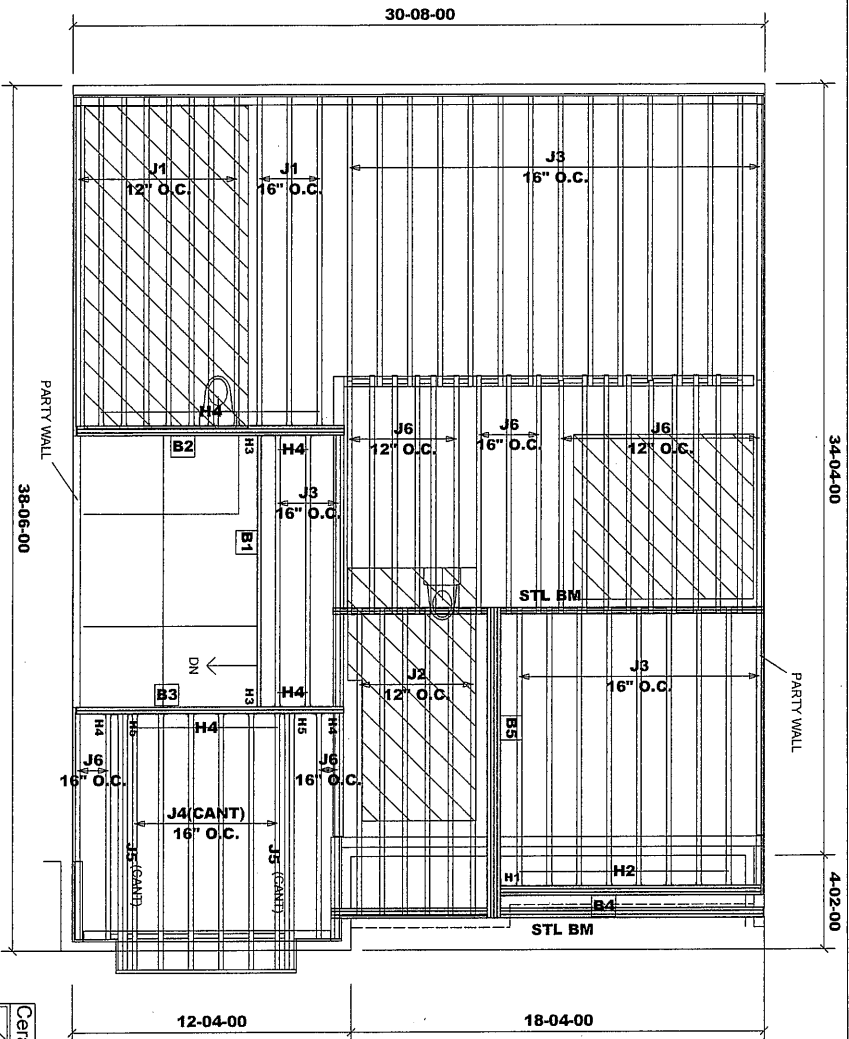
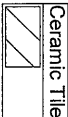




MODEL: TYPE B - 3101-INT.
- EL.A
+ OPT. LOGGIA

Second Floor Framing

Do not scale - refer to architectural plans for dimensions



Products		Piles		Net Qty
PileID	Length	Product		
B1	13-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B2	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3
B3	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B4	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3
B5	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	4	4
Ca1	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
Ca2	106-00-00	1 1/8" x 11 7/8" Rim Board	1	1
J1	15-00-00	11 7/8" NL-20	1	11
J2	14-00-00	11 7/8" NL-20	1	6
J3	13-00-00	11 7/8" NL-20	1	27
J4	12-00-00	11 7/8" NL-20	1	6
J5	12-00-00	11 7/8" NL-20	2	2
J6	11-00-00	11 7/8" NL-20	1	23

Connector Summary		
PileID	Qty	Product
H1	1	HQUSS 50/10
H2	8	HU310
H3	2	HUS1.8/1/10
H4	22	LT261188
H5	2	MIT311.86-2

RIMBOARD
1- 1/8" X 11 7/8" O.S.B.
SUBFLOOR - 3/4" NAILED & GLUED*
APP - AS PER PLAN
BBO - BEAM BY OTHERS

DESIGN LOADING:
LIVE LOAD = 40 PSF
DEAD LOAD = 16 PSF
DEAD LOAD @ TILE = 20 PSF

Ceramic tile application as per O.B.C. 9.30.6
Provide 1-Joist Blocking between cantilevered joists (along bearing) and rimboard closure at ends.
Blocking panels are required over all interior supports
Squash blocks are required under concentrated loads.

JT/PL: 45147/111207
LI: 333169

Builder: Gold Park
Project: Pine Valley

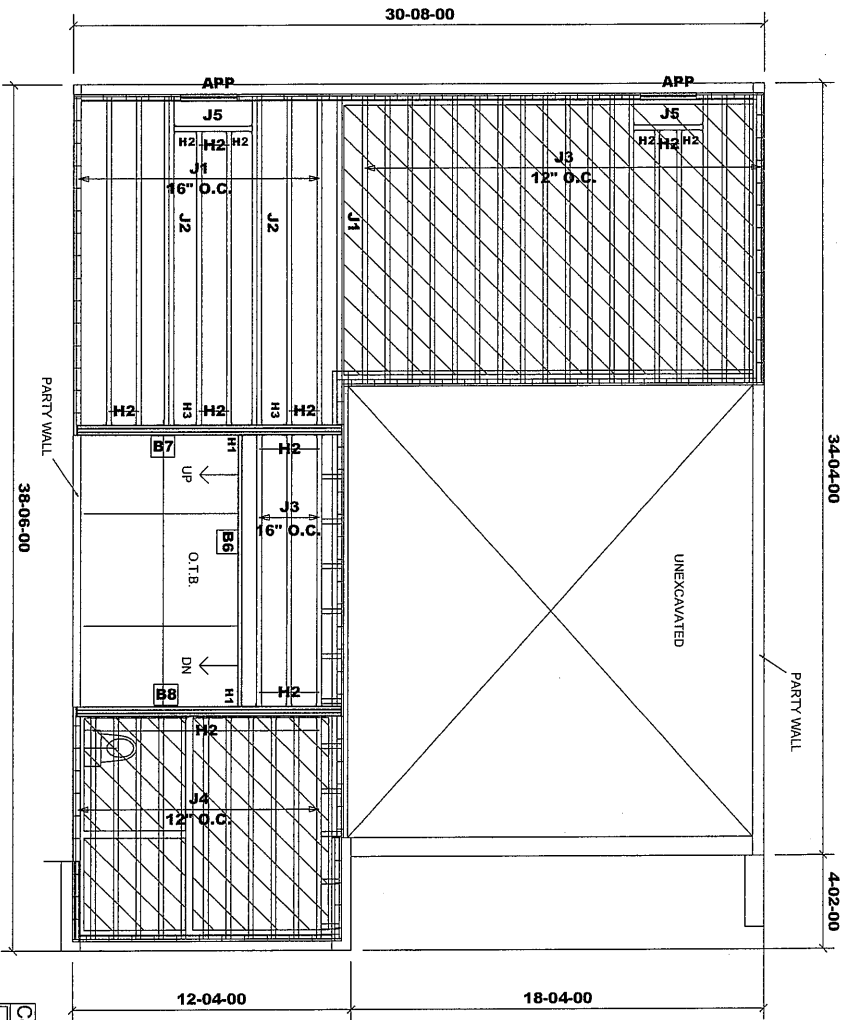
Location: Vaughan
Date: May 18, 2021

Designer: NL
Sheet: 1 of 9

Alpha Roof Trusses Inc.
Maple, Ontario

Salesperson: Derek
Home Lumber

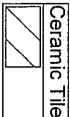
SS03147-SS03160



MODEL: TYPE B - 3101-INT.
- ELA + B

First Floor Framing

Do not scale - refer to architectural plans for dimensions



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

Blocking panels are required over all interior supports
Squash blocks are required under concentrated loads.

DESIGN LOADING:

LIVE LOAD = 40 PSF
DEAD LOAD = 15 PSF
DEAD LOAD @ TILE = 20 PSF

RIMBOARD

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

SUBFLOOR - 3/4" NAILED & GLUED*

APP - AS PER PLAN

BBO - BEAM BY OTHERS

		Products		Piles		Net Qty
PileID	Length	Product				
B6	13-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	1		1	
B7	12-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	3		3	
B8	12-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	3		3	
Ca1	124-00-00	1 1/8" x 11 7/8" Rim Board	1		1	
J1	15-00-00	11 7/8" NI-20	1		8	
J2	15-00-00	11 7/8" NI-20	2		4	
J3	13-00-00	11 7/8" NI-20	1		22	
J4	10-00-00	11 7/8" NI-20	1		12	
J5	4-00-00	11 7/8" NI-20	1		2	

Connector Summary

PileID	Qty	Manuf	Product
H1	2		HUS1.81/10
H2	31		LT251188
H3	2		MIT311.88-2

JT/PL: 45147/111207
LI: 333169

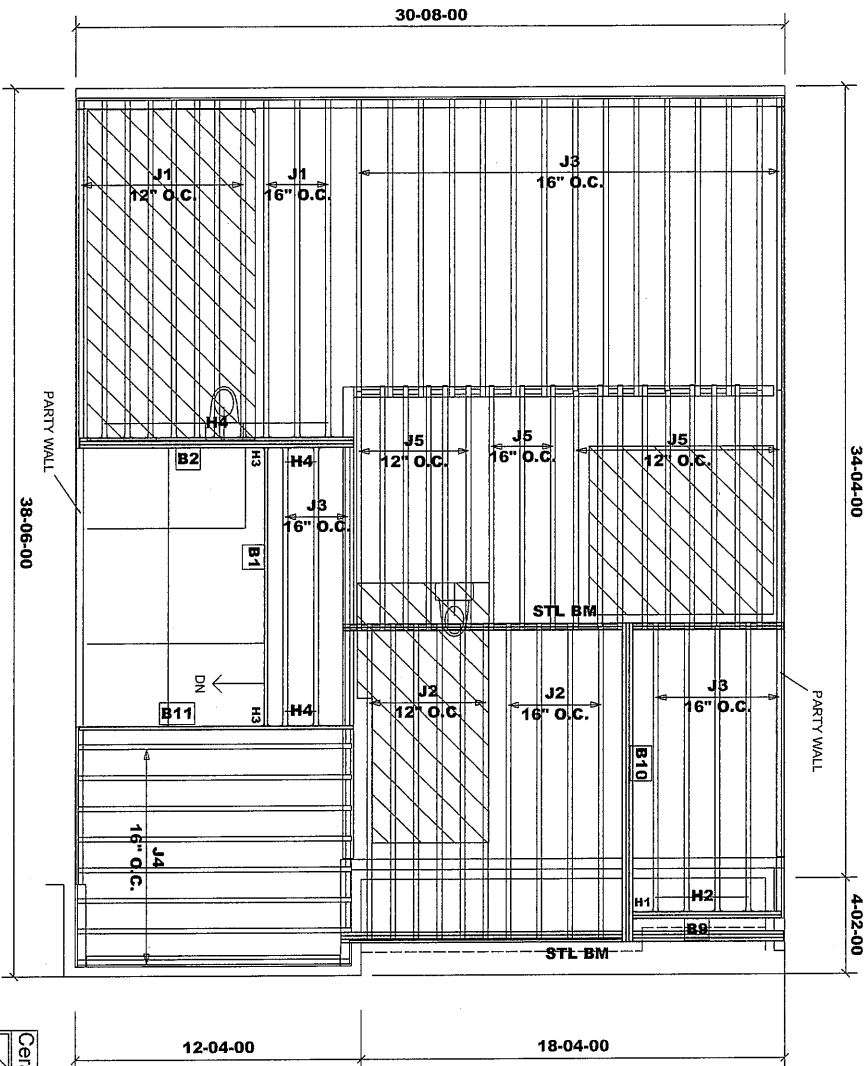
Builder: Gold Park
Project: Pine Valley

Location: Vaughan
Date: May 18, 2021

Designer: NL
Sheet: 2 of 9

Alpha Roof Trusses Inc.
Maple, Ontario

Salesperson: Derek
Home Lumber



MODEL: TYPE B - 3101- INT.
- EL.B
+ OPT. LOGGIA

Second Floor Framing

Do not scale - refer to architectural plans for dimensions



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

Blocking panels are required over all interior supports
Squash blocks are required under concentrated loads.

DESIGN LOADING:

LIVE LOAD = 40 PSF
DEAD LOAD = 15 PSF
DEAD LOAD @ TILE = 20 PSF

RIMBOARD

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

SUBFLOOR - 3/4" NAILED & GLUED*

APP - AS PER PLAN
BBO - BEAM BY OTHERS

Products			
PicID	Length	Product	Pieces Net Qty
B1	13-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	1 1
B2	12-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	3 3
B9	7-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	2 2
B10	14-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	3 3
B11	12-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	1 1
Ca1	117-00-00	1 1/8" x 11 7/8" Rim Board	1 1
J1	15-00-00	1 7/8" NI-20	1 11
J2	14-00-00	1 7/8" NI-20	1 10
J3	13-00-00	1 7/8" NI-20	1 23
J4	12-00-00	1 7/8" NI-20	1 8
J5	11-00-00	1 7/8" NI-20	1 19

Connector Summary			
PicID	Qty	Manuf	Product
H1	1	HGUSA10	
H2	4	HU310	
H3	2	HUS1.81/10	
H4	14	LT251188	

JT/PL: 45147/111207
LI: 333169

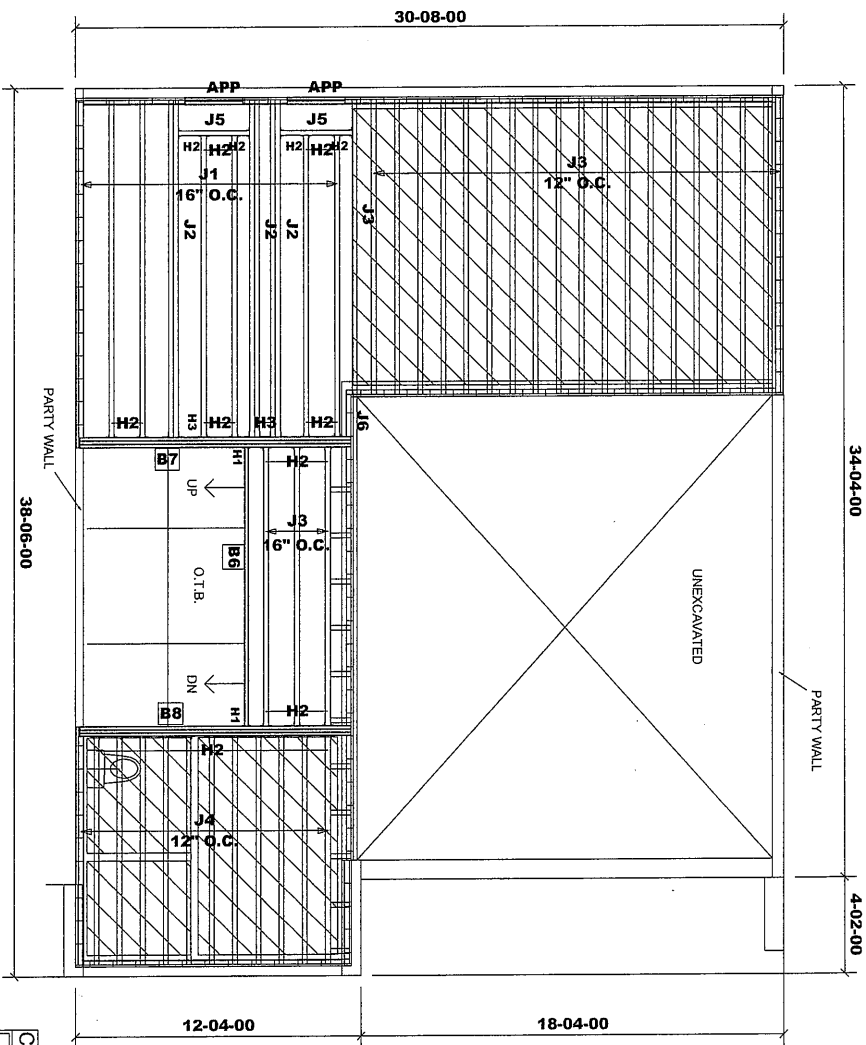
Builder: Gold Park
Project: Pine Valley

Location: Vaughan
Date: May 18, 2021

Designer: NL
Sheet: 3 of 9

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Derek
Home Lumber



MODEL: TYPE B - 3101-INT.
- EL.A + B
WOPT. LOGGIA

First Floor Framing

Do not scale - refer to architectural plans for dimensions



Ceramic tile application as per O.B.C. 9.30.6
Blocking panels are required over all interior supports
Squash blocks are required under concentrated loads.

DESIGN LOADING:
LIVE LOAD = 40 PSF
DEAD LOAD = 15 PSF
DEAD LOAD @ TILE = 20 PSF

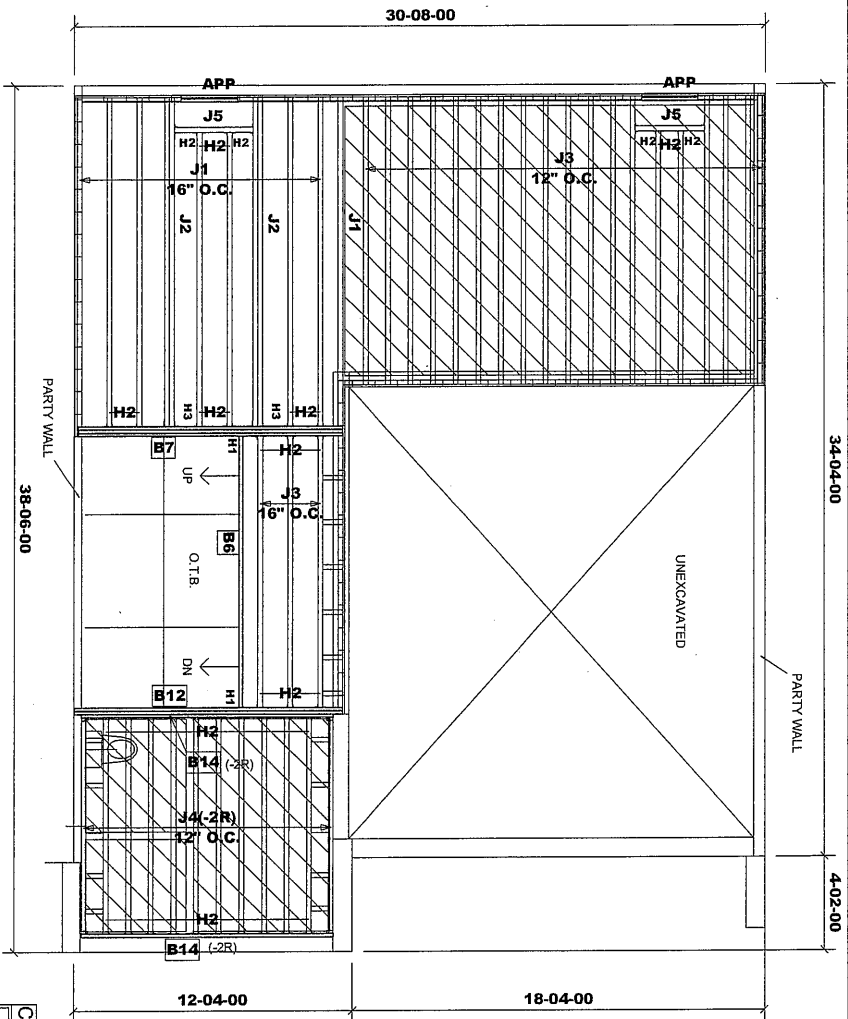
RIMBOARD
1- 1/8" X 11 7/8" O.S.B.
SUBFLOOR - 3/4" NAILED & GLUED*
APP - AS PER PLAN
BBO - BEAM BY OTHERS

PlotID	Qty	Manuf	Product
H1	2	HUS1	81/10
H2	31	LT251	188
H3	3	MIT311	88-2

PlotID	Length	Product	Piles	Net Qty
B6	13-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	1	1
B7	12-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	3	3
B8	12-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	3	3
Ca1	124-00-00	1 1/8" x 11 7/8" Rim Board	1	1
J1	15-00-00	11 7/8" N1-20	1	7
J2	15-00-00	11 7/8" N1-20	2	6
J3	13-00-00	11 7/8" N1-20	1	23
J4	10-00-00	11 7/8" N1-20	1	12
J5	4-00-00	11 7/8" N1-20	1	2
J6	2-00-00	11 7/8" N1-20	1	1

JT/PL: 45147/111207 Builder: Gold Park Location: Vaughan Designer: NL Alpa Roof Trusses Inc. Salesperson: Derek

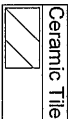
LI: 333169 Project: Pine Valley Date: May 18, 2021 Sheet: 4 of 9 Maple, Ontario Home Lumber



MODEL: TYPE B - 3101- INT.
- EL.A + B
W/SUNKEN FOYER(-2R)

First Floor Framing

Do not scale - refer to architectural plans for dimensions



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

Blocking panels are required over all interior supports
Squash blocks are required under concentrated loads.

DESIGN LOADING:

LIVE LOAD = 40 PSF
DEAD LOAD = 15 PSF
DEAD LOAD @ TILE = 20 PSF

RIMBOARD

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

SUBFLOOR - 3/4" NAILED & GLUED*

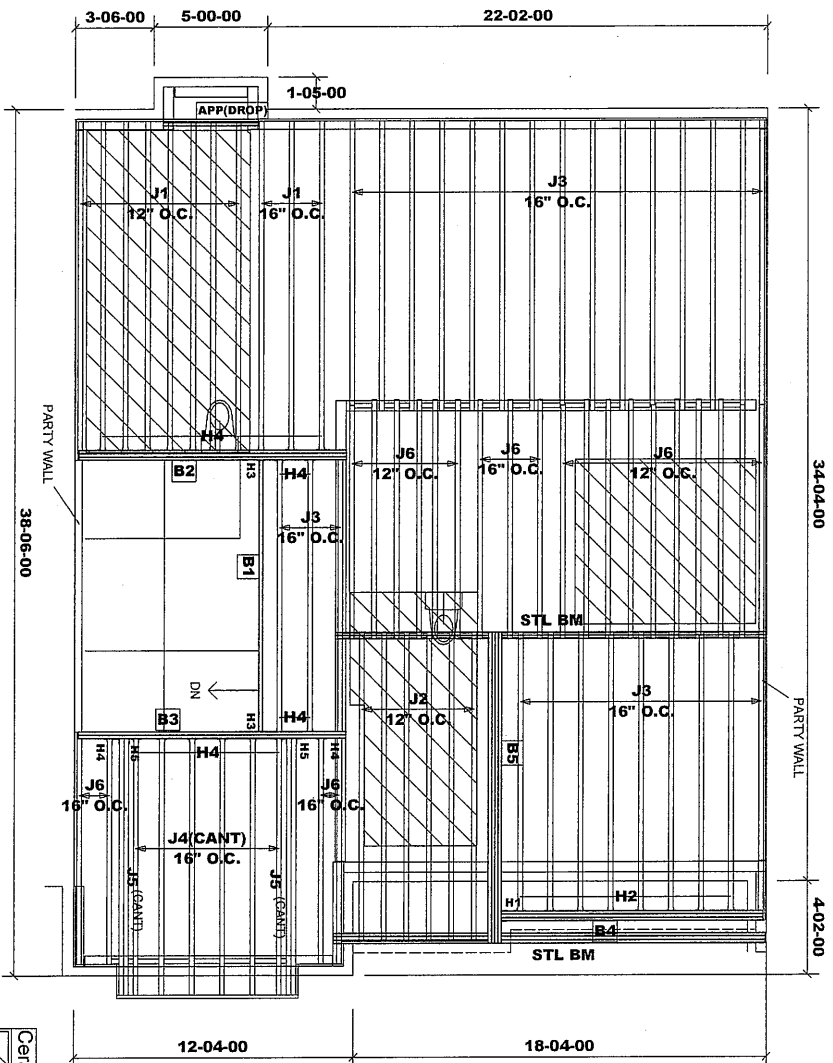
APP - AS PER PLAN
BBO - BEAM BY OTHERS

Products		Piles		Net Qty	
PileID	Length	Product			
B6	13-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	
B7	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3	
B12	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	
B14	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	2	
Cat1	92-00-00	1 1/8" x 11 7/8" Rim Board	1	1	
J1	15-00-00	1 1/8" N1-20	1	8	
J2	15-00-00	1 1/8" N1-20	2	4	
J3	13-00-00	1 1/8" N1-20	1	22	
J4	10-00-00	1 1/8" N1-20	1	12	
J5	4-00-00	1 1/8" N1-20	1	2	

Connector Summary			
PileID	Qty	Manuf	Product
H1	2		HUST1.81/10
H2	40		LT251188
H3	2		MIT311.88-2

JT/PL: 45147/111207 Builder: Gold Park Location: Vaughan Designer: NL Alpa Roof Trusses Inc. Salesperson: Derek

LI: 333169 Project: Pine Valley Date: May 18, 2021 Sheet: 6 of 9 Maple, Ontario Home Lumber



MODEL: TYPE B - 3101-INT.
- EL.A(WOPT. FIREPLACE)
+ OPT. LOGGIA

Second Floor Framing

Do not scale - refer to architectural plans for dimensions



Product	Length	Product	Piles	Net Qty
B1	13'-00"-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	1	1
B2	12'-00"-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	2	2
B3	12'-00"-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	3	3
B4	12'-00"-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	4	4
B5	14'-00"-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	1	1
Ca1	8'-00"-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	1	1
Ca2	10'-00"-00	1-1/8" x 11-7/8" Rim Board	1	1
J1	15'-00"-00	11 7/8" NL-20	1	11
J2	14'-00"-00	11 7/8" NL-20	1	6
J3	13'-00"-00	11 7/8" NL-20	1	27
J4	12'-00"-00	11 7/8" NL-20	1	6
J5	12'-00"-00	11 7/8" NL-20	2	4
J6	11'-00"-00	11 7/8" NL-20	1	23

Product	Qty	Product
H1	1	HQUS5.50/10
H2	8	HU310
H3	2	HUS1.81/10
H4	22	LT251188
H5	2	MIT311.86-2

RIMBOARD
1- 1/8" X 11 7/8" O.S.B.
SUBFLOOR - 3/4" NAILED & GLUED*
APP - AS PER PLAN
BBO - BEAM BY OTHERS

DESIGN LOADING:
LIVE LOAD = 40 PSF
DEAD LOAD = 15 PSF
DEAD LOAD @ TILE = 20 PSF

Ceramic tile application as per O.B.C. 9.30.6
Provide L-Joist Blocking between cantilevered joists
(along bearing) and rimboard closure at ends.
Blocking panels are required over all interior supports
Squash blocks are required under concentrated loads.

JT/PL: 45147/111207 Builder: Gold Park Location: Vaughan Designer: NL Alpa Roof Trusses Inc. Salesperson: Derek
LI: 333169 Project: Pine Valley Date: May 18, 2021 Sheet: 7 of 9 Maple, Ontario Home Lumber

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

2nd Floor - Supply/BOM\Flush Beams\B1(i16004) (Flush Beam)

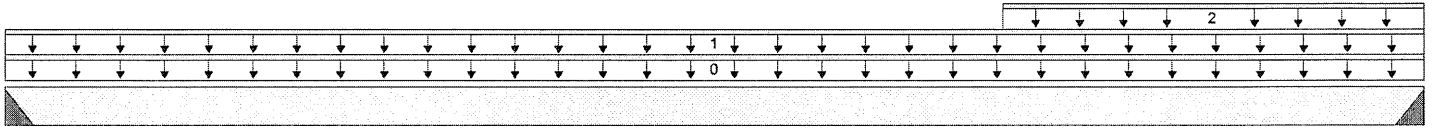
PASSED

 BC CALC® Member Report
 Build 7773

Dry | 1 span | No cant.

May 18, 2021 13:10:59

 Job name: 45147(3101)
 Address: Pine Valley
 City, Province, Postal Code: Vaughan, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

 File name: 333169-A.mmdl
 Description: 2nd Floor - Supply/BOM\Flush Beams\B1(i16004)
 Specifier:
 Designer: NL
 Company: Alpa Roof Trusses


B1

12-01-00

B2

Total Horizontal Product Length = 12-01-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	191 / 0	122 / 0		
B2, 2"	601 / 0	276 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	12-01-00	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	12-01-00	Top	18	9			n/a
2	User Load	Unf. Lin. (lb/ft)	L	08-06-00	12-01-00	Top	160	60			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2023 ft-lbs	17696 ft-lbs	11.4%	1	08-07-13
End Shear	829 lbs	7232 lbs	11.5%	1	10-11-02
Total Load Deflection	L/999 (0.07")	n/a	n/a	4	06-05-03
Live Load Deflection	L/999 (0.045")	n/a	n/a	5	06-05-03
Max Defl.	0.07"	n/a	n/a	4	06-05-03
Span / Depth	12.0				

Bearing Supports

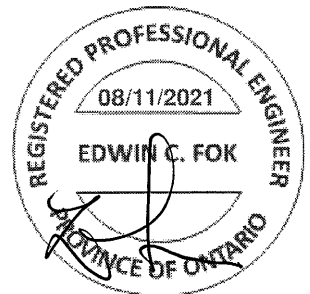
	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 1-3/4"	439 lbs	n/a	10.3%	HUS1.81/10
B2	Hanger 2" x 1-3/4"	1246 lbs	n/a	29.2%	HUS1.81/10

Cautions

Header for the hanger HUS1.81/10 is a Single 1-3/4" x 11-7/8" LVL Beam.
 Hanger model HUS1.81/10 and seat length were input by the user.

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Hanger Manufacturer: Unassigned
 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 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 12-01-00.



Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA).
 Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is 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 (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

Triple 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2nd Floor - Supply/BOM\Flush Beams\B2(i16112) (Flush Beam)

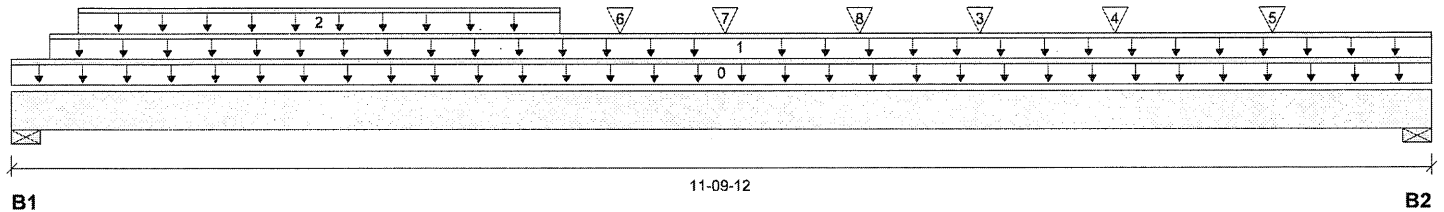
PASSED

 BC CALC® Member Report
 Build 7773

Dry | 1 span | No cant.

May 18, 2021 13:10:59

 Job name: 45147(3101)
 Address: Pine Valley
 City, Province, Postal Code: Vaughan, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

 File name: 333169-A.mmdl
 Description: 2nd Floor - Supply/BOM\Flush Beams\B2(i16112)
 Specifier:
 Designer: NL
 Company: Alpa Roof Trusses


Total Horizontal Product Length = 11-09-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	1738 / 0	1307 / 0		
B2, 5-1/2"	2339 / 0	1661 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-09-12	Top		18			00-00-00
1	User Load	Unf. Lin. (lb/ft)	L	00-03-12	11-09-12	Top		60			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	00-06-10	04-06-10	Top	304	152			n/a
3	-	Conc. Pt. (lbs)	L	08-00-10	08-00-10	Top	539	295			n/a
4	-	Conc. Pt. (lbs)	L	09-02-02	09-02-02	Top	670	335			n/a
5	-	Conc. Pt. (lbs)	L	10-05-14	10-05-14	Top	728	364			n/a
6	J1(i16035)	Conc. Pt. (lbs)	L	05-00-10	05-00-10	Top	285	143			n/a
7	J1(i16066)	Conc. Pt. (lbs)	L	05-11-02	05-11-02	Top	304	152			n/a
8	J1(i16015)	Conc. Pt. (lbs)	L	07-00-10	07-00-10	Top	319	160			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	13953 ft-lbs	55211 ft-lbs	25.3%	1	05-11-02
End Shear	5144 lbs	21696 lbs	23.7%	1	10-04-06
Total Load Deflection	L/856 (0.159")	n/a	28.0%	4	05-11-02
Live Load Deflection	L/999 (0.092")	n/a	n/a	5	05-11-02
Max Defl.	0.159"	n/a	n/a	4	05-11-02
Span / Depth	11.5				

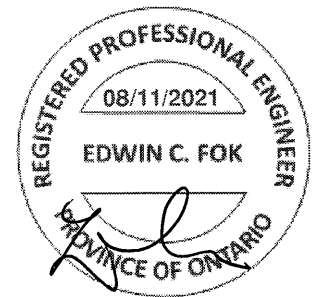
Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 1-3/4" x 5-1/4"	4241 lbs	75.0%	37.8%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 5-1/4"	5585 lbs	31.4%	15.9%	Spruce-Pine-Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 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 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-11-00.

NAIL ONE PLY TO ANOTHER WITH
 3-1/2" SPIRAL NAILS @ 2" O/C
 STAGGERED IN 2 ROWS





Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2nd Floor - Supply/BOM\Flush Beams\B3(i16032) (Flush Beam)

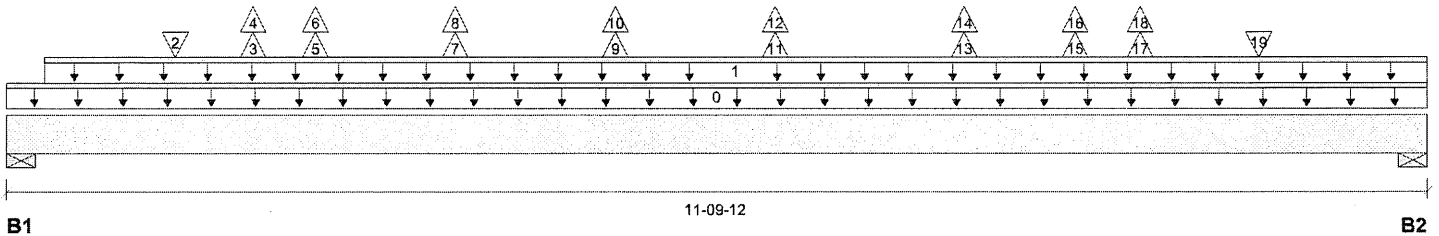
PASSED

 BC CALC® Member Report
 Build 7773

Dry | 1 span | No cant.

May 18, 2021 13:10:59

 Job name: 45147(3101)
 Address: Pine Valley
 City, Province, Postal Code: Vaughan, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

 File name: 333169-A.mmdl
 Description: 2nd Floor - Supply/BOM\Flush Beams\B3(i16032)
 Specifier:
 Designer: NL
 Company: Alpa Roof Trusses


Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	1322 / 22	923 / 0	0 / 67	
B2, 5-1/2"	2039 / 22	1315 / 0	0 / 67	

Load Summary

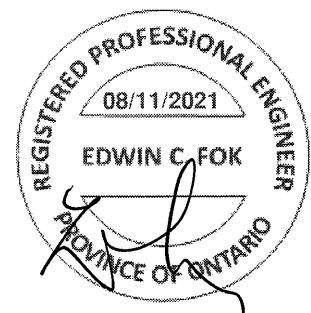
Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-09-12	Top		12			00-00-00
1	User Load	Unf. Lin. (lb/ft)	L	00-03-12	11-09-12	Top		60			n/a
2	J6(i16098)	Conc. Pt. (lbs)	L	01-04-10	01-04-10	Top	204	102			n/a
3	J5(i16042)	Conc. Pt. (lbs)	L	02-00-06	02-00-06	Top	122	30	-18		n/a
4	J5(i16042)	Conc. Pt. (lbs)	L	02-00-06	02-00-06	Top	-3				n/a
5	J4(i16027)	Conc. Pt. (lbs)	L	02-06-10	02-06-10	Top	176	53	-28		n/a
6	J4(i16027)	Conc. Pt. (lbs)	L	02-06-10	02-06-10	Top	-5				n/a
7	J4(i16103)	Conc. Pt. (lbs)	L	03-08-10	03-08-10	Top	262	102	-10		n/a
8	J4(i16103)	Conc. Pt. (lbs)	L	03-08-10	03-08-10	Top	-7				n/a
9	J4(i16090)	Conc. Pt. (lbs)	L	05-00-10	05-00-10	Top	279	109	-11		n/a
10	J4(i16090)	Conc. Pt. (lbs)	L	05-00-10	05-00-10	Top	-7				n/a
11	J4(i16100)	Conc. Pt. (lbs)	L	06-04-10	06-04-10	Top	279	109	-11		n/a
12	J4(i16100)	Conc. Pt. (lbs)	L	06-04-10	06-04-10	Top	-7				n/a
13	-	Conc. Pt. (lbs)	L	07-11-08	07-11-08	Top	856	374	-10		n/a
14	-	Conc. Pt. (lbs)	L	07-11-08	07-11-08	Top	-7				n/a
15	-	Conc. Pt. (lbs)	L	08-10-09	08-10-09	Top	448	189	-28		n/a
16	-	Conc. Pt. (lbs)	L	08-10-09	08-10-09	Top	-5				n/a
17	J5(i16064)	Conc. Pt. (lbs)	L	09-05-02	09-05-02	Top	188	64	-18		n/a
18	J5(i16064)	Conc. Pt. (lbs)	L	09-05-02	09-05-02	Top	-3				n/a
19	-	Conc. Pt. (lbs)	L	10-04-15	10-04-15	Top	541	271			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	11564 ft-lbs	35392 ft-lbs	32.7%	21	06-04-10
End Shear	4412 lbs	14464 lbs	30.5%	21	10-04-06
Total Load Deflection	L/699 (0.195")	n/a	34.4%	56	05-10-10
Live Load Deflection	L/999 (0.119")	n/a	n/a	83	05-10-10
Max Defl.	0.195"	n/a	n/a	56	05-10-10
Span / Depth	11.5				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 1-3/4" x 3-1/2"	3138 lbs	83.3%	42.0%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 3-1/2"	4703 lbs	39.7%	20.0%	Spruce-Pine-Fir


 NAIL ONE PLY TO ANOTHER WITH
 3-1/2" SPIRAL NAILS @ 10" O/C
 STAGGERED IN 2 ROWS

36033149



Triple 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2nd Floor - Supply/BOM\Flush Beams\B4(i16445) (Flush Beam)

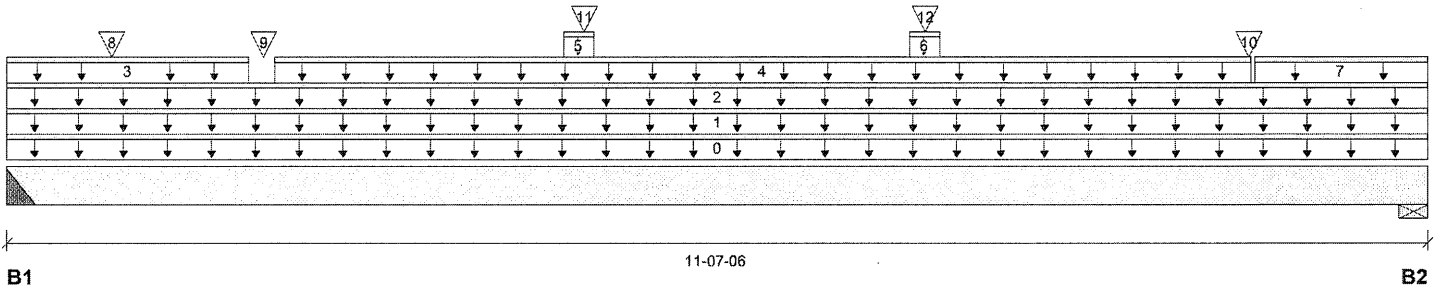
PASSED

 BC CALC® Member Report
 Build 7773

Dry | 1 span | No cant.

May 18, 2021 13:10:59

 Job name: 45147(3101)
 Address: Pine Valley
 City, Province, Postal Code: Vaughan, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

 File name: 333169-A.mmdl
 Description: 2nd Floor - Supply/BOM\Flush Beams\B4(i16445)
 Specifier:
 Designer: NL
 Company: Alpa Roof Trusses


Total Horizontal Product Length = 11-07-06

Reaction Summary (Down / Uplift) (lbs)

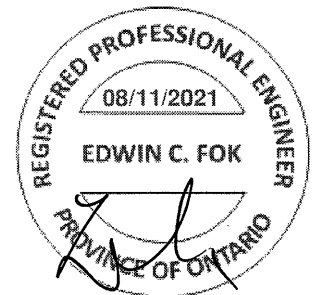
Bearing	Live	Dead	Snow	Wind
B1, 2"	1426 / 0	2720 / 0	2466 / 0	
B2, 3-7/8"	1339 / 0	2733 / 0	2533 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-07-06	Top		18			00-00-00
1	E14(i15201)	Unf. Lin. (lb/ft)	L	00-00-00	11-07-06	Top		101			n/a
2	User Load	Unf. Lin. (lb/ft)	L	00-00-00	11-07-06	Top		14	21		n/a
3	E14(i15201)	Unf. Lin. (lb/ft)	L	00-00-00	01-11-08	Top		215	410		n/a
4	Smoothed Load	Unf. Lin. (lb/ft)	L	02-02-02	10-02-02	Top	131	66			n/a
5	E14(i15201)	Unf. Lin. (lb/ft)	L	04-06-08	04-09-08	Top		215	410		n/a
6	E14(i15201)	Unf. Lin. (lb/ft)	L	07-04-08	07-07-08	Top		215	410		n/a
7	E14(i15201)	Unf. Lin. (lb/ft)	L	10-02-08	11-07-06	Top		215	410		n/a
8	J3(i16437)	Conc. Pt. (lbs)	L	00-10-02	00-10-02	Top	324	162			n/a
9	-	Conc. Pt. (lbs)	L	02-01-00	02-01-00	Top	349	457	529		n/a
10	-	Conc. Pt. (lbs)	L	10-01-14	10-01-14	Top	349	457	529		n/a
11	-	Conc. Pt. (lbs)	L	04-08-08	04-08-08	Top	348	738	1058		n/a
12	-	Conc. Pt. (lbs)	L	07-06-00	07-06-00	Top	349	739	1058		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	23345 ft-lbs	55211 ft-lbs	42.3%	13	04-10-02
End Shear	7136 lbs	21696 lbs	32.9%	13	10-03-10
Total Load Deflection	L/476 (0.284")	n/a	50.4%	35	05-10-02
Live Load Deflection	L/809 (0.167")	n/a	44.5%	51	05-10-02
Max Defl.	0.284"	n/a	n/a	35	05-10-02
Span / Depth	11.4				



Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 5-1/4"	8526 lbs	n/a	66.6%	HGUS5.50/10
B2	Wall/Plate 3-7/8" x 5-1/4"	8554 lbs	68.4%	34.5%	Spruce-Pine-Fir

Cautions

Header for the hanger HGUS5.50/10 is a Quadruple 1-3/4" x 11-7/8" LVL Beam.

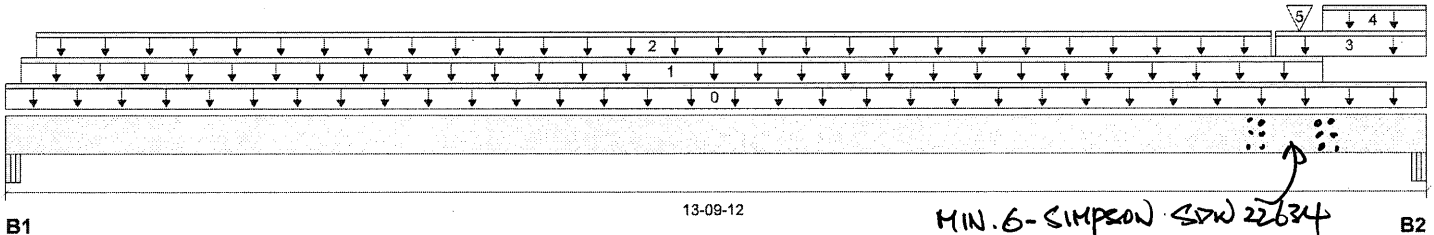
Hanger model HGUS5.50/10 and seat length were input by the user.

 NAIL ONE PLY TO ANOTHER WITH
 3-1/2" SPIRAL NAILS @ 10" O/C
 STAGGERED IN 2 ROWS

33033150

Job name: 45147(3101)
Address: Pine Valley
City, Province, Postal Code: Vaughan, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File name: 333169-A.mmdl
Description: 2nd Floor - Supply/BOM\Flush Beams\B5(i16453)
Specifier:
Designer: NL
Company: Alpa Roof Trusses



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	366 / 0	1002 / 0	410 / 0	
B2, 5-1/4"	1577 / 0	5360 / 0	6150 / 0	

Load Summary

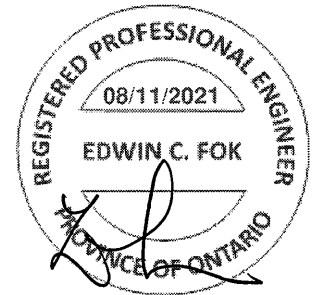
Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-09-12	Top		24			00-00-00
1	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-01-12	12-09-12	Top	41	21			n/a
2	User Load	Unf. Lin. (lb/ft)	L	00-03-08	12-03-12	Top		60			n/a
3	E15(i15200)	Unf. Lin. (lb/ft)	L	12-04-04	13-09-12	Top		101			n/a
4	E15(i15200)	Unf. Lin. (lb/ft)	L	12-09-12	13-09-12	Top		154	231		n/a
5	-	Conc. Pt. (lbs)	L	12-07-01	12-07-01	Top	1420	4725	6310		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	14368 ft-lbs	73615 ft-lbs	19.5%	13	12-07-00
End Shear	13570 lbs	28927 lbs	46.9%	13	12-04-10
Total Load Deflection	L/1021 (0.155")	n/a	23.5%	35	07-05-13
Live Load Deflection	L/999 (0.079")	n/a	n/a	51	07-07-14
Max Defl.	0.155"	n/a	n/a	35	07-05-13
Span / Depth	13.3				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 3-1/2" x 7"	2234 lbs	14.8%	7.5%	Unspecified
B2	Beam 5-1/4" x 7"	17502 lbs	77.4%	39.0%	Unspecified



NAIL ONE PLY TO ANOTHER WITH
3-1/2" SPIRAL NAILS @ 12" O/C
STAGGERED IN 2 ROWS, PLUS 1/2" & BOLTS,
NUTS & WASHERS @ 4" O.C.,
STAGGERED IN 2 ROWS

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

1st Floor - Supply/BOM\Flush Beams\B6(i16409) (Flush Beam)

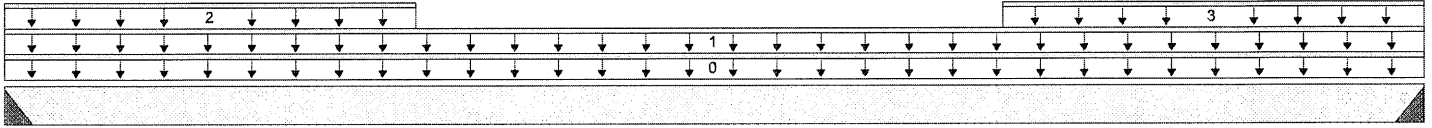
PASSED

 BC CALC® Member Report
 Build 7773

Dry | 1 span | No cant.

May 18, 2021 13:10:59

 Job name: 45147(3101)
 Address: Pine Valley
 City, Province, Postal Code: Vaughan, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

 File name: 333169-A.mmdl
 Description: 1st Floor - Supply/BOM\Flush Beams\B6(i16409)
 Specifier:
 Designer: NL
 Company: Alpa Roof Trusses


B1

12-01-00

B2

Total Horizontal Product Length = 12-01-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	534 / 0	250 / 0		
B2, 2"	538 / 0	252 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	12-01-00	Top		6			00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	12-01-00	Top	18	9			n/a
2	User Load	Unf. Lin. (lb/ft)	L	00-00-00	03-06-00	Top	120	45			n/a
3	User Load	Unf. Lin. (lb/ft)	L	08-06-00	12-01-00	Top	120	45			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2216 ft-lbs	17696 ft-lbs	12.5%	1	06-01-14
End Shear	795 lbs	7232 lbs	11.0%	1	10-11-02
Total Load Deflection	L/999 (0.088")	n/a	n/a	4	06-00-00
Live Load Deflection	L/999 (0.059")	n/a	n/a	5	06-00-00
Max Defl.	0.088"	n/a	n/a	4	06-00-00
Span / Depth	12.0				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 1-3/4"	1113 lbs	n/a	26.1%	HUS1.81/10
B2	Hanger 2" x 1-3/4"	1122 lbs	n/a	26.3%	HUS1.81/10

Cautions

Header for the hanger HUS1.81/10 is a Triple 1-3/4" x 11-7/8" LVL Beam.
 Hanger model HUS1.81/10 and seat length were input by the user.

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Hanger Manufacturer: Unassigned
 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 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 12-01-00.



Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA).
 Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is 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 (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

SE033152



Triple 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor - Supply/BOM\Flush Beams\B7(i16360) (Flush Beam)

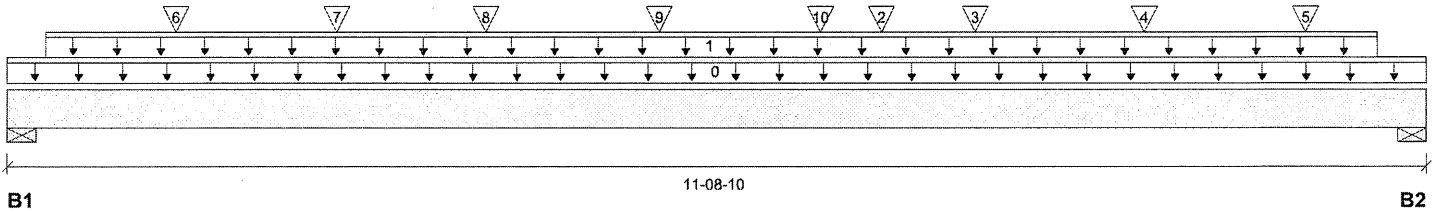
PASSED

 BC CALC® Member Report
 Build 7773

Dry | 1 span | No cant.

May 18, 2021 13:10:59

 Job name: 45147(3101)
 Address: Pine Valley
 City, Province, Postal Code: Vaughan, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

 File name: 333169-A.mmdl
 Description: 1st Floor - Supply/BOM\Flush Beams\B7(i16360)
 Specifier:
 Designer: NL
 Company: Alpa Roof Trusses


Total Horizontal Product Length = 11-08-10

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	2193 / 0	1495 / 0		
B2, 2-3/8"	2815 / 0	1816 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-08-10	Top		18			00-00-00
1	User Load	Unf. Lin. (lb/ft)	L	00-03-12	11-03-12	Top		60			n/a
2	B6(i16409)	Conc. Pt. (lbs)	L	07-02-10	07-02-10	Top	534	250			n/a
3	-	Conc. Pt. (lbs)	L	07-11-15	07-11-15	Top	719	359			n/a
4	-	Conc. Pt. (lbs)	L	09-04-11	09-04-11	Top	747	373			n/a
5	-	Conc. Pt. (lbs)	L	10-08-11	10-08-11	Top	636	318			n/a
6	J1(i16388)	Conc. Pt. (lbs)	L	01-04-10	01-04-10	Top	412	206			n/a
7	J1(i16410)	Conc. Pt. (lbs)	L	02-08-10	02-08-10	Top	412	206			n/a
8	-	Conc. Pt. (lbs)	L	03-11-07	03-11-07	Top	811	360			n/a
9	J1(i16361)	Conc. Pt. (lbs)	L	05-04-10	05-04-10	Top	373	186			n/a
10	J1(i16359)	Conc. Pt. (lbs)	L	06-08-10	06-08-10	Top	353	176			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	18345 ft-lbs	55211 ft-lbs	33.2%	1	06-08-10
End Shear	6204 lbs	21696 lbs	28.6%	1	10-06-06
Total Load Deflection	L/651 (0.212")	n/a	36.8%	4	05-10-10
Live Load Deflection	L/1073 (0.129")	n/a	33.6%	5	05-10-10
Max Defl.	0.212"	n/a	n/a	4	05-10-10
Span / Depth	11.6				

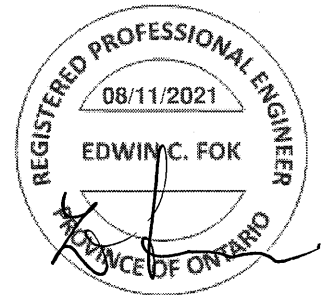
Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 1-3/4" x 5-1/4"	5159 lbs	91.3%	46.0%	Spruce-Pine-Fir
B2	Wall/Plate 2-3/8" x 5-1/4"	6493 lbs	84.6%	42.7%	Spruce-Pine-Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 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 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

NAIL ONE PLY TO ANOTHER WITH
 3-1/2" SPIRAL NAILS @ 6" O/C
 STAGGERED IN 2 ROWS



SG033153



Triple 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor - Supply/BOM\Flush Beams\B8(i16411) (Flush Beam)

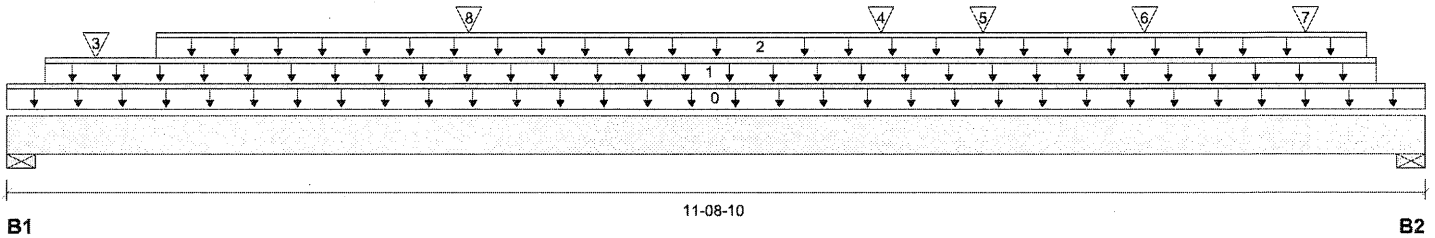
PASSED

 BC CALC® Member Report
 Build 7773

Dry | 1 span | No cant.

May 18, 2021 13:10:59

 Job name: 45147(3101)
 Address: Pine Valley
 City, Province, Postal Code: Vaughan, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

 File name: 333169-A.mmdl
 Description: 1st Floor - Supply/BOM\Flush Beams\B8(i16411)
 Specifier:
 Designer: NL
 Company: Alpa Roof Trusses


Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	2023 / 0	1381 / 0		
B2, 2-3/8"	2453 / 0	1621 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-08-10	Top		18			00-00-00
1	User Load	Unf. Lin. (lb/ft)	L	00-03-12	11-03-12	Top		60			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-02-12	11-02-13	Top	210	105			n/a
3	J4(i16389)	Conc. Pt. (lbs)	L	00-08-12	00-08-12	Top	179	90			n/a
4	B6(i16409)	Conc. Pt. (lbs)	L	07-02-10	07-02-10	Top	538	252			n/a
5	J3(i16378)	Conc. Pt. (lbs)	L	08-00-12	08-00-12	Top	278	139			n/a
6	J3(i16422)	Conc. Pt. (lbs)	L	09-04-12	09-04-12	Top	325	162			n/a
7	J3(i16370)	Conc. Pt. (lbs)	L	10-08-12	10-08-12	Top	286	143			n/a
8	User Load	Conc. Pt. (lbs)	L	03-09-12	03-09-12	Top	720	270			n/a

Controls Summary

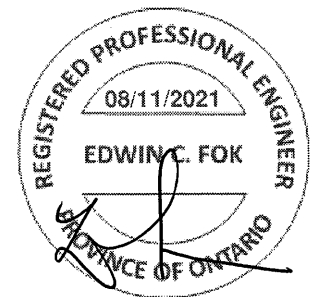
	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	16342 ft-lbs	55211 ft-lbs	29.6%	1	06-08-12
End Shear	5461 lbs	21696 lbs	25.2%	1	10-06-06
Total Load Deflection	L/724 (0.191")	n/a	33.2%	4	05-11-12
Live Load Deflection	L/999 (0.115")	n/a	n/a	5	05-11-12
Max Defl.	0.191"	n/a	n/a	4	05-11-12
Span / Depth	11.6				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 1-3/4" x 5-1/4"	4760 lbs	84.2%	42.5%	Spruce-Pine-Fir
B2	Wall/Plate 2-3/8" x 5-1/4"	5705 lbs	74.4%	37.5%	Spruce-Pine-Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 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 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-09-08.

NAIL ONE PLY TO ANOTHER WITH
 3-1/2" SPIRAL NAILS @ 6" O/C
 STAGGERED IN 2 ROWS



SG033154

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2nd Floor - Supply/BOM\Flush Beams\B9(i17076) (Flush Beam)

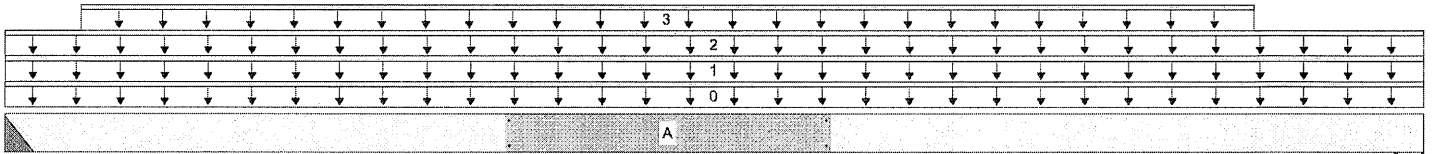
PASSED

 BC CALC® Member Report
 Build 7773

Dry | 1 span | No cant.

May 18, 2021 13:43:34

 Job name: 45147(3101)
 Address: Pine Valley
 City, Province, Postal Code: Vaughan, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

 File name: 333169-B.mmdl
 Description: 2nd Floor - Supply/BOM\Flush Beams\B9(i17076)
 Specifier:
 Designer: NL
 Company: Alpa Roof Trusses


B1

06-05-06

B2

Total Horizontal Product Length = 06-05-06

Reaction Summary (Down / Uplift) (lbs)

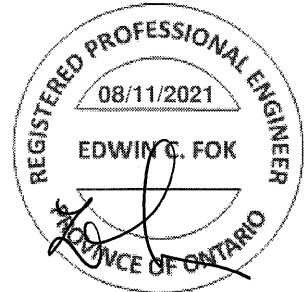
Bearing	Live	Dead	Snow	Wind
B1, 2"	710 / 0	1430 / 0	1354 / 0	
B2, 3-7/8"	658 / 0	1457 / 0	1422 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-05-06	Top		12			00-00-00
1	E14(i15201)	Unf. Lin. (lb/ft)	L	00-00-00	06-05-06	Top		316	410		n/a
2	User Load	Unf. Lin. (lb/ft)	L	00-00-00	06-05-06	Top		14	21		n/a
3	Smoothed Load	Unf. Lin. (lb/ft)	L	00-04-02	05-08-02	Top	256	128			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	6871 ft-lbs	35392 ft-lbs	19.4%	13	03-02-02
End Shear	3209 lbs	14464 lbs	22.2%	13	01-01-14
Total Load Deflection	L/999 (0.037")	n/a	n/a	35	03-02-02
Live Load Deflection	L/999 (0.022")	n/a	n/a	51	03-02-02
Max Defl.	0.037"	n/a	n/a	35	03-02-02
Span / Depth	6.1				



Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 3-1/2"	4529 lbs	n/a	53.0%	HGUS410
B2	Wall/Plate 3-7/8" x 3-1/2"	4612 lbs	55.3%	27.9%	Spruce-Pine-Fir

Cautions

Header for the hanger HGUS410 is a Triple 1-3/4" x 11-7/8" LVL Beam.

Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

Notes

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

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

Hanger Manufacturer: Unassigned

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 2015 and CSA O86.

Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

 NAIL ONE PLY TO ANOTHER WITH
 3-1/2" SPIRAL NAILS @ 8" O/C
 STAGGERED IN 2 ROWS



Triple 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2nd Floor - Supply/BOM\Flush Beams\B10(i17069) (Flush Beam)

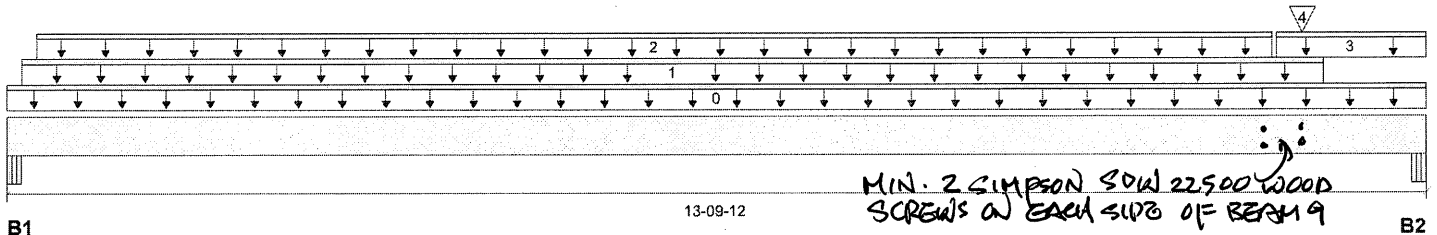
PASSED

 BC CALC® Member Report
 Build 7773

Dry | 1 span | No cant.

May 18, 2021 13:43:34

 Job name: 45147(3101)
 Address: Pine Valley
 City, Province, Postal Code: Vaughan, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

 File name: 333169-B.mmdl
 Description: 2nd Floor - Supply/BOM\Flush Beams\B10(i17069)
 Specifier:
 Designer: NL
 Company: Alpa Roof Trusses


Reaction Summary (Down / Uplift) (lbs)

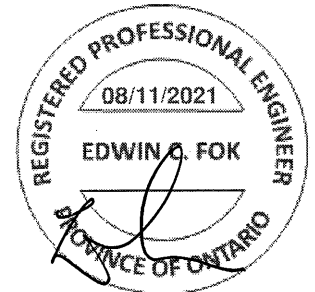
Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	361 / 0	927 / 0	398 / 0	
B2, 5-1/4"	946 / 0	4499 / 0	5886 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-09-12	Top		18			00-00-00
1	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-01-12	12-09-12	Top	48	24			n/a
2	User Load	Unf. Lin. (lb/ft)	L	00-03-08	12-03-12	Top		60			n/a
3	E15(i15200)	Unf. Lin. (lb/ft)	L	12-04-04	13-09-12	Top		101			n/a
4	-	Conc. Pt. (lbs)	L	12-07-05	12-07-05	Top	700	3992	6265		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	12678 ft-lbs	55211 ft-lbs	23.0%	13	12-03-12
End Shear	11779 lbs	21696 lbs	54.3%	13	12-04-10
Total Load Deflection	L/842 (0.188")	n/a	28.5%	35	07-05-13
Live Load Deflection	L/999 (0.098")	n/a	n/a	51	07-07-14
Max Defl.	0.188"	n/a	n/a	35	07-05-13
Span / Depth	13.3				



Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	3-1/2" x 5-1/4"	2116 lbs	18.7%	9.4%	Unspecified
B2 Beam	5-1/4" x 5-1/4"	15400 lbs	90.8%	45.8%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 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 2015 and CSA O86.
 Unbalanced snow loads determined from building geometry were used in selected product's verification.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 12-02-12.

33033156



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

2nd Floor - Supply/BOM\Flush Beams\B11(i16982) (Flush Beam)

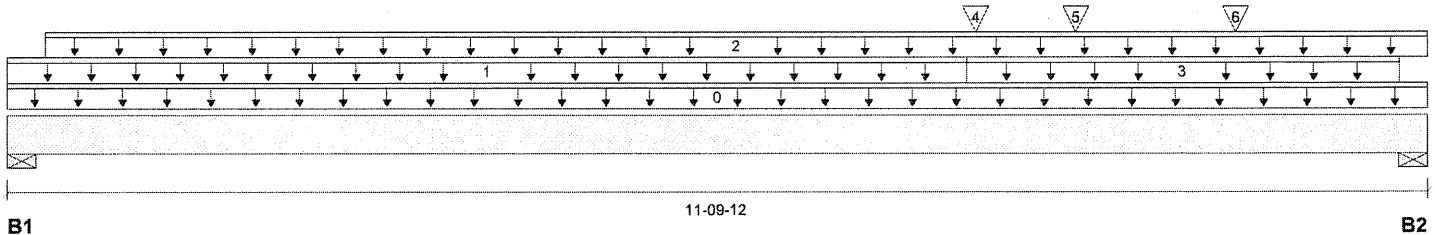
PASSED

 BC CALC® Member Report
 Build 7773

Dry | 1 span | No cant.

May 18, 2021 13:43:34

 Job name: 45147(3101)
 Address: Pine Valley
 City, Province, Postal Code: Vaughan, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

 File name: 333169-B.mmdl
 Description: 2nd Floor - Supply/BOM\Flush Beams\B11(i16982)
 Specifier:
 Designer: NL
 Company: Alpa Roof Trusses


Total Horizontal Product Length = 11-09-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	375 / 0	541 / 0		
B2, 5-1/2"	1025 / 0	895 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-09-12	Top		6			00-00-00
1	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	07-11-12	Top	18	9			n/a
2	User Load	Unf. Lin. (lb/ft)	L	00-03-12	11-09-12	Top		60			n/a
3	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	07-11-12	11-07-00	Top	16	8			n/a
4	B1(i17128)	Conc. Pt. (lbs)	L	08-00-10	08-00-10	Top	598	274			n/a
5	J3(i16829)	Conc. Pt. (lbs)	L	08-10-10	08-10-10	Top	273	136			n/a
6	J3(i16972)	Conc. Pt. (lbs)	L	10-02-10	10-02-10	Top	326	163			n/a

Controls Summary

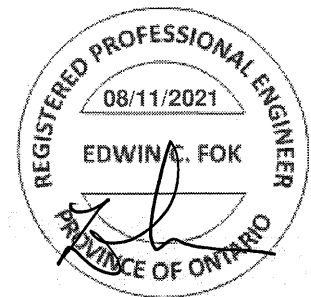
	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	6156 ft-lbs	17696 ft-lbs	34.8%	1	08-00-10
End Shear	2494 lbs	7232 lbs	34.5%	1	10-04-06
Total Load Deflection	L/720 (0.189")	n/a	33.3%	4	06-01-15
Live Load Deflection	L/999 (0.094")	n/a	n/a	5	06-03-03
Max Defl.	0.189"	n/a	n/a	4	06-01-15
Span / Depth	11.5				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 1-3/4" x 1-3/4"	1238 lbs	65.7%	33.1%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 1-3/4"	2655 lbs	44.8%	22.6%	Spruce-Pine-Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 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 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 07-10-00.



Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is 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 (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

SG033157



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

1st Floor - Supply/BOM\Flush Beams\B12(i16550) (Flush Beam)

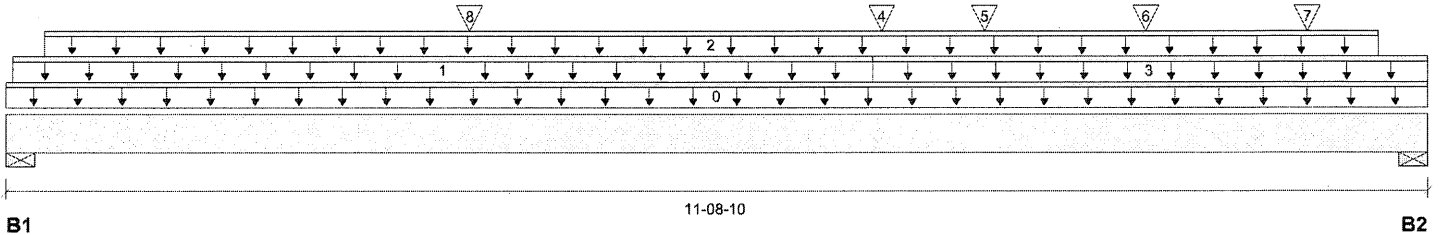
PASSED

 BC CALC® Member Report
 Build 7773

Dry | 1 span | No cant.

May 18, 2021 14:16:03

 Job name: 45147(3101)
 Address: Pine Valley
 City, Province, Postal Code: Vaughan, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

 File name: 333169-FOYER(-1R).mmdl
 Description: 1st Floor - Supply/BOM\Flush Beams\B12(i16550)
 Specifier:
 Designer: NL
 Company: Alpa Roof Trusses


Total Horizontal Product Length = 11-08-10

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	910 / 0	789 / 0		
B2, 2-3/8"	1350 / 0	1036 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-08-10	Top		12			00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-10	07-01-12	Top	9	4			n/a
2	User Load	Unf. Lin. (lb/ft)	L	00-03-12	11-03-12	Top		60			n/a
3	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	07-01-12	11-08-10	Top	6				n/a
4	B6(i16409)	Conc. Pt. (lbs)	L	07-02-10	07-02-10	Top	538	252			n/a
5	J3(i16559)	Conc. Pt. (lbs)	L	08-00-12	08-00-12	Top	276	138			n/a
6	J3(i16558)	Conc. Pt. (lbs)	L	09-04-12	09-04-12	Top	330	165			n/a
7	J3(i16562)	Conc. Pt. (lbs)	L	10-08-12	10-08-12	Top	295	148			n/a
8	User Load	Conc. Pt. (lbs)	L	03-09-12	03-09-12	Top	720	270			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	9294 ft-lbs	35392 ft-lbs	26.3%	1	07-02-10
End Shear	3159 lbs	14464 lbs	21.8%	1	10-06-06
Total Load Deflection	L/859 (0.161")	n/a	27.9%	4	05-10-12
Live Load Deflection	L/999 (0.091")	n/a	n/a	5	05-10-12
Max Defl.	0.161"	n/a	n/a	4	05-10-12
Span / Depth	11.6				

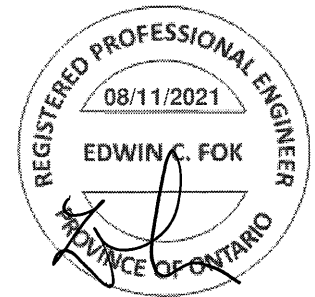
Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 1-3/4" x 3-1/2"	2351 lbs	62.4%	31.5%	Spruce-Pine-Fir
B2	Wall/Plate 2-3/8" x 3-1/2"	3320 lbs	64.9%	32.7%	Spruce-Pine-Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 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 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 07-00-00.

NAIL ONE PLY TO ANOTHER WITH
 3-1/2" SPIRAL NAILS @ 2" O/C
 STAGGERED IN 2 ROWS



33033158

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor - Supply/BOM\Flush Beams\B13(i16552) (Flush Beam)

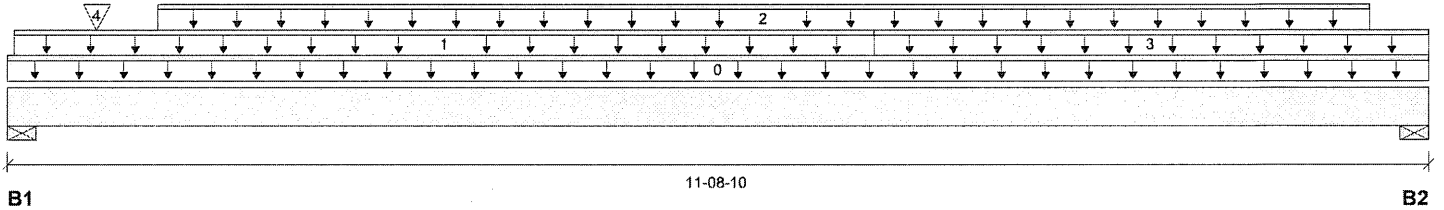
PASSED

 BC CALC® Member Report
 Build 7773

Dry | 1 span | No cant.

May 18, 2021 14:16:00

 Job name: 45147(3101)
 Address: Pine Valley
 City, Province, Postal Code: Vaughan, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

 File name: 333169-FOYER(-1R).mmdl
 Description: 1st Floor - Supply/BOM\Flush Beams\B13(i16552)
 Specifier:
 Designer: NL
 Company: Alpa Roof Trusses


Total Horizontal Product Length = 11-08-10

Reaction Summary (Down / Uplift) (lbs)

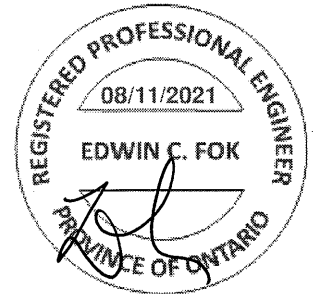
Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	1133 / 0	639 / 0		
B2, 2-3/8"	1119 / 0	632 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-08-10	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-10	07-01-12	Top	9	4			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-02-12	11-02-13	Top	200	100			n/a
3	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	07-01-12	11-08-10	Top	6	3			n/a
4	J4(i16539)	Conc. Pt. (lbs)	L	00-08-12	00-08-12	Top	167	84			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	7545 ft-lbs	35392 ft-lbs	21.3%	1	05-08-12
End Shear	2347 lbs	14464 lbs	16.2%	1	10-06-06
Total Load Deflection	L/1064 (0.13")	n/a	22.6%	4	05-08-12
Live Load Deflection	L/999 (0.083")	n/a	n/a	5	05-08-12
Max Defl.	0.13"	n/a	n/a	4	05-08-12
Span / Depth	11.6				



Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 1-3/4" x 3-1/2"	2498 lbs	66.3%	33.4%	Spruce-Pine-Fir
B2	Wall/Plate 2-3/8" x 3-1/2"	2469 lbs	48.3%	24.3%	Spruce-Pine-Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 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 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-09-09.

NAIL ONE PLY TO ANOTHER WITH
 3-1/2" SPIRAL NAILS @ 21" O/C
 STAGGERED IN 2 ROWS



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

PASSED

1st Floor - Supply/BOM\Flush Beams\B14(i16721) (Flush Beam)

BC CALC® Member Report

Dry | 1 span | No cant.

May 18, 2021 14:34:28

Build 7773

Job name: 45147(3101)

File name: 333169-FOYER(-2R).mmdl

Address: Pine Valley

Description: 1st Floor - Supply/BOM\Flush Beams\B14(i16721)

City, Province, Postal Code: Vaughan, ON

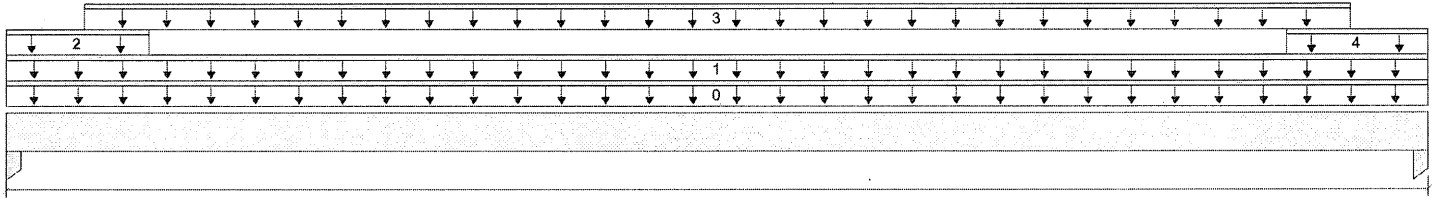
Specifier:

Customer: Gold Park

Designer: NL

Code reports: CCMC 12472-R

Company: Alpa Roof Trusses



B1

11-02-00

B2

Total Horizontal Product Length = 11-02-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	1016 / 0	540 / 0		
B2, 3-1/2"	1016 / 0	540 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-02-00	Top		6			00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	11-02-00	Top	4	2			n/a
2	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	01-01-04	Top	22	11			n/a
3	Smoothed Load	Unf. Lin. (lb/ft)	L	00-07-04	10-06-12	Top	194	97			n/a
4	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	10-00-12	11-02-00	Top	22	11			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	6158 ft-lbs	17696 ft-lbs	34.8%	1	05-01-04
End Shear	2093 lbs	7232 lbs	28.9%	1	09-10-10
Total Load Deflection	L/696 (0.185")	n/a	34.5%	4	05-07-04
Live Load Deflection	L/999 (0.121")	n/a	n/a	5	05-07-04
Max Defl.	0.185"	n/a	n/a	4	05-07-04
Span / Depth	10.8				

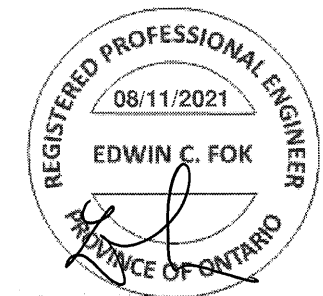
Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 3-1/2" x 1-3/4"	2199 lbs	20.7%	29.4%	Spruce-Pine-Fir
B2	Column 3-1/2" x 1-3/4"	2199 lbs	20.7%	29.4%	Spruce-Pine-Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 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 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-09-08.

NAIL ONE PLY TO ANOTHER WITH
 3-1/2" SPIRAL NAILS @ 12" O/C
 STAGGERED IN 2 ROWS



Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is 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 (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

SE033160

Maximum Floor Spans – M4.1, L/360

Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 20 psf
Deflection limits:	L/360 under live load and L/240 under total load
Sheathing:	3/4 in. nailed-glued oriented strand board (OSB) sheathing



Maximum Floor Spans

Joist depth	Joist series	Bare				1/2 in. gypsum ceiling			
		On centre spacing				On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-11"	15'-0"	14'-6"	13'-5"	16'-5"	15'-5"	14'-6"	13'-5"
	NI-40x	17'-0"	16'-0"	15'-5"	14'-10"	17'-5"	16'-5"	15'-10"	14'-11"
	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-7"	16'-7"	16'-0"	15'-4"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
11-7/8"	NI-20	17'-11"	16'-11"	16'-3"	15'-8"	18'-7"	17'-5"	16'-10"	16'-1"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-7"	19'-11"	18'-6"	17'-9"	17'-0"
	NI-60	19'-7"	18'-2"	17'-6"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
	NI-80	21'-1"	19'-6"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-90	21'-6"	19'-10"	18'-11"	17'-11"	22'-0"	20'-4"	19'-5"	18'-4"
14"	NI-40x	21'-5"	19'-11"	18'-11"	18'-0"	22'-1"	20'-7"	19'-7"	18'-7"
	NI-60	21'-10"	20'-2"	19'-3"	18'-3"	22'-6"	20'-10"	19'-11"	18'-10"
	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	NI-90	23'-10"	22'-1"	21'-0"	19'-10"	24'-5"	22'-7"	21'-6"	20'-4"
16"	NI-60	23'-9"	22'-0"	21'-0"	19'-10"	24'-6"	22'-9"	21'-8"	20'-7"
	NI-80	25'-6"	23'-7"	22'-5"	21'-2"	26'-2"	24'-3"	23'-1"	21'-10"
	NI-90	26'-0"	24'-0"	22'-10"	21'-6"	26'-7"	24'-8"	23'-5"	22'-2"

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap				Mid-span blocking and 1/2 in. gypsum ceiling			
		On centre spacing				On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	17'-1"	15'-5"	14'-6"	13'-5"	17'-1"	15'-5"	14'-6"	13'-5"
	NI-40x	18'-8"	17'-6"	16'-7"	14'-11"	19'-2"	17'-8"	16'-7"	14'-11"
	NI-60	18'-11"	17'-8"	16'-10"	15'-7"	19'-5"	18'-0"	16'-10"	15'-7"
	NI-80	20'-3"	18'-10"	17'-11"	17'-2"	20'-8"	19'-3"	18'-4"	17'-5"
11-7/8"	NI-20	20'-3"	18'-8"	17'-6"	16'-1"	20'-7"	18'-8"	17'-6"	16'-1"
	NI-40x	21'-10"	20'-4"	19'-0"	17'-0"	22'-5"	20'-10"	19'-0"	17'-0"
	NI-60	22'-1"	20'-7"	19'-8"	18'-7"	22'-8"	21'-2"	20'-3"	18'-8"
	NI-80	23'-8"	22'-0"	20'-11"	19'-10"	24'-1"	22'-6"	21'-6"	20'-4"
	NI-90	24'-1"	22'-5"	21'-4"	20'-2"	24'-7"	22'-11"	21'-10"	20'-8"
14"	NI-40x	24'-5"	22'-9"	20'-11"	18'-8"	25'-1"	22'-11"	20'-11"	18'-8"
	NI-60	24'-10"	23'-2"	22'-1"	20'-10"	25'-6"	23'-10"	22'-9"	21'-4"
	NI-80	26'-6"	24'-8"	23'-6"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
	NI-90	27'-0"	25'-1"	23'-11"	22'-7"	27'-6"	25'-8"	24'-6"	23'-2"
16"	NI-60	27'-3"	25'-5"	24'-3"	22'-11"	28'-0"	26'-2"	25'-0"	23'-1"
	NI-80	29'-1"	27'-1"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
	NI-90	29'-7"	27'-6"	26'-2"	24'-9"	30'-2"	28'-2"	26'-10"	25'-5"

Notes:

- The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

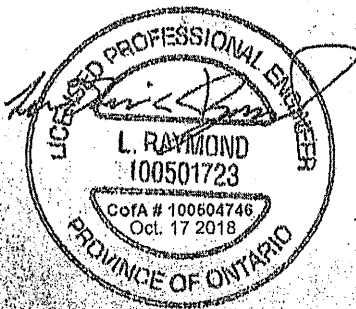
The construction details for residential designs are prone to changes.

Details released after April 2014 supersedes N-C301

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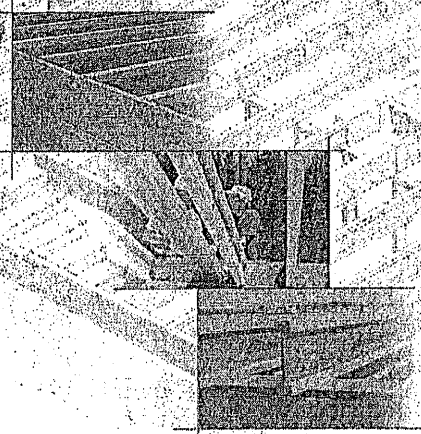
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Document prepared for the use of Stephanie Gon from Alpa, Ontario. (Nordic Request 1810-095)



NORDIC ENGINEERED WOOD

INSTALLATION GUIDE FOR RESIDENTIAL FLOORS



Distributed by:



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:



Do not walk on I-joists until fully fastened and braced, or serious injuries can result.



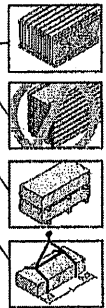
Never stack building materials over unbraced I-joists. Once sheathed, do not over-stress I-joist with concentrated loads from building materials.

1. Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bracing or joist walls. When I-joists are supported 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 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.
3. Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nails (driven to the top surface of each I-joist). Nail the bracing to a lateral restraint at the end of each bay. Lap ends of straining bracing over at least two I-joists.
4. 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.
5. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bracing.
6. 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 Nordic I-joists, failure to follow allowable loads and locations, or failure to 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 flutes.
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.
8. Pick I-joists in bundles as shipped by the supplier.
9. Orient the bundles so that the webs of the I-joists are vertical.
10. Pick the bundles at the 5th point, using a spreader bar if necessary.
11. Do not handle I-joists in a horizontal orientation.
12. NEVER USE CRANE TO REPAIR A DAMAGED I-JOIST.

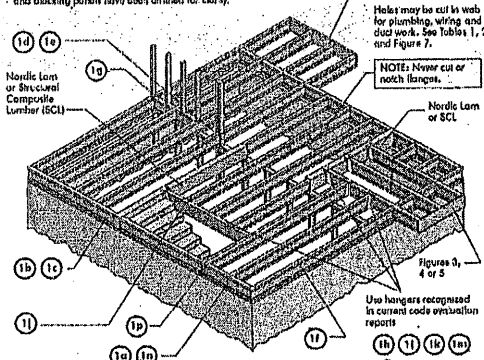


INSTALLING NORDIC I-JOISTS

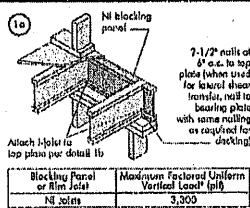
1. Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, contact your supplier.
2. Except for cutting to length, I-joist flanges should never be cut, drilled, or notched.
3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
4. I-joists must be anchored securely to supports before floor sheathing is attached, and supports for multiple-span joists must be level.
5. Minimum bearing length: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bearings.
6. When using hangers, seat I-joist flange in hanger bottoms to minimize cantilevers.
7. Leave a 1/16-inch gap between the I-joist and a header.
8. Concentrated loads greater than those that can normally be supported by 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 concentrated 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 joist 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 (all end joists may never be used as blocking or rim boards. I-joist blocking panels or other engineered wood products - such as rim board - must be cut to fit between the I-joists, and on 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, support the bottom flange of all cantilevered I-joists at the end support next to the cantilever extension. In the completed structure, the opposite wallboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary bracing or struts must be used.
14. If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Glue panels to blocking to minimize squeaks. Blocking is not 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 plans.

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

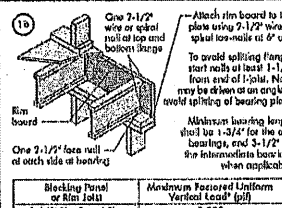
Some framing requirements such as erection bracing and blocking panels have been omitted for clarity.



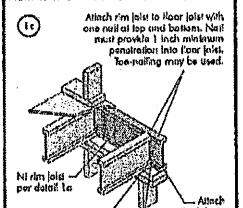
All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (0.122") dia. common spiral nails may be substituted for 2-1/2" (0.128") dia. common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components not shown to scale for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



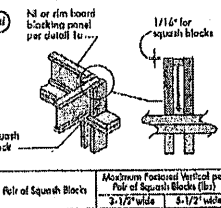
*The uniform vertical load is limited to a joist depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.



*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.



*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.



*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.

Details released after April 2014
supersedes N-C301

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Document prepared for the use of
Stephanle Gon from Alpa, Ontario.
(Nordic Request 1810-095)



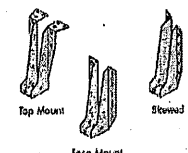
MAXIMUM FLOOR SPANS FOR NORDIC L-JOISTS
SIMPLE AND MULTIPLE SPANS

[illegible]

SCMC EVALUATION RESORT 13472-1

I-JOIST HANGERS

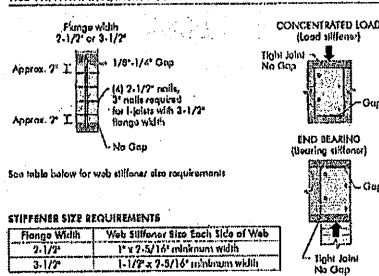
1. Hangers shown illustrate the three most commonly used metal hangers to support I-joists.
2. All nailing must meet the hanger manufacturer's recommendations.
3. Hangers should be selected based on the joist depth, flange width and load capacity based on the maximum spans.
4. Web stiffeners are required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



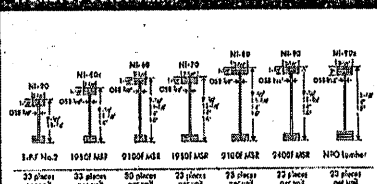
WEB STIFFENERS

RECOMMENDATIONS:

- A bearing stiffener is required in all engaged connections with fasteners spaced closer than shown in the I-post properties table found in the *I-Post Construction Guide* (C101) the gap between the stiffener and flange is at the top.
 - A bearing stiffener is required when the I-post is supported in a hanger and the sides of the hanger do not extend up to, and beyond, the top flange. The gap between the stiffener and flange is at the top.
 - A load stiffener is required at locations where a lateral concentrated load greater than 2,370 lb 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 dead loads only. They may be adjusted for other load durations as permitted by the code. The gap between the stiffener and the flange is at the bottom.
- 81 units conversion 1 inch = 25.4 mm

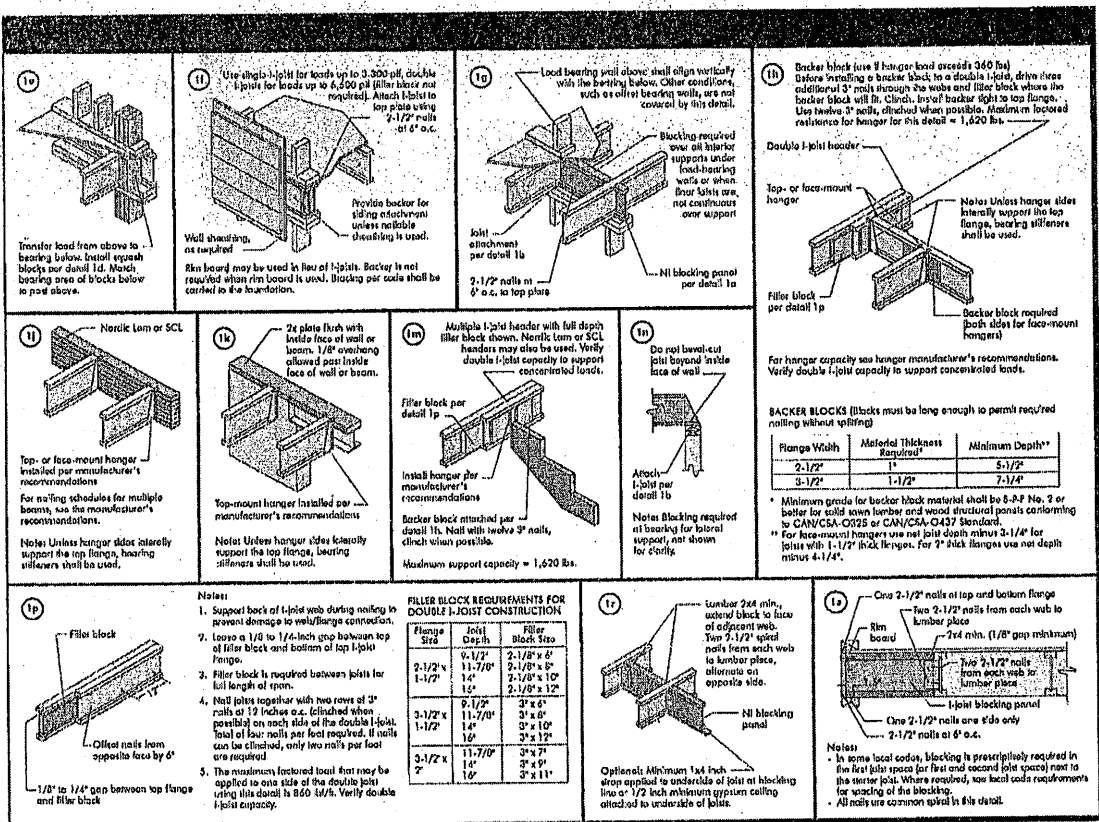
FIGURE 2
WEB STIFFENER INSTALLATION DETAILS

NORDIC I-JOIST SERIES



Chandler's Chilloguamau Ltd. harvests its own trees, which enables Nard's products to adhere to strict quality control procedures throughout the manufacturing process. Every phase of the operation, from forest to the finished product, reflects our commitment to quality.

Nard's Engineered Wood Joists use only finger-jointed black spruce lumber in high flanges, ensuring consistent quality, superior strength, and longer span covering capacity.



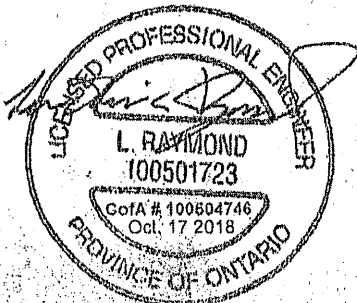
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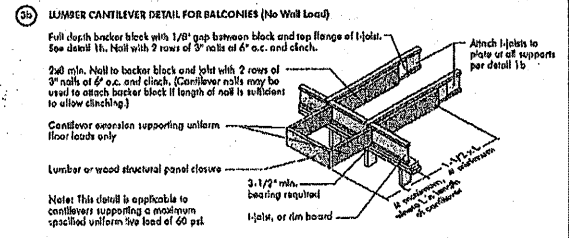
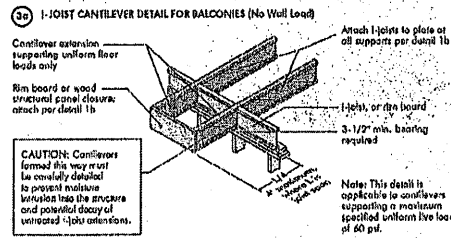
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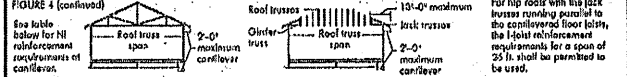
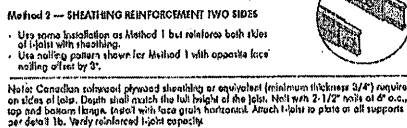
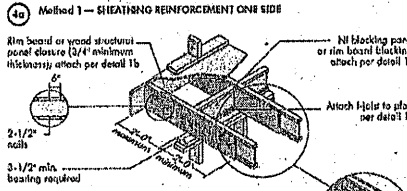


N-C301/April 2014

CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)



CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)



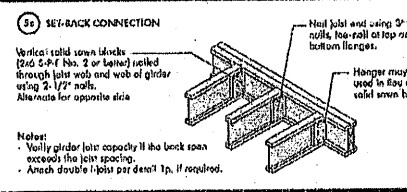
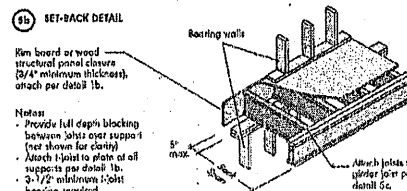
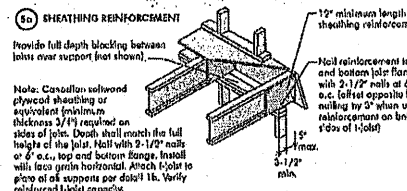
CANTILEVER REINFORCEMENT METHODS ALLOWED

Span (ft)	Method 1		Method 2		Method 3		Method 4		Method 5		Method 6	
	N	X	N	X	N	X	N	X	N	X	N	X
0-10	N	N	N	N	N	N	N	N	N	N	N	N
10-15	N	N	N	N	N	N	N	N	N	N	N	N
15-20	N	N	N	N	N	N	N	N	N	N	N	N
20-25	N	N	N	N	N	N	N	N	N	N	N	N
25-30	N	N	N	N	N	N	N	N	N	N	N	N
30-35	N	N	N	N	N	N	N	N	N	N	N	N
35-40	N	N	N	N	N	N	N	N	N	N	N	N
40-45	N	N	N	N	N	N	N	N	N	N	N	N
45-50	N	N	N	N	N	N	N	N	N	N	N	N
50-55	N	N	N	N	N	N	N	N	N	N	N	N
55-60	N	N	N	N	N	N	N	N	N	N	N	N
60-65	N	N	N	N	N	N	N	N	N	N	N	N
65-70	N	N	N	N	N	N	N	N	N	N	N	N
70-75	N	N	N	N	N	N	N	N	N	N	N	N
75-80	N	N	N	N	N	N	N	N	N	N	N	N
80-85	N	N	N	N	N	N	N	N	N	N	N	N
85-90	N	N	N	N	N	N	N	N	N	N	N	N
90-95	N	N	N	N	N	N	N	N	N	N	N	N
95-100	N	N	N	N	N	N	N	N	N	N	N	N

1. N = No reinforcement required.
2. X = Reinforced with 3/4" wood structural panel on both sides, or double I-joist.
3. X = 1/2" deeper joist or closer spacing.
4. Minimum design load shall be 15 psf roof dead load, 50 psf floor dead load, and 00 psf live load. Wall load is based on 3-0" maximum width of door openings.
5. For larger openings, or multiple 3-0" with openings spaced less than 6-0" o.c., additional joint beneath the opening's cripple studs may be required.
6. Table applies to joists 12" to 24" o.c. that meet the floor span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/180. Use 1/2" o.c. requirements for better spacing.

4. For conventional roof construction using a ridge beam, the Roof Truss Span column above is equivalent to the distance between the supporting wall and the ridge beam. When the roof is framed using a ridge board, the Roof Truss Span is equivalent to the distance between the supporting walls or if a truss is used.
5. Cantilevered joist supporting glider trusses or roof beams may require additional reinforcing.

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



BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

Span (ft)	Method 1		Method 2		Method 3		Method 4		Method 5		Method 6	
	N	X	N	X	N	X	N	X	N	X	N	X
0-10	N	N	N	N	N	N	N	N	N	N	N	N
10-15	N	N	N	N	N	N	N	N	N	N	N	N
15-20	N	N	N	N	N	N	N	N	N	N	N	N
20-25	N	N	N	N	N	N	N	N	N	N	N	N
25-30	N	N	N	N	N	N	N	N	N	N	N	N
30-35	N	N	N	N	N	N	N	N	N	N	N	N
35-40	N	N	N	N	N	N	N	N	N	N	N	N
40-45	N	N	N	N	N	N	N	N	N	N	N	N
45-50	N	N	N	N	N	N	N	N	N	N	N	N
50-55	N	N	N	N	N	N	N	N	N	N	N	N
55-60	N	N	N	N	N	N	N	N	N	N	N	N
60-65	N	N	N	N	N	N	N	N	N	N	N	N
65-70	N	N	N	N	N	N	N	N	N	N	N	N
70-75	N	N	N	N	N	N	N	N	N	N	N	N
75-80	N	N	N	N	N	N	N	N	N	N	N	N
80-85	N	N	N	N	N	N	N	N	N	N	N	N
85-90	N	N	N	N	N	N	N	N	N	N	N	N
90-95	N	N	N	N	N	N	N	N	N	N	N	N
95-100	N	N	N	N	N	N	N	N	N	N	N	N

1. N = No reinforcement required.
2. X = Reinforced with 3/4" wood structural panel on both sides, or double I-joist.
3. X = 1/2" deeper joist or closer spacing.
4. Minimum design load shall be 15 psf roof dead load, 50 psf floor dead load, and 00 psf live load. Wall load is based on 3-0" maximum width of door openings.
5. For larger openings, or multiple 3-0" with openings spaced less than 6-0" o.c., additional joint beneath the opening's cripple studs may be required.
6. Table applies to joists 12" to 24" o.c. that meet the floor span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/180. Use 1/2" o.c. requirements for better spacing.

4. For conventional roof construction using a ridge beam, the Roof Truss Span column above is equivalent to the distance between the supporting wall and the ridge beam. When the roof is framed using a ridge board, the Roof Truss Span is equivalent to the distance between the supporting walls or if a truss is used.
5. Cantilevered joist supporting glider trusses or roof beams may require additional reinforcing.

A circular professional seal for the Province of Ontario. The outer ring contains the text "REGISTERED PROFESSIONAL ENGINEER" at the top and "PROVINCE OF ONTARIO" at the bottom. In the center, the name "L. RAYMOND" is printed above the number "100501723". Below this, a semi-circular banner contains the text "CoFA # 100504746" and "Oct. 17, 2018". A handwritten signature is visible across the top half of the seal.

CONSTRUCTION DETAILS FOR RESIDENTIAL FLOORS



Refer to the Installation Guide for Residential Floors for additional information.
CCMC EVALUATION REPORT 13032-R

WEB HOLE SPECIFICATIONS

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

1. The distance between the inside edge of the support and the centreline of any hole or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
2. I-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified.
3. Whenever possible, field-cut holes should be centred on the middle of the web.
4. The maximum size hole or the maximum depth of a duct chase opening that can be cut into I-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent I-joist flange.

5. The sides of square holes or longest 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 for twice the length of the longest side of the largest rectangular hole or duct chase 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 for duct chase openings.
8. Holes measuring 1-1/2 inches or smaller are permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to verification.

9. A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
10. All holes and duct chase openings shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 7.
11. Limit three maximum size holes per span, of which one may be a duct chase opening.
12. A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

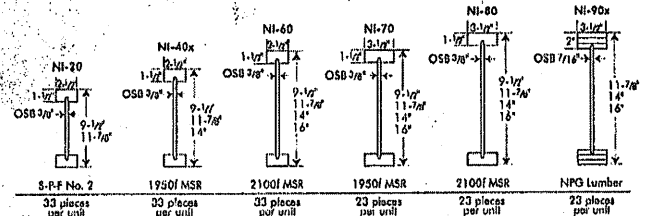


TABLE 1
LOCATION OF CIRCULAR HOLES IN JOIST WEBS

Simple or Multiple Span for Dead Loads up to 15 psf and Live Loads up to 40 psf

Joist Depth	Joist Series	Minimum Distance from Inside Face of Any Support to Centre of Hole (ft - in.)											
		2	3	4	5	6	6-1/4	7	8	8-5/8	9	10	10-3/4
9-1/2"	NI-20	0-7"	1-6"	2-10"	4-3"	5-8"	6-0"	...	...	...	...	...	...
	NI-40x	0-7"	1-6"	3-0"	4-4"	6-0"	6-4"	...	...	...	...	...	...
	NI-60	1-3"	2-6"	4-0"	5-4"	7-0"	7-5"	...	...	...	...	...	...
	NI-70	2-0"	3-4"	4-8"	6-3"	8-0"	8-4"	...	...	...	...	...	...
	NI-80	2-6"	3-6"	5-0"	6-5"	8-0"	8-4"	...	...	...	...	...	...
11-7/8"	NI-20	0-7"	0-8"	1-0"	1-4"	2-8"	4-0"	5-0"	6-4"	7-9"	...	...	...
	NI-40x	0-7"	0-8"	1-0"	2-0"	4-0"	4-4"	5-8"	7-0"	8-4"	...	...	...
	NI-60	0-7"	1-8"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	...	...	...
	NI-70	1-3"	2-6"	4-0"	5-4"	6-9"	7-2"	8-4"	10-0"	11-2"	...	...	...
	NI-80	1-4"	2-10"	4-2"	5-4"	7-0"	7-5"	8-4"	10-3"	11-4"	...	...	...
14"	NI-20	0-7"	0-8"	0-9"	1-0"	1-4"	2-8"	4-0"	5-0"	6-4"	7-9"	...	...
	NI-40x	0-7"	0-8"	0-8"	1-0"	2-4"	2-9"	3-9"	5-2"	6-0"	6-6"	8-3"	10-2"
	NI-60	0-7"	0-8"	1-8"	3-0"	4-3"	4-8"	5-8"	7-2"	8-0"	8-8"	10-4"	11-9"
	NI-70	0-8"	1-10"	3-0"	4-5"	6-10"	6-2"	7-3"	8-9"	9-9"	10-4"	12-0"	13-5"
	NI-80	0-10"	2-0"	3-4"	4-9"	6-2"	6-8"	7-4"	9-0"	10-0"	10-8"	12-4"	13-9"
16"	NI-20	0-7"	0-8"	0-8"	1-0"	1-4"	2-8"	4-0"	5-0"	6-4"	7-9"	...	...
	NI-40x	0-7"	0-8"	0-8"	1-0"	2-4"	2-9"	3-9"	5-2"	6-0"	6-6"	8-3"	10-2"
	NI-60	0-7"	1-0"	2-3"	3-6"	4-10"	5-3"	6-3"	7-8"	8-4"	9-2"	10-8"	12-4"
	NI-70	0-7"	1-3"	2-6"	3-10"	4-3"	5-6"	6-6"	8-0"	9-0"	9-8"	11-4"	13-0"
	NI-80	0-7"	1-3"	2-6"	3-10"	4-3"	5-6"	6-6"	8-0"	9-0"	9-8"	11-4"	13-0"

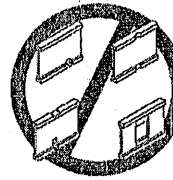
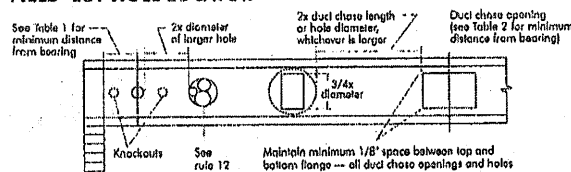
1. Above table may be used for I-joist spacing of 24 inches on centre, or less.
2. Hole location distance is measured from inside face of support to centre of hole.
3. Distances in this chart are based on uniformly loaded joists.
4. The above table is based on the I-joists being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

TABLE 2
DUCT CHASE OPENING SIZES AND LOCATIONS
Simple Span Only

Joist Depth	Joist Series	Minimum Distance from Inside Face of Support to Centre of Opening (ft - in.)											
		8	10	12	14	16	18	20	22	24	26	28	30
9-1/2"	NI-20	4-1"	4-5"	4-10"	5-4"	5-8"	6-1"	6-6"	7-1"	7-5"	...	...	...
	NI-40x	5-3"	5-8"	6-0"	6-5"	6-10"	7-3"	7-8"	8-2"	8-7"	...	...	...
	NI-60	5-4"	5-9"	6-2"	6-7"	7-1"	7-5"	8-0"	8-5"	8-9"	...	...	...
	NI-70	5-11"	5-5"	5-10"	6-3"	6-7"	7-1"	7-4"	8-1"	8-4"	...	...	...
	NI-80	5-3"	5-8"	6-0"	6-5"	6-10"	7-3"	7-8"	8-2"	8-6"	...	...	...
11-7/8"	NI-20	5-9"	6-2"	6-6"	7-1"	7-5"	7-9"	8-3"	8-7"	9-1"	...	...	...
	NI-40x	6-8"	7-2"	7-6"	8-1"	8-5"	9-1"	9-5"	10-1"	10-5"	...	...	...
	NI-60	6-2"	7-8"	8-0"	8-6"	9-2"	9-8"	10-3"	10-9"	11-3"	...	...	...
	NI-70	7-1"	7-4"	7-9"	8-3"	8-7"	9-1"	9-5"	10-1"	10-5"	...	...	...
	NI-80	7-2"	7-7"	8-0"	8-5"	9-0"	9-3"	9-8"	10-2"	10-8"	...	...	...
14"	NI-20	7-7"	8-1"	8-6"	9-1"	9-5"	10-0"	10-4"	10-9"	11-3"	...	...	...
	NI-40x	8-1"	8-7"	9-0"	9-6"	10-1"	10-7"	11-2"	11-7"	12-0"	...	...	...
	NI-60	8-5"	9-3"	9-8"	10-1"	10-6"	11-1"	11-6"	12-0"	12-5"	...	...	...
	NI-70	8-7"	9-1"	9-5"	10-0"	10-4"	10-8"	11-2"	11-7"	12-3"	...	...	...
	NI-80	9-0"	9-3"	9-9"	10-1"	10-7"	11-1"	11-6"	12-1"	12-6"	...	...	...
16"	NI-20	9-4"	9-9"	10-3"	10-7"	11-1"	11-5"	12-1"	12-5"	13-0"	...	...	...
	NI-40x	10-3"	10-8"	11-2"	11-6"	12-1"	12-5"	13-0"	13-4"	13-9"	...	...	...
	NI-60	10-1"	10-5"	11-0"	11-4"	11-9"	12-3"	12-8"	13-2"	13-7"	...	...	...
	NI-70	10-4"	10-9"	11-3"	11-8"	12-1"	12-6"	13-1"	13-5"	14-0"	...	...	...
	NI-80	11-1"	11-5"	11-10"	12-4"	12-10"	13-2"	13-9"	14-4"	14-9"	...	...	...

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 face of support 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 live load deflection limit of L/480.
5. The above table is based on the I-joists being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

FIGURE 7
FIELD-CUT HOLE LOCATOR



Knockouts are preformed 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 I-joist. Where possible, it is preferable to use knockouts instead of field-cut holes.

Never drill, cut or notch the flange, or over-cut the web.

Holes in webs should be cut with a sharp saw.

For rectangular holes, avoid over-cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1-inch diameter hole in each of the four corners and then making the cuts between the holes is another good method to minimize damage to the I-joist.

SAFETY AND CONSTRUCTION PRECAUTIONS



Do not walk on I-joists until fully fastened and braced, or serious injuries can result.



Never stack building materials over unbraced I-joists. Once sheathed, do not over-stress I-joists with concentrated loads from building materials.

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, end/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 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 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, 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-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 Nordic I-joists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.



PRODUCT WARRANTY

Dunn-Edwards guarantees that, in accordance with our specifications, Nordic products are free from manufacturing defects in material and workmanship.

Furthermore, Dunn-Edwards 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.

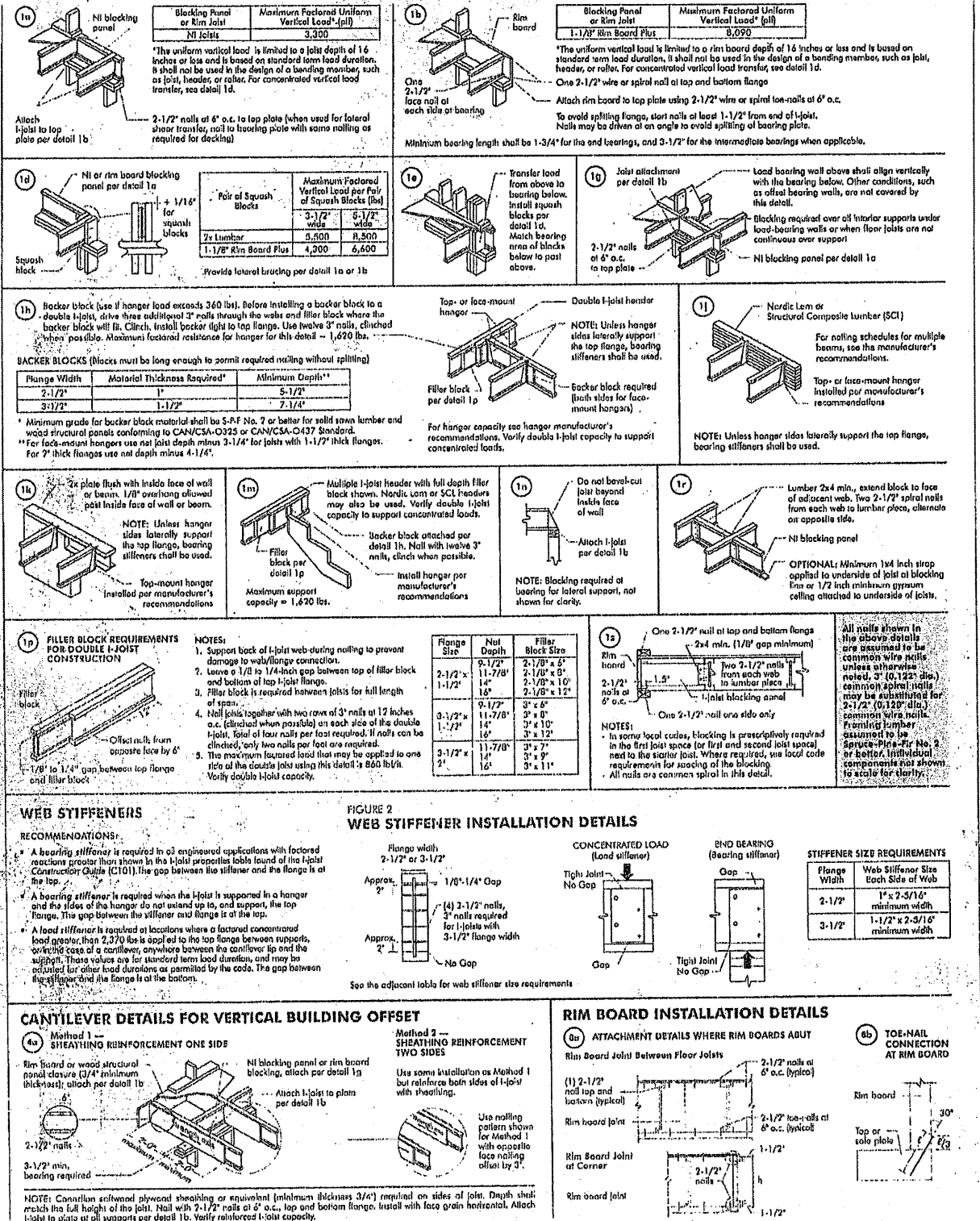
The construction details for residential designs are prone to changes.

Details released after September 2013 supersede N-303

Installation must comply with latest documentation on I-Joist and other Nordic products from the <http://nordic.ca/>

This document 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 its component based on the design criteria and loadings shown on the calculation sheets.

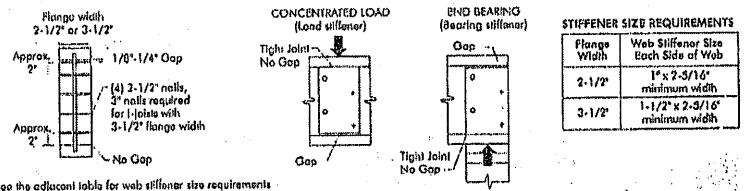
Document prepared for the use of Stephanie Gon from Alpa, Ontario. (Nordic Request 1810-095)



WEB STIFFENERS

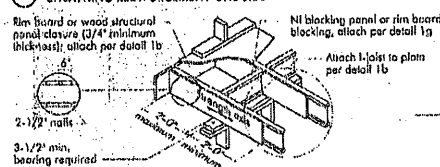
RECOMMENDATIONS:

- 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 where the ends 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.

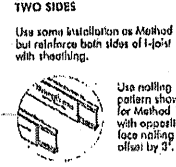
FIGURE 2
WEB STIFFENER INSTALLATION DETAILS

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET

Method 1 — SHEATHING REINFORCEMENT ONE SIDE



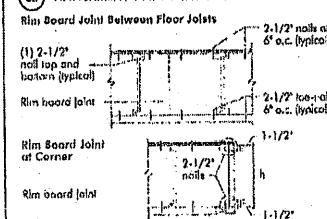
Method 2 — SHEATHING REINFORCEMENT TWO SIDES



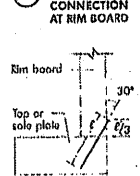
NOTE: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c. to top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail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

RIM BOARD INSTALLATION DETAILS

8a ATTACHMENT DETAILS WHERE RIM BOARDS ABUT



8b TOE-NAIL CONNECTION AT RIM BOARD



The construction details for residential designs are prone to changes.

Details released after September 2013 supersede N-303

Installation must comply with latest documentation on I-Joist and other Nordic products from the <http://nordic.ca/>

This document 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 its component based on the design criteria and loadings shown on the calculation sheets.

Document prepared for the use of Stephanie Gon from Alpa, Ontario. (Nordic Request 1810-095)

