

		Products		
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	15
J2	14-00-00	9 1/2" NI-40x	1	24
J3	10-00-00	9 1/2" NI-40x	1	11
J4	6-00-00	9 1/2" NI-40x	1	8
J5	4-00-00	9 1/2" NI-40x	1	4
J6	2-00-00	9 1/2" NI-40x	1	4
B1	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B2	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B3	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B8L	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6L	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B7L	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2

connector	Summary
Manuf	Product
H1	IUS2.56/9.5
H1	IUS2.56/9.5
H1	IUS2.56/9.5
H2	HUS1.81/10
H2	HUS1.81/10
H4	HUC410
	Manuf H1 H1 H1 H2 H2



FROM PLAN DATED: MAY 2018

BUILDER: BAYVIEW WELLINGTON

SITE: PASSAGE ON THE CANAL

MODEL: SD-2-B34 THE HUDSON 5

ELEVATION: A

LOT:

CITY: ST.CATHERINES

SALESMAN: M D DESIGNER: AJ 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.

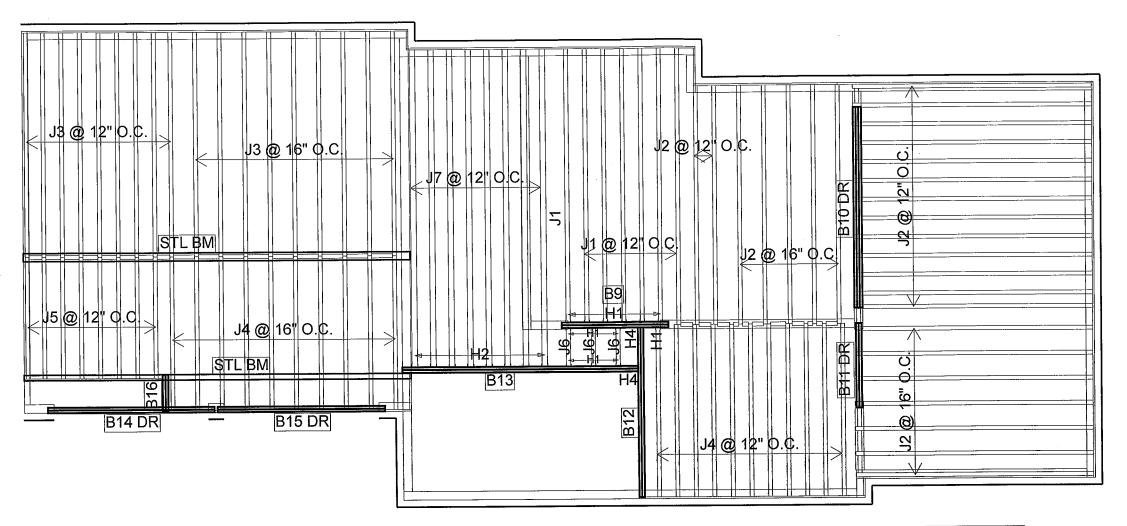
LOADING:

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

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2019-01-29

1st FLOOR



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	7
J2	14-00-00	9 1/2" NI-40x	1	27
J3	12-00-00	9 1/2" NI-40x	1	18
J4	10-00-00	9 1/2" NI-40x	1	21
J5	8-00-00	9 1/2" NI-40x	1	8
J6	4-00-00	9 1/2" NI-40x	1	3
J7	18-00-00	9 1/2" NI-80	1	8
B13	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B10 DR	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B12	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B14 DR	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B15 DR	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11 DR	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B16	2-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2

C	onnector	Summary
Qty	Manuf	Product
13	H1	IUS2.56/9.5
8	H2	IUS3.56/9.5
2	H4	HGUS410



FROM PLAN DATED: MAY 2018

BUILDER: BAYVIEW WELLINGTON

SITE: PASSAGE ON THE CANAL

MODEL: SD-2-B34 THE HUDSON 5

ELEVATION: A

LOT:

CITY: ST.CATHERINES

SALESMAN: M D DESIGNER: AJ 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/ft² DEAD LOAD: 15.0 lb/ft TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 10/23/2018

2nd FLOOR

N1-90

NI-90:

I-joist to top

(1d)

plate per detail 1b

Flance Width

2-1/2*

3-1/2"

(1k)

block

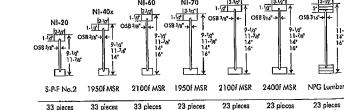
NI or rim board blocking

panel per detail la



www.nordicewp.com

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



WEB HOLE SPECIFICATIONS

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

- 1. The distance between the inside edge of the support and the centreline of any hale or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
- tobte 1 or 2, respectively.

 Lipist top and bottom flanges must NEVER be cut, notched, or otherwise modified.

 Whenever possible, field-cut holes should be centred on the middle of the web.

 The maximum size hole or the maximum depth of a duct chose opening that
- can be cut into an 1-joist web shall equal the clear distance between the flanges of the 1-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained hetween the top or bottom of the hale or opening and the adjacent l-joist flange.

LOCATION OF CIRCULAR HOLES IN JOIST WEBS

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

5. The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location.
6. Where more than one hole is necessary, the distance between adjacent hole edges

FSC AMPlicates 10° 001'15'17

- shall exceed twice the diameter of the largest round hole or twice the size of the largest sonal exceed wice the largest of the largest round note of twice the size of the largest square hole (or twice the length of the langest side of the langest rectangular hole or duct chose opening) and each hole and duct chose opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.

 7. A knockout is not considered a hole, may be utilized anywhere it occurs, and may be
- ignored for purposes of calculating minimum distances between hales and/or duct
- 8. Hales measuring 1-1/2 inches or smaller are permitted anywhere in a cantilevered section of a joist. Hales of greater size may be permitted subject to verification.
- A 1-1/2 inch hole or smaller can be placed onywhere in the web
 provided that it meets the requirements of rule number 6 above.
 All holes and duct chose openings shall be cut in ownstman-like
 manner in accordance with the restrictions listed above and as
- illustrated in Figure 7.
- 11. Limit three maximum size hales per span, of which one may be
- a duct chase opening.

 12. A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed pround them.

DUCT CHASE OPENING SIZES AND LOCATIONS

Simple Span Only

Simple (or seromb	ng op	un ioi	Dog	Loui	12 OP	10 10	por w		4			F															0 7-1
			٨	(inimur	n Dista	nce fro	m Insid	e Face	of Any	Suppor	to Ce	ntre of	Hole (ff	- in.)				Joist	Joist	Minim	ım distanı					ntre of o	pening (it - 10.)
Joist	loist						Rou	nd Hole	e Diam	eter (in.	}	-						Depth	Series				Dud Ch	ase Leng	th (in.)			
Depth	Series	7	3	1		6	6-1/4	7	8	8-5/8	9	10	10-3/4	11	12	12-3/4		Dop.ii	00,,,00	8	10	12	14	16	18	20	22	24
	NI-20	0'-7"	1'-6"	2'-10"	4'-3"	51-8*	6'-0"	<u> </u>											NI-20	4'-1"	41-54	4'-10"	5'-4"	5'-8'	6'-1"	6'-6"	7'-1"	7'-5"
	NI-40x	0'-7"	1.6	3-0	4-4	6'-0"	6'-4"												NI-40x	5-3	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-3"	8'-6* 8'-9'
9-1/2"	NI-60	1'-3"	2'-6"	4'-0"	5'-4"	7'-0"	7'-5"	**-										9-1/2"	NI-60	5'-4" 5'-1"	5'-9" 5'-5"	6'-2" 5'-10'	6'-7" 6'-3"	7'-1" 6'-7"	7'-5" 7'-1"	8'-0" 7'-6"	8'-1"	8-4
	NI-70	2'-0"	3'-4"	4-9"	6'-3"	8'-0"	8'-4"				•								NI-70 NI-80	5-3	5.8	6'-0"	6'-5"	6'-10"	7:3"	7'-8'	8 2	8'-6'
	NI-80	2'-3"	3'-6"	5'-0"	6'-6"	8'-2"	8'-8"		41. FB	7'-9"									NI-20	5-9'	61-21	6'-6"	7-1'	7'-5'	7'-9"	8'-3"	8'-9*	9'-4"
	NI-20	0'-7"	0'-8" 0'-8"	1'-0" 1'-3"	2'-4" 2'-8"	3'-8" 4'-0"	4'-0' 4'-4	5'-0' 5'-5'	6'-6" 7'-0"	8-A									NI-40x	6'-8'	7'-2"	7'-6"	8'-1"	8'-6"	9'-1"	9'-6"	10-1	10'-9"
i .	NI-40x NI-60	0.7	1.8	3-0"	4-3	5-9	6'-0"	7:3	8-10	10-0		•••			700				NI-60	7'-3"	7'-8"	8'-0"	B'-6"	9'-0"	9'-3"	9'-9-	10'-3'	11'-0"
11-7/8*	NI-70	1.3"	2'-6"	4-0	5-4	6-9	7:-2	8-4	10'-0									11-7/8*	NI-70	7'-1"	7'-4"	7'-9"	8'-3"	8'-7'	9'-1'	9'-6" 9'-8"	10'-1" 10'-2"	10'-4" 10'-8"
1 . , . , , ,	NI-80	14.6	2'-10'	4'-2"	5'-6"	7'-0"	7'-5"	8'-6"	10'-3			•••	***						NI-80	7'-2' 7'-6'	7'-7' 7'-11'	8'-0" 8'-4"	8'-5" 8'-9"	8'-10' 9'-2'	9-3' 9-7'	10-11	10-2	10-311
	NI-90	0'-7*	0'-8"	1'-5"	3-2"	4-10		6'-9"	8'-9"	10'-2"									NI-90 NI-90×	7-0	8'-1	81-5°	8-10	9.4	9-8	10-2	10'-8"	11-2
	NI-90x	0'-7"	0'-8"	0'-9"	2-5	4'-4"	41-91	6'-3'	5'-2"	6-0	6'-6"	8'-3"	10'-2'						NI-40x	8'-1"	8'-7'	9'-0"	9'-6"	10'-1"	10-7*		12'-0"	12'-8"
	NI-40x	0'-7"	0, 8,	0'-8"	1'-0" 3'-0"	2'-4" 4'-3"		5'-8'	7.2	8-0	8'-8"	10'-4'							NI-60	8'-9"	9.3	9-8	10-11	10-6	11234	11'-6"	13'-3"	13'-0'
1	NI-60 NI-70	0'-7"	0'-8" 1'-10'	1'-8" 3'-0"	4.5	5'-10		7:3	8-9	9.9		12:0						14.	NJ-70	8'-7'	9'-3" 9'-1' 9'-3"	9'-5"	9-10"	10'-4"	10-8	11'-2"	11'-7"	12'-3'
14"	NI-80	0-10		3-4	4.9	6'-2"		7'-6"	9-0	10'-0'	10'-8		13-9				ļ	14	N1-80	9'-0"	9'-3'	9-9	10-1	10'-7"			12'-1" 12'-4"	12-6
	NI-90	0-7	0.8"	0'-10'		4'-0"	4'-5'	5'-9"	7-5	8'-8"	9-4	11'-4'	12-11	•	***		ĺ		NI-90	9'-2"	9-8" 9-9"	10'-0'	10'-6" 10'-7"		* 1145* 1147*	11'-9' 12'-1"	12-7	13-2
	NI-90x	0'-7"	0-8	0'-8"	2'-0"	3'-9'		5-5	7'-3"	8'-5"	9'-2"					*****			NI-90x NI-60	10-3	10'-8"	11'-2'	11'-6"	12'-1"		13'-2"	14-1'	14-10
	NI-60	0'-7"	0'-8"	0'-8"	1-6	2'-10		4'-2'	5'-6	6'-4"	7'-0"	8'-5"	' 9'-8' ' 12'-0"		2" 12'-2 4" 14'-0]	NI-70	10-1	10-5	11-0	11-4"		12-3		13'-3'	14'-0'
1	NI-70	0'-7"	1,-0,	2'-3"	3'-6"	4'-10 5'-3'		6'-3' 6'-6'	7'-8" 8'-0"	8'-6" 9'-0"	9.5	111-0			14.5			16"	Ni-80	10-4	10'-9"	11'-3'	11'-9"	12'-1"	1247"	13'-1"	13'-8"	14'-4'
16"	NI-80	0.7	1'-3" 0'-8"	2-6" D'-8"	3110	3'-3"		4-9	6'-5"	7.5	840	9-10			13.9		i		NI-90	10'-9'	11'-2"	11'-8"	12'-0"	12'-6"			14-2	14'-10'
	NI-90 NI-90x	0.7	0'-8"	0-9	2'-0'	3'-6"		5'-0"	6-9	7'-9"	8'-4"	10-2	11:6	124)•		ļ.		N1-90x	1341	1145	11410	12-4	12-10	13'-2'	13'-9"	14-4	15'-2'
																	-	1 About to	able may b	a used for	Linist son	cion of 2	4 inches	on centre	or less.			
1. Above	table may	be used	i for l-je	ist spac	ing of	4 inch	es on ce	intre or	1655. otra cf	hala								O December	ara amanina	· location	distance is	COMPARTON O	ed from (ngide lac	A Of SUN	noris ia c	entre of	opening.
2. Hole k	cation dist	ance is	meosur	ed tron	n inside formlus	anded	i suppoi	iş iç te	illie Oi	HOIG.								3. The abo	we table is t es are base	osed on s	impla-spai	n joists on	ly. For oil	her opplic	otions, c	anlact yo	ur local	distributor.
A The of	ces in inis c ova table i	nan en	on the	Liniete	heina u	sed of	ibeir ma	zimum	spans.	The min	เดษกา	distance	as give	n apov	e may	be reduced		4. Distance	es are base	d on unifo	rmly load	ed floor j	oists that	meel the	span re	quiremen	als for a	design five
for she	orler spans;	conlac	t your le	cal dis	ributor.				•				-					lood of	40 ost and	dead load	of 15 ps	t, and a li	ive load (detlection	i limii ot	L/ 46V.		
																		5. The obc	ve table is	pased on	ne i-joisis	peing us	eo oi the	our local	distribu	ior.	HINGHII .	HISTORICE OF

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

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

Offset nails from opposite face by 6"

WEB STIFFENERS

RECOMMENDATIONS

3-1/2" min

FILLER BLOCK REQUIREMENTS
FOR DOUBLE I-JOIST

o.c. (clinched when possible) on each side of the double 1-joist. Total of four nails per foot required. If nails can be

4. Nail joists together with two rows of 3" nails of 12 inches

Maximum Factored Uniform Vertical Load* (plf)

3,300

Maximum Factored Vertical Load per Pair of Squash Blocks (Ibs)

5,500 8,500

4,300 6,600

3-1/2*

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

2-1/2" nails at 6" o.c. to top plate (when used for lateral shear transfer, nail to bearing plate with same nailing as required for decking)

1/8" Rim Board Plus

Provide lateral bracing per detail 1a or 1b

5-1/2"

7-1/4*

NI Joists

(1h) Bocker block (use if hanger load exceeds 360 lbs). Before installing a backer block to a double 1-joist, drive three additional 3' nails through the webs and filler block where the backer block will fit, Clinch. Install backer tight to top flange. Use twelve 3' nails, clinched

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

Minimum grade for backer black material shall be S-P-F No. 2 or better for solid sawn lumber and wood structural panels confarming 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 minus 4-1/4*.

(1m)

— Filler

Maximum support capacity = 1,620 lbs.

1. Support back of l-joist web during nailing to prevent damage to web/flange connection.

Leave a 1/8 to 1/4-inch gap between top of filler black and bottom of top 1-joist flange.

Filler black is required between joists for full length

Material Thickness Required*

1-1/2"

— 2x plate flush with inside face of wall

or beam. 1/8' overhang allowed past inside face of wall or beam.

installed per manufac

NOTE: Unless hange

sides laterally support the top flange, bearing

A hearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joist properties table found of the I-joist Construction Guide (C101). The gap between the stiffener and the flange is a

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

A load stiffener is required at locations where a factored concentrated load greater than 2,370 lbs is applied to the tap flange between supports, or in the case of a cantillever, anywhere between the conflicter fip and the support. These values are for standard term load duration, and may be adjusted for other load durations as permitted by the code. The gap between the stiffener and the flange is at the bottom.

 The maximum factored load that may be applied to one side of the double joist using this detail is 860 lbf/ft. Verily double 1-joist capacity.

FIGURE 2

2-1/2" or 3-1/2"

1/8°-1/4° Gap

No Gar

~(4) 2-1/2" nails.

3' nails required for I-joists with

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

WEB STIFFENER INSTALLATION DETAILS

Net Depth

CONCENTRATED LOAD

(Load stiffener)

NOTES:

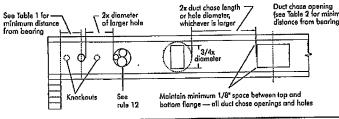
In some local codes, blocking is prescriptively required in the first joist space (or first and second joist space) next to the starter joist. Where required, see local code requirements for spacing of the blocking.

All nails are common spiral in this detail.

All nails shown in the above details are assumed to be common wire nails noted. 3" (0.122" dla.) eraming tomber assumed to be Spruce-Pine-Fir No. 2 or better: Individual

TABLE 1

FIELD-CUT HOLE LOCATOR





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

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

Holes in webs should be cut with a sharp saw.

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

SAFETY AND CONSTRUCTION PRECAUTIONS



Do not walk on t-joists unti



Never stock building materials over unsheathed Ligists. Once er anstreamen r-jaise. Once heathed, do not over-stress sists with concentrated loads from building materials.

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

AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

AYOLD ACCIDENTS BY FOLLOWING ITESE IMPORTANT CUIDELINES:

1. Brace and noil each Ljoist as it is installed, using hangers, blocking panels, rim board, and/or cross-bridging at joist ends. When Ljoist are applied continuous over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.

2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the Ljoists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent Ljoist rollover or hunkling.

or buckling.

Temporary bracing or strute must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2* nails fastened to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists.

Or, sheathing (temporary or permanent) can be noiled to the top flange of the first 4 feet of I-joists at the end of the boy.

For contilevered I-joists, brace top and bottom filonges, and brace ends with closure ponels, firm board, or cross-bridging.

Install and fully noil 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 l-jaist.

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

CHANTIERS CHIBOUBAMAU

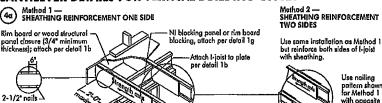
PRODUCT WARRANTY

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

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

SYAMINA AAAAAAAAAAAAAA

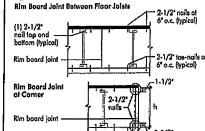
CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET



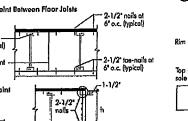
NOTE: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails of 6" o.c., top and bottom flongs. Install with face grain horizontal. Attach I-joist to plate of all supports per detail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

See the adjacent table for web stiffener size requirem





8b TOE-NAIL COMMECTION





*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 concentraled vertical load transfer, see detail 1d.

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

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

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

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

Backer block required (both sides for face-

— Do not bevel-cui

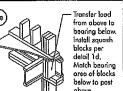
joist beyond inside face

per detail 1b

of wall

NOTE: Blocking required at

bearing for lateral support, not shown for clarity.



One 2-1/2"-

face nail at each side at bearing

Filler block

Multiple I-joist header with full depth filler

may also be used. Verify double I-jois

own Nordic Lam or SCL header:

Backer block attached per

detail 1 h. Nail with twelve 3

nails, clinch when possible.

- Install hanger per manufacturer's

ad bearing wall above shall align vertically with the bearing below. Other conditions, such per detail 1 b as offset bearing walls, are not covered by Blocking required over all interior supports under load-bearing walls or when floor joists are not 2-1/2° nails NI blacking panel per detail 1a to top plate --

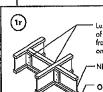
NOTE: Unless honce sides laterally support the top flange, bearing

for hanger capacity see hanger manufacturer's recommendations. Verify double I-joist capacity to support

(11)

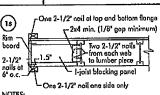
(1)Nordic Lam or Structural Composite Lumber (SCL) For nailing schedules for multiple beams, see the manufacturer's recommendations. Top- or face-mount hanger installed per manutacturer's

NOTE: Unless hanger sides laterally support the top flange, bearing sliffeners shall be used.



Lumber 2x4 min., extend block to face of adjacent web, Two 2-1/2" spirol nails from each web to lumber piece, alternate NI blocking panel

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



END BEARING

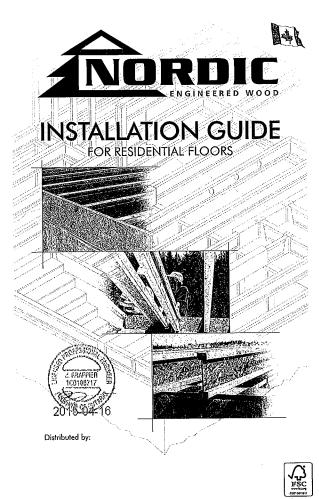
(Bearing stiffene

common spiral nails may be substituted fo 2-1/2" (0.128" dia.) components not show to scale for clarity.

STIFFENER SIZE REQUIREMENTS

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

RIM BOARD INSTALLATION DETAILS



SAFETY AND CONSTRUCTION PRECAUTIONS

Do not walk on 1-joists until fully fastened and braced, or serious inju-ries can result.



Never stack building

i-joists are not stable until completely installed, and will not carry any load until fully praced and sheathed.

Avoid Accidents by Following these Important Guidelines:

 Brace and noil each Ljoist as it is installed, using hangers, blocking panels, rin board, and/or cross-bridging at joist ends. When Ljoists are applied continuous over interior supports and a load-bearing well is planned at that location, blocking will be required at the interior support. When the building is compeled, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist rollover or buckling.

■ Temporory bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each Ljoist. Nail he bracing to a lateral restraint at the end of each bay. Lop ends of adjoining bracing over at least two Ljoists.

Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of 1-joists of the end of the bay.

3. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.

 Install and fully nail permanent sheathing to each 1-joist before placing loads on the floor system. Then, stack building materials over beams or walls only. 5. Never install a damaged I-joist.

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

MAXIMUM FLOOR SPANS

- Maximum clear spans applicable to simple-span or multiple-span residential floor construction with a design live load of 40 pst fland dead load of 15 pst. The Utilizate limit stetus are based on the factored loads of 1.500. + 1.250. The sarriocability limit states include the consideration for floor vibration and at live load deflection limit of 1/480. or more of the adjacent span.
- or more of the adjacent spin.

 2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less, or 3/4 inch for joist spacing of 24 inches. Adhesive shall meet the requirements given in CGBS-71.26 Standard. No concrete toping or bridging element was assumed. Increased spans may be achieved with the used of gypsum and/or a row of blocking at mid-span.
- Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as
- This span chart is based on uniform loads. For applications with other than uniform loads, an engineering analysis may be required based on the use of the design properties.
- 6. Tables are based on Limit States Design per CAN/CSA O86-09 Standard, and NBC 2010.
- 7. SI units conversion: 1 inch = 25.4 mm 1 foot = 0.305 m

MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS

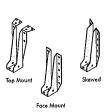
DIVITED AND SE	7 MOETHEL	017410	and the same		wertoners.	A CONTRACTOR	THE OWNER	en en en	9.48 TV TV
Joist Depth	Joist Series	101	The second second second	e spans re spacing . 19.2	24"	12'	Multiple On centre 16"	and the second second second second	.24"
Line mail	er tunder om d	A COL	and the same			Later and the con-		Light Tallian	The state of the s
	NI-20	15'-1'	14'-2	13'-9"	13'-5	16'-3'	15'-4	14'-10	14'-7
	NI-40x	16'-1'	15'-2"	14'-8"	14'-9"	17'-5"	16'-5"	15'-10"	15'-5'
9-1/2	NJ-60	16'-3"	15'-4'	14'-10"	14'-11'	17'-7'	16'-7'	16'-0"	16'-1"
	NI-70	17'-1"	16-1	15'-6"	15'-7"	18'-7'	17'-4"	16'-9"	16'-10'
	NI-80	174-31	16'-3"	15'-8"	15'-9"	18'-10'	17'-6'	16'-11"	17'-0'
	NI-20	16'-11'	16'-0'	15'-5	15'-6"	18'-4	17'-3*	16'-8	16'-7'
1. Ann. 1. 1.	NI-40x	18'-1	17'-0'	16'-5	16'-6"	20'-0	18'-6"	17'-9	17'-7'
100 A 11	NI-60	18'-4'	17'-3'	16'-7"	16'-9"	20'-3"	18'-9"	18'-0"	18' 1'
11-7/8	NI-70	19'-6'	18'-0'	17'-4'	17'-5"	21'-6"	19-11"	19'-0"	19'-1"
115770	NI-80	19-9	18-3	17'-6'	17'-7'	211-91	20'-2"	19'-3"	19'-4"
1.00	NI-90	20'-2"	18'-7	17-10	17:11	22'-3"	20-7	19'-8"	19'-9
1000	NI-90x	20'-4"	18'-9	17-11	18'-0	22'-5"	20'-9"	19'-10"	19'-11'
	NI-40x	20-1	18'-7"	17-10	17'-11'	22'-2"	20'-6"	19'-8"	19'-4"
7.7.4	NI-60	20-5	18'-13"		18'-2"	22'-7'	20'-11"	20'-0"	20'-1"
100 A 200	NI-70	211.7	20-0	19-11	19'-2"	23'-10'	22'-1"	21'-1'	21'-2'
14	NI-80	211-11	20'-3'	19'-4"	19-5	24'-3'	22'-5"	21-5	21'-6'
3.3.2	NI-90	22'-5	20'-8"	19-9	19-10	24'-9	22'-10'	21'-10'	21'-10'
	NI-90x	22'-7'	20-11		20'-0'	25'-0"	23'-1"	22'-0"	22'-2"
-	NI-60	22'-3'	20-81	19'-9'	19'-10'	24'-7"	22'-9'	21'-9"	21'-10"
			20-0	17-/	17-10	47		71.1.	

All noiling must meet the hanger manufacturer's recommendations

- Hangers shown illustrate the three most commonly used metal hanger to support 1-joists.

I-JOIST HANGERS

- Hangers should be selected based on the joist depth, flange width and load capacity based on the maximum spans.



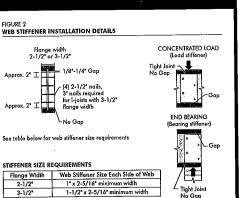
CCMC EVALUATION REPORT 13032-R

STORAGE AND HANDLING GUIDELINES

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

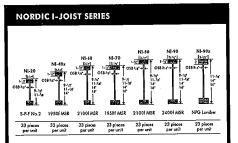


(le)



(1g)

ottachment per detail 1b



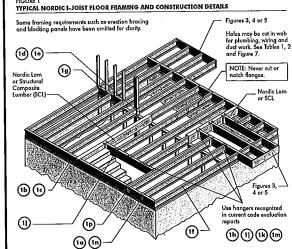
products to adhere to strict quality control procedures through \$4.0650, manufacturing process. Every phase of the operation, from control finished product, reflects our commitment to quality.

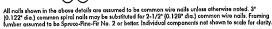
finished product, reflects our commitment to quotity.

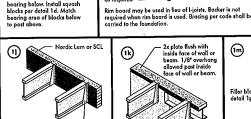
Nordic Engineered Wood Ljoists use only finger-jointed lack sputial flumber in their flanges, ensuring consistent quotity, supplier strategies for the production of the prod

INSTALLING NORDIC I-JOISTS

- 1. Before laying out floor system components, verify that t-joist flange widths match hanger widths. If not, specifically that the property of the components of the component
- 2. Except for cutting to length, 1-joist flanges should never be cut, drilled, or notched. 3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
- I-joists must be anchored securely to supports before floor sheathing is attached, and supports be level. 5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bearings
- 6. When using hangers, seat I-joists firmly in hanger bottoms to minimize settlement.
- 7. Leave a 1/16-inch gap between the I-joist end and a header.
- 8. Concentrated loads grader 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 comeras. Never suspend unusual or heavy loads from the Lipisit's bottom flange. Whenever possible, suspend oil concentrated loads from the top of the Lipist. Or, attack the food to blocking that has been securely fastened to the Lipist value.
- 9. Never install I-joists where they will be permanently exposed to weather, or where they will remain in direct contact with
- Restrain ends of floor joists to prevent rollover. Use rim board, rim joists or 1-joist blocking panels.
- 11. For I-joists installed over and beneath bearing walls, use full depth blocking panels, rim board, or squash blocks (cripple members) to transfer gravity loads through the floor system to the wall or foundation below.
- 12. Due to shrinkage, common framing lumber set on edge may never be used as blocking or rim boards. Lijoist blocking panels or other engineered wood products such as rim board must be cut to fit between the Lijoists, and an Lijoist-compatible depth selected. 13. Provide permanent loteral support of the bottom flange of all I-joists at interior supports of multiple-span joists. Similarly, support the bottom flange of all cantillevered 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 calling is applied, temporary
- 14. If square-edge ponels 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 require approved building plans.



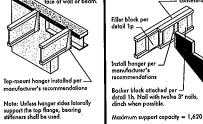






Note: Unless hanger sides later support the top flange, bearing stiffeners shall be used.

(lk)



Provide backer for siding attachment unless nailable

(lm)



 Support back of I-joint web during nailing to prevent damage to web/flange connection.

FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION Leave a 1/8 to 1/4-inch gap between top of filler block and bottom of top 1-joist

Use single 1-joist for loads up to 3,300 plf, double

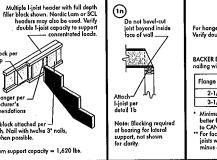
 Filler block is required between joists for full length of span. tull length of span.

A Nail joist tagether with two rows of 3" nails at 12 inches o.c. (clinched when possible) on each side of the double l-joist. Total of four nails per foot required. If nails can be clinched, only two nails per foot are required.

The maximum factored load that may be applied to one side of the double joist using this detail is 860 lbf/fi. Verify double L-joist capacity.

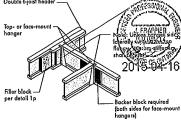
Maximum support capacity = 1,620 lbs.





-NI blocking panel per detail 1a



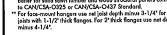


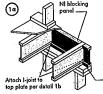
or hanger copacity see honger manufacturer's recommendations ferify double 1-joist capacity to support concentrated loads.

BACKER BLOCKS (Blocks must be long enough to permit required

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

Minimum grade for backer block meterial shall be S-P.F. No. 2 or better for solid sawn lumber and wood structural penels conforming to CAN/CSA-0237 or CAN/CSA-0437 Sendard.
For face-mount hangers use nel joist depth minus 3-1/4" for joists with 1-1/2" thick flanges. For 2" thick flanges use net depth minus 4-1/4".





2-1/2" nails at 6" o.c. to top plate (when used for lateral shear transfer, nail to bearing plate with same nailing

The uniform vertical load is limited to a joist depth of 16 inches or loss 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.

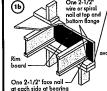
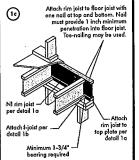


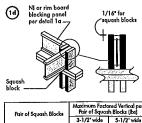
plate using 2-1/2" wire or spiral toe-nails at 6" o.c. To avoid splitting flange, start nails at least 1-1/2' from end of 1-joist. Nails nay be driven at an angle to I splitting of bearing plate Minimum bearing length shall be 1-3/4" for the end bearings, and 3-1/2" for the intermediate bearings when applicable.

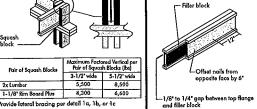
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1-1/8" Rim Board Plus 8,090

The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the dosign of a bending member, such as joist, header, or ratior. For consentrated vertical load transfer, see data? Id.



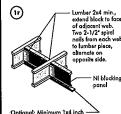




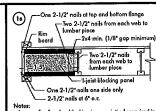
℩

Offset nails from opposite face by 6

3-1/2° x 9-1/2° 1-1/2° 11-7/8° 1-4° 16° 3"x6" 3"x8" 3"x10" 3"x12" 3-1/2' x 11-7/8' 3' x 7' 2' 14' 3' x 9' 16' 3' x 11'

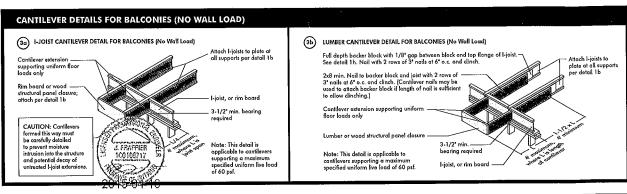


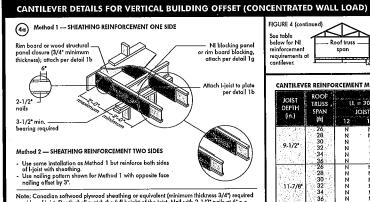
Optional: Minimum TX4 inch
strap applied to underside of joist at blockin
line or 1/2 inch minimum gypsum ceiling
attached to underside of joists.



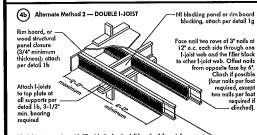
Notes:
In some Jocal codes, blocking is prescriptively required in
the first joist space (or first and second joist space) next to
the starter joist. Where required, see local code requiremen
for spacing of the blocking.

All nails are common spiral in this detail.





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, Intall with face grain horizontal. Attach I-joist to plate at all supports per detail 1b. Verify reinforced I-joist capacity.



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

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 Roof trusses Roof truss Span 13'-0' maximum Jack trusses truss 2-0' ... Roof truss . span CANTILEVER REINFORCEMENT METHODS ALLOWED ROOF LOADING (UNFACTORED) JOIST ROOF

DEPTH	TRUSS ,			U1. = 15				DL = 15				UL = IJ	
(in.)	SPAN			CING (in.	Territoria de la Composito de			CING (in.				CING (in	
	(ft)	12	16	19.2	24	12	16	19.2	24	12	16	19.2	24
(***) E. (*)	26	. N	N	1	2	N	1	2	X	N	2 '	X	X
4. 6.	28	N ·	N	1	X	N	1	2	X	Ņ	2	X	
9-1/2	30	N	1	1	Х	N	1	2	X	!	2	Ž.	. 0
/-1/2	32	N	1	2	X	N	2	X	Š	!	Č	Ç	٠
	34	N	!	2	5	Ņ	2	٥	â	l ;	0	÷	Ŷ
7 54,12	36 26	N	!	- 2	<u>.</u>	-:-	N	^	<u>^</u> -	N N	- ĥ		2
29, 32	28 28	Й	N N	N	- !	2 2	N		2	Ϊ́	iN 1	- 1	Ŷ
1.00	30	N N	22	N	1	l N	N	- ;	2	N	;	,	Ŷ
11-7/8	32	N	N.	1	- ;	N	N N	- ;	2	l N	- ;	5	Ŷ
11-//6	34	N	N N	1	,	l n	ï	i	x	N N	i	2	x
20 O.C.	36	N	N	í	5	lй	i	,	x	l ii	i	2	X
	38	l n	N	i	. 2	l n	i	2	x	ΙÑ	ż	X	X
1000	26	N N	N	Ņ	Ň	N	Ń	Ñ		N	· N	N	1
1 1000	28	lй	Ñ	N	N	l n	N	N	1	N	N	1	1
100	30	N N	N	N	N	N	N	N	1	N	N	1	2
14446	32	N	N	N	1	N	N	N	1	N.	N	1	2
14	34	l N	N	N	1	N	N	1	1	N	N	. 1	2
	36	N	N	N	. 1	N	N	1.	2	N	1	1	2
	38	N	N	N	. 1	N	N	1	2	N	1	1	X
	. 40	N	N	N		N	N.	_!_	2	N	1	2	· X
3 S. S.	26	N	N	N	N	N	N	N	N	N	N	Ŋ	- !
	28	Ν.	N	N	N	, N	N	N	. !	N	N	N	
	30	N	N	N	N	Ŋ	N	Ŋ		l N	N	Ņ	•
4.2	32	N.	N	N	N	N N	N	N	- ;	l N	N M		
16'	34	l N	N	N	N	N	N	N		l n	N.	;	2
\$#.JA	36	N	Й	N N	- !	l N	N N	. N	1	l N	N I	i	2
	38 40	N.	N		1	N	N	i N	,	l N	Ñ	i	2
	42	l N	Ñ	N	1	l Ñ	Ñ	i	2	l n	ï	i	ž

- N = No reinforcament required.

 I = Nt reinforcament required.

 I = Nt reinforcament wood structural panel on one tide only.

 I = Nt reinforced with 3/4" wood structural panel on both sides, or double i-joist.

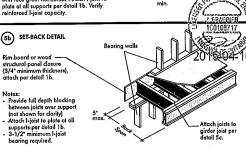
 X = Try a deeper joist or doser spacing.

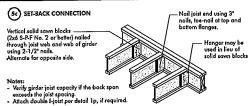
 Maximum design load shall be: 15 pt roof dead load, 55 pt filoor total load, and 80 pt woll load. Wall load is based on 3/40" to the structure with the windows does not shall be a second to the structure with the windows does not shall be a second to the structure with the windows does not shall be a second to the structure with the windows does not shall be a second to the s
- For larger openings, or multiple 3-0" width openings spead less than 0"0" oc., additional joist beneath the opening's criptle studs may be required.

 3. boble applies to joists 12 to 24" o.c. that meet the floor pop nequirement for a disting live land of 40 psf and dead load of 15 psf, and a live load detlection limits of 1480. Use 12" o.c. requirements for lesser spacing.
 - 4. For conventional root construction using a ridge beam, the Roof Irus Span column above is equivalent to the distance between the root of the root of the Roof Irus Span is equivalent to the distance between the supporting walls as it at trus is used.
 5. Contileveral joints supporting girder trusses or root beams may require additional reinfloring.

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

BRICK CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD) 12" minimum length of sheathing reinforcement (50) SHEATHING REINFORCEMENT ___ Roof truss __ span —Noil reinforcement to to and bottom joist flanges with 2-1/2" nails at 6" o.c. (offset opposite face nailing by 3" when using reinforcement on both sides of 1-joist) Note: Canadian softwood Note: Canadian softwood plywood sheathing or equivalent (minimum hickness 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., 100 and bottom flange. Install with face grain harizontal. Attach I-joist to plate at all supports per detail 1b. Verify reinforced I-joist capacity. RRICK CANTILEVER REINFORCEMENT METHODS ALLOWED 5b SET-BACK DETAIL Rim board or wood -structural panel closure (3/4" minimum thickness), attach per detail 1b.





Roof Irusses

Girder Roof truss Jack trusses
truss 2'-0" — Roof truss – span 2'-0" maximum cantilever

	ROOF					ROOF	LOADING	(UNFACT	ORED)				
JOIST	TRUSS	LL =	30 pst,	DL = 15	psf	LL	= 40 psf,	DL = 15	psf	LL	= 50 psf,	DL = 15	psl
DEPTH	SPAN	. ,(DIST SPA	CING (in.			JOIST SPA	CING (in.)		1	OIST SPA	CING (in)
(in.)	(ft)	12	16	19.2	24	12	16	19.2	24	12	16	19.2	24
918599S	26	1	X	Х	X	2	Х	Х	X	2 X	X	X	X
Partie.	28 30	1	X	X	X	2	X	Ş	X	l X	x	Š	X
9-1/2"	30	2	x	Ŷ	â	2 2 2 2	û	â	â	Ιŝ	X	â	ΩÎ
100	34	2 2 2	Х	x	Х	ΙŘ	X	X	X	X X X	X	X	x I
10.3341970	36 26	N N	X 2	×	X	- X -	- X	- X	X	X-	- X	X	X
	28	l K	2	â	â	Ιí	Х	â	Х	ż	Х	â	x I
1000	30.	1	2 2	X	X	1	X	X	X	2	X	X	X
11-7/8	32 34	1	Ž X	Ş	X	2	X	X	X	2	â	Ŷ	ŶÌ
117.00	36	Ιί	Х	â	x	2 2	â	X X	X	2 2 2 2 X X	X	X	X
140.48	38	1	X	X	X		X	X	X	X.	X	X _	X
	26 28	N N	1	2	X	-2	2 2	X	X	1 1	â	Ŷ	X
7.200	30	Ň	ź	Ŷ	â	l i	Ž	Ÿ		l i	X	X	χ̈́
14	32	N	2	X	X X X	l !		X	X X X	2 2 2 2 2	X	X	χI
100	34 36	Ņ	2	Ŷ	X	I :	X	Ŷ	Ŷ	5	Ŷ	â	X
The said	38	l i	2	â	X	l i	ÿ	â	X	2	X	X	x
1.00/202	40 26	1	- X	X	- X	-3-	<u> </u>	X	X	2 N	X	X	X
14.4	28	N	- {	2 2	â	N	2	â	х	lï	2 X	â	ŷΙ
	30	N	í	2	Х	N	2 2 2	X	Х	1 1	X	X	X
	32 34	М	1	2 X	X	Ņ	2 2	Ÿ	X	1 !	X	Ÿ	X
16"	36	N	2	â	X	Ιi	ź	â	ŝ	Ιi	â	â	ŷΙ
	38	N	2 2	X	X	l i	X	X	X	2	X	X	X
1.00	40	Ņ	2	Š	X.	1 }	Š	X	X	3	Ž	Ř	Ϋ́
or Maring Street										<u> </u>	1		
	einforcement inforced with		etructurál	For	larger op	enings, or red less t	multiple 34 han 640° a.e	o width			nal roof co he Roof Tru		
pane	on one side	only.		ado	litional joi	sts beneal	h the openi	ng's cripple	abo	ve is equi	ralent to th	e distance	between
	inforced with I on both side				ls may be			c. that meet			g wall and f is framed		
	deeper joist a			the	floor spar	n requiren	nents for a d	lesign live	the	Roof Truss	Span is so	uivalent to	'the
2. Maximum	design load:	shall te: 15	psf roof	loa	d of 40 ps	f and dec	d lood of 1:	5 psf, and			ean the su	porting we	ills as if a
dead loo	i, 55 psī floor Wall foad is l	total load,	and 80.pi .∩•	t ali	re load de	itection li	mit of L/480 or lesser spo	i.'Use icina.		is is used. Milovered i	oists zuppo	rling girder	Itusses or
	width window			142	requ		a		roo	f beams m	ay require	additional :	einforcing.

WEB HOLES

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.
- 2. I-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified. 3. Whenever possible, field-cut holes should be centred on the middle of the web.
- The maximum size hole or the maximum depth of a duct chase opening that can be cut into an Ljoist web shall equal the clear distance between the flanges of the Ljoist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent Ljoist flange.
- 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.
- 3/4 or 1 no animater of the maximum round hole permitted at that location. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole for twice the length of the largest side of the langest rectangular hole or outcomes opening) and each hole and duct chose opening shall be sized and located in compliance with the requirements of tobles 1 and 2, respectively.
- A knackout is not considered a hole, may be utilized anywhere it occurs, and
 may be ignored for purposes of calculating minimum distances between holes
 and/or duct chase openings.
- Holes measuring 1-1/2 inches or smaller shall be permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to
- 9. A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above
- 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
- A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

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

Joist	Joist Series						Rou	nd ho	e dia	neter (n.)	Zudasi	100				œ	Uslimi
Depth.	series	2	33.	4	5	. 6	6-1/4	7 :	В.	8-5/8	9	10	0-3/4	U.	.12	2-3/4		aclo
	NI-20	0.7	1'-6"	2,10.	4-3	5'-8'	90.	***	***	***					***	***	1 -	13'-6
3.5	NI-40x	0.7	1'-6"	3'-0"	4'-4"	6:-0"	6'-4"			***	•••	***	***	***		•••		14'-9
9-1/2	NI-60	11-31	2'-6"	4'-0"	5-4	7'-0"	7'-5'				***	***		•••				14-11
2000	NI-70	2'-0'	3'-4	4-9	6'-3"	8.0.	8'-4'		***	***	***						į į	15-7
A 100 A 11	NI-80	2'-3"	346	5-0	6'-6"	81-21	6'-8"						***	***		***	17.	15-9
2.00	NI-20	0.7.	0.8.	1,-0,	2.4	3'-8"	4'-0"	5'-0"	6.6	7-9	***	***	•••	•••	***	***	100	15'6"
11 14 14	NI-40x	0-7	0-8-	1'-3'	2'-8'	4'-0	4'-4'	5-5	7-0	8'-4"	***	•••	***	•••				16-6
1.0	NI-60	0-7	1'-8"	3-0	4-3	5'-9'	6.0	7-3	8-10	10-0	***	***	•••	•••				16-9
11-7/8*	NI-70	1:-3"	2-6	4-0	5-4	6-9	7-2*	8'-4"	10.0	11-2	•••	***	•••	•••		***	l	17-5
	NI-80	1'-6'	2-10	4-2	5.6	7'-0"	7'-5"	8'-6	10-3	114	•••	***	•••	•••			1.	17-7
4.37 (1.14)	NI-90	0.7	0-8	1'-5"	3'-2"	4'-10"	5'-4"	6'-9	8-9-	10-2	***	•••	•••	•••				17-11 18-0
21 / 2 few	NI-90x	0-7	0-8.	0,-6,	2'-5'	4-4	41-9"	6-3			***		100.00	•••			-	17:11
2.4.62	NI-40x	07.	0-8	0.8.	1,-0,	2-4	2'-9"	3'-9"	5'-2"	6'-0	6'-6'	8'-3'	10-2	•••		•••	15.	18-2
100	NI-60	0-7	0-8	1'-8	3,-0.	4'-3"	4'-8'	5'-6"	7-2	8'-0	8-8	10'4"		•••		•••	11.5	19-2
14	NI-70	08.	1-10	3'-0	4'-5"	5'-10'	6'-2"	7-3*	8-9	9.9.	10.4	12:0	13.5	***				19-5
17,00	NI-80	0'-10"	2'-0"	3'-4"	4'-9"	6-2	6-5	7-6*	9-0	10-0	10'-8"	12'-4"	12-11			***		19-9
200	NI-90	0.7	0-8	0-10	2'-5"	4'-0"	4'-5	5-9	7-5	8'-8"	9.4	1144		***		•••	< 1	20.0
The Country of	NL-90x	0'-7"	0-8	0.8	2'-0"	3:-9"	4'-2"	5'-5'	7:-3*	8'-5* 6'-4"	7:0	8'-5'	5.8.	10'-2"	12-2	13'-9	++	19-10
100	NI-60	0-7	0-8	0.8	1,-6,	2'-10 4'-10'	3'-2' 5'-3'	4-2 6-3	5-6 7-8	8-6	9.2	10.8	12.0	12:4	14-0	15'-6"	1	20-10
	NI-70	0-7	1'-0	2-3	3.10.	5-3	5-6	6-6	8.0.	9-0	9.5	111-0	12:3	12:-9	14'-5"	16-0		21-2
16"	NI-80	0'-7'	0.8	2.6	3:10.	3.3.	3'-8	4.9	6-5	7-5	8-0	9-10	11:3	11:-9	13-9	15-4		21-6
100	NI 90 NI 90x	0-7	0.8	0-9	3.0.	3-6	4'-0'	5.0	6.5	7-5	8-4	10.2	111-61	12.0	13.9	1944		21:10

Above table may be used for 1-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.

The above table is based on the I-joists used at their maximum span. If the I-joists are placed at less than their full maximum span (se the minimum distance from the centraline of the hole to the face of any support (D) as given above may be reduced as follows: $D_{reduced} = \frac{L_{actual}}{SA^c} \times D$

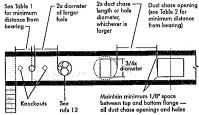
Draduced = Distance from the inside face of any support to centre of hole, reduced for list-thon-mon distances shall not be less than 6 inches from the face of the support to edge of the hole.

Ladual = SAF = Span Adjustment Footor given in his table.

D = The minimum distance from the incide face of any support to centre of hole from this table.

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 calcutation for <u>lactual</u>. SAF

FIGURE 7 FIELD-CUT HOLE LOCATOR Duct chase opening (see Table 2 for minimum distance from bearing)



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

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



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

Holes in webs should be cut with a sharp saw.

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

DUCT CHASE OPENING SIZES AND LOCATIONS - Simple Span Only

Joist	Joist	Minimu	m distan	e from in		of any st		centre o	f opening	(f1-in.)
Depth	Series				Duct ch	ase lengi	h (in.)			
Depin	Series	8	10	12	14	16	18	20	22	24
10000	NI-20	4'-1"	41-51	4'-10"	5'-4"	5'-B"	6'-1'	6'-6'	7'-1"	7'-5"
	NI-40x	5-3	5'-8"	6.0	6-5	6-10	Ž'-3°	7'-8	8'-2"	8'-6"
9-1/2	NI-60	5'-4	5'-9"	6'-2'	6-7	7'-1"	7'-5"	8'-0	8'-3"	8'-9'
2.5	NI-70	5'-1"	5'-5"	5'-10'	6'-3'	6-7	Z-1;	7'-6'	8-1-	6.4
Contract of	NI-80	5-3	5'-8"	6'-0'	6'-5"	6'-10"	7:-3:	7'-8"		8'-6'
5 () A (NI-20	5-9	6-2	66.	7-1"	7'-5	7'-9'	8'-3"	8'-9	10.9
	NI-40x	6'-8"	7'-2	7'-6'	8'-1"	8-6	A-1.	9-6*	10'-1	10.9
	NI-60	7:3	7-8	8'-0"	8'-6'	9-0	9'-3"	9.9	10-3	11'-0'
11-7/6	NI-70	7:1:	7'-4"	7'-9"	83.	8-7	ă-1.	9'.8'	10-1	10-8
1000	NI-80	7'-2'	Z-('	8'-0	82.	8-10-	9-3		10-7	10-11
1,757,757	NI-90x	7'-6'	8.1	8'-4' 8'-5'	8'-9' 8'-10*	0.4	9.8	10-1	107-81	111.21
100000				9'-0"		10-1	10-7	11'-2'	12'-0"	12'-8'
	NI-40x	8-1 8-9	8'-7' 9'-3'	9-0-	9-6	10-6	10-7	111.6	13'-3'	13'-0'
\$1.75 P.O.	N-60	8'-7'	0.1	9.5	9'-10	10.4	10-8	111-2	11:-7:	12:-3:
14"	CNI 60	8.7		9.9	10-1.	10-7	10.0	111.6	12:1:	12:-6*
100	NI 60	8.0	9-3	10.0	10-6"	10-11	111.5	11'-9'	12'-4"	12:11
S. 25, 254	N 300-	6.4	0.0	10.3	10.7	1111	111.7	12:11	15.7	131-21
	NI-60	10'-3"	10-8	111-21	111-61	1251	12'-6'	13:-2:	14-1	14'-10
	NI.70	10.1	10-5*	1100	111.4	ifilio	121-31	12.8	13'-3"	1450
14	NI.80	10.4	10-9	1153	11:30	12-1-	12-7	13:11	13-8	1444
	I Nicon	10.0	1112	1110	12-0	12-6	13-0	13'-6"	14'-2'	14-10
44. A.S.	NLon.	1 1166	1105	HEIM	12-4	12.10	13-2	13.9	14.4	15.2

-

1827

2015-102-10

1. Above toble not used for 1-folds specing at 24 inches on carine or fasts.
2. Duck chase opening facation distance is measured from inside face of supports to centre of pening.
3. The obove toble is to send on simple, support of the opticional, centact your local distributor.
4. Oktanes are based on uniformly loaded floor joint in meel the span requirements for a design live tood of 40 prif and dead floor of 15 grip, and as the sold defletion initial of 14400, for other applications, centact your local within those and add and of 15 grip, and as the sold defletion limit of 14400, for other applications, centact you reclaim thinton.

INSTALLING THE GLUED FLOOR SYSTEM

- 1. Wipe any mud, dirt, water, or ice from l-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.
- Spread only enough glue to lay one or two panels at a time, or follow specific recommendations from the glue manufacturer.
- 4. Lay the first panel with tongue side to the wall, and nail in place. This protects the tongue of the next panel from damage when topped 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 1-joists.
- 6. Apply two lines of glue on 1-joists where panel ends butt to assure proper gluing of each end.
- 7. After the first row of panels is in place, spread glue in the groove of one or two panels at a time before laying the next row. Glue line may be continuous or spaced, but avoid squeeze-out by applying a thinner line (1/8 inch) than used on 1-joist flanges.
- 8. Top the second row of panels into place, using a block to protect groove edges.
- 9. Stagger end joints in each succeeding row of panels. A 1/8-inch space between all end joints and 1/8-inch at all edges, induding 1&G edges, is recommended. (Use a spacer tool or an 2-1/2' common nail to assure occurate and consistent spacing.)
- 10. Complete all nailing of each panel before glue sets. Check the manufacturer's recommendations for cure time. (Warm weather accelerates glue setting.) Use 2' ring- or screw-shank nails for panels 3/4-inch thick or less, and 2-1/2' ring- or screw-shank nails for linker panels. Space nails per the table below. Claser nail spacing may be required by some codes, or for diaphragm construction. The finished deck can be walked on right away and will carry construction loads without damage to the

FASTENERS FOR SHEATHING AND SUBFLOORING(1)

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

- ners of sheathing and subflooring shall conform to the above table.
- Stoples 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.
- 3. Flooring screws shall not be less than 1/8-inch in diameter.
- Special conditions may impose heavy traffic and concentrated loads that require construction in excess
 of the minimums shown.
- 5. Use only adhesives conforming to CAN/CGS8-71.26 Standard, Adhesives for Field-Gluing Plywood to Lumber Framing for Floor Systom, applied in accordance with the manufacturer's recommendations. If CSB panels with sealed surfaces and edges are to be used, use only solven-based glues; chack with

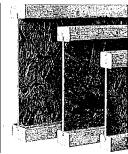
Ref.: NRC-CNRC, National Building Code of Canada 2010, Table 9.23.3.5.

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

RIM BOARD INSTALLATION DETAILS (8g) ATTACHMENT DETAILS WHERE RIM BOARDS ABUT Rim board Joint Between Floor Joists 2-1/2" nails at 6" o.c. (typical) Rim board Joint at Corner (1) 2-1/2" noil 2-1/2" toe-nails at 6" o.c. (typical) (8c) 2X LEDGER TO RIM BOARD ATTACHMENT DETAIL 8b TOE-NAIL CONNECTION AT RIM BOARD – Remove siding at ledger prior to installation Top or sole plate ----Staggered 1/2" diameter lag screws or thru-bolts with 2 min. 1-5/8' min. 5' max. 2º min.-- Deck jois



J. FRAFFIER 100100717



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

NORDIC STRUCTURES

COMPANY J9 1ST FLOOR Oct. 23, 2018 17:12 **PROJECT** J1 1ST FLOOR J1 1ST FLOOR

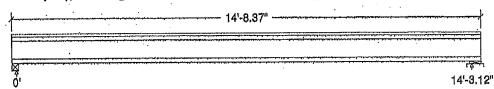
Design Check Calculation Sheet

Nordic Sizer - Canada 7.1

Loads:

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

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



		The state of the s	
Unfactored: Dead Live	1 43 285		143 285
Factored: Total	606	SESSION A.	606
Bearing: Resistance Joist Support Des ratio	1869	(E. FOK	1893 6734 0.32
Joist Support Load case Length	0.32 - #2 2~5/8	The state of the s	0.09 #2 4-3/8
Min req'd Stiffener	1-3/4 No		1-3/4 No 1.00
KD KB support fcp sup	1.00		1.00 769 1.00
Kzcp sup			1.00

Nordic 9-1/2" NI-40x Floor Joist @ 12" o.c.
Supports: 1 - Steel Beam, W; 2 - Lumber SIII plate, No.1/No.2;
Total length: 14'-8.37"; Clear span: 14'-1.37"; 5/8" nalled 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
1	Shear	Vř = 606	Vr = 1895	lbs	Vf/Vr = 0.32
1	Moment (+)	Mf = 216.0	Mr = 4824	lbs-ft	Mf/Mr = 0.45
	Perm. Defl'n	0.08 = < L/999	0.48 = L/360	in	0.17
	Live Defl'n	0.16 = < L/999	$0.36 = I_1/480$	in	0.46
ļ	Total Defl'n	0.25 = L/696	0.71 = L/240	in	0.34
١	Bare Defl'n	0.19 = L/898	$0.48 = I_{1}/360$	in	0.40
1	Vibration	Lmax = 14'-3.1	Lv = 16'-3.4	ft	0.88
١	Def1'n	= 0.031	= 0.047	in	0.66

P6+2 DWG ND . TAM 2364 - 1944 STRUCTURAL COMPONENT ONLY

T. Gorald

J1 1ST FLOOR

Nordic Sizer - Canada 7.1

Page 2

Additional						****	***	*23.7	T C A	
FACTORS:	f/E	KD	KH	KZ	KL	KT	KŞ	KN	LC#	
Vr	1895		1.00			•••	_		#2	
Mr+	4824		1.00	-	1.000		_	- ,	#2	
EI	218,1 m	illion		:		-		***	#2	
CRITICAL LO	DAD COMB	NATIONS	3:	•	•					
Shear	: LC '#2	= 1.2	5D + 1.5L							
Moment (+	: LC #2	= 1.2	5D + 1.5L	•						
Deflection	on: LC #1	⇒ 1.00	D (perma	nent)			•		•	
	LC #2	= 1.0	D + 1.0L	(live)			-		
	LC #2	= 1.0	D + 1.0L	(tota:	1)					
	LC #2	= 1.0	D + 1.0L	(bare	joist)			•		
Bearing	: Suppo	rt 1 -	LC #2 = 1	.25D +	1.5L				,	
	Suppo	rt. 2 -	LC #2 = 1	.25D +	1.5L					
Load Tvp	es D=dea	d W=wi	nd S=sno	w H≃e	arth, grou	ındwate:	r E=ea:	thquake		
	L=11v	e (use, o	coupancy)	Ls=1	ive(stora	ige, equ	ipment)	f≈fire		
All Load	Combinat	ions (L	Cs) are 1	.isted	in the Ar	alysis	output			
CALCULATI	ONS:									
Deflecti	on: Elef	f≖	258e06 1h	-in2	K= 4.946	e06 lbs				
11 2 2 11	ofloation	- Dof1	ection fr	om all	non-dead	i loads	(live,	wind, s	now) 🚁 🐃	-

Design Notes:

1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Gattage Part 4, and the CSA O86-09 Engineering Design in Wood standard, which includes Update No. 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 detail.

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.

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 them 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 oriteria and loadings shown.

OWENU . THE 2364 . 18H STRUCTURAL COMPONENT ONLY

T. Gospilles

NORDIC STRUCTURES

COMPANY J9 1ST FLOOR Oct. 23, 2018 17:09 **PROJECT** J7 2ND FLOOR J7 2ND FLOOR

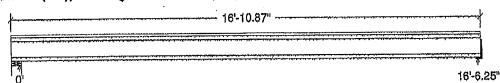
Design Check Calculation Sheet

Nordic Sizer - Canada 7.1

Loads:

l	Load	Type	Dist	cibution	Pat-	Location	[ft]	Magnitud	e	Unit	
l	-7004		İ		tern	Start	End	Start	End		l
Ì	Loadl	Dead	Fúll	Area	,,	,		20.00		psf	ĺ
-	Load2	Live	Full	Area		L	***	40.00		psf	ļ

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



	0'		
Unfactored: Dead Live	165 330		165 330
Factored: Total	702	OFESS O	702
Bearing: Resistance Joist Support Des ratio Joist Support Load case Length Min req'd	1893 10841 0.37 0.06 #2 4-3/8 1-3/4	E. FOK	1 7-3/4
Stiffener KD KB support fcp sup Kzcp sup	No 1.00 1.00 769 1.15		1.00 - - -

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

Nordic 9-1/2" NI-80 Floor joist @ 12" o.c.

Supports; 1 - Lumber Wall, No.1/No.2; 2 - Hanger;
Total length: 16'-10.87"; Clear span: 16'-4.5"; 5/8" nalled and glued QSB sheathing with 1/2" gypsum ceiling 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 = 702	Vr = 1895	lbs	Vf/Vr = 0.37
Moment (+)	Mf = 2900	Mr = 8958 $0.55 = L/360$	lbs-ft	Mf/Mr = 0.32 0.19
Perm. Defl'n	0.10 = < L/999 0.21 = L/948	0.55 = L/360 0.41 = L/480	in	0.51
Live Defl'n Total Defl'n	0.31 = L/632	0.83 = L/240	in	0.38
Bare Defl'n	0.23 = L/849	0.55 = L/360	in	0.42
Vibration	Lmax = 16'-6.3	Lv = 17'-9.5	ft	0.93
Defl'n	= 0.031	= 0.039	l in	0.79

port DWO NO . TAM 2365-184 STRUCTURAL COMPONENT DNLY

T. Garero

J7 2ND FLOOR

Nordic Sizer -- Canada 7.1

Page 2

Additional	Data:	•									
		KD	KH	KZ	KL	KT	KS	KN	LC#		
Vr	1895	1.00	1.00	~	-		-		#2		
Mr+	8958.	1.00	1.00	•••	1.000		·		#2		
EI	324.1 m			7	**	~~		*. 	#2		
CRITICAL LO	DAD ÇOMBI	NATIONS	; .			,					
Shear	: LC.#2	= 1.25	5D + 1.5L			•	• .				
Moment (+)	: LC #2	= 1.2 ₹	5D + 1.5L								
Deflection											
			+ 1.0L							,	
			+ 1.0L					,			
) + 1.0L					•			
Bearing			,¢ #2 = 1								•
			C #2 = 1								
Load Type											
					lve(stora			f=fire			
All Load		ions (L	(s) are l	isted	in the Ar	nalysis	output				
CALCULATION	ONS:										
Deflection											
"Live" de	eflection	= Defle	ection fr	om all	non-deac	l loads	(live,	wind, s	now)		

Design Notes:

CONFORMS TO UBG 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

Please verify that the default deflection limits are appropriate for your application.
 Refer to Nordio Structures technical documentation for installation guidelines and construct
 Nordio I-joists are listed in CCMC evaluation report 13032-R.

5. Joists shall be laterally supported at supports and continuously along the compression edges.

6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty of 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 as a ultishility of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this composition is their assumptions. design criteria and loadings shown.

> DWO HO . YAW 2965 - 190 STRUCTURAL COMPONENT ONLY

T. 19,01019/M



BC CALC® Member Report



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

Passed

1ST FLOOR FRAMING\Flush Beams\B1(1851)

Dry | 1 span | No cant.

January 29, 2019 13:48:08

Build 6475

Job name:

Address:

City, Province, Postal Code: ST....NES

Customer:

Code reports:

File name: Description:

SD2-B34 EL A.mmdi

1ST FLOOR FRAMING\Flush Beams\B1(i851)

Wind

Dead

10 81

15

Snow

PAOFESSIONA

Wind

1.15

Tributary

00-00-00

n\a

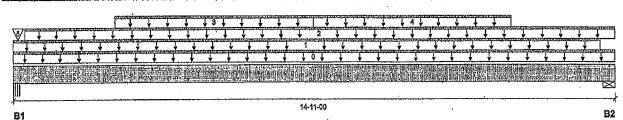
n\a

n\a n\a n\a

Specifier:

Designer:

Company:



Total Horizontal Product Length = 14-11-00

Snow

Reaction Summary (Down / Uplift) (lbs)

Dead Bearing 1,041/0 B1, 5-1/4 747 / 0 444 / 0 856/0 B2, 4-3/8"

CCMC 12472-R

Loa	d Summary						Live
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00
Ö	Self-Welght	Unf. Lin. (lb/ft)	Ļ	00-00-00	14-11-00	Тор	
1	7(1283)	Unf. Lin. (lb/ft)	Ĺ,	00-00-00	14-06-10	Top	
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-03-08	14-11-00	Top	29
3	7(1283)	Unf, Lin. (lb/ft)	L	02-06-10	07-05-06	Top	45
4	7(1283)	Unf. Lln. (lb/ft)	L	07-05-06	12-04-02	Top	48
5	•	Conc. Pt. (ibs)	L	00-01-07	00-01-07	Тор	311

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	4,408 ft-lbs	15,093 ft-lbs	29.2%	0	07-05-06
End Shear	1,069 lbs	7,521 lbs	14.2%	0	13-09-02
Total Load Deflection	L/476 (0.359")	n\a	50.4%	4 .	07-05-06
Live Load Deflection	L/1,317 (0.13 ⁿ)	n\a	27.3%	5	07-05-06
Max Defl.	0,359"	n\a	rı\a	4 .	07-05-06
Span / Depth	18.0				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	5-1/4" x 3-1/2"	2,422 lbs	30.9%	10.8%	Unspecified
B2	Wall/Plate	4-3/8" x 3-1/2"	1,198 lbs	28.2%	9.9%	Unspecified

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 DBC 2012

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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.

DWO NO . YAM 2-366. 18th STRUCTURAL

COMPONENT DHLY

T. 1900/20



PASSED

1ST FLOOR FRAMING\Flush Beams\B1(i851)

BC CALC® Member Report

Bulld 6475

Job name:

Address:

Customer: Code reports:

City, Province, Postal Code: ST....NES

CCMC 12472-R

Dry | 1 span | No cant.

File name:

Description:

\$D2-B34 EL A.mmdl 1ST FLOOR FRAMING\Flush Beams\B1(I851)

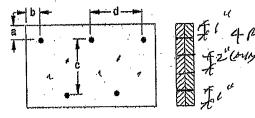
Specifier:

Designer:

Company:

January 29, 2019 13:48:08

Connection Diagram: Full Length of Member



a minimum = #" b minimum = 3"

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:

314" ARDOX SPIRAL



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 Bolse 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® ,

STRUCTURAL COMPONENT ONLY

T. (goseprole)



PASSED

January 29, 2019 13:48:08

Wind

PHOFESSION ,

Tributary

00-00-00

n\a

n\a

n\a

Snow

Dead 0.65

5 8

120

4 11 231

1ST FLOOR FRAMING\Flush Beams\B2(i855)

BC CALC® Member Report

Build 6475

Job name:

Customer:

Code reports:

Address:

City, Province, Postal Code: ST....NES

CCMC 12472-R

Dry | 1 span | No cant.

File name:

SD2-B34 EL A.mmdl

Wind

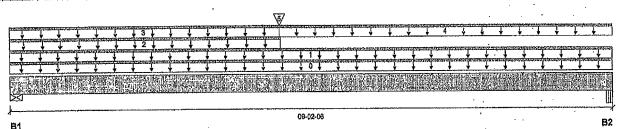
Description:

1ST FLOOR FRAMING\Flush Beams\B2(i855)

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 09-02-05

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing 1,16970 618/0 B1, 4-3/8 B2, 2-5/8" 554/0 308/0

Ĺos	d Summary	2:					Live
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00
0	Self-Weight	Unf. Lin. (lb/ft)	L	90-00-00	09-02-06	Тор	
ì	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	09-02-06	Top	18
2	STAIR	Unf. Lin. (lb/ft)	L.	00-00-00	04-01-09	Top	240
· 3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	04-01-06	Торі	` 9
4	FC2 Floor Material	Unf, Lin. (lb/ft)	L.	04-01-06	09-02-06	Тор	22
5	B3(1848)	Conc. Pt. (lbs)	L	04-01-06	04-01-06	Тор	421

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	4,817 ft-lbs	11,610 ft-lbs	41.5%	1	04-01-06
End Shear	1,865 lbs	5,785 lbs	32.2%	1.	01-01-14
Total Load Deflection	L/627 (0.167")	n\a	38.3%	4	04-04-10
Live Load Deflection	L/999 (0.109")	. n\a	n\a	5	04-04-10
Max Defl.	0.167"	n\a	n\a	4	04-04-10
Span / Depth	11.0	•	•.		

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
B1 Wall/Plate	4-3/8" x 1-3/4"	2,526 lbs	77.2%	27.0%	Unspecified	
R2 Beam	2-5/8" x 1-3/4"	1.216 lbs	62.0%	21.7%	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.

CONFORMS TO DBC 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 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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.

BC CALCO, BC FRAMERO, AJSTM ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

DWO NU . PAM 2367-184 STRUCTURAL COMPONENT ONLY

T. Gover





PASSED

1ST FLOOR FRAMING\Flush Beams\B3(i848)

Dry | 1 span | No cant.

January 29, 2019 13:48:08

Bulld 6475

Job name:

Address:

City, Province, Postal Code: ST....NES

Customer:

Code reports:

BC CALC® Member Report

File name:

SD2-B34 EL A.mmdl

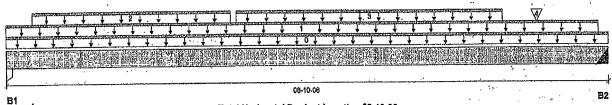
Description:

1ST FLOOR FRAMING\Flush Beams\B3(I848)

Specifier:

Designer:

Company: **CCMC 12472-R**



Total Horizontal Product Length = 08-10-06

Reaction Summary (Down / Uplift) (lbs) Wind Dead Live 236 / 0 B1, 1-3/4 232/0 B2, 2" 422/0

Load Summary Tag Description						Live	Dead	Snow	Wind	Tributary	
		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1,00	1.15	
0	Self-Welght	Ųnf. Lin. (lb/ft)	L	00-00-00	08-10-06	Top		5			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	08-08-10	Тор	6	3			n\a
ż	Smoothed Load	Unf. Lin. (lb/ft)	L	00-04-12	03-03-12	Top	102	50			n\a
٠	Smoothed Load	Unf. Lin. (lb/ft)	L	03-04-12	07-03-12	Top	101	50			n\a
4	J4(1830)	Conc. Pt. (lbs)	L	07-09-12	07-09-12	Top	107	53			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	. Case	Location
Pos. Moment	2,180 ft-lbs	11,610 ft-lbs	18.8%	1	04-09-12
End Shear	912 lbs	5,785 lbs	15.8%	. 1	00-11-04
Total Load Deflection	L/999 (0.084")	n\a	n\a	4	04-05-04
Live Load Deflection	L/899 (0,054")	n\a	n\a	5	04-05-04
Max Defl.	0.084"	n\a	n\a	· 4	04-05-04
Span / Depth	11.0			•	

	Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
1	B1	Column	1-3/4" x 1-3/4"	941 lbs	47.3%	25.2%	Unspecified
	B2	Hanger	2" x 1-3/4"	922 lbs	n\a	21.6%	HU\$1.81/10

Header for the hanger HUS1.81/10 at B2 is a Single 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. 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

CONFORMS TO DBG 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 2015 and CSA Q86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

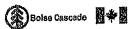
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Guide and applicable building codes. To obtain installation Guide or ask questions, please call (800)232-0788 before installation.

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

DWG NO , TAM 2368-184 STRUCTURAL COMPONENT ONLY

T. Groups



PASSED

January 29, 2019 13:48:08

1ST FLOOR FRAMING\Flush Beams\B4(i842)

BC CALC® Member Report

Bulld 6475

Job name:

Address:

City, Province, Postal Gode: ST....NES

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

SD2-B34 EL A.mmdi File name:

Wind

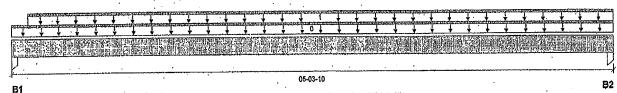
Description:

1ST FLOOR FRAMING\Flush Beams\B4(1842)

Specifier:

Designer: ΑJ

Company:



Total Horizontal Product Length = 05-03-10

Snow

Reaction Summary (Down / Uplift) (lbs) Dead Bearing Live

B1, 3-1/2 52/0 39/0 40/0 55 / 0 B2, 3-1/2"

Los	d Summary					•	Lìve	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	-
()	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-03-10	Top	,,	5	• • • • • • • • • • • • • • • • • • • •		00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-01-12	05-03-10	Top	21	10			n/a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	. Case	Location
Pos. Moment	147 ft-lbs	11,610 ft-lbs	1.3%	1	02-07-13
End Shear	79 lbs	5,785 lbs	1.4%	1	01-01-00
Total Load Deflection	L/999 (0.002")	n\a	n\a	4 -	02-07-13
Live Load Deflection	L/999 (0.001")	n\a	n\a	5	02-07-13
Max Defl.	0.002"	n\a	n\a	4	02-07-13
Span / Depth	6.1				

Demand/ Demand/ Resistance Resistance **Bearing Supports** Dim. (LxW) Support Member Material Domand Unspecified 3.2% 1,7% 127 lbs Column 3-1/2" x 1-3/4" Unspecified 133 lbs 3.4% 1.8% 3-1/2" x 1-3/4" **B2** Column



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 080 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 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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 sultability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade angineered 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.

BÇ ÇALC®, BC FRAMER® , AJS™. BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

DWG NO. TAM 2369-19H STRUCTURAL COMPONENT ONLY

T. Goreps





City, Province, Postal Code: ST....NES

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

PASSED

1ST FLOOR FRAMING\Flush Beams\B5(I846)

Dry | 1 span | No cant.

January 29, 2019 13:48:08

BC CALC® Member Report **Bulld 6475**

Job name: Address:

File name: Description:

1ST FLOOR FRAMING\Flush Beams\B5(i846)

SD2-B34 EL A.mmdl

Specifier:

Customer: Code reports:

CCMC 12472-R

Designer:

Company:

*	₩	
B1	02-08-00	B2

Total Horizontal Product Length = 02-06-00 Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	LIVO	Dead
Bearing B1, 1-3/4"	9570	5970
B2, 2"	· 123 / 0	73/0

Load Summary				÷			Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Ųnf. Lin, (ib/ft)	L	00-00-00	02-06-00	Тор		10	.,.,		00-00-00
1	J4(1843)	Conc. Pt. (lbs)	L	00-10-12	00-10-12	Top	110	55			n\a
2	J4(1854)	Conc. Pt. (lbs)	. L	01-10-12	01-10-12	Тор	107	53			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	170 ft-lbs	23,220 ft-lbs	0.7%	1	00-10-12
End Shear	192 lbs	11,571 lbs	1.7%	1	00-11-04
Total Load Deflection	L/999 (0")	n\a	n\a	4	01-02-14
Live Load Deflection	L/999 (0")	n\a	n\a	5	01-02-14
Max Defl.	0"	n\a	n\a	4	01-02-14
Span / Depth	2.9				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column	1-3/4" x 3-1/2"	216 lbs	5.4%	2.9%	Unspecified
B2	Hanger	2" x 3-1/2"	276 lbs	ก\ฮ	3.2%	HUC410



Cautions

Header for the hanger HUC410 at B2 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. 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 2015 and CSA O86.

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.

> DWO NO . TAM 2370-184 STRUCTURAL COMPONENT ONLY

T-1902epre





PASSED

1ST FLOOR FRAMING\Flush Beams\B5(i846)

Dry [1 span | No cant.

January 29, 2019 13:48:08

BC CALC® Member Report Bulld 6475

Job name:

Address:

City, Province, Postal Code: ST....NES

Customer: Code reports:

CCMC 12472-R

File name:

SD2-B34 EL A.mmdl

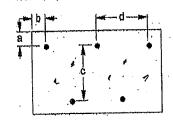
Specifier:

Description: 1ST FLOOR FRAMING\Flush Beams\B5(i848)

Designer: ΑJ

Company:

Connection Diagram: Full Length of Member



a minimum = ‡" b minimum = 3" c = 1-1/2"

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:

ARDOX SPIRAL



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 sultability for a particular application. The output here is based on application. The output lief 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 . TAN 2370-18H STRUCTURAL COMPONENT ONLY

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

T- 19 one prep(b)



PASSED

Tributary

January 29, 2019 13:48:08

1ST FLOOR FRAMING\Flush Beams\B6L(i799)

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: ST....NES

Customer:

Code reports:

B2, 1-3/4"

Load Summary

CCMC 12472-R

Dry | 1 span | No cant.

File name:

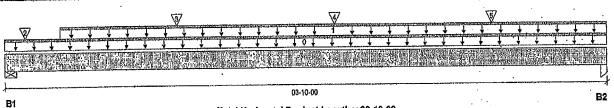
SD2-B34 EL A.mmdl

Wind

1ST FLOOR FRAMING\Flush Beams\B6L(i799) Description:

Specifier: Designer:

Company:



Total Horizontal Product Length = 03-10-00

Snow

Reaction Summary (Down / Uplift) (lbs)

Dead LÍVA 282 / 0 515/0 B1. 4-3/8 287 / 0 555/0

Tag	Description	Load Type	Ref.	Start	End	Loc	1	,00	0.05	1.00	1.15	******	_
<u> </u>	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-10-00	Top			5			00-00-00	j
4	STAIR	Unf. Lin. (lb/ft)	L	00-04-08	03-10-00	Top	2	240	120			n\a	ł
,	1(1275)	Conc. Pt. (lbs)	Ĺ	00-01-10	00-01-10	Top			16			n\a	i
4.		Conc. Pt. (lbs)	ī	01-01-04	01-01-04	Top	8	30	40			n\s	ı
3	J5(1738)	Conc. Pt. (lbs)		02-01-04	02-01-04	Top	8	30	40	_	وبسر فلترتب	m\e	3
4	J5(1738)		<u>.</u>	03-01-04	03-01-04	Top		75	38		PHOFES	38'CA TALE	1
5	. J5(1736)	Conc. Pt. (lbs)	L	00-01-04	. VO-01-04	JOP	,	•	٠.	100	AND THE PERSON LA	Section 1984 A	e.
		·	Factored	Dem	and/					1 47 1	Car.	119 %	١,
Co	ntrois Summary	Factored Demand	Resistance		stance	Case	Locatio	n_		1 5° C	ton!	1928	ź.
	Momont	1 030 ft-lbs	11.610 ft-lbs	s 8.9%	6	1	02-01-	04	: 24	· (7	E E	COK #	Ĭ

Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	1.030 ft-lbs	11,610 ft-lbs	8.9%	1	02-01-04
End Shear	680 lbs	5.785 lbs	11.7%	1	01-01-14
Total Load Deflection	L/999 (0.006")	n\a	n\a	4	02-00-03
Live Load Deflection	L/999 (0.004")	n\a	ˈ n\a	5 .	02-00-03
Max Defl.	0.006"	n\a	n\a	4	02-00-03
Span / Depth	4.4			•	•

Bearing S	Supports	Dlm, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
	Vall/Plate	4-3/8" x 1-3/4"	1,125 lbs	34.4%	12.0%	Unspecified
	column	1-3/4" x 1-3/4"	1,191 lbs	59.8%	31.9%	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 2015 and CSA Q86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Disclosure

Dead

Snow

Wind

Live

Use of the Bolse Cascade Software is use or the Bulse 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 the province relating and province and pr CONFORMS TO OBC 2012 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® .

DWO NO . YAM 237/-191 STRUCTURAL COMPONENT ONLY



PASSED

January 29, 2019 13:48:08

1ST FLOOR FRAMING\Flush Beams\B7L(1732)

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: ST....NES

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

\$D2-B34 EL A.mmdl

Wind

Description:

1ST FLOOR FRAMING\Flush Beams\B7L(i732)

Specifier:

Designer:

Company:

-
4
222
٠,
 Do

Total Horizontal Product Length = 03-10-06

Snow

Reaction Summary (Down / Uplift) (lbs)

Live Bearing 35/0 27/0 B1, 3-1/2" 25/0 B2, 2" 33/0

Land Cummant	•					Live	Dead	Snow	Wind	Tributary
Load Summary Tag Description	Load Type	Ref.	Start	End	Loc.	1,00	0.65	1.00	1.15	-
0 Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-10-06	Top		5			00-00-00
1 FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-10-06	Top	18	9			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos, Moment	67 ft-lbs	11,610 ft lbs	0.6%	1	01-11-15
End Shear	39 lbs	5,785 lbs	0.7%	1	01-01-00
Total Load Deflection	L/999 (0")	n\a	n\a	- 4	01-11-15
Live Load Deflection	L/999 (0")	n\a	n\a	5	01-11-15
Max Defl.	0"	n\a	n\a	4	01-11-15
Span / Depth	4,5				-

Dunulma	Cunnarta	where Hamilton	Damand	Demand/ Resistance Support	Demand/ Resistance Member	Material
	Supports	Dim. (LxW)	Demand	2.2%	1.2%	Unspecified
B1 (Column	3-1/2" x 1-3/4"	86 lbs	2,270		
R2 1	-langer	2" x 1-3/4"	81 lbs	n\a	1.9%	HU\$1.81/10



Cautions

Header for the hanger HUS1.81/10 at B2 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

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.

Hanger Manufacturer: Unassigned

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

BC CALC® analysis is based on Canadian Unit Of the Control of t BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA Q86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Disclosure

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

STRUCTURAL COMPONENT ONLY

T-19ozenl



PASSED

1ST FLOOR FRAMING\Flush Beams\B8L(i859)

BC CALC® Member Report

Bulld 6476 Job name;

Dry | 1 span | No cant.

January 29, 2019 13:48:08

SD2-B34 EL A,mmdl

Address: City, Province, Postal Code: ST....NES

File name: Description:

1ST FLOOR FRAMING\Fiush Beams\B8L(i859)

Specifier:

Designer:

Customer: Code reports:

CCMC 12472-R

Company:

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The state of the s			Anna Caranta and Anna			with American	
TO CASTALLANDA TO TO	Chara da				OPTO TOP POPULATION		
	1 - 01 - 01 - 01 - 01 - 01 - 01 - 01 -						<u> </u>
B1			08-05-12				B2

Total Horizontal Product Length = 06-05-12

nary (Down / Lipliff) (lbs)

	Live	Dead	Snow	Wind
Bearing B1, 4-3/8"	950 / 0	552 / 0		
B2, 3-1/2"	1,129/0	622 / 0	•	

	دم ا	ad Summary							Live	Dead	Snow	Wind	Tributary
			Load Type	Ref.	Start	End	Loc.		1.00	0.65	1.00	1.15	
•	0	Self-Weight	Unf, Lin. (lb/ft)	L	00-00-00	06-05-12	Top			10			00-00-00
	1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-10-08	04-10-08	Top	·. ·	294	146			n\a
	2	1(1275)	Conc. Pt. (lbs)	L.	00-01-10	00-01-10	Top			29			n\a
	3	J5([738)	Conc. Pt. (lbs)	L	01-01-04	01-01-04	Top		80	40			n\a
	۸.	J5(1738)	Conc. Pt. (lbs)	L	02-01-04	02-01-04	αoT		80	40			n\a
	4	J5(1736)	Conc. Pt. (lbs)	Ĺ	03-01-04	03-01-04	Top		73	36			n\a
	5	•	Conc. Pt. (lbs)	Ĺ.	03-11-10	03-11-10	Top		184	138			n\a
	6	H (MDO)	Conc. Pt. (lbs)	ĭ	05-04-08	05-04-08	Top		314	157			n\a
	7	J1(i729)	Conc. Pt. (lbs)	1	06-04-08	06-04-08	aoT		165	82			n\a
	8	J1(1740)	COHO, Lr. (IDS)	44	0Q-Q-1-00	00-04-00	· Up						

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3,806 ft-lbs	23,220 ft-lbs	16.4%	1	03-04-08
End Shear	2,108 lbs	11,571 lbs	18.2%	1	05-04-12
Total Load Deflection	L/999 (0.034")	n\a	· n/a	4	03-03-11
Live Load Deflection	L/999 (0.022")	n\a	n\a	5	03-03-11
Max Defl.	0.034"	n\a	n\a	4	03-03-11
Span / Depth	7.5				

Boaring	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wali/Plate	4-3/8" x 3-1/2"	2,115 lbs	32.3%	11.3%	Unspecified
B2	Column	3-1/2" x 3-1/2"	2,471 lbs	31.1%	16.5%	Unspecified

Notes

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

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

Calculations assume 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 2015 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.

DWO NO . YAM 2373-18H STRUCTURAL COMPONENT ONLY

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T. Gover 7

27



PASSED

January 29, 2019 13:48:08

1ST FLOOR FRAMING\Flush Beams\B8L(1859)

BC CALC® Member Report

Bulld 6475

Job name:

Address:

City, Province, Postal Code: ST....NES

Dry | 1 span | No cant.

File name:

SD2-B34 EL A.mmdi

Description:

1ST FLOOR FRAMING\Flush Beams\B8L(1859)

Specifier:

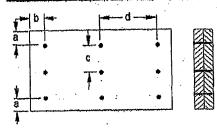
Designer:

Customer: Code reports:

CCMC 12472-R

Company:

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3" c = 2-3/4" d = 6 d = 🐠

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: A . Natis

ARDOX SPIRAL



Disclosure

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

STRUCTURAL COMPONENT ONLY

T. Vanger ()

DWUNG. TAM 2373-186



Triple 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 2ND FLOOR FRAMING\Dropped Beams\B10 DR(i743)

Dry | 1 span | No cant.

PASSED

January 29, 2019 13:48:08

BC CALC® Member Report

Bulld 6475

Job name:

Customer:

Code reports:

Address:

City, Province, Postal Code: ST....NES

SD2-B34 EL A.mmdl File name:

Description:

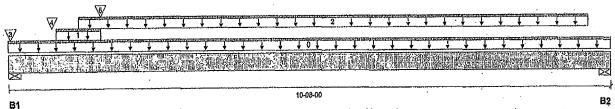
2ND FLOOR FRAMING\Dro...ed Beams\B10 DR(i743)

Specifier:

Designer: ΑJ

CCMC 12472-R

Company:



Total Horizontal Product Length = 10-08-00 Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing B1, 4th 2,156/0 1,154/0 725/0 1,298 / 0 B2, 4"

Los	ad Summary							Live	Dead	Snow	Wind	Tributary
Tag		,	Load Type	Ref.	Start	End	Lot.	1.00	0.65	1.00	1.15	,
0	Self-Weight		Unf. Lin. (lb/ft)	L	00-00-00	10-08-00	Тор		14			00-00-00
1	Bk1(l486)		Unf. Lin. (lb/ft)	L.	00-10-06	01-07-14	Тор	773	386			n\a
ż	Smoothed Load		Unf. Lin. (lb/ft)	L	01-03-02	10-03-02	Top	248	124		•	n\a
3	J2(1762)		Conc. Pt. (lbs)	L	00-00-08	80-00-08	Top	234	117			· n\a
Δ	am/i.am/		Conc. Pt. (lbs)	Ĺ	00-09-07	00-09-07	Тор	294	146			n\a
5	Bk1(1486)		Conc. Pt. (lbs)	Ļ	01-07-14	01-07-14	Тор	81	40	•		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	7,843 ft-lbs	36,222 ft-lbs	21.7%	1	04-09-02
End Shear	3,894 lbs	17,356 lbs	22,4%	1	01-01-08
Total Load Deflection	L/877 (0,139")	n\a	27.4%	4	05-03-02
Live Load Deflection	L/999 (0.089")	n\a	n\a	5	05-03-02
Max Defl.	0.139"	n\a	n\a ·	4	05-03-02
Span / Depth	12,8		•		

ri.	va ·	4 00-03-02	12
Demand/ Resistance Support	Demand/ Resistance Member	Material	Mice 12
34.3% 20.9%	18.3% 11.1%	Unspecified Unspecified	e Seg

Notes

B1

B2

Bk1(1486)

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

4" x 5-1/4"

4" x 5-1/4"

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

Calculations assume unbraced length of Top: 00-02-08, Bottom: 00-02-08,

Conc. Pt. (lbs)

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 2015 and CSA 086.

Demand

4,676 lbs

2,850 lbs

Design based on Dry Service Condition.

Bearing Supports Dim. (LxW)

Wall/Plate

Wall/Plate

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.

Nailing schedule applies to both sides of the member.

Member has no side loads.

DWG HO . TAM 2374 . 194 STRUCTURAL COMPONENT ONLY





PASSED

January 29, 2019 13:48:08

BC CALC® Member Report

Bulld 6475

Job name:

Address:

City, Province, Postal Code: ST....NES

Customer:

Code reports:

CCMC 12472-R

2ND FLOOR FRAMING\Dropped Beams\B10 DR(i743) Dry | 1 span | No cant.

4 Roues

File name:

SD2-B34 EL A.mmdl

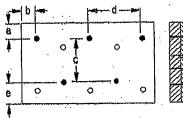
Description: 2ND FLOOR FRAMING\Dro...ed Beams\B10 DR(i743)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 1" b minimum = 3"

c = 61/2" 6 d = 🐠 e minimum = 2".

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.

Member has no side loads.

Connectors are:

ARDOX SPIRAL 31/2"



<u>Disclosure</u>

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

DWO NO . TAN 2374-18H STRUCTURAL COMPONENT ONLY

T. Goseph (s)



BC CALC® Member Report



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

PASSED

2ND FLOOR FRAMING\Dropped Beams\B11 DR(i287)

Dry | 1 span | No cant.

January 29, 2019 13:48:08

2ND FLOOR FRAMING\Dro...ed Beams\B11 DR(I287)

Bulld 6475

Job name:

Address:

City, Province, Postal Code: ST....NES

File name: Description:

Specifier:

Designer:

SD2-B34 EL A.mmdl

Customer: Code reports:

CCMC 12472-R

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	-	-	

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[2] 小型的 (1) 通知 (1) [2] [2] [2] [2] [2] [3] [2] [3] [3] [4] [4] [4] [4] [4] [4] [4] [4] [4] [4			
X	•		1551
			
04-06-00		***	
D4		4	B 2

Total Horizontal Product Length = 04-06-00

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
Bearing B1, 4"	669 / 0	356 / 0
B2. 4"	631 / 0	337 / 0

ما	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf, Lin. (lb/ft)	L.	00-00-00	04-06-00	Top		10			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	03-06-08	Top	280	140			n\a
2	J2(i346)	Conc. Pt. (lbs)	L	04-02-08	04-02-08	Top	310	155			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pas. Moment	959 ft-lbs	23,220 ft-lbs	4.1%	1	02-10-08
End Shear	733 lbs	11,571 lbs	6.3%	1	01-01-08
Total Load Deflection	L/999 (0.004")	n\a	n\a ·	4	02-03-00
Live Load Deflection	L/999 (0,003")	n\a	n\a	5	02-03-00
Max Defl.	0.004".	n\a	n\a	4	02-03-00
Span / Depth	5.0				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4" x 3-1/2"	1,448 lbs	15.9%	8.5%	Unspecified
B2	Wall/Plate	4" x 3-1/2"	1,369 lbs	15.1%	8.0%	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: 00-01-15, Bottom; 00-01-15.

CONFORMS TO OBG 2012 Resistance Factor phi has been applied to all presented results per CSA Q86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA Q86. 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.

Member has no side loads.

uwo no . Yaw 2575. Structural COMPONENT ONLY

T. Gores





PASSED

2ND FLOOR FRAMING\Dropped Beams\B11 DR(i287)

Dry | 1 span | No cant.

January 29, 2019 13:48:08

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: ST....NES

Customer: Code reports:

CCMC 12472-R

File name:

SD2-B34 EL A.mmdl

Description;

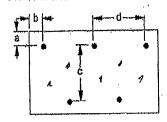
2ND FLOOR FRAMING\Dro...ed Beams\B11 DR(i287)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = #" b minimum = 3"

1000

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. Member has no side loads. Nalls

Connectors are:

3%" 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.

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

STRUCTURAL COMPONENT ONLY

T-19024296W



PASSED

B2

January 29, 2019 13:48:08

2ND FLOOR FRAMING\Dropped Beams\B14 DR(I796)

BC CALC® Member Report

Bulld 6475

Job name:

Address: City, Province, Postal Code: ST....NES

Customer:

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

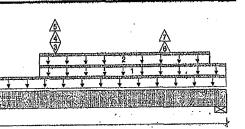
SD2-B34 EL A.mmdl

2ND FLOOR FRAMING\Dro...ed Beams\B14 DR(i796) Description:

Specifier:

Designer:

Company:



B1

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

Reaction Summary (Down / Uplift) (lbs)									
Bearing	Live	Dead	Snow	Wind					
B1, 4"	52 / 34	116/0	70/0						
B2, 4"	220 / 195	353 / 0	258 / 0						

١.	ad Summary						Live	Dead	Snow	Wind	Tributary .
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
, int	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Тор		10			00-00-00
1	· R1(357)	Unf. Lin. (lb/ft)	F.	06-02-08	09-00-00	Top		81			n\a
9	R1(1357)	Unf. Lin. (lb/ft)	L	06-02-08	08-09-00	Тор	33	30	63		n\a
2	***(1001)	Conc. Pt. (lbs)	L	06-05-07	06-05-07	Top	135	151	168		n\a
A		Conc. Pt. (lbs)	L	06-05-07	06-05-07	Top		-35			n\a
5		Conc. Pt. (lbs)	Ĺ	06-05-07	06-05-07	Top	-104				n\a
-	14/19477\	Conc. Pt. (lbs)	Ĺ	08-01-00	08-01-00	Top	54	-35			n\a
6 7	J4(1317) J4(1317)	Conc. Pt. (ibs)	Ĺ	08-01-00	08-01-00	Тор	-126				n/a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1,597 ft-lbs	20,792 ft-lbs	7,7%	25	06-04-04
Neg, Moment	-21 ft-lbs	-20.792 ft-lbs	0.1%	24	08-01-00
End Shear	763 lbs	11.571 lbs	6,6%	25	07-10-08
Total Load Deflection	L/999 (0.026")	n\a	n\a	58	04-11-04
Live Load Deflection	L/999 (0,015")	n\a	[∵] n\a	85	04-11-04
Max Defl.	0.026"	n\a	n\a	58	04-11-04
Span / Depth	10.7				

Rearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4" x 3-1/2"	303 lbs	3.3%		Unspecified
B2	Wall/Plate	4" x 3-1/2"	1,049 lbs	11.5%	6.1%	Unspecified

DWB NO. TAN 2376. 1914
STRUCTURAL
COMPONE COMPONENT ONLY

T-190430





PASSED

2ND FLOOR FRAMING\Dropped Beams\B14 DR(I796)

Dry | 1 span | No cant.

January 29, 2019 13:48:08

BC CALC® Member Report

Build 6475 Job name:

Address: City, Province, Postal Code: ST....NES

Customer: Code reports:

CCMC 12472-R

File name:

SD2-B34 EL A.mmdl Description:

2ND FLOOR FRAMING\Dro...ed Beams\B14 DR(i796)

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 unbraced length of Top: 05-10-08, Bottom: 05-10-08.

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 2015 and CSA O86.

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

verification.

Design based on Dry Service Condition.

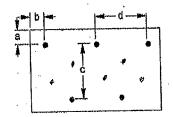
Importance Factor: Normal Part code: Part 9

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.

Member has no side loads.

Connection Diagram: Full Length of Member



a minimum = # b minimum = 3". d=10 12.11

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. Member has no side loads.

Connectors are:

ARDOX SPIRAL



Disclosure

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

DWO NO . YAM 2376-18H STRUCTURAL COMPONENT ONLY

T-190430(1)



PASSED

2ND FLOOR FRAMING\Dropped Beams\B15 DR(i295)

Dry | 1 span | No cant.

January 29, 2019 13:48:08

BC CALC® Member Report Build 6475

Job name:

Address:

City, Province, Postal Code: ST....NES

Customer:

Code reports:

CCMC 12472-R

File name:

\$D2-B34 EL A.mmdl

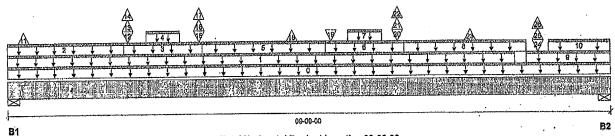
Wind

2ND FLOOR FRAMING\Dro...ed Beams\B15 DR(i295) Description:

Specifier:

Designer:

Company:



Total Horizontal Product Length = 09-00-00

Reaction Summary (Down / Uplift) (Ibs)
Bearing Live Dead
B1, 4" 761 / 463 709 / 709/0

Snow 1,071 / 0 1,217/0 B2, 4" 815 / 412 827/0

ا ا	d Summary	•				•	Live	Dead	Snow	Wind.	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.18	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Top		10			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	07-07-00	Top	43			A CONTRACTOR OF THE PARTY OF TH	ESS. ON THE
2	R1(l357)	Unf. Lln. (lb/ft)	L	00-00-00	01-09-00	Top		41		S PHU	CANIE
3	R1(I357)	Unf. Lin. (lb/ft)	L	01-09-00	02-11-00	Тор		81		The same of	nia
4	R1(1357)	Unf. Lin. (lb/ft)	L	02-01-00	02-07-00	Top	33		SEGUSTER.	Car	Ma & k
5	R1(i357)	Unf, Lin. (lb/ft)	L	02-11-00	04-09-00	Top		41	đ		
6	R1(I357)	Unf. Lin. (lb/ft)	L	04-09-00	05-11-00	Top		81	[원	E.N	FOK n/a
7	R1(i357)	Unf, Lln. (lb/ft)	L	05-01-00	05-07-00	Тор	33		4 3	المنس	B (Nounmentone
8	R1(I357)	Unf. Lin. (lb/ft)	Ļ	05-11-00	07-09-00	Top		41			fila:
9	R1(1357)	Unf. Lin. (lb/ft)	L	07-09-00	09-00-00	Top		81	X	"Nyaran	For Clay nla
10	R1(i357)	Unf. Lin. (lb/ft)	L.	08-01-00	09-00-00	Тор	110	. 100	210	Elical	
11	J4(1347)	Conc. Pt. (lbs)	L	00-03-00	00-03-00	Top	-125	-35	•		∽ '' n\a
12	*	Conc. Pt. (lbs)	L	01-09-11	01-09-11	Тор	373	358	713	. '	n\a
13		Conc. Pt. (lbs)	L	01-09-11	01-09-11	Тор		-3 5	·		n/a
14	_	Conc. Pt. (lbs)	L	01-09-11	01-09-11	Top	-125				n\a
15		Conc. Pt. (lbs)	L	02-10-08	02-10-08	Top	43	57	81		n\a
16		Conc. Pt. (lbs)	L	02-10-08	02-10-08	Top		-35			n\a
17	-	Conc. Pt. (lbs)	L.	02-10-08	02-10-08	Top	-125				n\a
18	J4(1326)	Conc. Pt. (lbs)	L	04-03-00	04-03-00	Top	-125	-35			n\a
19	R1(i357)	Conc. Pt. (lbs)	L	04-10-00	04-10-00	Тор	40	55	78		n\a
20	*	Conc. Pt. (lbs)	L	05-09-12	05-09-12	Top	517	489	988		n\a
21		Conc. Pt, (lbs)	L.	05-09-12	05-09-12	Top		-35			n\a .
22	- -	Conc. Pt. (lbs)	L	05-09-12	05-09-12	Top	-125			•	n\a
23	J4(i359)	Conc. Pt. (lbs)	L	06-11-00	06-11-00	Тор	-125	-35		, .	n\a
24	n .	Conc. Pt. (lbs)	L	07-11-02		Top	145	102	174	•	n\a
25		Conc. Pt. (lbs)	L	07-11-02	07-11-02	Top		-35			n\a
26	-	Conc. Pt. (lbs)	L	07-11-02	07-11-02	Top	-125				n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	7,821 ft-lbs	23,220 ft-lbs	33.7%	25	05-10-00
End Shear	3,337 lbs	11,571 lbs	28.8%	25	07-10-08
Total Load Deflection	L/670 (0.151")	n\a .	35.8%	58	04-06-00
Live Load Deflection	L/999 (0.108")	n\a	rı\a	85	04-06-00

BWG NO . YAM 2377 - 184 STRUCTURAL COMPONENT ONLY

T. 190243





PASSED

2ND FLOOR FRAMING\Dropped Beams\B15 DR(i295)

Dry | 1 span | No cant.

January 29, 2019 13:48:08

Build 6475

Job name:

Address:

BC CALC® Member Report

City, Province, Postal Code: ST NES

Bearing Supports Dim. (LxW)

Wall/Plate

Wall/Plate

Customer: Code reports:

CCMC 12472-R

File name:

SD2-B34 EL A.mmdl

2ND FLOOR FRAMING\Dro...ed Beams\B15 DR(i295) Description:

Specifier:

Designer:

Company:

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Max Deft.	0.151"	n\a	n\a	58	04-06-00

Span / Depth

10.7

4" x 3-1/2"

4" x 3-1/2"

Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
3,253 lbs	35.8%	19.0%	Unspecified	
3,673 lbs	40.4%	. 21.5%	Unapecified	

B2

Uplift of 57 lbs found at span 1 - Left.

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 2015 and CSA O86.

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

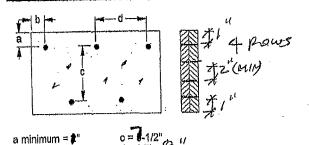
Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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.

Member has no side loads.

Connection Diagram: Full Length of Member



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.

Member has no side loads. Connectors are: i - Nails

b minimum = 3"

34" ARDOX SPIRAL

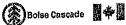
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DWONU.YAM2 STRUCTURAL COMPONENT ONLY

T. 1902431(1)





PASSED

2ND FLOOR FRAMING\Flush Beams\B12(i288)

Dry | 1 span | No cant.

January 29, 2019 13:48:08

Wind

Snow

Tributary

00-00-00

n\a n\a

n\a

n\a

BC CALC® Member Report Build 6475

Job name:

Address:

City, Province, Postal Code: ST....NES

Customer:

Code reports:

CCMC 12472-R

File name:

SD2-B34 EL A,mmdl

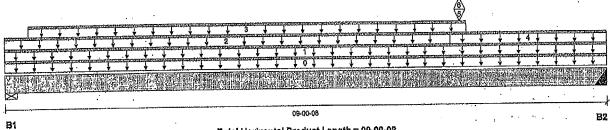
Description:

2ND FLOOR FRAMING\Fiush Beams\B12(i288)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 09-00-08

Reaction Summary (Down / Uplift) (lbs)

Bearing Live 317 / 70 422/0 B1, 4-3/8" 527 / 0 B2, 3" 793 / 226

l o	ad Summary	• •		_		-	Live	Dead
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65
0	Self-Weight	Unf. Lin. (lb/ft)	Ļ	00-00-00	09-00-08	Top		10
4	FC3 Floor Material	Unf, Lin, (lb/ft)	L	00-00-00	09-00-08	Top	19	10
2	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	06-08-06	Top	. 6	3
	WALL	Unf. Lin. (llp/ft)	Ĺ	00-04-06	06-11-04	Top	•	- 60
3	• • • • • •	Unf. Lin. (lb/ft)	ï	06-08-06	09-00-08	Top	25	12
4	FC3 Floor Material				06-10-02	Top	840	332
5	B13(I289)	Canc. Pt. (lbs)	L.	06-10-02				UUL
6	B13(l289)	Conc. Pt. (lbs)	Ļ	06-10-02	06-10-02	Тор	-296	

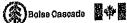
Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3,462 ft-lbs	23,220 ft-lbs	14.9%	1	06-10-02
End Shear	1,738 lbs	11,571 lbs	15.0%	1	08-00-00
Total Load Deflection	L/999 (0.06")	n\a	n\a	6	04-10-09
	L/999 (0,032")	n\a	n\a	8	04-11-09
Live Load Deflection Max Defl.	0.06"	n\a	n\a	6	04-10-09
Span / Depth	10.8				

Rearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4-3/8" x 3-1/2"	1,003 lbs	15.3%	5.4%	Unspecified
B2	Hanger	3" x 3-1/2"	1,848 lbs	n\a	14.4%	HGUS410

Header for the hanger HGUS410 at B2 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for .

> DWO NO. TAM2379-18H STRUCTURAL COMPONENT ONLY

T. yours





PASSED

2ND FLOOR FRAMING\Flush Beams\B12(1288)

Dry | 1 span | No cant.

January 29, 2019 13:48:08

BC CALC® Member Report Build 6475

Job name:

Address:

City, Province, Postal Code: ST....NES

File name: Description: SD2-B34 EL A.mmdl

2ND FLOOR FRAMING\Flush Beams\B12(i288)

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

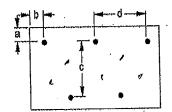
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

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: Full Length of Member



a minimum = 🏞 " b minimum = 3"

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: # 7

ARDOX SPIRAL

Disclosure

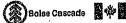
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OWO NO. TAM 2378-184 STRUCTURAL

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

COMPONENT ONLY

T. Yorapuli/



BC CALC® Member Report



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B13(I289)

Dry | 1 span | No cant.

January 29, 2019 13:48:08

Build 6475

Job name: .

Customer:

Code reports:

Address:

'City, Province, Postal Code: ST....NES

CCMC 12472-R

File name:

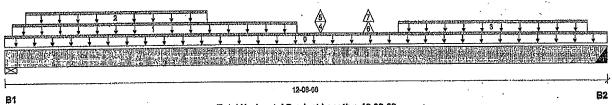
SD2-B34 EL A,mmdl 2ND FLOOR FRAMING\Flush Beams\B13(i289)

Description:

Wind

Specifier: Designer:

Company:



Total Horizontal Product Length = 12-08-08

Reaction Summary (Down / Uplift) (lbs)

Dead Bearing Live 1,191/0 2,463 / 205 B1, 5-1/2 858/300 340/0 B2, 3"

Los	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.66	1.00	1.15	-
0	Self-Welght	Unf. Lin. (lb/ft)	Ĺ.	00-00-00	12-08-08	Top		10		•	00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-02-00	06-02-00	Top	344	172			n\a
2	STAIR	Unf, Lin. (lb/ft)	L	00-05-08	04-03-08	Top	240	120			n\a
3	Smoothed Load	Unf. Lin. (lb/ft)	L	08-03-08	12-03-08	Top	52	26			n\a
4	J7(1607)	Conc. Pt. (lbs)	L	06-08-00	06-08-00	Top	59				n\a
ĸ	J7(160 7)	Conc. Pt. (lbs)	L	06-08-00	06-08-00	Top	-35				n\a
6	J7(1608)	Conc. Pt. (lbs)	L	07-08-00	07-08-00	Top	62	-204		. n. 444	ستس n\a
7.	J7(1608)	Conc. Pt. (lbs)	Ĺ	07-08-00	07-08-00	Top	-470		3	PROFES	S.CN. ME

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	10,133 ft-lbs	23,220 ft-lbs	43.6%	1	04-08-00
Neg. Moment	-1,054 ft-lbs	-23,220 ft-lbs	4.5%	4	07-08-00
End Shear.	4,210 lbs	11,571 lbs	36.4%	1	01-03-00
Total Load Deflection	L/431 (0.337")	n\a	55.6%	6	05-11-00
Live Load Deflection	L/610 (0.239")	n\a	59.0%	8	05-11-00
Max Deft.	0.337"	n\a	nla	6	05-11-00
Span / Depth	15.3				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1		5-1/2" x 3-1/2"	5,184 lbs	63.0%	22.1%	Unspecified
B2	Hanger	3" x 3-1/2"	1,712 lbs	n\a	13.4%	HGU\$410
B2	Uplift		144 lbs			

Cautions

Uplift of 144 lbs found at span 1 - Right. Hanger B2 cannot handle uplift of -144 lbs.

Header for the hanger HGUS410 at B2 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

pc42 owe no. 74#2379-18# structurăl compone"

T.1902433

::}\:





PASSED

2ND FLOOR FRAMING\Flush Beams\B13(i289)

Dry | 1 span | No cant.

January 29, 2019 13:48:08

Build 6475

Job name:

Address:

City, Province, Postal Code: ST....NES

BC CALC® Member Report

File name: Description:

SD2-B34 EL A.mmdl

2ND FLOOR FRAMING\Flush Beams\B13(I289)

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 DBC 2012

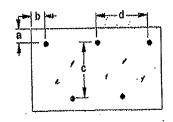
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

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

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: Full Length of Member



a minimum ≠#" b minimum = 3"

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

3K" ARDOX SPIRAL



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 Bolse 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.

STRUCTURAL COMPONENT ONLY

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

T. (902433(>)





PASSED

2ND FLOOR FRAMING\Flush Beams\B16(1296)

Dry | 1 span | No cant.

January 29, 2019 13:48:08

BC CALC® Member Report **Bulld 6475**

Job name:

Address:

City, Province, Postal Code: ST NES Customer:

Code reports:

CCMC 12472-R

File name:

SD2-B34 EL A.mmdl

Wind

Description:

2ND FLOOR FRAMING\Flush Beams\B16(i296)

Specifier:

Designer:

Company:

01-11-02

B1

Total Horizontal Product Length = 01-11-02

Reaction Summary (Down / Uplift) (lbs)

Snow Bearing B1, 2-3/8" 56/0 101/0 84/0 170 / 0 190 / 0 B2, 3-1/2" 99/0

Load	d Summary						Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1,00	1.15	
	Self-Weight	Unf, Lin. (lb/ft)	L	00-00-00	01-11-02	Top	,	10	, ,		00-00-00
	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	01-07-10	Top	14	7			n\a
	E18(1613)	Unf. Lin. (lb/ft)	L	00-04-06	01-11-02	Тор	77	151	147		n∖a ·
	E18(1613)	Conc. Pt. (lbs)	L	01-10-14	01-10-14	Тор	13	25	24	. 11	n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	152 ft-lbs	23,220 ft-lbs	0.7%	13	00-11-03
End Shear	274 lbs	11,571 lbs	2.4%	13	00-11-14
Total Load Deflection	L/999 (0")	n\a	n\a.	35	00-11-00
Live Load Deflection	L/999 (0")	n\a	n\a	51	00-11-00
Max Defl.	0,,	n\a	n\a	35	00-11-00
Span / Depth	2,0				·



Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	2-3/8" x 3-1/2"	308 lbs	4.2%	3,0%	Unspecified
B2		3-1/2" x 3-1/2"	591 lbs	11.3%	4.0%	Unspecified

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 2015 and CSA O86.

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

verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

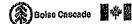
Connection design assumes point load is top-loaded. For connection design of side-loaded point loads,

please consult a technical representative or professional of Record.

Member has no side loads.

DWO NO . YAM 238018H STRUCTURAL COMPONENT ONLY

T. Gorysy



PASSED

January 29, 2019 13:48:08

2ND FLOOR FRAMING\Flush Beams\B16(i296) Dry | 1 span | No cant.

BC CALC® Member Report

Bulld 6476

Job name:

Customer:

Code reports:

Address: City, Province, Postal Code: ST NES

CCMC 12472-R

File name:

SD2-B34 EL A.mmdl

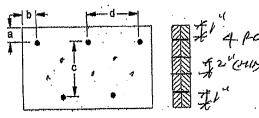
Description: 2ND FLOOR FRAMING\Flush Beams\B16(i296)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = #" b minimum = 3"

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. Member has no side loads.

Connectors are: Nails ARDOX SPIRAL POPESSION

Disclosure

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

STRUCTURAL COMPONENT ONLY

T. 190424/15





PASSED

2ND FLOOR FRAMING\Flush Beams\B9(i285)

Dry | 1 span | No cant.

January 29, 2019 13:48:08

BC CALC® Member Report Bulld 6475

Job name:

Address: City, Province, Postal Code: ST....NES

File name: Description: SD2-B34 EL A.mmdl

2ND FLOOR FRAMING\Flush Beams\B9(i285)

Specifier:

Designer:

Customer: Code reports:

CCMC 12472-R

Company:

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The state of the s			, 0 \$ \$ \$	1 1 1	 	+ + + 1
×						
<i>}</i>		Q	5-08-08	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	•	B2
124					•	

Snow

Total Horizontal Product Length = 05-09-06

Reaction Summary (Down / Uplift) (lbs)
Bearing Live Dead

Bearing 1,226 / 49 669/0 B1, 4" 1,693 / 168 971/0 B2, 5-3/8"

Load Summary							Live	Dead	Snow	Wind	Tributary
Tag Description	Load Type	Ref.	Start	End	Log.		1.00	0.65	1.00	1.15	
0 Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-09-06	Top	,		10			00-00-00
1	Conc. Pt. (lbs)	L	00-04-02	00-04-02	Top		396	198			n\a
2	Conc. Pt. (lbs)	L	01-04-13	01-04-13	Top		353	177			n\a
3 J1(1513)	Conc. Pt. (lbs)	L	02-04-02	02-04-02	Top		291	146			n\a .
4 -	Conc. Pt. (lbs)	L	03-03-07	03-03-07	Top	٠,	351 -	176			n\a
5 -	Conc. Pt. (lbs)	L	04-03-04	04-03-04	Top		1,060	653	1		n\a
6	Conc. Pt. (lbs)	L	04-03-04	04-03-04	Top		-217				n\a
7 -	Conc. Pt. (lbs)	L	05-03-07	05-03-07	Top		468	234		AOFESS	n/a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3,510 ft-lbs	23,220 ft-lbs	15,1%	1	03-04-02
End Shear	2,808 lbs	11,571 lbs	24.3%	1	04-06-08
Total Load Deflection	L/999 (0,023")	n/a	n\a	6	02-11-02
Live Load Deflection	L/999 (0.015")	n\a	n\a	8	02-11-02
Max Defl	0,023"	n\a	n\a	6	02-11-02
Snan / Denth	65				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Materia)
B1	Wall/Plate	4" × 3-1/2"	2,675 lbs	44.7%	15.7%	Unspecified
B2	Wall/Plate	5-3/8" x 3-1/2"	3,753 lbs	46.7%	16.4%	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. CONFORMS TO DBC 2012

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA Q86.

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.

DWO NO . TAM 2361-18H STRUCTURAL COMPONENT ONLY

T. Gorapan





PASSED

2ND FLOOR FRAMING\Flush Beams\B9(i285)

Dry | 1 span | No cant.

January 29, 2019 13:48:08

BC CALC® Member Report Bulld 6475

Job name:

Customer:

Code reports:

Address:

City, Province, Postal Code: ST....NES

CCMC 12472-R

File name:

SD2-B34 EL A.mmdl

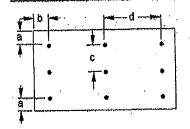
2ND FLOOR FRAMING\Flush Beams\B9(i285) Description:

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 2" b minimum ≈ 3" o = 2-3/4" //

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: '^ '/ Nalls

3%" ARDOX SPIKAL



<u>Disclosure</u>

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DWG NO , TAM 238/ = 18H STRUCTURAL COMPONENT ONLY

T. (90435(V)

Fam : 2 1 1



Maximum Floor Spans

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







			Ba	ire			1/2" Gyps	um Ceiling	
Depth	Series		On Centr	e Spacing			On Cent	e 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
	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A
11-7/8"	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
	N1-90x	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
	NI-70	23'-6"	21'-9"	20'-9"	N/A	24'-3"	22'-5"	21'-5"	N/A
16"	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-Span	Blocking		Mid-S	pan Blocking an	d 1/2" Gypsum	Ceiling	
Depth	Series		On Centr	e Spacing	On Centre 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	
	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	
	NI-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A	
16"	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	

^{1.} Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The 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.

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.
 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.



Maximum Floor Spans

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







			Ва	are		1	1/2" Gyps	um Ceiling	
Depth	Series		On Centr	e Spacing		1	On Centr	e 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"	พเ-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"
	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
11-7/8"	N1-70	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"
	NI-70	25'-1"	23'-2"	22'-0"	20'-10"	25'-9"	23'-10"	22'-9"	21'-6"
16"	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-Spar	n Blocking		Mid-S	pan Blocking an	d 1/2" Gypsum	Ceiling
Depth	Series		On Centr	e Spacing			On Centr	e Spacing	
Верен		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"
,-	N!-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"
	N1-40x	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 ¹ -4"	22'-8"	20'-10"	19'-8"	18'-4"
	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"	24¹-8"	23'-4"
	NI-60	27'-3"	25'-5"	24'-2"	22'-10"	28'-0"	26'-2"	24'-9"	23'-1"
	NI-70	28'-8"	26'-8"	25'-4"	23'-11"	29'-3"	27'-4"	26'-1"	24'-8"
16"	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"

^{1.} Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The 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.



Maximum Floor Spans

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







	Series	Bare On Centre Spacing				1/2" Gypsum Ceiling				
Depth						On Centre 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"	N1-60	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	
	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A	
11-7/8"	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"	19¹-3"	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	
	NI-70	23'-6"	21'-9"	20'-9"	N/A	24'-3"	22'-5"	21'-5"	N/A	
16"	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	

Depth	Series	Mid-Span Blocking On Centre Spacing				Mid-Span Blocking and 1/2" Gypsum Ceiling On Centre Spacing			
	NI-20	15'-7"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A
	N1-40x	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
	NI-60	21'-4"	19'-8"	18'-5"	N/A	21'-8"	19'-8"	18'-5"	N/A
11-7/8"	N!-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
16"	NI-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	24'-10"	23'-4"	N/A
	NI-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A
	N1-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"	25'-6"	N/A
	N1-90x	29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	26'-2"	N/A

^{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.

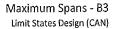
^{2.} Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.

^{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.







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







			В	are			1/2" Gyps	um Ceiling	
Depth	Series		On Centi	e Spacing	On Centre 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"	1 5'-10"	19'-11"	18'-6"	17'-9"	15'-10'
	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-1"
11-7/8"	NI-70	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10'
	N1-80	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"
	N1-90x	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"
	NI-70	25'-1"	23'-2"	22'-0"	20'-10"	25'-9"	23'-10"	22'-9"	21'-6"
16"	NI-80	25'-6"	23'-6"	22'-4"	21'-2"	26'-1"	24'-2"	23'-1"	21'-10'
	MI-90v	26'-4"	24'-3"	23'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22'-5"

		Mid-Span Blocking On Centre Spacing			Mid-Span Blocking and 1/2" Gypsum Ceiling On Centre Spacing				
Depth	Series								
осран	******	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"
	N1-80	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"
	NI-60	21'-9"	19'-8"	18'-5"	17'-1"	21'-9"	19'-8"	18'-5"	17'-1"
11-7/8"	NI-70	23'-4"	21'-5"	20'-1"	18'-6"	23'-8"	21'-5"	20'-1"	18'-6"
	NI-8D	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"
	NI-70	28'-8"	26'-8"	25'-3"	23'-4"	29'-3"	26'-11"	25'-3"	23'-4"
16"	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.

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^{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.

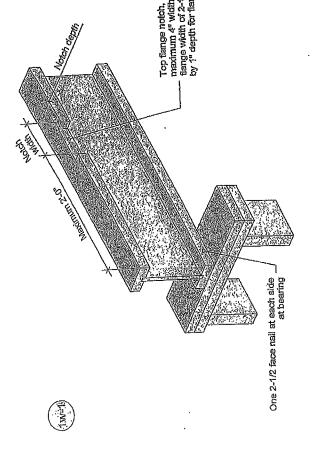
^{3.} Minimum bearing length shall be 1-3/4 inches for the end bearings.

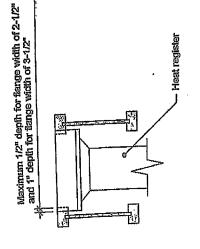
^{4.} Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

^{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 086-09, 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.





Pear, consult nordic, ca or contact Nordic Structures.

h for 2-1/2-troth malls, or 0,144 inch for 9-troth malls, ind/Mobal components not shown to scale for clarity.

DOCUMENT

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STRUCTURES

1 514-671-8528 1 866 817-3418 Nordic.ca

олтвоску I-joist - Typical Floor Framing and Construction Details тп. Notch in I-joist for Heat Register

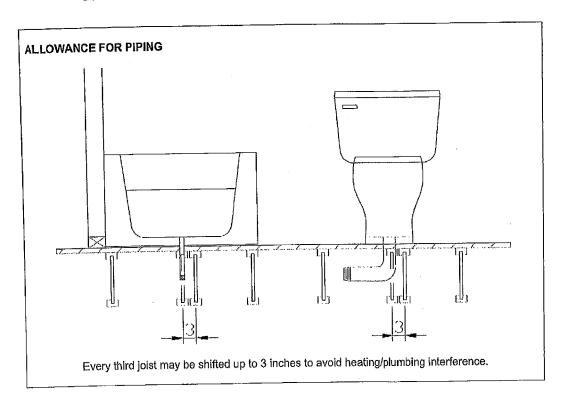


Allowance for Piping (Installation Notes)

The floor layouts have usually not been checked for heating and/or plumbing interference. On-site adjustment of Joists of up to 3 inches is permitted to avoid interferences. When moving a joist, the subfloor thickness shall be checked with code requirements when the Joist spacing exceeds 19.2 inches. Except for cutting to length, I-joist flanges should never be cut, drilled, or notched.

Installation of Nordic I-joists shall be as per *Nordic Joist Installation Guide for Residential Floors*. Refer to Tables 1 and 2 for maximum web hole and duct chase openings, respectively. These tables are based on the I-joists being used at their maximum spans. The minimum distance given may be reduced for shorter spans; contact your distributor for additional information.

The detail below shows the 3-inch allowance for piping. Every third joist may be shifted up to 3 inches to avoid heating/plumbing interference. For other applications, please contact your distributor.



Revised April 12, 2012