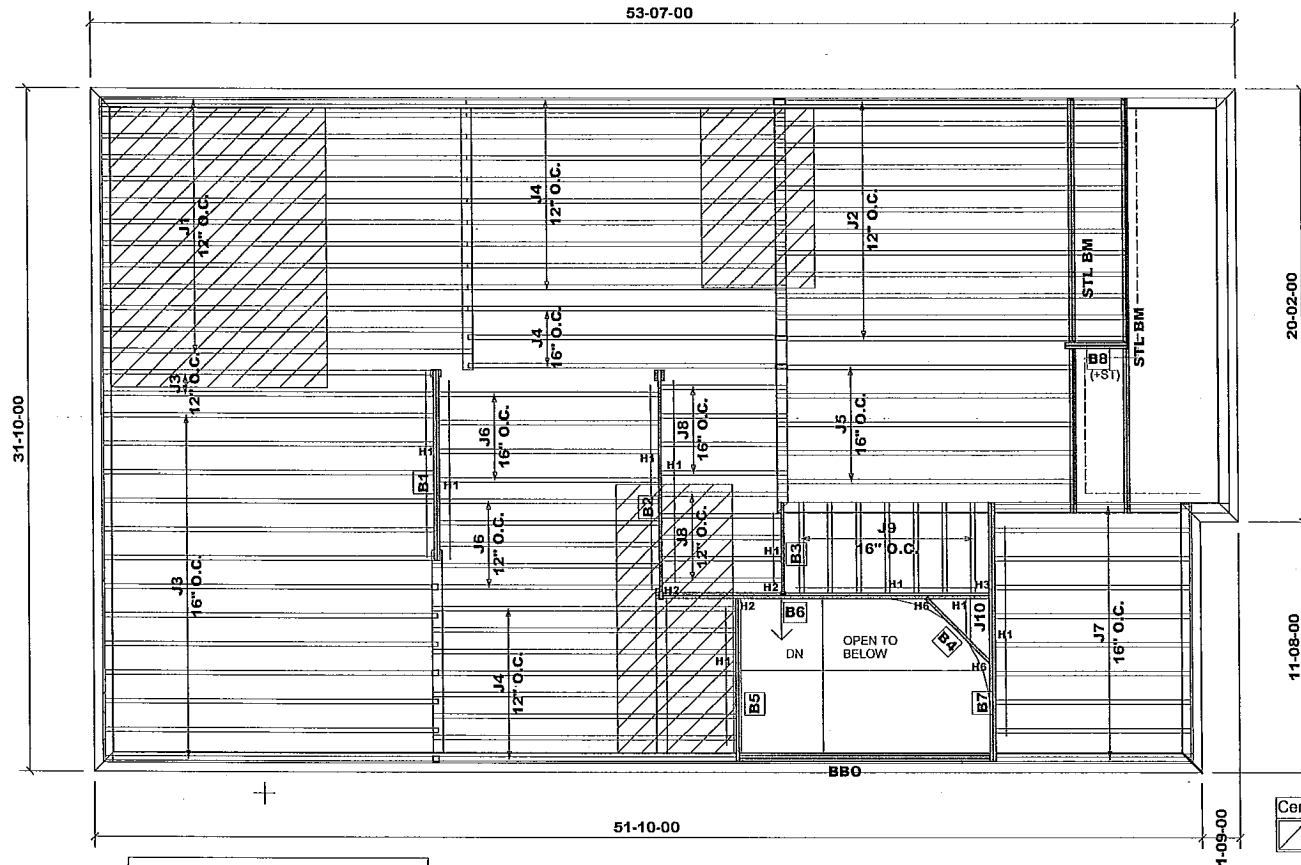




REVISION: December 18, 2017

MODEL: UNIT 4001 - EL.A

Second Floor Framing

Do not scale - refer to architectural plans for dimensions

Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-20	1	13
J2	17-00-00	11 7/8" NI-20	1	12
J3	16-00-00	11 7/8" NI-20	1	15
J4	15-00-00	11 7/8" NI-20	1	21
J5	14-00-00	11 7/8" NI-20	1	5
J6	11-00-00	11 7/8" NI-20	1	9
J7	10-00-00	11 7/8" NI-20	1	10
J8	6-00-00	11 7/8" NI-20	1	9
J9	5-00-00	11 7/8" NI-20	1	7
J10	2-00-00	11 7/8" NI-20	1	1
B6	16-00-00	VERSALAM-12 2.0E	2	2
B7	13-00-00	VERSALAM-12 2.0E	2	2
B2	11-00-00	VERSALAM-12 2.0E	1	1
B1	9-00-00	VERSALAM-12 2.0E	2	2
B5	8-00-00	VERSALAM-12 2.0E	1	1
B3	5-00-00	VERSALAM-12 2.0E	1	1
B4	5-00-00	VERSALAM-12 2.0E	1	1
B8	3-00-00	VERSALAM-12 2.0E	2	2

HANGER SCHEDULE

H1.....LT251188 (TM)
H2.....HUS1.81/10(FM)
H3.....HGUS410(FM)
H6.....LSSUI25(FM)

NOTE:

TMTOP MOUNT HANGERS
FM.....FACE MOUNT HANGERS

RIMBOARD

1- 1/8" X 11 7/8" O.S.B.

SUBFLOOR - 3/4" NAILED & GLUED

APP - AS PER PLAN
BBO - BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.6

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

S.152706-S.152723

JT/PL: 45147/95234

Builder: Gold Park

Location: Vaughan

Designer: NL

Alpa Roof Trusses Inc.

Salesperson: Derek

LI: 290675

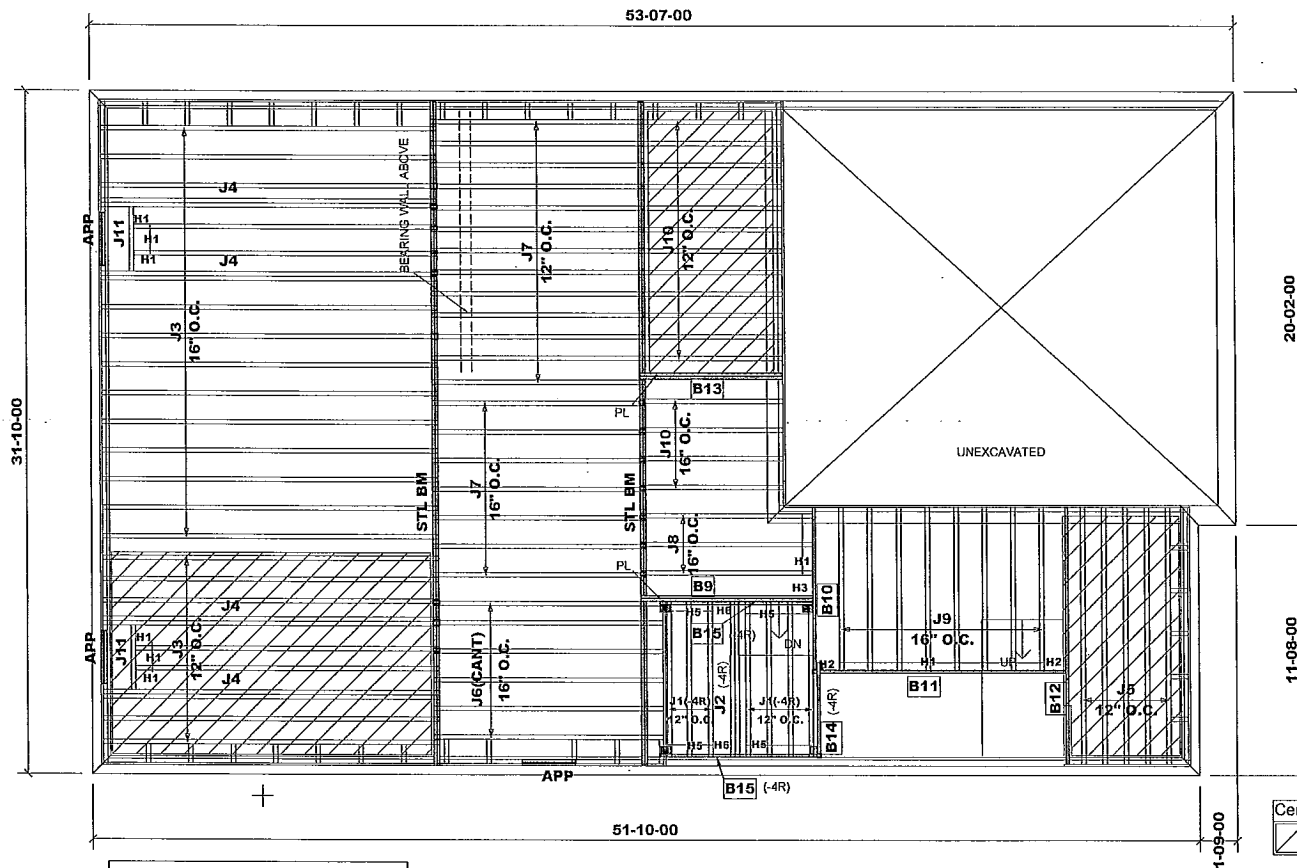
Project: Pine Valley

Date: November 17, 2017

Sheet: 1 of 6

Maple, Ontario

Home Lumber



REVISION: December 18, 2017

MODEL: UNIT 4001 - EL.A+B

First Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING

TOTAL LENGTH: 51'

Products				
PlotID	Length	Product	Plies	Net Qty
J1	8-00-00	9 1/2" NI-20	1	7
J2	8-00-00	9 1/2" NI-20	2	2
J3	16-00-00	11 7/8" NI-20	1	21
J4	16-00-00	11 7/8" NI-20	2	8
J5	12-00-00	11 7/8" NI-20	1	5
J6	11-00-00	11 7/8" NI-20	1	6
J7	10-00-00	11 7/8" NI-20	1	20
J8	9-00-00	11 7/8" NI-20	1	3
J9	8-00-00	11 7/8" NI-20	1	8
J10	7-00-00	11 7/8" NI-20	1	16
J11	3-00-00	11 7/8" NI-20	1	2
B11	12-00-00	VERSALAM-12 2.0E	1	1
B12	12-00-00	VERSALAM-12 2.0E	1	1
B9	9-00-00	VERSALAM-12 2.0E	2	2
B15	8-00-00	VERSALAM-10 2.0E	1	2
B10	8-00-00	VERSALAM-12 2.0E	1	1
B13	7-00-00	VERSALAM-12 2.0E	2	2
B14	5-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE

H1-----LT251188 (TM)
H2-----HUS1.81/10(FM)
H5-----LT259(TM)
H6-----MIT39.5-2(TM)

NOTE:

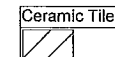
TM -----TOP MOUNT HANGERS
FM-----FACE MOUNT HANGERS

RIMBOARD

1- 1/8" X 9 1/2" O.S.B.
1- 1/8" X 11 7/8" O.S.B.

SUBFLOOR - 3/4" NAILED & GLUED

APP - AS PER PLAN
BBO - BEAM BY OTHERS



Ceramic tile application as per O.B.C. 9.30.6

Provide I-Joist Blocking between cantilevered joists (along bearing) and rimboard closure at ends.

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

JT/PL: 45147/95234

LI: 290675

Builder: Gold Park

Project: Pine Valley

Location: Vaughan

Date: November 17, 2017

Designer: NL

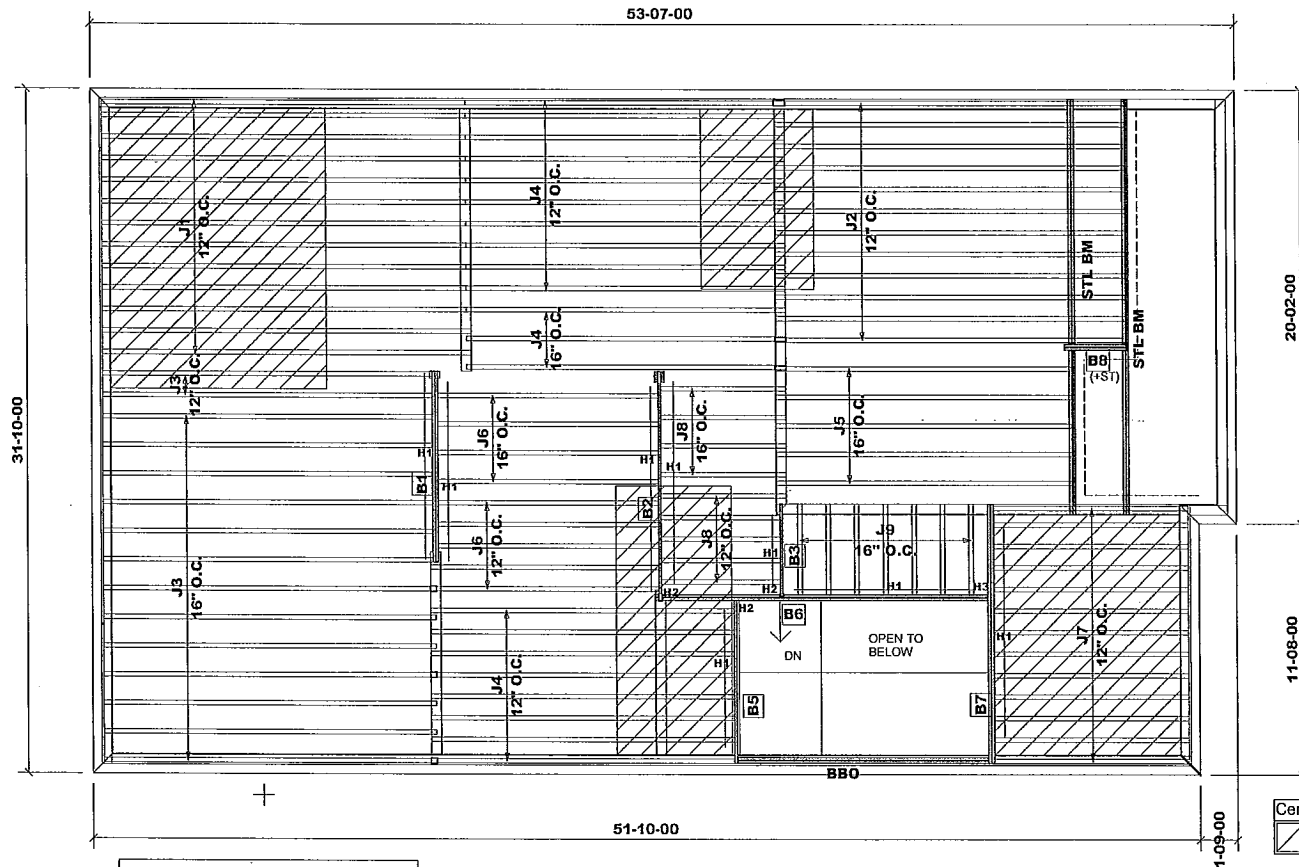
Sheet: 2 of 6

Alpa Roof Trusses Inc.

Maple, Ontario

Salesperson: Derek

Home Lumber



REVISION: December 18, 2017

MODEL: UNIT 4001 - EL.A
W/OPT. 2ND FLOOR

Second Floor Framing

Do not scale - refer to architectural plans for dimensions

Products				
PlotID	Length	Product	Piles	Net Qty
J1	18-00-00	11 7/8" NI-20	1	13
J2	17-00-00	11 7/8" NI-20	1	12
J3	16-00-00	11 7/8" NI-20	1	15
J4	15-00-00	11 7/8" NI-20	1	21
J5	14-00-00	11 7/8" NI-20	1	5
J6	11-00-00	11 7/8" NI-20	1	9
J7	10-00-00	11 7/8" NI-20	1	13
J8	6-00-00	11 7/8" NI-20	1	9
J9	5-00-00	11 7/8" NI-20	1	7
B6	16-00-00	VERSALAM-12 2.0E	2	2
B7	13-00-00	VERSALAM-12 2.0E	2	2
B2	11-00-00	VERSALAM-12 2.0E	1	1
B1	9-00-00	VERSALAM-12 2.0E	2	2
B5	8-00-00	VERSALAM-12 2.0E	1	1
B3	5-00-00	VERSALAM-12 2.0E	1	1
B8	3-00-00	VERSALAM-12 2.0E	2	2

HANGER SCHEDULE

H1-----LT251188 (TM)
H2-----HUS1.81/10(FM)
H3-----HGUS410(FM)
H6-----LSSUI25(FM)

NOTE:

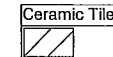
TM -----TOP MOUNT HANGERS
FM-----FACE MOUNT HANGERS

RIMBOARD

1- 1/8" X 11 7/8" O.S.B.

SUBFLOOR - 3/4" NAILED & GLUED

APP - AS PER PLAN
BBO - BEAM BY OTHERS



Ceramic tile application as per O.B.C. 9.30.6

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

JT/PL: 45147/95234

Builder: Gold Park

Location: Vaughan

Designer: NL

Alpa Roof Trusses Inc.

Salesperson: Derek

LI: 290675

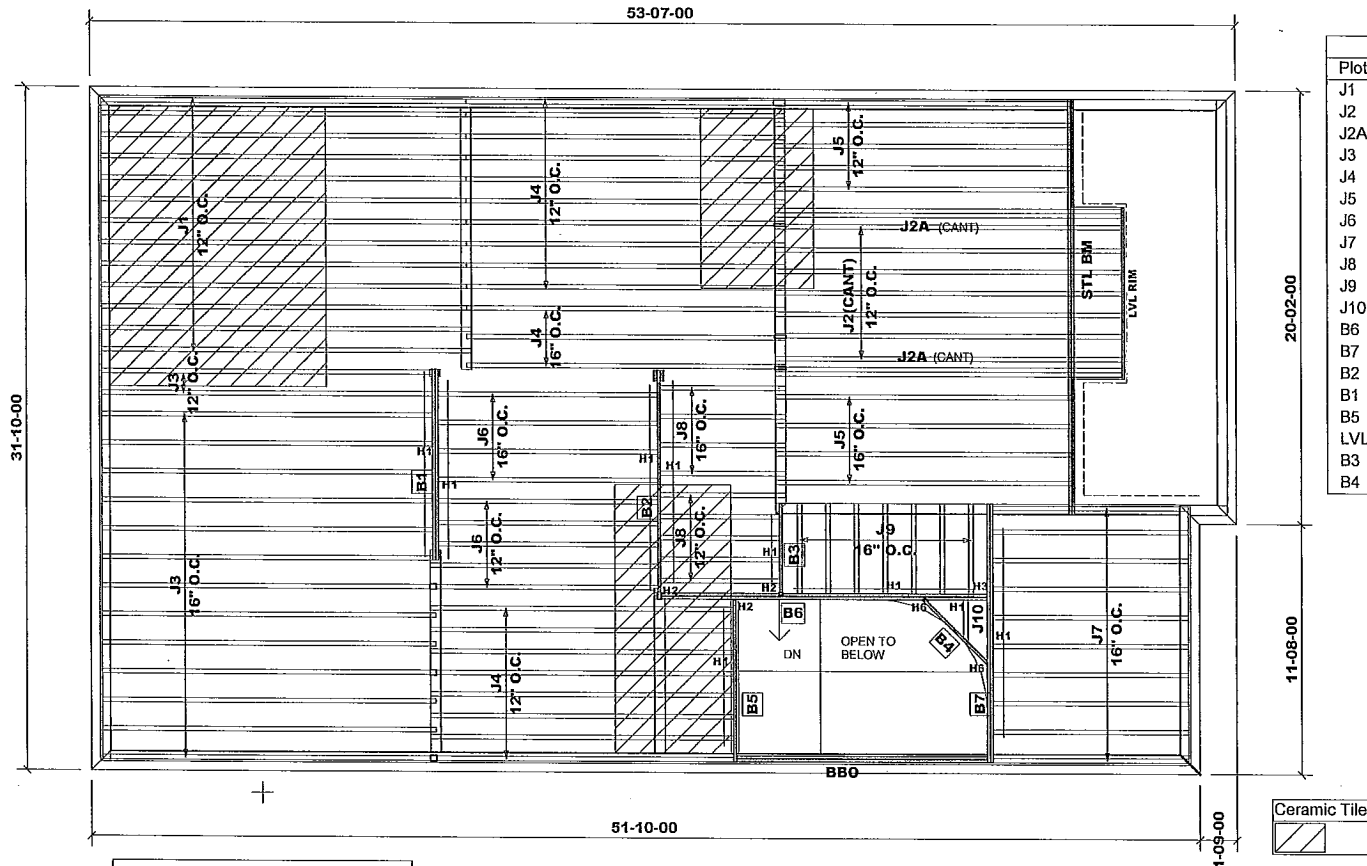
Project: Pine Valley

Date: November 19, 2017

Sheet: 3 of 6

Maple, Ontario

Home Lumber



REVISION: December 18, 2017

MODEL: UNIT 4001 - EL.B

Second Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING

TOTAL LENGTH: 8'

Products				
PlotID	Length	Product	Piles	Net Qty
J1	18-00-00	11 7/8" NI-20	1	13
J2	17-00-00	11 7/8" NI-20	1	7
J2A	17-00-00	11 7/8" NI-20	2	4
J3	16-00-00	11 7/8" NI-20	1	15
J4	15-00-00	11 7/8" NI-20	1	21
J5	14-00-00	11 7/8" NI-20	1	9
J6	11-00-00	11 7/8" NI-20	1	9
J7	10-00-00	11 7/8" NI-20	1	10
J8	6-00-00	11 7/8" NI-20	1	9
J9	5-00-00	11 7/8" NI-20	1	7
J10	2-00-00	11 7/8" NI-20	1	1
B6	16-00-00	VERSALAM-12 2.0E	2	2
B7	13-00-00	VERSALAM-12 2.0E	2	2
B2	11-00-00	VERSALAM-12 2.0E	1	1
B1	9-00-00	VERSALAM-12 2.0E	2	2
B5	8-00-00	VERSALAM-12 2.0E	1	1
LVL RIM	8-00-00	VERSALAM-12 2.0E	1	1
B3	5-00-00	VERSALAM-12 2.0E	1	1
B4	5-00-00	VERSALAM-12 2.0E	1	1

HANGER SCHEDULE

H1-----LT251188 (TM)
H2-----HUS1.81/10(FM)
H3-----HGUS410(FM)
H6-----LSSUI25(FM)

NOTE:

TM -----TOP MOUNT HANGERS
FM-----FACE MOUNT HANGERS

RIMBOARD

1- 1/8" X 11 7/8" O.S.B.

SUBFLOOR - 3/4" NAILED & GLUED

APP - AS PER PLAN
BBO - BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.6

Provide I-Joist Blocking between cantilevered joists (along bearing) and rimboard closure at ends.

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JT/PL: 45147/95234

LI: 290675

Builder: Gold Park

Project: Pine Valley

Location: Vaughan

Date: November 17, 2017

Designer: NL

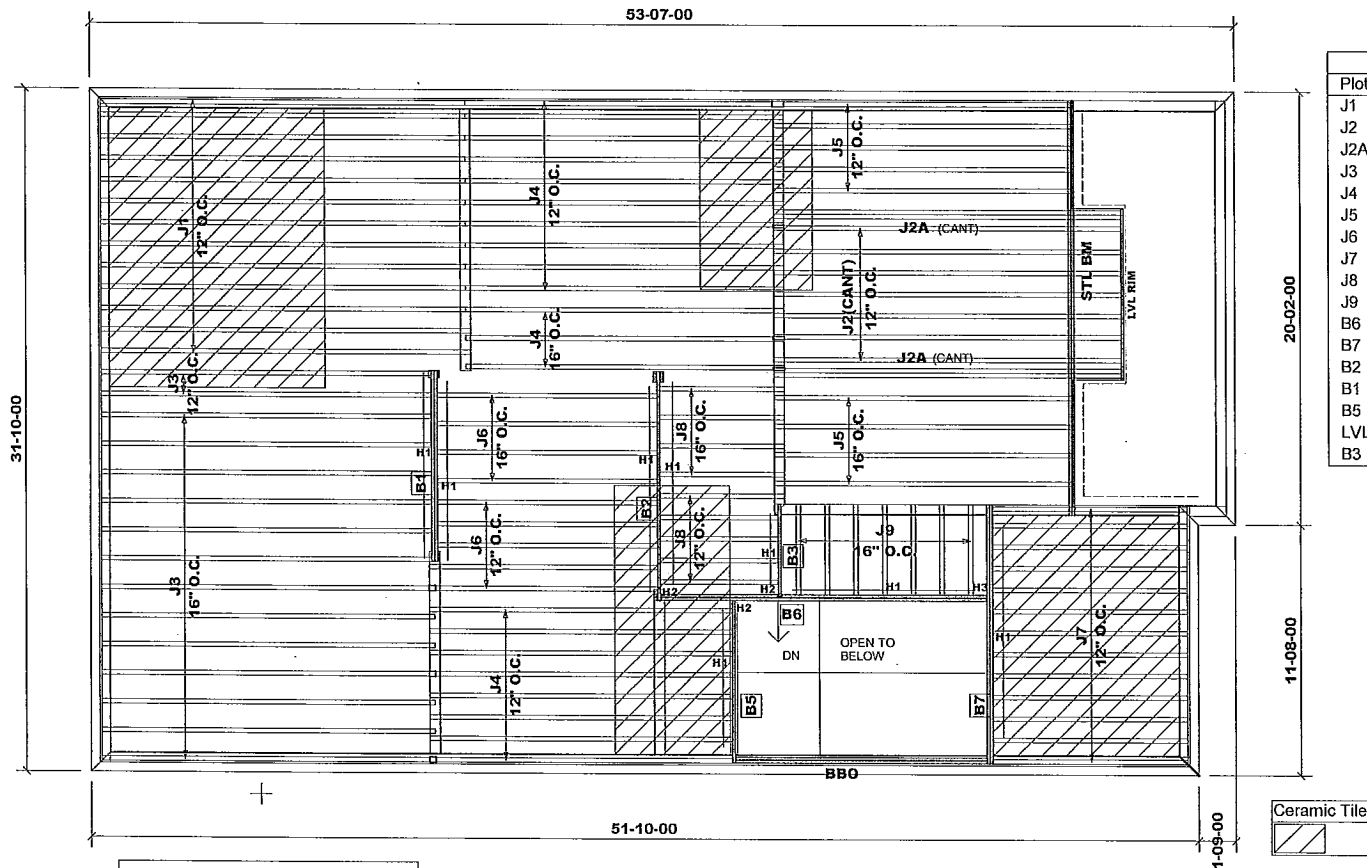
Sheet: 4 of 6

Alpa Roof Trusses Inc.

Maple, Ontario

Salesperson: Derek

Home Lumber



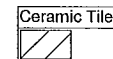
REVISION: December 18, 2017

MODEL: UNIT 4001 - EL.B
W/OPT. 2ND FLOOR

Second Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING
TOTAL LENGTH: 8'



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-20	1	13
J2	17-00-00	11 7/8" NI-20	1	7
J2A	17-00-00	11 7/8" NI-20	2	4
J3	16-00-00	11 7/8" NI-20	1	15
J4	15-00-00	11 7/8" NI-20	1	21
J5	14-00-00	11 7/8" NI-20	1	9
J6	11-00-00	11 7/8" NI-20	1	9
J7	10-00-00	11 7/8" NI-20	1	13
J8	6-00-00	11 7/8" NI-20	1	9
J9	5-00-00	11 7/8" NI-20	1	7
B6	16-00-00	VERSALAM-12 2.0E	2	2
B7	13-00-00	VERSALAM-12 2.0E	2	2
B2	11-00-00	VERSALAM-12 2.0E	1	1
B1	9-00-00	VERSALAM-12 2.0E	2	2
B5	8-00-00	VERSALAM-12 2.0E	1	1
LVL RIM	8-00-00	VERSALAM-12 2.0E	1	1
B3	5-00-00	VERSALAM-12 2.0E	1	1

HANGER SCHEDULE

H1-----LT251188 (TM)
H2-----HUS1.81/10(FM)
H3-----HGUS410(FM)
H6-----LSSUI25(FM)

NOTE:

TM -----TOP MOUNT HANGERS
FM-----FACE MOUNT HANGERS

RIMBOARD

1- 1/8" X 11 7/8" O.S.B.

SUBFLOOR - 3/4" NAILED & GLUED

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BBO - BEAM BY OTHERS

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JT/PL: 45147/95234

LI: 290675

Builder: Gold Park

Project: Pine Valley

Location: Vaughan

Date: November 19, 2017

Designer: NL

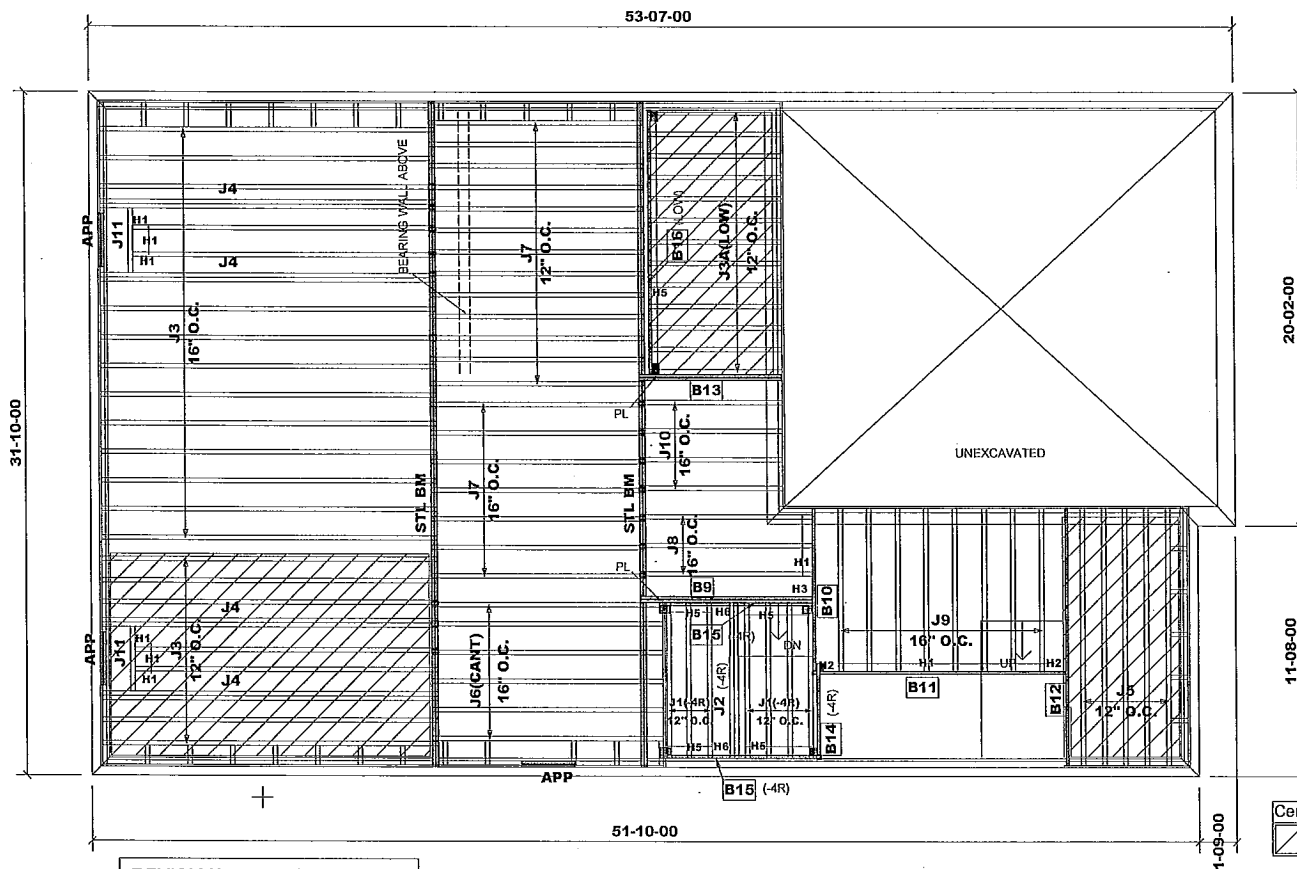
Sheet: 5 of 6

Alpa Roof Trusses Inc.

Maple, Ontario

Salesperson: Derek

Home Lumber



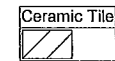
REVISION: December 18, 2017

MODEL: UNIT 4001 - EL.A+B
W/SUNKEN

First Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING
TOTAL LENGTH: 51"



Products				
PlotID	Length	Product	Plies	Net Qty
J1	8-00-00	9 1/2" NI-20	1	7
J2	8-00-00	9 1/2" NI-20	2	2
J3A	7-00-00	9 1/2" NI-20	1	13
J3	16-00-00	11 7/8" NI-20	1	21
J4	16-00-00	11 7/8" NI-20	2	8
J5	12-00-00	11 7/8" NI-20	1	5
J6	11-00-00	11 7/8" NI-20	1	6
J7	10-00-00	11 7/8" NI-20	1	20
J8	9-00-00	11 7/8" NI-20	1	3
J9	8-00-00	11 7/8" NI-20	1	8
J10	7-00-00	11 7/8" NI-20	1	4
J11	3-00-00	11 7/8" NI-20	1	2
B16	13-00-00	VERSALAM-10 2.0E	1	1
B11	12-00-00	VERSALAM-12 2.0E	1	1
B12	12-00-00	VERSALAM-12 2.0E	1	1
B9	9-00-00	VERSALAM-12 2.0E	2	2
B15	8-00-00	VERSALAM-10 2.0E	1	2
B10	8-00-00	VERSALAM-12 2.0E	1	1
B13	7-00-00	VERSALAM-12 2.0E	2	2
B14	5-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE

H1.....LT251188 (TM)
H2.....HUS1.81/10(FM)
H5.....LT259(TM)
H6.....MIT39.5-2(TM)

NOTE:

TMTOP MOUNT HANGERS
FM.....FACE MOUNT HANGERS

RIMBOARD

1- 1/8" X 9 1/2" O.S.B.
1- 1/8" X 11 7/8" O.S.B.

SUBFLOOR - 3/4" NAILED & GLUED

APP - AS PER PLAN
BBO - BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.6

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1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

JT/PL: 45147/95234

LI: 290675

Builder: Gold Park

Project: Pine Valley

Location: Vaughan

Date: November 17, 2017

Designer: NL

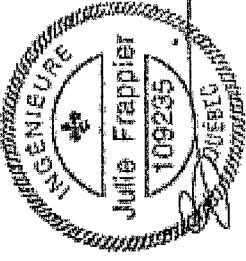
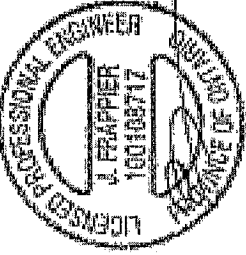
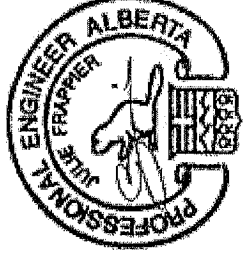
Sheet: 6 of 6

Alpa Roof Trusses Inc.

Maple, Ontario

Salesperson: Derek

Home Lumber



Maximum Floor Spans

Live Load = 40 psf, Dead Load = 15 psf

Simple Spans, L/360 Deflection Limit
3/4" OSB G&N Sheathing

Depth	Series	Bare		1/2" Gypsum Ceiling	
		On Centre Spacing	On Centre Spacing	On Centre Spacing	On Centre Spacing
9-1/2"	NI-20	12"-15'-10"	16"-19'-2"	12"-24"	16"-19'-2"
	NI-40x	17'-0"	15'-0"	16'-4"	15'-5"
	NI-60	17'-0"	16'-0"	17'-5"	15'-10"
	NI-70	17'-2"	16'-2"	17'-6"	16'-7"
	NI-80	18'-0"	16'-11"	18'-5"	17'-3"
	NI-80	18'-3"	17'-1"	18'-8"	17'-5"
	NI-20	17'-10"	16'-10"	18'-6"	17'-4"
	NI-40x	19'-4"	17'-11"	19'-11"	18'-6"
	NI-60	19'-7"	18'-2"	20'-2"	17'-9"
	NI-70	20'-9"	19'-2"	21'-4"	18'-9"
11-7/8"	NI-80	21'-1"	19'-5"	21'-7"	19'-9"
	NI-90x	21'-8"	20'-0"	22'-2"	20'-0"
	NI-40x	21'-5"	19'-10"	22'-1"	20'-6"
	NI-60	21'-10"	20'-2"	22'-5"	20'-10"
	NI-70	23'-0"	21'-3"	23'-8"	21'-11"
	NI-80	23'-5"	21'-7"	24'-0"	22'-3"
	NI-90x	24'-1"	22'-3"	24'-8"	21'-2"
	NI-60	23'-9"	22'-0"	24'-6"	22'-9"
	NI-70	25'-1"	23'-2"	25'-9"	23'-10"
	NI-80	25'-6"	23'-6"	26'-1"	24'-2"
14"	NI-90x	26'-4"	24'-3"	26'-11"	24'-11"
	NI-20	21'-5"	18'-11"	22'-1"	20'-6"
	NI-40x	21'-10"	19'-3"	22'-5"	20'-10"
	NI-60	23'-0"	20'-3"	23'-8"	21'-11"
	NI-70	23'-5"	20'-7"	24'-0"	22'-3"
	NI-80	24'-1"	21'-2"	24'-8"	22'-10"
	NI-90x	24'-9"	22'-0"	24'-6"	22'-9"
	NI-60	23'-9"	20'-11"	24'-6"	22'-9"
	NI-70	25'-1"	22'-0"	25'-9"	23'-10"
	NI-80	25'-6"	22'-4"	26'-1"	24'-2"
16"	NI-90x	26'-4"	23'-1"	26'-11"	24'-11"
	NI-20	20'-2"	18'-8"	20'-7"	18'-8"
	NI-40x	21'-10"	20'-4"	22'-5"	20'-11"
	NI-60	22'-1"	20'-7"	22'-8"	20'-3"
	NI-70	23'-4"	21'-8"	23'-10"	21'-3"
	NI-80	23'-7"	21'-11"	24'-1"	22'-6"
	NI-90x	24'-3"	22'-6"	24'-8"	22'-0"
	NI-40x	24'-5"	22'-9"	25'-1"	23'-6"
	NI-60	24'-10"	23'-1"	25'-6"	23'-10"
	NI-70	26'-1"	24'-3"	26'-8"	24'-11"
16"	NI-80	26'-6"	24'-7"	27'-1"	25'-3"
	NI-90x	27'-3"	25'-4"	27'-9"	25'-11"
	NI-60	27'-3"	25'-5"	28'-0"	26'-2"
	NI-70	28'-8"	26'-8"	29'-3"	27'-4"
	NI-80	29'-1"	27'-0"	29'-8"	27'-9"
	NI-90x	29'-11"	27'-10"	30'-6"	28'-5"
	NI-20	20'-2"	18'-8"	20'-7"	18'-8"
	NI-40x	21'-10"	20'-4"	22'-5"	20'-11"
	NI-60	22'-1"	20'-7"	22'-8"	20'-3"
	NI-70	23'-4"	21'-8"	23'-10"	21'-3"

- Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/360 and a total load deflection limit of L/240.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- Minimum bearing length shall be 1-3/4 inches for the end bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.

www.nordicewp.com

2025-1-25

2025-1-25

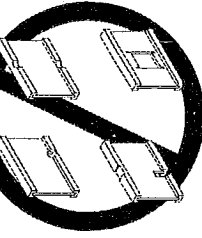
5. The sides of square holes or longer sides of rectangular holes should not exceed $3/4$ of the diameter of the maximum round hole permitted at that location.
6. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (twice the length of the longest side of the longest rectangular hole or square hole opening) and each hole and duct chase opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
7. A knockout is **not** considered a hole, may be utilized anywhere it occurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct chase openings.
8. Holes measuring $1\frac{1}{2}$ inches or smaller are permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to verification.

Simple Span Only

Joist Depth	Joist Series	Duct Chase Length (in.)											Minimum distance from inside face of supports to centre of opening (ft. - in.)
		8	10	12	14	16	18	20	22	24			
9 1/2"	Ni20	4-1"	4-5"	4-10"	5-4"	5-8"	6-1"	6-6"	7-1"	7-5"	24		
	Ni40x	5-3"	5-8"	6-0"	6-5"	6-10"	7-3"	7-8"	8-2"	8-6"			
	Ni60	5-4"	5-9"	6-2"	6-7"	7-1"	7-5"	8-0"	8-3"	8-9"			
	Ni70	5-1"	5-5"	5-10"	6-5"	6-7"	7-1"	7-6"	8-1"	8-4"			
	Ni80	5-3"	5-8"	6-0"	6-5"	6-10"	7-3"	7-8"	8-2"	8-6"			
	Ni20	5-8"	6-2"	6-6"	7-1"	7-5"	7-9"	8-3"	8-9"	9-4"			
11 7/8"	Ni40x	6-8"	7-2"	7-6"	8-1"	8-6"	9-1"	9-6"	10-1"	10-9"			
	Ni60	7-3"	7-8"	8-0"	8-6"	9-0"	9-3"	9-9"	10-3"	11-0"			
	Ni70	7-1"	7-4"	7-9"	8-3"	8-7"	9-1"	9-6"	10-1"	10-4"			
	Ni80	7-2"	7-7"	8-0"	8-5"	8-9"	9-2"	9-8"	10-2"	10-8"			
	Ni90	7-6"	7-11"	8-4"	8-9"	9-2"	9-7"	10-1"	10-7"	10-11"			
	Ni90x	8-1"	8-5"	8-9"	8-10"	9-4"	10-7"	10-2"	10-8"	11-2"			
14"	Ni40x	8-7"	9-1"	9-5"	9-6"	10-1"	10-7"	11-2"	12-0"	12-8"			
	Ni60	8-9"	9-3"	9-8"	10-1"	10-6"	11-1"	11-6"	13-3"	13-0"			
	Ni70	8-7"	9-3"	9-9"	9-10"	10-4"	10-8"	11-2"	11-7"	12-3"			
	Ni80	9-0"	9-3"	9-9"	10-1"	10-7"	11-1"	11-6"	12-1"	12-6"			
	Ni90	9-2"	9-8"	10-0"	10-6"	10-11"	11-5"	11-9"	12-4"	12-11"			
	Ni90x	9-4"	9-9"	10-3"	10-7"	11-1"	11-7"	12-1"	12-7"	13-2"			
16"	Ni60x	10-3"	10-8"	11-2"	11-6"	12-1"	12-6"	13-2"	14-1"	14-10"			
	Ni70	10-1"	10-5"	11-0"	11-4"	11-10"	12-3"	12-8"	13-3"	14-0"			
	Ni80	10-4"	10-9"	11-3"	11-9"	12-1"	12-7"	13-1"	13-8"	14-4"			
	Ni90	10-9"	11-2"	11-8"	12-0"	12-6"	13-0"	13-6"	14-2"	14-10"			
	Ni90x	11-1"	11-5"	12-1"	12-4"	12-10"	13-2"	13-9"	14-4"	15-2"			

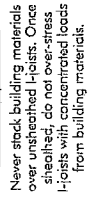
1. Above table may be used for I-joist spacing of 24 inches on centre or less.
2. Duct chase opening location distance is measured from inside faces of supports to centre of opening.
3. The above table is based on simple-span joists only. For other applications, contact your local distributor.
4. Distances are based on uniformly loaded floor joists that meet the span requirements for a design live load of 40 psf and dead load of 15 psf, and a joist that deflect the limit of L/480.
5. The above table is based on the joists being used at their maximum spans. The minimum distance given above may be reduced for shorter spans; contact your local distributor.

Knockouts are prescored holes provided for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2 inches in diameter, and are spaced 15 inches on centre along the length of the joist. Where possible, it is preferable to use knockouts instead of field-cut holes.

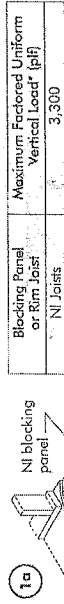


AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

1. Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bridging at joist ends. When I-joists are applied continuous over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist rollover or buckling.
 - Temporary bracing or struts must be 1 3/4 inch minimum, at least 8 feet long and spaced no more than 8 feet on center, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Top ends of adjoining bracing over at least two I-joists.
 - Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
3. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.
4. Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only.
5. Never install a damaged I-joist.

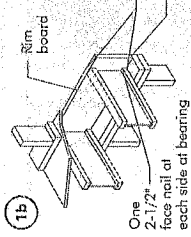


Furthermore, Chantiers Cliboungian warrants that our products, when utilized in accordance with our handling and installation instructions, will meet or exceed our specifications for the lifetime of the structure.



Attach I-joist to top plate per detail 1b

One 2-1/2" face nail at each side at bearing



Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
1-1/8" Rim Board Plus NI Joists	8,090

*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

One 2-1/2" wire or spiral nail at top and bottom flange

Attach rim board to top plate using 2-1/2" wire or spiral bee-nails at 6" o.c.

To avoid splitting flange, start nails at least 1-1/2" from end of I-joist. Nails may be driven at an angle to avoid splitting of bearing plate.

Minimum bearing length shall be 1-3/4" for the end bearings, and 3-1/2" for the intermediate bearings when applicable.

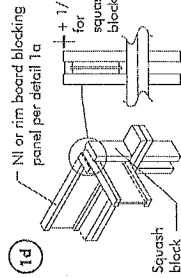
Standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

One 2-1/2" wire or spiral nail at top and bottom flange

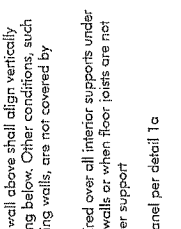
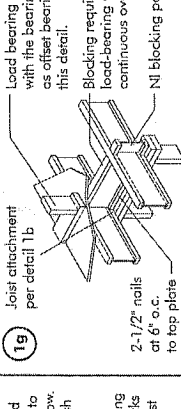
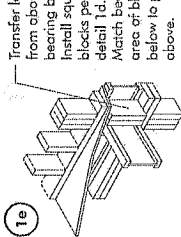
Attach rim board to top plate using 2-1/2" wire or spiral bee-nails at 6" o.c.

To avoid splitting flange, start nails at least 1-1/2" from end of I-joist. Nails may be driven at an angle to avoid splitting of bearing plate.

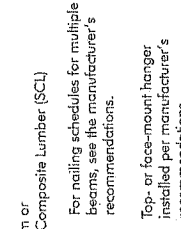
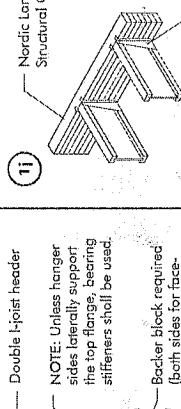
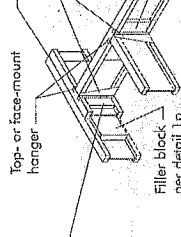
Minimum bearing length shall be 1-3/4" for the end bearings, and 3-1/2" for the intermediate bearings when applicable.



Pair of Squash Blocks	Maximum Factored Vertical Load Per Pair of Squash Blocks (lbs)
2x Lumber	5,500
1-1/8" Rim Board Plus	4,300

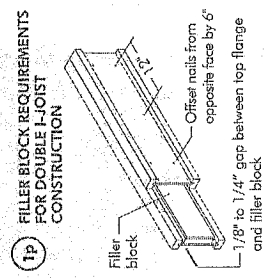
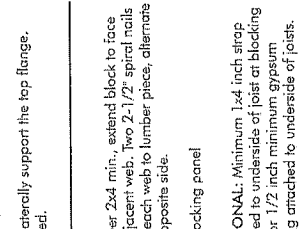
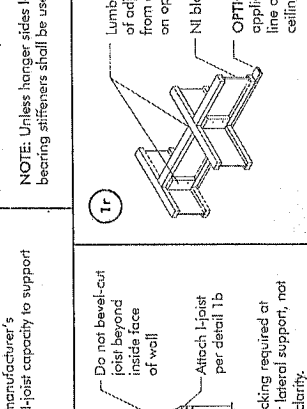
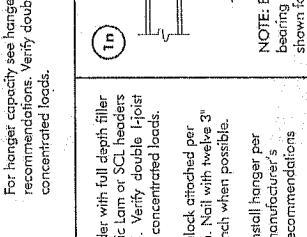


Backer block (use if hanger load exceeds 360 lbs). Before installing a backer block to a double I-joist, drive three additional 3" nails through the webs and filler block where the backer block will fit. Attach. Install backer tight to top flange. Use twelve 3" nails, clinched when possible. Maximum factored resistance for hanger for this detail = 1,620 lbs.



Minimum grade for backer block material shall be S-PF No. 2 or better for solid sawn lumber and wood structural panels conforming to CAN/CSA-C3085 or CAN/CSA-Q437 Standard.

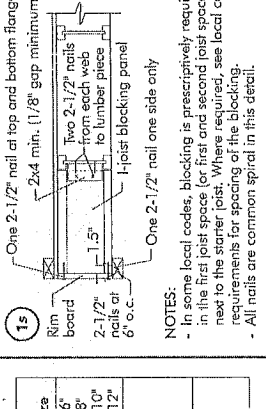
** For face-mount hangers use nail joist depth minus 3-1/4" for joists with 1-1/2" thick flanges. For 2" thick flanges use net depth minus 4-1/4".



NOTES:

- Support back of I-joist web during nailing to prevent damage to web/flange connection.
- Leave a 1/8 to 1/4-inch gap between top of filler block and bottom of top I-joist flange.
- Filler block is required between joists for full length of span.
- Nail joists together with two rows of 3" nails at 12 inches o.c. (clinch when possible), on each side of the double I-joist. Total of four nails per foot required. If nails can be clinched, only two nails per foot are required.
- The maximum factored load that may be applied to one side of the double joist using this detail is 860 lb/ft. Verify double I-joist capacity.

Flange Size	Net Depth	Filler Block Size
9-1/2"	2-1/8" x 6"	2-1/8" x 6"
2-1/2" x 1-1/2"	1-1/8" x 8"	2-1/8" x 8"
1-1/2"	1-1/8" x 10"	2-1/8" x 10"
3-1/2" x 1-1/2"	1-1/8" x 12"	2-1/8" x 12"
3-1/2" x 1-1/2"	3" x 6"	3" x 6"
3-1/2" x 1-1/2"	3" x 8"	3" x 8"
3-1/2" x 1-1/2"	3" x 10"	3" x 10"
3-1/2" x 1-1/2"	3" x 12"	3" x 12"
3-1/2" x 1-1/2"	3" x 7"	3" x 7"
3-1/2" x 1-1/2"	3" x 9"	3" x 9"
3-1/2" x 1-1/2"	3" x 11"	3" x 11"



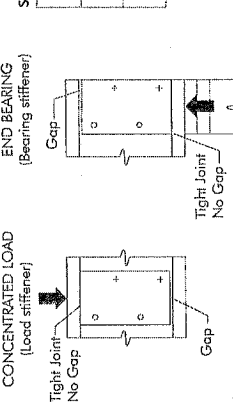
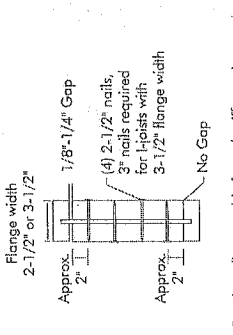
All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (0.122" dia.) common spiral nails may be substituted for 2-1/2" (0.128" dia.) common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components not shown to scale for clarity.

WEB STIFFENERS

RECOMMENDATIONS:

- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joist properties table found in the I-joist Construction Guide (C101). The gap between the stiffener and the flange is at the top.
- A bearing stiffener is required when the I-joist is supported in a hanger and the sides of the hanger do not extend up to, and support, the top flange. The gap between the stiffener and flange is at the top.
- A load stiffener is required at locations where a factored concentrated load greater than 2,370 lbs is applied to the top flange between supports, or in the case of a cantilever, anywhere between the cantilever tip and the support. These values are for standard term load duration, and may be adjusted for other load durations as permitted by the code. The gap between the stiffener and the flange is at the bottom.

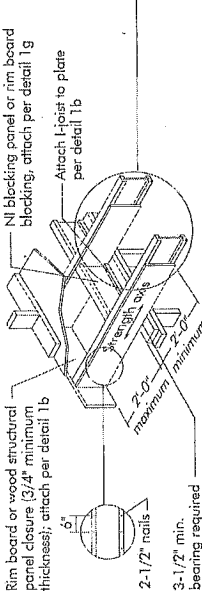
FIGURE 2 WEB STIFFENER INSTALLATION DETAILS



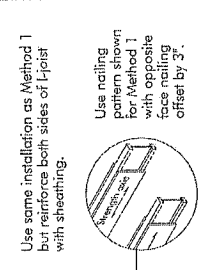
Flange Width	Web Stiffener Size Each Side of Web
2-1/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET

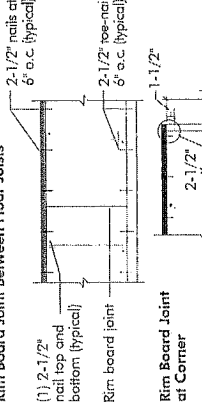
Method 1 — SHEATHING REINFORCEMENT ONE SIDE



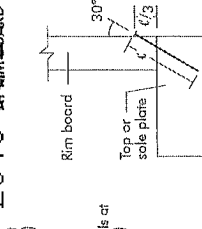
Method 2 — SHEATHING REINFORCEMENT TWO SIDES



Method 3 — SHEATHING REINFORCEMENT THREE SIDES



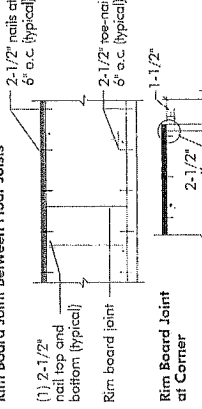
Method 4 — SHEATHING REINFORCEMENT FOUR SIDES



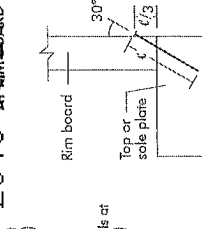
NOTE: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail 1b. Verify reinforced I-joist capacity.

RIM BOARD INSTALLATION DETAILS

Method 1 — ATTACHMENT DETAILS WHERE RIM BOARDS ABOUT RIM BOARD JOINT BETWEEN FLOOR JOISTS

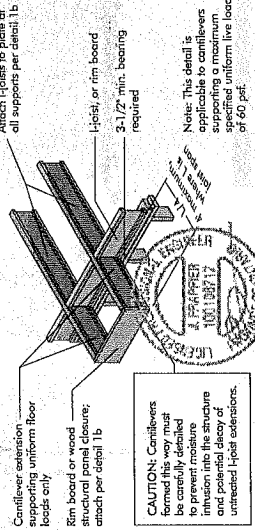


Method 2 — ATTACHMENT DETAILS WHERE RIM BOARDS ABOUT JOIST JOINT



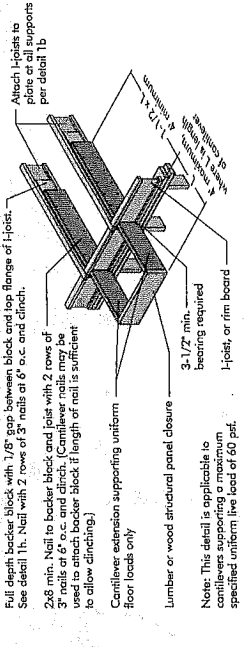
CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)

3a) L-JOIST CANTILEVER DETAIL FOR BALCONIES (NO WALL LOAD)



CAUTION: Cantilevers formed this way must be carefully detailed to prevent the cantilever from pulling into the structure and potential decay of untreated I-joist extensions.

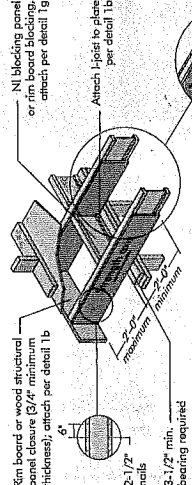
3b) LUMBER CANTILEVER DETAIL FOR BALCONIES (NO WALL LOAD)



Note: This detail is applicable to cantilevers supporting a maximum specified uniform live load of 60 psf.

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

4a) Method 1 — SHEATHING REINFORCEMENT ONE SIDE

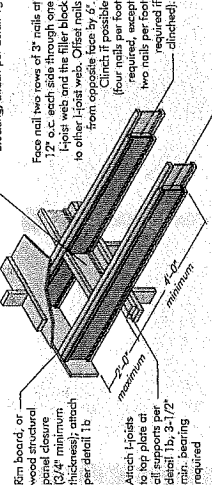


Method 2 — SHEATHING REINFORCEMENT TWO SIDES

- Use same installation as Method 1 but reinforce both sides of I-joist with sheathing.
- Use nailing pattern shown for Method 1 with opposite face nailing offset by 3\".

Note: Canadian softwood sheathing or equivalent (minimum thickness 3/4\") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2\" nailing offset by 3\".

4b) Alternate Method 2 — DOUBLE I-JOIST



Block I-joists together with filler blocks for the full length of the reinforcement. For I-joist flange widths greater than 3 inches place an additional row of 3\" nailing along the cantilever of the reinforcing panel from each side. Clinch when possible.

FIGURE 4 (continued)



For hip roofs with the jack trusses running parallel to the ridge beam, the I-joist reinforcement requirements for a span of 26 ft. shall be permitted to be used.

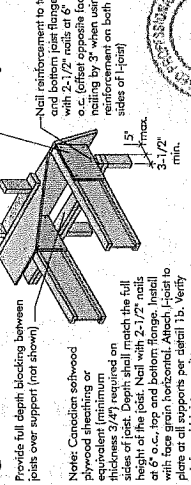
CANTILEVER REINFORCEMENT METHODS ALLOWED

ROOF TRUSS DEPTH (in)	ROOF CEILING (UNREINFORCED)									
	12	16	19 1/2	24	27	30	33	36	39	42
9-1/2	N	N	N	N	N	N	N	N	N	N
11-7/8	N	N	N	N	N	N	N	N	N	N
14	N	N	N	N	N	N	N	N	N	N
16	N	N	N	N	N	N	N	N	N	N

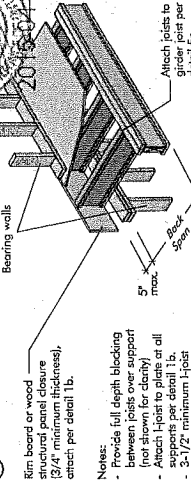
1. N = No reinforcement required.
2. N = Reinforced with 3/4\" wood structural panel on one side only.
3. N = Reinforced with 3/4\" wood structural panel on both sides of double I-joist.
4. For larger openings, or multiple 3-0\" wide openings spaced less than 6-0\" o.c., additional joists beneath the opening are required.
5. Table applies to joists 12\" to 24\" o.c. that must be floor span requirements for a design live load of 40 psf and dead load of 15 psf.
6. Maximum design load shall be: 15 psf roof dead load, 30 psf roof live load and 60 psf maximum width window or door openings.

BRICK CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

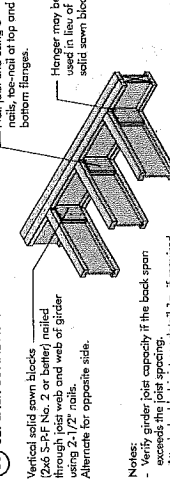
FIGURE 5 (continued)



5b) SET-BACK DETAIL

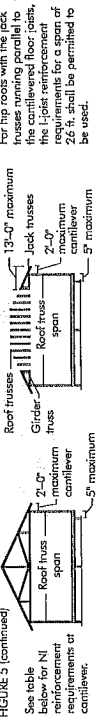


5c) SET-BACK CONNECTION



Notes:

- Verify girder joist capacity if the back span exceeds the joist spacing.
- Attach double I-joist per detail 1b. If required.

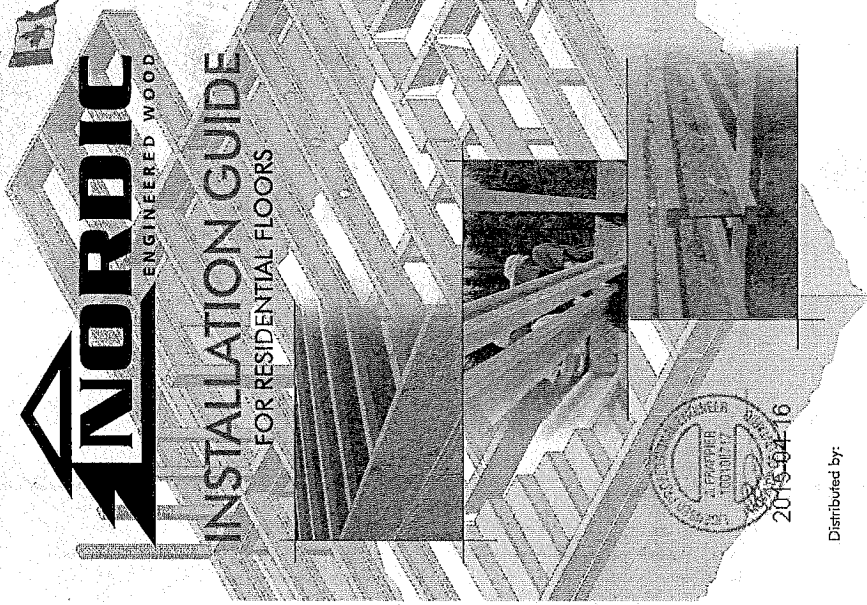


For hip roofs with the jack trusses running parallel to the cantilevered floor joists, the I-joist reinforcement requirements for a span of 26 ft. shall be permitted to be used.

BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

ROOF TRUSS DEPTH (in)	ROOF CEILING (UNREINFORCED)									
	12	16	19 1/2	24	27	30	33	36	39	42
9-1/2	N	N	N	N	N	N	N	N	N	N
11-7/8	N	N	N	N	N	N	N	N	N	N
14	N	N	N	N	N	N	N	N	N	N
16	N	N	N	N	N	N	N	N	N	N

1. N = No reinforcement required.
2. N = Reinforced with 3/4\" wood structural panel on one side only.
3. N = Reinforced with 3/4\" wood structural panel on both sides, or double I-joist.
4. For larger openings, or multiple 3-0\" wide openings spaced less than 6-0\" o.c., additional joists beneath the opening are required.
5. Table applies to joists 12\" to 24\" o.c. that must be floor span requirements for a design live load of 40 psf and dead load of 15 psf.
6. Maximum design load shall be: 15 psf roof dead load, 30 psf roof live load and 60 psf maximum width window or door openings.



N-C901 / November 2014

SAFETY AND CONSTRUCTION PRECAUTIONS



WARNING
I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed.

Avoid Accidents by Following these Important Guidelines:

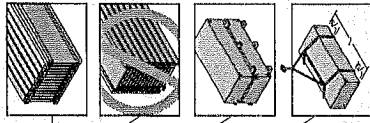
1. Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bracing at joist ends. When I-joists are applied continuously over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
2. When the building is completed, the floor sheathing will provide lateral support for the top flange of each I-joist. Until this sheathing is applied, temporary blocking or temporary sheathing must be applied to prevent I-joist rollover or buckling.



- Temporary blocking or sheath must be 1-1/2 inch minimum, at least 8 feet long and spaced no more than 5 feet on center, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each I-joist. Nail the blocking to a lateral restraint at the end of each bay. Lap ends of adjoining blocking over at least two I-joists.
- Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
- 3. For cantilevered I-joists, brace top and bottom flanges, and brace ends with cleave panels, rim board, or cross-bracing.
- 4. Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only.
- 5. Never install a damaged I-joist.

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordie joists, failure to follow the instructions for use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.

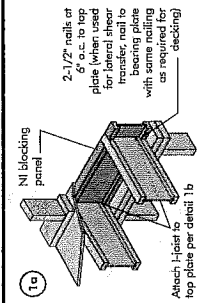
STORAGE AND HANDLING GUIDELINES



1. Bundle wrap can be slippery when wet. Avoid walking on wrapped bundles.
2. Store, stack, and handle I-joists vertically and level only.
3. Always stack and handle I-joists in the upright position only.
4. Do not store I-joists in direct contact with the ground and/or flange.
5. Protect I-joists from weather, and use spacers to separate bundles.
6. Bundled units should be kept intact until time of installation.
7. When handling I-joists with a crane on the job site, take a few simple precautions to prevent damage to the I-joists and injury to your work crew.
 - Pick I-joists in bundles as shipped by the supplier.
 - Orient the bundles so that the webs of the I-joists are vertical.
 - Pick the bundles at the 5th points, using a spreader bar if necessary.
8. Do not handle I-joists in a horizontal orientation.
9. NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.

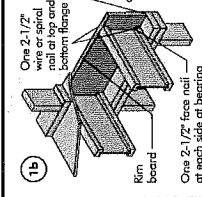
INSTALLING NORDIE I-JOISTS

1. Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, contact your supplier.
2. Except for cutting to length, I-joist flanges should never be cut, drilled, or notched.
3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
4. I-joists must be anchored securely to supports before floor sheathing is attached, and supports must be level.
5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bearings.
6. When using hangers, seat I-joists firmly in hanger bottoms to minimize settlement.
7. Leave a 1/16-inch gap between the I-joist and a header.
8. Concentrated loads greater than those that can normally be expected in residential construction should only be applied to the top surface of the top flange. Normal concentrated loads include track lighting fixtures, audio equipment and security cameras. Never suspend unusual or heavy loads from the I-joist's bottom flange. Whenever possible, suspend all loads from the top of the I-joist. Or, attach the load to blocking that has been securely fastened to the I-joist webs.
9. Never install I-joists where they will be permanently exposed to weather, or where they will remain in direct contact with concrete or masonry.
10. Restrain ends of floor joists to prevent rollover. Use rim board, rim joists or I-joist blocking panels.
11. For I-joists installed over and beneath bearing walls, use full depth blocking panels, rim board, or squash blocks (cripple members) to transfer gravity loads through the floor system to the wall or foundation below.
12. Due to shrinkage, common framing lumber set on edge may never be used as blocking or rim board. I-joist blocking must be of a material that is dimensionally stable. Blocking must be cut to fit between the I-joists, and an I-joist-compatible depth selected.
13. Provide permanent lateral support of the bottom flange of all I-joists at interior supports of multiple-span joists. Similarly, provide permanent lateral support of the top flange of all I-joists at interior supports of multiple-span joists. Similarly, provide permanent lateral support of the top flange of all I-joists at interior supports of multiple-span joists. Similarly, provide permanent lateral support of the top flange of all I-joists at interior supports of multiple-span joists. Similarly, provide permanent lateral support of the top flange of all I-joists at interior supports of multiple-span joists.
14. If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Glue panels to blocking to prevent movement. Blocking must be required under structural finish flooring, such as wood strip flooring, or if a separate underlayment layer is installed.
15. Nail spacing: Space nails installed to the flange's top face in accordance with the applicable building code requirements or approved building plan.



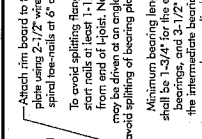
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (psf)
Ni Joists	3,300

*The uniform vertical load is limited to a joist depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.



Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (psf)
1-1/8" Rim Board Plus	8,000

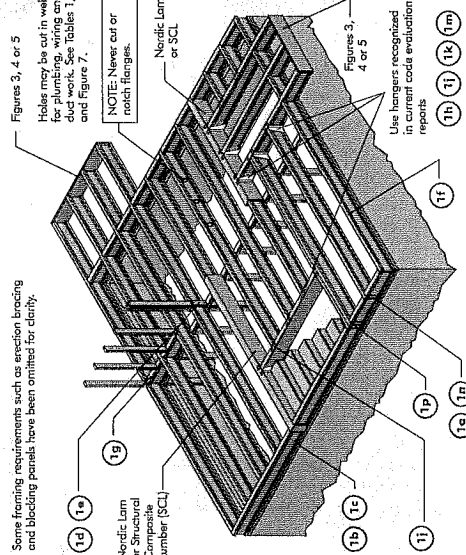
*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.



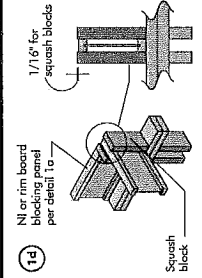
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (psf)
1-1/8" Rim Board Plus	8,000

*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

FIGURE 1
TYPICAL NORDIE I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS



All nails shown in the above details are assumed to be common city nails unless otherwise noted. * (12" x 12" x 12")
1-1/8" Rim Board Plus
Provide lateral bracing per detail 1a, 1b, or 1c



Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (psf)
1-1/8" Rim Board Plus	8,000

*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

MAXIMUM FLOOR SPANS

1. Maximum clear spans applicable to simple-span or multiple-span residential floor construction with a design live load of 40 psf and dead load of 10 psf per foot of 1,500 lbf/ft. The serviceability limit states include the consideration for floor vibration and a live load deflection limit of $L/480$. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.

2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less, or 3/4 inch for joist spacing of 24 inches. OSB adhesive is required for all joist spacings of 24 inches or greater. Standard, non-top edge or bridging element with the used assumed. Increased spans may be achieved with the use of gypsum and/or a row of blocking at mid-span.

3. Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate bearings.

4. Bearing stiffeners are not required when joists are used with the gables and openings given in this table, except as required for hangers.

5. This span chart is based on uniform loads. For applications with other than uniform loads, an engineering analysis may be required based on the use of the design properties.

6. Tables are based on Lamin Series Design per CAN/CSA C08-09 Standard, and NBC 2010.

7. SI units conversion: 1 inch = 25.4 mm
1 foot = 0.305 m

MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS

SIMPLE AND MULTIPLE SPANS

Joist Depth	Joist Spacing	On Top of Beam	On Top of Joist	On Top of Joist	On Top of Joist
N-20	12"	12'	12'	12'	12'
N-24	12"	12'	12'	12'	12'
N-30	12"	12'	12'	12'	12'
N-36	12"	12'	12'	12'	12'
N-40	12"	12'	12'	12'	12'
N-48	12"	12'	12'	12'	12'
N-60	12"	12'	12'	12'	12'
N-70	12"	12'	12'	12'	12'
N-80	12"	12'	12'	12'	12'
N-90	12"	12'	12'	12'	12'
N-100	12"	12'	12'	12'	12'
N-120	12"	12'	12'	12'	12'
N-140	12"	12'	12'	12'	12'
N-160	12"	12'	12'	12'	12'
N-180	12"	12'	12'	12'	12'
N-200	12"	12'	12'	12'	12'
N-240	12"	12'	12'	12'	12'
N-280	12"	12'	12'	12'	12'
N-320	12"	12'	12'	12'	12'
N-360	12"	12'	12'	12'	12'
N-400	12"	12'	12'	12'	12'
N-480	12"	12'	12'	12'	12'
N-560	12"	12'	12'	12'	12'
N-640	12"	12'	12'	12'	12'
N-720	12"	12'	12'	12'	12'
N-800	12"	12'	12'	12'	12'
N-900	12"	12'	12'	12'	12'
N-1000	12"	12'	12'	12'	12'
N-1200	12"	12'	12'	12'	12'
N-1400	12"	12'	12'	12'	12'
N-1600	12"	12'	12'	12'	12'
N-1800	12"	12'	12'	12'	12'
N-2000	12"	12'	12'	12'	12'
N-2400	12"	12'	12'	12'	12'
N-2800	12"	12'	12'	12'	12'
N-3200	12"	12'	12'	12'	12'
N-3600	12"	12'	12'	12'	12'
N-4000	12"	12'	12'	12'	12'
N-4800	12"	12'	12'	12'	12'
N-5600	12"	12'	12'	12'	12'
N-6400	12"	12'	12'	12'	12'
N-7200	12"	12'	12'	12'	12'
N-8000	12"	12'	12'	12'	12'
N-9000	12"	12'	12'	12'	12'
N-10000	12"	12'	12'	12'	12'
N-12000	12"	12'	12'	12'	12'
N-14000	12"	12'	12'	12'	12'
N-16000	12"	12'	12'	12'	12'
N-18000	12"	12'	12'	12'	12'
N-20000	12"	12'	12'	12'	12'

WEB STIFFENERS

RECOMMENDATIONS:

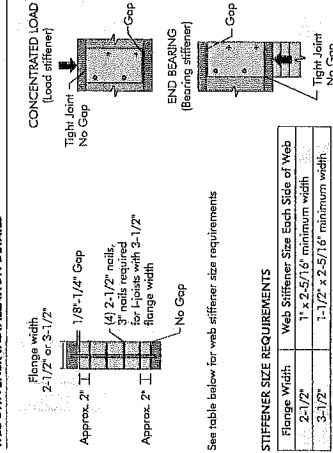
■ A bearing stiffener is required in all applications with reactions greater than shown in the Construction Guide (CUG). The gap between the stiffener and the flange is at the top.

■ A bearing stiffener is required when the joist is supported in a hanger and the sides of the hanger do not extend up to, and support, the top flange. The gap between the stiffener and flange is at the top.

■ A load stiffener is required at locations where a factored concentrated load greater than 2,370 lbs is applied to the top flange between supports, or in the case of a cantilever, anywhere between the cantilever tip and the support. These values are to be adjusted for other load durations as permitted by the code. The gap between the stiffener and the flange is at the bottom.

SI units conversion: 1 inch = 25.4 mm

FIGURE 2
WEB STIFFENER INSTALLATION DETAILS

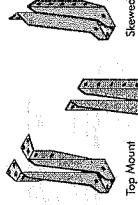


STIFFENER SIZE REQUIREMENTS

Flange Width	Web Stiffener Size Each Size of Web
2-1/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

I-JOIST HANGERS

- Hangers shown illustrate the three most commonly used metal hangers to support joists.
- All nailing must meet the hanger manufacturer's recommendations.
- Hangers should be selected based on the joist depth, flange width and load capacity based on the maximum spans.
- Web stiffeners are required when the sides of the hangers do not laterally brace the top flange of the joist.



Face Mount

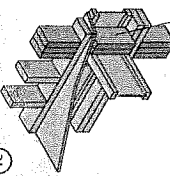
NORDIC I-JOIST SERIES

Joist Depth	Joist Spacing	On Top of Beam	On Top of Joist	On Top of Joist	On Top of Joist
N-20	12"	12'	12'	12'	12'
N-24	12"	12'	12'	12'	12'
N-30	12"	12'	12'	12'	12'
N-36	12"	12'	12'	12'	12'
N-40	12"	12'	12'	12'	12'
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N-160	12"	12'	12'	12'	12'
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N-800	12"	12'	12'	12'	12'
N-900	12"	12'	12'	12'	12'
N-1000	12"	12'	12'	12'	12'
N-1200	12"	12'	12'	12'	12'
N-1400	12"	12'	12'	12'	12'
N-1600	12"	12'	12'	12'	12'
N-1800	12"	12'	12'	12'	12'
N-2000	12"	12'	12'	12'	12'
N-2400	12"	12'	12'	12'	12'
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N-12000	12"	12'	12'	12'	12'
N-14000	12"	12'	12'	12'	12'
N-16000	12"	12'	12'	12'	12'
N-18000	12"	12'	12'	12'	12'
N-20000	12"	12'	12'	12'	12'

Chonies Chongomou Ltd. harvests its own trees, which enables Nozle products to adhere to strict quality control procedures throughout the manufacturing process. Every phase of the operation, from the raw timber to the finished product, reflects our commitment to quality.

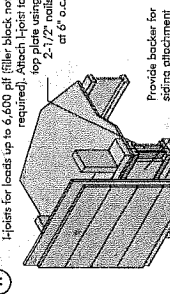
Nordic Engineered Wood I-Joists use only finger-jointed, kiln-dried, top-grade lumber in their flanges, ensuring consistent quality, superior strength and longer span carrying capacity.

11



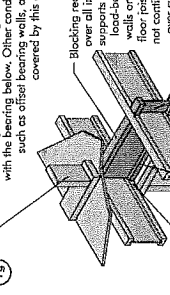
Transfer load from above to bearing below. Install squish blocks per detail 1d. Match bearing area of blocks below to joist above.

11



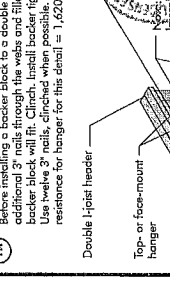
Use single I-joist for loads up to 3,200 plf. double I-joists for loads up to 6,400 plf. Attach I-joist to top plate using 2-1/2" nails at 6" o.c.

11



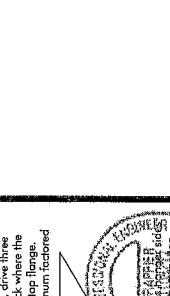
Load bearing wall above shall align vertically with the bearing below. Other conditions, such as offset bearing walls, are not covered by this detail.

11



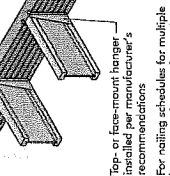
Backer block (use if hanger load exceeds 360 lbs). Before installing a backer block to a double I-joist, drive three additional 3" nails through the webs and filler block where the backer block will fit. Check, install backer block to top flange. Use 2" x 4" lumber with minimum factored resistance for hanger for this detail = 1,620 lbs.

11



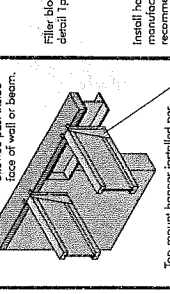
Double I-joist header. Top- or face-mount hanger. Backer block, required (both sides for face-mount hangers). Filler block, per detail 1p.

11



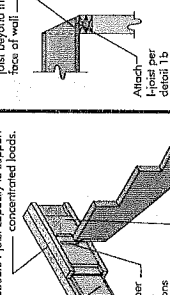
Top- or face-mount hanger. Installed per manufacturer's recommendations. For nailing schedule for multiple beams, see the manufacturer's recommendations.

11



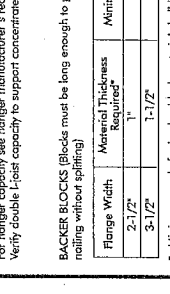
2x plate flush with inside face of wall or beam. 1/8" overhang allowed past inside face of wall or beam.

11



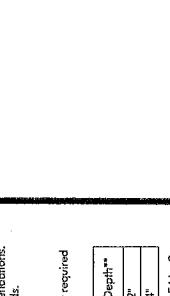
Multiple I-joist header with full depth filler block shown. Nordic Lam or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads.

11



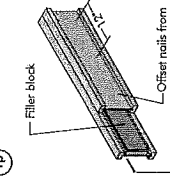
Do not bevel-out joist beyond inside face of wall.

11



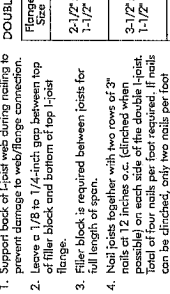
Attach I-joist per detail 1b.

11



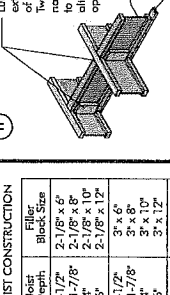
Filler block attached per detail 1h. Nail with twice 3" nails, clinch when possible.

11



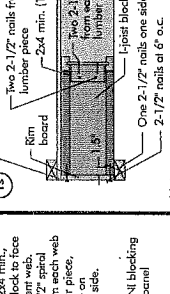
Install hanger per manufacturer's recommendations. Backer block attached per detail 1h. Nail with twice 3" nails, clinch when possible.

11



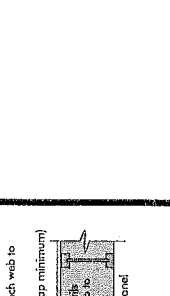
Backer block, required (both sides for face-mount hangers). Filler block, per detail 1p.

11



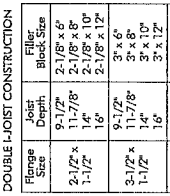
Backer block (use if hanger load exceeds 360 lbs). Before installing a backer block to a double I-joist, drive three additional 3" nails through the webs and filler block where the backer block will fit. Check, install backer block to top flange. Use 2" x 4" lumber with minimum factored resistance for hanger for this detail = 1,620 lbs.

11



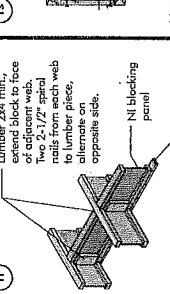
Double I-joist header. Top- or face-mount hanger. Backer block, required (both sides for face-mount hangers). Filler block, per detail 1p.

11



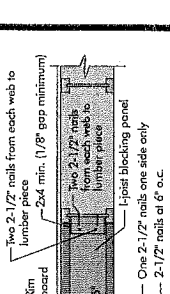
Filler block attached per detail 1h. Nail with twice 3" nails, clinch when possible.

11



Multiple I-joist header with full depth filler block shown. Nordic Lam or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads.

11



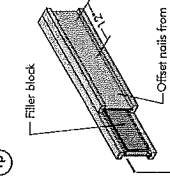
Do not bevel-out joist beyond inside face of wall.

11



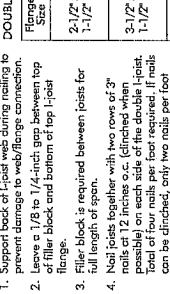
Attach I-joist per detail 1b.

11



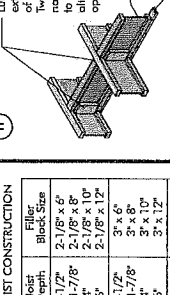
Filler block attached per detail 1h. Nail with twice 3" nails, clinch when possible.

11



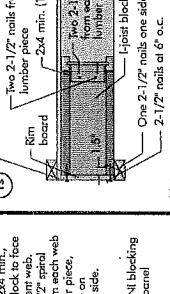
Install hanger per manufacturer's recommendations. Backer block attached per detail 1h. Nail with twice 3" nails, clinch when possible.

11



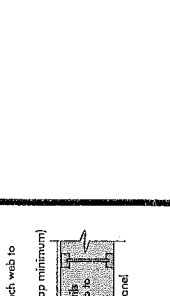
Backer block, required (both sides for face-mount hangers). Filler block, per detail 1p.

11



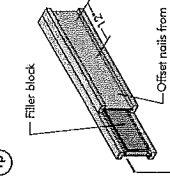
Backer block (use if hanger load exceeds 360 lbs). Before installing a backer block to a double I-joist, drive three additional 3" nails through the webs and filler block where the backer block will fit. Check, install backer block to top flange. Use 2" x 4" lumber with minimum factored resistance for hanger for this detail = 1,620 lbs.

11



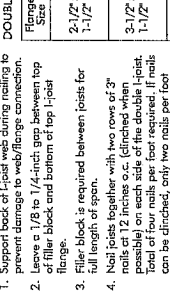
Double I-joist header. Top- or face-mount hanger. Backer block, required (both sides for face-mount hangers). Filler block, per detail 1p.

11



Filler block attached per detail 1h. Nail with twice 3" nails, clinch when possible.

11



Install hanger per manufacturer's recommendations. Backer block attached per detail 1h. Nail with twice 3" nails, clinch when possible.

11



Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Floor Beam\B01

November 19, 2017 08:23:44

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

Build 6080

Job Name:

Address:

City, Province, Postal Code: Vaughan, ON

Customer: Gold Park

Code reports:

45147 (4001)

Pine Valley

City, Province, Postal Code: Vaughan, ON

Gold Park

CCMC 12472-R

File Name: 290675.bcc

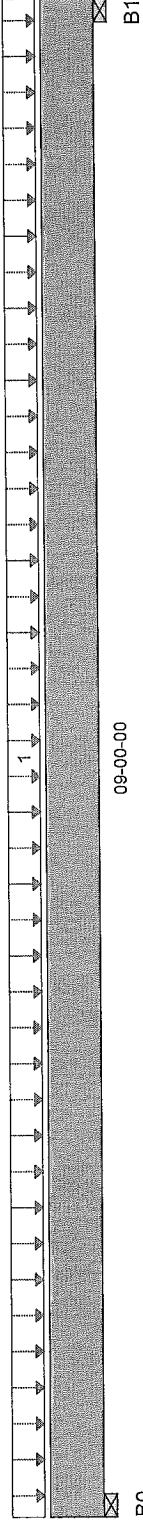
Description: Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



09-00-00

B1

Total Horizontal Product Length = 09-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	2,370 / 0	1,239 / 0		
B1, 3-1/2"	2,370 / 0	1,239 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft²)	L	00-00-00	09-00-00	40	20		1.00 1.15	13-02-00

Controls Summary

Pos. Moment	10,344 ft-lbs	35,392 ft-lbs	29.2%	1	04-06-00
End Shear	3,651 lbs	14,464 lbs	25.2%	1	01-03-06
Total Load Defl.	L/999 (0.098")	n/a	n/a	4	04-06-00
Live Load Defl.	L/999 (0.065")	n/a	n/a	5	04-06-00
Max Defl.	0.098"	n/a	n/a	4	04-06-00
Span / Depth	8.6	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	5,104 lbs	67.7%	34.2%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	5,104 lbs	67.7%	34.2%	Spruce Pine Fir

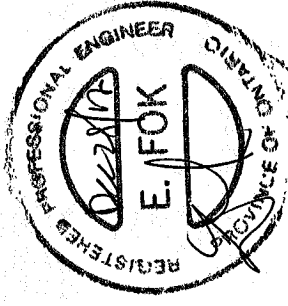
Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum Total load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 4

Nail one ply to another with
 3 1/2" spiral nails @ 12"
 o.c. staggered in 2 rows



S.152706



Boise Cascade

Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B02



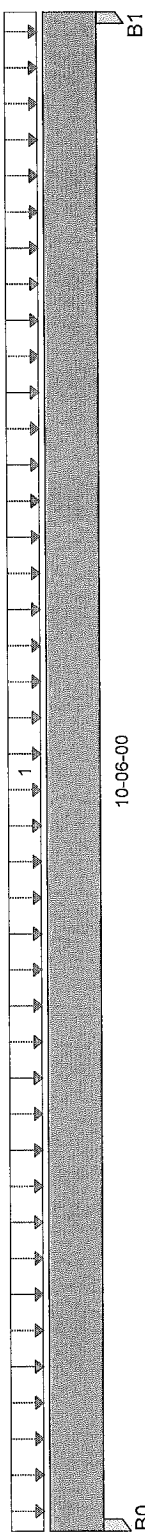
BC CALC® Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 19, 2017 08:23:45

Build 6080
Job Name: 45147 (4001)
Address: Pine Valley
City, Province, Postal Code: Vaughan, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File Name: 290675.bcc
Description: Second Floor Framing
Specifier:
Designer: NL
Company: Alpa Roof Trusses
Misc:



Total Horizontal Product Length = 10-06-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,750 / 0	907 / 0		
B1, 3-1/2"	1,750 / 0	907 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft²)	L	00-00-00	10-06-00	40	20		1.00 1.15	08-04-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	9,023 ft-lbs	17,696 ft-lbs	51%	1	05-03-00
End Shear	2,841 lbs	7,232 lbs	39.3%	1	01-03-06
Total Load Defl.	L/508 (0.237")	0.502"	47.2%	4	05-03-00
Live Load Defl.	L/772 (0.156")	0.335"	46.6%	5	05-03-00
Max Defl.	0.237"	1"	23.7%	4	05-03-00
Span / Depth	10.1	n/a	n/a		00-00-00
Squash Blocks	Valid				

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

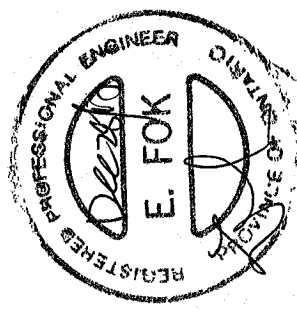
Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Post	3-1/2" x 1-3/4"	3,758 lbs	35.4%	50.3%	Spruce Pine Fir
B1 Post	3-1/2" x 1-3/4"	3,758 lbs	35.4%	50.3%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4



BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM® PLUS®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

S.152707



Boise Cascade

Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B03

November 19, 2017 08:23:46

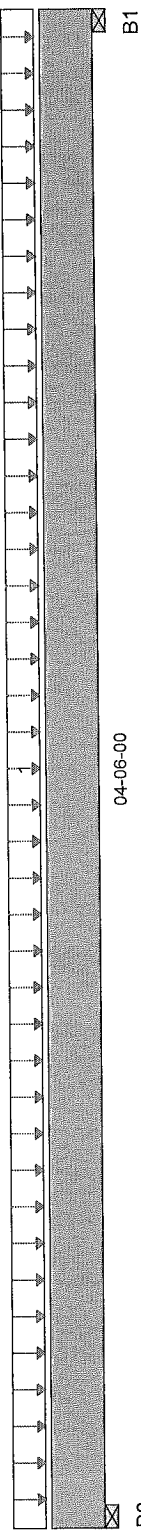
Dry | 1 span | No cantilevers | 0/12 slope (deg)



BC CALC® Design Report

Build 6080
Job Name: 45147 (4001)
Address: Pine Valley
City, Province, Postal Code: Vaughan, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File Name: 290675.bcc
Description: Second Floor Framing
Specifier:
Designer: NL
Company: Alpa Roof Trusses
Misc:



Total Horizontal Product Length = 04-06-00

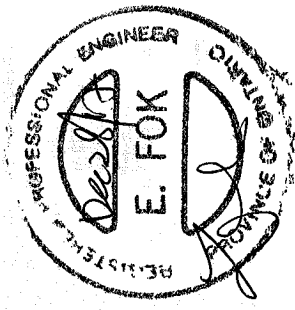
Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind					
B0, 3-1/2"	330 / 0	179 / 0							
B1, 3-1/2"	330 / 0	179 / 0							
Load Summary									
Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft^2)	L	00-00-00	04-06-00	40	20	1.00	1.15	03-08-00

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

BC CALC®, BC FRAMER®, AJST™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



Controls Summary

Pos.	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
1	652 ft-lbs	17,696 ft-lbs	3.7%	1	02-03-00
End Moment	309 lbs	7,232 lbs	4.3%	1	01-03-06
Total Load Defl.	L/999 (0.003")	n/a	n/a	4	02-03-00
Live Load Defl.	L/999 (0.002")	n/a	n/a	5	02-03-00
Max Defl.	0.003"	n/a	n/a	4	02-03-00
Span / Depth	4.1	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	718 lbs	19.1%	9.6%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	718 lbs	19.1%	9.6%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4

S.152708



Boise Cascade

Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B04

Dry | 1 span | No cantilevers | 0/12 slope (deg)

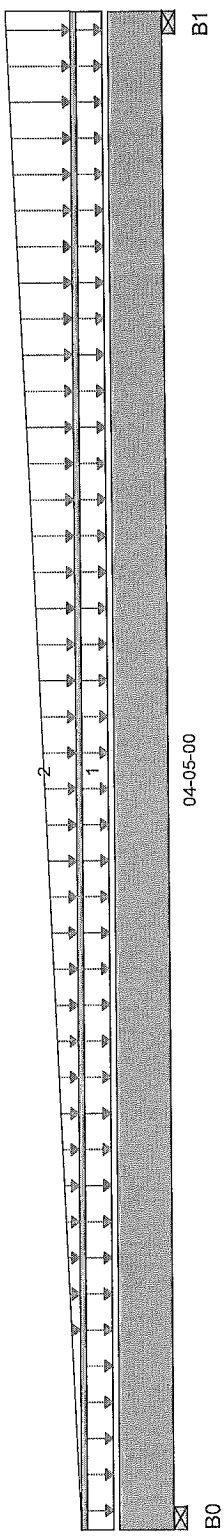
November 19, 2017 08:23:46

BC CALC® Design Report



Build 6080
Job Name: 45147 (4001)
Address: Pine Valley
City, Province, Postal Code: Vaughan, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File Name: 290675.bcc
Description: Second Floor Framing
Specifier:
Designer: NL
Company: Alpa Roof Trusses
Misc:



Total Horizontal Product Length = 04-05-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	102 / 0	60 / 0		
B1, 3-1/2"	150 / 0	79 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	04-05-00	27	14		1.00 1.15	n/a
2	Trapezoidal (lb/ft)	L	00-00-00	04-05-00	0	0			n/a
					60	23			n/a

Controls Summary

Pos. Moment	246 ft-lbs	17,696 ft-lbs	1.4%	1	02-03-14	be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide
End Shear	206 lbs	7,232 lbs	2.9%	1	03-01-10	
Total Load Defl.	L/999 (0.001")	n/a	n/a	4	02-03-03	
Live Load Defl.	L/999 (0.001")	n/a	n/a	5	02-03-03	
Max Defl.	0.001"	n/a	n/a	4	02-03-03	
Span / Depth	4	n/a	n/a		00-00-00	
Squash Blocks	Valid					

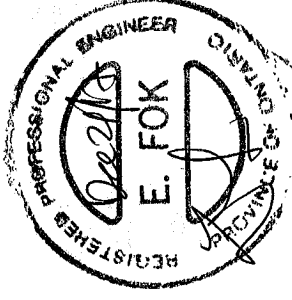
Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

Bearing Supports	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	228 lbs	6%	3%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	324 lbs	8.6%	4.3%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4



5152709



Boise Cascade

Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B05

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 19, 2017 08:23:47

BC CALCo® Design Report



Build 6080

Job Name:

45147 (4001)

Address:

Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 290675.bcc

Description: Second Floor Framing

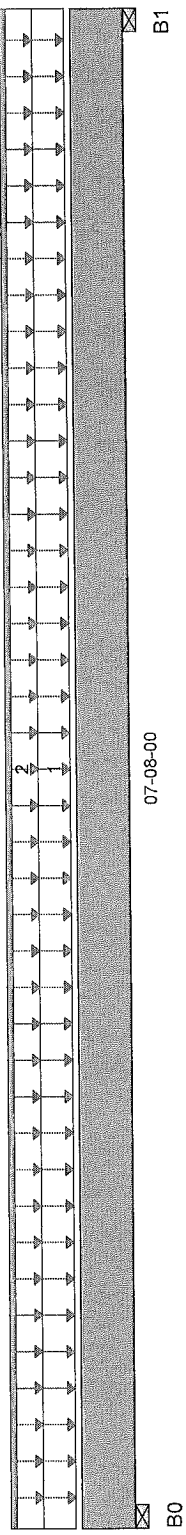
Specifier:

Second Floor Framing

Designer: NL

Company: Alpa Roof Trusses

Misc:



07-08-00

B1

Total Horizontal Product Length = 07-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,112 / 0	809 / 0		
B1, 3-1/2"	1,112 / 0	809 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft²)	L	00-00-00	07-08-00	40	20			07-03-00
2	Unf. Lin. (lb/ft)	L	00-00-00	07-08-00		60			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	4,539 ft-lbs	17,696 ft-lbs	25.6%	1	03-10-00
End Shear	1,783 lbs	7,232 lbs	24.7%	1	01-03-06
Total Load Defl.	L/999 (0.062")	n/a	n/a	4	03-10-00
Live Load Defl.	L/999 (0.036")	n/a	n/a	5	03-10-00
Max Defl.	0.062"	n/a	n/a	4	03-10-00
Span / Depth	7.3	n/a	n/a		00-00-00
Squash Blocks	Valid				

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

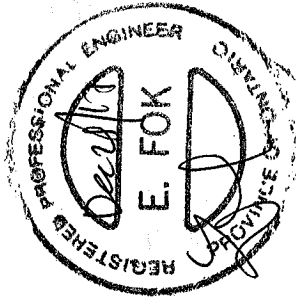
BC CALCO®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	2,679 lbs	71.1%	35.8%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	2,679 lbs	71.1%	35.8%	Spruce Pine Fir

Notes

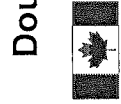
Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4



S. 152710



Boise Cascade



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B06

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 19, 2017 08:23:47

BC CALC® Design Report

Build 6080

Job Name:

Address:

City, Province, Postal Code: Vaughan, ON

Customer:

Code reports:

45147 (4001)

Pine Valley

Gold Park

CCMC 12472-R

File Name: 290675.bcc

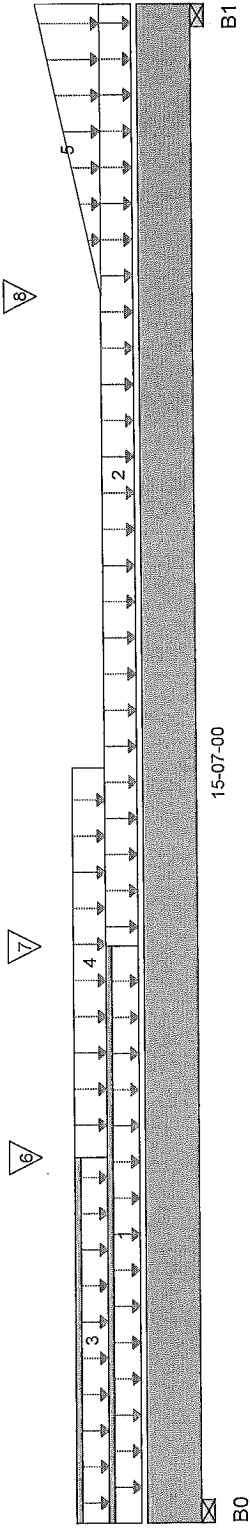
Description: Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Total Horizontal Product Length = 15-07-00

Reaction Summary (Down / Uplift) (lbs)

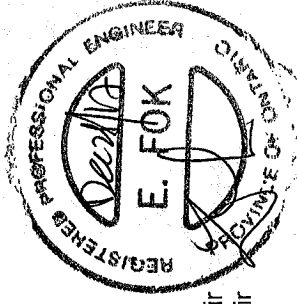
Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,772 / 0	1,129 / 0		
B1, 3-1/2"	1,313 / 0	722 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	05-11-00	27	14			n/a
2	Unf. Area (lb/ft^2)	L	05-11-00	15-07-00	40	15			02-03-00
3	Unf. Lin. (lb/ft)	L	00-00-00	03-09-00	27	14			n/a
4	Unf. Area (lb/ft^2)	L	03-09-00	07-09-00	40	15			02-00-00
5	Trapezoidal (lb/ft)	L	12-07-00		0	0			n/a
6	Conc. Pt. (lbs)	L	03-09-00	03-09-00	1,112	809			n/a
7	Conc. Pt. (lbs)	L	05-11-00	05-11-00	330	179			n/a
8	Conc. Pt. (lbs)	L	12-07-00	12-07-00	102	60			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	14,811 ft-lbs	35,392 ft-lbs	41.8%	1	05-11-00
End Shear	3,901 lbs	14,464 lbs	27%	1	01-03-06
Total Load Defl.	L/431 (0.421")	0.756"	55.7%	4	07-03-08
Live Load Defl.	L/686 (0.265")	0.504"	52.5%	5	07-06-04
Max Defl.	0.421"	1"	42.1%	4	07-03-08
Span / Depth	15.3	n/a	n/a		00-00-00
Squash Blocks	Valid				



Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	4,069 lbs	54%	27.2%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	2,873 lbs	38.1%	19.2%	Spruce Pine Fir

Notes

Nail one ply to another with
3 1/2" spiral nails @ 12"
o.c. staggered in 2 rows



Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B07

November 19, 2017 08:23:24

Dry | 1 span | No cantilevers | 0/12 slope (deg)



BC CALC® Design Report

Build 6080

Job Name:

45147 (4001)

Address:

Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 290675.bcc

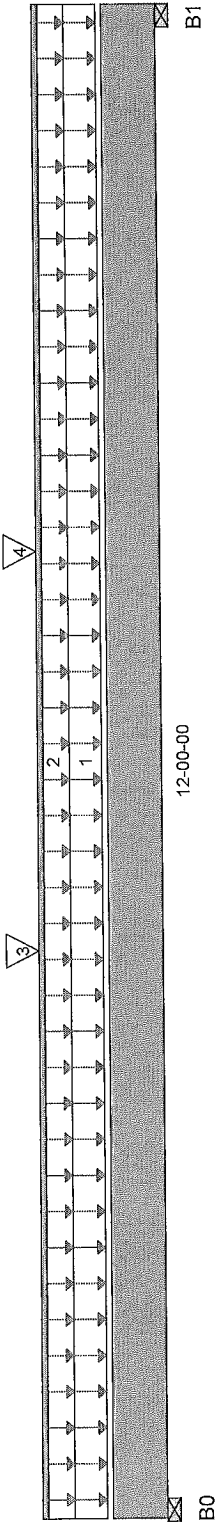
Description: Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Total Horizontal Product Length = 12-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3"	1,857 / 0	1,388 / 0		
B1, 3-1/2"	2,210 / 0	1,586 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft²)	L	00-00-00	12-00-00	40	20			04-09-00
2	Unf. Lin. (lb/ft)	L	00-00-00	12-00-00	27	74			n/a
3	Conc. Pt. (lbs)	L	04-06-00	04-06-00	150	79			n/a
4	Conc. Pt. (lbs)	L	07-08-00	07-08-00	1,313	722			n/a

Controls Summary

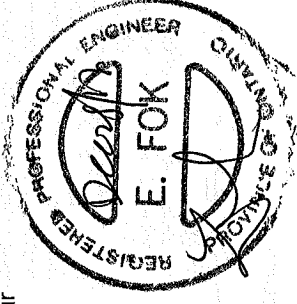
	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	16,572 ft-lbs	35,392 ft-lbs	46.8%	1	07-08-00
End Shear	4,590 lbs	14,464 lbs	31.7%	1	10-08-10
Total Load Defl.	L/496 (0.28")	0.579"	48.4%	4	06-01-00
Live Load Defl.	L/845 (0.165")	0.386"	42.6%	5	06-01-00
Max Defl.	0.28"	1"	28%	4	06-01-00
Span / Depth	11.7	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3" x 3-1/2"	4,520 lbs	70%	35.3%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	5,297 lbs	70.3%	35.4%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum Total load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Nail one ply to another with
 3 1/2" spiral nails @ 12"
 o.c., staggered in 2 rows



S152712



Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B08

November 19, 2017 08:23:48



BC CALCO® Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

Build 6080

Job Name: 45147 (4001)

Address: Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer: Gold Park

Code reports: CCMC 12472-R

File Name: 290675.bcc

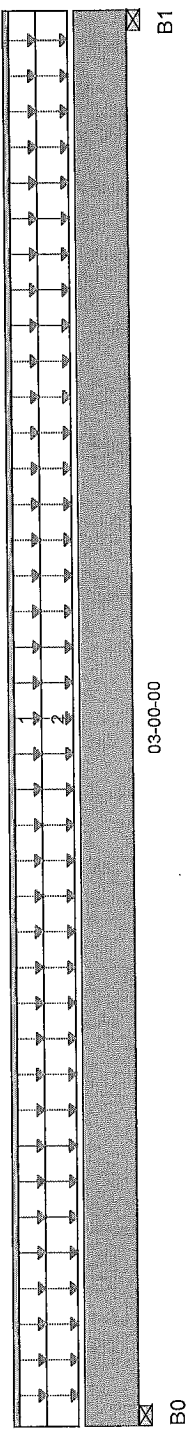
Description: Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Total Horizontal Product Length = 03-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	40 / 0	329 / 0	268 / 0	
B1, 3-1/2"	41 / 0	329 / 0	268 / 0	

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	03-00-00	27	114			n/a
2	Unf. Area (lb/ft²)	L	00-00-00	03-00-00	11				08-06-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	449 ft-lbs	35,392 ft-lbs	1.3%	5	01-06-00
End Shear	122 lbs	14,464 lbs	0.8%	5	01-03-06
Total Load Defl.	L/999 (0")	n/a	n/a	13	01-06-00
Live Load Defl.	L/999 (0")	n/a	n/a	17	01-06-00
Max Defl.	0"	n/a	n/a	13	01-06-00
Span / Depth	2.6	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	834 lbs	11.1%	5.6%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	834 lbs	11.1%	5.6%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

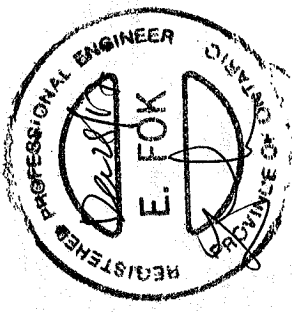
BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA

O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 4

Nail one ply to another with
3 1/2" spiral nails @ 6"
o.c., staggered in 2 rows





Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B09

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 19, 2017 08:23:48



BC CALC® Design Report

Build 6080

Job Name:

45147 (4001)

Address:

Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 290675.bcc

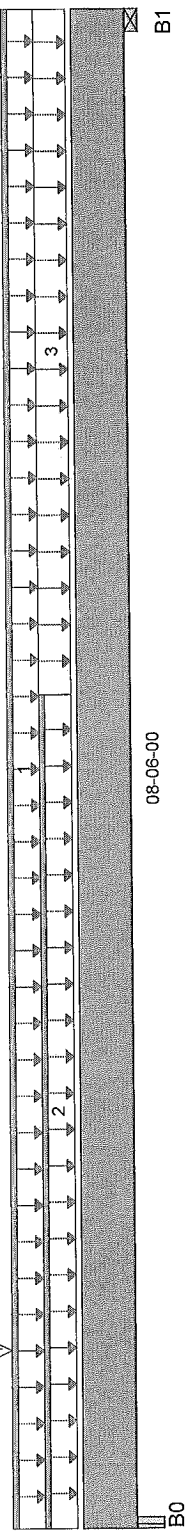
Description: First Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	3,347 / 0	2,174 / 0		
B1, 3-1/2"	634 / 0	447 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	08-06-00	27	14			n/a
2	Unf. Lin. (lb/ft)	L	00-00-00	04-08-00		60			n/a
3	Unf. Area (lb/ft^2)	L	04-08-00	08-06-00	40	15			01-06-00
4	Conc. Pt. (lbs)	L	01-00-00	01-00-00	1,750	905			n/a
5	Conc. Pt. (lbs)	L	01-00-00	01-00-00	1,772	1,129			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	5,897 ft-lbs	35,392 ft-lbs	16.7%	1	01-00-00
End Shear	5,325 lbs	14,464 lbs	36.8%	1	01-03-06
Total Load Defl.	L/999 (0.043")	n/a	n/a	4	03-09-13
Live Load Defl.	L/999 (0.025")	n/a	n/a	5	03-09-13
Max Defl.	0.043"	n/a	n/a	4	03-09-13
Span / Depth	8.1	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Beam	3-1/2" x 3-1/2"	7,739 lbs	1.6%	51.8%	Steel
B1 Wall/Plate	3-1/2" x 3-1/2"	1,510 lbs	20%	10.1%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

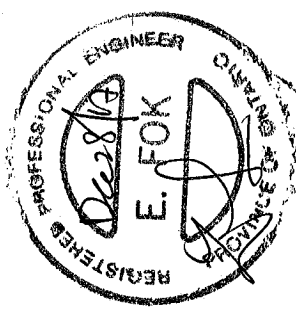
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 4

Nail one ply to another with

3 1/2" spiral nails @ 12"

o.c, staggered in 2 rows



S.152714



Boise Cascade

Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B10

Dry | 1 span | No cantilevers | 0/12 slope (deg)

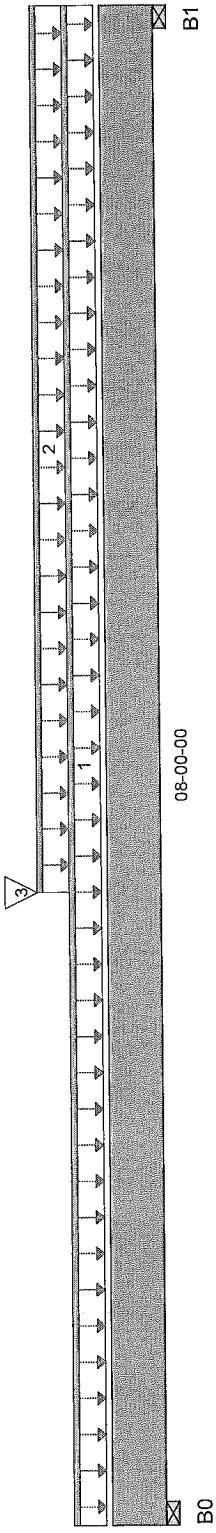
November 19, 2017 08:23:49

BC CALC® Design Report



Build 6080
Job Name: 45147 (4001)
Address: Pine Valley
City, Province, Postal Code: Vaughan, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File Name: 290675.bcc
Description: First Floor Framing
Specifier:
Designer: NL
Company: Alpa Roof Trusses
Misc:



Total Horizontal Product Length = 08-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Trib.
B0, 3-1/2"	516 / 0	361 / 0			
B1, 3-1/2"	460 / 0	311 / 0			

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	08-00-00	27	14			n/a
2	Unf. Lin. (lb/ft)	L	03-04-00	08-00-00	27	14			n/a
3	Conc. Pt. (lbs)	L	03-04-00	03-04-00	634	447			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	3,443 ft-lbs	17,696 ft-lbs	19.5%	1	03-04-00
End Shear	1,142 lbs	7,232 lbs	15.8%	1	01-03-06
Total Load Defl.	L/999 (0.044")	n/a	n/a	4	03-10-06
Live Load Defl.	L/999 (0.026")	n/a	n/a	5	03-10-06
Max Defl.	0.044"	n/a	n/a	4	03-10-06
Span / Depth	7.6	n/a	n/a		00-00-00
Squash Blocks	Valid				

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

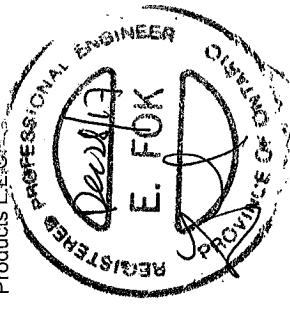
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Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	1,226 lbs	32.5%	16.4%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	1,078 lbs	28.6%	14.4%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4



5152715



Boise Cascade

Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B11

Dry | 1 span | No cantilevers | 0/12 slope (deg)

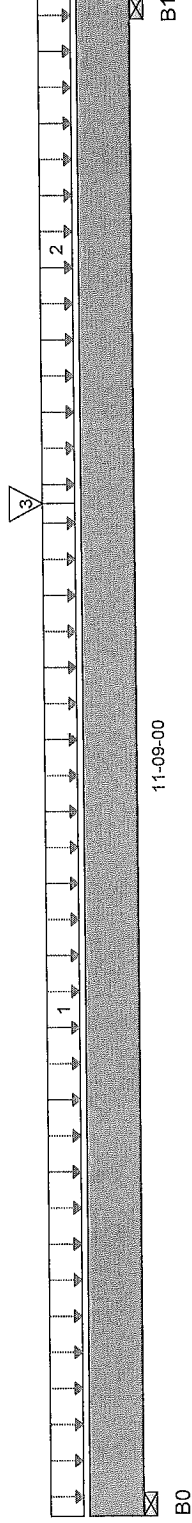
November 19, 2017 08:23:49



BC CALC® Design Report

Build 6080
Job Name: 45147 (4001)
Address: Pine Valley
City, Province, Postal Code: Vaughan, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File Name: 290675.bcc
Description: First Floor Framing
Specifier:
Designer: NL
Company: Alpa Roof Trusses
Misc:



11-09-00

Total Horizontal Product Length = 11-09-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Load Type	Dead	Live	Snow	Wind	Trib.
B0, 3-1/2"	Unf. Area (lb/ft ²)	506 / 0	1,254 / 0			
B1, 3-1/2"	Unf. Area (lb/ft ²)	677 / 0	1,711 / 0			

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft ²)	L	00-00-00	07-10-00	40	15			04-00-00
2	Unf. Area (lb/ft ²)	L	07-10-00	11-09-00	40	15			05-06-00
3	Conc. Pt. (lbs)	L	07-10-00	07-10-00	850	319			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	9,218 ft-lbs	17,696 ft-lbs	52.1%	1	07-10-00
End Shear	2,849 lbs	7,232 lbs	39.4%	1	10-05-10
Total Load Defl.	L/469 (0.289")	0.565"	51.1%	4	06-01-02
Live Load Defl.	L/656 (0.207")	0.376"	54.9%	5	06-01-02
Max Defl.	0.289"	1"	28.9%	4	06-01-02
Span / Depth	11.4	n/a	n/a		00-00-00
Squash Blocks	Valid				

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

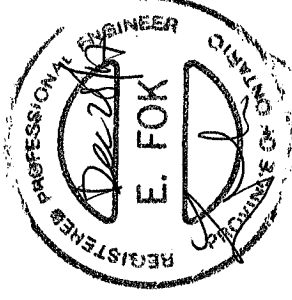
BC CALC®, BC FRAMER®, AJST™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	2,512 lbs	66.7%	33.6%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	3,414 lbs	90.6%	45.7%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4



S15276



Boise Cascade

Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B12

Dry | 1 span | No cantilevers | 0/12 slope (deg)

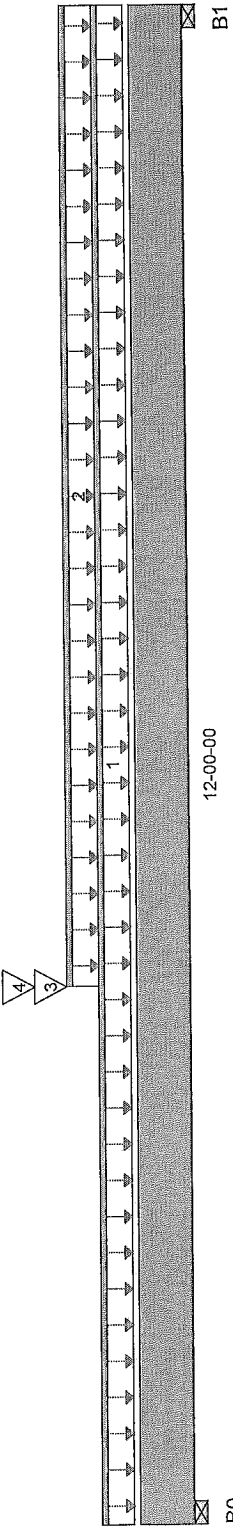
November 19, 2017 08:23:50

BC CALC® Design Report



Build 6080
Job Name: 45147 (4001)
Address: Pine Valley
City, Province, Postal Code: Vaughan, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File Name: 290675.bcc
Description: First Floor Framing
Specifier:
Designer: NL
Company: Alpa Roof Trusses
Misc:



Total Horizontal Product Length = 12-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,603 / 0	1,053 / 0		
B1, 3-1/2"	1,041 / 0	843 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	12-00-00	27	74			n/a
2	Unf. Lin. (lb/ft)	L	04-03-00	12-00-00	27	14			n/a
3	Conc. Pt. (lbs)	L	04-03-00	04-03-00	400	150			n/a
4	Conc. Pt. (lbs)	L	04-03-00	04-03-00	1,711	677			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	13,703 ft-lbs	17,696 ft-lbs	77.4%	1	04-03-00
End Shear	3,542 lbs	7,232 lbs	49%	1	01-03-06
Total Load Defl.	L/342 (0.405")	0.577"	70.3%	4	05-08-00
Live Load Defl.	L/556 (0.249")	0.385"	64.8%	5	05-06-12
Max Defl.	0.405"	1"	40.5%	4	05-08-00
Span / Depth	11.7	n/a	n/a		00-00-00
Squash Blocks	Valid				

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

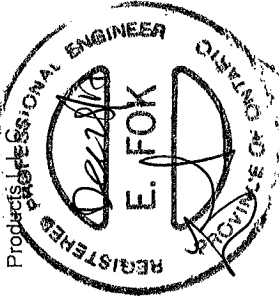
Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	3,722 lbs	98.8%	49.8%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	2,614 lbs	69.4%	35%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4



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S152717



Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B13



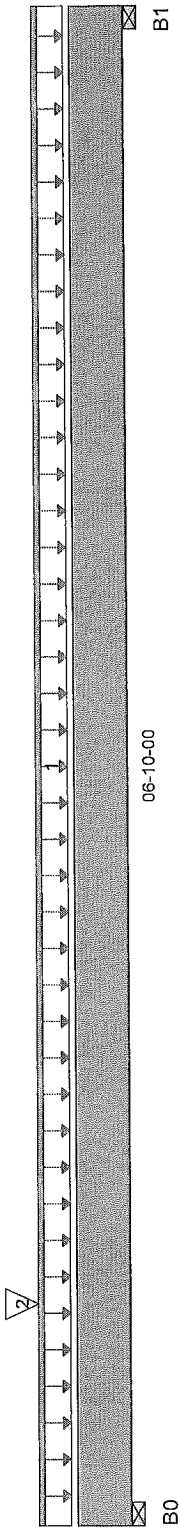
BC CALC® Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 19, 2017 08:23:50

Build 6080
Job Name: 45147 (4001)
Address: Pine Valley
City, Province, Postal Code: Vaughan, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File Name: 290675.bcc
Description: First Floor Framing
Specifier:
Designer: NL
Company: Alpa Roof Trusses
Misc:



Total Horizontal Product Length = 06-10-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Trib.
B0, 3-1/2"	1,723 / 0	1,134 / 0			
B1, 3-1/2"	396 / 0	448 / 0			

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	06-10-00	54	87			n/a
2	Conc. Pt. (lbs)	L	01-00-00	01-00-00	1,750	905			n/a

Controls Summary

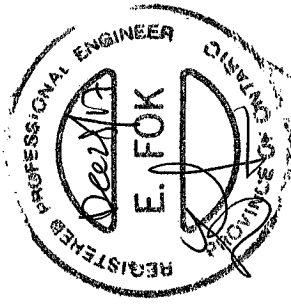
Pos.	Moment	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
1	2,992 ft-lbs	35,392 ft-lbs	8.5%	1	01-02-08	
End Shear	2,672 lbs	14,464 lbs	18.5%	1	01-03-06	
Total Load Defl.	L/999 (0.015")	n/a	n/a	4	03-01-13	
Live Load Defl.	L/999 (0.008")	n/a	n/a	5	03-01-00	
Max Defl.	0.015"	n/a	n/a	4	03-01-13	
Span / Depth	6.4	n/a	n/a		00-00-00	
Squash Blocks	Valid					

Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	4,002 lbs	53.1%	26.8%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	1,154 lbs	15.3%	7.7%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Nail one ply to another with 3 1/2" spiral nails @ 12" o.c, staggered in 2 rows





Boise Cascade

Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP

Floor Beam\B14



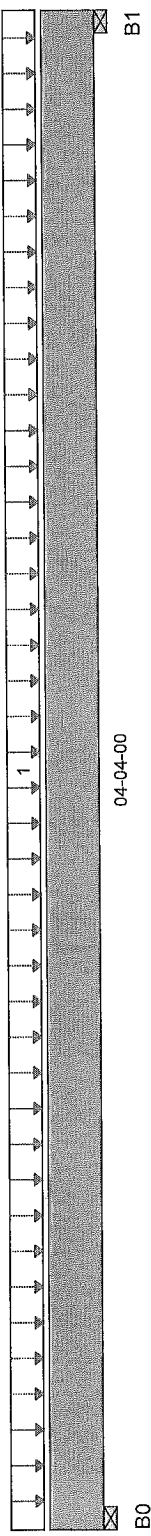
BC CALC® Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 19, 2017 08:23:51

Build 6080
Job Name: 45147 (4001)
Address: Pine Valley
City, Province, Postal Code: Vaughan, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File Name: 290675.bcc
Description: First Floor Framing
Specifier:
Designer: NL
Company: Alpa Roof Trusses
Misc:



Total Horizontal Product Length = 04-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	520 / 0	205 / 0		
B1, 3-1/2"	520 / 0	205 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft²)	L	00-00-00	04-04-00	40	15	1.00	1.15	06-00-00

Controls Summary

Pos. Moment	898 ft-lbs	11,610 ft-lbs	7.7%	1	02-02-00
End Shear	518 lbs	5,785 lbs	9%	1	01-01-00
Total Load Defl.	L/999 (0.007")	n/a	n/a	4	02-02-00
Live Load Defl.	L/999 (0.005")	n/a	n/a	5	02-02-00
Max Defl.	0.007"	n/a	n/a	4	02-02-00
Span / Depth	4.9	n/a	n/a		00-00-00
Squash Blocks	Valid				

be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

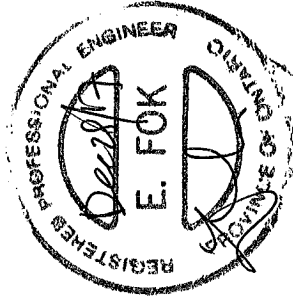
Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	1,037 lbs	27.5%	13.9%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	1,037 lbs	27.5%	13.9%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4





Boise Cascade

Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP

Floor Beam\B15



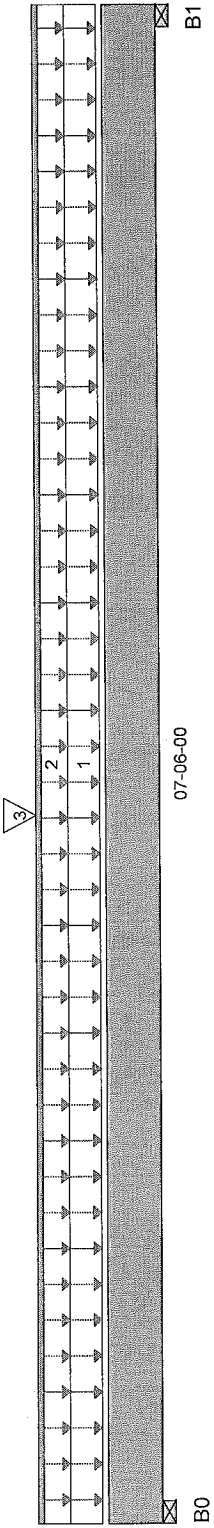
BC CALC® Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 19, 2017 08:23:51

Build 6080
Job Name: 45147 (4001)
Address: Pine Valley
City, Province, Postal Code: Vaughan, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File Name: 290675.bcc
Description: First Floor Framing
Specifier:
Designer: NL
Company: Alpa Roof Trusses
Misc:



Total Horizontal Product Length = 07-06-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	749 / 0	726 / 0		
B1, 3-1/2"	725 / 0	699 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft^2)	L	00-00-00	07-06-00	40	20			03-09-00
2	Unf. Lin. (lb/ft)	L	00-00-00	07-06-00		60			n/a
3	Conc. Pt. (lbs)	L	03-06-00	03-06-00	349	377			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	4,208 ft-lbs	11,610 ft-lbs	36.2%	1	03-06-00
End Shear	1,599 lbs	5,785 lbs	27.6%	1	01-01-00
Total Load Defl.	L/999 (0.1")	n/a	n/a	4	03-08-03
Live Load Defl.	L/999 (0.051")	n/a	n/a	5	03-08-03
Max Defl.	0.1"	n/a	n/a	4	03-08-03
Span / Depth	8.9	n/a	n/a		00-00-00
Squash Blocks	Valid				

Disclosure

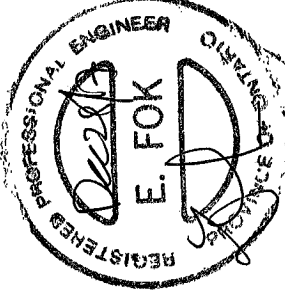
Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	2,032 lbs	53.9%	27.2%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	1,961 lbs	52%	26.2%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4



S-152720



Boise Cascade

Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP

Floor Beam\B16



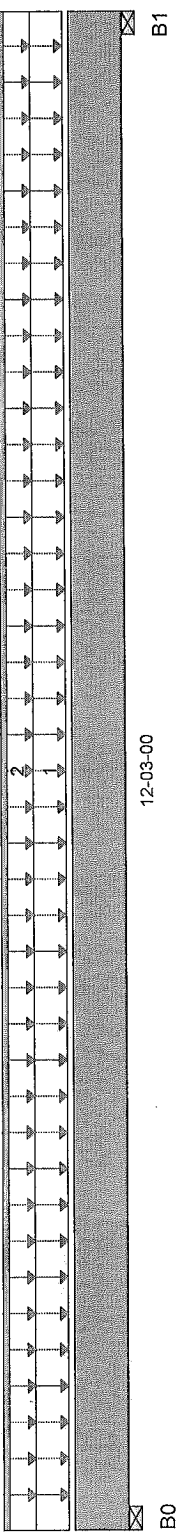
BC CALC® Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 19, 2017 08:23:52

Build 6080
Job Name: 45147 (4001)
Address: Pine Valley
City, Province, Postal Code: Vaughan, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File Name: 290675.bcc
Description: First Floor Framing
Specifier:
Designer: NL
Company: Alpa Roof Trusses
Misc:



Total Horizontal Product Length = 12-03-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Trib.
B0, 3-1/2"	796 / 0	795 / 0			
B1, 3-1/2"	796 / 0	795 / 0			

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft²)	L	00-00-00	12-03-00	40	20			03-03-00
2	Unf. Lin. (lb/ft)	L	00-00-00	12-03-00	60	60			n/a

Controls Summary

Pos.	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	6,209 ft-lbs	11,610 ft-lbs	53.5%	1	06-01-08
End Shear	1,801 lbs	5,785 lbs	31.1%	1	01-01-00
Total Load Defl.	L/313 (0.452")	0.59"	76.7%	4	06-01-08
Live Load Defl.	L/626 (0.226")	0.393"	57.5%	5	06-01-08
Max Defl.	0.452"	1"	45.2%	4	06-01-08
Span / Depth	14.9	n/a	n/a		00-00-00
Squash Blocks	Valid				

Disclosure

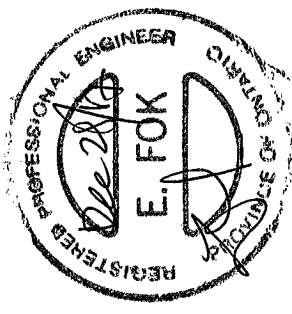
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BC CALC®, BC FRAMER®, AUS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

Bearing Supports	Dim. (L x W)	Demand	Demand / Resistance Support	Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	2,188 lbs	58.1%	29.3%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	2,188 lbs	58.1%	29.3%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4



S.152721

PROJECT
45147(4001)
Gold Park
Pine Valley, Vaughan
2-NI-20-8"(1ST floor stair).wvb
beside stair

PROJECT
45147(4001)

45147(4001)
Gold Park
Pine Valley, Vaughan
2-NI-20-8(1ST)

beside stair

Nordic Sizer – Canada 6.4

Load	Type	Distribution	Location [ft]		Magnitude		Unit
			Start	End	Start	End	
Load1	Dead	Full Area			20.00		psf
Load2	Live	Full Area			40.00		psf
Load3	Live	Point		3.92	450		lbs
Load4	Point	Point		3.92	169		lbs
Load5	Dead	Full UDL			60.0		plf
Self-weight	Dead	Full UDL			4.4		plf

7-3"

Unfactored:	377	391
Dead	377	391
Factored:	349	386
Total	994	1067
Bearing:		
Resistance		
Joist	3269	3269
Support	5450	5530
Des ratio	0.30	0.33
Capacity	0.19	0.19
Support	0.18	#2
Load case	#2	1-3/4
Length	1-3/4	1-3/4
Min req'd	1-3/4	1-3/4
Stiffener	No	No
Kd	1.00	1.00
KB support	1.00	769
KB sup	1.03	1.03
KB sup	1.03	1.03

KZCP sup	1.03
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Bearing for wall supports is perpendicular-to-grain bearing on top plate. No stud design included.

Supports: All - Lumber Wall, No.1/No.2

Total length: 7'-3.0"; 5/8" nailed and glued OSB sheathing

This section **PASSES** the design code check.

Criterion	Analysis/Design	Unit	Value	Analysis/Design
Stress	VR	lbs	3499	VR/M _r = 0.31
Moment (+)	M _f	lb-in	8615	
Perm. Defl'n	Δ _p	in	0.24	L = 3600
Live Defl'n	Δ _l	in	0.24	L = 3600
Total Defl'n	Δ _t	in	0.36	L = 3600
Stress	VR	lbs	3499	
Perm. Defl'n	Δ _p	in	0.24	
Live Defl'n	Δ _l	in	0.24	
Total Defl'n	Δ _t	in	0.36	
Stress	VR	lbs	3499	
Perm. Defl'n	Δ _p	in	0.24	
Live Defl'n	Δ _l	in	0.24	
Total Defl'n	Δ _t	in	0.36	
Stress	VR	lbs	3499	
Perm. Defl'n	Δ _p	in	0.24	
Live Defl'n	Δ _l	in	0.24	
Total Defl'n	Δ _t	in	0.36	
Stress	VR	lbs	3499	
Perm. Defl'n	Δ _p	in	0.24	
Live Defl'n	Δ _l	in	0.24	
Total Defl'n	Δ _t	in	0.36	
Stress	VR	lbs	3499	
Perm. Defl'n	Δ _p	in	0.24	
Live Defl'n	Δ _l	in	0.24	
Total Defl'n	Δ _t	in	0.36	
Stress	VR	lbs	3499	
Perm. Defl'n	Δ _p	in	0.24	
Live Defl'n	Δ _l	in	0.24	
Total Defl'n	Δ _t	in	0.36	
Stress	VR	lbs	3499	
Perm. Defl'n	Δ _p	in	0.24	
Live Defl'n	Δ _l	in	0.24	
Total Defl'n	Δ _t	in	0.36	
Stress	VR	lbs	3499	
Perm. Defl'n	Δ _p	in	0.24	
Live Defl'n	Δ _l	in	0.24	
Total Defl'n	Δ _t	in	0.36	
Stress	VR	lbs	3499	
Perm. Defl'n	Δ _p	in	0.24	
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Live Defl'n	Δ _l	in	0.24	
Total Defl'n	Δ _t	in	0.36	
Stress	VR	lbs	3499	
Perm. Defl'n	Δ _p	in	0.24	
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Stress	VR	lbs	3499	
Perm. Defl'n	Δ _p	in	0.24	
Live Defl'n	Δ _l	in	0.24	
Total Defl'n	Δ _t	in	0.36	
Stress	VR	lbs	3499	
Perm. Defl'n	Δ _p	in	0.24	
Live Defl'n	Δ _l	in	0.24	

FACTORS:	f/y	KD	KH	K2	KL	KT	KS	KN	LC#
W	1767	0.99	1.00	-	-	-	-	-	#1
W+	4307	1.00	1.00	-	1.000	-	-	-	#2
EF	145.0 million			-					#2

CRITICAL LOAD COMBINATIONS:

Shear : IC #2 = 1.25D + 1.5L
 Moment(+) : IC #2 = 1.25D + 1.5L
 Deflection: IC #1 = 1.0D (permanent)
 IC #2 = 1.0D + 1.0L (live)
 IC #2 = 1.0D + 1.0L (total)
 IC #2 = 1.0D + 1.0L (bare joist)
 Bearing : Support 1 - IC #2 = 1.25D + 1.5L
 Support Windward Snow - IC #2 = 1.25D + 1.5L
 Support Windward Snow - IC #2 = 1.25D + 1.5L

Load Types: Is=live(use, occupancy) Is=live(storage, equipment) Is=fire
 Is=live(use, occupancy) Is=live(storage, equipment) Is=fire

All Load Combinations (LCs) are listed in the Analysis output

CALCULATIONS:

Deflection: Etrf = 16606 lb-in²/ply K = 4.94e06 lbs/ply
 "live" deflection = Deflection from all non-dead loads (live, wind, snow.)

1 WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC Part 4) and the CSA O86-14 Engineering Design in Wood standard (May 2014 edition).

2. Please verify that the default deflection limits are appropriate for your application.
3. Refer to technical documentation for installation guidelines and construction details.
4. Nordic H-joists are listed in CMC evaluation report 13032-R.
5. Joints shall be laterally supported at supports and continuously along the compression edge.
6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is based on the design criteria and loadings shown. Nordic Structures is responsible only for the structural adequacy of this component and its responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.

