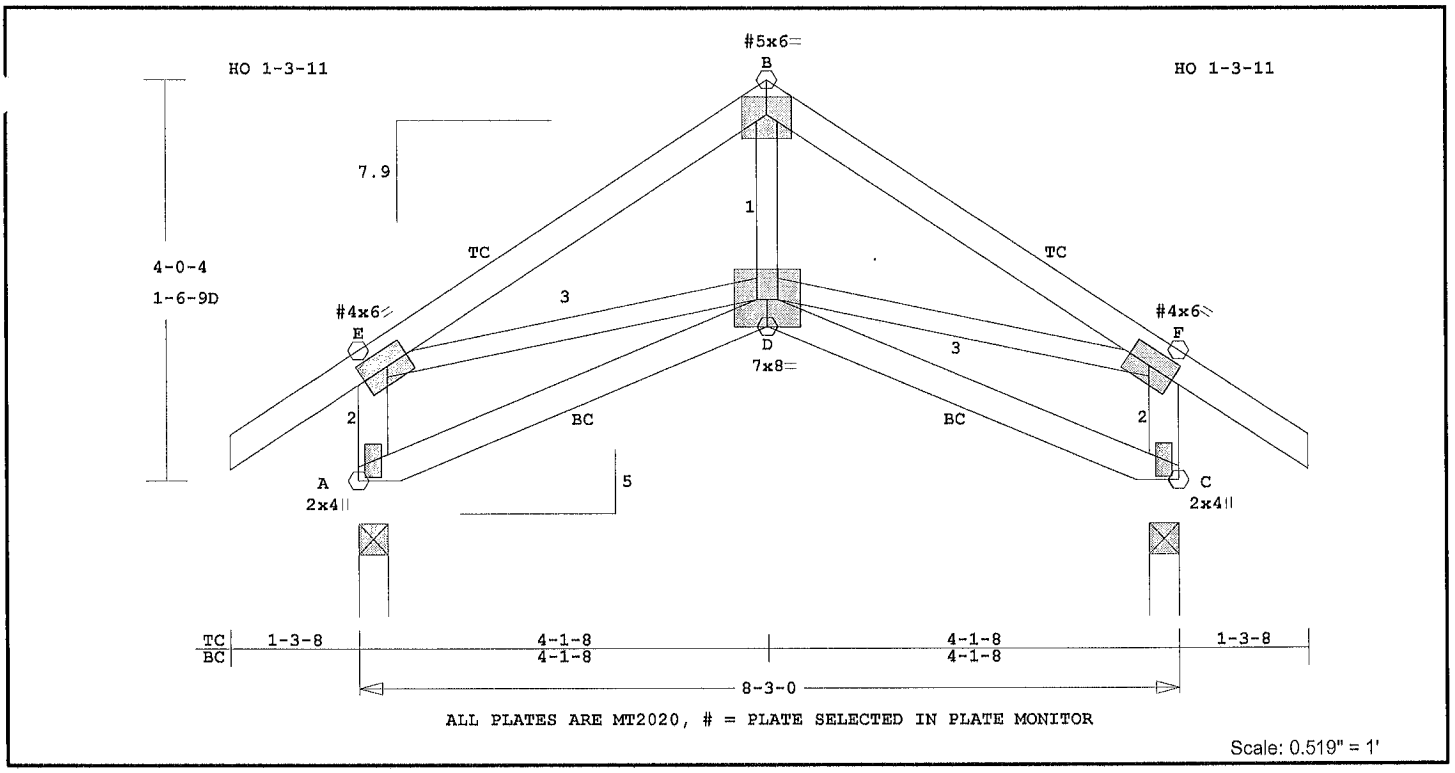
Placement Tolerance Used 0.25 in.
Allowance For Ineffective Teeth
shall be 10.0%
Allowance for Rotation on Joint
shall be 5.0 deg.

NOTES:
Trusses Manufactured by:
ALPA ROOF TRUSSES INC.
Analysis Conforms To:
TPIC-RES , Standard Formula
NBCC2005
OH Loading
Refer to Gen Det 3 series for
web bracing and plating.
Design Roof Snow Load Use:
Ground Snow Load = 37.6 psf
Rain Load = 8.4 psf
Non-slippery Roof
Importance Factor 1.00
Exposed to Wind Factor 1.00
Balanced Load Factor 0.55
Unbalanced Load Factor 0.00
FABRICATOR NOTES:
1. DESIGN CONFORMS TO OBC
PART 9 2012

A-1601184

	TYPE	SPAN	ESQUIRE HOMES, C' ARRINGTON		Mark:
	SCI2	80300	31379/189940	37-2	H7

A-1309078



ALL PLATES ARE MT2020, # = PLATE SELECTED IN PLATE MONITOR

Scale: 0.519" = 1'

Robbins Engineering, Inc./Online Plus™

Online Plus -- Version 23.0.048
RUN DATE: 27-AUG-13

	CSI	-Size-	----Lumber----
TC	0.23	2x 4	SPF-#2
BC	0.08	2x 4	SPF-#2
WB	0.10	2x 3	SPF-#2
--	0.06	2x 4	SPF-#2
	A -E	C -F	

Importance Category : Normal
Condition at Manufacture : Dry
Treatment : Untreated
Service Condition : Dry

Brace truss as follows:

	O.C.	From	To
TC	Cont.	0- 0- 0	8- 3- 0
BC	72.0"	0- 0- 0	8- 3- 0

psf-Ld	Dead	Live	Snow
TC	3.0	0.0	29.0
BC	7.0	10.5	0.0
TC+BC	10.0	10.5	29.0

Total 49.5 Spacing 24.0"
Lumber Duration Factor 1.00
Plate Duration Factor 1.00
TC Fb=1.10 Fc=1.10 Ft=1.10
BC Fb=1.10 Fc=1.10 Ft=1.10

Unfactored Reactions (Lbs)

Jt	-DL-	-LL-	-SL-
A	90D	87D	314D
C	90D	87D	314D

TL Factored Reactions (Lbs)

Jt	Down	Uplift	Horiz-
A	628		
C	628		

Jt	Brg Size	Required
A	3.5"	1.5"
C	3.5"	1.5"

Maximum Downward Loadcase
LC# 1 Snow Loading
Dur Fctrs - Lbr 1.00 Plt 1.00

Plf	TC	Beg	End	From	To
Dist	Dead	6	6	0.0	8.2
Dist	Snow	58	58	0.0	8.2
Plf	BC	Beg	End	From	To
Dist	Dead	14	14	0.0	8.2
Dist	Live	21	21	0.0	8.2

Membr	CSI	P Lbs	M@1st	M@2nd
----------Top Chords----------				
E -B	0.23	533 C	-225	0
B -F	0.23	533 C	0	-225
--------Bottom Chords---------				
A -D	0.08	0 T	-3	0
D -C	0.08	0 T	0	-3
----------Webs----------				
A -E	0.06	567 C		
E -D	0.10	446 T		
D -B	0.05	217 T		
D -F	0.10	446 T		
C -F	0.06	567 C		

TL Defl -0.03" in D -C L/999
TL Panel -0.09" in B -F L/667
(Note - TL = 1.33LL + DL)
LL Defl -0.02" in D -C L/999
Hz Disp LL DL TL
Jt C 0.01" 0.00" 0.01"
Shear // Grain in E -B 0.12

Plates for each ply each face.
PLATING CONFORMS TO TPIC 2007
AND CSA 086.01 LIMIT STATES
VERIFY PLATE VALUES WITH
MITEK CANADA INC.
GRIP BASED ON NET AREA
METHOD FOR SPF LUMBER
CCMC ACCEPTANCE NO:
11996-L, 10319-L
12116-L, 12940-L, 12939-L
Plate - MT20 20 Ga, Net Area
Plate - MT8H 20 Ga, Net Area
Plate - MT16 20 Ga, Net Area

Jt	Type	Plt Size	X	Y	JSI
E#	MT20	4.0x 6.0	-0.2	-0.1	0.23
B#	MT20	5.0x 6.0	Ctr	-0.4	0.41
F#	MT20	4.0x 6.0	0.2	-0.1	0.23
A	MT20	2.0x 4.0	Ctr	Ctr	0.20
D	MT20	7.0x 8.0	Ctr	0.2	0.41
C	MT20	2.0x 4.0	Ctr	Ctr	0.20

= Plate Monitor used
Placement Tolerance Used 0.25 in.
Allowance For Ineffective Teeth
shall be 10.0%
Allowance for Rotation on Joint
shall be 5.0 deg.

NOTES:
Trusses Manufactured by:
ALPA ROOF TRUSSES INC.
Analysis Conforms To:
TPIC-RES , Modified Formula
NBCC2005
OH Loading
NOTE: USER MODIFIED PLATES
This design may have plates
selected through a plate
monitor.
Design Roof Snow Load Use:
Ground Snow Load = 37.6 psf
Rain Load = 8.4 psf
Non-slippery Roof

Importance Factor	1.00
Exposed to Wind Factor	1.00
Balanced Load Factor	0.55
Unbalanced Load Factor	0.00

DESIGN CONFORMS TO
OBC PART 9 2012

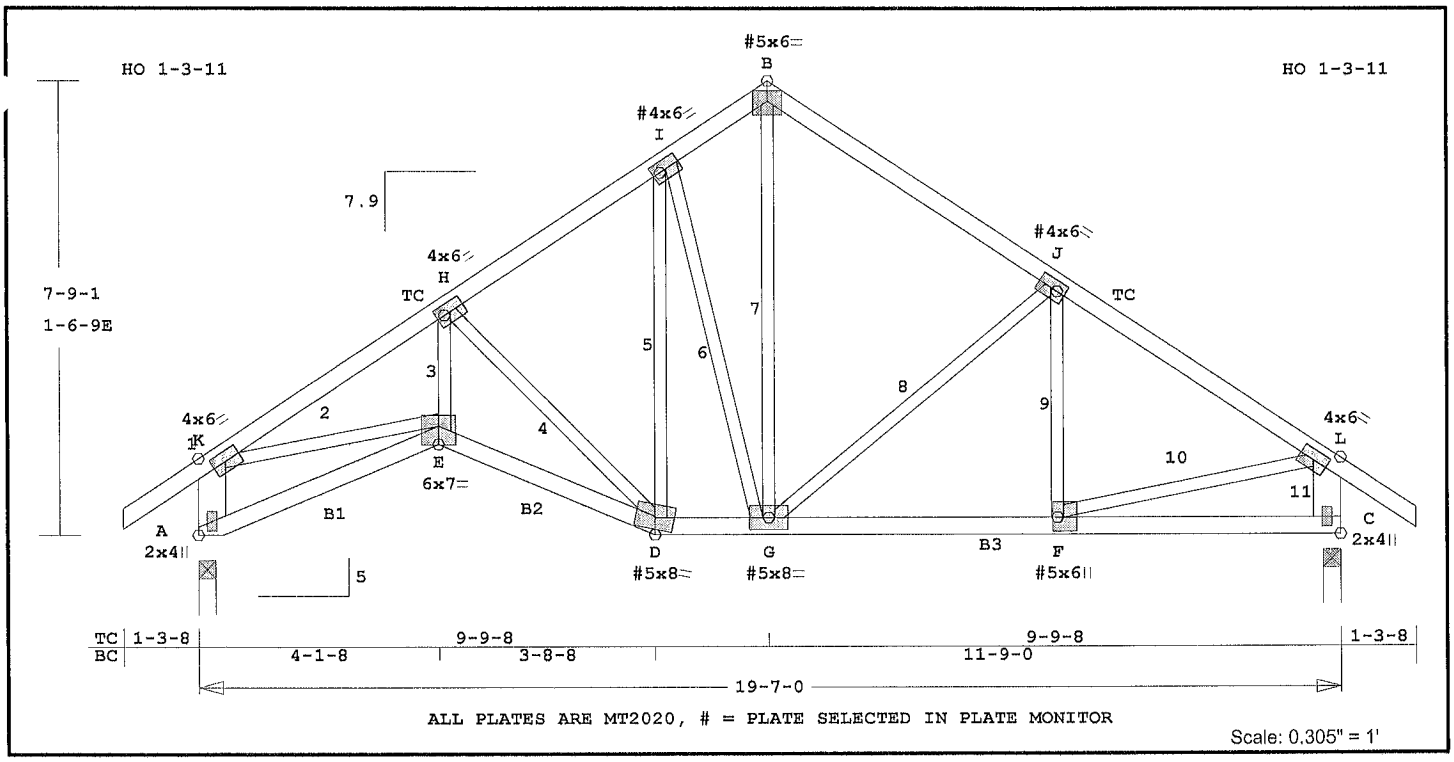
LICENSED PROFESSIONAL ENGINEER
D. O'CONNOR
100009580
JAN 06 2014
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
D. O'CONNOR
100009580
AUG 28 2013
PROVINCE OF ONTARIO

A-1309078

	TYPE	SPAN	ESQUIRE HOMES, C' ARINGTON	Mark:
	SP	190700	31379/189940 37-2	H8

A-1309079



Robbins Engineering, Inc./Online Plus™

Online Plus -- Version 23.0.048
RUN DATE: 27-AUG-13

	CSI	-Size-	----Lumber----
TC	0.29	2x 4	SPF-#2
BC	0.36	2x 4	SPF-#2
WB	0.53	2x 3	SPF-#2
--	0.08	2x 6	SPF-#2
	A -K	C -L	

Importance Category : Normal
Condition at Manufacture : Dry
Treatment : Untreated
Service Condition : Dry

Brace truss as follows:

	O.C.	From	To
TC	Cont.	0- 0- 0	19- 7- 0
BC	120.0"	0- 0- 0	19- 7- 0

psf-Ld	Dead	Live	Snow
TC	3.0	0.0	29.0
BC	7.0	10.5	0.0
TC+BC	10.0	10.5	29.0
Total	49.5	Spacing	24.0"

Lumber Duration Factor 1.00
Plate Duration Factor 1.00
TC Fb=1.10 Fc=1.10 Ft=1.10
BC Fb=1.10 Fc=1.10 Ft=1.10

Unfactored Reactions (Lbs)

Jt	-DL-	-LL-	-SL-
A	204D	206D	644D
C	203D	206D	643D

TL Factored Reactions (Lbs)

Jt	Down	Uplift	Horiz-
A	1324		
C	1321		

Jt	Brg Size	Required
A	3.5"	1.5"
C	3.5"	1.5"

Maximum Downward Loadcase
LC# 1 Snow Loading
Dur Fctrs - Lbr 1.00 Plt 1.00

Plf	TC	Beg	End	From	To
Dist	Dead	6	6	0.0	19.6
Dist	Snow	58	58	0.0	19.6
Plf	BC	Beg	End	From	To
Dist	Dead	14	14	0.0	19.6
Dist	Live	21	21	0.0	19.6

Membr	CSI	P Lbs	M@1st	M@2nd
----------Top Chords----------				
K -H	0.22	2052 C	-365	-1282
H -I	0.13	1059 C	-1282	-829
I -B	0.08	927 C	-829	0
B -J	0.28	935 C	0	-3062
J -L	0.29	1232 C	-3062	-29

--------Bottom Chords---------				
A -E	0.09	0 T	-8	0
E -D	0.36	1817 T		
D -G	0.20	876 T	0	-551
G -F	0.24	1054 T	-551	-650
F -C	0.08	0 T	-650	-8
----------Webs----------				
A -K	0.08	1262 C		
K -E	0.39	1733 T		
E -H	0.22	994 T		
H -D	0.53	1151 C		
D -I	0.04	189 T		
I -G	0.33	416 C		
G -B	0.17	765 T		
G -J	0.29	388 C		
F -J	0.03	112 C		
F -L	0.24	1086 T		
C -L	0.08	1261 C		

TL Defl -0.12" in E -D L/999
TL Panel -0.11" in B -J L/676
(Note - TL = 1.33LL + DL)
LL Defl -0.09" in E -D L/999

Hz Disp	LL	DL	TL
Jt C	0.06"	0.01"	0.07"

Shear // Grain in B -J 0.18

Plates for each ply each face.
PLATING CONFORMS TO TPIC 2007
AND CSA 086.01 LIMIT STATES
VERIFY PLATE VALUES WITH
MITEK CANADA INC.
GRIP BASED ON NET AREA
METHOD FOR SPF LUMBER
CCMC ACCEPTANCE NO:
11996-L, 10319-L
12116-L, 12940-L, 12939-L
Plate - MT20 20 Ga, Net Area
Plate - MT8H 20 Ga, Net Area
Plate - MT16 20 Ga, Net Area

Jt	Type	Plt Size	X	Y	JSI
K	MT20	4.0x 6.0	0.2	0.1	0.70
H	MT20	4.0x 6.0	Ctr	Ctr	0.68
I	MT20	4.0x 6.0	Ctr	Ctr	0.25
B	MT20	5.0x 6.0	Ctr-0.4		0.44
J#	MT20	4.0x 6.0	0.2-0.1		0.30
L	MT20	4.0x 6.0	Ctr	Ctr	0.56
A	MT20	2.0x 4.0	Ctr	Ctr	0.45
E	MT20	6.0x 7.0	Ctr-0.8		0.52
D	MT20	5.0x 8.0	Ctr	3.8	0.42
G	MT20	5.0x 8.0	Ctr	Ctr	0.43
F#	MT20	5.0x 6.0	1.5	0.1	0.51
C	MT20	2.0x 4.0	Ctr	Ctr	0.38

= Plate Monitor used
Placement Tolerance Used 0.25 in.
Allowance For Ineffective Teeth
shall be 10.0%
Allowance for Rotation on Joint
shall be 5.0 deg.

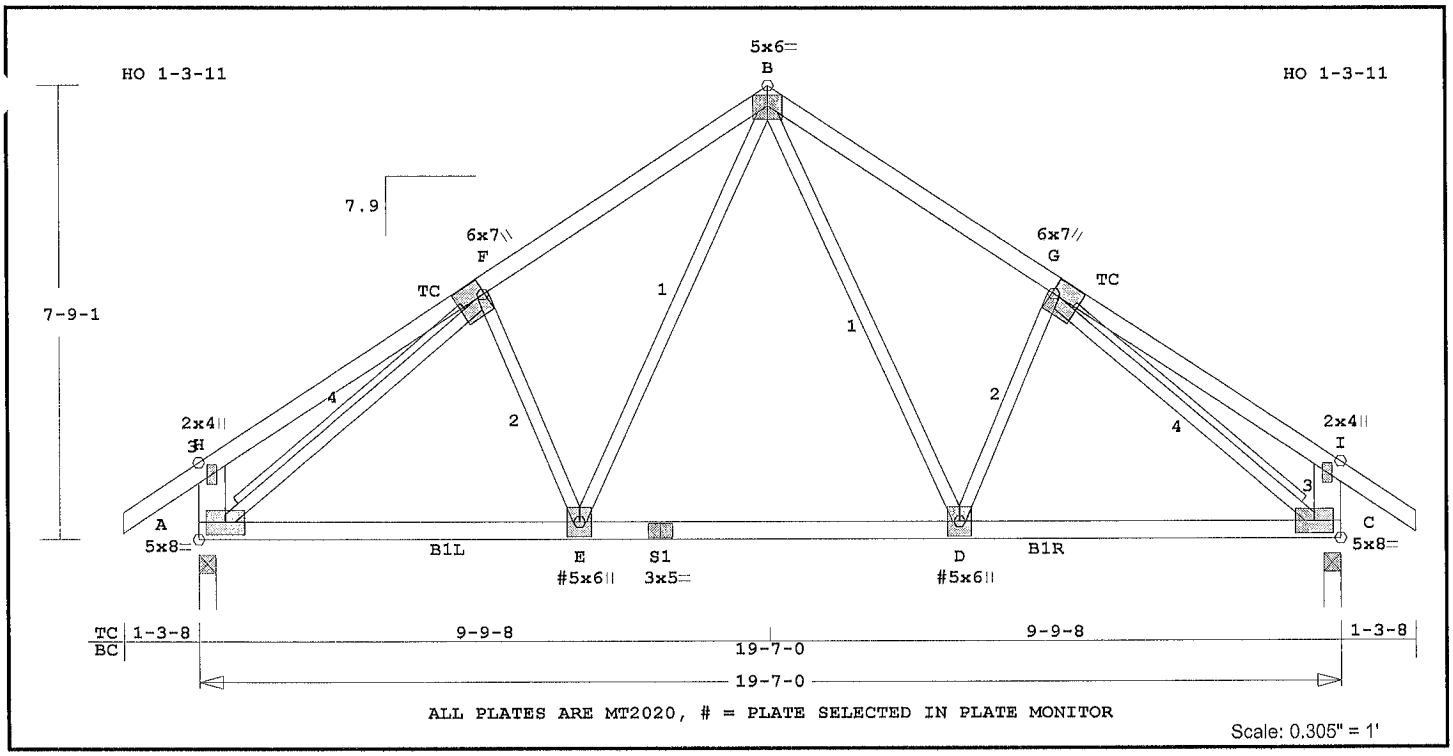
NOTES:
Trusses Manufactured by:
ALPA ROOF TRUSSES INC.
Analysis Conforms To:
TPIC-RES , Modified Formula
NBCC2005
OH Loading
NOTE: USER MODIFIED PLATES
This design may have plates
selected through a plate
monitor.
Design Roof Snow Load Use:
Ground Snow Load = 37.6 psf
Rain Load = 8.4 psf
Non-slippery Roof
Importance Factor 1.00
Exposed to Wind Factor 1.00
Balanced Load Factor 0.55
Unbalanced Load Factor 0.00

DESIGN CONFORMS TO
OBC PART 9 2012

A-1309079

	TYPE	SPAN	ESQUIRE HOMES, C' ARINGTON	Mark:
	FI	190700	31379/189940 37-1	H9.

A-1309080



Robbins Engineering, Inc./Online Plus™

Online Plus -- Version 23.0.048
RUN DATE: 27-AUG-13

	CSI	Size	Lumber
TC	0.69	2x 4	SPF-#2
BC	0.98	2x 4	1650S1.5
WB	0.59	2x 3	SPF-#2
--	0.02	2x 6	SPF-#2
	A -H	C -I	

Importance Category : Normal
Condition at Manufacture : Dry
Treatment : Untreated
Service Condition : Dry

Brace truss as follows:

	O.C.	From	To
TC	Cont.	0- 0- 0	19- 7- 0
BC	120.0"	0- 0- 0	19- 7- 0

One 2x4 T-Brace
A -F G -C
Attach T-Bracing to members as shown w/3" CW nails at 6" o.c. T-Brace must cover 90% of web length and be a minimum grade of SPF #2B.

psf-Ld	Dead	Live	Snow
TC	3.0	0.0	29.0
BC	7.0	10.5	28.1
TC+BC	10.0	10.5	57.2
Total	77.7	Spacing	24.0"

Lumber Duration Factor 1.00
Plate Duration Factor 1.00
TC Fb=1.00 Fc=1.00 Ft=1.00
BC Fb=1.00 Fc=1.00 Ft=1.00

Unfactored Reactions (Lbs)

Jt	-DL-	-LL-	-SL-
A	393D	405D	1194D
C	393D	405D	1194D

TL Factored Reactions (Lbs)

Jt	Down	Uplift	Horiz-
A	2485		
C	2485		

Jt	Brg Size	Required
A	3.5"	2.7"
C	3.5"	2.7"

Maximum Downward Loadcase
LC# 1 Girder & Snow Load
Dur Fctrs - Lbr 1.00 Plt 1.00

Plf	TC	Beg	End	From	To
Dist	Dead	6	6	0.0	19.6
Dist	Snow	58	58	0.0	19.6
Plf	BC	Beg	End	From	To
Dist	Dead	33	33	0.0	19.6
Dist	Live	41	41	0.0	19.6
Dist	Snow	56	56	0.0	19.6

Membr	CSI	P Lbs	M@1st	M@2nd
Top Chords				
H -F	0.37	23 T	-365	-2745
F -B	0.69	2336 C	-2745	0
B -G	0.69	2336 C	0	-2745
G -I	0.37	23 T	-2745	-365
Bottom Chords				
A -E	0.98	1950 T	-46	-6966
E -S1	0.92	1452 T	-6966	-665
S1-D	0.92	1452 T	-665	-6966
D -C	0.98	1950 T	-6966	-46
Webs				
A -H	0.02	322 C		
A -F	0.59	2626 C		1T-Br
F -E	0.02	57 C		
E -B	0.29	1187 T		
B -D	0.29	1187 T		
D -G	0.02	57 C		
G -C	0.59	2626 C		1T-Br
C -I	0.02	322 C		

TL Defl -0.35" in D -C L/642
TL Panel -0.11" in B -G L/651
(Note - TL = 1.33LL + DL)
LL Defl -0.27" in D -C L/852
Shear // Grain in A -E 0.47

Plates for each ply each face.
PLATING CONFORMS TO TPIC 2007
AND CSA 086.01 LIMIT STATES
VERIFY PLATE VALUES WITH
MITEK CANADA INC.
GRIP BASED ON NET AREA
METHOD FOR SPF LUMBER
CCMC ACCEPTANCE NO:
11996-L, 10319-L
12116-L, 12940-L, 12939-L
Plate - MT20 20 Ga, Net Area
Plate - MT8H 20 Ga, Net Area
Plate - MT16 20 Ga, Net Area

Jt	Type	Plt Size	X	Y	JSI
H	MT20	2.0x 4.0	Ctr	Ctr	0.30
F	MT20	6.0x 7.0	-2.0	-1.6	0.80
B	MT20	5.0x 6.0	Ctr	-0.3	0.77
G	MT20	6.0x 7.0	2.0	-1.6	0.80
I	MT20	2.0x 4.0	Ctr	Ctr	0.30
A	MT20	5.0x 8.0	Ctr	Ctr	0.77
E	MT20	5.0x 6.0	Ctr	Ctr	0.53
S1	MT20	3.0x 5.0	Ctr	Ctr	0.68
D	MT20	5.0x 6.0	Ctr	Ctr	0.53
C	MT20	5.0x 8.0	Ctr	Ctr	0.77

Placement Tolerance Used 0.25 in.
Allowance For Ineffective Teeth shall be 10.0%
Allowance for Rotation on Joint shall be 5.0 deg.

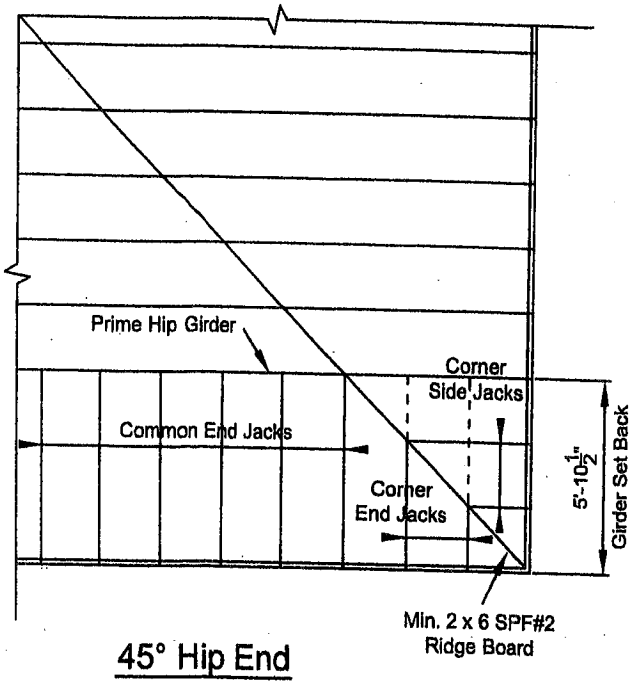
NOTES:

Trusses Manufactured by:
ALPA ROOF TRUSSES INC.
Analysis Conforms To:
TPIC-RES , Standard Formula
NBCC2005
Girder Common
Loading BC
Span 5-10- 8
OH Loading
Use properly rated hangers for loads framing into girder truss.
NOTE: USER MODIFIED PLATES
This design may have plates selected through a plate monitor.
Design Roof Snow Load Use:
Ground Snow Load = 37.6 psf
Rain Load = 8.4 psf
Non-slippery Roof
Importance Factor 1.00
Exposed to Wind Factor 1.00
Balanced Load Factor 0.55
Unbalanced Load Factor 0.00

DESIGN CONFORMS TO
OBC PART 9 2012

A-1309080

STRACON ENGINEERING INC.



45° Hip End

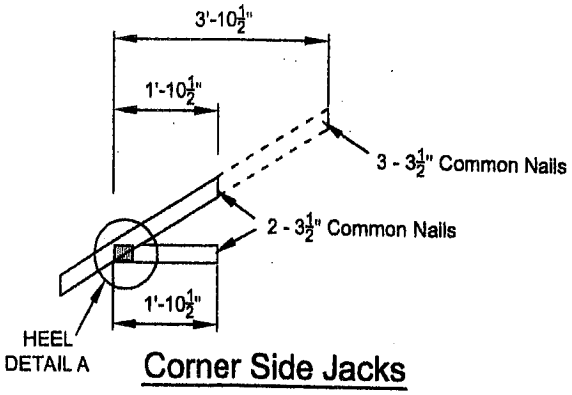
LUMBER SPECIFICATION

TOP CHORD	:	2 x 4 SPF#2
BOTTOM CHORD	:	2 x 4 SPF#2
WEBS	:	2 x 3 SPF#2

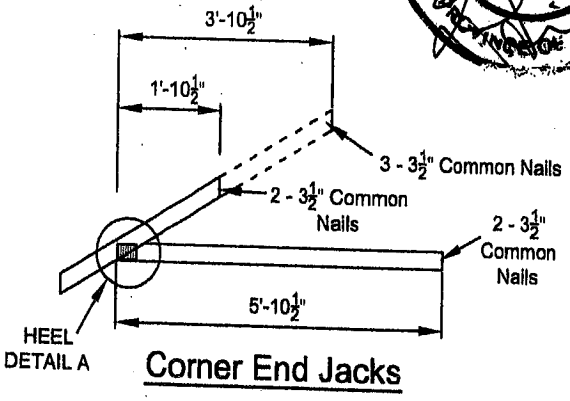
UNLESS OTHERWISE SHOWN

DESIGN LOAD

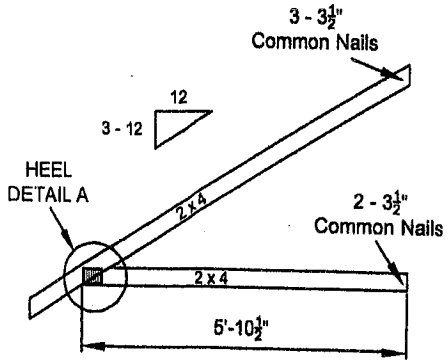
TOP CHORD SNOW LOAD	:	40.5 P.S.F.
TOP CHORD DEAD LOAD	:	3.0 P.S.F.
BOTTOM CHORD LIVE LOAD	:	0.0 P.S.F.
BOTTOM CHORD DEAD LOAD	:	7.0 P.S.F.
TOTAL LOAD	:	50.5 P.S.F



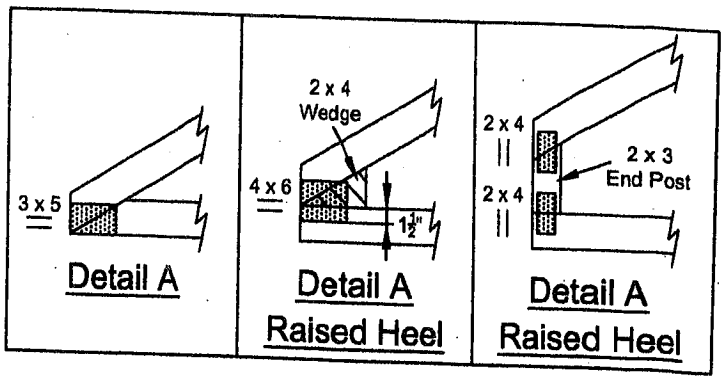
Corner Side Jacks



Corner End Jacks



Common End Jacks



NOTE: DESIGN CONFORMS TO PART 9, O.B.C. 2012 (L.S.D. DESIGN)

CS-51008

TECHNICAL BULLETIN

LUS – Double Shear Joist Hangers

SIMPSON Strong-Tie®

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

MATERIAL: 18 gauge

FINISH: G90 galvanized

DESIGN:

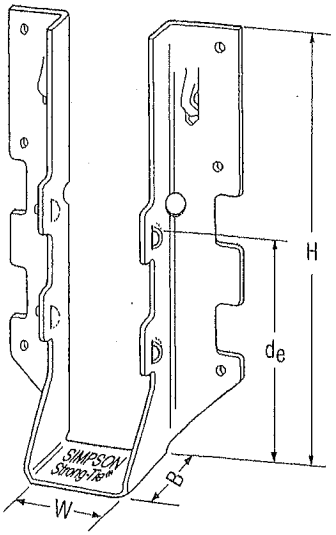
- Factored resistances are in accordance with CSA O86-14
- Uplift resistances have been increased 15%. No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these loads.

INSTALLATION:

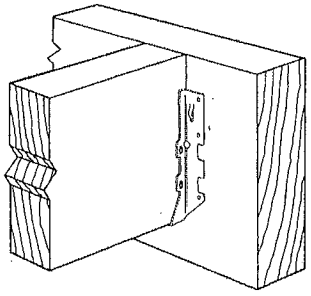
- Use all specified fasteners
- Nails: 16d = 0.162" dia. x 3½" long common wire, 10d = 0.148" x 3" long common wire.
- Double shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads
- Not designed for welded or nailer applications

OPTIONS:

- These hangers cannot be modified.



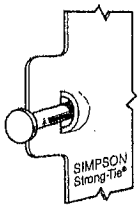
LUS28



Typical LUS Installation

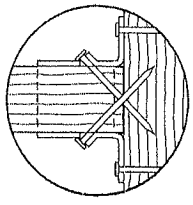
Model No.	Ga	Dimensions (in)				Fasteners		Factored Resistance (lbs)			
								D.Fir-L		S-P-F	
		W	H	B	d_e[1]	Face	Joist	Uplift (K_D=1.15)	Normal (K_D=1.00)	Uplift (K_D=1.15)	Normal (K_D=1.00)
LUS24	18	1 9/16	3 1/8	1 3/4	11 5/16	4-10d	2-10d	710	1630	645	1155
LUS24-2	18	3 1/8	3 1/8	2	11 3/16	4-16d	2-16d	835	2020	590	1435
LUS26	18	1 9/16	4 3/4	1 3/4	3 5/8	4-10d	4-10d	1420	2170	1290	1630
LUS26-2	18	3 1/8	4 7/8	2	4	4-16d	4-16d	1720	2595	1545	1920
LUS26-3	18	4 5/8	4 9/16	2	3 1/4	4-16d	4-16d	1720	2595	1545	2340
LUS28	18	1 9/16	6 5/8	1 3/4	3 3/4	6-10d	4-10d	1420	2520	1290	1790
LUS28-2	18	3 1/8	7	2	4	6-16d	4-16d	1720	3325	1545	2575
LUS28-3	18	4 5/8	6 1/4	2	3 1/4	6-16d	4-16d	1720	3325	1545	2375
LUS210	18	1 9/16	7 13/16	1 3/4	3 7/8	8-10d	4-10d	1420	2785	1290	2210
LUS210-2	18	3 1/8	9	2	6	8-16d	6-16d	2580	4500	2320	3195
LUS210-3	18	4 5/8	8 9/16	2	5 1/4	8-16d	6-16d	2580	3345	2320	2375

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



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

U.S. Patent 5,603,580



Double Shear Nailing Top View.