

FROM PLAN DATED: NOV 2015

BUILDER: BAYVIEW WELLINGTON

ALCONA SHORES MODEL: S48-1

SITE:

ELEVATION: A

CITY: INNISFIL! LOT

SALESMAN: M L DESIGNER: AJ REVISION:

NOTES:

CERAMIC TILE APPLICATION AS PER O.B.C. 9.30.6. SQUASH BLOCKS

INTERIOR UNIFORM LOAD BEARING WALLS. 2x4 OR 2x6 #2 S.P.F. REQ'D UNDER

MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS.

CANTILEVERED JOISTS

REQUIRE I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER

STORAGE AND INSTALLATION.

LOADING:

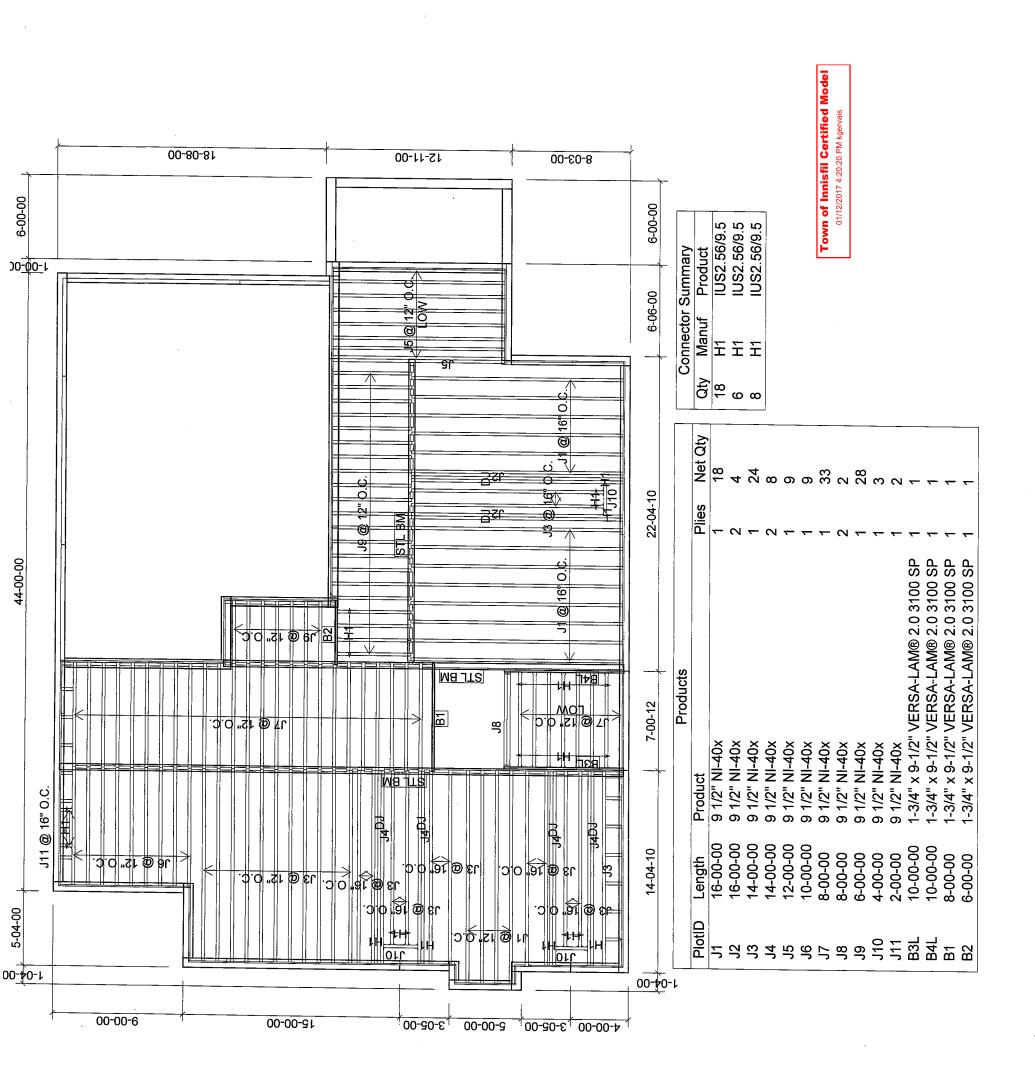
DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 15.0 lb/ft

TILED AREAS: 20 fb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 9/1/2017

LOOR 1st





FROM PLAN DATED: NOV 2015

BAYVIEW WELLINGTON BUILDER:

ALCONA SHORES SITE:

ELEVATION: A MODEL: S48-1

LOT:

CITY: INNISFILL

SALESMAN: M D

DESIGNER: AJ REVISION: NOTES:

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AS PER O.B.C. 9.30.6.
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REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION. AT ENDS.

LOADING:

IUS2.56/9.5 IUS2.56/9.5

IUS2.56/9.5

Product

Manuf

Connector Summary

HUS1.81/9.5

도도도로운

HGUS410

HUC410

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 15.0 fb/ft TILED AREAS: 20 fb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

FLOOR DATE: 9/1/2017 2nd

Town of Innisfil Certified Model
01/12/2017 4:20:25 PM kgervais

		EL BM	
14 @ 12' 0.C		© 16" O.C.	
11 @ 15 O'C:	12 @ 16" O.C. H1 H1	16' O C. H1 B11 H4 H4 B12 H1 H4 B12 H1 H4 B13 H1 B11 H4 H4 B12 H1 H4 H4 B12 H1 H4 B13 H1 H4 H4 H4 H1	@ Zr

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	Plies	_	_	_	~	_	_	က	7	5	7	_	_	7	2	က
Products	Product	9 1/2" NI-40x	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP												
	Length	16-00-00	14-00-00	12-00-00	10-00-00	8-00-00	00-00-9	16-00-00	14-00-00	14-00-00	12-00-00	8-00-00	8-00-00	8-00-00	00-00-9	20-00-00
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1-04-00

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12-00-00

3-09-00

9-00-9

100-90-61 00-00-4

FROM PLAN DATED: NOV 2015

BUILDER: BAYVIEW WELLINGTON

SITE: ALCONA SHORES

MODEL: S48-1

ELEVATION: A&B

CITY: INNISFILL

LOT:

SALESMAN: M D

DESIGNER: AJ REVISION: NOTES:

CERAMIC TILE APPLICATION AS PER 0.B.C. 9.30.6.

2x4 OR 2x6 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING SQUASH BLOCKS

MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. CANTILEVERED JOISTS

REQUIRE I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS.

1-04-00

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION.

LOADING:

DESIGN LOADS: L/480.000 DEAD LOAD: 15.0 fb/ft TILED AREAS: 20 fb/ft LIVE LOAD: 40.0 lb/ft²

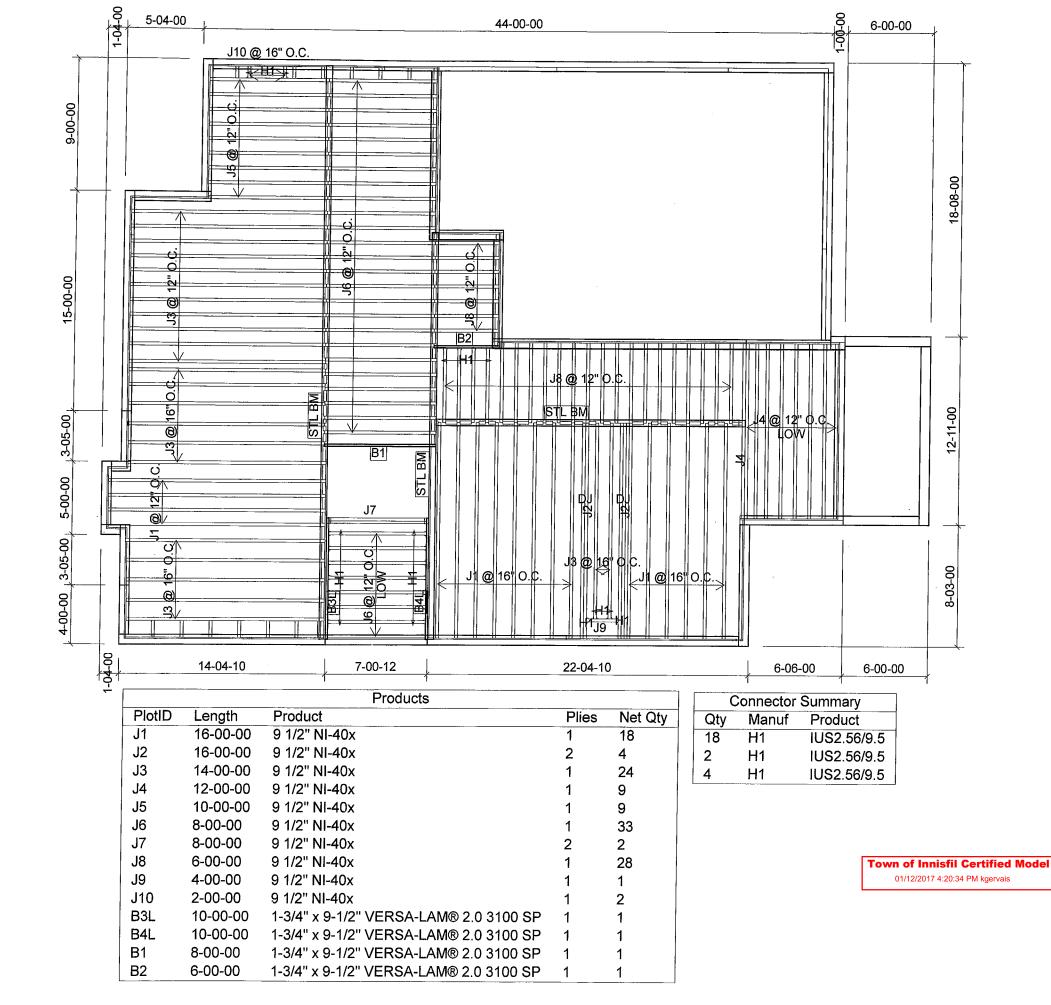
SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 9/1/2017

SUNKEN

1st FLOOR

Fown of Innisfil Certified Model 01/12/2017 4:20:31 PM kgervais 18-08 12-11-00 8-03-00 9-00-9 00-00-9 IUS2.56/9.5 IUS2.56/9.5 IUS2.56/9.5 **Product** Connector Summary 1-00-00 တ 00-90-9 0 <u>(8</u> Manuf 도도도 94 8 o 9 8 Net Qty Ö <u>Q</u> 22-04-10 Plies 공간 윽-44-00-00 -3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP -3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP O. 16 0 Products MB TISI S18 . 7-00-12 MO1 DO IZIO Z 8 9 1/2" NI-40x 9 1/2" NI-40x 9 1/2" NI-40x) 1/2" NI-40x) 1/2" NI-40x) 1/2" NI-40x JA @ 15" O.C. 9 1/2" NI-40x 9 1/2" NI-40x 1/2" NI-40x J11 @ 16" O.C. **14D** 40.0 Length 16-00-00 16-00-00 14-00-00 12-00-00 10-00-00 8-00-00 8-00-00 6-00-00 4-00-00 10-00-00 10-00-00 14-04-10 Je @ 12" D.C 13 @ 1e 0 .5.0 '31 @ 8L . Si @ 5-04-00 Ort THI TH IS OC J1 J2 J2 J2 J3 J3 J11 B4L B15 B15





FROM PLAN DATED: NOV 2015

BUILDER:

BAYVIEW WELLINGTON

SITE:

ALCONA SHORES

MODEL: S48-1

ELEVATION: A&B

LOT:

CITY: INNISFILL

SALESMAN: M D DESIGNER: AJ REVISION:

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SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 9/1/2017

1st FLOOR

W.O.D / W.O.B

NORDIC STRUCTURES

COMPANY
TAMARACK LUMBER
3269 NORTH SERVICE ROAD
BURLINGTON ON
Sep. 21, 2016 16:52

PROJECT
BAYVIEW WELLINGTON
ALCONA SHORES
48-1
J1 1st FLOOR
Beam1

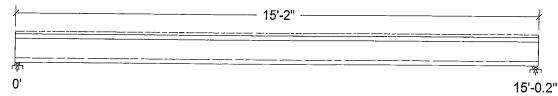
Design Check Calculation Sheet

Nordic Sizer - Canada 6.3.1

Loads:

Load	Туре	Distribution	Pat-	Location	[ft]	Magnitu	de	Unit
			tern	Start	End	Start	End	
Load1	Dead	Full Area				20.00	_	psf
Load2	Live	Full Area	ĺ		,	40.00		psf

Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in):



			10 -0.2
Unfactored:			
Dead Live	150		150
Factored:	300		300
Total	638		
Bearing:	036		638
Resistance			
Joist	1855		1855
- Support	2724		2724
Anal/Des			2/24
Joist	0.34		0.34
Support	0.23	·	0.23
Load case	#2		#2
Length	1-3/4		1-3/4
Min req'd	1-3/4	'	1-3/4
Stiffener	Ио		No
KB support	1.00		1.00
fcp sup	769		769
Kzcp sup	1.00		1.00

Nordic Joist 9-1/2" NI-40x Floor joist @ 12" o.c.

Supports: All - Lumber Sill plate, No.1/No.2
Total length: 15'-2.0"; 5/8" nailed and glued OSB sheathing
This section PASSES the design code check.

Town of Innisfil Certified Model

01/12/2017 4:20:39 PM kgervais

Limit States Design using CSA-O86-09 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 638	Vr = 1895	lbs	Vf/Vr = 0.34
Moment(+)	Mf = 2397	Mr = 4824	lbs-ft	Mf/Mr = 0.50
Perm. Defl'n	$0.10 = \langle L/999$	0.50 = L/360	in ACC	FESSION 0.20
Live Defl'n	0.20 = L/904	0.38 = L/480	in lo	0.53
Total Defl'n	0.30 = L/603	0.75 = L/240	in/5	9500 0.40
Bare Defl'n	0.23 = L/777	0.50 = L/360	in/S	2 0.46
Vibration	Lmax = 15'-0	Lv = 16'-3	ft SKA	TSOULAKOS (1) 0.46
Defl'n	= 0.034	= 0.044	in i	0.77

DWO NO . TAM 44663'17 STRUCTURAL COMPONENT ONLY

POLINCE OF ONTRE

WoodWorks® Sizer

for NORDIC STRUCTURES

Beam1

Nordic Sizer - Canada 6.3.1

Page 2

Additiona	l Data:						_			
FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#	
Vr	1895	1.00	1.00	_	_	_	_	_	#2	
Mr+	4824	1.00	1.00	_	1.000	_	_	_	#2	
EI	218.1 m	illion	-	-	_	_	-		#2	
CRITICAL LO										
	: LC #2									
) : LC #2									
Deflection	on: LC #1									
			+ 1.0L							
			+ 1.0L							
- ·			+ 1.0L							
Bearing	: Suppor									
T = = -1			C #2 = 1							
Load Type	es: D=dead	≀ W=wın	d S=sno	w H=ea	arth,grou	ndwater	E=ear	thquake		
Tood Date	r=T1∧6	use,oc	cupancy)	F2=T1	ve(stora	ge,equi	.pment)	f=fire		
Load Patt	erns: s=5	./Z L=L	+Ls _=r	o patte	ern load :	in this	span			
All Load		ons (LC	s) are 1	isted 1	n the Ana	alysıs	output		•	
CALCULATIO			050 00 1							
Deflectio	n: Elcom	$\mathbf{p} = \mathbf{q}$	258e06 1	.b-in2	K = 4.946	e06 lbs				
"Live" de	rrection	= Deile	ction fr	om all	non-dead	loads	(live, v	vind, sn	10w)	

Design Notes:

- 1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC Part 4) and the CSA O86-09 Engineering Design in Wood standard, which includes Update No.1.
- 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 I-joists are listed in CCMC evaluation report 13032-R.
- 5. Joists 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 their 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.



STRUCTURAL COMPONENT ONLY



Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B1(i2059)

BC CALC® Design Report



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

September 21, 2016 16:32:37

Build 4340

Job Name: Address:

City, Province, Postal Code: INNISFILL,

Customer:

Code reports:

CCMC 12472-R

File Name: S48-1.mmdl

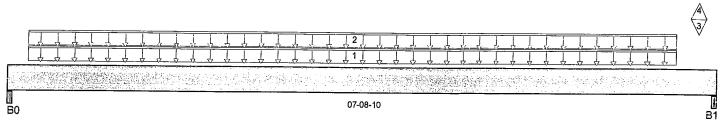
Description: Designs\Flush Beams\Basment\Flush Beams\B1(i2059)

Specifier:

Designer: AJ Company:

Misc:

01/12/2017 4:21:20 PM kgervais



Total Horizontal Product Length = 07-08-10

Reaction Summary	(Down / Uplift) (lbs.)	· · · · · · · · · · · · · · · · · · ·			
Bearing	Live	De ad	Snow	Wind	
B0, 2-5/8"	914/0	467/0			
B1, 5-1/4"	988/2	519/0			

Lo	ad Summary					Live	Dead	Snow	Wind	Trib.
Ta	g Description	Load Type	Rei	f. Start	En d	1.00	0.65	1.00	1.15	
1	Us er Load	Unf. Lin. (lb/ft)	L	00-02-10	07-03-06	240	120			п/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-02-10	07-03-06	19	7			n/a
3	10(i665)	Conc. Pt. (lbs)	L	07-06-02	07-06-02	73	51			n/a
4	10(i665)	Conc. Pt. (lbs)	L	07-06-02	07-06-02	-2				n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	3,570 ft-lbs	12,704 ft-lbs	28.1%	1	03-09-00
End Shear	1,515 lbs	5,785 lbs	26.2%	1	01-00-02
Total Load Defl.	L/999 (0.094")	n/a	n/a	6	03-09-00
Live Load Defl.	L/999 (0.062")	n/a	n/a	8	03-09-00
Max Defl.	0.094"	n/a	n/a	6	03-09-00
Span / Depth	9.1	n/a	n/a		00-00-00

Beari	ng Supports	Dim. (L x W)	Demand	De mand/ Re sistance Support	De mand/ Resistance Member	Material
B0	Beam	2-5/8" x 1-3/4"	1,954 lbs	99.6%	34.9%	Unspecified
B1	Beam	5-1/4" x 1-3/4"	2,130 lbs	54.3%	19%	Unspecified

Notes

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

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

Calculations assume Member is Fully Braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Deflections less than 1/8" were ignored in the results.

DWG NO. TAM 4466417 STRUCTURAL COMPONENT ONLY

CONFORMS TO USG 2012

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 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®, AJS™, ALLJOIST®, BCRIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood



ONINCE OF O

Page 1 of 1

Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basment/Flush Beams/B2(i2043)

September 21, 2016 16:32:37

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

Msc:

Company

Specifier:

LA :nengised

File Name: S48-1.mmdl



BC CALC® Design Report

Job Name: Build 4340

:s səıpp∀

City, Province, Postal Code: IMMISFILL,

Customer:

CCMC 12472-R

Code reports:

Reaction Summary (Down / Uplift) (lbs)

01/12/2017 4:21:33 PM kgervais Town of Innisfil Certified Model

Description: Designs/Flush Beams/Basment/Flush Beams/B2(i2043)

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00-20-70)		B0
一点 医克里特 化多类铁矿 医多克氏病 化二氯苯酚 化邻亚磺胺基磺酸			42 a. (2/45)
		<u> </u>	竹竹
	00-20-৮0	00-20- + 0	

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word

	exisol	Dig.	Location	Load	\ bnsmeG	1	Factored	Factored		
e/u		221	323	t0-t0-t0	\$0-\$0-\$0	7	. Pt. (lbs)	ouoo	2(!647)	9
e/u		38	103	90-60-60	90-60-60	i	: Pt. (lbs)		(0981i)8L	g
e/u		38	103	90-60-70	90-60-70	٦	: Pt. (lbs)		(0981)80	-
e/u		91-		90-60-10	90-60-10	٦	: Pt. (lbs)		(4012i)8c	έ
e/u		35	88	90-60-00	90-60-00	٦	: Pt. (lbs)	ouoŌ	(72021)8	7
e/u		8_	55	00-20-10	00-00-00	٦	(ħ/dl) .niJ	l itaU	FC2 Floor Material	_
	8 t. t 00. t	99.0	00.1	pu∋	of. Start	35I	Ţype	peol	Description	
Trib.	bniW won8	Desq	Live						ad Summary	207

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sd1 887,8

21.704 ft-lbs

95 istance

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

VERSA-STRAND®, VERSA-STUD® are SYSTEM®, VERSA-LAM®, VERSA-RIM BOISE GLULAM™, SIMPLE FRAMING ALLJOIST®, BC RIM BOARD™, BCI®,

CINTURE OF OMINO

PLUS®, VERSA-RIM®, BC CALC®, BC FRAMER®, AJS™, 1-800-964-6999 before installation.

CONFORMS TO DBC 2012

Unspecified

Unspecified

00-00-00

02-02-10

01-20-20

02-02-10

80-60-60

90-60-70

DniW

LeiteteM

%6'6

%6'9

Þ

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Case

%2.82 1,263 lbs "4/E-1 x "8 **Wall/Plate** 18 %6.91 331 lbs 7-5/8" x 1-3/4" Веат B0 Member Support Demand (W x J).miG Bearing Supports Resistance Resistance De man d/ De man d/

Span / Depth

Live Load Defl.

Total Load Defl.

Pos. Moment

Controls Summary

Fug Shear

19'18

"8/2-2,0A

Be aring

Max Deft.

Calculations assume Member is Fully Braced. Design meets Code minimum (L/360) Live load deflection criteria. Design meets Code minimum (L/240) Total load deflection criteria.

G

0.003"

sql 697

Demand

347 f-lbs

("S00.0) 666\J

("600.0) 666/1

0/889

0/691

LIVE

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086. Resistance Factor phi has been applied to all presented results per CSA 086.

Design based on Dry Service Condition.

Deflections less than 1/8" were ignored in the results. Importance Factor: Normal Part code: Part 9

COMBONENT ONEX STRUCTURAL TI-2884 MAT. UN BWO

Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basment/Flush Beams/B3L(i268)

obeceso cascade

September 21, 2016 16:32:37

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

M sc:

Company

Specifier:

Designer: Al

File Name: S48-1 mmdi

BC CALC® Design Report

Build 4340

Address: Job Name:

City, Province, Postal Code: IMMISFILL,

Customer:

Code reports:

Be aring

CCMC 12472-R

Reaction Summary (Down / Uplift) (lbs)

01/12/2017 4:21:44 PM kgervais Town of Innistil Certified Model

Description: Designs/Flush Beams/Basment/Flush Beams/B3L(i268)

Mind

	Total Horizontal Product Length = 08-03-08	
13	80-50-30	98
		 ⁄\$\

Mous

	be verified by anome who would re		Onipleteness and accuracy of it			20-40	<u> </u>	71°3%	sql-11 t	12,70 /	2,194 ft-lbs	. Moment	Pos
terro frioni to v	d accurac <i>i</i> o	i sclosure Inteleteness an	_	Location	Load Sase	Demand / Resistance		Factore Resists	Factored Demand	trols Summary	Con		
e/u			99	6 † l	₩0-20-70	7 0-70-70		Pt. (lbs)	Conc.	(04))7	3		
e/u			g	ti	1 0-00-00	₱0-00-00		Pt. (lbs)		FC3 Floor Material	-		
e/u			23	141	7 0-80-90	1 0-80-00		(ħ/di) .ni		Smoothed Load			
	ð t. t	00.t	39.0	00.1	End	Ref. Start			peol	Description			
Trib.	bniW	won8	Dead	Live					•	ad Summany			
						0/	510	0/	909	.3-1\Z"	, f8		
						0/	500	0/	503	Z/1-E	'0 8		

De ad

1-800-964-6999 before installation. or ask questions, please call building codes. To obtain Installation Guide current Installation Guide and applicable products must be in accordance with hoo w beneanigneered wood properties and analysis methods. on building code-accepted design particular application. Output here based output as evidence of suitability for

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

bəfibəqanU bəfibəqanU	%5.E1 %7.E1	.88.88 %7.32	sdl 310,1 sdl 120,1	"4/2-1 x "2/1-8 "4/2-1 x "2/1-8	BO Wall/Plate B1 Post
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80-20-70	ŀ	%9°21	sd1 387,3	sd1310,1	Fug Shear
#0-70-F0		0/01/1			IO 1 J

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

Calculations assume Member is Fully Braced. Design meets Code minimum (L/360) Live load deflection criteria.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086. Resistance Factor phi has been applied to all presented results per CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Deflections less than 1/8" were ignored in the results.

SOLINCE OF ONITARY NOVESSION OF

COMPONENT ONLY JARUTOURTE TI-09944 MAT. ON DWO

CONFORMS TO OBC 2012

Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basment/Flush Beams/B4L(i269)

Company

Specifier:

Designer: AJ

File Name: 548-1.mmdl

September 21, 2016 16:32:38

01/12/2017 4:21:49 PM kgervais Town of Innistil Certified Model

Description: Designs/Flush Beams/Basment/Flush Beams/B4L(i269)

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



BC CALC® Design Report

:s sənbbA Job Name: Build 4340

City, Province, Postal Code: IMMISFILL,

Customer:

Code reports:

CCMC 12472-R

Misc:

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(0 <u>/1)</u> /r e	Conc. F	(sai) na	1 0-70-70 7	₩-20-20-4	99 641	9		e/u
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rosg 20mms ny					Eive De	wong best	bniW	.di¹ī

1-800-964-6999 before installation. or ask questions, please call building codes. To obtain Installation Guide current Installation Guide and applicable products must be in accordance with hoo w beneanigne a BOISE engineered w cod properties and analysis methods. on building code-accepted design particular application. Output here based output as evidence of suitability for uo isur

Products L.L.C. trademarks of Boise Cascade Wood VERSA-STRAND®, VERSA-STUD® are PLUS®, VERSA-RIM®, MIG-ASPEV (@MAJ-ASPEV , @METS YS BOISE GLULAM™, SIMPLE FRAMING ALLJOIST®, BCRIM BOARD™, BCK®, BC CALO®, BC FRAMER®, AJS™,

Location	Load Sase	Demand \ Resistance	Factored Resistance	Factored Demand	ontrols Summary	
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Calculations assume Member is Fully Braced. Design meets Code minimum (L/360) Live load deflection criteria. Design meets Code minimum (L/240) Total load deflection criteria.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086. Resistance Factor phi has been applied to all presented results per CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Deflections less than 1/8" were ignored in the results.

OLIVICE OF OUTPIN ON DESTON

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CONFORMS TO OBC 2012

Triple 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor/Flush Beams/B5(i1540)

September 21, 2016 16:32:38

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

M sc:

Company

Specifier:

Designer: Al

File Name: S48-1.mmdl



BC CALC® Design Report

City, Province, Postal Code: INNISFILL, :s sənbbA Job Name: Build 4340

Code reports: Customer:

CCMC 12472-R

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e/u

00-00-00

01/12/2017 4:21:54 PM kgervais Town of Innisfil Certified Model

Description: Designs/Flush Beams/1st Floor/Flush Beams/B5(i1540)

Notes Unspecified %Þ. SS %6.69 3,942 lbs 2-3/4" × 5-1/4" Wall/Plate lЯ Unspecified **%9.11** 4,050 lbs **%8.25** "4/1-3 x "2/1-3 WallPlate BO Material Member Support Demand Dim. (L x W) Bearing Supports Resistance Resistance Demand/ Demand/

n/a

COMPONENT ONLY STRUCTURAL TIBASHY NAT. UN BWA

OHO HO HOLE OF ONLY

NOISSHOW

Span / Depth

Triple 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor/Flush Beams/B5(i1540)

CONFORMS TO OBC 2012

Mac:

Company

September 21, 2016 16:32:38

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



BC CALC® Design Report

Designer: Specifier: Description: Designs/Flush Beams/1st Floor/Flush Beams/B5(i154(File Name: 548-1.mmdl

Products L.L.C.

PLUS®, VERSA-RIM®,

trademarks of Boise Cascade Wood

VERSA-STRAND®, VERSA-STUD® are

MIR-ASFEV, @MAJ-ASFEV, @METSYS BOISE GLULAM™, SIMPLE FRAMING ALLJOIST®, BC RIM BOARD™, BC®, BC CALO®, BC FRAMER®, AJS™, 1-800-964-6999 before installation. or ask questions, please call

building codes. To obtain Installation Guide current installation Guide and applicable

products must be in accordance with

hoo w benearigned as Nois BOISE engineered wood properties and analysis methods.

particular application. Output here based

Completeness and accuracy of input must

on building code-accepted design

output as evidence of sultability for be verified by anyone w ho w ould rely on

Disclosure

City. Province, Postal Code: IMMISFILL, Address: Job Name:

Customer:

Build 4340

CCMC 12472-R Code reports:

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

Connection Diagram

Calculations assume Member is Fully Braced. Design meets Code minimum (L/360) Live load deflection criteria.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSAO86. Resistance Factor phi has been applied to all presented results per CSA 086.

Importance Factor: Normal Part code: Part 9 Design based on Dry Service Condition.

Deflections less than 1/8" were ignored in the results.

"E = muminim 9 9 m = p "E = muminim d "S = muminim s

Calculated Side Load = 489.4 lb/ft

IN SITE TO THE SITE STATE IN Connectors are: 16d Naiiing schedule applies to both sides of the member. point loads, please consult a technical representative or professional of Record. Connection design assumes point load is top-loaded. For connection design of side-loaded

ARDOX SPIRAL

71832 PH MAY, ON OWO 110 30 30 NINO

COMPONENT ONLY

STRUCTURAL

Page 2 of 2

Triple 1-3/4" x 14" VERSA-LAM® 2.0 3100 SP 1st Floor/Flush Beams/B6(i1991)

September 21, 2016 16:32:38

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

廖



BC CALC® Design Report

Specifier: Description: Designs/Flush Beams/1st Floor/Flush Beams/B6(i1991) File Name: 548-1.mmdl

Designer: AJ

Msc:

Company:

City, Province, Postal Code: INNISFILL, Address:

Customer:

Code reports:

CCMC 12472-R

Job Name:

Build 4340

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01/12/2017 4:22:29 PM kgervais Town of Innisfil Certified Model

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CONFORMS TO UBC 2012

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%7.38

Unspecified



CONFONENT ONLY JANUTOUATE 1139974 NAT. ON DAU

Page 1 of 2

lΒ

Deflections less than 1/8" were ignored in the results. Importance Factor: Normal Part code: Part 9

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.

sd1847,8

Resistance Factor phi has been applied to all presented results per CSA 086.

Design meets Code minimum (L/360) Live load deflection criteria. Design meets Code minimum (L/240) Total load deflection criteria.

"4/1-8 x "2/1-4

Design based on Dry Service Condition.

WallPlate

Calculations assume Member is Fully Braced.

Triple 1-3/4" x 14" VERSA-LAM® 2.0 3100 SP 1st Floor/Flush Beams/B6(i1991)

September 21, 2016 16:32:38

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

BC CALC® Design Report

Description: Designs/Flush Beams/1st Floor/Flush Beams/B6(i199* File Name: 548-1.mmdl

Specifier:

Company:

Designer: Al

Mac:

CCMC 12472-R

City, Province, Postal Code:IMMISFILL,

Customer:

:ssenbbA

Job Name:

Build 4340

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Code reports:

Connection Diagram

smort to

"E = muminim 9 # = p "E = muminim d "S = muminim s

Dalculated Side Load = 651.0 lb/ft

Nailing schedule applies to both sides of the member. point loads, please consult a technical representative or professional of Record. Connection design assumes point load is top-loaded. For connection design of side-loaded

Disclosure

1-800-964-6999 before installation. or ask questions, please call building codes. To obtain Installation Guide current Installation Guide and applicable products must be in accordance with boo w bereanigne 32/08 to noistlisten properties and analysis methods. on building code-accepted design barticular application. Output here based output as evidence of suitability for be verified by anyone w ho w ould rely on Completeness and accuracy of input must

Products L.L.C. trademarks of Boise Cascade Wood VERSA-STUD®, VERSA-STUD® are PLUS®, VERSA-RIM®, MIR-ASTEV, @MAJ-ASFEV, @METSYS BOISE GLULAM™, SIMPLE FRAMING ALLJOIST®, BC RIM BOARD™, BC®, BC CALO®, BC FRAMER®, AUSTM,

01/12/2017 4:22:50 PM kgervais Town of Innistil Certified Model

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CONFORENT ONLY STRUCTURAL TIRODYY MAT. ON DWO

Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor/.../B7 DR(i2599)

File Name: 548-1.mmdl

September 1, 2017 08:21:16

Description: Designs/Dropped Beams/1st Floor/Dropped Beams/B7 D

18

ß

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

Misc:

Company:

Specifier:

Designer: Al



BC CALC® Design Report

Build 5033

Address: Job Name:

Customer: City, Province, Postal Code: INNISFILL,

CCMC 12472-R

Code reports:

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	\bigwedge	

B0

Total Horizontal Product Length = 13-06-10 13-06-10

				Location	Гоза	Demand /	Factored	Factored		
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e/u			112	222	15-04-14	01-60-10	(fl\di) .ni-	-	Smoothed Load	Ó
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lsiteteM	Demand/ Resistance Member		De mand	(W x J) . mid	Bearing Supports
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e/u	0	8.2	edi &18,81	sdl 074	Concentrated Load(B0)
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e/u	0	%1.0	∄/dl 3 1/ 9,73	#/qi Z9	Distributed Load(B0)
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DS-02-14	l	%22	sdl 173,11	2,551 lbs	End Shear
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	eseo e	Resistance	Resistance	Demand	Controls Summary

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Unspedfied	% <i>L</i> .₽	%1.7	3,659 lbs	18-1/ 4 " x3-1/2"	ojs I4∖IIs\V	ВI

Calculations assume unbraced length of Top: 00-01-06, Bottom: 00-01-06. Design meets Code minimum (L/360) Live load deflection criteria. Design meets Code minimum (L/240) Total load deflection criteria.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA Resistance Factor phi has been applied to all presented results per CSA O86.

Design based on Dry Service Condition. .086

Importance Factor: Normal Part code: Part 9

STRUCTURAL TIOTO 44 MATION BWO

COMBONENT ONLY

OF WILLIAM

CONFORMS TO OBC 2012

Page 1 of 2

Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor/.../B7 DR(i2599)

File Name: 548-1.mmdl

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September 1, 2017 08:21:16

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

:De M

Company.

Designer

Specifier:

BC CALC® Design Report

Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFILL,

Customer:

Code reports:

CCMC 12472-R

Connection Diagram

Disclosure

Description: Designs/Dropped Beams/1st Floor/Dropped Beams/B7

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

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"E = muminim d "🛊 = muminim s

Member has no side loads. point loads, please consult a technical representative or professional of Record. Connection design assumes point load is top-loaded. For connection design of side-loaded

Town of Innistil Certified Model

01/12/2017 4:23:06 PM kgervais



Boise Cascade Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor/Flush Beams/B8(i2072)

September 21, 2016 16:32:38

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



BC CALC® Design Report

Description: Designs/Flush Beams/1st Floor/Flush Beams/B8(i2072) File Name: S48-1.mmdl

Specifier:

Company Designer: AJ

Mac:

:e senbbA

Job Name:

Build 4340

City, Province, Postal Code: IMMISFILL,

Code reports: Customer:

CCMC 12472-R

01/12/2017 4:23:14 PM kgervais

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2016/1/11 Police
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No/8237089

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TI 1/ 044 MAT, UN DWO

COMBONENT ONEK STRUCTURAL

Material Member Support Bearing Supports De man d (W x J).miG Resistance Resistance Demand/ De man d/

7.31

0.312"

131 lbs

2,788 lbs

sdl-#801-

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("S1E.0) 674\J

e/u

e/u

n/a

"214.0

"SS8.0

sdl 172,11

sdl-# 804, 32-

Span / Depth

Live Load Defl.

Total Load Defl.

Max Defl.

∄ilqU

End Shear

Meg. Moment

(\$7072) Boise Cascade Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor/Flush Beams/B8(i2072)

File Name: 548-1 mmdl

%8.7

%9L

Сотрапу

Designer:

Specifier:

Misc:

%2.22

%L. S4

241828,1

3,513 lbs

September 21, 2016 16:32:38 Dry 1 span | No cantilevers | 0/12 slope (deg)

Unspecified

Unspecified

Products L.L.C.

PLUS®, VERSA-RIM®,

trademarks of Boise Cascade Wood VERSA-STUD®, VERSA-STUD® are

BC CALO®, BC FRAMER®, AJS™,

.noitslistari eroted 6666-466-008-1

building codes. To obtain Installation Guide

current Installation Guide and applicable

products must be in accordance with

hostallation of BOISE engineered wood

particular application. Output here based output as evidence of suitability for

be verified by anyone w ho w ould rely on Completeness and accuracy of input must

properties and analysis methods. on building code-accepted design

Disclosure

Description: Designs/Flush Beams/1st Floor/Flush Beams/B8(i207;

or ask questions, please call

MIR-ASFEV, @MAJ-ASFEV, @METSYS BOISE GLULAM™, SIMPLE FRAMING ALLJOIST®, BC RIM BOARD™, BCI®,

BC CALC® Design Report

Build 4340

Job Name:

City, Province, Postal Code: INNISFILL, Address:

Customer:

Code reports:

lВ Wall/Plate 80

Mall/Plate

Ca utions

(18.00 AS-24-1 MOSUNIS) Uplift of 131 lbs found at span 1 - Right.

setoM

Calculations assume Member is Fully Braced. Design meets Code minimum (L/360) Live load deflection criteria. Design meets Code minimum (L/240) Total load deflection criteria.

"Z/1-8 x "Z/1-8

17/1-8 x "2/1-8

CCWC 12472-R

Resistance Factor phi has been applied to all presented results per CSA 086.

Design based on Dry Service Condition. BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSAO86.

Importance Factor: Normal Part code: Part 9

Deflections less than 1/8" were ignored in the results.

Connection Diagram

CONFORMS TO DBC 2012

"E = muminim d # = p "# = muminim s

Calculated Side Load = 257.8 lb/ft

slisM Connectors are: point loads, please consult a technical representative or professional of Record. Connection design assumes point load is top-loaded. For connection design of side-loaded

ARDOX SPIRAL

NO 30 30 NING NOISS370K

combonent onch STRUCTURAL TITOSPP MAT. ON OWO

Page 2 of 2

Boise Cascade Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor/Flush Beams/B9(i2062)

M sc:

Company

Specifier:

Designer: AJ

File Name: S48-1.mmdl

September 21, 2016 16;32:39

Description: Designs/Flush Beams/1st Floor/Flush Beams/B9(i2062)

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



BC CALC® Design Report

Job Name: Build 4340

:s sənbbA

City, Province, Postal Code: IMMISFILL,

Customer:

CCMC 12472-R

Code reports:

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Total Horizontal Product Length = 04-05-02

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Demand/

De man d/

CONFORMS TO OBC 2012

01/12/2017 4:23:35 PM kgervais

Unspecified %9.2 %G.7 sdl 028 "Z/1-8 x "Z/1-8 Wall/Plate 18 Hanger %L'7 r/u sql 86£ Hanger "S\1-6x "S BO Material Member Support Bearing Supports Demand (W x 1) . mia Resistance Resistance

Design meets Code minimum (L/360) Live load deflection criteria. Design meets Code minimum (L/240) Total load deflection criteria.

Resistance Factor phi has been applied to all presented results per CSA 086. Calculations assume Member is Fully Braced.

Design based on Dry Service Condition. BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.

Importance Factor: Normal Part code: Part 9

Deflections less than 1/8" were ignored in the results.

SANIO TO BOWN WOISSE OV

CONLONENT ONLY STRUCTURAL TI-17344 WAT. UN DWG

Boise Cascade Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor/Flush Beams/B9(i2062)

File Name: 548-1.mmdl

September 21, 2016 16:32:39

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



BC CALC® Design Report

Msc:

Company.

Specifier:

Designer:

Job Name: Build 4340

Address:

Customer: City, Province, Postal Code: IMMISFILL,

CCWC 12472-R Code reports:

Connection Diagram

Calculated Side Load = 210.0 lb/ft

"E = muminim d

a minimum = 🐒

slisN Connectors are: point loads, please consult a technical representative or professional of Record. Connection design assumes point load is top-loaded. For connection design of side-loaded

38" ARDOX SPIRAL

Disclosure

Description: Designs/Flush Beams/1st Floor/Flush Beams/B9(i206;

noitaliatani eroted 9998-489-008-1 or ask questions, please call building codes. To obtain Installation Guide current installation Guide and applicable products must be in accordance with heatsilation of BOISE engineered wood properties and analysis methods. on building code-accepted design particular application. Output here based output as evidence of suitability for be verified by anyone w ho w ould rely on Completeness and accuracy of input must

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

Town of Innisfil Certified Model

01/12/2017 4:23:54 PM kgervais

TISTO YYMAT. ON DWG 90 30 30N/NOE NO EFERION

COMBONERS ONES STRUCTURAL

Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor/.../B10(i1603)

Ibmm.1-842 :9msNəliA

obsesso osioa

September 21, 2016 16:32:39

Description: Designs/Flush Beams/1st Floor/Flush Beams/B10(i1603;

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

MISC: Company

Designer: AJ

Specifier:



BC CALC® Design Report

:s sənbbA Job Name: Build 4340

City, Province, Postal Code: IMMISFILL,

Customer:

Code reports:

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Support

\$91616'L

6,328 lbs

Demand



CONFORMS TO UBC 2012

%8. S2

33.9%

Member

Resistance Resistance

Hanger

Material

Unspecified

Resistance Factor phi has been applied to all presented results per CSA 086. Calculations assume Member is Fully Braced.

Design meets Code minimum (L/360) Live load deflection criteria. Design meets Code minimum (L/240) Total load deflection criteria.

"Z\1-Ex "Z

"Z\1-E x "8\E-4

Dim. (L x W)

Design based on Dry Service Condition. BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.

Deflections less than 1/8" were ignored in the results. Importance Factor: Normal Part code: Part 9

COMEONENT ONFA STRUCTURAL TIE TO YOU MAT. ON OWO

Hanger

Bearing Supports

WallPlate

lВ

B0

Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor/.../B10(i1603)

September 21, 2016 16:32:39

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



BC CALC® Design Report

Build 4340

Description: Designs/Flush Beams/1st Floor/Flush Beams/B10(i16) File Name: 548-1.mmdi

2712709

14HICEUR

Company. Designer: Specifier:

Msc:

Customer: City, Province, Postal Code: INNISFILL,

Address:

Job Name:

CCWC 12472-R Code reports:

Concentrated side-load exceeds allowable magnitude for connection design. Please consult Connection Diagram

Di solosnie

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

trademarks of Boise Cascade Wood STUDS & STUDS AS SEN ASTE AS STUDE PLUS®, VERSA-RIM®, SYSTEM®, VERSA-LAMB, VERSA-RIM BOISE GLULAM™, SIMPLE FRAMING ALLJOIST®, BC RIM BOARD™, BC®, BC CALO®, BC FRAMER®, AJS™,

> DISTANCE, DONOT USE AIR WAILS A MIN. L''LUMBER EDGE/END MULTI-PLY WAILING, MAINTAIN SPIRAL NAILS @ 12"0/C FOR PROVIDE HROWS OF 316" ARDOX

a technical representative or Professional Engineer for the design of the connection. Ok M7(4

(1227,71

+

Products L.L.C.

TI-ETAPPINAT. ON BWO ON TO HOUSE NOISSE JO

CORPORENT ONLY STRUCTURAL

230 S 98 89.

0016 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 St 1st Floor/.../P11(1618)

File Name: 548-1.mmdl

Speise Cascade

September 21, 2016 16:32:39

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

Misc:

Company

Specifier:

Designer: AJ



BC CALC® Design Report

Job Name: Build 4340

Addres s:

City, Province, Postal Code:IMMISFILL,

Customer:

CCMC 12472-R

Code reports:

01/12/2017 4:24:21 PM kgervais Town of Innisfil Certified Model

Description: Designs/Flush Beams/1st Floor/Flush Beams/B11(i1618;

(<u>* *</u>	Total Horizontal Product Length = 11-04-06	-
18	90-70-11	B0

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.dinT	₽ujM	Mous	peag	θviJ						ad Summary	PO \$

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e/u

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01/12/2017 4:24:24 PM kgervais **Town of Innisfil Certified Model**

Unspecified Hanger	%6 [.] 09	ь/п %7.73	edl 840,4 edl 135,4	4" x3-1/2" 2" x3-1/2"	B) Wanger Bi Hanger
Material	Resistance Member	Support	Demand	(W x J) . mid	Bearing Supports
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CONFORMS TO OBC 2012

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60-01-80

E0-01-90

Calculations assume Member is Fully Braced. Design meets Code minimum (L/360) Live load deflection criteria. Design meets Code minimum (L/240) Total load deflection criteria.

13.9

1775.0

("845.0) 888/1

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086. Resistance Factor phi has been applied to all presented results per CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Deflections less than 1/8" were ignored in the results.

COMPONENT ONLY STRUCTURAL TI 47844 NAT. ON DWG

Page 1 of 2

Notes

Span / Depth

Live Load Defl.

Max Defl.

# Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor/.../B11(i1618)

File Name: 548-1.mmdl

September 21, 2016 16:32:39

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

Msc:

Company.

:төйрө д

Designer:

CCWC 12472-R

BC CALC® Design Report

Build 4340

Job Name:

:searbbA

City, Province, Postal Code:INNISFILL,

Customer:

Code reports:

Connection Diagram

9 🝩 = P "E = muminim d c = 2-3/4" "S = muminim s

Calculated Side Load = 559.7 lb/ft

alisN Connectors are: 16d point loads, please consult a technical representative or professional of Record. Connection design assumes point load is top-loaded. For connection design of side-loaded

JARIAS XOGRA"" NE

PLUS®, VERSA-RIMB, MIR-AZETV, @MAJ-AZETV, @METSYS BOISE GLULAM™, SIMPLE FRA MING ALLJOIST®, BC RIM BOARD™, BC®, BC CALO®, BC FRAMER®, AJS™, noitallatani erofed 6668-486-008-1 or ask questions, please call

building codes. To obtain Installation Guide

current Installation Guide and applicable

products must be in accordance with boo w beneenigne 32/08 to noitslisten properties and analysis methods. on building code-accepted design particular application. Output here based output as evidence of suitability for be verified by anyone w ho w ould rely on Completeness and accuracy of input must

trademarks of Boise Cascade Wood VERSA-STUD®, VERSA-STUD® are

Products L.L.C.

Disclosure

Description: Designs/Flush Beams/1st Floor/Flush Beams/B11(i16.

01/12/2017 4:24:37 PM kgervais Town of Innisfil Certified Model

OHNO 30 BOWNO MOISS340V

COMBONENT ONFA JAMUTSUATE TIY6344 MAT. ON BWG

# (\$763 Foise Cascado Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor/Flush Beams/B12(i1597)

September 21, 2016 16:32:40

01/12/2017 4:24:41 PM kgervais

Description: Designs/Flush Beams/1st Floor/Flush Beams/B12(i1597)

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



BC CALC® Design Report

Build 4340

Job Name:

:s səıpp∀

City, Province, Postal Code: IMMISFILL,

Customer:

Code reports:

("440.0) 999\]

sql 896

CCMC 12472-R

Msc:

Company

Specifier:

Designer: AJ

File Name: 548-1.mmdl

Total Horizontal Product Length = 07-07-00 18 08 00-70-70

0/488 0/169 "8/E-3, ra 13010 225/0 briW Mous De ad Be sting Reaction Summary (Down / Uplift) (lbs)

fnemoM.zoc	edl-11 788, h	2,704 ft-lbs	%6°71	<u> </u>	90-10		be verified by anyone w ho would rely o		
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z naertosa	ույ ԼուՍ	(JMdl) .r	01-20-80 J	01-10-20	<b>54</b> 0	150		/u	e/u
1 FC5 Floor Material	Jul. Lir	(fl\dl) .r	00-00-00 7	00-20-20	3	<u> </u>		<u>/u</u>	e/u
Tag Description	T bsod	λbe	Ref. Start	End	1.00	39.0	1.00	31.1	
Load Summary					Ļive	Dead	wous	inT briW	.din

e/u

%9[.]91

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

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

satoM							
B1 B0	Hanger Wall∕Plate	.4/8-1×"8-6 5-3/8"×1-3/4"	edi 103 edi 776,1		ь\п %£. <del>1</del> ⁄£	%Z:11 %Z!	Hanger Unspecified
Beari	stroqqu2 gu	(W × J) . mi⊡	De man d		Demand/ Resistance Support	Demand\ Resistance Member	lsi1eteM
Ωx <b>a</b> Μ	oad Defi. efi. Depth	('820.0) 606\. 0.044" 9		e/u e/u e/u	e/u e/u e/s	<b>†</b>	03-10-11 03-10-11

e/u

sd1 387,3

Resistance Factor phi has been applied to all presented results per CSA 086. Calculations assume Member is Fully Braced. Design meets Code minimum (L/360) Live load deflection criteria. Design meets Code minimum (L/240) Total load deflection criteria.

Design based on Dry Service Condition. BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.

Importance Factor: Normal Part code: Part 9

Deflections less than 1/8" were ignored in the results.

ON THE OF OR OF OR

COMPONENT ONLY STRUCTURAL LI-SCOHH MAT. ON BWO

CONFORMS TO OBC 2012

11-01-60

20-40-90

Total Load Deff.

End Shear

B0

# Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor/.../B13L(i1977)

File Name: 548-1.mmdl

September 21, 2016 16:32:40

01/12/2017 4:24:47 PM kgervais . Town of Innisfil Certified Model

Description: Designs/Flush Beams/1st Floor/Flush Beams/B13L(i197

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

MISC:

Company

Specifier:

Designer:



BC CALC® Design Report

Build 4340

Job Name:

Address:

Customer: City, Province, Postal Code: INNISFILL,

CCMC 12472-R

Reaction Summary (Down / Uplift) (lbs)

Code reports:

B0
7 7 7

e/u 01 80-60-70 27 00-00-00 Unf. Lin. (lb/ff) FC4 Floor Material 3 1.1 00.1 89.0 00.h pug Ref. Start Load Type Tag Description .dinT Snow Wind Dead θΛĮͳ Load Summary 482/0 0/796 18/6-4,18 0/18t 0/196 "8\£-⊅,0≅ briW Mous

e/u

n/a

%6.92

%6.82

90-70-00

Resistance

Demand /

٦

output as evidence of suitability for
be verified by anyone w ho would rely on
Completeness and accuracy of input must
Disclosure

₽/u

rioisilateri erofed eeee-466-468-699. or ask questions, please call building codes. To obtain Installation Guide current Installation Guide and applicable products must be in accordance with hoo w benearingined BOISE engineered wood properties and analysis methods. ingiseb befdesse-ebos gniblind no particular application. Output here based

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

Material Unspedified Unspedified	Demand/ Resistance Member 21.7% 21.7%	De mand/ Resistance Support 62% 62%		De mand 2,02916s 2,0291bs	(W × ¹ ) . mia "4\&-1 × "8\&-4 "4\&-1 × "8\&-4	<b>Searing Supports</b> 80 Wall-Plate 918 IYNIAN 18
00-00-00	<b>†</b>	e/u e/u	e/u e/u		i'6 0'060,	Max Deff. Span / Depth
21 <i>-</i> 01-80	9	ଅ/u	B/N		(.400.0) 666/3	TIAC FORGED CHI

n/a

u/s

sd1 387,3

12,704 A-15s

Resistance

Factored

Unf. Lin. (Ib/ft)

Calculations assume Member is Fully Braced. Design meets Code minimum (L/360) Live load deflection criteria. Design meets Code minimum (L/240) Total load deflection criteria.

(.b90.0) 666/J

("860.0) 669/1

2d1868,1

Demand

Factored

3,670 ft-lbs

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086. Resistance Factor phi has been applied to all presented results per CSA 086.

Importance Factor: Normal Part code: Part 9 Design based on Dry Service Condition.

Deflections less than 1/8" were ignored in the results.

930 30 30 30 NO 8

component onch STRUCTURAL 11-21344 MAT. ON BWU

CONFORMS TO OBC 2012

G

Þ

07-05-02 240

Case

Load

03-10-12

41-10-10

21-01-50

150

Location

Notes

Live Load Deff.

Total Load Deff.

Pos. Moment

Controls Summary

Us er Load

End Shear

7

## 1st Floor ... /B7(i1509) Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP

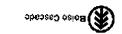
MISC:

Company:

Specifier:

Designer:

Ibmm.1-842 :smsNəliA



September 21, 2016 16:32:40

01/12/2017 4:24:51 PM kgervais

Description: Designs/Dropped Beams/1st Floor/Dropped Beams/B7(i*

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



BC CALC® Design Report

Build 4340

лор Изте:

Address:

"p,08

Be aring

City, Province, Postal Code: IMMISFILL,

Customer:

Code reports:

CCMC 12472-R

0\846,1

Reaction Summary (Down / Uplift) (lbs)

	Toduct Length = 11-00-00	_
l' B	00 00 77	8
13		8
[	<u> </u>	-1

wous

bniW

		80-90		<u> </u>	%6Z	26,408 A-152	edi-11	Pos. Moment End Shear
			Location	Load Sase	) bnsməD eənstəleəস	Factored Resistance	Factored Demand	Controls Summary
e/u		114	228	10-11-04	L 00-01-12	(Mdl) .	ուച :ԴոՍ	J Smoothed Load
.dinT	bniW won2 81.1 00.1	Dead 0.65	9VI∆ 00.∱	Бnd	Ref. Start	be	(T bso∆	Load Summary Tag Description
	•				0/	8£7 0\	₱9£'L	B1,4"

0/187

De ad

l Si 1	əts₩	Demand\ Resistance Member	Demand/ Resistance Support	b ពន <b>ពា <del>ទ</del></b> ପ	(L x W)	Bearing Supports
00-00-00			e/u	e/u	2.81	Span / Depth
80-90-90		Þ	E/U	e/u	.202.0	Max Defl.
80-90-90		9,	38.1%	6 <b>7</b> 8.0	("EE1.0) 8 <del>1</del> 6/J	Live Load Defl.
80-90-90		b	%1'6E	0.523"	("202.0) £13\(	Total Load Deff.
80-10-10		Ļ	%77	sdl f73,ff	2,551 lbs	End Shear
80-90-90		<u> </u>	%67	25,408 ft-lbs	edl-11	Pos. Moment

Unspecified	%5.71	35.3%	2,936 lbs	.Z/1-8×4	etsIq\lis\V	BJ
beilibegsnU	%4.71	%9.38		4"×3-1/2"	etsIq\lis\V	B0
Material	Resistance Nember	Resistance Support	De man d	Dim. (L x W)	shoqqu2 gning	; <del>9</del> 8

Design meets Code minimum (L/360) Live load deflection criteria. Design meets Code minimum (L/240) Total load deflection criteria.

iength . Calculation assumes member is partially braced. See engineering report for the unbraced

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086. Resistance Factor phi has been applied to all presented results per CSA 086.

Importance Factor: Normal Part code: Part 9 Design based on Dry Service Condition.

Deflections less than 1/8" were ignored in the results.

CONFORMS TO OBC 2012

SUNO 10 FOWING

combonent onth STRUCTURAL TI-(1844 MAT. ON DWO

Page 1 of 2

Notes

# 1st Floor/.../B7(i1509)

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

obeceso ceica

September 21, 2016 16:32:40

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

MISC:

Сотрапу.

Designer

Specifier:

File Name: 548-1.mmdl

BC CALC® Design Report

Build 4340

Job Name:

Address:

City, Province, Postal Code: INNISFILL,

Code reports: Customer:

CCMC 12472-R

Connection Diagram

## Disclosure

Description: Designs/Dropped Beams/1st Floor/Dropped Beams/B7

.noitsilsteni eroted 9990-4-39-008-i ot ask questions, please call building codes. To obtain Installation Guide current Installation Guide and applicable products must be in accordance with hoo w beneeringine BOISE to notifilation properties and analysis methods. on building code-accepted design particular application. Output here based output as evidence of suitability for be verified by anyone w ho w ould rely on Completeness and accuracy of input must

Products L.L.C. trademarks of Boise Cascade Wood VERSA-STRAND®, VERSA-STUD® are PLUS®, VERSA-RIM®, MIR-AS/EIV, @MAJ-AS/EIV, @METS YS BOISE GLULAM™, SIMPLE FRAMING ALLJOIST® , BC RIM BOARD™, BC® , BC CALO®, BC FRAMER®, AJS™,

# "E = muminim d 👣 = muminim s

Member has no side loads. point loads, piease consult a technical representative or professional of Record. Connection design assumes point load is top-loaded. For connection design of side-loaded

INI AIT-C-1 JAN 9. Slish A. N. S. JAN 192 XOUNA N. N. S. Connectors are: 16d

TI-COPY MAT. ON BWO

COMPONENT ONLY STRUCTURAL

# Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basment/.../B16L(i2854)

File Name: S48-1 SUNKEN mmdl

September 21, 2016 17:10:36

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

MISC:

Company

Specifier:

Designer: AJ



BC CALC® Design Report

Build 4340

Job Name:

Address:

City, Province, Postal Code: IMMISFILL,

Customer:

Code reports:

CCMC 12472-R

01/12/2017 4:25:09 PM kgervais Town of Innisfil Certified Model

Description: Designs/Flush Beams/Basment/Flush Beams/B16L(i285

	Reaction Summary (Down / Uplift) (ibs)
Total Horizontal Product Length = 07-04-12	
\$1+0-70	B0
É	

Load Summary				Live	Dead	bniW won&	.di1T
B1	428\0 435\0	0/181 0/161					
Be aring	FIVE	De ad	wong	Wind	þ		

ieness and accuracy of input must ied by anyone w ho w ould rely on is evidence of suitability for		be verified by a	9v 9d S1-01-50 f %4.51 8d1-11-401,21		2dl-11 807,1 2dl 5 48	Pos. Moment End Shear Tetel Lood Doff			
taum tuani ta	o koemoo pui	Disclosure		Location	Load Case	Demand / Resistance	Factored Pasistance	Factored Demand	Controls Summary
e/u e/u e/u			36 48 1	128	21-40-70 21-40-80 21-01-80	21-01-90 - 21-01-90	ı (₩di)	Unf. Lin. Unf. Lin. Conc. Pt.	1 FC2 Floor Material 2 Smoothed Load 3 J7(i2647)
Trib.	bniW v 1.15	wond 1	Dead 99:0	1.00	₽u∃	Pef. Start	i əc	Load Typ	Tag Description

1-800-964-6999 before installation. or ask questions, please call building codes. To obtain Installation Guide current Installation Guide and applicable products must be in accordance with boo w beneered wood for installation of properties and analysis methods. on building code-accepted design particular application. Output here based output as evidence of suitability for

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

Hanger Hanger	, u <b>_</b> , u	e/u e/u		sdl 378 sdl 326	Z" × 1-3/4"	B) Hanger Bl Hanger	
lsitetial	Demand/ Resistance Member M	Demand/ Resistance Support		Demand		Bearing Supports	
00-00-00		e/u	e/u		l 6	Span / Depth	
21-70-60	Þ	e/u	e/u		"pt0.0	Max Defl.	
21-70-80	9	e/u	e/u		("150.0) 999\J	Live Load Defl.	
03-01-15	Þ	e/u	e/u		("440.0) 6667.1	IOtal Load Den.	

Calculations assume Member is Fully Braced. Design meets Code minimum (L/360) Live load deflection criteria. Design meets Code minimum (L/240) Total load deflection criteria.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086. Resistance Factor phi has been applied to all presented results per CSA 086.

Importance Factor: Normal Part code: Part 9 Design based on Dry Service Condition.

Deflections less than 1/8" were ignored in the results.



COMPONENT ONLY STRUCTURAL TISCOPY MAT. UNDWO

CONFORMS TO DBC 2012

Page 1 of 1

Notes

# (\$551) Basmen 1/7 Basmen 1/2" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basment/Flush Beams/B15(i2851)

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



BC CALC® Design Report

File Name: S48-1 SUNKEN.mmdl

Description: Designs/Flush Beams/Basment/Flush Beams/B15(i2851

Specifier:

Company Designer: AJ

Msc:

City, Province, Postal Code: IMMISFILL,

Customer:

Address:

Job Name:

Build 4340

Code reports:

CCMC 12472-R

01/12/2017 4:25:14 PM kgervais

September 21, 2016 17:10:37

	Reaction Summary (Down / Uplift) (lbs)
80-01-70 = Algen = 07-10-08	OT
18 80-01-70	80 Bi
A	<u> </u>

.dinT	bniW ar.r	won8 90.1	рв <b>э</b> С 990	Live 1.00	End	Start	Ref.	Гоза Туре	Load Summary Tag Description
							0/998	0/9/8	"3/1/2"
			рі	1IVV	wons		De ad 348/0	876/0	B0'3-1\5;

nd accuracy of input must			70	<u> </u>	~8.11	201-11 1-07, S1	edl-# 664, r	: Moment	Pos	
taum tunni ti	о мосицаск о	Disclosure Completeness an		Location	Load Sase	\ bmaməQ əวกธายเลอЯ	Factored Resistance	Factored Demand	rtrols Summary	100
e/u			861	<b>77</b> 4	<del>2</del> 0-60-70	<del>1</del> 0-60-20 -	r (sa)	Gonc. P	(S98Si)0 Lr	_
e/u			<b>461</b>		00-02-00	00-02-00		Gonc. P	110(iS869) 110(iS869)	7
e/u			36	10t	00-80-70	00-80-00		ni1.1nU	Smoothed Load	5
e/u	·		Į.	3	<del>7</del> 0-60-70	00-05-00		nil inU	FC2 Floor Material	ن ا
	31.15	1.00	39.0	1.00	₽u∃	Ref. Start		Load Ty	Description	381
.0111	AADIG	MOUO I	SHAS						Alburian no	_

n/a

n/a

n/s

n/a

12.2%

building codes. To obtain Installation Guide current Installation Guide and applicable products must be in accordance with hoo w benearinged and a notalistical wood properties and analysis methods. on building code-accepted design particular application. Output here based output as evidence of suitability for

60FESSION QL Products L.L.C. trademarks of Boise Cascade Wood VERSA-STRAND®, VERSA-STUD® are RUS®, VERSA-RIM®, SYSTEM®, VERSA-LAM®, VERSA-RIM BOISE GLULAM™, SIMPLE FRAMING ALLJOIST®, BC RIM BOARD™, BC®, BC CALC®, BC FRAMER®, AJS™,

1-800-964-6999 before installation.

or ask questions, please call

30 30 30 30 30 30 30 Ninos

S. KATSOULAKUS

00-00-00

03-11-60

03-11-60

03-11-60

00-10-10

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g

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Unspecified %Z.ES %9.35 ed1.077,1 3-1/2" x 1-3/4" 1209 BI Unspecified %Þ' 77 %Z.EE sq1929'i 3-1/2"×1-3/4" tso9 BO Material Member Support De man d Dim. (L x W) Searing Supports Resistance Resistance Demand/ De man d/

e/u

e/u

n/a

n/a

sd1387,3

Resistance Factor phi has been applied to all presented results per CSA 086. Calculations assume Member is Fully Braced. Design meets Code minimum (L/360) Live load deflection criteria. Design meets Code minimum (L/240) Total load deflection criteria.

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

76

"140.0

sql 90Z

("620.0) 999/1

("140.0) 666/1

Importance Factor: Normal Part code: Part 9

Deflections less than 1/8" were ignored in the results.

COMBONENT ONLY STRUCTURAL ripcopy may on awa

Page 1 of 1

Span / Depth

Live Load Deff.

Total Load Deff.

Max Deff.

End Shear









# Maximum Floor Spans

S/8" OSB G&N Sheathing Simple Spans, L/480 Deflection Limit Live Load = 40 psf, Dead Load = 15 psf

	sum Ceiling re Spacing				Bare tre Spacing	uəጋ uO		Series	Depth
ታፘ	"Z'6T	"9T	ızı	"tZ	"Z,et	"9T	12"		
A/N	"Z-,DT	"8-,7l	"Z-,ST	A/N	6-,ET	"Z-'4 <u>I</u>	"T-,ST	OZ-IN	
A\N	"T-,ST	"TSL"	"Z-,9T	A\N	8-,tT	"Z-'ZI	"t-,9t	×01-40×	"C/ 1.0
A/N	e-,st	6-,ST	.8-,9T	A\N	"01-'41	"p-'21	"E-,9T	02-1N	"Z/T-6
A\N	,,OT-,ST	"S-,9T	"2-'71	A\N	.9-,ST	"t-,91	"Z",ZI "T•,ZI	OZ-IN	
A\N	"0-'91	"Z-'9I	12,-8"	∀/N	18-'21	"6-,9T	"ፒፒ-,9ፒ "ፎ-,ረፒ	NI-20	
A\N	"0-'9I	99T	"9-'71	V/N	.s-,st	,,0-,21 ,,0-,91			
A\N	"II-,9I	,,o ,Lt ,,9-,LT	0.8T	A\N ^\\I	"Z-,9T "S-,9T	"E-,∠I "O-,∠I	"₺-,8ፒ "ፒ-,8ፒ	09-IN ×01-40×	
A\N	"I-"7I	1.8-,47	.06I	A\N ^\\d		18,-0 ₁ ,	"9-'61 +- ot	0Z-IN	8/Z-TT
A\N	"6-,ZI	Z-,8T	"V-,UZ "T-,UZ	A/N A/N	,,9-,LT ,,,t-,LT	18,-3 _"	16-,6T	08-IN	
A\N ^\M	"II-'\\I	61-181 	,07-102 70,-411	<b>∀/N</b>		6-,8T	b0Z	×06-IN	
A/N	"8-'81	<del>t-</del> .6t	70,-10,, 70,-10,,	A/N	"17-'71 "11-'71	18,-7,	70,-1,	XOP-IN	
A/N A/M	.,6-,81 .,9-,81	∠6I tr-6T	"Z-'IZ	A\N A\N	,,T-,8T	18,-11,	"S-,07	09-IN	
A\N A\N	"8-'91	"7-'02 "- et	"E-,77	∀/N	"1-'61	.007	"T-'IZ	OZ-IN	<b>b</b> I
Α\ <i>Ν</i> Α\ <i>Ν</i>	0-,0Z	"11-'02 - 02	"\-'.\2\2 C\2\7	∀/N	"₽-'61	70,-3,,	"TT-'IZ	08-IN	
A\N	907	.,9-,TZ	73,-3"	A/N	"II-'eI	.71-,07	72'-7"	×06-IN	
A/N	.9-,07	77,-2,,	73,-1,,	A/N	,,6-,6T	.8-,07	75,-3,,	09-iN	
A\N	71,-2,,	"Z-'22"	74'-3"	Α\N	.,6-,07	6-,TZ	73,-6	OZ-IN	,91
A\N	6-,12	22,-10	"8-'⊅2	A\N	77 <b>.</b> 77.	75,-1,	73,-11,,	08-IN	
A\N	" <del>b-,</del> ZZ		72, <del>-</del> 4,,	Α\N	.6 <del>-</del> .17	"6 <del>-</del> ,77	74,-81	×06-IN	······
			אוא כי	·	. Blocking	ren2_hiM			
สีนแลว		oan Blocking and	C-DUAL		e Spacing			Series	)epth
HVC	a spacing		17511	.,†Z	e Spacing Pacing	19 <u>1</u>	17,,		
.7d.	"2.91 "2-'11	"E-,ST "9T	,,8-,9T	∀/N	"S-,ÞT	"E-,ST	89T	NI-20	
A\ <i>N</i> A\N	.,T-,9T .,5-,7T	"T-,∠T	78,-2	A/N	"t-,9t	TT-,9T	"II-'7I	×04-1N	
A\N	t9T	" <i>ヤ</i> ",∠ፒ	18,-\21,	A/N	"b-,9T	"T-,ZT	18,-7,	09-IN	.,Z/T-(
∀/N	"Y-'YI		"Y-'91	<b>A</b> \N	17-17	,OT-,ZT	"S-'91	OZ-IN	
∀/N	18-,47	,5-,8T	"01-'91	A/N	"p-'\ZT	181-0"	"S-,6T	08-IN	
A\N	E-,Zī	18,-3,,	"II-,6I	A/N	"E-'71	18,-1,,	9-,61	NI-20	
<b>∀/N</b>	"Z-,6T			Α\N	18,-81	"9-,6T	77,-0,,	XOP-IN	
Α\N	.,9-,6T	70.4"	"11-'12	A∖N	18,-11,	.,66T	"p-'12	09-IN	"8/7 <b>-</b> 1
A\N	"S-'02	77,-2,,	73,-0,,	∀/N	"TT-,6T	70,-10,	.9-,77	OZ-IN	01:-
A\N	.8-,07	77,-7,	73,-3,,	A\N	"1-'02	"T-'TZ	75,-6,	08-IN	
A\N	"2-'12	75'-2"	73,-10,,	Α\N	.8-,07	1,8-,17	73,-4,,	×06-IN	
A\N	Z-,TZ	75,-74	74,-3,,	A\N		"II-'IZ	73,-7,	×04-IN	
A\N	"IT-'IZ	75,-11,	74,-8,,	∀/N	77,-3,,	75,-3,,	74,-0,,	09-IN	",
A/N	77,-11,	74,-0,,		A/N	"E-,77	73,-4"		02-IN	"t
A\N	73,-2,	.,,,,,,	"Z-'2Z	A\N	"7-'22	73,-8"	"7-'25	08-IN	
A\N	73,-6,,	74,-11,	,0T-,9Z	A/N	73,-3"	"p-'p2	"2-'32	×06-IN	
A\N	74,-2"		"Z-'TZ	A\N	.9-,47 .73,-4	.9-,57 74,-6,,	,6-,27 ,97	0Z-IN	
A\N	"2-'22	.5-, <i>52</i>		A/N	OT-,#Z	"T-,97	,,7-,8Z	08-IN	, C
A\N	72,-6"	"6 <b>-</b> ,97	.0187	A\N	OT- 47	T 07	7 07	×06-IN	

a live load deflection limit of L/480 and a total load deflection limit of L/240. ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, 1. Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 pst and dead load of 15 pst. The

^{3.} Minimum bearing length shall be 1-3/4 inches for the end bearings. spacing of 19.2 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. 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

guidelines and construction details. Mordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C. 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012. 5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required 4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.









# Maximum Floor Spans

3/4" OSB G&N Sheathing Simple Spans, L/480 Deflection Limit Live Load = 40 psf, Dead Load = 15 psf

Depth	Series		,0,0 u()	Sare Saring				Sum Ceiling	
unde -	SOLIDO	15,,	Te,,	tre Spacing	1170	HC P		tre Spacing	1170
	0Z-IN	OI-,ST	.0-,SI	"Z-,⊅T "Z-,7†	13-,ET 	., <del>b-</del> ,9I	<u>"S-'ST</u>	"61 <u>"</u>	"72 <u>"51</u>
	×04-IN	17O.,	0-,9T	"S-,ST	.6-,tI	,S-,ZT	S-,9T	.0T-,ST	
7/1-(	09-IN	17-'71	"Z-,9T	Z-,ST	.TT-,DT	9-,∠T	"Z-,9I	"TT-,ST	"E-,SI
	OZ-IN	18,-0.	TT-,9T	E-,9T	"Z-,ST	"2-'81	"E-"\T	"Z-,9T	"TT-,ST
	08-IN	.e-'81	"I-'\\I	"S-'9T	6-,ST	18-,81	"S⁻,∠T	.,6-,9T	"T-,9T
	NI-20	OT-, <u>/</u> T	.,0 <b>T-</b> ,9T	"Z-,9T	9-,ST	.,9-,8T	"b-,ZT	6-,9I	.1-,91
	XOP-IN	"4-'91	TT-,ZT	"E-'71	,,9 <b>-</b> ,9T	.TT-,6T	.,9-,81	"6 <b>-</b> ,∠T	17'-0"
"8/7-1	09-IN	"Z-,6T	"2-'81	"S".ZT	.,6 <b>-</b> ,9T	"S-'0S	681	"IT-'71	"Z-'71
8/L-T	OZ-IN	6 <b>-</b> ,0Z	"Z-'e1	18-3"	"S",¿T	7T4"	6-,6T	181-10"	.OT-,ZT
	08-IN	.T-,TZ	"2-'91	9-,87	"\-'\\T	"T-'IL	007	0 <b></b> 6T	18,-0,
	×06-IN	18-112	.007	"T-,6T	18'-0"	" <u>2-</u> '22	.9-,07	9-,6T	18,-61
	x04-IN	77,-2,,	"01-'91		"TT-,ZT	72'-1"	,,9-,07	"Z-,6T	"T-'81
.,,	09-IN	0117		.,E-,6T	Z-,8T	.S-,ZZ	.,OT-,OZ	"TT-,6T	,01-,81
"t	OZ-IN	73,-0,,	77,-3,,	70,-3	"Z <del>-</del> ,6ī	.8-,67	"11 <b>-</b> '12	20,-10	.,6-,6T
	08-IN	73,-2,,	"T-'IL	"Y-"02	"2-'61	.0-,12	75,-3"	"2-'12	70,-0,,
	×06-IN	74,-1,,	75,-3,,	77,-77	70,-0,,	"8-'4 <u>\</u>	.0T-,77	77,-9"	"7-'02
	09-iN	.667	75,-0,,	20,-11,,	OT-,6T	"9 <b>-</b> ,⊅7	6-,77	77,-8,,	907
"	0Z-IN	"1-'22	"Z-'EZ	75,-0"	70,-10,	, ₁ 6-, ₁ SZ	"01-'EZ	75,-9"	9-,TZ
	08-IN	"9-'2 <u>5</u>	.9-,67	75,-4"	"Z-'IZ	"T-,9Z	Z-,+Z	73,-1,,	.01-,17
	×06-IN	"t-,9Z	743"	73,-1,,	71,-10,,	.,77-,97		73,-8"	,5-,77
			sa2-biM	Blocking		2-biM	osu Blockine an	musqyə "Z\£ b	adiliaD
qıda	Series	······································		e Spacing		C DULL		e Spacing	9,,,,,,,
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,9T	"2,et	"p2	175,,	,9T	"2,912 "2,912	"p2
	0Z-IN	.01-,91	"S-,ST	9bT	S-,ET	0T-,9T	,,S-,ST	"9-,ÞT	"2-'51
	×04-IN	18,-81	17-,71	.e-,9t	"S-'21	18,-10,,	17.7	"E-,9T	
"Z/1	09-IN .	.,11-,81	"8-'71	9-,9T	"S-,SI	"2-'61	"9-,LT	.9-,9T	"2-'21
	OZ-IN	.,0-,07	"Z-,8T	"6-'71	Z-,9T	.S-,0Z	18:-11	17'-10"	Z-,9T
	08-IN	6-,07	181-10"	,,tt-,\t	"OT-,9T	.807	E6T	.,Z-,8T	OT-,9T
	N-20		S8T	,,S-,ZT	"Z-,9T	70,-1,,	S8T	17'-5"	"Z-,9T
	×04-IN	21,-10,	<del>/-</del> .07	"₽-'6T	17'-8"	.S-,ZZ	9-,07	" <del>p-</del> '91	18-171
"8/L	09-IN	"1-'22	"7-'02	Z6T	18,7,	75,-8,,	50,-10	8-,6T	18,-4"
8/ <i>L</i> :	0Z-IN	73,-4"	77,-8"	.8-,07	"Z-,6T	73,-10,,	72′-3″	77,-7	6-,6T
	08-IN	"7~'EZ	71,-11	70,-11,	.,6 <b>-</b> ,6T	"L-'45	75,-6"	"Z-'IZ	70,-0
	×06-IN	74,-3"	.9-,77	.9-,77	"p-'02	8-,1-7	73,-0,	0-,72	,6-,07
	NI-40×	"S-'42	6-,77	71,-8,,	"S-,6T	"t-'22	"Z-'EZ	,,6-,TZ	"S-,6I
	09-IN	74,-10,,	73,-1,	75,-0,,	"O1-'02	72,-6"	73,-84	75,-4,	.07-,07
	0Z-1N		743"	73,-2"	77,-10,,	8-,97	.TT-, <b>7</b> Z	,6∹£Z	75,-4"
	08-IN	.9-,97	.,L-,t7	73,-5"	"2-'22	"L-"72	72,-3,,	74,-1,,	75,-6,,
	×06-IN	77'-3"	"p-'22	74,-1,,	75,-9"	"6 <b>-</b> ,∠7	72,-11,,	.8-,47	73,-4,,
	09-IN	"E-'72	"S-'22	"Z-'4Z	,,OT-,ZZ	78,-0,		.,6-,77	73,-1,
	0Z-IN	887	8-,97	.,57,57	73,-11,	67	<b>"</b> ⊅¬,∠Z	.,T-,97	.8-,47
	×06-IN	"11-'92	"01-'72	6-,SZ	74,-4"	8-,67	.,6-,47	297	.0-,57

a live load deflection limit of L/480 and a total load deflection limit of L/240. ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, 1. 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

guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C. 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation

Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists. 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. 2. 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

^{3.} Minimum bearing length shall be 1-3/4 inches for the end bearings.

based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012. 5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required 4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.









# Maximum Floor Spans

5/8" OSB G&N Sheathing Simple Spans, L/480 Deflection Limit Live Load = 40 psf, Dead Load = 30 psf

	×06-IN	,,0-,67	,0T-,9Z	"Z-,SZ	A\N	"Z-,6Z	.S-,ZZ	7-,97	A\N
	08-IN	"Z-'8Z	"T-,9Z	74,-10,,	A\N	78,-10,,	697	.9-,57	A\N
9T	OZ-IN	6-,47	72,-8"	.9-,⊅7	A/N	78,-2	S9Z	"Z-'ZZ	A\N
	09-IN	.5-,97	.9-,+7		A\N	7٦-,۷٦	74,-10,,	73,-4"	A\N
	×06-IN	t97	74,-4,,	73,-3,,	Α\N	76,-10,,	"11-'AS	"6-,EZ	A/N
	08-IN		73,-8"	"T-'22	Α\N	7-197	74,-4"	"Z-"EZ	A\N
"tī	OZ-IN	72,-3,,	73,-4"	75,-3"	A\N	72,-10,,	74,-0,,	75,-9"	Α\N
	09-IN	74,-0,,	75,-3,,	77,-0,,	A\N	"8 <b>-</b> '42	"Z-"22	27,-0,,	Α\N
	XOP-IN	73,-7,	.S-,TZ	.,9-,61	A/N	74,-1,,	.S-,TZ	.9-,6T	∀/N
*	×06-IN	73,-41,	77,-8,,	.8-,07	A\N	73,-10,,	72'-2"	"2-'12	A\N
	08-IN	6-,77	77,-1	70,-1,,	∀∖N	73,-3,,		"S-'02	A\N
- •	OZ-IN	75,-6"	70,-10,,	"TT-,6T	Α\N	73,-0,,	., <del>t-</del> ,TZ	002	Α\N
"8/7- <u>1</u> 1	09-IN	"p-'I2	"8-'e1	.,S-,8T	A\N	77,-8	,,8-,6T	18,-2"	A\N
	XO4-IN	77,-0,,	"E~,6T	_{''} 6-,ረፒ	A\N	77,-3	.E-,6T	"6-,ZT	Α\N
	0Z-IN	"6-'81	"O-,ZT	.0-,9T	A∖N	.,6-,8T	,,O-,ZT	.,0-,91	A\N
	08-IN	"S-,6T	181-0"	"T-,∠T	Α\N	"01-'et	18 <del>,-</del> 3	"T-,ZT	Α\N
	OZ-IN	"Z-'e1	"OT-,ZT	6-,9T	A\N	"Z-,6T	,,OT-,∠T	"6 <b>-,</b> 9T	Α\N
"Z/T-6	09-IN	"T-,8T	" <i>t</i> ~.9T	" <i>†</i> -,ST	A/N	18,-1,	" <i>t</i> ~.9T	"t-,ST	Α\N
110,00	×04-IN	"6 <b>-</b> ,∠Ţ	"T-,9T	"T-,ST	A\N	"6-,LT	"T-,9T	"T-,ST	A\N
	NI-20	"Z-,ST	"T-, <del>b</del> T	13,-3,,	A/N	"Z-,ST	.,T-,ÞT	13,-3,,	A\N
		17,	"9T	"S.et	.,77	17.	.,9T	"2.et	74.
nepth	Series		neO no	re Spacing				e Spacing	
			sq2-biM	n Blocking		S-biM	osu Blocking an	musqyə "Z\£ b	Reiling
	VOC-IN	74,-8"	"6-,ZZ	6 <del>-</del> ,TZ	A/N	"Þ-,SZ	"2-'52	75,-4"	A/N
	x06-IN 08-IN			"I-'IZ	A\N	.8-, <del>1</del> 2	01-,22	6TZ	A/N
<b>"9</b> T	08-IN 02-IN	73,-11,	.6-,17	607	A\N	743	"S-'22	.S-,TZ	∀/N
	02-IN 09-IN	75'-3"	.807	6-,6T	∀/N	73,-1,,	"S-'12	.9-,07	A\N
	×06-IN	"7 <u>-</u> '22	"11-'02	"II-,6I	Α/N	73,-3,,	71,-6,,	,9-,07	A\N
	08-IN	"T1-'I2		<del>b-</del> .6T	A\N	"Z-"ZZ	"LT-'02	70,-01	A\N
4.7	02-IN		,,O-,OZ	"T-,6T	∀/N	75,-3"	50,-L	"8-'61	A\N
14"	02-IN	"Z-'02	"11-'81	18-18	A\N	77,77	"Z-,6T	.,6-,8T	A/N
	×01-1N	.T-,0Z	"Z-'81	OT-,ZT	∀/N	70,-10,	" <del>1</del> ≻,6ī	.,9 <b>-</b> ,8T	A\N
<del></del>	x06-IN	70,-4	.68T	"II-'7I	∀/N	70,-10,	"E-,6T	"2-'81	A/N
	08-IN	.,6-,6T	18,-3"	"9-, <b>∠</b> T	A\N	,p-,0Z	18,-10,,	"TT-,ZT	A\N
	0Z-IN	"9-'61	18,-0,	<del>b-</del> .∠T	A\N	"1-'02	"Y-'81	1.6 <b>-</b> ,4T	∀/N
8/L-II	09-IN	18,-d ₁₁	ε-,∠τ	"Z-,9T	A\N	10-,61	8-,ZT	"T-,ZT	A\N
	×07-1N	"t-'8t	"0-'71	"S-'9T	A/N	18,-91	9-,LT	"TT-,9T	A\N
	0Z-IN	"11-'91	0-,9T	"S-'ST	A\N	"9-,ZT	"9-,9T	,0-,9T	A\N
	08-IN	17'-3"	"E-,9T	,,8~,ST	∀/N	17 ⁻ -8"	"Z-,9T	"0-,9T	A\N
	OZ-IN	"T-,∠T	"T-,9T	,,9-,ST	A\N	175"	"S-,9T	"01-'21	A\N
"Z/T-6	09-IN	"E-,9T	tST	,0T-, <del>1</del> T	A\N	8-,9T	6-,SI	E-,ST	A\N
11 C/ L-D	×05-1N	"t-,9t		14,-8 _"	A\N	"L-,9T	"Z-,ST	"T-,ST	A\N
	OZ-IN	"I-'2I	"I-'AI	e-,et	A/N	112-1ST	"I-'41	,e-,et	A\N
	OC 114	"ZT	9T	19.2"	74"	15 ₁₁	,,9T	"2,e1	7 .
		1161							
Depth	Series	1161		ntre Spacing				Soum Ceiling tre Spacing	

a live load deflection limit of L/480 and a total load deflection limit of L/240. ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, 1. Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The

^{3.} Minimum bearing length shall be 1-3/4 inches for the end bearings. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists. spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. 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

^{5.} This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required 4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C. 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.









# Maximum Floor Spans

3/4" OSB G&N Sheathing Simple Spans, L/480 Deflection Limit Live Load = 40 psf, Dead Load = 30 psf

74,-10	76-11		.9-,08	74,-10,,	.,9-,97	0T-,∠Z	"TI-,6Z	×06-IN	
"01 <b>-'</b> E2	72,-10,,	"9 <b>-</b> ,∠Z	.,8 <b>-</b> ,67	73,-10,,	6-,57	"0-'72	.T6Z	VI-90v	
	72,-3,,		e-,67	73,-4,,	72,-3"	"8-'82	78,-8"	08-1N 02-1N	91
	73,-5,,	.TT-,7Z	9-,27	77,-72	,S-,EZ	74,-11, 74,-11,	30, 01. 34, 01.	02-IN 09-IN	
"p-'22	74,-3,,	,,OT-,SZ	"6 <del>-</del> "∠Z	75,-4"	74,77,,	"p-'22	77'-3"	×06-IN	
9-,77	73,-3	7410"	"T-,∠Z	.9-,17	73,-3"	7-'42			
77,-0,,	"6 <del>-</del> ,ZZ	74,-3,,	8-,97	77,-0,,	6-,22	.E-,177	"1-'92	M-80	
.9-,6T	77,-0,,	"S-,ZZ	,, <del>6-</del> ,₽Z	9-,6T	"0-'12		"6-'42	0Z-IN	<del>t</del> t
"S-,ZT	"9-,6T	"S-,TZ	"Z <b>-'</b> 42	,,S-,ZT	,,9-,6T	.5-,17	"24'25"	09-IN	
"Z-,6T	.37,-3.,	7571	8-,17	"Z-,6T	75,-3,,	.9-,77	74,-3"	X012-IN	
18,-11,		.0117	74,-1,,	"TT-,8T	"Z-'0Z	27,-10	"7-'22 "2-'75	x06-1N	
.,9-,8T	70,-1,,	.S-,TZ	73,-8"	18,-9"	.T-,OZ	"S-'12	.,t-,ec	08-IN	
"T-,ZT	.,5-,87	8-,6T	6-,TZ	"T-,ZT	.5-,8T	8-,6T	.,v-,ec .,6-,TZ	0Z-IN	"8/ <b>Z</b> -TT
,,OT-,ST	"6 <del>-</del> ,∠ፒ	"E-,6T	"E-'12	.0T-,ST	"6-'71	6.61 		09-IN	11072 77
14,-10,,	,,0-,9T	υT-, <b>∠</b> T	181-10"	14,-10,	"0-,9T		77,-3,,	x04-1N	
12,-10 ₁	"T-, <b>∠</b> T	18,-3"	"Z-'0Z	101-151	"T-,ZT	T-,∠T	01-,81	NI-20	
9 <b>-,</b> ST	"6-,9T	"TT-,ZT	101-161	"9-'ST	"6-,9T	"E-,8T	"2-'02	08-IN	
"E-, <b>b</b> T	"S-,ST	"S-,9T	"1-'81	15,13T	"S-'ST	11-'71	OT-,6T	OZ-IN	
"11-'EL	"T-,ST	"T-,9T	"6-,ZT	13-17	12,-51, 12,-1,,	"S-,9T	"T-,8T	09-IN	"Z/T-6
b-,ZT	13,-4"	Z-, <b>-</b> T	"7-'21	"p-'SI	15'-1" 13'-4"	"T-,9T	6-,∠ī	xOp-IN	
74"	19.2"	191	"ZI	75,4"	19.2"	14:-2"	"Z-,ST	0Z-IN	
	e Spacing		ПСЪ	100	Spacing	19,	121		
guilie	d 1/2" Gypsum (		C-DIIAI	<del> </del>	Blocking Bocking			Series	Depth
	0 11.07.71		3 P: V	ı	Blocking	nsa2-biM			
"Z-'_S"	18-182	74,-11	[17-,97	.0T-,TZ	.T-,EZ	74,-3,,	" <del>b-</del> ,97	V0C III	<del></del>
"01-'12	.T-,EZ	74,-2,,	.T-,9Z	77,-77	"b-'22	73,-6"	9-,9C	×06-IN	
.9-,TZ	75,-6,,	73,-10,,	"6 <del>-</del> ,SZ	,0T-,OZ	75-0	.53;-5; 73;-5;	.,9-,9C	08-IN	9ī
907	"8-'12	75,-6,,	.9-,77	OT-,6T	"11-'02	"0-'22		0Z-IN	
"Z <b>-,</b> 0Z	,6-,TZ	75,-10,	"8-'t⁄2	70,-07	77,-7,	75,-3,,		09-IN	·
.0-,07	"Z-'IZ	75,-3"	74,-0,,	.S-,6T	"Z-,OZ	"C'122	"L-'42 "S-'52	×06-IN	
"6-'e1	.07-,07	"II-'IZ	73,-8,,	.,Z-,6T	"E-'02	.E-,TZ		08-IN	
. "01-,81	"IT-,6I	"01-'02	.S-,-ZZ	18,-5,,	"E-'91	.Z-,OZ	73,-0,,	07-IN	" <b>b</b> T
"Z-'71	"9-,6T	"9-,0Z	75,-1"	"S-,ZT	"IL"'81		21,-10,,	09-IN	
1.9-,81	"9-,6T	70,-6"	75,-27	18'-0"	"t-,6t	70, 10,	"Z-'12"	X04-IN	
0-,8T	"0~,6T	50,-0,,	"T-'IZ	"Z-'ZI	181-61	G02	"8-'IZ	×06-IN	
1.OT-1.CT	18,-10,	66T	"p-'12	"Z-'\ZT	18'-3"		71-17	08-IN	
"T~,∠T	"TT-,ZT	"6-,8T	"Z-'0Z	"6-'9I	"5-'71	7-,6T	.6-,07	07-IN	8/ <b>Z</b> -TT
.,OT-,ST	"6-,LT	,,9-,8T	,TT-,6T	"01-,SI	"5-'71	Z-,8T TT-,ZT	"7-'91	09-IN	11072 77
.,OT-, <i>t</i> T	.,0-,9T	"T-, <b>∠</b> T	,9-,8T	,0T-, <b>5</b> T	0-,9T	0T-,2T	"4-'91	×01-IN	
"OT-"ST	"6- ₋ 9T	"S-,ZT	18-'81	"6-,ST	"S-,9T		,0T-,ZT	NI-20	
9-,ST	"Z-,9T	"E-'71	"2-'81	.9-,ST	5-,9T	"I-'\[I	18,-3,,	08-IN	
14,-3,,	"S-,ST	.S9T	.9ZT	15,-31 14,-3 ₁₁	S-,SI	"11-'91	"0-'81	OZ-IN	_
13,-11,	"T-,ST	"T-,9T	"S-'\LT	.TT-ET	"2-'21 "1-'21	"Z-,9T	Z-,ZT	09-IN	.,z/t-6
15,-4,,	"p-'EI	"Z-'4 <u>T</u>	"Z-,ST	"4".SI	"b-,5t	,,0-,9I	OZT	x0p-IN	
"tZ	"2,et	.91	TS	"p2	19,2" "2,61	,,Z-, <b>⊅</b> T	"Z-,ST	0Z-IN	
	tre Spacing	On Cen		II V	tre Spacing	19T	"Z1		•
	guilieD musq				Bare Spacing			Series	Depth
		, -	ı		Bare				

a live load deflection limit of L/480 and a total load deflection limit of L/240. ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, 1. Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The

Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists. 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. 2. 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

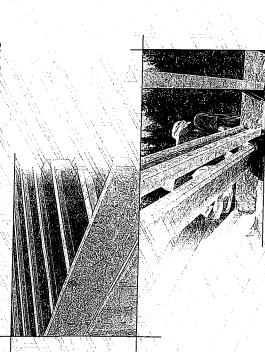
4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers. 3. Minimum bearing length shall be 1-3/4 inches for the end bearings.

guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-LZ74C. 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012. 5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required

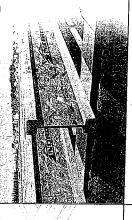


# INSTALLATION GUIDE

FOR RESIDENTIAL FLOORS







Distributed by:

# SAFETY AND CONSTRUCTION PRECAUTIONS



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



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

building materials.

M-C301 \ November 2014

l-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 Lioist 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, 2. When the building is completed, the floor sheathing will provide lateral blocking will be required at the interior support.
  - support for the top flanges of the L-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long to prevent I-joist rollover or buckling.
- 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 Lioist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two Lioists.
- 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 1-joists, brace top and bottom flanges, and brace ends with dosure panels, rim board, or cross-bridging.
- 4. Install and fully nail permanent sheathing to each 1-joist before placing loads on the floor system. Then, stack building materials over beams or walls only.
  - 5. Never install a damaged I-joist.

Nordic Lioists, Failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for can result in serious accidents. Follow these installation guidelines carefully,

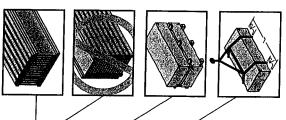
# STORAGE AND HANDLING GUIDELINES

- 1. Bundle wrap can be slippery when wet. Avoid walking on wrapped
- 2. Store, stack, and handle I-joists vertically and level only.

3. Always stack and handle 1-joists in the upright position only.

- 4. Do not store I-joists in direct contact with the ground and/or flatwise.
- Protect I-joists from weather, and use spacers to separate bundles.
  - 6. Bundled units should be kept intact until time of installation.
- simple precautions to prevent damage to the I-joists and injury 7. When handling I-joists with a crane on the job site, take a few 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.
  - Do not handle Ljoists in a horizontal orientation.
- 9. NEVER USE OR TRY TO REPAIR A DAWAGED 1-JOIST.





FSC Coliffy

# **MAXIMUM FLOOR SPANS**

1.25D. 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% 1. Maximum **dear** spans applicable to simple-span or multiple-span residential floor construction with a design live load of 40 pst and dead load of 15 pst. The ultimate limit states are based on the factored loads of 1.50L + or more of the adjacent span.

MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS

SIMPLE AND MULTIPLE SPANS

- Standard. No concrete topping or bridging element was assumed. Increased spans may be achieved with the used of gypsum and/or a row of blocking at mid-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. Adhesive shall meet the requirements given in CGBS-71.26
- 3. Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate bearings.
  - with the spans and spacings given in this table, except as 4. Bearing stiffeners are not required when I-joists are used required for hangers.
- with other than uniform loads, an engineering analysis may be required based on the use of the design properties. 5. This span chart is based on uniform loads. For applications
  - 6. Tables are based on Limit States Design per CAN/CSA O86-09 Standard, and NBC 2010.
    - 7. SI units conversion: 1 inch = 25.4 mm 1 foot = 0.305 m

# 3" nails required for I-joists with 3-1/2" ~ (4) 2-1/2" nails, = 1/8"-1/4" Gap flange width Hange width 2-1/2" or 3-1/2" Approx. 2" 工 Approx. 2" $\Gamma$

Construction Guide (C101). The gap between the stiffener and the flange is at the top.

engineered applications with factored reactions greater than shown in the Lioist properties table found of the Lioist

A bearing stiffener is required in all

RECOMMENDATIONS:

**WEB STIFFENERS** 

support, the top flange. The gap between the

stiffener and flange is at the top.

where a factored concentrated load greater

A load stiffener is required at locations

sides of the hanger do not extend up to, and

the Lioist is supported in a hanger and the

A bearing stiffener is required when

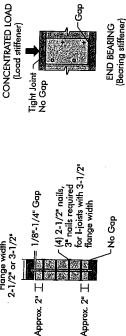
(Load stiffener)

(Bearing stiffener)

END BEARING

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

# WEB STIFFENER INSTALLATION DETAILS FIGURE 2



See table below for web stiffener size requirements

# STIFFENER SIZE REQUIREMENTS

adjusted for other load durations as permitted

standard term load duration, and may be tip and the support. These values are for

by the code. The gap between the stiffener

and the flange is at the bottom.

Si units conversion: 1 inch = 25.4 mm

cantilever, anywhere between the cantilever than 2,370 lbs is applied to the top flange

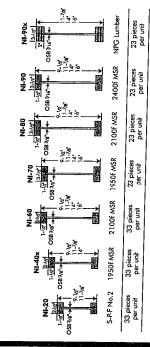
between supports, or in the case of a

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

Fight Joint No Gap

# NORDIC I-JOIST SERIES

CCMC EVALUATION REPORT 13032-R



manufacturing process. Every phase of the operation, from total to the ... Chantiers Chibougamau Ltd. harvests its own trees, which enables Nictralic products to adhere to strict quality control procedures throughauth (মত finished product, reflects our commitment to quality.

lumber in their flanges, ensuring consistent quality, supegior strength clino. Nordic Engineered Wood I-joists use only finger-jointed b.ack spruce longer span carrying capacity.

# I-JOIST HANGERS

- most commonly used metal hangers Hangers shown illustrate the three to support 1-joists.
- manufacturer's recommendations. 2. All nailing must meet the hanger

24"

On centre spacing 19.2

On centre spacing 19.2

.91

12"

Simple spans

- 3. Hangers should be selected based and load capacity based on the on the joist depth, flange width maximum spans.
- 4. Web stiffeners are required when the sides of the hangers do not laterally brace the top flange of the L-joist.





Face Mount

2015-04-1

# INSTALLING NORDIC I-JOISTS

- Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, इन्यूनिहें पुरुषे
- Except for cutting to length, I-joist flanges should never be cut, drilled, or notched.
- 3. Install L-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
- must l-joists must be anchored securely to supports before floor sheathing is attached, and supports for multiple কার্যান্ বিষয়াক
  - 5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bearings 2015 5-02-7

for plumbing, wiring and duct work. See Tables 1, 2 Holes may be cut in web

and Figure 7.

Figures 3, 4 or 5

TYPICAL NORDIC I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS

Some framing requirements such as erection bracing and blocking panels have been omitted for clarity. NOTE: Never cut or

(E)

Nordic Lam or Structural Lumber (SCL)

Composite

(1d) (1e)

notch flanges.

Nordic Lam

o SCL

- 6. When using hangers, seat I-joists firmly in hanger bottoms to minimize settlement.
  - 7. Leave a 1/16-inch gap between the 1-joist end 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 Lioist'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
- 9. Never install L-joists where they will be permanently exposed to weather, or where they will remain in direct contact with
- 10. Restrain ends of floor joists to prevent rollover. Use rim board, rim joists or Ljoist blocking panels.
- 11. For Lioists 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.
- . Due to shrinkage, common framing lumber set on edge 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 an l-joist-compatible depth selected.
- 13. Provide permanent lateral support of the bottom flange of all Ljoists at interior supports of multiple-span joists. Similarly, support the bottom flange of all camilevered Ljoists at the end support next to the cantilever extension. In the completed structure, the gypsum 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-jaists 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

in current code evaluation

reports

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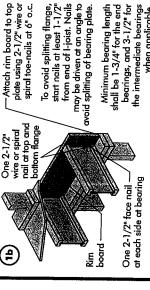
Use hangers recognized

igures 3,

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.

٨

15. Nail spacing: Space nails installed to the flange's top face in accordance with the applicable building code requirements or



transfer, nail to with same nailing

2-1/2" nails at

NI blocking panel -

3

6" o.c. to top plate (when used for lateral shear bearing plate as required for

inches or less and is based on standard term load duration.

load transfer, see detail 1d.

*The uniform vertical load is limited to a joist depth of 16 It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical

Maximum Factored Uniform Vertical Load* (pH)

top plate per detail 1b Blocking Panel or Rim Joist N Joists

Attach 1-joist to

3,300

Attach I-joist per

detail 1b

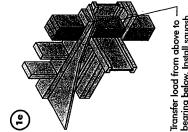
# squash blocks 1/16" for NI or rim board blocking panel per detail 1a. Squash block – (2) Attach rim joist to floor joist with must provide 1 inch minimum one nail at top and bottom. Nail penetration into floor joist. Toe-nailing may be used.

Pair of Squash Blocks	Maximum Factored Vertical p Pair of Squash Blocks (lbs)	Maximum Factored Vertical per Pair of Squash Blocks (lbs)
	3-1/2" wide	5-1/2" wide
2x Lumber	5,500	8.500
1-1/8" Rim Board Plus	4 300	0077
	7,000	000,0
Provide lateral bracing per dotail 1 2 12	المرابعة	

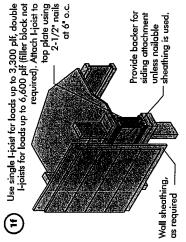
defail 1a, 1b, or 1c

per detail 1a NI rim joist

top plate per detail 1a rim joist to Attach bearing required Minimum 1-3/4"



bearing below. Install squash bearing area of blocks below blocks per detail 1d. Match to post above.



required when rim board is used. Bracing per code shall be carried to the foundation. Rim board may be used in lieu of Ljoists. Backer is not

- Load bearing wall above shall align vertically with the bearing below. Other conditions, such as offset bearing walls, are not Blocking required over all interior supports under load-bearing walls or when floor joists are not confinuous - NI blocking panel per detail 1a covered by this detail. 6" o.c. to top plate 2-1/2" nails at per detail 1b attachment (F) Joist

Ξ 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.

beam. 1/8" overhang ace of wall or beam.

allowed past inside

inside face of wall or

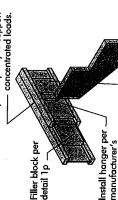
Nordic Lam or SCL

2x plate flush with

joist beyond inside

face of wall

Do not bevel-cut



Maximum support capacity = 1,620 lbs. detail 1h. Nail with twelve 3" nails, Backer block attached per clinch when possible.

Note: Unless hanger sides laterally

Note: Unless hanger sides laterally

For nailing schedules for multiple

installed per manufacturer's

recommendations

Top- or face-mount hanger

beams, see the manufacturer's

recommendations.

support the top flange, bearing stiffeners shall be used.

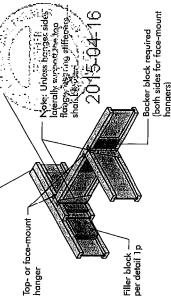
manufacturer's recommendations Top-mount hanger installed per

Note: Blocking required at bearing for lateral support, not shown for clarity.

-joist per detail 1b Attach-

*ecommendations

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

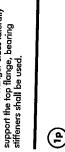


For hanger capacity see hanger manufacturer's recommendations. Verify double I-joist capacity to support concentrated loads.

BACKER BLOCKS (Blocks must be long enough to permit required nailing without splitting)

Minimum Depth**	5-1/2"	7-1/4"	
Material Thickness Required*	1"	1-1/2"	
Flange Width	2-1/2"	3-1/2"	

- better for solid sawn lumber and wood structural panels conforming Minimum grade for backer block material shall be S-P-F No. 2 or to CAN/CSA-0325 or CAN/CSA-0437 Standard
  - joists with 1-1/2" thick flanges. For 2" thick flanges use net depth For face-mount hangers use net joist depth minus 3-1/4" for minus 4-1/4".



- opposite face by 6" Offset nails from Filler block
- -1/8" to 1/4" gap between top flange and filler block

- 1. Support back of I-joist web during nailing to
  - prevent damage to web/Hange connection. Leave a 1/8 to 1/4-inch gap between top of filler block and bottom of top 1-joist
- Filler block is required between joists for full length of span.
- nails at 12 inches o.c. (clinched 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 Nail joists together with two rows of 3" are required.
- using this detail is 860 lbf/ft. Verify double The maximum factored load that may be applied to one side of the double joist I-joist capacity.



Lumber 2x4 min., extend block to face

 $(\Xi)$ 

of adjacent web. Two 2-1/2" spiral

nails from each web

to lumber piece,

opposite side. alternate on

NI blocking

pane

Flange Size	Joist Depth	Filler Block Size
2-1/2"× 1-1/2"	9-1/2" 11-7/8" 14" 16"	2-1/8" × 6" 2-1/8" × 8" 2-1/8" × 10" 2-1/8" × 12"
3-1/2"× 1-1/2"	9-1/2" 11-7/8" 14"	3"×6" 3"×8" 3"×10"
3-1/2"× 2"	11-7/8" 14" 16"	3"×7" 3"×9" 3"×11"

One 2-1/2" nails at top and bottom flange  Two 2-1/2" nails from each web to  Kim lumber piece  2x4 min. [1/8" gap minimum)	A Commence of the Commence of	Hotes:  - I-joist blocking panel - One 2-1/2" nails one side only - 2-1/2" nails at 6" o.c.

the starter joist. Where required, see local code requirements - In some local codes, blocking is prescriptively required in the first joist space (or first and second joist space) next to for spacing of the blocking.

strap applied to underside of joist at blocking

Optional: Minimum 1x4 inch

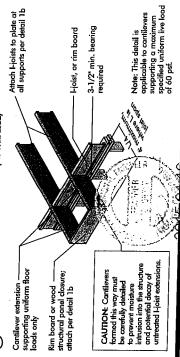
line or 1/2 inch minimum gypsum ceiling

attached to underside of joists.

All nails are common spiral in this detail.

# CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)

(3a) I-JOIST CANTILEVER DETAIL FOR BALCONIES (No Wall Load)



LUMBER CANTILEVER DETAIL FOR BALCONIES (No Wall Load) **(#)** 

plate at all supports' per detail 1b Attach I-joists to Full depth backer block with 1/8" gap between block and top flange of I-joist. · See detail 1h. Nail with 2 rows of 3" nails at 6" o.c. and clinch.

2x8 min. Nail to backer block and joist with 2 rows of --3" nails at 6" o.c. and dinch. (Cantilever nails may be used to attach backer block if length of nail is sufficient to allow clinching.)

Cantilever extension supporting uniform floor loads only

Lumber or wood structural panel closure cantilevers supporting a maximum specified uniform live load of 60 psf. Note: This detail is applicable to

l-joist, or rim board bearing required 3-1/2" min.

For hip roofs with the jack thusses running parallel to the comflewered floor joists, the Ljoist reinforcement requirements for a span of 26 ft. shall be permitted to be used.

# -maximum cantilever 7.5 2.0.7. Roof truss span requirements at cantilever. See table below for NI reinforcement

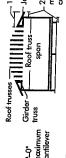
or rim board blocking, affacts of real of the or default of the order of the order

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

(4a) Mothod 1 — SHEATHING REINFORCEMENT ONE SIDE

Rim board or wood structural panel dosure (3/4" minimum thickness); attach per detail 1b

FIGURE 4 (continued)



Girder Roof russes maximum cantilever -2:-0"

# CANTILEVER REINFORCEMENT METHODS ALLOWED

Attach Ljoist to plate per detail 1b

Note: Canadian softwood phywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall martch 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.

Use same installation as Method 1 but reinforce both sides of Liosis with shadring. Use nating pattern shown for Method 1 with opposite face nailing affset by 3:

Method 2 — SHEATHING REINFORCEMENT TWO SIDES

3-1/2" min. bearing required

1. N = No reinforcement required. 1 = NI reinforced with 3/4" wood structural

required, except two nails per foot

Clinch if possible (four nails per foot

n'ar

all supports per detail 1b, 3-1/2 min. bearing Attach Lioists to top plate at

required

from opposite face by 6"

Face nail two rows of 3" nails at 12" o.c. each side through one I-joist web and the filler block to other I-joist web. Offset nails

-Ni blocking panel or rim board blocking, attach per detail 1g

Alternate Method 2 — DOUBLE I-JOIST

Rim board, or — wood structural

fhickness); attach per detail 1b

(3/4" minimum panel dosure

ponello none side only.

2 = M enthrored with 3/4* wood structural parale no both sides, or double l-joist.

X = Try a deeper joist or doser spacing.

2. Maximum design lood shall be: 15 psf roof dead lood, 55 psf floor tenal lood, and 80 pff wall flood, Wall load is based on 3.0° maximum width window or door openings.

Block Ljoists together with filler blocks for the full length of the reinforcement.
For Ljoist flange widths greater than 3 inches place an additional row of 3" nails along the centreline of the reinforcing panel from each side. Clinch when possible.

ຕ່

For larger openings, or multiple 3:0° width openings spoxed less than 6.7° o.c., addinotal joins beneath the opening's cripple study may be required.

3. Table applies to logists 12° to 24° o.c. that meet the floor spon requirements for a design live about of 40 per and dead load of 15 per and a floor load of 40 per and and a floor spon requirements for a design live local deflection limin of LASO. Use 12° o.c. requirements for lesser spacing.

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 fuss Span is equivalent to the distance between the supporting walls as if a 4. For conventional roof construction using a ridge beam, the Roof Truss Span column

russ is used. 5. Cantilevered joists supporting girder trusses or roof beams may require additional

reinforcing.

# RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS

- 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.
- I-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified.
- Whenever possible, field-cut holes should be centred on the middle of the web.
- The maximum size hole or the maximum depth of a duct chase opening that can between the top or bottom of the hole or opening and the adjacent Ljoist flange. be cut into an Lioist web shall equal the clear distance between the flanges of the Lioist minus 1/4 inch. A minimum of 1/8 inch should always be maintained
  - 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.
    - longest rectangular hole or duct chase opening) and each hole and duct chase 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 (or twice the length of the largest side of the opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
      - 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.
- cantilevered section of a joist. Holes of greater size may be permitted subject to Holes measuring 1-1/2 inches or smaller shall be permitted anywhere in a verification.
- 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. ٥.
  - 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
- 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.

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

	<b>大,在外</b> 球	5 Table 1	3 to 12	1 100	<b>海海</b> 放	AVER 1	(A)
<u>6</u>	Lek	. 5 0 5	16 K.E.	JE N	168	998	V.
ğ	050 (40)	1000	KA B		285	288	Ŕ
4	277				10		4
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						806	ð.
÷						144	23
_					445	746	9
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<b>3</b>		2.55		1000		<b>企业</b> 扩充	3.5
۱,		$\ TL\ $	114	262	얼구	327	
				+	φ.	hā b	
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- Above table may be used for Hoist spacing of 24 inches on centre or less.
   Hole location distance is measured from inside foce of supports to centre of hole.
   Distances in this chart are based on uniformly loaded joists.

# OPTIONAL:

The above table is based on the Ljoists used at their maximum span. If the Ljoists are placed at less than their full maximum span (see Maximum Statis Spairs). The minimum distance from the centreline of the hale to the face of any support (D) as given above may be reduced as follows:

Dreduced = Dreduced = Lactual x D

Distance from the inside face of any support to centre of hole, reduced for less-than-maximum span applicativns (fft. The realized distance shall not be less than 6 inches from the face of the support to edge of the hole.

The actual measured span distance between the inside faces of supports (fft). The minimum distance from the inside face of any support to centre of hole from this table. Span Adjustment Factor given in this table. Lactual ጅ ۵

# <u>bactual</u> is greater than 1, use 1 in the above calculation for <u>bactual.</u> SAF

2015-04-1

# FIELD-CUT HOLE LOCATOR

Duct chase opening minimum distance (see Table 2 for all duct chase openings and holes from bearing) between top and bottom flange Maintain minimum 1/8" space 2x duct chase – length or hole whichever is diameter, arger 2x diameter of larger hole rule 12 Knockouts distance from for minimum See Table 1 bearing –

A knockout is NOT considered a hole, may be utilized wherever it occurs and may be ignored for purposes of calculating minimum distances between holes.

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



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

# DUCT CHASE OPENING SIZES AND LOCATIONS — Simple Span Only TABLE 2

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- Above table may be used for I-joist spacing of 24 inches on centre or less.

  Duct chase opening location distance is measured from inside face of supports to centre of opening.

  The above table is based on simple-span joists only. For other applications, contact your local distributor.

  Distances are based on uniformity 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. For other applications, contact your local distributor.

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

(5a) SHEATHING REINFORCEMENT ·12" minimum length of sheathing reinforcement Provide full depth blocking between joists over support (not shown) Nail reinforcement to top and bottom joist flanges Note: Canadian softwood with 2-1/2" nails at 6" plywood sheathing or o.c. (offset opposite face equivalent (minimum nailing by 3" when using thickness 3/4") required on reinforcement on both sides of joist. Depth shall match the full sides of I-joist) height of the joist. Nail with 2-1/2" nails

SET-BACK DETAIL

Bearing walls

Rim board or wood —

structural panel closure

at 6" o.c., top and bottom flange. Install

plate at all supports per detail 1b. Verify

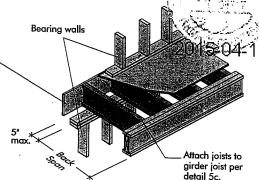
with face grain horizontal. Attach I-joist to

(3/4" minimum thickness), attach per detail 1b.

reinforced I-joist capacity.

### Notes:

- Provide full depth blocking between joists over support (not shown for clarity)
- Attach I-joist to plate at all supports per detail 1b.
- 3-1/2" minimum I-joist bearing required.



∤*max.

3-1/2"

min.

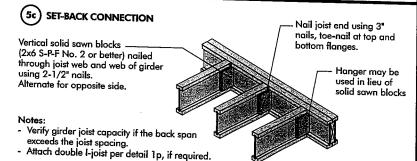
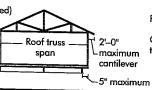


FIGURE 5 (continued)

See table below for NI reinforcement requirements at cantilever.



Roof trusses

Girder Roof truss Jack trusses
span maximum
cantilever

5" maximum

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

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- 1. N = No reinforcement required.
  - 1 = NI reinforced with 3/4" wood structural panel on one side only.
- 2 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
  X = Try a deeper joist or closer spacing.
- Maximum design load shall be: 15 psf roof dead load, 55 psf floor total load, and 80 plf wall load. Wall load is based on 3-0° maximum width window or door openings.
- For larger openings, or multiple 3'-0" width openings spaced less than 6'-0" o.c., additional joists beneath the opening's cripple studs may be required.
- Table applies to joists 12" to 24" o.c. that meet the floor span requirements for a design live load of 40 pst and dead load of 15 pst, and a live load deflection limit of L/480. Use 12" o.c. requirements for lesser 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 as if a truss is used.
- Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

# INSTALLING THE GLUED FLOOR SYSTEM

- 1. Wipe any mud, dirt, water, or ice from I-joist flanges before gluing.
- 2. Snap a chalk line across the I-joists four feet in from the wall for panel edge alignment and as a boundary for spreading glue.
- Spread only enough glue to lay one or two panels at a time, or follow specific recommendations from the glue manufacturer.
- 4. Lay the first panel with tongue side to the wall, and nail in place. This protects the tongue of the next panel from damage when tapped into place with a block and sledgehammer.
- Apply a continuous line of glue (about 1/4-inch diameter) to the top flange of a single I-joist. Apply glue in a winding pattern on wide areas, such as with double I-joists.
- 6. Apply two lines of glue on I-joists where panel ends butt to assure proper gluing of each end.
- 7. After the first row of panels is in place, spread glue in the groove of one or two panels at a time before laying the next row. Glue line may be continuous or spaced, but avoid squeeze-out by applying a thinner line (1/8 inch) than used on I-joist flanges.
- 8. Tap the second row of panels into place, using a block to protect groove edges.
- Stagger end joints in each succeeding row of panels. A 1/8-inch space between all end joints and 1/8-inch at all edges, including T&G edges, is recommended. (Use a spacer tool or an 2-1/2" common nail to assure accurate and consistent spacing.)
- 10. Complete all nailing of each panel before glue sets. Check the manufacturer's recommendations for cure time. (Warm weather accelerates glue setting.) Use 2" ring- or screw-shank nails for panels 3/4-inch thick or less, and 2-1/2" ring- or screw-shank nails for thicker panels. Space nails per the table below. Closer nail spacing may be required by some codes, or for diaphragm construction. The finished deck can be walked on right away and will carry construction loads without damage to the glue bond.

# FASTENERS FOR SHEATHING AND SUBFLOORING(1)

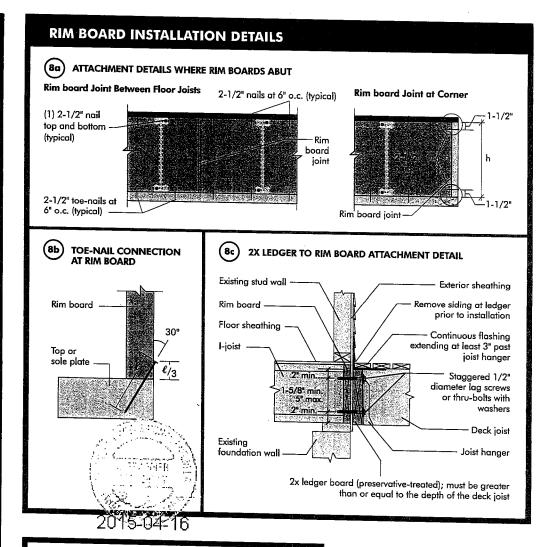
Maximum Joist	Minimum Panel	Common	ail Size and Typ Ring Thread	Maximum Spacing of Fasteners					
Spacing (in.)	Thickness (in.)	Wire or Spiral Nails	Nails or Screws	Staples	Edges	Interm. Supports			
16	5/8	2"	1-3/4"	2"	6"	12"			
20	5/8	2"	1-3/4"	2"	6*	12"			
24	3/4	2"	1-3/4"	2"	6"	12"			

- 1. Fasteners of sheathing and subflooring shall conform to the above table.
- 2. Staples shall not be less than 1/16-inch in diameter or thickness, with not less than a 3/8-inch crown driven with the crown parallel to framina.
- 3. Flooring screws shall not be less than 1/8-inch in diameter.
- Special conditions may impose heavy traffic and concentrated loads that require construction in excess
  of the minimums shown.
- 5. Use only adhesives conforming to CAN/CGSB-71.26 Standard, Adhesives for Field-Gluing Plywood to Lumber Framing for Floor System, applied in accordance with the manufacturer's recommendations. If OSB panels with sealed surfaces and edges are to be used, use only solvent-based glues; check with panel manufacturer.

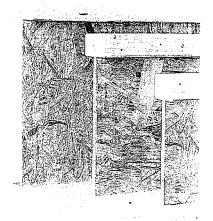
Ref.: NRC-CNRC, National Building Code of Canada 2010, Table 9.23.3.5.

## IMPORTANT NOTE:

Floor sheathing must be field glued to the I-joist flanges in order to achieve the maximum spans shown in this document. If sheathing is nailed only, I-joist spans must be verified with your local distributor.







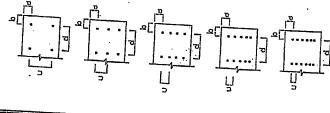
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TEL: (519) 287 - 2242

R.R. #1, P.O. BOX 61, GLENCOE, ONTARIO, NOL 1MO

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Town of Innisfil Certified Model 01/12/2017 4:25:39 PM kgervais



CALOS COMPONENT UNLY DWG NO TÄN*nico)*, 14 Structural WITH BOAY 

DETAIL IN X'SEE DNO #TANN1001-14 PROVIDE NATLING

# NOTES:

- (1) MINIMUM LUMBER EDGE DISTANCE "a" = 1"
  (2) MINIMUM LUMBER END DISTANCE "b" = 2"
  (3) MINIMUM NAIL ROW SPACING "c" = 2"
  (4) STAGGER NAILS "d/2" BETWEEN PLIES FOR MULTI-PLY MEMBERS (3 PLY OR MORE)
  (5) ALL NAILS ARE 3-1/2" ARDOX SPIRAL NAILS
  (6) DO NOT USE AIR-DRIVEN NAILS