

		Products		
PlotID	Length	Product	Plies	Net Qty
J1	12-00-00	9 1/2" NI-40x	1	23
J2	10-00-00	9 1/2" NI-40x	1	11
J3	8-00-00	9 1/2" NI-40x	1	8
J4	6-00-00	9 1/2" NI-40x	1	4
J5	2-00-00	9 1/2" NI-40x	1	4
B1	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B2	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B3	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B7	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

C	Connector Summary											
Qty	Manuf	Product										
7	H1	IUS2.56/9.5										
4	H1	IUS2.56/9.5										
2	H2	HUS1.81/10										
2	H2	HUS1.81/10										



FROM PLAN DATED:

BUILDER: BAYVIEW WELLINGTON

SITE: PASSAGE ON THE CANAL

MODEL: TH1

ELEVATION: A, B

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 fb/ft

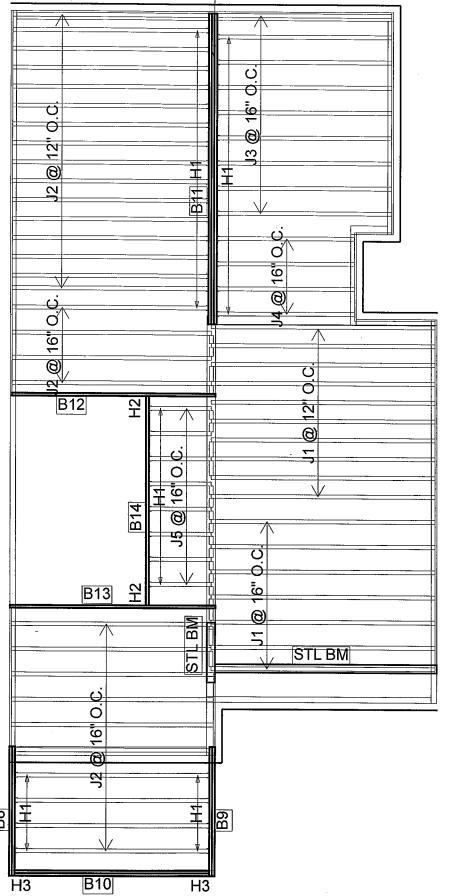
TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 10/23/2018

1st FLOOR

11 7/8" 3-PLY LVL REQ'D OR BEAM BY OTHER



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	17
J2	12-00-00	9 1/2" NI-40x	1	30
J3	10-00-00	9 1/2" NI-40x	1	9
J4	8-00-00	9 1/2" NI-40x	1	4
J5	4-00-00	9 1/2" NI-40x	1	8
B12	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B13	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B14	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B10	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B8	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3

C	Connector	Summary
Qty	Manuf	Product
8	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
28	H1	IUS2.56/9.5
2	H2	HUS1.81/10
2	H3	HUC410



FROM PLAN DATED:

BUILDER: BAYVIEW WELLINGTON

SITE: PASSAGE ON THE CANAL

MODEL: TH1

ELEVATION: A, B

LOT:

CITY: ST CATHERINES

SALESMAN: M D DESIGNER: AJ REVISION:

NOTES:

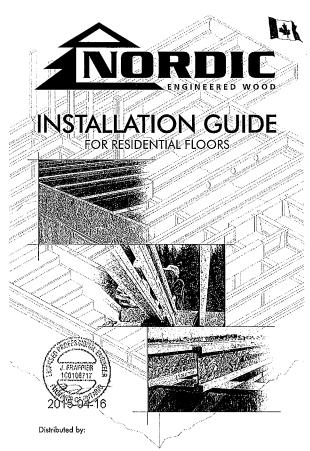
REFER TO THE NORDIC **INSTALLATION GUIDE FOR PROPER** STORAGE AND INSTALLATION. **SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2** S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ. I-JOIST 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: 10/27/2018

2nd FLOOR



SAFETY AND CONSTRUCTION PRECAUTIONS

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



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

I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed. Avoid Accidents by Following these Important Guidelines:

- Broce and noil each Hoist as it is installed, using hangers, blacking panels, rim board, and/or cross-hridging at joist ends. When Hoists are applied continuous over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
- When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist rollover or buckling.
- Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2' nails fastened to the top surface of each I-joist. Noil the bracing to a lateral restraint at the end of each boy. Lop ends of adjoining bracing over at least two I-joists.
- Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the boy.
- For contilevered l-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.
- Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only. 5. Never install a damaged I-joist.

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 stiffeners when requir can result in serious accidents. Follow 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 ps f. The will will be live load of 40 ps f. The utilimate limit states are based on the factored loads of 1.50. ± 1.250. The serviceability limit states include the consideration for floor vibration and a live load deflection limit of L/480. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- S. There is the outpeten spetti.

 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 o joist specing 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 topping or bridging element was assumed. Increased spans may be achieved with the used of gypsum and/or a row of blocking at mid-span.
- Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This span chart is based on uniform loads. For applications
 with other than 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

WEB STIFFENERS

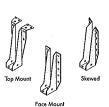
MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS SIMPLE AND MULTIPLE SPANS

13-9' 14-10' 15-6' 15-5' 16-5' 16-7' 17-10' 17-10' 17-11' 19-1' 19-1' 19-1' 19-1' 19-1' 19-1' 19-1' 19-1' 19-1' 19-1' 19-1' 19-9' 20-9' 21-5' 13'.5'
14'.9'
14'.11'
15'.7'
15'.6'
16'.6'
16'.6'
17'.5'
17'.7'
17'.11'
18'.0'
17'.11'
20'.0'
19'.10'
20'.10'
21'.2'
21'.5'
21'.10' 14'-10' 15'-10' 16'-0' 16'-9' 16'-11' 16'-8' 17'-9' 18'-0' 19'-0' 19'-3' 19'-8' 14'.7' 15'.5' 16'.1' 16'.10' 17'.0' 16'.7' 17'.7' 18'.1' 19'.4' 19'.4' 19'.4' 19'.4' NI-40x NI-60 NI-70 NI-80 NI-20 NI-40x NI-60 NI-70 NI-80 NI-90 18'-7'
18'-10'
18'-4'
20'-0'
20'-3'
21'-6'
21'-9'
22'-3'
22'-5'
22'-2'
22'-7'
23'-10'
24'-3'
24'-9'
25'-0' 17'-0'
17'-3'
18'-0'
18'-3'
18'-7'
18'-9'
18'-7'
18'-9'
20'-3'
20'-8'
20'-11'
20'-8'
21'-9'
22'-1'
22'-6'
22'-9' 11.7/8 20'-4' 20'-1' 20'-5' 21'-7' 21'-11' 22'-5' 22'-7' 22'-3' 23'-6' 23'-11' 24'-5' 24'-8' 20-0 21-1 21-5 21-10 24-7 25-0 24-7 26-0 26-5 26-11 27-3 23'-1' 22'-9' 24'-0' 24'-5' 24'-10' 25'-2' 22'-2' 21'-10' 23'-0' 23'-4' 23'-9' 24'-1' 22'-0" 22'-11' 23'-3' 23'-9'

CCMC EVALUATION REPORT 13032-R

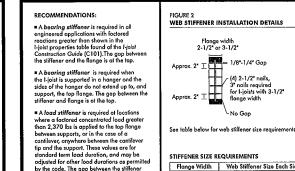
I-JOIST HANGERS

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



STORAGE AND HANDLING GUIDELINES

- Bundle wrap can be slippery when wet. Avoid walking on wrapped
- 2. Store, stack, and handle I-joists vertically and level only.
- 3. Always stack and handle I-joists in the upright position only.
- 4. Do not store I-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.
- 7. 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 to your work crew.
- Pick 1-joists in bundles as shipped by the supplier.
- Orient the bundles so that the webs of the I-joists are vertical.
- Pick the bundles at the 5th points, using a spreader bar if necessary
- 8. Do not handle 1-joists in a horizontal orientation.
- 9. NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.



SI units conversion: 1 inch = 25.4 mm

10

 $^{\circ}$

(P)

ransfer load from above to

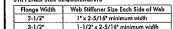
bearing below. Install squash blocks per detail 1d. Match bearing area of blocks below to post above.

For nailing schedules for multiple beams, see the manufacturer's

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

– Filler block

Nordic Lam or SCL



Use single I-joist for loads up to 3,300 plf, double
I-joists for loads up to 6,600 plf (filler block no
required). Attach I-joist to

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

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

(4) 2-1/2" nails, 3" nails required for I-joists with 3-1/2" flange width

top plate using 2-1/2" nails at 6" o.c.

Provide backer for siding attachment unless nailable sheathing is used.

(lm)

No Gap

STIFFENER SIZE REQUIREMENTS 1-1/2" x 2-5/16" minimum

(1g)

attachment per detail 1b

2-1/2" nails at — 6" o.c. to top plate

Multiple I-joist header with full depth filler block shown, Nordic Lam or SCL

headers may also be used. Verify double I-joist capacity to support

CONCENTRATED LOAD (Load stiffener)

END BEARING

NORDIC I-JOIST SERIES

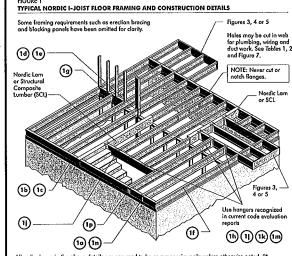
33 pieces 33 pieces 33 pieces 23 pieces 23 pieces 23 pieces 23 pieces per unit per unit per unit per unit per unit per unit Chantiers Chibougamou Ltd. harvests its own trees, which enables.

products to adhere to strict quality control procedures through the manufacturing process. Every phase of the operation, from force to life finished product, reflects our commitment to quality. finished product, reflects our commitment to quolity.

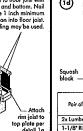
Nordic Engineered Wood I-joists use only finger-joined placks to EA/FFER Elumber in their flonges, ensuring consistent quality, supplier synably 2007 longer span carrying capacity.

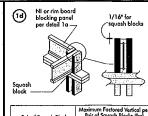
INSTALLING NORDIC I-JOISTS

- 1. Before laying out floor system components, verify that t-joist flange widths match hanger widths. If not, containing
- 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.
- 4. 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 1-joists firmly in hanger bottoms to minimize settlement.
- 7. Leave a 1/16-inch gap between the 1-joist end and a header.
- 8. Concentrated loads greater than those that can normally be expected in residential construction should only be applied to the top surface of the top flange. Normal concentrated loads include track lighting fatures, outlo equipment and security cameras. Never suspend unusual or heavy loads from the !oist's bottom flange. Whenever possible, suspend all concentrated loads from the top of the !-joist. Or, attach the load to blocking that has been securely fastened to the !-joist vebs.
- 9. Never install 1-joists where they will be permanently exposed to weather, or where they will remain in direct contact with
- 10. Restrain ends of floor joists to prevent rollover. Use rim board, rim joists or 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. I-joist blocking panels or afther engineered wood products such as rim board must be cut to fit between the I-joists, and an I-joist-congolible depth selected.
- 13. Provide permonent lateral support of the bottom flonge of all I-joists at interior supports of multiple-span joists. Similarly, support the bottom flonge of all confidenced I-joists at the end support next to the cantilever extension. In the completed structure, the gypsum valiboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary bracing or striks must be used. 14. If square-edge panels are used, edges must be supported between t-joists with 2x4 blocking. Glue panels to blocking to minimize squeaks. Blocking is not required under structural finish flooring, such as wood strip flooring, or if a separate underlayment layer is installed.
- 15. Nail spacing: Space nails installed to the flange's top face in accordance with the applicable building code requirements approved building plans.



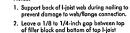








(lk)



Top-mount hanger installed per manufacturer's recommendatio

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





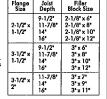
5. The maximum factored load that may be applied to one side of the double joist using this detail is 860 lbt/ft. Verify double L-joist capacity.

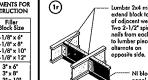
Maximum support capacity = 1,620 lbs. FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION

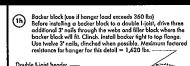
Backer block attached per — detail 1h. Nail with twelve 3' nails,

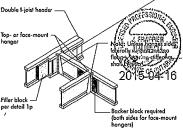
nstall hanger per manufacturer's

Flange Joist Filler Size Depth Block Size





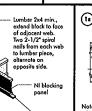




BACKER BLOCKS (Blocks must be long enough to permit required

lange 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 material shall be S-P.F No. 2 or better for solid sawn lumber and wood structural ponels conformin to CAN/CSA-023 Schandov A043 Standov 1. For fore-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".



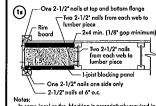
– NI blocking panel per detail 1 a

Do not bevel-cut joist beyond inside face of wall ——

(1n)

Attach I-ĵoist per detail 1b

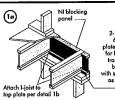
Note: Blocking required at bearing for lateral support, not shown for clarity.



Notes:

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

All nats are common spiral in this detail.



3,300

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

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

—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. Nails may be driven at an angle to id splitting of bearing plate. Minimum bearing length shall be 1-3/4" for the end bearings, and 3-1/2" for the intermediate bearings

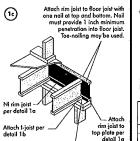
FSC weathers

J. FRAFFIER

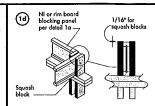
"2015-04-16

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

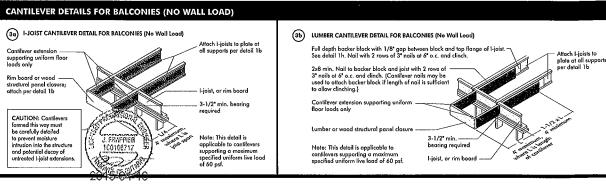
The uniform vertical food is limited to a nim board depth of 16 inches or less and is based on standard term food duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

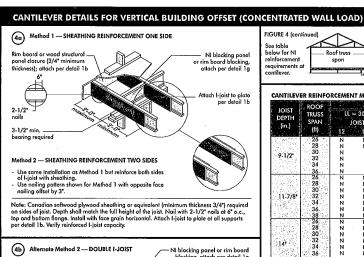


Minimum 1-3/4" bearing required



Pair of Squash Blocks | Pair of Squosh Blocks | 12" vide | 5-1/2" vide | 2x Lumber | 5,500 | 6,500 | 1-1/8" Rim Board Plus | 4,300 | 6,600 | ovide lateral bracing per detail 1a, 1b, or 1c





4b Alternate Method 2 — DOUBLE I-JOIST Rim board, or —	NI blocking panel or rim board blocking, attach per detail 1g
wood structural panel closure (3/4* minimum thickness); atlach per detail 1b	Face nail two rows of 3" nails at 12" o.c. each side through one 1-joist web and the filler block to other 1-joist web. Offset nails from opposite face by 6". Clinch if possible
Attach I-joists to top plote at all supports per detail 1b, 3-1/2* min. beoring required	flour nails per fool required, except how nails per foot required, except how nails per foot required if — clinched).

Nail joist end using 3' nails, toe-nail at top and bottom flanges.

Hanger may be used in lieu of solid sawn block

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" nails along the centreline of the reinforcing panel from each side. Clinch when possible.

... Roof truss span CANTILEVER REINFORCEMENT METHODS ALLOWED

T 2'-0"

Roof trusses

| Girder | Roof truss | Jack trusses | Jack trusses | Roof truss | Jack trusses | Jack t

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

	ROOF												
JOIST DEPTH	TRUSS	T.	= 30 psf,	DL = 15	psf	LL	= 40 psf,	DL = 15	psf	LL :	= 50 psf,	DL = 15	psf
(in.)	SPAN				A STATE OF THE PERSON NAMED IN	JOIST SPACING (in.)				JOIST SPACING (in.)			
un.,	(ft)	12	16	19.2	24	. 12	16	19.2	24	12	16	19.2	24
10 A 10 A	26	N	N	1	2	N	1	. 2	Х	N	2	Х	Х
	28	N	N	1	X	N	1	2	Х	N	2	X	Х
9-1/2	30	N	1	1	X	N	1	2	Х	1	2	Х	Х
7-1/2	32	N	1	2	Х	N	2	x	Х	1	Х	Х	X
	34	N	1	2	X	N	2	X	Х	1	Х	Х	X
LA Yes	36	N	1	2	X	1	2	X	X	1	Х	Х	X
	26	N	N	N	1	N	N	1	2	N	N	1	2
(4) M. G.	28	N	N	N	1	N	N	1	2	N	1	1	Х
14.7.54	30	N	N	N	1	N	N	1	2	N	. 1	2	Х
11-7/8	32	N	N	1	1	N	N	1	2	N	1	2	Х
	34	N	N	1	2	N	1	1.	. X	N	1	2	Х
	36	N	N	1	2	N	1	2	Х	N	1	2	Х
	38	N	N	11	2	N	1	2	Х	N	2	Χ.	Х
3 × 655	26	N	N	N	N	N	N	. N	1	Ν	N	N	1
	28	N ·	N	N	N	N	N	N	1	N	N	1	1
133.44	30	N	N	N	N	N	N	N	1	N	N	1	2
14"	32	N	N	N	1	N	N	· N	1	N	N	1	2
	34	N	N	И	1.	N	И	1	1	N	, N	1	2
	. 36	N	N	И	1	N	- N	1	2	N	1	1	2
7.5	38	N	N	N	1	N	N	1	2	N	1	1	х
海杨沙	40	N	N	N	1	- N	N	1	2	N	1	2	X
	26	N	N	N	N	N	N-	N	. N	N	N	N	1
1000	28	N	N	N	N.	N	N	N	1 [N	N	- N	1
- 15 T	30	N	N	. N	N	N	N	N	- 1	N	N	N	1
	32	Ν.	N	N	N	N	N	N	1	N	N	1	1
16"	34	N.	· N	N	N	N	N	N	1	N	N	1	2
4255	36	N	N	N	1	N	N	N	1	N	N	1	2
	38	N	N	N	1	N	N	N	1	N	N	1	2
1.6984	40	N	N	N	1	N	N	3.	2	N	N	1	2
	42	N	N	N	1	N	N	1.	2	N.	1	1	X

- 1 = NI reinforced with 3/4" wood structural
- I = NI reinforced with 3/4" wood structural panel on one side only.

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

 X = Try a desper joist or closer spacing.

 2. Moximum design food shall be: 15 pst foof deed load, 55 pst floor total load, and 80 plf woll load. Woll load is bosed on 3'-0"

RDICK CANTILEVED DEINEORGEMENT METHODS ALLOWED

- For larger openings, or multiple 3-0° width openings spood less than 6° 9° oc., additional joists beneath the opening's cripple stude may be required.

 3. Toble applies to joist 12 to 24° oc. that meet the floor open requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/480. Use 12° oc. requirements for lesses spocing.

Roof truss | 72-0' maximum | Jack trusses | Truss | Roof truss | Jack trusses | J

4. For conventional root construction using a ridge beam, the Roof Trus Spon column above is equivalent to the distance between the supporting well and the ridge beam. When the roof is framed using a ridge board, the Roof Truss Spon is equivalent to the distance between the supporting walls as if a forus is used.
5. Contilevered joints supporting girder trusses or roof beams may require additional reinforcing.

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

BRICK CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD) sheathing reinf Provide full depth blocking between joists over support (not shown) ond bottom joist flanges with 2-1/2" nails at 6" o.c. (offset apposite sace nailing by 3" when using Note: Canadian softwood plywood sheathing or equivolent (minimum thickness 3/4") required on sides of joist. Depth shall match the full helight of the joist. Nail with 2-172" nails at 6" oc., top and bottom flange. Install with face grain horizontal. Attach I-joist to plote at all supports per detail 1b. Verify reinforced I-joist copacity. reinforcement on both sides of I-joist) (5b) SET-BACK DETAIL Rim board or wood — structural panel closure (3/4" minimum thickness), attach per detail 1b. Provide full depth blocking Provide tull depth blocking between joilsts over support (not shown for clarity) Altach I-joist to plate at all supports per detail 1b. 3-1/2' minimum I-joist bearing required.

(5c) SET-BACK CONNECTION

Vertical solid sawn blocks
(2x6 5-P-F No. 2 or better) nailed
through joist web and web of girder
using 2-1/2" nails.
Alternate for opposite side.

Notes:

- Verify girder joist capacity if the back span exceeds the joist spacing.

- Attach double 1-joist per detail 1p, if required.

	ROOF							(UNFAC					
JOIST DEPTH	TRUSS	u.	= 30 psf	. DL = 15	psf	ш	= 40 psf	DL = 15	psf	ıı.	= 50 psf,	DL = 15	psf
(in.)	SPAN	ŀ	OIST SPA	ACING (in	.)	,	OIST SPA	CING (in	}	, . J	OIST SPA	CING (in.	.)
(in.)	(ft)	12	16	19.2	24	12	16	19.2	24	12	16	19.2	24
的程序系统	26	1	Х	Х	χ.	. 2	Х	X	X	2	Х	X	Х
	28 30	1	Х	X	X	2	X	X	X	X	X	X	Х
9-1/2	30	Ĭ	X	X	X	2	X	X	X	X	X	Š	X
200	34	2		Õ	Č	2	X.	Č	X		Ş	Ŏ.	X
	36	5	\$	¢	¢	l û	\$	Ç	â	Ç.	Ŷ	Ç	x
10075	26	Ñ	2			 			 X	î			
13.534	28	Ñ	2	Ŷ	â	l i	Ŷ	Ŷ	â	2	x	Ŷ	Ŷ
建筑总数	30	1	2	X	X	i i	X	X	X	2	X	X	
11-7/8	32	1	2	X	х	1	Х	Х	Х	2	X	X	X
	34	1	Х	Х	Х	2	X	Х	Х	2	Х	Х	X
	36	1	X	X	Х	2	X	X	X	X	X	X	X
	38 26	N N	. X	X	X	2 N	<u>X</u>	X	X	X	_ . X	<u>X</u>	<u> X</u>
100	28	N	- 1	2	â	1 7	2	٥	X		X	٥	X
	30	N	2	ŷ	ŷ	l ;	5	Ŷ	â	1	Ŷ	Ŷ	•
	32	Ñ	õ	Ŷ	Ŷ	Ιí	ŵ	Ŷ	â	ہٰ ا	Ŷ	â	X X X
14.	34	N	2	Ŷ	ÿ	Ιi	x	χ̈́	- X	2	x	Ŷ	Ŷ
4.5	36	1	2	X	X	i	X	X	X X X	2	X	X	X
	38	- 1	2	Х	Х	1	Х	Х	Х	2	Х	Х	Х
Gradiny.	40	1	X	X	X	2	X	X	X	2	X	X	X
	26 28	Ŋ	!	. 2	X	N	ļ	X	X	Ŋ	2	X	X
	30	N	- ;	. 2	X	N	2	÷	X		3	٥	X
	32	N		2	٥	N N	2	٠	â		•	٥	X
16"	34	N	2	Ý	Ŷ	l 'i	2	Ŷ	Ŷ	;	Ŷ	Ŷ	•
1.5	36	Ñ	2	ŵ	â	Ιi	ź	â	Ŷ	l i	û	â	Ŷ
100	38	N	2	â	x	Ιi	â	x	x	l ż	x	X	â
74, 357,	40	Ņ	2	X	X	l i	X	X	X	2	X	X	X
1.0	- 42	_1_	2	X	X	1	X	Х	X	2	<u> </u>	X	_ · X

- 2 = NI reinforced with 3/4" wood structural ponel on both sides, or double 1-joint.
 X = Try a desper joint or closer spacing.
 2. Maximum design load shall be: 15 pet food dead load, 55 pet floor total load, and 80 plf wall tood. Wall load is based on 3:0" maximum width window or door openings.
 - openings spoced less than 6-0° oc., additional olist beneath the opening's cripple studs may be required.

 1 Table applies to joists 12-1° to 24° o.c. that meet the floor span requirements for a design live load of 49 pet and dead load of 15 pst, and a live load of 40 get and feed load of 15 pst, and a live load deflection limit at 14/80. Use 12° o.c. requirements for tesser spocing.
- ridge beam, the Roof Trust Span column obove is equivalent to the distonce between the supporting well and the ridge beam. When the roof is framed value a ridge board, the Roof Trust Span is equivalent to the citatonce between the supporting walls as if a trust is used.

 5. Conflevered joints supporting girder trusses or roof beams may require additional rainforcing.

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.
- 4. The maximum size hole or the maximum depth of a duct chose opening that con be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent I-joist flange.
- 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.
- Where more than one hole is necessary, the distance between adjacent hole edges shall exceed wice the diameter of the largest round hole or twice the size of the largest square hole (or twice the largest state) to largest square hole (or twice the langest of the langest side of the langest rectangular hole or duct chase opening) and each hole and duct chase opening shall be sized and located in compliance with the requirements of opening shall be sized and located in compliance with the requirements of the size Tables 1 and 2, respectively.
- 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
- 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 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		-11	mayin	E UNIO	ICC III			e of ar			centre	of ho	le (II-II	0.1		Span
Depth	Series		Care and		ومشور		Rot	ind he	le diar	neter (in.)						adjustm
Depili		2	3	4	5	.6.	6-1/4	12	8	8-5/8	9	10	10-3/4		12	12-3/4	
J. 18. V	NI-20	0.7	1,-6,	2-10	4'-3"	5'-8"	6,0,	***				***	***			***	13-6
1100	NI-40x	0-7	1.6	3.0	4'-4'	6.0	6'-4"		***	***	•			***			14'-5
9-1/2	NI-60	1'-3'	2.6	4'-0"	5'-4"	7.0	7'-5"			•••					•		14'1
本等的 由	NI-70	2'-0"	3-4	4'-9"	6'-3"	8-0	8'-4"	***	***	•••		***		***	•••	***	15-7
4 5 A V 4	NI-80	2-3	3:-6*	5.0	6.6	8'-2"	8-8			***	***			•••	•••		15.5
100	NI-20	0-7	0'-8"	1.0	2'-4'	3,-8,	4'-0"	5.0	6'-6"	7-9'	***	***	***			***	15.6
St. 20 14 15 1	NI-40x	0-7	0'-8"	1'-3"	2'-8'	4'-0'	4'-4"	5'-5"	7-0	8-4	•••		***	•••	•••		16.6
1 San 1 San 1	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"	***	•••	***	***		***	17'-5
2000	NI-80	1'-6'	2-10	4.2	5'-6"	7-0	7-5*	8-6	10.3	1144			·	***			17'7
100	NI-90	0-7*	0'-8"	1'-5"	3'-2"	4'-10°	5'-4"	6'-9'	8'-9"	10-2							17'1
0.14295.1	NI-90x	0.7" .	0.81	0.9	2:-5*	4'-4'	4':9"	6'-3'		***				***	•••		184
1.00	NI-40x	0.7*	0.8	0.8	1'-0"	2-4	2.9	3-9	5-2	6.0.	6-6	8-3	10-2			***	17-
Assessed to the control of the contr	NI-60	0-7"	0-8	1.8	3'-0"	4-3	4'-8"	5'-8'	7-2	8-0	8-8*	10-4	11'-9'	***	***		18-2
34"	NI-70	0.8	1'-10"	3.0	4'-5"	5'-10"	6-2	7-3	8.9	9.9	10'-4"	12:0	13-5	•••	•••		19-
	NI-80 -	0-10	2.0	3.4	4'-9"	6-2	6-5	7-6	9-0	10-0	10'-8"	12-4	13-9	•••	***		19-5
A 44 9 1	NI-90	0.7	0.8	0-10	2-5	4'-0"	4'-5"	5-9	7'-5"	8'-8"	9-4"	11'-4'	12-11	***	***	***	19-9
A A	NI-90x	0.7*	0.8	0.8	2.0	3-9*	4'-2"	5.5	7:3' 5:6'	8'-5"	9-2'			***	***		20-0
1.5	NI-60	0-7	0.8	0.8	1'-6"	2'-10'	3'-2"	4.2		6'-4"	7:0	8.5	9-8	10-2	12.2	13'-9'	19-1
12.0	NI-70	0.7	1.0	2-3	3'-6"	4'-10'	5:-3*	6'-3'	7:-8*	8'-6"	9-2	10-8	12.0	12-4	14'-0"	15-6	20-
16	NI-80	0-7	1'-3'	2-6"	3'-10"	5'-3"	5'-6"	6'-6"	8'-0"	9-0	9-5*	11'-0"	12:3	12.9	14'-5"	16'-0"	21'-2
M. 44 M.	NI-90	0-7	0.8	0.8.	1.9	3'-3'	3'-8"	4'-9"	6'-5"	7-5	8-0"	9'-10'	11:3	11.9	13-9	15'-4"	21'-6
2 1 2 1 4	NI-90x	0-7	0'-8"	0.91	2.0	3'-6"	4'-0"	5.0	6'-9"	7-9'	8-4*	10-2	11'6"	12'-0'	***		21'1

Above table may be used for I-joist spacing of 24 inches an centre or less.
 Hale 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 ore placed at less than their full maximum span (se the minimum distance from the centreline of the hole to the face of any support (D) as given above may be reduced as follows: D_{reduced} = Lactual x D

Where:

SAF

Distance from the imide face of any support to ceptre of hole, reduced for less-than-maximum distance shall not be less than 6 inches from the foce of the support to edge of the hole.

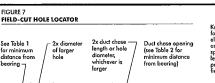
Todau

SAF

Sapan Adjustment Factor gives in this table.

The minimum distance from the inable foce of any support to centre of hole from this table.

If Sactual is greater than 1, use 1 in the obove calculation for 'cardual' SAF.



3/4x diameter

Maintain minimum 1/8" space between top and bottom flonge – all duct chase openings and hole

Knockouts are prescared holes provided for the contrador's convenience to instal electrical or small plumbing lines. They are 1-1/2 inches in diameter, and are spaced 1.5 inches on centre along the length of the 1-joist. Where possible, it is preferable to use knockouts instead of field-out holes. Never drill, cut or notch the flange, o over-cut the web.

Holes in webs should be cut with a sharp saw.

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

DUCT CHASE OPENING SIZES AND LOCATIONS - Simple Span Only

		Minimu	m distan	ce from ir	ıside fac	e of any s	upport to	centre c	f openin	((i-in.
Joist Depth	Joist Series				Duct ci	ıase leng	th (in.)			
		.8	10	12	14	16	18	20	22	24
5 15 400 5	NI-20	4'-1"	4'-5'	4'-10"	5'.4"	5'-8'	6'-1"	6'-6"	7'-1"	7'-5"
0.1101	NI-40x	5'-3'	5'-8'	60.	6-5	6'-10'	7'-3"	7'-8"	8'-2"	8-6
4-1/2	NI-60	5'-4"	5'-9'	6:-2"	6:-7"	7:II	7'-5"	8'-0"	8'-3"	8-9
医二甲烷基	NI-80	5'-1'	5'-5'	5:-10*	6.3	6-7	7'-1' 7'-3'	7-6	8'-1"	8.4
	NI.20	5.0	6:-2	6'-6"	7-1	7:-5'	7.9	8:-3"	8'-9'	9.4
	NI 40x	6'.8'	7.2	7:-6'	8-14	8-6	9:-1:	9:6	10-1	10-9*
Sec. 20 14	NI-60	7:3'	7.8	8'-0'	8'-6"	9-0"	9'-3'	9'.9'	10'-3'	111-01
11-7/8	NI-70	7.1	7.4	Ž'-Š'	8-3	8-7-	9.1	9-6	10-1-	10'-4"
2000	: NI-80	7:-2"	7.7	8.0	8'-5"	8'-10"	9'-3*	9.8	10.2	10'-6"
	NI-90	7'-6"	7:11"	8'-4"	8'-9"	9-2	9'-7'	10'-1"	10-7*	10-11
10 110 130	NI-90x	7:.7	8'-1"	8-5	8-10	9.4	9'-B'	10'-2'	10.8	11'.2"
	NI-40x	8'-1"	8'-7'	9'-0"	9'.6"	10-1	10'-7"	111-21	12'-0'	12'-8"
460	NI-60 NI-70	8'-9'	9'-3'	9.8	10-1	10-6	11:-1:	11'-6"	13'-3"	13'-0"
14"	NI-80	8'.7'	91.31	9'.5' 9'.9'	9-10	10'-4"	10'-8"	11'-2'	11'-7'	12'-3"
	NI-90	9.2	9-8	10.0	10.6	10.7	11:-5*	11-9	12'-4'	12'-6' 12'-11
200	NI-90-	9.4	7.0°	10.3	10.7	17:11	111.7*	12-1	12:7	13.2
प्रकार ने क्षेत्र	NI-60	10.3	10-6	11:2	11:6	12:11	12.6	13:2	14:11	14:10
	NI-70	10.1	10.5	11:0	11'-4'	17-10	12:-3	12'-8"	13'-3'	14-0
16*	NI-80	10'-4"	10'-9"	111-31	11'-9"	12'-1"	12'-7"	13'-1"	13'-8'	14'-4"
	NI-90	10.9	111-2*	11-8	12:0"	12'-6"	13'-0"	13'-6"	14'-2'	14'-10
10000000	Nt-90x	11:1:	111-5*	11-10	12'-4"	12'-10'	13'-2"	. 13'-9"	14'-4'	15-2*

18 Z

2015-04-1

Above table may be used for I-joist spacing of 24 inches on centre or less.
 Out of horse opening location distance in measured from inside face of supports to centre of opening.
 The above table is bested on simple, sopn loists only for other applications, contact your local distributor.
 Distances are based on uniformly located floor joints that meet the spon requirements for a design live load of 40 psf and dead load of 15 psf, and a live load defletion limit of URBO. For other applications, contact your local distributor.

INSTALLING THE GLUED FLOOR SYSTEM

8

1. Wipe any mud, dirt, water, or ice from 1-joist flanges before gluing.

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

- 2. Snap a chalk line across the 1-joists four feet in from the wall for panel edge olignment and as a boundary for spreading glue.
- 3. Spread only enough glue to lay one or two panels at a time, or follow specific recible glue manufacturer.
- Lay the first panel with tongue side to the wall, and nail in place. This protects the longue of the next panel from damage when topped into place with a block and stedgehammer.
- Apply a continuous line of glue (about 1/4-inch diameter) to the top flange of a single 1-joist. Apply glue in a winding pattern on wide areas, such as with double 1-joists. 6. Apply two lines of glue on I-joists where panel ends butt to assure proper gluing of each end.
- 7. After the first row of ponels 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 (178 line) than used on 1-joils flanges.
- 8. Tap the second row of panels into place, using a block to protect groove edges.
- Stagger end joints in each succeeding row of panels. A 1/8-inch space between all end joints and 1/8-inch at all edges, including T&C 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 monufacturer's recommendations for cure time. (Worm weather accelerates glue setting.) Use 2° ring- or screw-shank noils for ponels 3/4-inch thick or less, and 2°-1/2° ring- or screw-shank noils for thicker ponels. Space noils per the table below. Closer nail spacing may be required by some codes, or for disphragm construction. The finished acks can be walked on right loway and will carry construction loads without damage to the

FASTENERS FOR SHEATHING AND SUBFLOORING(1)

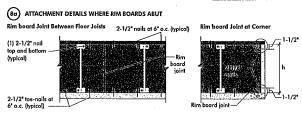
Maximum	Minimum Panel	Common	ail Size and Typ Rina Thread	Maximum Spacing of Fosteners		
Joist Spacing (in.)	Thickness (in.)	Wire or Spiral Nails	Nails	Staples	Edges	Interm. Supports
16	5/8	2*	1-3/4"	2"	6'	12*
20	5/8	2*	1-3/4"	2"	6"	12"
24	3/4	2*	1-3/4"	2*	6'	12"

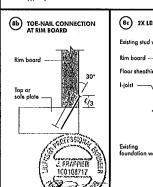
- 1. Fasteners of sheathing and subflooring shall conform to the above table.
- Staples shall not be less than 1/16-inch in diameter or thickness, with not less than a 3/8-inch crown driven with the crown parallel to framing.
- 3. Flooring screws shall not be less than 1/8-inch in diameter
- 4. Special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

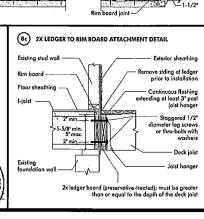
Ref.: NRC-CNRC, National Building Code of Canada 2010, Table 9.23.3.5.

Floor should NOJE:
Floor shouthing must be field glued to the 1-joist flanges in order to achieve the maximum spans shown in this document. If sheathing is nalled only, 1-joist spans must be verified with your local distributor.

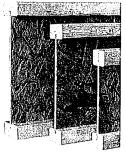
RIM BOARD INSTALLATION DETAILS











NI blocking

l-joist to top plate per detail 1b

Flange Width

2-1/2*

3-1/2*

(1d)

or Rim Joist

NI Joists

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

Minimum grade for backer black material shall be S-P-F No. 2 or better for solid sawn lumber and

(1m)

wood structural panels conforming to CAN/CSA-O325 or CAN/CSA-O437 Standard.
For face-mount hangers use net joist depth minus 3-1/4* for joists with 1-1/2" thick flanges

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

Material Thickness Required*

1-1/2"

For 2" thick flanges use net depth minus 4-1/4".

- 2x plate flush with inside face of wall

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

NOTE: Unless hange

the top flange, begring

installed per manufacturer's

A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the t-joist proparties table found of the t-joist Construction Guide (C101). The gap between the stiffener and the flange is at

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

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



FSC ANILIANA ICT CONTENT

3:1/2 2' 5-P-F Na.2 2100f MSR 1950f MSR 2100f MSR 2400f MSR NPG Lumber 1950FMSR 33 pieces 23 pieces 23 pieces

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

- The distance between the inside edge of the support and the centreline of ory hole or duct chose opening shall be in compliance with the requirements of Table 1 or 2, respectively.
 I-joist too and bottom flonges must NEVER be cut, notched, or otherwise modified.
 Whenever possible, field-cut holes should be centred on the middle of the web.
- 4. The moximum 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 I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hale or opening and the adjacent I-joist flange.

LOCATION OF CIRCULAR HOLES IN JOIST WEBS

11-0" 22-4" 33-8" 11-3" 22-8" 44-0" 3-0" 44-3" 55-9" 44-0" 55-4" 65-9" 44-2" 55-6" 75-0" 11-5" 33-2" 44-10" 02-9" 22-5" 44-4"

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

Minimum Distance from Inside Face of Any Support to Centre of Hole (ft - in.) Round Hole Diameter (in.)

Above table may be used for I-joist spacing of 24 inches on centre or less.
 Hole location distance is measured from inside face of supports to centre of hole.
 Distances in this chart are based on uniformly located joists.
 The above table is based on the I-joists being used at their maximum spans. The minimum distance as given above may be reduced for shaper sones: contact your local distributor.

6 6-1/4 7 8 8-5/8 9 10 10-3/4 11 12 12-3/4

- 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.
- Where more than one hale is necessary, the distance between adjacent hale edges shall exceed twice the diameter of the largest round hale or twice the size of the large square hole for twice the length of the longest side of the longest rectingular 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
- nose openings.
- 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
- 9. A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.

 10. All holes and duct chase openings shall be cut in a workman-like manner in accordance with the restrictions listed above and as
 - illustrated in Figure 7. 11. Limit three maximum size holes per span, of which one may be
 - a duct chase opening.

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

DUCT CHASE OPENING SIZES AND LOCATIONS

Simple Span Only

		Minimum distance from inside face of supports to centre of opening (ft - in.								
Joist Depth	Joist Series				Duct Ch	ase Leng	th (in.)			
Беріп	261162	8	10	12	14	16	18	20	22	24
	NI-20	4'-1"	4'-5"	4-10	5'-4"	5'-8'	6'-1"	6'-6"	7-3"	7'-5"
	NI-40x	5'-3'	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-2"	8'-6"
9-1/2"	NI-60	5'-4"	5'-9"	6'-2"	6'-7"	7'-1"	7'-5"	81-0"	8'-3"	8'-9'
	NI-70	5'-1'	5'-5"	5'-10'	6'-3"	6'-7"	7'-1"	7'-6"	8'-1"	8'-4"
	NI-80	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3°	7'-8"	8'-2"	81-6"
	NI-20	5'-9'	6'-2'	6'-6"	7-11	7:-5'	7'-9"	8'-3"	8'-9"	9'-4"
	NI-40x	6'-8'	7'-2"	7'-6"	8'-1"	8'-6"	9'-1"	9'-6"	10'-1"	10'-9"
	NI-60	7'-3"	71-84	8'-0"	B'-6"	9-0-	9'-3"	9'-9"	10'-3"	11'-0"
11-7/8"	NI-70	7'-1"	7'-4"	7'-9'	8'-3"	8'-7"	9'-1"	9-6	10'-1"	10'-4"
	NI-80	7'-2"	7'-7"	8'-0"	8'-5"	8'-10"	9'-3"	9'-8"	10'-2"	10'-8"
	NI-90	7'-6*	7'-11'	8'-4"	8'-9"	9'-2"	9'-7"	10'-1"	10'-7"	10'-11
	NJ-90x_	7'-7*	8'-1"	8-5	8'-10"	9'-4"	9'-8"	10'-2*	10'-8"	11'-2'
	NI-40x	8'-1"	8'-7"	۵, ⁻ 0,	9'-6"	10:-10	10-7"	11-2-	12'-6"	12'-8'
	NI-60	8'-9"	9'-3"	9-8	10-1"	10'-6"	11:11	11'-6"	13'-3"	13'-0'
14*	NI-70	81-71	9'-1'	9'-5"	9'-10"	10'-4"	10'-8"	111-2	11'-7"	12'-3'
14	NI-80	9'-0"	9-3	9-9	10-1	10'-7"	יויוו ו	11'-6"	12'-1"	12'-6'
	NI-90	9'-2"	9'-8"	10:-0'	10-6	10'-11'		111-91	12'-4"	12-1
	N(-90x	9-4	9-9	10:-3"	10'-7"	11514	1147	12'-1"	12'-7"	13'-2'
	NI-60	10'-3"	10'-8"	1142	11'-6"	12:-1"	12'-6"	13'-2"	14-1"	14-10
	N-70	10-1	10'-5"	11'-0"	11-4	17-10		12'-8"	13'-3"	14'-0'
16"	NI-80	10-4	10-9	11:-3"	11'-9"	12'-1"	12-7"	13'-1"	13-8	14'-4'
	NI-90	10-9	11'-2"	11'-8"	12'-0"	12'-6"	13'-0"	13'-6"	14-2	14-16
	NI-90x	1351	11'-5"	11'-10'	12'-4"	12'-10	13'-2"	13'-9"	14-4	15'-2'

- Above table may be used for I-joist spacing of 24 inches on centre or less.
 Dout 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, conduct your local distributor.
 Distances are based on uniformly loaded floor joists that meet the span requirements for a design five load of 40 pst and dead load of 15 pst, and a live load deflection limit of 1/480.
 The above table is based on the I-joists being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

FOR DOUBLE 1-JOIST CONSTRUCTION

Filler -block

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

WEB STIFFENERS

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

2. Leave a 1/8 to 1/4-inch gop between top of filler black

capacity = 1,620 lbs

and battom of top I-joist flange.

3. Filler black is required between joists for full length

Maximum Factored Uniform

*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 rofler. For concentrated vertical load transfer, see detail 1d.

- 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)

Vertical Load* (plf)

Maximum Factored

Vertical Load per Pair of Squash Blocks (ibs

5,500 8,500

3-1/2" wide

1-1/8" Rim Board Plus 4,300 6,600

Provide lateral bracing per detail 1a or 1b

Minimum Depth**

5-1/2"

7-1/4

5-1/2 wide

One 2-1/2'-----face noil at

(1e)

each side of bearing

bearing below Install squash

Match bearing

area of blacks

below to post

For hanger capacity see hanger manufacturer's recommendations. Verify double 1-joist capacity to support

(1n)

Tap- or face-mount

Filler block

Multiple I-joist header with full depth filler

block shown. Nordic Lam or SCL headers

may also be used. Verify double 1-jais

Backer block attached per detail 1h. Nail with twelve 3*

nails, clinch when possible

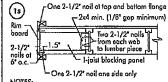
Install hanger per

blocks ner

- A Nail joists together with two rows of 3^a nails of 12 inches
 c.c. (clinched when possible) on each side of the double
 I-joist, Total of four nails per foot required. If nails can be
- clinched, only two nails per foot are required.

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

Net	Filler
Depth	Black Size
9-1/2"	2-1/8" x 6"
11-7/8"	2-1/8" x 8"
14"	2-1/8" x 10"
16"	2-1/8" x 12"
9-1/2"	3' x 6'
11-7/8"	3' x 8'
14"	3' x 10'
16"	3' x 12'
11-7/8"	3' x 7'
14"	3' x 9'
16"	3' x 11"
	Depth 9-1/2" 11-7/8" 14" 16" 9-1/2" 11-7/8" 14" 16" 11-7/8"



Ŧ

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.

Maximum Factored Uniform

or Rim Joist

1-1/8" Rim Board Plus

One 2-1/2' wire or spirol nail at top and bottom flange

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

2-1/2" nails

to top plate .

Double I-joist header

IOTE: Unless hanger sides laterally support

the top flange, bearing stiffeness shall be used.

Backer black required

(both sides for face-

mount hangers)

Do not bevel-cut

joist beyond inside face

per detail 1b

of wall

NOTE: Blocking required a

at 6" a.c.

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

(11)

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

Vertical Load* (plf)

8.090

*The uniform vertical lood is limited to a rim board depth of 16 inches or less and is based or

Load bearing wall above shall align vertically

with the bearing below. Other conditions, such

as offset bearing walls, are not covered by

Blocking required over all interior supports under

Structural Composite Lumber (SCL)

For nailing schedules for multiple

beams, see the manufacturer's

installed per manufacturer's

umber 2x4 min., extend block to face

of adjacent web. Two 2-1/2" spirol nails

from each web to lumber piece, alternate

OPTIONAL: Minimum 1x4 inch strap

tine or 1/2 inch minimum gypsum ceiling attached to underside of joists

applied to underside of joist at blocking line or 1/2 inch minimum gypsum

-NI blocking panel per detail 1a

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

on opposite side.

NI blacking panel

load-bearing walls or when floor joists are not

All nails shown in the above details are assumed to be common wire nails noted. 3" (0.122" dia.) common spiral nails may be substituted for may be substituted 2-1/2" (0.128" dia.) Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better: Individual

MER SIZE REQUIREMENTS

FIGURE 7

Depth

9-1/2"

11-7/8*

14"

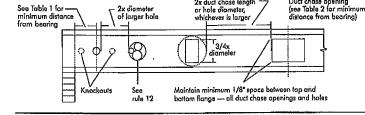
16°

FIELD-CUT HOLE LOCATOR

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

VZ

Never stock building materials over unsheathed Hjoists. Once sheathed, do not over-stress



SAFETY AND CONSTRUCTION PRECAUTIONS



Knockouts are prescared 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 1-joist. Where possible, it is preferable to use knackouts instead of field-cut hales.

lever drill, cut or notch the flange, or over-cut the web.

Holes in webs should be cut with a sharp saw.

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

CHANTIERS

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

AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

- AVOID ACCIDENTS BY POLLOWING THESE IMPORTANT GOVERNING, IT BY A CONTINUE AND ACCIDENTS BY POLLOWING THESE IMPORTANT GOVERNING THESE MAD AND A CONTINUE AND A
- or buckling.

 Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2* noils fastened to the top surface of each I-joist. Noil the bracing to a lateral restraint at the end of each bay. Lop 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.

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

 4. Install and fully 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 democratical defended.

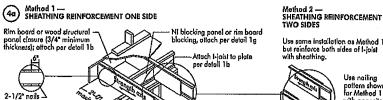
- 5. Never install a damaged I-jaist.

Improper storage or installation, follure to follow applicable building codes, failure to follow spon ratings for Nordic 1-joists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.

PRODUCT WARRANTY

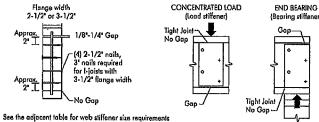
Chantlers Chibongaman guarantees that, in accordance with our specifications, Nordic products are free from manufacturing defects in material and workmanship.

Furthermore, Chautiers Chibongaman warrants that our produces, when utilized in accordance with our handling and installation instruction will meet or exceed our specifications for the lifetime of the structure.

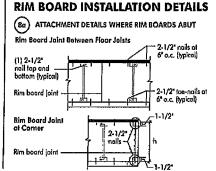


NOTE: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c., top and bottom flonge. Install with face grain horizontal, Atlach

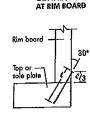
WEB STIFFENER INSTALLATION DETAILS Flange width 2-1/2" or 3-1/2"



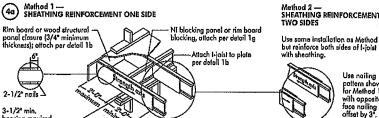
Flange Width	Web Stiffener Size Each Side of Web
2.1/2"	1" x 2-5/16" minimum width
3-1/2°	1-1/2" x 2-5/16" minimum width



8b TOE-NAIL CONNECTION



CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET







PASSED

October 27, 2018 09:06:05

1ST FLOOR FRAMING\Flush Beams\B1(i1001)

BC CALC® Member Report

Build 6476

Job name:

Address:

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

Customer:

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

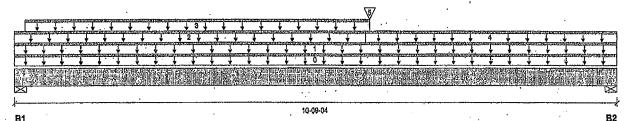
TH1.mmdl

Wind

Description: 1ST FLOOR FRAMING\Flush Beams\B1(I1001)

Specifier: Designer:

Company:



Total Horizontal Product Length = 10-09-04

Reaction Summary (Down / Uplift) (lbs)

Bearing Snow 341/0 482/0 B1, 2-3/8" B2, 4-3/8" 475/0 407 / 0

Lo	ad Summary						Live	Dead	Snow	Wind	. Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0,65	1,00	1,15	
Ö	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-09-04	Top		10			00-00-00
1.	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-09-04	Top	19	10			n\a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L.	00-00-00	06-03-06	Top	6	3			n\a
3	WALL	Unf, Lin. (lb/ft)	L	00-02-06	06-04-04	Top		60			n\a
4	FC1 Floor Material	Unf. Lin. (lb/ft)	Ļ	06-03-06	10-09-04	Top	16	8			n\a
5	B7(1899)	Conc. Pt. (lbs)	Ļ·	06-04-04	06-04-04	Top	502	259	12 مىلى ئىتىن تارىخ	200	n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	4,190 ft-lbs	23,220 ft-lbs	18.0%	1	06-04-04
End Shear	1,122 lbs	11,571 lbs	9.7%	1	09-07-06
Total Load Deflection	L/999 (0.104")	n\a	n\a ·	4	05-05-07
Live Load Deflection	L/999 (0.052")	n\a	n\a	5	05-07-07
Max Defl.	0.104"	n\a	n\a	4	05-05-07
Span / Depth	13.1		•		

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	2-3/8" x 3-1/2"	1,114 lbs	31.4%	11.0%	Unspecified
B2	Wall/Plate	4-3/8" x 3-1/2"	1,222 lbs	18.7%	6.5%	Unspecified

Notes

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

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

Resistance Factor phi has been applied to all presented results per CSA O86. BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

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.

> DWEND, TAMZ467-18H STRUCTURAL COMPONENT ONLY

T. 1900056





PASSED

October 27, 2018 09:06:05

1ST FLOOR FRAMING\Flush Beams\B1(I1001)

BC CALC® Member Report

Build 6475

Job name:

Address:

Code reports:

Customer:

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

CCMC 12472-R

Dry | 1 span | No cant.

File name: TH1.mmdl

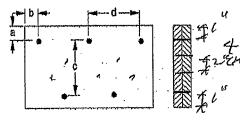
Description: 1ST FLOOR FRAMING\Flush Beams\B1(I1001)

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. Connectors are: (:.



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

OVONO.TAM 2467-187 STRUCTURAL COMPONENT ONLY

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

T. Bars660



Passed

October 27, 2018 09:06:05

1ST FLOOR FRAMING\Flush Beams\B2(1970)

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.

TH1.mmdl

File name: Description:

1ST FLOOR FRAMING\Flush Beams\B2(1970)

Specifier: Designer:

Company:

	V	
 	1 1 1 1 1 1 1 1 1	1
		大型。 第14章 数据,第14章 数据的第一章 数据的第一章 数据的第三章 数据的第三章 数据的数据的数据的数据的数据的数据的数据的数据的数据的数据的数据的数据的数据的
•		
	07-01-14	
1	, 01-41-14	B

Total Horizontal Product Length = 07-01-14

Reaction Summary (Down / Uplift) (lbs)

B1, 1-3/4 396 / 0 220 / 0 B2, 4-3/8" 346/0 194/0

Lo	ad Summary	•					Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.66	1.00	1.16	
Ō	Self-Weight	Unf. Lin. (lb/ft)		00-00-00	07-01-14	Тор	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	5	.15-416-5-44-44		00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	02-08-00	Top	22	11			n\a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	Ļ	02-08-00	07-01-14	Top	47	23			n\a
3	B7(1899)	Conc. Pt. (lbs)	L	02-08-14	02-08-14	Тор	474	245	•		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location.
Pos. Moment	2,111 ft-lbs	11,610 ft-lbs	18.2%	1	02-08-14
End Shear	820 lbs	5,785 lbs	14.2%	1	00-11-04
Total Load Deflection	L/999 (0.042")	nla	n\a	4	03-04-03
Live Load Deflection	L/999 (0,027")	n\a ·	n\a	5	03-04-03
Max Defl.	0.042"	n\a	n\a	4	03-04-03
Span / Deuth	8.6				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column	1-3/4" x 1-3/4"	869 lbs	43.7%	23.3%	Unspecified
B2	Wall/Plate	4-3/8" x 1-3/4"	761 lbs	23.3%	8.2%	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 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.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

PHOFESS, OA MA 129

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 Gulde 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-LAMB, VERSA-RIM PLUS®

uvunu. tah 2460-18H STRUCTURAL COMPONENT ONLY

T- Yors



PASSED

October 27, 2018 09:06:05

1ST FLOOR FRAMING\Flush Beams\B3(i1016)

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.

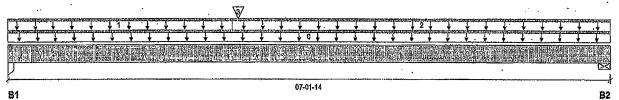
File name: TH1,mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B3(i1016)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 07-01-14

Reaction Sur	mnary (Down / U	pititi) (ibs)			
Bearing	Live	Dead	Snow	Wind	
B1, 1-3/4"	374 / 0	209/0)		
B2, 4-3/8"	308/0	175/0			

Lo	ad 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	Unf. Lin. (lb/ft)	Ľ	00-00-00	.07-01-14	Тор	· · · · · · · · · · · · · · · · · · ·	5	164-111-(b-1040)		00-00-00
1	FC1 Floor Material	Unf, Lin. (lb/ft)	L.	00-00-00	02-08-00	Top	14	7			n\a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	Γ.	02-08-00	07-01-14	Top	33	17			n\a
3	B6(1971)	Conc. Pt. (lbs)	L	02-08-14	02-08-14	Тор	496	256			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2,053 ft-lbs	11,610 ft-lbs	17.7%	1	02-08-14
End Shear	790 lbs	5,785 lbs	13.6%	1	00-11-04
Total Load Deflection	L/999 (0.04")	n\a	n\a	4	03-04-03
Live Load Deflection	L/999 (0.026")	n\a	. n\a	5	03-04-03
Max Defl.	0.04"	n\a	n\a	4	03-04-03
Span / Depth	8 .6				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
B1	Column	1-3/4" x 1-3/4"	823 lbs	41.3%	22.0%	Unspecified	****
B2	Wall/Plate	4-3/8" x 1-3/4"	681 lbs	20.8%	7.3%	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 O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

<u>Disclosure</u>

Use of the Bolse Cascade Software is subject to the terms of the End User License Agreement (EULA).

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

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

DWG NO . TAN 2469-18/ STRUCTURAL COMPONENT ONLY

CUNFORMS TO OBC 2012

T- Yours





Passed

October 27, 2018 09:06:05

1ST FLOOR FRAMING\Flush Beams\B4(i993) Dry | 1 span | No cant.

BC CALC® Member Report

Build 6475

Job name:

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

CCMC 12472-R

Customer:

Code reports:

File name:

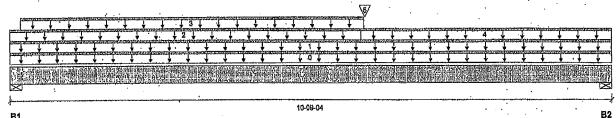
TH1.mmdi

Description: 1ST FLOOR FRAMING\Flush Beams\B4(1993)

Wind

Specifier: Designer:

Company:



Total Horizontal Product Length = 10-09-04

Snow

Reaction Summary (Down / Uplift) (lbs) Dead 450 / 0

B1, 2-3/8 278 / 0 427 / 0 383/0 B2, 4-3/8"

Lo	ad Summary						Live	Dead	Snow	Wind.	Tributary
Tag	Description	Load Type	Ref.	Start	₽nd	Lac,	1.00	0.65	1.00	1.16	
0	Self-Weight	Unf. Lln. (lb/ft)	L	00-00-00	10-09-04	Top	,	10			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-09-04	Top	7	3			n\a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	06-03-06	Top	6	3			n\a
3	WALL	Unf. Lin. (lip/ft)	L	00-02-06	06-04-01	Top		60			n\a
4	FC1 Floor Material	Unf. Lin. (lb/ft)	L	06-03-06	10-09-04	Тор	22	11			n\a
5	B6(1971)	Conc. Pt. (lbs)	L	06-04-04	06-04-04	Тор	498	257			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3,896 ft-lbs	23,220 ft-lbs	16,8%	1	06-04-04
End Shear	1,035 lbs	11,671 lbs	8.9%	1	09-07-06
Total Load Deflection	L/999 (0.096")	n\a	n\a	4	06-06-07
Live Load Deflection	L/999 (0.047")	n\a	n\a	б	05-07-07
Max Defl.	0.096"	n\a	n\a	4	05-05-07
Span / Depth	13.1				



Bearing	Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
B1	Wall/Plate	2-3/8" x 3-1/2"	980 lbs	27.6%	9.7%	Unspecified	_
B2	Wall/Plate	4-3/8" x 3-1/2"	1,119 lbs	17.1%	6.0%	Unspecified	

Notes

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

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

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA OS6. GUNFORMS 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.

OWEND. FAM 2470-18H STRUCTURAL COMPONENT ONLY

T. Bust 9





PASSED

1ST FLOOR FRAMING\Flush Beams\B4(1993)

BC CALC® Member Report

Dry | 1 span | No cant.

October 27, 2018 09:06:05

Build 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

File name:

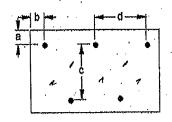
TH1,mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B4(i993)

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. Connectors are: 1 ...

318" 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 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.

HBI-OCHTHAF, BN BWU STRUCTURAL

COMPONENT ONLY

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

T. (90259 (v)





PASSED

1ST FLOOR FRAMING\Flush Beams\B5(i919)

Dry | 1 span | No cant.

October 27, 2018 09:06:05

BC CALC® Member Report Build 6475

Job name:

Address:

City, Province, Postal Code: \$T ... NES

Customer: Code reports:

CCMC 12472-R

File name:

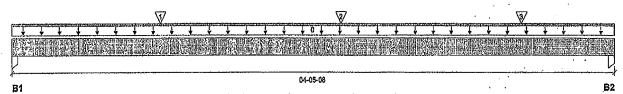
TH1.mmdl

Wind

Description: 1ST FLOOR FRAMING\Flush Beams\B5(i919)

Specifier: Designer;

Company:



Total Horizontal Product Length = 04-05-08 Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing Live 129/0 B1, 3-1/2" 237/0 270 / 0 145/0 B2, 3-1/2"

Lo	ad Summary			'			Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1,00	0.65	1.00	1.16	
0	Şelf-Weight	Unf, Lin. (lb/ft)	L,	00-00-00	04-05-08	Top		- 5			00-00-00
1	J3(1995)	Conc. Pt. (lbs)	L	01-01-04	01-01-04	Тор	173	86			n\a
2	J3(1980)	Conc. Pt. (lbs)	L,	02-05-04	02-05-04	Top	191	95		ı	n\a
3	J3(1999)	Conc. Pt. (lbs)	L	03-09-04	03-09-04	Top	143	71			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Çase	Location
Pos. Moment	634 ft-lbs	11,610 ft-lbs	5.5%	1	02-05-04
End Shear	510 lbs	5,785 lbs	8.8%	. 1	01-01-00
Total Load Deflection	L/999 (0.005")	n\a	n\a	4	02-02-12
Live Load Deflection	L/999 (0.003")	n\a	n\a	5	02-02-12
Max Defl.	0.005"	n\a	n\a	4	02-02-12
Span / Depth	5.1				

Bearing	Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column	3-1/2" x 1-3/4"	516 lbs	13.0%	6.9%	Unspecified
B2	Column	3-1/2" x 1-3/4"	586 lbs	14.7%	7.8%	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 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 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 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®, DWU NO . TAM 247/ - 17 YERSA-LAMB, VERSA-RIM PLUSO .

STRUGTURAL COMPONENT ONLY

T.190260





PASSED

October 27, 2018 09:06:05

1ST FLOOR FRAMING\Flush Beams\B6(i971)

BC CALC® Member Report

Bulld 6475

Job name:

Address: Customer:

Code reports:

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

CCMC 12472-R

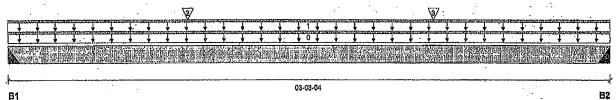
Dry | 1 span | No cant.

File name: TH1.mmdl

1ST FLOOR FRAMING/Flush Beams/B6(1971) Description:

Specifier: Designer:

Company:



Total Horizontal Product Length = 03-03-04

Keschon on	minary (Down / Up)((L) ((D5)				
Bearing	Live	Dead	Snow	Wind	,	
B1, 2"	496 / 0	256 / 0				.,,.,.,
B2, 2"	498 / 0	257 / 0		·		

Lo	ad Summary			•			Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	1.00.	1.00	28,0	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	Ĺ	00-00-00	03-03-04	Тор		5		,4-1-1-j <u>1</u> ,	00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	00-00-00	03-03-04	Top	240	120			n\a
2	J4(1989)	Conc. Pt. (lbs)	L	00-11-12	00-11-12	Top	103	52			n\a
3	J4(1935)	Conc. Pt. (lbs)	L	02~03-12	02-03-12	Top	106	53		•.	n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	797 ft-lbs	11,610 ft-lbs	6.9%	1	01-07-12
End Shear	575 lbs	5,785 lbs	9.9%	1	02-03-12
Total Load Deflection	L/999 (0.004")	n\a	n\a	4	01-07-12
Live Load Deflection	L/999 (0.003")	n\a	n\a	5	01-07-12
Max Defl.	0,004"	n\a	n\a	4	01-07-12
Span / Depth	3.9				

Bearin	g Supports	Dim. (LxW)	Domand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 1-3/4"	1,063 lbs	n\a	24.9%	HUS1.81/10
B2	Hanger	2" x 1-3/4"	1.089 lbs	n\a	25.0%	HUS1.81/10

Cautions

B1 **B2**

> Header for the hanger HUS1.81/10 at B1 is a Single 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. Hanger model HU\$1,81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

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.

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

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

HAR NO . LAN 5-1672-184 STRUCTURAL COMPONENT ONLY



Disclosure

qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as anyone regying on suon 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 durant installation. accordance with current installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

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

T. 190216





PASSED

1ST FLOOR FRAMING\Flush Beams\B7(1899)

BC CALC® Member Report Build 6475

Dry | 1 span | No cant.

October 27, 2018 09:06:05

Job name:

Address:

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

File name:

TH1.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B7(i899)

Specifier: Designer:

Customer: Code reports:

CCMC 12472-R

Company;

· 😿	· .	•
AND REPORTED EXPERIMENTAL SECTION SOMEONESS AND MADE CONTINUE OF PROPERTY AND ADDRESS AND	THE DESIGNATION OF SHEET ASSESSMENT ASSESSMENT OF THE PERSON FROM THE PERSON F	Extending the second contract the second
Bi	03-02-08	B2

Total Horizontal Product Length = 03-02-08

Keachon on	nimary (Down / Op	ນແດງ (ເນລ)			
Bearing	Live	Dead	Snow	Wind	
B1, 2"	503 / 0	269 / 0			
B2. 2"	473 / 0	244 / 0			

Lo	ad Summar	y .		Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.16	Tributary
0	Self-Weight		,	Únf. Lln. (lb/ft)	ι.	00-00-00	03-02-08	Top		5	A 10-101- \$4-10-04-15	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	00-00-00
1	STAIR			Unf. Lin. (lb/ft)	L	00-00-00	03-02-08	Top	240	120			n\ a
2	J4(1978)			Conc. Pt. (lbs)	L	00-07-12	00-07-12	Top	92	46			n\a
3	J4(1894)			Conc. Pt. (lbs)	L	01-11-12	01-11-12	Top	114	57	•		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	772 ft-lbs	11,610 ft-lbs	6.7%	1	01-08-11
End Shear	520 ibs	5,785 lbs	9.0%	1	02-03-00
Total Load Deflection	L/999 (0.004")	n\a	n\a	4	01-07-02
Live Load Deflection	1./999 (0.002")	n\a	n\a	5	01-07-02
Max Defl.	0.004"	n\a	n\a	4	01-07-02
Span / Depth	3.8				

Bearin	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
B1	Hanger	2" x 1-3/4"	1,079 lbs	n\a	25.3%	HU\$1,81/10	,•-
B2	Hanger	2" x 1-3/4"	1,015 lbs	n\a	23.8%	HUS1,81/10	

Cautions

Header for the hanger HU\$1.81/10 at B1 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.

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.

Notes

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CUNFORMS TO OBG 2012

License Agreement (EULA). Completeness and accuracy of input 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

Use of the Bolse Cascade Software is subject to the terms of the End User

Disclosure

PAOFESS. ON

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

questions, please call (800)232-0788

DHUND. FAM 2473-186 STRUGTURAL COMPONENT ONLY

でいいかし

before installation.





PASSED

2ND FLOOR FRAMING\Flush Beams\B10(i810)

Dry | 1 span | No cant.

October 27, 2018 09:06:05

Wind

Tributary

00-00-00 n\a n\a n\a n\a

> n\a n\a n\a n\a

BC CALC® Member Report Bulld 6475

Job name:

Customer:

Code reports:

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

CCMC 12472-R

File name:

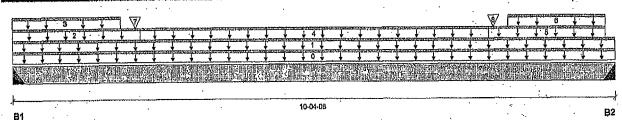
TH1.mmdl

Wind

2ND FLOOR FRAMING\Flush Beams\B10(i810) Description:

Specifier: Designer:

Company:



Total Horizontal Product Length = 10-04-08

Reaction Summary (Down / Uplift) (lbs)

Bearing B1, 2-1/2 Dead Snow 327 / 0 310 / 0 684/0 316/0 666 / 0 B2, 2-1/2" 304 / 0

Lo	ad Summary				•		Live	Dead	Snow	Wind	1
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	10-04-08	Тор		10			Ç
í	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-04-08	Тор	27	13			
2	E30(1459)	Unf. Lin. (lb/ft)	L	00-00-00	02-02-08	Тор		81		•	
3	E30(i459)	Unf, Lin, (lb/ft)	L	00-00-00	01-10-08	Тор	33	30	63		
4	E31(I460)	Unf. Lin. (lb/ft)	L	02-02-08	08-02-08	Тор		. 61			
5	E27(1448)	Unf. Lin. (lb/ft)	L	08-02-08	10-02-08	Top		نير 81	er vore	88	مين
6.	E27(1448)	Unf. Lin. (lb/ft)	L	08-06-08	10-02-08	Тор	33	30	830FE	William CA	1, 4
7	E30(l459)	Conc. Pt. (lbs)	L.	02-01-08	02-01-08	Top	110	1 50f	291	No. of Street, or other Persons	ેં હ
8	E27(1448)	Conc. Pt. (lbs)	L	08-03-08	08-03-08	Top	110	/150 g	<i>0</i>	to R	9
								II III L	A349 .	എതി പ	

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3,212 ft-lbs	23,220 ft-lbs	13.8%	1	05-02-08
End Shear	1,335 lbs	11,571 lbs	11.5%	13	01-00-00
Total Load Deflection	L/999 (0.099")	n\a	n\a	35	05-02-08
Live Load Deflection	L/999 (0.045°)	n\a ′	n\a	51	05-02-08
Max Defl.	0.099"	n\a	n\a	35	05-02-08
Snan / Denth	12.7				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
B1	Hanger	2-1/2" x 3-1/2"	1,656 lbs	n\a	15.5%	HUC410	•
B2	Hanger	2-1/2" x 3-1/2"	1,610 lbs	n\a	15.1%	HUÇ410	

Cautions

Header for the hanger HUC410 at B1 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.

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

DAR NO. LAMZ-47 STRUCTURAL COMPONENT ONLY

T1802263



PASSED

October 27, 2018 09:06:05

2ND FLOOR FRAMING\Flush Beams\B10(i810)

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: TH1.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B10(i810)

Specifier: Designer.

Company:

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

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

CONFORMS TO UBC 2012

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

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

verification.

Design based on Dry Service Condition.

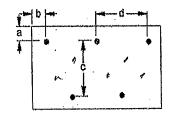
Importance Factor: Normal Part code: Part 9

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 **= Ř**" b minimum = 3"

d = 200 6

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: , 1 .. 'Nails

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

DWENT, TAM 24 STRUCTURAL

COMPONENT ONLY

BC CALC®, BC FRAMER®, AJSTM. ALLJOIST®, BC RIM BOARDTM, BCI®, BOISE GLULAMTM, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

T-1802263(2)





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

PASSED

2ND FLOOR FRAMING\Flush Beams\B11(i937)

Dry | 1 span | No cant. **BC CALC® Member Report**

October 27, 2018 09:06:05

Build 6475

Job name:

Customer:

Code reports:

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

CCMC 12472-R

File name: TH1.mmdl

Wind

2ND FLOOR FRAMING\Flush Beams\B11(i937) Description:

Specifier: Designer:

Company:

Ø Ø ₩ ₩	(a)	
The state of the s	T T T T T T T T T T T T T T T T T T T	
(<u>×</u>)	18-05-08	
B1	10-43-40	В2

Total Horizontal Product Length = 16-05-06

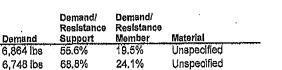
Snow

Reaction Summary (Down / Uplift) (lbs)

Live 3,142/0 1,721/0 B1, 5-1/2" 1,693/0 3,088 / 0 B2, 4-3/8"

Lo: Tag	ad Summary Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf, Lin. (lb/ft)	L	00-00-00	16-05-06	Тор		18	7-1-11-1-1-1		00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	05-02-08	14-06-08	Top ·	426	214			· n\a
2	-	Conc. Pt. (lbs)	L	00-08-13	00-08-13	Top	. 408	204			n/a
3	34	Conc. Pt. (lbs)	L	01-10-08	01-10-08	Top	388	194		•	nla
4	J2(1974)	Conc. Pt. (lbs)	L.	02-06-08	02-06-08	Top	180	90			n\a
5	m ()	Cono. Pt. (lbs)	L.	03-04-09	03-04-09	Top ·	422	211			n\a
6	-	Conc. Pt. (lbs)	L	04-06-08	04-06-08	Top	422	211			n\a
7	•	Cono. Pt. (ibs)	L	16-04-05	15-04-05	Top	435	217		er:	n∖a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	27,324 ft-lbs	55,212 ft-lbs	49.6%	1	08-06-08
End Shear	6.471 lbs	21,696 lbs	29.8%	1	15-01-02
Total Load Deflection	L/323 (0.586")	n/a	74.4%	4	80-00-80
Live Load Deflection	L/498 (0.379")	n\a	72,2%	5	08-00-08
Max Defl.	0.586"	n\a	n\a	4	08-00-08
Span / Danth	15.9				



Notes

B1

B2

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

5-1/2" x 5-1/4"

4-3/8" x 5-1/4"

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

Calculations assume member is fully breced.

Bearing Supports Dim. (LxW)

Wall/Plate

Wall/Plate

CONFORMS TO OBG 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

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.

DWO NO . YAM 2475 . 18 H STRUCTURAL COMPONENT ONLY

T. Garby





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

PASSED

October 27, 2018 09:06:05

2ND FLOOR FRAMING\Flush Beams\B11(i937)

BC CALC® Member Report Bulld 6476

Job name:

Address:

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

Customer:

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

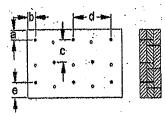
TH1.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B11(i937)

Specifier: Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

c = 3-1/2" d= 100 0 11 e 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. Nailing schedule applies to both sides of the member. Connectors are:

aw" Ardox



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 ventied 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 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®

BWEND THM 2475 STEH COMPONENT ONLY

T-130216461





PASSED

2ND FLOOR FRAMING\Flush Beams\B12(1938)

BC CALC® Member Report

Dry | 1 span | No cant.

October 27, 2018 09:06:05

Build 6475

Job name: Address:

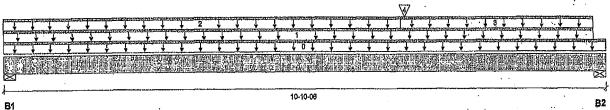
File name: TH1.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B12(i938)

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

Specifier: Designer:

Company: CCMC 12472-R Code reports:



Total Horizontal Product Length = 10-10-06

Reaction Summary (Down / Uplift) (lbs) Dead Snow Live Bearing 245/0 156 / 0 B1, 2-3/8 462/0 276 / 0 B2, 5-1/2"

l na	ad Summary						Llye	Dead	Snow	Wind	Tributary
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	10-10-06	Тор		5		,,	00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L.	00-00-00	10-07-10	Top	12	6			n\a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	07-01-14	Top	3	1			n\a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	07-01-14	10-07-10	Top	14	7 .			n\a
4	B14(i942)	Conc. Pt. (lbs)	Ĺ,	07-02-12	07-02-12	Тор	506	279 -	. #8#.	e :	n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2,996 ft-lbs	11,610 ft-lbs	25.8%	1	07-02-12
End Shear	973 lbs	5,785 lbs	16.8%	1	09-07-06
Total Load Deflection	L/917 (0.135")	n\a	26,2%	4	05-07-06
Live Load Deflection	L/999 (0.085")	n\a	n\a	5	05-09-11
Max Defl.	0,135"	n\a	n\a	4	05-07-06
Span / Depth	13.1				•

Bearing	Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	2-3/8" x 1-3/4"	564 lbs	31.7%	11.1%	Unspecified
B2	Wall/Plate	5-1/2" x 1-3/4"	1,038 lbs	25.2%	8.8%	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 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.

Design based on Dry Service Condition.

Importence Factor: Normal Part code: Part 9

Disclosure

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

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, BYRNO.TAN 2476-18 WERSA-LAMB, VERSA-RIM PLUSE,

STRUCTURAL COMPONENT ONLY

T. Yorks

උසුලුම වන වියට



PASSED

October 27, 2018 09:06:05

2ND FLOOR FRAMING\Flush Beams\B13(i944)

BC CALC® Member Report

Bulld 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

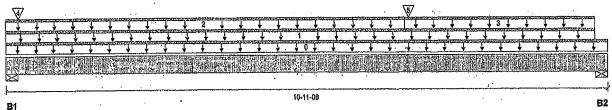
Dry | 1 span | No cant.

File name: TH1.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B13(i944)

Specifier: Designer:

Company:



Total Horizontal Product Length = 10-11-08

	Reaction Summar	y (Down / Uplift)	(lbs)		
	Bearing	Live	Dead	Snow	Wind
	B1, 3-1/2"	469 / 0	730 / 0	,	
•	B2, 5-1/2"	· 903 / 0	496 / 0		•

l of	ad Summary				•		Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1,00	0.65	1.00	1.16	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-11-08	Тор		5			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-08-12	Тор	18	9			n\a
ò	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	07-03-00	Top	6	3	•		n)a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	· L	07-03-00	10-08-12	Top	24	12			n\a
A	E28(1457)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	qoT		461			n\a
5	B14(1942)	Conc. Pt. (lbs)	Ĺ	07-03-14	07-03-14	Top	1,051	551	100 min	AOFE8	n/a
	- · · · · · · · · · · · · · · · · · · ·			_					# 13 V	AND DESCRIPTION OF THE PERSON NAMED IN	NA NA

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	5,841 ft-lbs	11,610 ft-lbs	50.3%	1	07-03-14
End Shear	1,876 lbs	5,785 lbs	32.4%	1	09-08-08
Total Load Deflection	L/480 (0,259")	n\a	50.0%	4	05-09-10
Live Load Deflection	L/743 (0.167")	n\a	48.4%	5	05-09-10
Max Defl.	0.259"	n\a	n\a	4	05-09-10
Span / Depth	13.1		•		

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
B1 Wall/Plate	3-1/2" x 1-3/4"	1,616 lbs	61.8%	21,6%	Unspecified	-
B2 Wall/Plate	5-1/2" x 1-3/4"	1,975 lbs	48.0%	16.8%	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 O88.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O88.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Disclosure

Use of the Boise Cascade Software is 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 veridence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Bolse Cascade CONFORMS TO DBG 2012 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®,

OWO NO. YAM 2477 - 18/ STRUCTURAL COMPONENT ONLY

T-19016



PASSED

October 27, 2018 09:06:05

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer: Code reports: CCMC 12472-R

2ND FLOOR FRAMING\Flush Beams\B14(1942) Dry | 1 span | No cant.

File name:

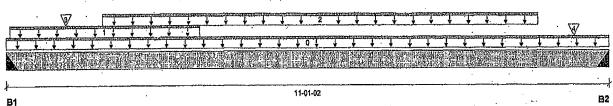
TH1.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B14(i942)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 11-01-02

Reaction Summary (Down / Unlift) (lbs)

Keachon Su	umary (powin op	TILLY (100)	*	
Bearing	Live	Dead	Snow	Wind
B1, 2"	1,058 / 0	554 / 0	•	
B2, 2"	499 / 0.	275/0		

l na	ad 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	Unf. Lin. (lb/ft)	L	00-00-00	11-01-02	Top	•		5			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	00-00-14	03-06-14	Top .		240	120			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-09-06	09-09-06	Top		70	34			n\a
3	J5(1976)	Conc. Pt. (lbs)	L	01-01-06	01-01-06	Top		88	44			n\a
4	J5(1947)	Conc. Pt. (lbs)	L	10-05-06	10-05-06	Top		71	36			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Çase	Location
Pos. Moment	4,080 ft-lbs	11,610 ft-lbs	35,1%	1	03-09-06
End Shear	1,822 lbs	5,786 lbs	31.5%	1	00-11-08
Total Load Deflection	L/542 (0,241")	n\a	44.3%	4	05-03-06
Live Load Deflection	L/832 (0.157")	n\a	43.2%	5	05-03-06
Max Defl.	0.241"	n\a	n\a	4	05-03-06
Span / Depth	13.7	* *			

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 1-3/4"	2,279 lbs	n\a	53.4%	ḤU\$1.81/10
B2	Hanger	2" x 1-3/4"	1,093 lbs	n\a	25,6%	HUS1.81/10

Header for the hanger HUS1.81/10 at B1 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.

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.

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 OBG 2012

Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

PAOFESSION

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 verifled 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 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® .

DWE NO . YAM 2476-18H STRUCTURAL COMPONENT ONLY

T. Garb 7



PASSED

2ND FLOOR FRAMING\Flush Beams\B8(i913)

Dry | 1 span | No cant.

October 27, 2018 09:06:05

BC CALC® Member Report Build 6475

Job name:

B2, 5-1/2"

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

File name:

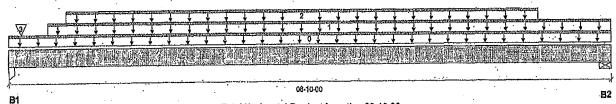
TH1.mmdl

2ND FLOOR FRAMING\Flush Beams\B8(i913) Description:

Specifier: Designer:

Customer: CCMC 12472-R Code reports:

Company:



Total Horizontal Product Length = 06-10-00

Reaction Summary (Down / Uplift) (lbs) Wind Dead 1,482/0 774/0 B1, 3-1/2" 1,136/0 853 / 0 514/0 853 / 0

10	ad Summary						Live	þead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1,00	0.65	1.00	1,15	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
10.5	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-10-00	Top	,	10			00-00-00
4	E28(I457)	Unf. Lin. (lb/ft)	L	00-05-08	06-10-00	Top	77	151	147		n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	00-08-00	06-00-00	Top	219	110			n\a
2	Ollinotited road	Conc. Pt. (lbs)	Ĭ.	00-01-13	00-01-13	Top	320	724	351		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	4,424 ft-lbs	23,220 ft-lbs	19.1%	1	03-04-00
End Shear	2,567 lbs	11,571 lbs	22,2%	. 1	01-01-00
Total Load Deflection	L/999 (0.047")	n\a	n\a	35	03-04-00
Live Load Deflection	L/999 (0,029")	n\a	n\a	51	03-04-00
Max Defl.	0:047"	n\a	n\a	35	03-04-00
Span / Denth	7.8	•	•		

Rearing	Supports	Dim. (LxW)	Demand	Demand/- Resistance Support	Demand/ Resistance Member	Material	
B1	Column	3-1/2" x 3-1/2"	4,331 lbs	54.4%	29.0%	Unspecified	
B2	Wall/Plate	5-1/2" x 3-1/2"	2,860 lbs	34.8%	12,2%	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 Q86. CONFORMS TO OBC 2012

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

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.

DWO NO. TAM 2479-18H STRUCTURAL COMPONENT ONLY

T-19026X



PASSED

2ND FLOOR FRAMING\Flush Beams\B8(i913)

BC CALC® Member Report

Bulld 6475 Job name: Address:

Dry | 1 span | No cant.

October 27, 2018 09:06:05

File name:

TH1.mmdl

2ND FLOOR FRAMING\Flush Beams\B8(i913) Description:

Specifier:

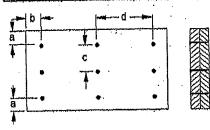
Designer: Company:

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

Customer: Code reports:

CCMC 12472-R

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3" c=2-3/4" 4 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.

Connectors are: ... : Nalls 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 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® ,

UNEND.TAM 2479.18H STRUCTURAL COMPONENT ONLY

T. Garbs (1)

R 198 201





PASSED

2ND FLOOR FRAMING\Flush Beams\B9(1977)

Dry | 1 span | No cant,

October 27, 2018 09:06:05

Bulld 6475

Job name:

Customer:

Code reports:

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

BC CALC® Member Report

CCMC 12472-R

File name:

TH1.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B9(1977)

Specifier: Designer:

Company:

															Sancari.		****	nelikarran		ranemeta	Sombour.	rostinatura e	SPANIS SEE			
\37	Carlo Carlo										2			1	₹ .		J.	T	<u>.</u>	L	T		1	esi esissuu	SALESSEE EUR	istinaristisis
																									74.1021 N.S.	
	<u> Anne a presentation de la company de la co</u>	referen	THE REAL PROPERTY.	40000	and the same	archipe	-	Series Comments	dentaria.	Trans	10	Ţ.,	TEXALINE TEXALINE	Town.		•	7.110.00	,	,		T	1			T	
DE CONTRA DA MARIO	Till assettischer	ZVANE	OTHER!	7. 新新	P. Union	1002234	HE THE	of percent	71193					178B	TRA	ATE	Eart.	Trus				開網				
新聞的描寫					40.0			11.1	計算	翻股	14.44	批准			Terr	機構物	机铸						Alam.	開時間	5572	15
																										۷.
										,	50.40.4					·					····	·				
											08-10-0	UU								•					•	. 6
វា													41.	0.7	40 /	•										

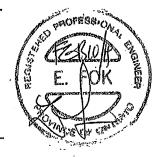
Total Horizontal Product Length = 06-10-00

Reaction Summary (Down / Uplift) (lbs) 1,508/0 829 / 0 1,165 / 0 B1, 3-1/2 854/0 514 / 0 854 / 0 B2, 5-1/2"

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	Unf. Lin. (lb/ft)	L,	00-00-00	06-10-00	Top	4	10			00-00-00
1 E26(l449)	Unf. Lin. (lb/ft)	L.	00-00-00	06-10-00	Top	77	151	147	•	n\a
2 Smoothed Load	Unf. Lin. (lb/ft)	L	00-08-00	06-00-00	Top	219	110	-		n\a
3 -	Conc. Pt. (lbs)	L	00-01-12	00-01-12	Top	- 309	667	339		n\ạ

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	4,430 ft-lbs	23,220 ft-lbs	19.1%	1	03-04-00
End Shear	2,283 lbs	11.571 lbs	19.7%	1	01-01-00
Total Load Deflection	1/999 (0.048")	n\a	n\a	35	03-04-00
Live Load Deflection	L/999 (0.03")	n\a	n\a	51	03-04-00
Max Defl.	0.048"	n\a	n\a	35	03-04-00
Span / Depth	7.8				

Roaring	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
81	Column	3-1/2" x 3-1/2"	4,461 lbs	56.1%	29.8%	Unspecified
B2	Wall/Plate	5-1/2" x 3-1/2"	2,862 lbs	34.8%	12.2%	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.

CUNFORMS 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 2016 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.

DWG NO . TAN 2480.18H STRUCTURAL COMPONENT ONLY

T. (90269





PASSED

October 27, 2018 09:06:05

2ND FLOOR FRAMING\Flush Beams\B9(1977) Dry | 1 span | No cant.

BC CALC® Member Report

Build 6475

Job name:

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

TH1.mmdl

File name: 2ND FLOOR FRAMING\Flush Beams\B9(i977) Description:

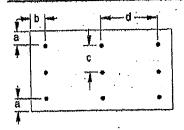
Specifier:

Designer:

Customer: CCMC 12472-R Code reports:

Company:

Connection Diagram: Full Length of Member



a minimum ≠ 2" b minimum = 3" c = 2-3/4" d = 100

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:

312" ARDOX SPIRAL



Disclosure

Use of the Bolse Cascade Software is 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-accented design. 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®,

OWENG. TAMZ480-18H STRUCTURAL COMPONENT ONLY

T. 190269(M)

المرجع الواسط



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







			Ва	are			1/2" Gyps	um Ceiling	
Depth	Series		On Centr	re Spacing			On Centr	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
	NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	19'-3"	18'-5"	N/A
	NI-40x	20'-1"	18'-7"	17'-10"	N/A	20'-10"	19'-4"	18'-6"	N/A
	NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"	18'-9"	N/A
14"	NI-70	21'-7"	20'-0"	19'-1"	N/A	22'-3"	20'-7"	19'-8"	N/A
	NI-80	21'-11"	20'-3"	19'-4"	N/A	22'-7"	20'-11"	20'-0"	N/A
	NI-90x	22'-7"	20'-11"	19'-11"	N/A	23'-3"	21'-6"	20'-6"	N/A
	NI-60	22'-3"	20'-8"	19'-9"	N/A	23'-1"	21'-5"	20'-6"	N/A
4.611	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
	N1-90x	24'-8"	22'-9"	21'-9"	N/A	25'-4"	23'-5"	22'-4"	N/A

			Mid-Spai	Blocking		Mid-S	pan Blocking an	id 1/2" Gypsum	Ceiling
Depth	Series		On Centr	e Spacing			On Centr	re Spacing	
•		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	N1-20	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
	N!-60	21'-4"	19'-9"	18'-11"	N/A	21'-11"	20'-4"	19'-6"	N/A
11-7/8"	NI-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
17	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 1/480 and a total load deflection limit of 1/240.

^{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 = 15 psf Simple Spans, L/480 Deflection Limit 3/4" OSB G&N Sheathing







			Ва	are			1/2" Gyps	um Ceiling	
Depth	Series	****	On Centr	e Spacing			On Centi	re Spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
	N1-40x	17'-0"	16'-0"	15'-5"	14'-9"	17'-5"	16'-5"	15'-10"	15'-2"
9-1/2"	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-6"	16'-7"	15'-11"	15'-3"
	NI-70	18'-0"	16'-11"	16'-3"	15'-7"	18'-5"	17'-3"	16'-7"	15'-11"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17′-5"	16'-9"	16'-1"
	NI-20	17'-10"	16'-10"	16'-2"	15'-6"	18'-6"	17'-4"	16'-9"	16'-1"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-6"	19'-11"	18'-6"	17'-9"	17'-0"
	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
11-7/8"	NI-70	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"
	NI-80	21'-1"	19'-5"	· 18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-90x	21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"
	NI-40x	21'-5"	19'-10"	18'-11"	17'-11"	22'-1"	20'-6"	19'-7"	18'-7"
	NI-60	21'-10"	20'-2"	19'-3"	18'-2"	22'-5"	20'-10"	19'-11"	18'-10"
14"	NI-70	23'-0"	21'-3"	20'-3"	19'-2"	23'-8"	21'-11"	20'-10"	19'-9"
	N!-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 Centi	e Spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"
	N1-40x	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"
J -,-	NI-70	20'-0"	18'-7"	17'-9"	16'-7"	20'-5"	18'-11"	17'-10"	16'-7"
	NI-80	20'-3"	18'-10"	17'-11"	16'-10"	20'-8"	19'-3"	18'-2"	16'-10"
	NI-20	20'-1"	18'-5"	17'-5"	16'-2"	20'-1"	18'-5"	17'-5"	16'-2"
	NI-40x	21'-10"	20'-4"	19'-4"	17'-8"	22'-5"	20'-6"	19'-4"	17'-8"
	NI-60	22'-1"	20'-7"	19'-7"	18 ¹ -4"	22'-8"	20'-10"	19'-8"	18'-4"
11-7/8"	NI-70	23'-4"	21'-8"	20'-8"	19'-7"	23'-10"	22'-3"	21'-2"	19'-9"
	NI-80	23'-7"	21'-11"	20'-11"	19'-9"	24'-1"	22'-6"	21'-5"	20'-0"
	NI-90x	24'-3"	22'-6"	21'-6"	20'-4"	24'-8"	23'-0"	22'-0"	20'-9"
	NI-40x	24'-5"	22'-9"	21'-8"	19'-5"	25'-1"	23'-2"	21'-9"	19'-5"
	NI-60	24'-10"	23'-1"	22'-0"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10"
14"	NI-70	26'-1"	24'-3"	23'-2"	21'-10"	26'-8"	24'-11"	23'-9"	22'-4"
	NI-80	26'-6"	24'-7"	23'-5"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
	NI-90x	27'-3"	25'-4"	24'-1"	22'-9"	27'-9"	25'-11"	24'-8"	23'-4"
	NI-60	27'-3"	25'-5"	24'-2"	22'-10"	28'-0"	26'-2"	24'-9"	23'-1"
	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.



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







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

			Mid-Spa	n Blocking		Mid-	Span Blocking ar	nd 1/2" Gypsum	Ceiling
Depth	Series		On Cent	e Spacing			*****	re Spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-9"	16'-1"	15'-1"	13'-11"	17'-9"	16'-1"	15'-1"	13'-11"
9-1/2"	NI-60	18'-1"	16'-5"	15'-5"	14'-3"	18'-1"	16'-5"	15'-5"	14'-3"
	NI-70	19'-10"	17'-11"	16'-9"	15'-6"	19'-10"	17'-11"	16'-9"	15'-6"
	NI-80	20'-2"	18'-3"	17'-1"	15'-10"	20'-2"	18'-3"	17'-1"	15'-10"
	NI-20	18'-10"	17'-1"	16'-0"	14'-10"	18'-10"	17'-1"	16'-0"	14'-10"
	N1-40x	21'-3"	19'-3"	17'-9"	15'-10"	21'-3"	19'-3"	17'-9"	15'-10"
11-7/8"	NI-60	21'-9"	19'-8"	18'-5"	17'-1"	21'-9"	19'-8"	18'-5"	17'-1"
11-7/6	NI-70	23'-4"	21'-5"	20'-1"	18'-6"	23'-8"	21'-5"	20'-1"	18'-6"
	NI-80	23'-7"	21'-10"	20'-5"	18'-11"	24'-1"	21'-10"	20'-5"	18'-11"
	NI-90x	24'-3"	22'-6"	21'-3"	19'-7"	24'-8"	22'-7"	21'-3"	19'-7"
	NI-40x	24'-2"	21'-5"	19'-6"	17'-5"	24'-2"	21'-5"	19'-6"	17'-5"
	NI-60	24'-9"	22'-5"	21'-0"	19'-6"	24'-9"	22'-5"	21'-0"	19'-6"
14"	NI-70	26'-1"	24'-3"	22'-9"	21'-0"	26'-8"	24'-3"	22'-9"	21'-0"
	NI-80	26'-6"	24'-7"	23'-3"	21'-6"	27'-1"	24'-10"	23'-3"	21'-6"
	NI-90x	27'-3"	25'-4"	24'-1"	22'-4"	27'-9"	25'-10"	24'-3"	22'-4"
	NI-60	27'-3"	24'-11"	23'-5"	21'-7"	27'-6"	24'-11"	23'-5"	21'-7"
16"	NI-70	28'-8"	26'-8"	25'-3"	23'-4"	29'-3"	26'-11"	25'-3"	23'-4"
10	NI-80	29'-1"	27'-0"	25'-9"	23'-10"	29'-8"	27'-6"	25'-10"	23'-10"
	NI-90x	29'-11"	27'-10"	26'-6"	24'-10"	30'-6"	28'-5"	26'-11"	24'-10"

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

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

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

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

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

^{6.} Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic 1-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



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







			Ba	are			1/2" Gyp:	sum Ceiling	
Depth	Series		On Centr	e Spacing			On Cent	re Spacing	
,		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-1"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A
	NI-40x	16'-1"	15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	N/A
9-1/2"	NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A
	พเ-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
44 7 (0)	NI-60	18¹-4"	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"	19'-3"	18'-5"	N/A
	N1-40x	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
	N1-90x	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
4.611	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-Spar	n Blocking		Mid-S	pan Blocking an	d 1/2" Gypsum	Ceiling
Depth	Series		On Centr	e Spacing			On Cente	e Spacing	
•		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-7"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A
	NI-40x	17 ' -9"	16'-1"	15'-1"	N/A	17'-9"	16'-1"	15'-1"	N/A
9-1/2"	NI-60	18'-1"	16'-4"	15'-4"	N/A	18'-1"	16'-4"	15'-4"	N/A
·	NI-70	19'-2"	17'-10"	16'-9"	N/A	19'-7"	17'-10"	16'-9"	N/A
	NI-80	19'-5"	18'-0"	17'-1"	N/A	19'-10"	18'-3"	17'-1"	N/A
	NI-20	18'-9"	17'-0"	16'-0"	N/A	18'-9"	17'-0"	16'-0"	N/A
	NI-40x	21'-0"	19'-3"	17'-9"	N/A	21'-3"	19'-3"	17'-9"	N/A
	NI-60	21'-4"	19'-8"	18'-5"	N/A	21'-8"	19'-8"	18'-5"	N/A
11-7/8"	NI-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-4"	20'-0"	N/A
	NI-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-5"	N/A
	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
	NI-40x	23'-7"	21'-5"	19'-6"	N/A	24'-1"	21'-5"	19'-6"	N/A
	NI-60	24'-0"	22'-3"	21'-0"	N/A	24'-8"	22'-5"	21'-0"	N/A
14"	NI-70	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-9"	N/A
	NI-80	25'-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"	23'-2"	N/A
	NI-90x	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"	23'-9"	N/A
	N1-60	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
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 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.

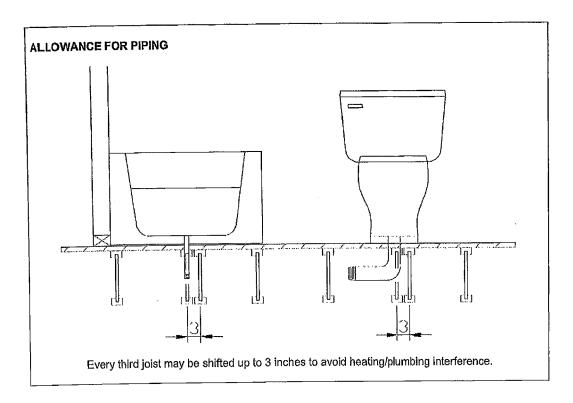


Allowance for Piping (Installation Notes)

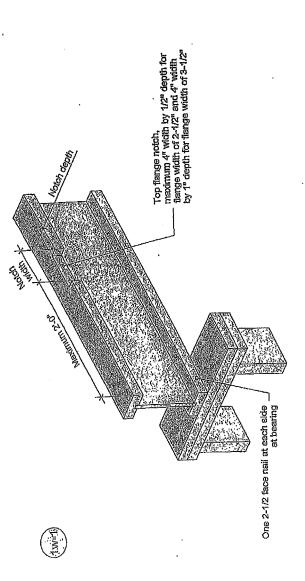
The floor layouts have usually not been checked for heating and/or plumbing interference. On-site adjustment of Joists of up to 3 inches is permitted to avoid interferences. When moving a joist, the subfloor thickness shall be checked with code requirements when the Joist spacing exceeds 19.2 inches.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

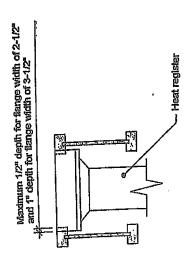
installation of Nordic I-joists shall be as per *Nordic Joist Installation Guide for Residential Floors*. Refer to Tables 1 and 2 for maximum web hole and duct chase openings, respectively. These tables are based on the I-joists being used at their maximum spans. The minimum distance given may be reduced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





Notes:
1. Brown for allege at bearing for lateral support, not shown for clanity.
2. The meximum dimensions for a notch on the side of the top flange are 4-inch width by 1/2-inch depth for flange width of 2-1/2 inches, and 4-inch width by 1-inch depth for flange width, of 3-1/2 inches, and 4-inch width by 1-inch depth for flange width, of 3-1/2 inches, and 4-inch width by 1-inch depth for flange width, of 3-1/2 inches, and 4-inch width by 1-inch depth for flange width for flange are flange and flange are flanged from the flanged fl

This document supersedes all previous versions, if the document has been in effect for more than one year, consult nordic,ca or contact Nordic Structures.

All nais shown in the defails are assumed to be common nais unless otherwise noted. Nails shall have a diameter not less than 0.728 inch for 2012 and halls, or 0.144 that for 9 thoth mails, individual components not shown to seale for deathy.

STRUCTURES

Notch in I-joist for Heat Register CATEGORY T 514-871-8526 I 866 817-3418 nordic.ca

I-joist - Typical Floor Framing and Construction Details

Av-1 2018-04-10

DOCUMENT