

### Town of Innisfii Certified Model

10/23/2018 1:43:38 PM kbayley

		Products		
PlotID	Length	Product	Plies	Net Qty
J1	12-00-00	9 1/2" NI-40x	1	11
J2DJ	20-00-00	11 7/8" NI-40x	2	2
J2	18-00-00	11 7/8" NI-40x	1	3
J3	12-00-00	11 7/8" NI-40x	1	4
J4	8-00-00	11 7/8" NI-40x	1	9
J5	2-00-00	11 7/8" NI-40x	1	4
J6	20-00-00	11 7/8" NI-80	1	17
B1A	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B3	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B4	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B2	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B5	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

	Connecto	r Summary
Qty	Manuf	Product
13	H1	IUS2.56/11.88
4	H1	IUS2.56/11.88
2	H3	HUS1.81/10
1	H3	HUS1.81/10



FROM PLAN DATED: JAN 2018

**BUILDER: BAYVIEW WELLINGTON** 

SITE: ALCONA SHORES

MODEL: TH-2

**ELEVATION**: A,A2,B,B2

LOT:

CITY: INNISFIL

SALESMAN: M D DESIGNER: CZ REVISION:

NOTES:

REFER TO THE NORDIC **INSTALLATION** GUIDE FOR PROPER STORAGE AND INSTALLATION. **SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS

SEE FIGURE 7, TABLES 1 & 2. CERAMIC TILE APPLICATION AS PER

O.B.C 9.30.6. **LOADING**:

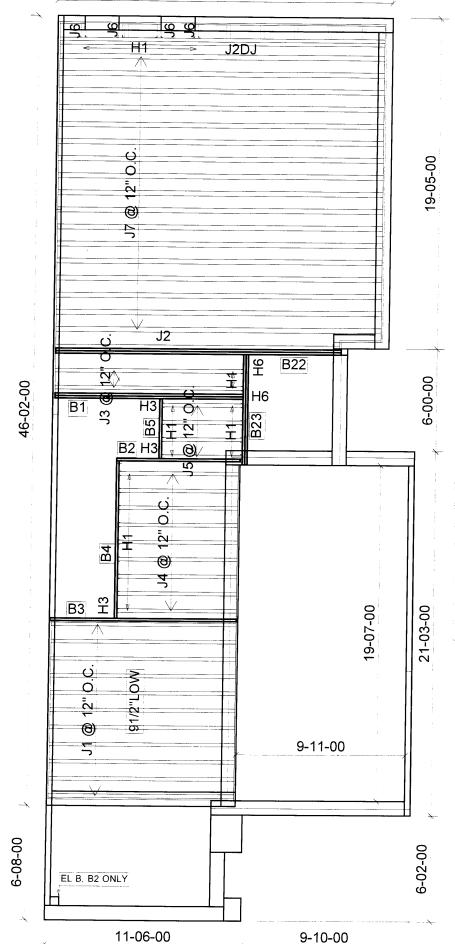
DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft TILED AREAS: 20 lb/ft

SUBFLOOR: 3/4" GLUED AND NAILED

**DATE**: 01/08/2018

## 1st FLOOR





Products								
PlotID	Length	Product	Plies	Net Qty				
J1	12-00-00	9 1/2" NI-40x	1	11				
J2DJ	20-00-00	11 7/8" NI-40x	2	2				
J2	18-00-00	11 7/8" NI-40x	1	1				
J3	12-00-00	11 7/8" NI-40x	1	2				
J4	8-00-00	11 7/8" NI-40x	1	9				
J5	6-00-00	11 7/8" NI-40x	1	4				
J6	2-00-00	11 7/8" NI-40x	1	4				
J7	20-00-00	11 7/8" NI-80	1	17				
B22	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B3	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1				
B1	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B <b>4</b>	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1				
B2	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1				
B23	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B5	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1				

	Connector Summary							
Qty	Manuf	Product						
13	H1	IUS2.56/11.88						
6	H1	IUS2.56/11.88						
4	H1	IUS2.56/11.88						
2	H3	HUS1.81/10						
1	H3	HUS1.81/10						
2	H6	HGUS410						



FROM PLAN DATED: JAN 2018

**BUILDER: BAYVIEW WELLINGTON** 

SITE: ALCONA SHORES

MODEL: TH-2

**ELEVATION**: A,A2,B,B2

LOT:

CITY: INNISFIL

SALESMAN: M D DESIGNER: CZ REVISION:

NOTES:

REFER TO THE NORDIC **INSTALLATION** GUIDE FOR PROPER STORAGE AND INSTALLATION. **SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2** S.P.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7. TABLES 1 & 2. **CERAMIC TILE APPLICATION AS PER** O.B.C 9.30.6.

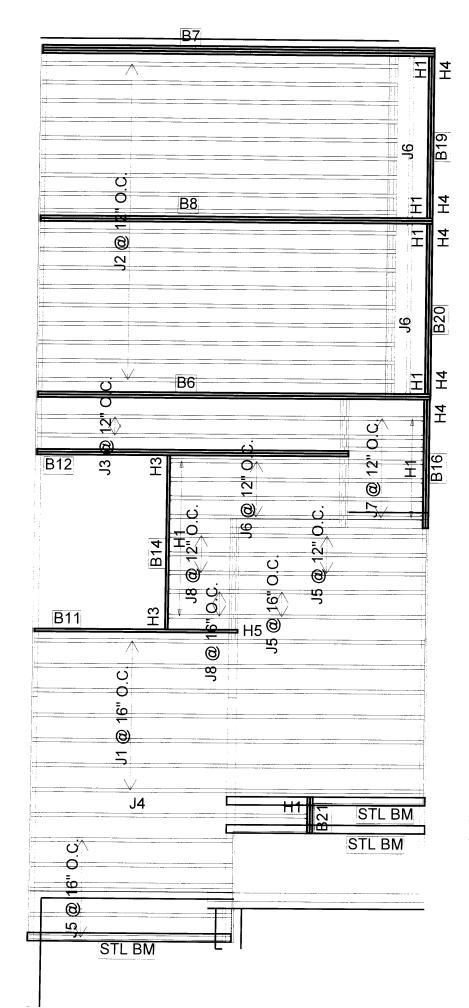
LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft
TILED AREAS: 20 lb/ft

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 01/08/2018

# 1st FLOOR

SUNKEN



Products								
PlotiD	Length	Product	Plies	Net Qty				
J1	22-00-00	11 7/8" NI-40x	1	7				
J2	20-00-00	11 7/8" NI-40x	1	18				
J3	18-00-00	11 7/8" NI-40x	1	2				
J4	16-00-00	11 7/8" NI-40x	1	1				
J5	12-00-00	11 7/8" NI-40x	1	10				
J6	10-00-00	11 7/8" NI-40x	1	6				
J7	6-00-00	11 7/8" NI-40x	1	7				
J8	4-00-00	11 7/8" NI-40x	1	5				
B6	22-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B8	22-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B7	22-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3				
B12	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B11	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1				
B14	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1				
B19	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B20	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B16	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B21	2-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				

	Connecto	r Summary
Qty	Manuf	Product
9	H1	IUS2.56/11.88
11	H1	IUS2.56/11.88
1	H1	IUS2.56/11.88
1	H3	HUS1.81/10
1	H3	HUS1.81/10
4	H4	HUC410
1	H4	HUC410
1	H5	H2.5A*



FROM PLAN DATED: JAN 2018

**BUILDER: BAYVIEW WELLINGTON** 

SITE: ALCONA SHORES

MODEL: TH-2

**ELEVATION: A2** 

LOT:

CITY: INNISFIL

SALESMAN: M D DESIGNER: CZ REVISION:

NOTES:

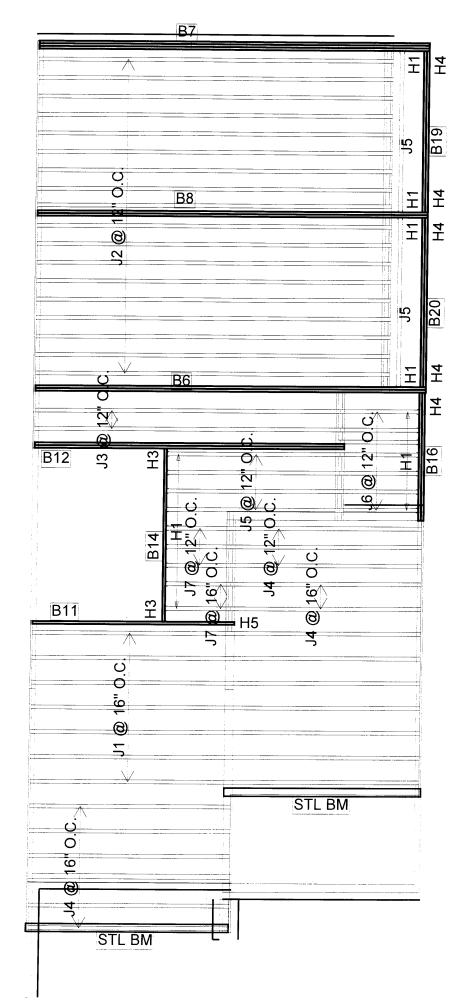
REFER TO THE NORDIC **INSTALLATION GUIDE FOR PROPER** STORAGE AND INSTALLATION. **SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURE 7 TABLES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7 TABLES 1 & 2 OF THE INSTALLATION GUIDE. CERAMIC TILE APPLICATION AS PER O.B.C. 9.30.6 LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft TILED AREAS: 20 lb/ft

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 01/08/2018

# 2nd FLOOR



Products								
PlotID	Length	Product	Plies	Net Qty				
J1	22-00-00	11 7/8" NI-40x	1	7				
J2	20-00-00	11 7/8" NI-40x	1	18				
J3	18-00-00	11 7/8" NI-40x	1	2				
J4	12-00-00	11 7/8" NI-40x	1	11				
J5	10-00-00	11 7/8" NI-40x	1	6				
J6	6-00-00	11 7/8" NI-40x	1	7				
J7	4-00-00	11 7/8" NI-40x	1	5				
B6	22-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B8	22-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B7	22-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3				
B12	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B11	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1				
B14	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1				
B19	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B20	10-00-00	1-3/4" x 11-7/8" VERSA-LA <b>M</b> ® 2.0 3100 SP	2	2				
B16	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				

L	Connector Summary								
Qty	Manuf	Product							
9	H1	IUS2.56/11.88							
10	H1	IUS2.56/11.88							
1	H1	IUS2.56/11.88							
1	H3	HUS1.81/10							
1	H3	HUS1.81/10							
4	H4	HUC410							
1	H4	HUC410							
1	H5	H2.5A*							



FROM PLAN DATED: JAN 2018

**BUILDER: BAYVIEW WELLINGTON** 

SITE: ALCONA SHORES

MODEL: TH-2

**ELEVATION**: A,B,B2

LOT:

CITY: INNISFIL

SALESMAN: M D DESIGNER: CZ REVISION:

NOTES:

REFER TO THE NORDIC **INSTALLATION GUIDE FOR PROPER** STORAGE AND INSTALLATION. **SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURE 7 TABLES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7 TABLES 1 & 2 OF THE INSTALLATION GUIDE. CERAMIC TILE APPLICATION AS PER O.B.C. 9.30.6 LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft TILED AREAS: 20 lb/ft

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 01/08/2018

# 2nd FLOOR

## NORDIC STRUCTURES

COMPANY TAMARACK LUMBER 3269 NORTH SERVICE ROAD BURLINGTON, ON by CZ Apr. 20, 2018 17:20 PROJECT J6-1ST FL.wwb

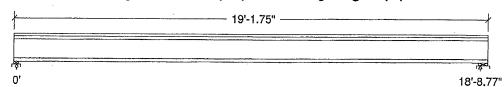
### **Design Check Calculation Sheet**

Nordic Sizer - Canada 7.0

### Loads:

Load	Type	Distribution	Pat-	Location	[ft]	Magnitude	Unit
			tern	Start	End	Start End	
Load1	Dead	Full Area				20.00	psf
Load2	Live	Full Area				40.00	psf

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



Unfactored:		* -		
Dead	187			187
Live	375			375
Factored:			.,.	
Total	796		and the same of th	796
Bearing:			AFF SC.	<del></del>
Resistance			PHOFESSION	
Joist	2186	/	THE THE STATE OF T	2336
Support	5559		" / III H 20 12 6 1	10829
Des ratio		18:38 BESIS	E. FOK	
Joist	0.36	i i i	E FOK	0.34
Support	0.14	Įα		0.07
Load case	#2	<b>,</b>	SX V Jol	# 2
Length	2-3/8	· · · · · · · · · · · · · · · · · · ·	The state of the s	4-3/8
Min req'd	1-3/4		West on the	1-3/4
Stiffener	No			No
KD	1.00		<i>:</i> •	1.00
KB support	1.00			1.00
fcp sup	769			769
Kzcp sup	1.09			1.15

### Nordic 11-7/8" NI-80 Floor joist @ 12" o.c.

Supports: All - Lumber Sill plate, No.1/No.2
Total length: 19'-1.75"; Clear span: 18'-6.99"; 3/4" nailed and glued OSB sheathing
This section PASSES the design code check.

## Limit States Design using CSA-086-09 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 796	Vr = 2336	lbs	Vf/Vr = 0.34
Moment(+)	Mf = 3728	Mr = 11609	lbs-ft	Mf/Mr = 0.32
Perm. Defl'n	0.10 = < L/999	0.62 = L/360	in	0.16
Live Defl'n	0.20 = < L/999	0.47 = L/480	in	0.44
Total Defl'n	0.31 = L/733	0.94 = L/240	in	0.33
Bare Defl'n	0.23 = L/978	0.62 = L/360	in	0.37
Vibration	Lmax = 18'-8.8	Lv = 21'-2.7	ft	0.88
Defl'n	= 0.025	= 0.034	in	0.74

DWG NO. TAM 4190 -178 H 16 12

STRUCTURAL
COMPONENT ONLY

### WoodWorks® Sizer

#### for NORDIC STRUCTURES

#### J6-1ST FL.wwb

### Nordic Sizer - Canada 7.0

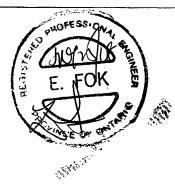
Page 2

Additiona	l Data:									
FACTORS:	f/E	KD			KL	KT	KS	KN	LC#	
Vr			1.00	_	-		_	_	#2	
Mr+	11609	1.00	1.00		1.000	_		_	#2	
EI	547.1 m	illion	-	_	_		_	_	#2	
CRITICAL LO	DAD COMB	INATIONS	S:							
Shear	: LC #2	= 1.25	5D + 1.5I	,		•				
Moment(+)	) : LC #2	= 1.25	5D + 1.5I	ı				+ *		
Deflection	on: LC #1	= 1.0	) (perma	nent)						
	LC #2	= 1.01	+1.0L	(live	)		*			 
	LC #2	= 1.01	+ 1.0L	(tota	1)					
	LC #2	= 1.01	+ 1.0L	(bare	joist)					
Bearing	: Suppo	rt 1 - I	C #2 = 1	.25D +	1.5L					
			C #2 = 1							
Load Type	es: D=dea	d W=wir	id S=sno	w H=ea	arth, grou	ndwater	r E=ear	thquake		
	L≔liv	e(use,oo	cupancy)	Ls=li	ive(stora	ge, equ:	ipment)			
Load Patt	erns: s=	S/2 L=I	+Ls _=n	o patte	ern load	in this	s span			
All Load										
CALCULATION	ONS:					_	-			
Deflection	n: Elef	f = 6	25e06 lb	-in2 F	<= 6.18e	06 lbs				
"Live" de							(live	wind en	Ot. 1	

### **Design Notes:**

CONFORMS TO OBC 2012

- 1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC), Division B, 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 Nordic Structures 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.



DWG NO. TAM 4 1 90 -178 H
STRUCTURAL
COMPONENT ONLY

## NORDIC STRUCTURES

COMPANY TAMARACK LUMBER 3269 NORTH SERVICE ROAD BURLINGTON, ON by CZ May 9, 2018 17:01 PROJECT
J1-2ND FL.wwb

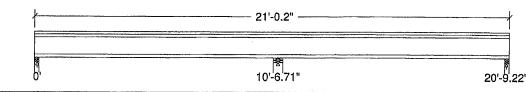
### **Design Check Calculation Sheet**

Nordic Sizer - Canada 7.0

#### Loads:

Load	Туре	Distribution	Pat-	Location	[ft]	Magnitude		Unit
			tern	Start	End	Start	End	
Loadl	Dead	Full Area	No			20.00		psf
Load2	Live	Full Area	Yes			40.00		psf

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



0,			10'-6.71"		20'-9.22"		
Unfactored:    Dead    Live Factored:	107 246		346 692		101 239		
Total Bearing:	502		1471		484		
Resistance							
Joist	2099		5373		2099		
Support	3971		8840	E. FOK 5	3971		
Des ratio				HOFESSION	1 1		
Joist	0.24		0.27		0.23		
Support	0.13		0.17	1 Colon X 2	0.12		
Load case	#4		#2	CIMINAD E	#5		
Length	2-3/8		5	E. FOK	2-3/8		
Min req'd	1-3/4		3-1/2	E.Arun Si	1-3/4		
Stiffener	No		No		No		
KD .	1.00		1.00		1.00		
KB support	1.00	4 · 4	1.00	Contract of the Contract of th	1.00		
fcp sup	769		769	Most or or	769		
Kzcp sup	1.09		1,15		1.09		

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

### Nordic 11-7/8" NI-40x Floor joist @ 16" o.c.

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

Total length: 21'-0.2"; Clear span: 10'-3.32", 9'-11.12"; 3/4" nailed and glued OSB sheathing with 1/2" gypsum ceiling

This section PASSES the design code check.

DWG NO. TAM 4 (9/ -178 H
STRUCTURAL
COMPONENT ONLY

### WoodWorks® Sizer

#### for NORDIC STRUCTURES

#### J1-2ND FL.wwb

#### Nordic Sizer - Canada 7.0

Page 2

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

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 743	Vr = 2336	lbs	Vf/Vr = 0.32
Moment(+)	Mf = 1112	Mr = 6255	lbs-ft.	Mf/Mr = 0.18
Moment(-)	Mf = 1529	Mr = 6255	lbs-ft	Mf/Mr = 0.24
Perm. Defl'n	0.01 = < L/999	0.35 = L/360	in	0.03
Live Defl'n	0.03 = < L/999	0.26 = L/480	in	0.12
Total Defl'n	0.04 = < L/999	0.53 = L/240	in	0.08
Bare Defl'n	0.04 = < L/999	0.35 = L/360	in	0.10
Vibration	Lmax = 10'-6.7	Lv = 20'-8.5	ft	0.51
Defl'n	= 0.009	= 0.069	in	0.13

#### **Additional Data:**

FACTORS:	f/E	KD	KH	ΚZ	KL	KT	KS	KN	LC#
Vr	2336	1.00	1.00	_	-	-			#2
Mr+	6255	1.00	1.00	-	1,000		-		#4
Mr-	6255	1.00	1.00	-	1.000	_	-	-	#2
EI	371.1	million	_	-	_	_	_	_	#4

#### CRITICAL LOAD COMBINATIONS:

: LC #2 = 1.25D + 1.5LShear

Moment(+): LC #4  $= 1.25D + 1.5L (pattern: L_)$ 

Moment(-): LC #2 = 1.25D + 1.5L

Deflection: LC #1 = 1.0D (permanent)

 $LC #4 = 1.0D + 1.0L (pattern: L_)$ (live)  $LC #4 = 1.0D + 1.0L (pattern: L_)$ (total)  $LC #4 = 1.0D + 1.0L (pattern: L_)$ (bare joist)

: Support 1 - LC #4 = 1.25D + 1.5L (pattern: L\_) Support 2 - LC #2 = 1.25D + 1.5L

Support 3 - LC #5 = 1.25D + 1.5L (pattern: \_L)

Load Types: D=dead W=wind S=snow H=earth,groundwater E=earthquake

L=live(use,occupancy) Ls=live(storage.equipment)

Load Patterns: s=S/2 1-1112

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

CALCULATIONS:

ETeff = 460e06 lb-in2 K= 6.18e06 lbs Deflection:

"Live" deflection = Deflection from all non-dead loads (live, wind, snow...)

#### Desian Notes:

Design Notes:

CONFORMS TO OBC 2012

1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC), Division B, 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 Nordic Structures 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.

> DWG NO. TAM 4191-1781-STRUCTURAL COMPONENT ONLY





**PASSED** 

May 4, 2018 15:35:03

### 1ST FLOOR FRAMING\Flush Beams\B1(i3159)

BC CALC® Design Report

Build 6215

Job name: Address:

City, Province, Postal Code: INNISFIL

Customer:

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

TH-2-ELA2.mmdl

Wind

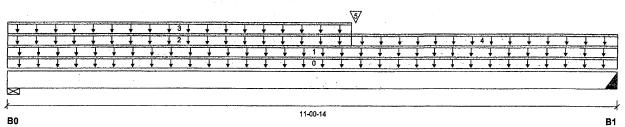
Description:

1ST FLOOR FRAMING\Flush Beams\B1(i3159)

Specifier:

Designer:

Company:



#### Total Horizontal Product Length = 11-00-14

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B0, 2-3/8"	229 / 0	456 / 0
B1 2"	292 / 0	320 / 0

Loa	ad Summary					Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L ·	00-00-00	11-00-14		12			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	11-00-14	11	6			n\a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	06-02-06		60			n\a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	06-02-06	6	3			n\a
4	FC1 Floor Material	Unf. Lin. (lb/ft)	L	06-02-06	11-00-14	15	8			n\a
5	B5(i3009)	Conc. Pt. (lbs)	L	06-03-04	06-03-04	285	153			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3,115 ft-lbs	35,392 ft-lbs	8.8 %	1	06-03-04
End Shear	504 lbs	9,401 lbs	5.4 %	0	01-02-04
Total Load Deflection	L/999 (0.045")	n\a	n\a	4	05-06-14
Live Load Deflection	L/999 (0.02")	n\a	n\a	5	05-08-12
Max Defl.	0.045"	n\a	n\a	4	05-06-14
Span / Depth	10.9				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	2-3/8" x 3-1/2"	638 lbs	22.1 %	9.7 %	Unspecified
B1	Hanger	2" x 3-1/2"	839 lbs	n\a	9.8 %	HGUS410



### **Cautions**

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

> DWG NO. TAM 4692-17814 COMPONENT ONLY

> > T.18071586





**PASSED** 

### 1ST FLOOR FRAMING\Flush Beams\B1(i3159)

BC CALC® Design Report Build 6215

Dry | 1 span | No cant.

May 4, 2018 15:35:03

Job name: Address:

File name:

TH-2-ELA2.mmdl

Description:

1ST FLOOR FRAMING\Flush Beams\B1(i3159)

Customer:

City, Province, Postal Code: INNISFIL

Specifier:

Code reports:

CCMC 12472-R

Designer: Company:

### **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.

Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

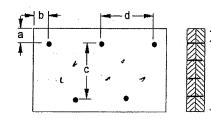
Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads,

please consult a technical representative or professional of Record.

### Connection Diagram



a minimum = 2" b minimum = 3" c = 7-7/8"

Calculated Side Load = 55.9 lb/ft

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

Connectors are:

And Nails 3-1/2" ARDOX SPIRAL



#### Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

DWG NO. TAM 4192 STRUCTURAL COMPONENT ONLY

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





**PASSED** 

April 20, 2018 16:56:38

### 1ST FLOOR FRAMING\Flush Beams\B1A(i2944)

BC CALC® Design Report

Build 6215

Job name:

Address: City, Province, Postal Code: INNISFIL

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

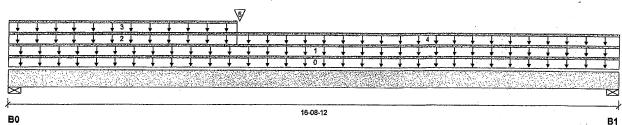
File name:

TH-2.mmdl Description: 1ST FLOOR FRAMING\Flush Beams\B1A(i2944)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 16-08-12

Reaction Summary (Down / Unlift) (lbs)

i todolion our	reading Canada (Botta Copies)											
Bearing	Live	Dead	Snow	Wind								
B0, 2-3/8"	447 / 0	634 / 0										
B1, 4-3/8"	381/0	364 / 0										

Lo	ad Summary					Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	16-08-12		12			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	16-08-12	11	6			n\a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	06-02-06		60			n\a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	06-02-06	6	3			n\a
4	FC1 Floor Material	Unf. Lin. (lb/ft)	L	06-02-06	16-08-12	15	8			n\a
5	B5(i2721)	Conc. Pt. (lbs)	L	06-03-04	06-03-04	441	231			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	6,495 ft-lbs	35,392 ft-lbs	18.4 %	1	06-03-04
End Shear	1,313 lbs	14,464 lbs	9.1 %	1	01-02-04
Total Load Deflection	L/952 (0.205")	n\a	25.2 %	4	07-10-01
Live Load Deflection	L/999 (0.103")	n\a	n\a	5	07-11-12
Max Defl.	0.205"	n\a	n\a	4	07-10-01
Span / Depth	16.5				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	2-3/8" x 3-1/2"	1,463 lbs	33.0 %	14.4 %	Unspecified
B1	Wall/Plate	4-3/8" x 3-1/2"	1,025 lbs	12.5 %	5.5 %	Unspecified

#### Notes

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

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

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

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

**CONFORMS TO OBC 2012** 

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

DWG NO. TAM 4193 STRUCTURAL COMPONENT ONLY







**PASSED** 

April 20, 2018 16:56:38

### 1ST FLOOR FRAMING\Flush Beams\B1A(i2944)

BC CALC® Design Report

Build 6215

Job name: Address:

City, Province, Postal Code: INNISFIL

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

TH-2.mmdl

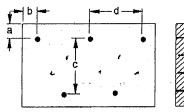
File name: Description: 1ST FLOOR FRAMING\Flush Beams\B1A(i2944)

Specifier:

Designer:

Company:

### **Connection Diagram**



a minimum = 2" b minimum = 3" c = 7-7/8" nu d = 200

Calculated Side Load = 56.8 lb/ft

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

Connectors are: ...

3-1/2" ARDOX SPIRAL



#### Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

DWG NO. TAM 4193 COMPONENT ONLY

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

T.18071587(Z)





**PASSED** 

April 20, 2018 16:10:08

### 1ST FLOOR FRAMING\Flush Beams\B2(i2715)

**BC CALC® Design Report** 

Build 6215

Job name:

Address:

City, Province, Postal Code: INNISFIL

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

TH-2.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B2(i2715)

Specifier:

Designer:

Company:

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			<del>                                      </del>	<b>↓</b> ↓ ↓
		and the state of t		34.000
	······	07-03-00		
)		07-03-00		

#### Total Horizontal Product Length = 07-03-00

Reaction Sun	nmary (Down / U	plift) (ibs)			
Bearing	Live	Dead	Snow	Wind	
B0, 3-1/2"	413 / 0	235 / 0			
B1, 5-1/2"	277 / 0	202/0			

Lo	ad Summary					Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	07-03-00		6			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	02-06-00	22	11			n\a
2	FC1 Floor Material	Unf. Lin. (ib/ft)	L	02-06-00	07-03-00	27	13			n\a
3	B5(i2721)	Conc. Pt. (lbs)	L	02-06-14	02-06-14	507	265			·n\a
4	3(i272)	Conc. Pt. (lbs)	L	07-00-04	07-00-04		37			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1,960 ft-lbs	17,696 ft-lbs	11.1 %	1	02-06-14
End Shear	843 lbs	7,232 lbs	11.7 %	1	01-03-06
Total Load Deflection	L/999 (0.019")	n\a	n\a	4	03-04-09
Live Load Deflection	L/999 (0.012")	. n\a	n\a	5	03-03-06
Max Defl.	0.019"	n\a	n\a	4	03-04-09
Span / Depth	6.7				

Bearii	ng Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
В0	Column	3-1/2" x 1-3/4"	914 lbs	18.4 %	12.2 %	Unspecified
R1	Wall/Plate	5-1/2" x 1-3/4"	667 lbs	13.0 %	57%	Unspecified

#### **Notes**

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

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

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

### **Disclosure**

Use of the Bolse Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

DWG NO. TAM 419 STRUCTURAL COMPONENT ONLY

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





**PASSED** 

May 11, 2018 13:58:46

#### 1ST FLOOR FRAMING\Flush Beams\B3(i3264)

BC CALC® Design Report

Build 6215

Job name:

Address: City, Province, Postal Code: INNISFIL

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

TH-2-ELA2.mmdl

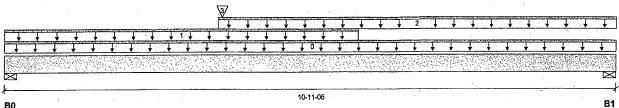
Description:

1ST FLOOR FRAMING\Flush Beams\B3(i3264)

Specifier:

Designer:

Company:



#### Total Horizontal Product Length = 10-11-06

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B0, 3-1/2"	526 / 0	585 / 0
D4 4 2/9"	310 / 0	303 / 0

Lo	ad Summary					Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	····
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-11-06		6			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	06-03-08		60			n\a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	03-09-08	10-11-06	7	4			n\a
3	B4(i3236)	Conc. Pt. (lbs)	L	03-10-06	03-10-06	781	417		ميار. ماريد مار	n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	4,915 ft-lbs	13,592 ft-lbs	36.2 %	1	03-10-06
End Shear	1,415 lbs	7,232 lbs	19.6 %	1	01-03-06
Total Load Deflection	L/999 (0.117")	n\a	n\a	4	05-00-15
Live Load Deflection	L/999 (0.061")	n\a	n\a	5	05-00-15
Max Defl.	0.117"	n\a	n\a	4	05-00-15
Span / Depth	10.5				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
В0	Wall/Plate	3-1/2" x 1-3/4"	1,521 lbs	46.5 %	20.4 %	Unspecified
B1	Wall/Plate	4-3/8" x 1-3/4"	844 lbs	20.7 %	9.0 %	Unspecified

#### Notes

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

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

Calculations assume unbraced length of Top: 03-06-00, Bottom: 03-06-00.

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 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012



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DWG NO. TAM 4195 -184 STRUCTURAL COMPONENT ONLY

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





**PASSED** 

April 20, 2018 16:10:08

### 1ST FLOOR FRAMING\Flush Beams\B4(i2705)

BC CALC® Design Report

**Build 6215** 

Job name:

Customer: Code reports:

Address:

City, Province, Postal Code: INNISFIL

CCMC 12472-R

Dry | 1 span | No cant.

File name:

TH-2.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B4(i2705)

Specifier: Designer:

Company:

09-02-04	<b>2</b>	3	W 1111	1 1 1 111	5
	<del>                                     </del>				<del>                                      </del>
30			OS	9-02-04	

#### Total Horizontal Product Length = 09-02-04

Reaction Summary (Down / Oplint) (ibs)								
Bearing	Live	Dead	Snow	Wind				
B0, 2"	788 / 0	421 / 0						
R1 1_3///"	614 / 0	334 / 0						

Lo	ad Summary					Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L.	00-00-00	09-02-04		6			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	Ĺ	03-06-08	07-06-08	142	70			n\a
2	J5(i2698)	Conc. Pt. (lbs)	L	00-02-08	00-02-08	161	80			n\a
3	J5(i2742)	Conc. Pt. (lbs)	L	01-06-08	01-06-08	256	128			n\a
4	J5(i2755)	Conc. Pt. (lbs)	L	02-10-08	02-10-08	246	123			n\a
5	J5(i2727)	Conc. Pt. (lbs)	L	08-02-08	08-02-08	170	85			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand <i>i</i> Resistance	Case	Location
Pos. Moment	3,428 ft-lbs	17,696 ft-lbs	19.4 %	1	04-02-08
End Shear	1,372 lbs	7,232 lbs	19.0 %	1	01-01-14
Total Load Deflection	L/999 (0.072")	n\a	n\a	4	04-06-08
Live Load Deflection	L/999 (0.047")	n\a	n\a	5	04-06-08
Max Defl.	0.072"	n\a	n\a	4	04-06-08
Span / Depth	9.1				

Bear	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
BO	Hanger	2" x 1-3/4"	1,707 lbs	n\a	40.0 %	HUS1.81/10
B1	Column	1-3/4" x 1-3/4"	1.338 lbs	53.8 %	35.8 %	Unspecified

Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

### **Notes**

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

Calculations assume member is fully braced.

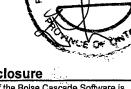
Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86. CONFORMS TO OBC 2012 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9 **Disclosure** Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input

must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

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



DWG NO. TAM 4196 -173 H STRUCTURAL COMPONENT ONLY





**PASSED** 

May 11, 2018 13:57:59

### 1ST FLOOR FRAMING\Flush Beams\B5(i3276)

BC CALC® Design Report

City, Province, Postal Code: INNISFIL

**Build 6215** 

Job name: Address:

Dry | 1 span | No cant.

TH-2-ELA2.mmdl

1ST FLOOR FRAMING\Flush Beams\B5(i3276)

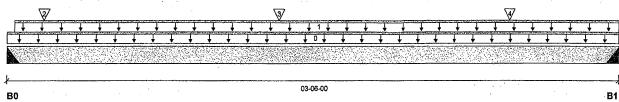
File name: Description: Specifier:

Designer: CZ

Customer: Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 03-06-00

Reaction Summary (Down / Opint) (los)										
Bearing	Live	Dead	Snow	Wind						
B0, 2"	581 / 0	301 / 0								
B1. 2"	570 / 0	296 / 0		•						

Lo	ad Summary					Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-06-00		6			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	80-00-00	03-06-00	240	120			n\a
2	J5(i3015)	Conc. Pt. (lbs)	L	00-02-08	00-02-08	81	40			n\a
3	J5(i2994)	Conc. Pt. (lbs)	L	01-06-08	01-06-08	134	67			n\a
4	J5(i2976)	Conc. Pt. (lbs)	L	02-10-08	02-10-08	106	53			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	981 ft-lbs	17,696 ft-lbs	5.5 %	1	01-06-08
End Shear	506 lbs	7,232 lbs	7.0 %	1 -	02-04-02
Total Load Deflection	L/999 (0.003")	n\a	n\a	4	01-08-15
Live Load Deflection	L/999 (0.002")	n\a	n\a .	5	01-08-15
Max Defl.	0.003"	n\a	n\a	4	01-08-15
Snan / Denth	3 3				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Hanger	2" x 1-3/4"	1,247 lbs	n\a	29.2 %	HUS1.81/10
B1	Hanger	2" x 1-3/4"	1,225 lbs	n\a	28.7 %	HUS1.81/10

Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

#### **Notes**

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012



#### **Disclosure**

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of sultability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

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

DWG NO. TAM 4 (9) STRUCTURAL

COMPONENT ONLY



**PASSED** 

May 4, 2018 15:36:31

### 2ND FLOOR FRAMING\Flush Beams\B6(i3479)

BC CALC® Design Report

Build 6215

Job name:

Address:

City, Province, Postal Code: INNISFIL

Customer:

Code reports:

CCMC 12472-R

Dry | 2 spans | R cant.

File name:

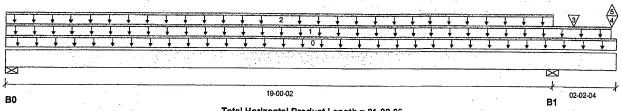
TH-2.mmdl

2ND FLOOR FRAMING\Flush Beams\B6(i3479) Description:

Specifier:

Designer: CZ

Company:



### Total Horizontal Product Length = 21-02-06

Reaction Sui	ililaly (Dowli / Op	mu (ibs)			
Bearing	Live	Dead	Snow	Wind	
B0, 2-3/8"	389 / 83	188 / 0	0 / 100		
B1, 5-1/2"	1,393 / 60	1.618 / 0	1.029 / 0		

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description		Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight		Unf. Lin. (lb/ft)	L	00-00-00	21-02-06	********	12			00-00-00
1	FC3 Floor Material		Unf. Lin. (lb/ft)	L	00-00-00	21-00-02	24	12			n\a
2	FC3 Floor Material		Unf. Lin. (lb/ft)	L	00-00-00	19-00-02	16	8			n\a
3	J6(i3384)		Conc. Pt. (lbs)	L	19-08-10	19-08-10	207	103			n\a
4	-		Conc. Pt. (lbs)	L	21-00-06	21-00-06 (	668	1.044	929 )-	_	n\a
5	-		Conc. Pt. (lbs)	L··	21-00-06	21-00-06	-54	•		/	n\a
Co	ntrols Summary	Factored Demand	Factored Resistance	Demand/ Resistan		e Location	1		70	P 206	€ )

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location	
Pos. Moment	3,235 ft-lbs	35,392 ft-lbs	9.1 %	43	08-02-00	
Neg. Moment	-6,399 ft-lbs	-35,392 ft-lbs	18.1 %	49	19-00-02	
End Shear	699 lbs	14,464 lbs	4.8 %	43	01-02-04	
Cont. Shear	3,185 lbs	14,464 lbs	22.0 %	49	20-02-12	
Total Load Deflection	L/1,772 (0.128")	n\a	13.5 %	102	08-10-11	
Live Load Deflection	L/999 (0.121")	n\a	n\a	151	09-07-06	
Total Neg. Defl.	L/999 (-0.11")	n\a	n\a	132	12-03-02	
Max Defl.	0.128"	n\a	n\a	102	08-10-11	
Span / Depth	19 1					

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	2-3/8" x 3-1/2"	818 lbs	18.4 %	8.1 %	Unspecified
B1	Wall/Plate	5-1/2" x 3-1/2"	4,626 lbs	45.0 %	19.7 %	Unspecified

PROFESSION A ....

DWG NO. TAM 4198 -178H STRUCTURAL COMPONENT ONLY





**PASSED** 

#### 2ND FLOOR FRAMING\Flush Beams\B6(i3479)

BC CALC® Design Report

**Build 6215** 

Job name:

Dry | 2 spans | R cant.

May 4, 2018 15:36:31

Address:

City, Province, Postal Code: INNISFIL

File name:

Description:

2ND FLOOR FRAMING\Flush Beams\B6(i3479)

TH-2.mmdl

Specifier:

Designer:

Customer: Code reports:

CCMC 12472-R

Company:

#### 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 O86.

**CONFORMS TO OBC 2012** 

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

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

Design based on Dry Service Condition.

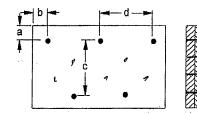
Importance Factor: Normal Part code: Part 9

 $\dot{\Omega}$  Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads,

please consult a technical representative or professional of Record.

### **Connection Diagram**



a minimum = 2" b minimum = 3" c = 7-7/8d= 12

Calculated Side Load = 97.8 lb/ft

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

Connectors are: .

n Nails **ARDOX SPIRAL** 



### Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

DWG NO. TAM 4198 STRUCTURAL COMPONENT ONLY BC CALC®, BC FRAMER®, AJS™ ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,





PASSED

### 2ND FLOOR FRAMING\Flush Beams\B7(i3481)

BC CALC® Design Report

Build 6215

Job name: Address:

Dry | 3 spans | R cant.

May 4, 2018 15:36:31

City, Province, Postal Code: INNISFIL

File name:

TH-2.mmdl

Wind

Description: 2ND FLOOR FRAMING\Flush Beams\B7(i3481)

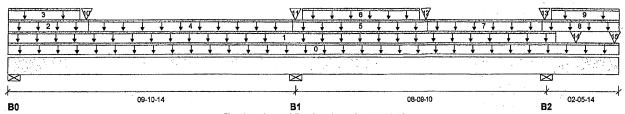
Specifier:

Designer: CZ

Customer: Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 21-02-06

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow
B0, 8-3/8"	1,336 / 125	1,877 / 0	6,415 / 0
B1, 11-1/16"	2,751 / 0	3,906 / 0	13,602 / 0
B2, 12-3/4"	2,396 / 0	3,472 / 0	9,528 / 0

Lo	ad Summary					Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	21-02-06		18			00-00-00
1	FC3 Floor Material	Unf, Lin. (lb/ft)	L	00-00-00	19-00-05	20	10			n\a
2	E18(i1207)	Unf. Lin. (lb/ft)	L	00-00-00	02-09-06		81			n\a
3	E18(i1207)	Unf. Lin. (lb/ft)	L	00-00-00	02-05-06	239	304	1,329		n\a
4	E23(i1212)	Unf. Lin. (lb/ft)	L	02-09-06	09-09-06		61			n∖a
5	E22(i1211)	Unf. Lin. (lb/ft)	L	09-09-06	14-06-06		81			n\a
6	E22(i1211)	Unf. Lin. (lb/ft)	L	10-01-06	14-02-06	239	304	1,329		n\a
7	E21(i1210)	Unf. Lin. (lb/ft)	L	14-06-06	18-06-06		61			n\a
8	E20(i1209)	Unf. Lin. (lb/ft)	L	18-06-06	21-02-06		81			n\a
9	E20(i1209)	Unf. Lin. (lb/ft)	L	18-10-06	21-02-06	239	304	1,329		n\a
10	E18(i1207)	Conc. Pt. (lbs)	L	02-08-06	02-08-06	919	1,192	5,110		n\a
11	E22(i1211)	Conc. Pt. (lbs)	L	09-10-06	09-10-06	913	1,185	5,079		n\a
12	E22(i1211)	Conc. Pt. (lbs)	L	14-05-06	14-05-06	562	729	3,128		n\a
13	E20(i1209)	Conc. Pt. (lbs)	L	18-07-06	18-07-06	553	717	3,074	200	, n\a
14	J6(i3480)	Conc. Pt. (lbs)	L	19-08-10	19-08-10	266	133	75		n\a
15	B19(i3465)	Conc. Pt. (lbs)	L	21-00-10	21-00-10	286	537	497	.c.co	n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	17,077 ft-lbs	55,212 ft-lbs	30.9 %	122	02-08-06
Neg. Moment	-16,796 ft-lbs	-55,212 ft-lbs	30.4 %	139	09-10-14
End Shear	8,184 lbs	21,696 lbs	37.7 %	122	01-08-04
Cont. Shear	8,898 lbs	21,696 lbs	41.0 %	139	11-04-04
Total Load Deflection	L/999 (0,068")	n\a	n\a	290	04-01-05
Live Load Deflection	L/999 (0.057")	n\a	n\a	410	14-03-14
Total Neg. Defl.	2xL/1,998 (-0,027")	n\a	n\a	306	21-02-06
Max Defl.	0.068"	n\a	n\a	290	04-01-05
Span / Depth	9.4				:

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	8-3/8" x 5-1/4"	12,637 lbs	53.8 %	23.6 %	Unspecified
B1	Wall/Plate	11-1/16" x 5-1/4"	26,662 lbs	86.0 %	37.6 %	Unspecified
B2	Wall/Plate	12-3/4" x 5-1/4"	19,830 lbs	55.4 %	24.2 %	Unspecified

DWG NO. TAM 4199 -17814 STRUCTURAL COMPONENT ONLY





**PASSED** 

May 4, 2018 15:36:31

### 2ND FLOOR FRAMING\Flush Beams\B7(i3481)

**BC CALC® Design Report** 

**Build 6215** 

Job name: Address:

City, Province, Postal Code: INNISFIL

Customer:

Code reports:

CCMC 12472-R

Dry | 3 spans | R cant.

File name: TH-2.mmdl

Description:

2ND FLOOR FRAMING\Flush Beams\B7(i3481)

Specifier:

Designer:

Company:

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 O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA 086.

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

verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

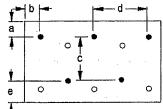
Connection design assumes point load is top-loaded. For connection design of side-loaded point loads,

4 pous

please consult a technical representative or professional of Record.

Nailing schedule applies to both sides of the member.

### **Connection Diagram**



a minimum = 3" b minimum = 3"

c = **0**-7/8" d= 8" e minimum = 2"

Calculated Side Load = 100.2 lb/ft

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

Nailing schedule applies to both sides of the member.

Connectors are: 5

3-1/2" ARDOX SPIRAL



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STRUCTUR COMPONENT ONLY

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

T.18071593(2)





**PASSED** 

May 4, 2018 15:36:31

### 2ND FLOOR FRAMING\Flush Beams\B8(i3402)

BC CALC® Design Report

Build 6215

Job name:

Address:

City, Province, Postal Code: INNISFIL

Customer:

Code reports:

CCMC 12472-R

Dry | 2 spans | R cant.

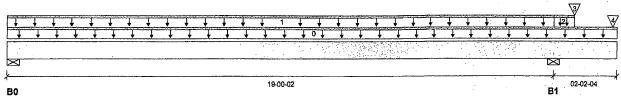
TH-2.mmdl File name:

Description: 2ND FLOOR FRAMING\Flush Beams\B8(i3402)

Specifier:

Designer: CZ

Company:



Total Horizontal Product Length = 21-02-06

Neaction Sun	illiaty (Dowit / Op	niit) (ibə)			
Bearing	Live	Dead	Snow	Wind	
B0, 2-3/8"	211 / 80	90 / 0	0 / 114		
B1, 5-1/2"	1,335 / 0	1,731 / 0	1,168 / 0		

Lo	ad Summary					Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	21-02-06		12			00-00-00
1	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	19-00-03	22	11			n\a
2	FC3 Floor Material	Unf. Lin. (lb/ft)	L	19-00-03	19-08-10	27				n\a
3	-	Conc. Pt. (lbs)	L	19-08-10	19-08-10	448	224			n\a
4	-	Conc. Pt. (lbs)	L	21-00-10	21-00-10 (	570	1,122	1,054	$)_{\gamma}$	n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1,427 ft-lbs	35,392 ft-lbs	4.0 %	32	06-10-12
Neg. Moment	-7,080 ft-lbs	-35,392 ft-lbs	20.0 %	- 37	19-00-02
End Shear	355 lbs	14,464 lbs	2.5 %	32	01-02-04
Cont. Shear	3,547 lbs	14,464 lbs	24.5 %	37	20-02-12
Total Load Deflection	2xL/1,998 (0.12")	n\a	n\a	103	21-02-06
Live Load Deflection	L/999 (-0.117")	n\a	n/a	141	11-00-09
Total Neg. Defl.	L/1,480 (-0.153")	n\a	16.2 %	103	11-08-05
Max Defl.	-0.153"	n\a	n\a	103	11-08-05
Snan / Depth	19 1				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	2-3/8" x 3-1/2"	429 lbs	9.7 %	4.2 %	Unspecified
В0	Uplift		130 lbs			
B1	Wall/Plate	5-1/2" x 3-1/2"	4,750 lbs	46.2 %	20.2 %	Unspecified

Cautions

Uplift of 130 lbs found at span 1 - Left. (512050) 1-42-57-E



TOP ENGE LOGOST. one 7.

DWG NO. TAM 4200 -173H STRUCTURAL COMPONENT ONLY





**PASSED** 

### 2ND FLOOR FRAMING\Flush Beams\B8(i3402)

BC CALC® Design Report

**Build 6215** 

Dry | 2 spans | R cant.

May 4, 2018 15:36:31

Job name: Address:

File name: TH-2.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B8(i3402)

City, Province, Postal Code: INNISFIL

Specifier:

Designer:

Customer: Code reports:

CCMC 12472-R

Company:

#### **Notes**

Design meets User specified (2xL/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 O86.

**CONFORMS TO OBC 2012** 

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

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

verification.

Design based on Dry Service Condition.

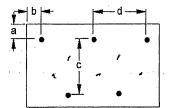
Importance Factor: Normal Part code: Part 9

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads,

please consult a technical representative or professional of Record.

#### **Connection Diagram**



a minimum = 2" b minimum = 3"

c = 7-7/8" 12" d = 🐲

Calculated Side Load = 98.2 lb/ft

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

Connectors are:

Nails 3-1/2" ARDOX SPIRAL



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DWG NO. TAM 4200 STRUCTURAL COMPONENT ONLY

BC CALC®, BC FRAMER®, AJS™,
-18HALLJOIST®, BC RIM BOARD™, BCI®,
BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®





**PASSED** 

May 11, 2018 14:08:26

### 2ND FLOOR FRAMING\Flush Beams\B11(i3490)

BC CALC® Design Report

Build 6215

Job name:

Address:

City, Province, Postal Code: INNISFIL

Customer:

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

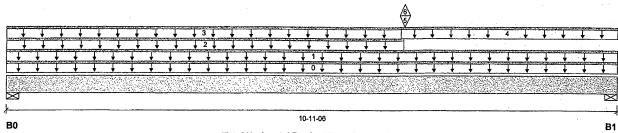
TH-2.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B11(i3490)

Specifier:

Designer: CZ

Company:



#### Total Horizontal Product Length = 10-11-06

Reaction Summary (Down / Uplift) (lbs)
Bearing Live Dead Bearing Snow Wind 264 / 138 BO, 2-3/8" 391/0 B1, 5-1/2" 488 / 278 297/0

Lo	ad Summary					Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-11-06		6			00-00-00
1	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-11-06	11	6			n\a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	07-01-01		60			n\a
3	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	07-00-06	3	1			n\a
4	FC3 Floor Material	Unf. Lin. (lb/ft)	L·	07-00-06	10-11-06	16	8			n\a
5	B14(i3488)	Conc. Pt. (lbs)	L	07-01-04	07-01-04	549	96			n\a
6	B14(i3488)	Conc. Pt. (lbs)	L	07-01-04	07-01-04	-416				n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3,335 ft-lbs	17,696 ft-lbs	18.8 %	1	07-01-04
Neg. Moment	-644 ft-lbs	-17,696 ft-lbs	3.6 %	4	07-01-04
End Shear	1,010 lbs	7,232 lbs	14.0 %	1	09-06-00
Total Load Deflection	L/999 (0.088")	n\a	n\a	6	05-06-13
Live Load Deflection	L/999 (0.048")	n\a	n\a	8	05-09-00
Max Defl.	0.088"	n\a	n\a	6	05-06-13
Span / Depth	10.5				

Bearin	g Supports		Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	2-3/8" x 1-3/4"	885 lbs	39.9 %	17.4 %	Unspecified
B1	Wall/Plate	5-1/2" x 1-3/4"	1,103 lbs	21.5 %	9.4 %	Unspecified
B1	Uplift		150 lbs			

**Cautions** 

Uplift of 150 lbs found at span 1 - Right. (5127502



DWG NO. TAM 420/-178 H STRUCTURAL COMPONENT ONLY





**PASSED** 

2ND FLOOR FRAMING\Flush Beams\B11(i3490)

BC CALC® Design Report Build 6215

Dry | 1 span | No cant.

May 11, 2018 14:08:26

Job name: Address:

TH-2.mmdl

File name: Description: 2ND FLOOR FRAMING\Flush Beams\B11(i3490)

Specifier:

Customer: Code reports:

CCMC 12472-R

Designer: Company:

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.

**CONFORMS TO OBC 2012** Resistance Factor phi has been applied to all presented results per CSA O86.

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

Design based on Dry Service Condition.

City, Province, Postal Code: INNISFIL

Importance Factor: Normal Part code: Part 9



### Disclosure :

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DWG NO. TAM 4201 STRUCTURAL COMPONENT ONLY

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





**PASSED** 

May 4, 2018 15:36:31

#### 2ND FLOOR FRAMING\Flush Beams\B12(i3446)

BC CALC® Design Report

**Build 6215** Job name:

Address:

Customer:

Code reports:

City, Province, Postal Code: INNISFIL

CCMC 12472-R

Dry | 1 span | No cant.

TH-2.mmdl

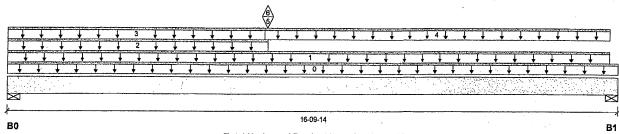
File name:

2ND FLOOR FRAMING\Flush Beams\B12(i3446) Description:

Specifier:

Designer:

Company:



#### Total Horizontal Product Length = 16-09-14

Reaction Sur	iiiiaiy (Dowii / Op	mit) (iDS)			
Bearing	Live	Dead	Snow	Wind	
B0, 2-3/8"	682 / 102	743 / 0			
B1, 5-1/2"	606 / 77	470 / 0			

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag			Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight		Unf. Lin. (lb/ft)	L	00-00-00	16-09-14		12			00-00-00
1	FC3 Floor Material		Unf. Lin. (lb/ft)	L	00-00-00	16-07-02	18	9			n\a
2	WALL		Unf. Lin. (lb/ft)	L	00-00-00	07-01-07		60			n\a
3	FC3 Floor Material		Unf. Lin. (lb/ft)	L	00-00-00	07-00-06	6	3			n\a
4	FC3 Floor Material		Unf. Lin. (lb/ft)	L	07-00-06	16-07-02	15	8			n\a
5	B14(i3394)		Conc. Pt. (lbs)	L	07-01-04	07-01-04	802	340			n\a
6	B14(i3394)	•	Conc. Pt. (lbs)	L	07-01-04	07-01-04	-179				n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	10,052 ft-lbs	35,392 ft-lbs	28.4 %	1	07-01-04
End Shear	1,784 lbs	14,464 lbs	12.3 %	1	01-02-04
Total Load Deflection	L/638 (0.307")	n\a	37.6 %	6	08-00-02
Live Load Deflection	L/1,134 (0.172")	n\a	31.7 %	8	08-00-02
Max Defl.	0.307"	n\a	n\a	6 .	08-00-02
Span / Depth	16.5				

Beari	ng Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	2-3/8" x 3-1/2"	1,951 lbs	44.0 %	19.2 %	Unspecified
B1	Wall/Plate	5-1/2" x 3-1/2"	1,496 lbs	14.6 %	6.4 %	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 O86.

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

Design based on Day Songles Condition.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads,

please consult a technical representative or professional of Record.

DWG NO. TAM 4202 STRUCTURAL COMPONENT ONLY





**PASSED** 

May 4, 2018 15:36:31

### 2ND FLOOR FRAMING\Flush Beams\B12(i3446)

BC CALC® Design Report

Build 6215

Job name:

Address: City, Province, Postal Code: INNISFIL

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

TH-2.mmd

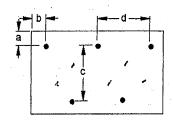
Description: 2ND FLOOR FRAMING\Flush Beams\B12(i3446)

Specifier:

Designer: CZ

Company:

### **Connection Diagram**



a minimum = 2" b minimum = 3"

c = 7-7/8" d = 😻 8 ″

Calculated Side Load = 80.8 lb/ft

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

Connectors are: :

3-1/2" ARDOX SPIRAL



#### Disclosure

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DWG NO. TAM 4202-173H STRUCTURAL COMPONENT ONLY

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

 $\rho_{\text{og}, \perp}$ 

T.18671596(2)





**PASSED** 

May 11, 2018 13:57:43

### 2ND FLOOR FRAMING\Flush Beams\B14(i3241)

BC CALC® Design Report

**Build 6215** 

Job name:

Address: City, Province, Postal Code: INNISFIL

Dry | 1 span | No cant.

File name:

TH-2-ELA2.mmdl

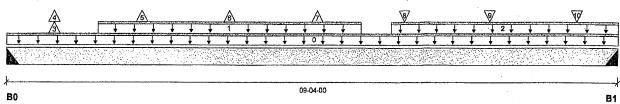
Description: 2ND FLOOR FRAMING\Flush Beams\B14(i3241)

Specifier:

Designer:

Customer: Code reports: CCMC 12472-R

Company:



#### Total Horizontal Product Length = 09-04-00

Reaction Summary (Down / Unlift) (lbs)

itcaction of					
Bearing	Live	Dead	Snow	Wind	<b>1</b>
B0, 2"	536 / 419	88 / 0			
B1, 2"	1,270 / 176	575 / 0			

Lo	ad Summary	•				Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-04-00		6			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-04-08	05-04-08	72				n\a
2	STAIR	Unf. Lin. (lb/ft)	L	05-10-00	09-04-00	240	120			n\a
3	J5(i2973)	Conc. Pt. (lbs)	L	80-80-00	00-08-08	76	-33			n\a
4	J5(i2973)	Conc. Pt. (lbs)	L	80-80-00	00-08-08	-145				n\a
5	J5(i3022)	Conc. Pt. (lbs)	L	02-00-08	02-00-08	-146	-25			n\a
6	J5(i3022)	Conc. Pt. (lbs)	L	03-04-08	03-04-08	-146	-25			n\a
7	J5(i3052)	Conc. Pt. (lbs)	L	04-08-08	04-08-08	-146	-25			n\a
8	J5(i3226)	Conc. Pt. (lbs)	L	06-00-08	06-00-08	216	106			n\a
9	J5(i3225)	Conc. Pt. (lbs)	L	07-04-08	07-04-08	216	106			n\a
10	J5(i3232)	Conc. Pt. (lbs)	L	08-08-08	08-08-08	170	83			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3,995 ft-lbs	17,696 ft-lbs	22.6 %	1	06-00-08
Neg. Moment	-845 ft-lbs	-17,696 ft-lbs	4.8 %	4	03-04-08
End Shear	1,832 lbs	7,232 lbs	25.3 %	1	08-02-02
Total Load Deflection	L/999 (0.076")	n\a	n\a	6	04-11-14
Live Load Deflection	L/999 (0.057")	n\a	n\a	8	04-11-14
Total Neg. Defl.	L/999 (-0.005")	n\a	n\a	7	02-10-08
Max Defl.	0.076"	n\a	n\a	6	04-11-14
Span / Depth	9.2				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
В0	Hanger	2" x 1-3/4"	915 lbs	n\a	21.4 %	HUS1.81/10	
B0	Uplift		549 lbs				
B1	Hanger	2" x 1-3/4"	2,623 lbs	n\a	61.4 %	HUS1.81/10	

Cautions

Uplift of 549 lbs found at span 1 - Left. 1-14051-81/10 en. BO) Hanger B0 cannot handle uplift of -549 lbs.

Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.



DWG NO. TAM 4203-178 E STRUCTURAL COMPONENT ONLY





**PASSED** 

### 2ND FLOOR FRAMING\Flush Beams\B14(i3241)

**BC CALC® Design Report** 

**Build 6215** 

Job name:

Dry | 1 span | No cant.

May 11, 2018 13:57:43

Address:

City, Province, Postal Code: INNISFIL

File name:

TH-2-ELA2.mmdl

Description:

2ND FLOOR FRAMING\Flush Beams\B14(i3241)

Specifier:

Designer:

Customer: Code reports:

CCMC 12472-R

Company:

#### **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.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86. CONFORMS TO OBC 2012

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

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



### **Disclosure**

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COMPONENT ONLY

DWG NO, TAM 14103 -124 BC CALC®, BC FRAMER®, AJS™, STRUCTURAL BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

T.18071597(Z)





**PASSED** 

May 11, 2018 13:59:15

#### 2ND FLOOR FRAMING\Flush Beams\B16(i3213) Dry | 1 span | No cant.

BC CALC® Design Report

Build 6215

Job name:

Customer:

Address:

Code reports:

City, Province, Postal Code: INNISFIL

CCMC 12472-R

File name:

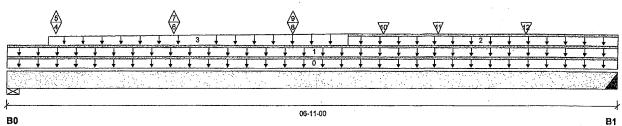
TH-2-ELA2.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B16(i3213)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 06-11-00

Reaction Sur	imiary (Down / Op	mit) (105)			
Bearing	Live	Dead	Snow	Wind	
B0, 5-1/2"	460 / 208	451 / 0	411/0		
B1, 2"	384 / 57	462 / 0	378 / 0		

Lo	ad Summary					Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-11-00		12			.00-00-00
1	E24(i2431)	Unf. Lin. (lb/ft)	L	00-00-00	06-11-00	33	95	114		n\a
2	FC3 Floor Material	Unf. Lin. (lb/ft)	L	03-10-00	06-11-00	8	4			n\a
3	FC3 Floor Material	Trapezoidal (lb/ft)	L	00-05-08		6	3			n\a
		• • • •			03-10-00	8	4			
4	J5(i3226)	Conc. Pt. (lbs)	L	. 00-06-08	00-06-08	113	9			n\a
5	J5(i3226)	Conc. Pt. (lbs)	L	00-06-08	00-06-08	-95				n\a
6	J5(i3225)	Conc. Pt. (lbs)	L	01-10-08	01-10-08	113	9			n\a
7	J5(i3225)	Conc. Pt. (lbs)	L	01-10-08	01-10-08	-95				n\a
8	J5(i3232)	Conc. Pt. (lbs)	L	03-02-08	03-02-08	100	12			n\a
9	J5(i3232)	Conc. Pt. (lbs)	L	03-02-08	03-02-08	<del>-</del> 75				n\a
10	J8(i3209)	Conc. Pt. (lbs)	L	04-02-12	04-02-12	74	37			n\a
11	J8(i3220)	Conc. Pt. (lbs)	L	04-10-08	04-10-08	73	36			n\a
12	J8(i3219)	Conc. Pt. (lbs)	L	05-10-08	05-10-08	97	48			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2,143 ft-lbs	35,392 ft-lbs	6.1 %	1	03-08-02
End Shear	1,022 lbs	14,464 lbs	7.1 %	1	05-09-02
Total Load Deflection	L/999 (0.012")	n\a	n\a	58	03-07-03
Live Load Deflection	L/999 (0.007")	n\a	n\a	85	03-07-03
Max Defl.	0.012"	n\a	n\a	58	03-07-03
Span / Depth	6.5				

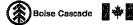
Bear	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	5-1/2" x 3-1/2"	1,459 lbs	14.2 %	6.2 %	Unspecified
B1	Hanger	2" x 3-1/2"	1,342 lbs	n\a	15.7 %	HUC410

#### **Cautions**

Hanger model HUC410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.



DWG NO. TAM 4204 STRUCTURAL COMPONENT ONLY





**PASSED** 

#### 2ND FLOOR FRAMING\Flush Beams\B16(i3213)

BC CALC® Design Report

**Build 6215** 

Dry | 1 span | No cant.

May 11, 2018 13:59:15

Job name:

Address:

File name: Description: TH-2-ELA2.mmdl

City, Province, Postal Code: INNISFIL

Specifier:

2ND FLOOR FRAMING\Flush Beams\B16(i3213)

Customer:

Designer:

Code reports:

CCMC 12472-R

Company:

#### 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.

Hanger Manufacturer: Unassigned

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA 086.

Linhalanced specified determined from him."

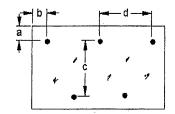
Unbalanced snow loads determined from building geometry were used in selected product's

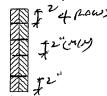
Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

### **Connection Diagram**





a minimum = 2" b minimum = 3" c = 7-7/8" d = 🐲 12

Calculated Side Load = 93.4 lb/ft

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

Connectors are: '

----/4 ---3-1/2" ARDOX SPIRAL



#### Disclosure

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STRUCTURAL COMPONENT ONLY

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

· t. 18071598(2)





PASSED

**B**1

May 4, 2018 15:36:31

#### 2ND FLOOR FRAMING\Flush Beams\B19(i3465)

BC CALC® Design Report

Build 6215

Job name:

Address:

City, Province, Postal Code: INNISFIL

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

TH-2.mmdi

Description: 2ND FLOOR FRAMING\Flush Beams\B19(i3465)

Specifier:

Designer:

Company:

		1 1 1 2 1 1 1 1		
T T T T T T	1 1 1 1 1	1 1 1 1	<b></b>	* * * * *
			•	

B0

Total Horizontal Product Length = 08-09-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 2"	274 / 0	532 / 0	499 / 0	
B1, 2"	273 / 0	529 / 0	495 / 0	

Lo	ad Summary					Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-09-00		12			00-00-00
1	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	08-09-00	30	15			n\a
2	E24(i2431)	Unf. Lin. (lb/ft)	L	00-00-00	08-08-10	33	95	114		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3,231 ft-lbs	35,392 ft-lbs	9.1 %	13	04-04-08
End Shear	1,140 lbs	14,464 lbs	7.9 %	13	01-01-14
Total Load Deflection	L/999 (0.033")	n\a	n\a	45	04-04-08
Live Load Deflection	L/999 (0.018")	n\a	n\a	61	04-04-08
Max Defl.	0.033"	n\a	n\a	45	04-04-08
Span / Depth	8.6				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
В0	Hanger	2" x 3-1/2"	1,550 lbs	n\a	18.2 %	HUC410
B1	Hanger	2" x 3-1/2"	1,541 lbs	n\a	18.0 %	HUC410

#### Cautions

Hanger model HUC410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

#### **Notes**

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86. CONFORMS TO OBC 2012

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

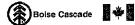
Member has no side loads.

DWG NO. TAM 4205 STRUCTURAL

COMPONENT ONLY

Page 5 -

T-18071599





**PASSED** 

May 4, 2018 15:36:31

#### 2ND FLOOR FRAMING\Flush Beams\B19(i3465)

BC CALC® Design Report

Build 6215 Job name:

Address:

Customer:

City, Province, Postal Code: INNISFIL

Code reports:

Dry | 1 span | No cant.

File name:

TH-2.mmdl

2ND FLOOR FRAMING\Flush Beams\B19(i3465) Description:

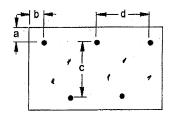
Specifier:

Designer:

Company:

CCMC 12472-R

### **Connection Diagram**



a minimum = 2" b minimum = 3" c = 7-7/8" d= 12

Member has no side loads. Connectors are: 16d 7 Nails

3-1/2" ARDOX SPIRAL



#### Disclosure

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Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

DWG NO. TAM 4205 -1784 STRUCTURAL COMPONENT ONLY

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

T.18071599(Z)





**PASSED** 

B1

May 4, 2018 15:36:31

#### 2ND FLOOR FRAMING\Flush Beams\B20(i3372)

BC CALC® Design Report

Build 6215

Job name:

Customer:

B0

Code reports:

Address:

City, Province, Postal Code: INNISFIL

CCMC 12472-R

Dry | 1 span | No cant.

TH-2.mmdl

2ND FLOOR FRAMING\Flush Beams\B20(i3372) Description:

Specifier:

File name:

Designer:

Company:

* *	******	1.00			<b>*</b>	+	<b>+</b>	<b>*</b>	 <u> </u>	<u> </u>	*	<del>\</del>	<u> </u>	↓ 2	<u>+</u>	<b>+</b>	<del> </del>	<del> </del>	<del>\</del>	<b>+</b>				+		,	
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			-						./ -							4.9							XT			9.39	

Total Horizontal Product Length = 09-02-04

Reaction Summary (Down / Uplift) (lbs)

i todotton ou	initially (Donnier O	printy (1867)			
Bearing	Live	Dead	Snow	Wind	
B0, 2"	287 / 0	559 / 0	524 / 0		
B1, 2"	287 / 0	559 / 0	524 / 0		

Loa	ad Summary					Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-02-04		12			00-00-00
1	E24(i2431)	Unf. Lin. (lb/ft)	L	00-00-00	09-02-04	33	95	114		n\a
2	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	09-02-04	30	15			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3,571 ft-lbs	35,392 ft-lbs	10.1 %	13	04-07-02
End Shear	1,218 lbs	14,464 lbs	8.4 %	13	01-01-14
Total Load Deflection	L/999 (0.04")	n\a	n\a	45	04-07-02
Live Load Deflection	L/999 (0.022")	n\a	n\a	61	04-07-02
Max Defl.	0.04"	n\a	n\a	45	04-07-02
Span / Depth	9.1				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
В0	Hanger	2" x 3-1/2"	1,628 lbs	п\а	19.1 %	HUC410
B1	Hanger	2" x 3-1/2"	1,628 lbs	n/a	19.1 %	HUC410

#### **Cautions**

Hanger model HUC410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

#### **Notes**

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86. CONFORMS TO OBC 2012

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Member has no side loads.

DWG NO. TAM 4206.47 STRUCTURAL COMPONENT ONLY

T. 1807 1600





PASSED

May 4, 2018 15:36:31

### 2ND FLOOR FRAMING\Flush Beams\B20(i3372)

BC CALC® Design Report

**Build 6215** 

Job name:

Address:

Customer: Code reports:

City, Province, Postal Code: INNISFIL

CCMC 12472-R

Dry | 1 span | No cant.

TH-2.mmdl

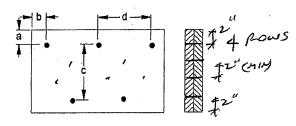
File name: Description; 2ND FLOOR FRAMING\Flush Beams\B20(i3372)

Specifier:

Designer: CZ

Company:

### **Connection Diagram**



a minimum = 2" b minimum = 3" c = 7-7/8" /2"

Member has no side loads. Nails Connectors are: 16d

3-1/2" ARDOX SPIRAL



### <u>Disclosure</u>

Use of the Bolse Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

DWG NO. TAM 4206 -173H
STRUCTURAL COMPONENT ONLY

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





**PASSED** 

May 4, 2018 15:26:05

### 2ND FLOOR FRAMING\Flush Beams\B21(i3071)

BC CALC® Design Report

Build 6215

Job name:

Address:

City, Province, Postal Code: INNISFIL

Customer:

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

TH-2-ELA2.mmdl

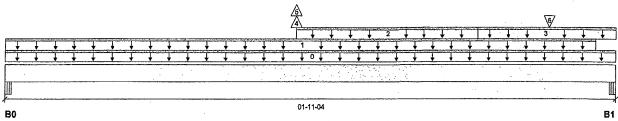
Description:

2ND FLOOR FRAMING\Flush Beams\B21(i3071)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 01-11-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 5-1/4"	52 / 72	80 / 0		• • • • • • • • • • • • • • • • • • • •
B1, 5-1/4"	49 / 60	103 / 0		

Loa	ad Summary					Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	01-11-04		12			00-00-00
1	E33(i2953)	Unf. Lin. (lb/ft)	L	00-00-00	01-10-08		81			n\a
2	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-11-00	01-06-00	6				n\a
3	FC3 Floor Material	Unf. Lin. (lb/ft)	L	01-06-00	01-11-04	10	5			n\a
4	J4(i3064)	Conc. Pt. (lbs)	L	00-11-00	00-11-00	93	-20			n\a
5	J4(i3064)	Conc. Pt. (lbs)	L.	00-11-00	00-11-00	-132				n\a
6	E34(i2951)	Conc. Pt. (lbs)	L	01-08-12	01-08-12		24			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	55 ft-lbs	35,392 ft-lbs	0.2 %	1	00-11-00
Neg. Moment	-49 ft-lbs	-35,392 ft-lbs	0.1 %	4	00-11-00
End Shear	74 lbs	9,401 lbs	0.8 %	0	01-05-02
Span / Depth	1.2				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Beam	5-1/4" x 3-1/2"	177 lbs	1.8 %	0.8 %	Unspecified
B1 ·	Beam	5-1/4" x 3-1/2"	145 lbs	2.3 %	1.0 %	Unspecified

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA 086.

Design based on Dry Service Condition.

CONFORMS TO OBC 2012 Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

DWG NO. TAM 4207 STRUCTURAL COMPONENT ONLY

T.18671601





**PASSED** 

May 4, 2018 15:26:05

### 2ND FLOOR FRAMING\Flush Beams\B21(i3071)

BC CALC® Design Report

Build 6215

Job name:

Address:

City, Province, Postal Code: INNISFIL Customer:

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

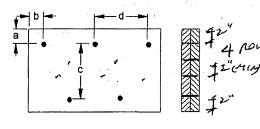
2ND FLOOR FRAMING\Flush Beams\B21(i3071)

Description: Specifier:

File name: TH-2-ELA2.mmdl

Designer: Company:

### **Connection Diagram**



a minimum = 2" b minimum = 3" c = 7-7/8" 6"

Calculated Side Load = 43.1 lb/ft Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are:

3-1/2" ARDOX SPIRAL

··· Nails



#### Disclosure

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DWG NO. TAM 4207 ATOH COMPONENT ONLY

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

T.1807/601(2)





**PASSED** 

### 1ST FLOOR FRAMING\Flush Beams\B22(i3176)

BC CALC® Design Report

Build 6215

Dry | 1 span | No cant.

May 4, 2018 15:35:03

Job name:

Address:

City, Province, Postal Code: INNISFIL

File name:

TH-2-ELA2.mmdl

Wind

Description:

1ST FLOOR FRAMING\Flush Beams\B22(i3176)

Specifier:

Designer:

Customer: Code reports:

CCMC 12472-R

Company:

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_																				16-08	-12																		
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### Total Horizontal Product Length = 16-08-12

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B0, 2-3/8"	359 / 0	324 / 0
B1, 4-3/8"	555 / 0	474 / 0

Lo	ad Summary					Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	16-08-12		12			00-00-00
1	FC1 Floor Material	Unf. Lin. (Ib/ft)	L	00-00-00	16-08-12	5	3			n\a
2	FC1 Floor Material	Unf. Lin. (Ib/ft)	L	00-00-00	11-04-06	15	7			n\a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	11-04-06	16-08-12	6	3			n\a
4	B23(i3195)	Conc. Pt. (lbs)	L	11-02-10	11-02-10	627	452			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	6,834 ft-lbs	35,392 ft-lbs	19.3 %	. 1	11-02-10
End Shear	1,372 lbs	14,464 lbs	9.5 %	1	15-04-08
Total Load Deflection	L/944 (0.207")	n\a	25.4 %	4	08-10-06
Live Load Deflection	L/999 (0.113")	n\a	n\a	5	08-10-06
Max Defl.	0.207"	n\a	n\a .	4	08-10-06
Snan / Depth	16.5				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
В0	Wall/Plate	2-3/8" x 3-1/2"	943 lbs	21.3 %	9.3 %	Unspecified
B1	Wall/Plate	4-3/8" x 3-1/2"	1,425 lbs	17.4 %	7.6 %	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 O86.

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

Design based on Dry Service Condition.

CONFORMS TO OBE 2012

Importance Factor: Normal Part code: Part 9

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

DWG NO. TAM 4208 STRUCTURAL COMPONENT ONLY

T. 1807/602





**PASSED** 

1ST FLOOR FRAMING\Flush Beams\B22(i3176) Dry | 1 span | No cant.

BC CALC® Design Report

Build 6215 Job name:

Address:

City, Province, Postal Code: INNISFIL

Customer: Code reports:

CCMC 12472-R

File name:

Description:

TH-2-ELA2.mmdl

1ST FLOOR FRAMING\Flush Beams\B22(i3176)

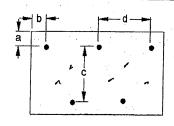
Specifier:

Designer:

Company:

May 4, 2018 15:35:03

Connection Diagram



a minimum = 2" b minimum = 3"

c = 7-7/8" d = 100 8 "

Calculated Side Load = 90.0 lb/ft

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

Connectors are: '

3-1/2" ARDOX SPIRAL



### **Disclosure**

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DWG NO. TAM 4208 -1214 STRUCTURAL COMPONENT ONLY

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

T. 1807/602(2)





PASSED

### 1ST FLOOR FRAMING\Flush Beams\B23(i3195)

BC CALC® Design Report

Build 6215

Code reports:

Dry | 1 span | No cant.

May 4, 2018 15:35:03

Job name:

Address:

City, Province, Postal Code: INNISFIL

Customer:

File name:

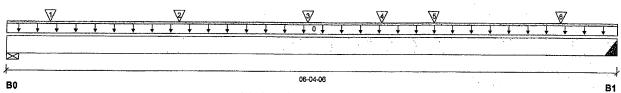
TH-2-ELA2.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B23(i3195)

Specifier:

Designer:

CCMC 12472-R Company:



Total Horizontal Product Length = 06-04-06

Reaction Summary (Down / Unlift) (lbs)

reaction out	minary (Down o	pinity (iba)			
Bearing	Live	Dead	Snow	Wind	
B0, 4-3/8"	459 / 0	338 / 0			
B1, 2"	639 / 0	461 / 0			

Lo	ad Summary					Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-04-06		12			00-00-00
1	J5(i3015)	Conc. Pt. (ibs)	L	00-05-06	00-05-06	84	42			n\a
2	J5(i2994)	Conc. Pt. (lbs)	L	01-09-06	01-09-06	142	71			n\a
3	J5(i2976)	Conc. Pt. (lbs)	L	03-01-06	03-01-06	112	56			n\a
4	B1(i3159)	Conc. Pt. (lbs)	L	03-10-10	03-10-10	296	321			n\a
5	J3(i3162)	Conc. Pt. (lbs)	L	04-05-06	04-05-06	219	109			n\a
6	J3(i3173)	Conc. Pt. (lbs)	L	05-09-06	05-09-06	238	119			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2,379 ft-lbs	35,392 ft-lbs	6.7 %	1	03-10-10
End Shear	1,225 lbs	14,464 lbs	8.5 %	1	05-02-08
Total Load Deflection	L/999 (0.01")	n\a	n\a	4	03-04-14
Live Load Deflection	L/999 (0.006")	n\a	n\a	5	03-04-14
Max Defl.	0.01"	n\a	n\a	4	03-04-14
Span / Depth	6.0				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material .
B0	Wall/Plate	4-3/8" x 3-1/2"	1,111 lbs	13.6 %	5.9 %	Unspecified
B1	Hanger	2" x 3-1/2"	1,535 lbs	n\a	18.0 %	HGUS410

### Cautions

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



DWG NO. TAM 4209 STRUCTURAL COMPONENT ONLY





**PASSED** 

### 1ST FLOOR FRAMING\Flush Beams\B23(i3195)

BC CALC® Design Report

Dry | 1 span | No cant. Build 6215

File name:

May 4, 2018 15:35:03

Job name:

Address:

City, Province, Postal Code: INNISFIL

Description:

TH-2-ELA2.mmdl

1ST FLOOR FRAMING\Flush Beams\B23(i3195)

Specifier:

Designer:

Customer: Code reports:

CCMC 12472-R

Company:

### 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.

Hanger Manufacturer: Unassigned

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

CONFORMS TO OBC 2012

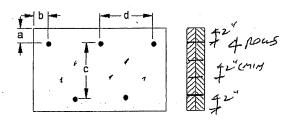
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA 086.

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

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads,

please consult a technical representative or professional of Record.

### **Connection Diagram**



a minimum = 2" b minimum = 3" c = 7-7/8" 12"

Calculated Side Load = 398.1 lb/ft

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

· Nails Connectors are: 16d

3-1/2" ARDOX SPIRAL



### Disclosure

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DWG NO. TAM 420 STRUCTURAL COMPONENT ONLY

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

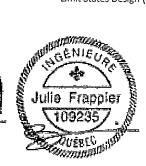
T.18071603(Z)



Live Load = 40 psf, Dead Load = 15 psf Simple Spans, L/480 Deflection Limit 5/8" OSB G&N Sheathing







			E	Bare		1 .	1/2" Gyp	sum Ceiling	
Depth	Series		On Cent	re Spacing			On Cent	re Spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-1"	14'-2"	13'-9"	N/A	15'-7"	14'-8"	14'-2"	N/A
	NI-40x	16'-1"	15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	N/A
9-1/2"	NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A
	NI-70	17'-1"	16'-1"	15'-6"	N/A	17'-5"	16'-5"	15'-10"	N/A
	NI-80	17'-3"	16'-3"	15'-8"	N/A	17'-8"	16'-7"	16'-0"	N/A
	NI-20	16'-11"	16'-0"	15'-5"	N/A	17'-6"	16'-6"	16'-0"	N/A
	NI-40x	18'-1"	17'-0"	16'-5"	N/A	18'-9"	17'-6"	16'-11"	N/A
11-7/8"	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A
11 7/0	NI-70	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17'-9"	N/A
	NI-80	19'-9"	18'-3"	17'-6"	N/A	20'-4"	18'-10"	17'-11"	N/A
	NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	19'-3"	18'-5"	N/A
	NI-40x	20'-1"	18'-7"	17'-10"	N/A	20'-10"	19'-4"	18'-6"	N/A
	NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"	18'-9"	N/A
14"	NI-70	21'-7"	20'-0"	19'-1"	N/A	22'-3"	20'-7"	19'-8"	N/A
	NI-80	21'-11"	20'-3"	19'-4"	N/A	22'-7"	20'-11"	20'-0"	N/A
	NI-90x	22'-7"	20'-11"	19'-11"	N/A	23'-3"	21'-6"	20'-6"	N/A
	NI-60	22'-3"	20'-8"	19'-9"	N/A	23'-1"	21'-5"	20'-6"	N/A
16"	NI-70	23'-6"	21'-9"	20'-9"	N/A	24'-3"	22'-5"	21'-5"	N/A
10	NI-80	23'-11"	22'-1"	21'-1"	N/A	24'-8"	22'-10"	21'-9"	N/A
	NI-90x	24'-8"	22'-9"	21'-9"	N/A	25'-4"	23'-5"	22'-4"	N/A

			Mid-Spa	n Blocking		/ Mid-S	pan Blocking a	nd 1/2" Gypsum	Ceiling
Depth	Series		On Cent	re Spacing			On Cent	re Spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-8"	15'-3"	14'-5"	N/A	16'-8"	15'-3"	14'-5"	N/A
	NI-40x	17'-11"	16'-11"	16'-1"	N/A	18'-5"	17'-1"	16'-1"	N/A
9-1/2"	NI-60	18'-2"	17'-1"	16'-4"	N/A	18'-7"	17'-4"	16'-4"	N/A
	NI-70	19'-2"	17'-10"	17'-2"	N/A	19'-7"	18'-3"	17'-7"	N/A
	NI-80	19'-5"	18'-0"	17'-4"	N/A	19'-10"	18'-5"	17'-8"	N/A
	NI-20	19'-6"	18'-1"	17'-3"	N/A	19'-11"	18'-3"	17'-3"	N/A
	NI-40x	21'-0"	19'-6"	18'-8"	N/A	21'-7"	20'-2"	19'-2"	N/A
11-7/8"	NI-60	21'-4"	19'-9"	18'-11"	N/A	21'-11"	20'-4"	19'-6"	N/A
11-7/0	N1-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-5"	20'-5"	N/A
	NI-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-8"	N/A
	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
	NI-40x	23'-7"	21'-11"	20'-11"	N/A	24'-3"	22'-7"	21'-7"	N/A
	NI-60	24'-0"	22'-3"	21'-3"	N/A	24'-8"	22'-11"	21'-11"	N/A
14"	NI-70	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-11"	N/A
	NI-80	25'-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"	23'-2"	N/A
	NI-90x	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"	23'-9"	N/A
	NI-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	25'-3"	24'-2"	N/A
16"	NI-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A
10	NI-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"	25'-6"	N/A
	NI-90x	29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	26'-2"	N/A

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

<sup>2.</sup> 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. 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.

<sup>3.</sup> Minimum bearing length shall be 1-3/4 inches for the end bearings.

<sup>4.</sup> Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

<sup>5.</sup> This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.

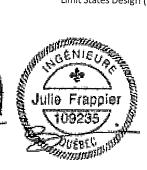
<sup>6.</sup> Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



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







			E	Bare		i	1/2" Gyp	sum Ceiling	
Depth	Series		On Cent	re Spacing				re Spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
	NI-40x	17'-0"	16'-0"	15'-5"	14'-9"	17'-5"	16'-5"	15'-10"	15'-2"
9-1/2"	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-6"	16'-7"	15'-11"	15'-3"
	NI-70	18'-0"	16'-11"	16'-3"	15'-7"	18'-5"	17'-3"	16'-7"	15'-11"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
	NI-20	17'-10"	16'-10"	16'-2"	15'-6"	18'-6"	17'-4"	16'-9"	16'-1"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-6"	19'-11"	18'-6"	17'-9"	17'-0"
11-7/8"	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
11 //0	NI-70	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"
	NI-80	21'-1"	19'-5"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-90x	21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"
	NI-40x	21'-5"	19'-10"	18'-11"	17'-11"	22'-1"	20'-6"	19'-7"	18'-7"
	NI-60	21'-10"	20'-2"	19'-3"	18'-2"	22'-5"	20'-10"	19'-11"	18'-10"
14"	NI-70	23'-0"	21'-3"	20'-3"	19'-2"	23'-8"	21'-11"	20'-10"	19'-9"
	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	NI-90x	24'-1"	22'-3"	21'-2"	20'-0"	24'-8"	22'-10"	21'-9"	20'-7"
	NI-60	23'-9"	22'-0"	20'-11"	19'-10"	24'-6"	22'-9"	21'-8"	20'-6"
16"	NI-70	25'-1"	23'-2"	22'-0"	20'-10"	25'-9"	23'-10"	22'-9"	21'-6"
10	NI-80	25'-6"	23'-6"	22'-4"	21'-2"	26'-1"	24'-2"	23'-1"	21'-10"
	NI-90x	26'-4"	24'-3"	23'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22'-5"

			Mid-Spa	ın Blocking		Mid-S	ipan Blocking ar	nd 1/2" Gypsum	Ceiling
Depth	Series		On Cent	re Spacing			On Cent	re Spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"
	NI-40x	18'-8"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"
9-1/2"	NI-60	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17'-6"	16'-6"	15'-5"
	NI-70	20'-0"	18'-7"	17'-9"	16'-7"	20'-5"	18'-11"	17'-10"	16'-7"
	NI-80	20'-3"	18'-10"	17'-11"	16'-10"	20'-8"	19'-3"	18'-2"	16'-10"
	NI-20	20'-1"	18'-5"	17'-5"	16'-2"	20'-1"	18'-5"	17'-5"	16'-2"
	NI-40x	21'-10"	20'-4"	19'-4"	17'-8"	22'-5"	20'-6"	19'-4"	17'-8"
11-7/8"	NI-60	22'-1"	20'-7"	19'-7"	18'-4"	22'-8"	20'-10"	19'-8"	18'-4"
11 //0	NI-70	23'-4"	21'-8"	20'-8"	19'-7"	23'-10"	22'-3"	21'-2"	19'-9"
	NI-80	23'-7"	21'-11"	20'-11"	19'-9"	24'-1"	22'-6"	21'-5"	20'-0"
	NI-90x	24'-3"	22'-6"	21'-6"	20'-4"	24'-8"	23'-0"	22'-0"	20'-9"
	NI-40x	24'-5"	22'-9"	21'-8"	19'-5"	25'-1"	23'-2"	21'-9"	19'-5"
	NI-60	24'-10"	23'-1"	22'-0"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10"
14"	NI-70	26'-1"	24'-3"	23'-2"	21'-10"	26'-8"	24'-11"	23'-9"	22'-4"
	NI-80	26'-6"	24'-7"	23'-5"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
	NI-90x	27'-3"	25'-4"	24'-1"	22'-9"	27'-9"	25'-11"	24'-8"	23'-4"
	NI-60	27'-3"	25'-5"	24'-2"	22'-10"	28'-0"	26'-2"	24'-9"	23'-1"
16"	NI-70	28'-8"	26'-8"	25'-4"	23'-11"	29'-3"	27'-4"	26'-1"	24'-8"
10	NI-80	29'-1"	27'-0"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
	NI-90x	29'-11"	27'-10"	26'-6"	25'-0"	30'-6"	28'-5"	27'-2"	25'-8"

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

<sup>2.</sup> Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.

<sup>3.</sup> Minimum bearing length shall be 1-3/4 inches for the end bearings.

<sup>4.</sup> Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

<sup>5.</sup> This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.

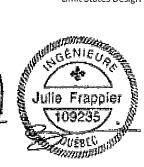
<sup>6.</sup> Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



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







			E	are		i	1/2" Gyp	sum Ceiling	
Depth	Series		On Cent	re Spacing			On Cent	re Spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-1"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A
	NI-40x	16'-1"	15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	N/A
9-1/2"	NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A
	NI-70	17'-1"	16'-1"	15'-6"	N/A	17'-5"	16'-5"	15'-10"	N/A
	NI-80	17'-3"	16'-3"	15'-8"	N/A	17'-8"	16'-7"	16'-0"	N/A
	NI-20	16'-11"	16'-0"	15'-5"	N/A	17'-6"	16'-6"	16'-0"	N/A
	NI-40x	18'-1"	17'-0"	16'-5"	N/A	18'-9"	17'-6"	16'-11"	N/A
11-7/8"	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A
11 //0	NI-70	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17'-9"	N/A
	NI-80	19'-9"	18'-3"	17'-6"	N/A	20'-4"	18'-10"	17'-11"	N/A
	NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	19'-3"	18'-5"	N/A
	NI-40x	20'-1"	18'-7"	17'-10"	N/A	20'-10"	19'-4"	18'-6"	N/A
	NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"	18'-9"	N/A
14"	NI-70	21'-7"	20'-0"	19'-1"	N/A	22'-3"	20'-7"	19'-8"	N/A
	NI-80	21'-11"	20'-3"	19'-4"	N/A	22'-7"	20'-11"	20'-0"	N/A
	NI-90x	22'-7"	20'-11"	19'-11"	N/A	23'-3"	21'-6"	20'-6"	N/A
	NI-60	22'-3"	20'-8"	19'-9"	N/A	23'-1"	21'-5"	20'-6"	N/A
16"	NI-70	23'-6"	21'-9"	20'-9"	N/A	24'-3"	22'-5"	21'-5"	N/A
	NI-80	23'-11"	22'-1"	21'-1"	N/A	24'-8"	22'-10"	21'-9"	N/A
	NI-90x	24'-8"	22'-9"	21 <sup>'</sup> -9"	N/A	25'-4"	23'-5"	22'-4"	N/A

			Mid-Spa	n Blocking		Mid-S	Span Blocking ar	nd 1/2" Gypsum	Ceiling
Depth	Series		On Cent	re Spacing			On Cent	re Spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
•	NI-20	15'-7"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A
	NI-40x	17'-9"	16'-1"	15'-1"	N/A	17'-9"	16'-1"	15'-1"	N/A
9-1/2"	NI-60	18'-1"	16'-4"	15'-4"	N/A	18'-1"	16'-4"	15'-4"	N/A
	NI-70	19'-2"	17'-10"	16'-9"	N/A	19'-7"	17'-10"	16'-9"	N/A
	NI-80	19'-5"	18'-0"	17'-1"	N/A	19'-10"	18'-3"	17'-1"	N/A
	NI-20	18'-9"	17'-0"	16'-0"	N/A	18'-9"	17'-0"	16'-0"	N/A
	NI-40x	21'-0"	19'-3"	17'-9"	N/A	21'-3"	19'-3"	17'-9"	N/A
11-7/8"	NI-60	21'-4"	19'-8"	18'-5"	N/A	21'-8"	19'-8"	18'-5"	N/A
11 7/0	NI-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-4"	20'-0"	N/A
	NI-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-5"	N/A
	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
	NI-40x	23'-7"	21'-5"	19'-6"	N/A	24'-1"	21'-5"	19'-6"	N/A
	NI-60	24'-0"	22'-3"	21'-0"	N/A	24'-8"	22'-5"	21'-0"	N/A
14"	NI-70	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-9"	N/A
	NI-80	25'-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"	23'-2"	N/A
	NI-90x	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"	23'-9"	N/A
	NI-60	26'-5"	. 24'-6"	23'-4"	N/A	27'-2"	24'-10"	23'-4"	N/A
16"	NI-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A
10	NI-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"	25'-6"	N/A
	NI-90x	29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	26'-2"	N/A

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

<sup>2.</sup> 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. 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.

<sup>3.</sup> Minimum bearing length shall be 1-3/4 inches for the end bearings.

<sup>4.</sup> Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

<sup>5.</sup> This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.

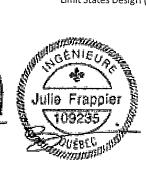
<sup>6.</sup> Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



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







			B	are		i	1/2" Gyp	sum Ceiling	
Depth	Series		On Cent	re Spacing			On Cent	re Spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-0"	16'-0"	15'-1"	13'-11"	17'-5"	16'-1"	15'-1"	13'-11"
9-1/2"	NI-60	17'-2"	16'-2"	15'-5"	14'-3"	17'-6"	16'-5"	15'-5"	14'-3"
	NI-70	18'-0"	16'-11"	16'-3"	15'-6"	18'-5"	17'-3"	16'-7"	15'-6"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	15'-10"
	NI-20	17'-10"	16'-10"	16'-0"	14'-10"	18'-6"	17'-1"	16'-0"	14'-10"
	NI-40x	19'-4"	17'-11"	17'-3"	15'-10"	19'-11"	18'-6"	17'-9"	15'-10"
11-7/8"	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-1"
11-7/0	NI-70	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"
	NI-80	21'-1"	19'-5"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-90x	21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"
	NI-40x	21'-5"	19'-10"	18'-11"	17'-5"	22'-1"	20'-6"	19'-6"	17'-5"
	NI-60	21'-10"	20'-2"	19'-3"	18'-2"	22'-5"	20'-10"	19'-11"	18'-10"
14"	NI-70	23'-0"	21'-3"	20'-3"	19'-2"	23'-8"	21'-11"	20'-10"	19'-9"
	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	NI-90x	24'-1"	22'-3"	21'-2"	20'-0"	24'-8"	22'-10"	21'-9"	20'-7"
	NI-60	23'-9"	22'-0"	20'-11"	19'-10"	24'-6"	22'-9"	21'-8"	20'-6"
16"	NI-70	25'-1"	23'-2"	22'-0"	20'-10"	25'-9"	23'-10"	22'-9"	21'-6"
10	NI-80	25'-6"	23'-6"	22'-4"	21'-2"	26'-1"	24'-2"	23'-1"	21'-10"
	NI-90x	26'-4"	24'-3"	23'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22'-5"

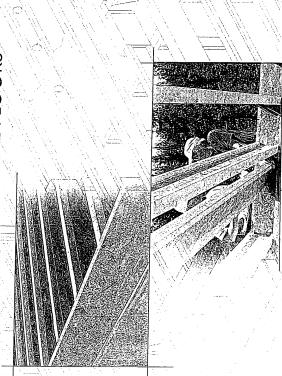
			Mid-Spa	n Blocking		Mid-S	Span Blocking a	nd 1/2" Gypsum	Ceiling
Depth	Series		On Cent	re Spacing				re Spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-9"	16'-1"	15'-1"	13'-11"	17'-9"	16'-1"	15'-1"	13'-11"
9-1/2"	NI-60	18'-1"	16'-5"	15'-5"	14'-3"	18'-1"	16'-5"	15'-5"	14'-3"
	NI-70	19'-10"	17'-11"	16'-9"	15'-6"	19'-10"	17'-11"	16'-9"	15'-6"
	NI-80	20'-2"	18'-3"	17'-1"	15'-10"	20'-2"	18'-3"	17'-1"	15'-10"
	NI-20	18'-10"	17'-1"	16'-0"	14'-10"	18'-10"	17'-1"	16'-0"	14'-10"
	NI-40x	21'-3"	19'-3"	17'-9"	15'-10"	21'-3"	19'-3"	17'-9"	15'-10"
11-7/8"	NI-60	21'-9"	19'-8"	18'-5"	17'-1"	21'-9"	19'-8"	18'-5"	17'-1"
11 7/0	NI-70	23'-4"	21'-5"	20'-1"	18'-6"	23'-8"	21'-5"	20'-1"	18'-6"
	NI-80	23'-7"	21'-10"	20'-5"	18'-11"	24'-1"	21'-10"	20'-5"	18'-11"
	NI-90x	24'-3"	22'-6"	21'-3"	19'-7"	24'-8"	22'-7"	21'-3"	19'-7"
	NI-40x	24'-2"	21'-5"	19'-6"	17'-5"	24'-2"	21'-5"	19'-6"	17'-5"
	NI-60	24'-9"	22'-5"	21'-0"	19'-6"	24'-9"	22'-5"	21'-0"	19'-6"
14"	NI-70	26'-1"	24'-3"	22'-9"	21'-0"	26'-8"	24'-3"	22'-9"	21'-0"
	NI-80	26'-6"	24'-7"	23'-3"	21'-6"	27'-1"	24'-10"	23'-3"	21'-6"
	NI-90x	27'-3"	25'-4"	24'-1"	22'-4"	27'-9"	25'-10"	24'-3"	22'-4"
	NI-60	27'-3"	24'-11"	23'-5"	21'-7"	27'-6"	24'-11"	23'-5"	21'-7"
16"	NI-70	28'-8"	26'-8"	25'-3"	23'-4"	29'-3"	26'-11"	25'-3"	23'-4"
-0	NI-80	29'-1"	27'-0"	25'-9"	23'-10"	29'-8"	27'-6"	25'-10"	23'-10"
	NI-90x	29'-11"	27'-10"	26'-6"	24'-10"	30'-6"	28'-5"	26'-11"	24'-10"

- 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 ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.
- 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 spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- 3. Minimum bearing length shall be 1-3/4 inches for the end bearings.
- 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.
- 5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.
- 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



# 

FOR RESIDENTIAL FLOORS





Distributed by:

# SAFETY AND CONSTRUCTION PRECAUTIONS

N-C301 \ November 2014

WARNING

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, blocking will be required at the interior support.

> Do not walk on 1-joists until fully fastened and oraced, or serious inju-

ries can result.

- temporary bracing, often called struts, or temporary sheathing must be applied When the building is completed, the floor sheathing will provide lateral support for the top flanges of the L-joists. Until this sheathing is applied, to prevent I-joist rollover or buckling.
- the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining ■ Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long minimum of two 2-1/2" nails fastened to the top surface of each I-joist. Nail and spaced no more than 8 feet on centre, and must be secured with a bracing over at least two I-joists.
- Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
  - For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.
- Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only,
  - 5. Never install a damaged I-joist.

concentrated loads from Once sheathed, do not

building materials.

over-stress l-joist with unsheathed I-joists.

Never stack building

materials over

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

# 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 I-joists in the upright position only,
- Do not store 1-joists in direct contact with the ground and/or flatwise. Protect I-joists from weather, and use spacers to separate bundles.
  - 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
- 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 I-joists in a horizontal orientation. ω.
- 9. NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.









FSC www.lsc.org The mark of waponalble forestr

### **MAXIMUM FLOOR SPANS**

- 1.25D. The serviceability limit states include the consideration For multiple-span applications, the end spans shall be 40% for floor vibration and a live load deflection limit of L/480 multiple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of 1.50L + 1. Maximum clear spans applicable to simple-span or or more of the adjacent span.
- assumed. Increased spans may be achieved with the used oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or Spans are based on a composite floor with glued-nailed less, or 3/4 inch for joist spacing of 24 inches. Adhesive Standard. No concrete topping or bridging element was 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.

of gypsum and/or a row of blocking at mid-span.

- 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 5. This span chart is based on uniform loads. For applications be required based on the use of the design properties.
  - 6. Tables are based on Limit States Design per CAN/CSA O86-09 Standard, and NBC 2010.
- l inch = 25.4 mml foot = 0.305 m7. SI units conversion:

### MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS

SIMPLE AND MULTIPLE SPANS

most commonly used metal hangers

to support I-joists.

1. Hangers shown illustrate the three

I-JOIST HANGERS

2	: 2		Simp	Tabella .			MINIME		
Depth	Series		On centr	Bulbick e			O Centr	s species a	
		12"	<b>"9</b> L	19.2	24"	121	17		i
	N-20	15'-1"	14'-2"	13:-9"	12.5"	10.17			
	N-40x	16-1"	15'-2"	14.2	5 5	? .	154"	14'-10"	14'-7"
9-1/2"	09-IN	16-3"	15'-4"		14-7		16-5	15'-10"	15-5"
	N:70	17.7	1.191	01-4-	- t- i	1/-/-	16'-7"	.16:-0"	16-1
	NI-80	17.3	1.7.	0-10-1		18'-7"	17'-4"	16-9"	16'-10"
· · · · · · · · · · · · · · · · · · ·	NI:20	16.11"	12.2	0-0-0-	13.5	18-10	17'-6"	16-11"	17:-0"
	NI:40	ά	7 6	.cc.	15-6	18'-4"	17'-3"	16-8"	16-7"
	VII XO	5 6	7 -	C-0	9-,9	20-0	18-6"	17:-9"	17.71
11.7/A"	200	0 - 0		16'-7"	16-9"	20'-3"	18'-9"	18'-0	18-1
	0/-17	0 0		17'-4"	17'-5"	21'-6"	19'-11"		
	00-12	16-16-		17'-6"	17-7"	21'-9"	201-2	0.0	1.00
	2. Z	20'-2"	18'-7"	17'-10"	17-11"	22'-3"	207	2.0	- k - c
20 (4) (4) (4) (4) (4) (4) (4) (4) (4) (4)	XOX-IN	20'-4"	18'-9"	17'-11"	18'-0"	22'-5"	201-9	10.10	10.
	X 0 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	20'-1"	18'-7"	17'-10"	17-11"	22:-2"	20'-6"	- ā	17-17
	09-12	20'-5"	18'-11"	18-1"	18'-2"	22'-7"	11.100	5 c	19-4-
14"	0Z	21'-7"	20,-0	19'-1"	19'-2"	23'-10"	20.1	0-02	0 0
	08-12	21'-11"	20'-3"	19'-4"	19'-5"	24'-3"	22.1	71.5	7-17
	0.50	22'-5"	20'-8"	19'-9"	19'-10"	24.9"	22.10	2-1-6	0-17
	×06-IV	22'-7"	20'-11"	19'-11"	20'-0"	25'-0"	23.1"	10.00	01-17
	06 F	22-3"	20-8	19-9"	19'-10"	24'-7"	221.9"	21.0"	2-77
171	0 6	236	219"	209"	20'-10"	26'-0"	24'-0"	22,11"	 
5	000		22-1"	21'-1"	21'-2"	26'-5"	24'-5"	23.3"	23.7
	کر کر ام	24-5	22'-6"	21'-5"	21'-6"	26'-11"	24'-10"	23.9	75°
	N-YOX	24-8	22'-9"	21'-9"	21'-10"	27'-3"	75.0"	, T	107
							1		

4. Web stiffeners are required when the

3. Hangers should be selected based manufacturer's recommendations.

and load capacity based on the

maximum spans.

on the joist depth, flange width

2. All nailing must meet the hanger

sides of the hangers do not laterally

brace the top flange of the 1-joist.

CCMC EVALUATION REPORT 13032-R

Skewed

Face Mount

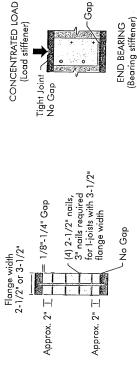
### **WEB STIFFENERS**

### RECOMMENDATIONS:

- Construction Guide (C101).The gap between l-joist properties table found of the I-joist the stiffener and the flange is at the top. A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the
- support, the top flange. The gap between the sides of the hanger do not extend up to, and the 1-joist is supported in a hanger and the A bearing stiffener is required when stiffener and flange is at the top.
- adjusted for other load durations as permitted where a factored concentrated load greater cantilever, anywhere between the cantilever than 2,370 lbs is applied to the top flange by the code. The gap between the stiffener A load stiffener is required at locations standard term load duration, and may be tip and the support. These values are for between supports, or in the case of a and the flange is at the bottom.

SI units conversion: 1 inch = 25.4 mm

### WEB STIFFENER INSTALLATION DETAILS



See table below for web stiffener size requirements

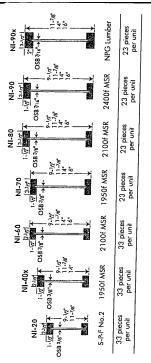
### STIFFENER SIZE REQUIREMENTS

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

-Gap

-Gab - Tight Joint No Gap

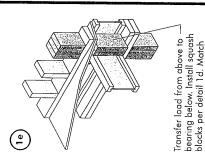
### **NORDIC I-JOIST SERIES**



Chantiers Chibougamau Ltd. harvests its own trees, which enables ু Nazalig products to adhere to strict quality control procedures through the manufacturing process. Every phase of the operation, from the second fine in finished product, reflects our commitment to minding. finished product, reflects our commitment to quality.

Nordic Engineered Wood I-joists use only finger-jointed bizick sprits in Indian longer span carrying capacity.

 $\odot$ 



Use single I-joist for loads up to 3,300 plf, double I-joists for loads up to 6,600 plf (filler block not required). Attach 1-joist to top plate using 2-1/2" nails Provide backer for siding attachment sheathing is used. unless nailable Wall sheathing, as required **(**\frac{1}{2}

required when rim board is used. Bracing per code shall be Rim board may be used in lieu of 1-joists. Backer is not carried to the foundation.

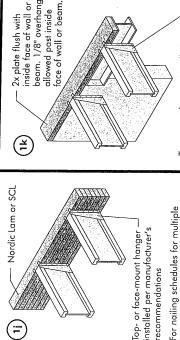
bearing area of blocks below

to post above.

Ξ

6" o.c. to top plate 2-1/2" nails at per detail 1b attachment (a) Joist at 6" o.c.

Load bearing wall above shall align vertically with the bearing below. Other conditions, such as offset bearing walls, are not covered by this detail. Blocking required over all interior supports under load-bearing walls or when floor joists are not continuous -NI blocking panel per detail 1a over support



beam. 1/8" overhang face of wall or beam, allowed past inside manufacturer's recommendations Top-mount hanger installed per

Note: Unless hanger sides laterally

support the top flange, bearing

stiffeners shall be used.

beams, see the manufacturer's

recommendations.

installed per manufacturer's Top- or face-mount hanger

recommendations

Note: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

Multiple I-joist header with full depth headers may also be used. Verify double 1-joist capacity to support filler block shown. Nordic Lam or SCI concentrated loads, recommendations Install hanger per Filler block per manufacturer' detail 1p 

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

Maximum support capacity = 1,620 lbs.

joist beyond inside Do not bevel-cut face of wall -ioist per detail 1b Attach: Ξ

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

(both sides for face-mount Use twelve 3" nails, clinched when possible. Maximum factored additional 3" nails through the webs and filler block where the Before installing a backer block to a double I-joist, drive three backer block will fit. Clinch. Install backer tight to top flange. acker block required Backer block (use if hanger load exceeds 360 lbs) resistance for hanger for this detail = 1,620 lbs. hangers) Double I-joist header Top- or face-mount per detail 1p Filler block hanger (<u>=</u>

sidis

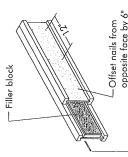
For hanger capacity see hanger manufacturer's recommendations. Verify double I-joist capacity to support concentrated loads.

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

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

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

(J



-1/8" to 1/4" gap between top flange and filler block

using this detail is 860 lbf/ft. Verify double

1-joist capacity.

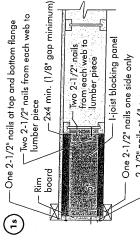
FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION 1. Support back of I-joist web during nailing to

prevent damage to web/flange connection.

	Filler Block Size	2-1/8" × 6"	2-1/8" × 8" 2-1/8" × 10"	2-1/8"×12"	3"×6"	3" × 8"	3"×10"	3"×12"	3"×7"	3"×9"	3"×]]"	
	Joist Depth	9-1/2"	11-7/8"	16"	9-1/2"	11-7/8"	14"	16"	11-7/8"	14"	16"	
	Flange Size		2-1/2"×   1-1/2"			3-1/2"×	1-1/2"		3.1/0" >	, j.		
provern duringe to web/ lighinge connection.	Leave a 1/8 to 1/4-inch gap between top of filler block and bottom of top 1-ioist	flange.	Filler block is required between joists for	Notificate together with two cases of on	nails at 12 inches a.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	are required.	The maximum factored load that may be	applied to one side of the double joist	

<ul> <li>Lumber 2x4 min., extend block to face of adjacent web.</li> </ul>	Two 2-1/2" spiral nails from each web to lumber piece.	alternate on opposite side.	NI blocking	
<u>-</u>				

strap applied to underside of joist at blocking line or 1/2 inch minimum gypsum ceiling attached to underside of joists. Optional: Minimum 1x4 inch



2-1/2" nails at 6" o.c.

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

All nails are common spiral in this detail.

### INSTALLING NORDIC I-JOISTS

- 1. Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, ক্রেন্টাইউস্টোন
- Except for cutting to length, I-joist flanges should **never** be cut, drilled, or notched.
- 3. Install 1-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
- 4. I-joists must be anchored securely to supports before floor sheathing is attached, and supports fol
- 5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bearing 🔭
  - 6. When using hangers, seat 1-joists firmly in hanger bottoms to minimize settlement.
    - 7. Leave a 1/16-inch gap between the I-joist end and a header.
- 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 concentrated loads from the top of the I-joist. Or, attach the load to blocking that has been securely fastened to the cameras. Never suspend unusual or heavy loads from the 1-joist's bottom flange. Whenever possible, suspend all
- Never install 1-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 I-joist 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 Lioists, and an 1-joist-compatible depth selected,
- Provide permanent lateral support of the bottom flange of all I-joists at interior supports of multiple-span joists. Similarly, support the bottom flange of all cantilevered I-joists at the end support next to the cantilever extension. In the completed structure, the gypsum wallboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary bracing or struts must be used. <u>ب</u>
- If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Glue panels to blocking to minimize squeaks. Blocking is not required under structural finish flooring, such as wood strip flooring, or if a separate underlayment layer is installed.
- 15. Nail spacing: Space nails installed to the flange's top face in accordance with the applicable building code requirements or approved building plans.

Attach rim board to top plate using 2-1/2" wire or spiral toe-nails at 6" o.c. may be driven at an angle to from end of I-joist. Nails avoid splitting of bearing plate. Minimum bearing length shall be 1-3/4" for the end bearings, and 3-1/2" for To avoid splitting flange, the intermediate bearings start nails at least 1-1 Maximum Factored Uniform Vertical Load\* (plf) 8,090 wire or spiral nail at top and bottom flange One 2-1/2' 1-1/8" Rim Board Plus at each side at bearing **Blocking Panel** One 2-1/2" face nail Rim

6" o.c. to top

2-1/2" nails at olate (when used

NI blocking

panel

٣

transfer, nail to with same nailing

bearing plate for lateral shear

as required for

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

Attach (-ioist to

Maximum Factored Uniform Vertical Load\* (plf)

3,300

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

oad transfer, see detail 1d.

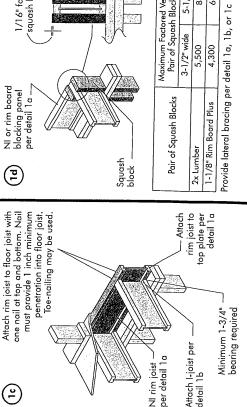
# TYPICAL NORDIC I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS

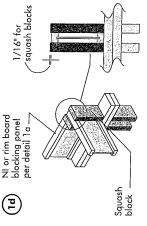
Some framing requirements such as erection bracing

for plumbing, wiring and duct work. See Tables 1, 2 Holes may be cut in web Nordic Lam in current code evaluation NOTE: Never cut or Use hangers recognized (1h) (1j) (1k) (1m) or SCL Figures 3, 4 or 5 notch flanges. and Figure 7.  $\Xi$ and blocking panels have been omitted for clarity. (1a) (1n) (آ (g) (1g) Lumber (SCL) (1b) (1c) Nordic Lam or Structural Composite  $\equiv$ 

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 nat shown to scale for clarity.

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Maximum Factored Vertical per Pair of Squash Blocks (lbs)	5-1/2" wide	8,500	9,600
Maximum Factor Pair of Squas	3-1/2" wide	2,500	4,300
Pair of Squash Blocks		2x Lumber	1-1/8" Rim Board Plus

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

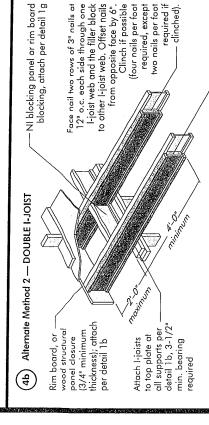
# (4a) Method 1 — SHEATHING REINFORCEMENT ONE SIDE

or rim board blocking, attach per detail 1g NI blocking panel per detail 1b Attach I-joist to plate ?\<sup>0</sup> thickness); attach per detail 1b Rim board or wood structural panel closure (3/4" minimum bearing required 3-1/2" min. 2-1/2"

## Method 2 — SHEATHING REINFORCEMENT TWO SIDES

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

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



Block L-joists together with filler blocks for the full length of the reinforcement.—
For L-joist 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.

### Roof trusses Girder truss -maximum cantilever 7-0" Roof truss span FIGURE 4 (continued) requirements at reinforcement See table below for NI cantilever.

For hip roofs with the jack trusses running parallel to the cantilevered floor joists, the Ljoist reinforcement requirements for a span of 26 ft. shall be permitted to be used. 13'-0" maximum

- Jack trusses

Roof truss. span

maximum cantilever 2'-0"

## CANTILEVER REINFORCEMENT METHODS ALLOWED

	= 50 pst     - 15 mpt	ST SPACIN	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	, , , , , , , , , , , , , , , , , , ,	< ×	×××	×	×	× -		- 0	2 2 2	2 2	٦ 2	2 ×	z	z	Z			××.	-	2 2						ZZ
ROOF LOADING (UNFACTORED)	1.1 = 40  psf, DL = 15 psf	JOIST SPACING (In.)	12 16 19.2 24	1 2	1 2	× ~ ~	× ×	< ×	\ Z		- z	_ Z			2	zi	ZZ		zz			zz	z	z	z	z		z	ZZ
	LL = 30 psf, DL = 15 psf	JOIST SPACING (In.)	12 16 19.2 24	2 - 2			× ×	-	z	z	z	z z			7 2	zz	ZZ	z	z	Z	ZZ	zz	z	z	z	z z:	zz	z z	ZZ
ROOF	DEPTH RUSS	NARS (II)		26	20	9-1/2" 32	34	36	76	28	00   10/2	34	7000	0 00	26	28	30	1.7"	34	36	388 40	26	28	30	32	34	30	000	42

- 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.  $X = \text{Try} \ a \ \text{deeper joist} \ or \ \text{closer spacing}.$
- 2. Maximum design load shall be: 15 pst roof dead load, 55 pst 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.
- 3. 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 1/480. Use 12" o.c. requirements for lesser spacing.
- 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  $\boldsymbol{a}$ above is equivalent to the distance between 4. For conventional roof construction using a ridge beam, the Roof Truss Span column fruss 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 atherwise 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 1-joist flange. the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained be cut into an 1-joist web shall equal the clear distance between the flanges of
- 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 longest side of the opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
    - may be ignored for purposes of calculating minimum distances between holes A knockout is **not** considered a hole, may be utilized anywhere it occurs, and 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. ω.
- 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. 6.
- 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.

### Simple or Multiple Span for Dead Loads up to 15 psf and Live Loads up to 40 psf LOCATION OF CIRCULAR HOLES IN JOIST WEBS

Ni-20   C-7   1-6   2-10   4-3   5   6   C-1/4   7   8   8-5/8   9   10   10-2/4   11   12   2-3/4   Fraction     Ni-20   C-7   1-6   2-10   4-3   6-6   6-4   7-7   8   8-5/8   9   10   10-2/4   11   12   2-3/4   Fraction     Ni-20   C-7   1-6   2-10   4-3   6-6   6-4   7-7   8   8-5/8   9   10   10-2/4   11   12   2-3/4   Fraction     Ni-20   C-7   C-2   3-4   4-5   6-6   8-7   8-8   7-7   7-7   8-8   7-7   8-8   7-7   8-8   7-7   8-8   7-7   8-8   7-7   7-7   8-8   7-7   7-7   8-8   7-7   7-7   8-8   7-7   7-7   8-8   7-7   7-7   8-8   7-7   7-7   8-8   7-7   7-7   8-8   7-7   7-7   8-8   7-7   7-7   8-8   7-7	Joist Joist		W	III III	nelisia	nce fr	minis	de fac	e of a	uns M		0.00						
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- Above table may be used for I-joist spacing of 24 inches on centre or less. Hole location distance is measured from inside face of supports to centre of hole. Distances in this chart are based on uniformly loaded joists.

### OPTIONAL:

The above table is based on the Lioists used at their maximum span. If the Lioists are placed at less than their full maximum span (see Maxima may the minimum distance from the centraline of the hole to the face of any support (D) as given above may be reduced as follows:

 $\frac{\mathsf{Dreduced}}{\mathsf{SAF}} \times \mathsf{D}$ 

Distance from the inside face of any support to centre of hole, reduced for less-than-maximum span applic 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 (ft). ii Dreduced Lactual Where:

Span Adjustment Factor given in this table SAF

The minimum distance from the inside face of any support to centre of hole from this table. If <u>Lactual</u> is greater than 1, use 1 in the above calculation for <u>Lactual</u>.

 $\omega$ 公然的 

### FIELD-CUT HOLE LOCATOR FIGURE 7

Duct chase opening (see Table 2 for minimum distance from bearing)	diameter dia
2x duct chase — length or hole diameter, whichever is larger	Maintain minimum 1/8" space between top and bottom flangs all duct chase openings and hr
2x diameter of larger hole	See In the 12
See Table 1 for minimum distance from bearing	Knockouls

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.

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



should be cut with a Holes in webs sharp saw.

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

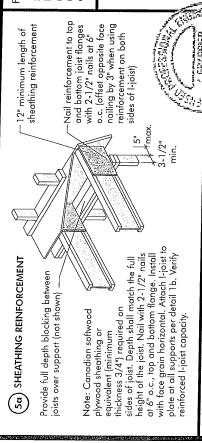
# DUCT CHASE OPENING SIZES AND LOCATIONS — Simple Span Only

TABLE 2

lsiol	isio	MINIM	ım distan	ce from i	nside fac	e of any s	Support to	centre o	f openin	
Depth	Series				Duct of	Jase lenc	ath (in.)	Ž.		
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	N.40x	7	ָס קיי		4.	0	-l-9		7-1"	7-5"
9.172	09 IN	- T	000	0.0	o i	0-9	_3 <u>.</u>	-8 -/	8-2	7.0
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は民がなるできる。	2	- 5	ဂု	0	6-3	9:-7	7:-1"	1,4	- - - -	, <del>-</del>
and the state of t	000	7	8-0	0-9	6-5"	6-10"	7:-3"	. F.	, 5 8	7 7
	07-17-17-17-17-17-17-17-17-17-17-17-17-17	, ,		9-,9		7:-5"	7'-9"	-5-3-	ōā	
	)   	0	7-2	7-6	- J-		 6-1.	7.0		7 6
11.7/0	000	?	-	0		Ö	5	ō	200	
0//	DY-N		7-4"	7.0	ő	ā	2		2	٥ -
語には内できる	08-IV	7.2	71.71	ō.	0 0	200	- 6	0		10-4
一般に いいけいか	06:IN	7.7	11.17	٥٠	000	0-0	, 5	 6-8-	10'-2"	10-8
	200	7.5		9	5	9'-2"	1.7.6	10-1	10-7	-100
Andrew St. St. Contract	VOX.IV	, ,		2	8-10	9'-4"	-6-8	10.2	, a,	- č
(の)の (の)の (の)の (の)の (の)の (の)の (の)の (の)の	X C	- 6	i	.o .o	.9-16	10,-1	10:-7"	11.2"	12.0	10.00
	200	× 1	5		10-1	10-01	1	17	50.0	90
	200	- o	-i- -i-	9-5	9'-10"	0.7	- a-	5.	2.5	200
	200	-o-	م	6.6		10.7		7-11		5-76
(現場をおうない	06-10	5.5	-5 -5	- C	10.			o 0	-7-	9-7
The second second	×06-12		ō	500	700	-:-	ņi -	·-	1.2-4"	12'-11"
一般の できる	09-IN	10.2	10.0	100				12'-1"	12:7"	13:-2"
	N.70	500	0 0	7	φ. -		12'-6"	13-2"	14'-1"	14'-10"
	Ca II	5	90	<b>-</b>	-7	0	72.3	12-8	13.3	5-5-
		0.0	5-5	11-3	11-9	12'-1"	12.7"	1.5	5 5 7 7	7
記者 ないない	200	, )	11:-2"	 	12.0"	12.4"	5.5	17.61	2 5	1 .
18 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	NI-90x		11'-5"	11:10	12.4	20.0	50	200	7-6	- 10
							1	7	4-4-	

- Above table may be used for 1-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 uniformly loaded floor joists that meet the span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/480. For other applications, contact your local distributor.

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



- 13'-0" maximum 5" maximum Jack trusses maximum cantilever 2'-0" Roof trusses
Girder Roof truss span truss -5" maximum L maximum cantilever 元 2'-0" Roof truss span FIGURE 5 (continued) requirements at See table below for NI reinforcement cantilever.

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

00.00

Bearing walls

SET-BACK DETAIL

(5b)

(3/4" minimum thickness),

attach per detail 1b.

Notes:

structural panel closure

Rim board or wood

F77	delin menon	-																								
	5 psf	n.)	24	×	×:	<b>~</b> >	×	×	××	× >	< >	<×	×	×	××	××	<×	×	××	<×	×	× ×	<×	×	×>	<××
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	= 50 psf,	JOIST SPACING (in.)	16	××	× >	<×	×	×	×>	< >	<×	×	××	× ;	<b>&lt;</b> >	<×	×	×	×>	<×	7.0	ч×	×	×	××	(××
	ij.		12	۲۶	<>	<×	×	× .	c	10	7 7	7	××	< -			. 7	7	0 0	7 7	z-		_	<b></b>	- ^	100
ORED)	psf		24	×>	<×	×	××		××	<×	×	×	××	<>>	<×	×	×	×:	××	×	××	×	×	××	<×	××
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1. N = No reinforcement required.
1 = NI reinforced with 3/4" wood structural

solid sawn blocks

Hanger may be

(2x6 S-P-F No. 2 or better) nailed through joist web and web of girder using 2-1/2" nails.

Vertical solid sawn blocks

Alternate for opposite side.

(5c) SET-BACK CONNECTION

used in lieu of

nails, toe-nail at top and bottom flanges.

Nail joist end using 3"

Attach joists to girder joist per detail 5c.

Back

max.

Attach I-joist to plate at all

supports per detail 1b. 3-1/2" minimum I-joist

bearing required.

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 Provide full depth blocking between joists over support

(not shown for clarity)

- 2 = NI reinforced with 3/4" wood structural
- panel on both sides, or double 1-joist.

  X = Try a deeper joist or closer spacing.

  2. Maximum design load shall ber. 15 psf roof dead load, 55 psf floor total load, and 80 plf wall load. Wall load is based on 3-ty\* maximum width window or door openings.

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

Notes:

- 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.

  3. Table applies to joists 12" to 24" o.c. that meet
- about may be required. To 24" o.c., that meet Table applies to joists 12" to 24" o.c., that meet the floor span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/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.
- 5. Cantilevered joists supporting girder trusses or roof beams may require additional reinforaing.

# INSTALLING THE GLUED FLOOR SYSTEM

- 1. Wipe any mud, dirt, water, or ice from I-joist flanges before gluing.
- 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.
- 3. Spread only enough glue to lay one or two panels at a time, or follow specific recommendations from
- 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.
  - 5. 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 1-joists where panel ends butt to assure proper gluing of each end.
- before laying the next row. Glue line may be continuous or spaced, but avoid squeeze-out by applying 7. After the first row of panels is in place, spread glue in the groove of one or two panels at a time a thinner line (1/8 inch) than used on I-joist flanges.
  - Tap the second row of panels into place, using a block to protect groove edges.
- 1/8-inch at all edges, including T&G edges, is recommended. (Use a spacer tool or an 2-1/2" common Slagger end joints in each succeeding row of panels. A 1/8-inch space between all end joints and nail to assure accurate and consistent spacing.)
- Complete all nailing of each panel before glue sets. Check the manufacturer's recommendations table below. Closer nail spacing may be required by some codes, or for diaphragm construction. The for cure time. (Warm weather accelerates glue setting.) Use 2" ring- or screw-shank nails for panels finished deck can be walked on right away and will carry construction loads without damage to the 3/4-inch thick or less, and 2-1/2" ring- or screw-shank nails for thicker panels. Space nails per the

## FASTENERS FOR SHEATHING AND SUBFLOORING(1)

Powering feners Interm, Supports	10"	101	101
Maximur of Fas Edges	9"	9	9
Stoples	2"	2"	2"
Ring Thread Nails or Screws	1-3/4"	1-3/4"	1-3/4"
Common Wire or Spiral Nails	2"	2"	2"
Panel Thickness (in.)	2/8	2/8	3/4
Joist Spacing (in.)	16	20	24

- 1. Fasteners of sheathing and subflooring shall conform to the above table.
- 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 framing.
- 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.
- 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 Ljoist flanges in order to achieve the maximum spans shown in this document. If sheathing is nailed only, Ljoist spans must be verified with your local distributor.

## RIM BOARD INSTALLATION DETAILS

### ATTACHMENT DETAILS WHERE RIM BOARDS ABUT 8

Rim board Joint Between Floor Joists

2-1/2" nails at 6" o.c. (typical)

1-1/2"

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Rim board Joint at Corner

2-1/2" toe-nails at top and bottom 6" o.c. (typical) (1) 2-1/2" nail (typical)

Rim' board joint

-1-1/2"

### 2X LEDGER TO RIM BOARD ATTACHMENT DETAIL (iii TOE-NAIL CONNECTION AT RIM BOARD

(g)

6/3 Rim board sole plate Top or

Exterior sheathing Remove siding at ledger prior to installation extending at least 3" past Continuous flashing ioist hanger Staggered 1/2" diameter lag screws or thru-bolts with washers Deck joist Joist hanger 1-5/8" min. 5" max. 2" min. 2" min. Existing stud wall Existing foundation wall — Floor sheathing Rim board I-joist

2x ledger board (preservative-treated); must be greater than or equal to the depth of the deck joist

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### PRODUCT WARRANTY

Chantiers Chibougannau guarantees that, in accordance with our specifications, Nordic products are free from manufacturing defects in material and workmanship.

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