

		Products		
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	38
J2	12-00-00	9 1/2" NI-40x	1	37
J3	8-00-00	9 1/2" NI-40x	1	10
J4	6-00-00	9 1/2" NI-40x	1	3
B7	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B8	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B10	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B9	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B13 DR	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B14 DR	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B12	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6 DR	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B15	2-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B5 DR	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

C	Connector	Summary
Qty	Manuf	Product
11	H1	IUS2.56/9.5
23	H1	IUS2.56/9.5
1	H2	HUS1.81/10
2	H2	HUS1.81/10
1	H4	HGUS410



FROM PLAN DATED: MAY 2018

BUILDER: BAYVIEW WELLINGTON

SITE: PASSAGE ON THE CANAL

MODEL: SD-1-B34 THE HUDSON 4

ELEVATION: A

LOT:

CITY: ST.CATERINES

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 3 ALON BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURE 7 TABLES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD D FIEL CUT OPENINGS SEE FIGURE 7 TABLES 1 & 2 ES 1 & OF THE INSTALLATION GUIDE, CERAMIC TILE MIC TI 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/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2019-01-30

2nd FLOOR

D

DN

2x4,

RIOR

JLTIPL

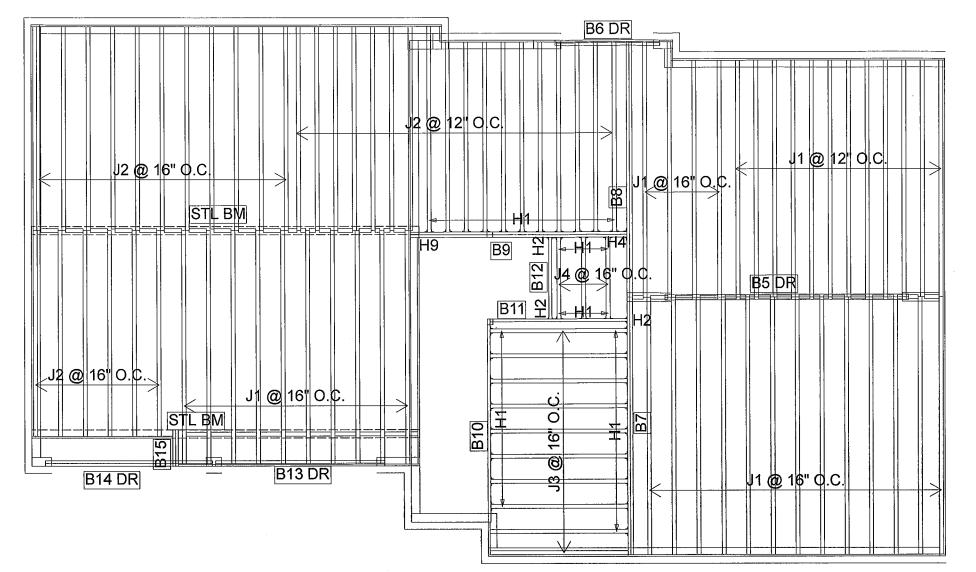
E 1.

CANT'

ΑT

FOR

'OR



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	39
J2	12-00-00	9 1/2" NI-40x	1	35
J3	8-00-00	9 1/2" NI-40x	1	10
J4	6-00-00	9 1/2" NI-40x	1	3
B7	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B8	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B10	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	. 1
B9	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B13 DR	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B14 DR	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B12	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6 DR	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B15	2-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B5 DR	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

C	Connector	Summary
Qty	Manuf	Product
11	H1	IUS2.56/9.5
23	H1	IUS2.56/9.5
1	H2	HUS1.81/10
2	H2	HUS1.81/10
1	H4	HGUS410



FROM PLAN DATED: MAY 2018

BUILDER: BAYVIEW WELLINGTON

SITE: PASSAGE ON THE CANAL

MODEL: SD-1-B34 THE HUDSON 4

ELEVATION: A

LOT:

CITY: ST.CATERINES

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:

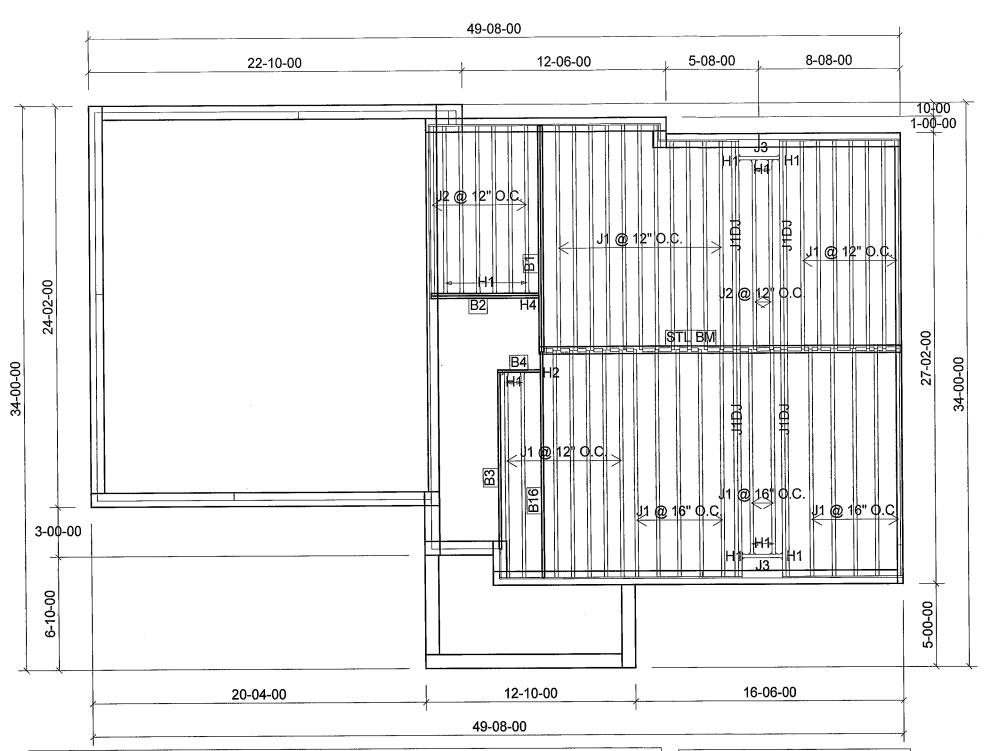
DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 15.0 lb/ft² TILED AREAS: 20 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2019-01-30

2nd FLOOR

OPTION 3 BEDROOM



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	37
J1DJ	14-00-00	9 1/2" NI-40x	2	8
J2	12-00-00	9 1/2" NI-40x	1	9
J3	4-00-00	9 1/2" NI-40x	1	2
B16	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B1	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B3	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B2	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

(Connector Summary						
Qty	Manuf	Product					
2	H1	IUS2.56/9.5					
6	H1	IUS2.56/9.5					
4	H1	IUS2.56/9.5					
4	H1	IUS2.56/9.5					
1	H2	HUS1.81/10					
1	H4	HGUS410					



FROM PLAN DATED: MAY 2018

BUILDER: BAYVIEW WELLINGTON

SITE: PASSAGE ON THE CANAL

MODEL: SD-1-B34 THE HUDSON 4

ELEVATION: A

LOT:

CITY: ST.CATERINES

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 R O.B.C 9.30.6.

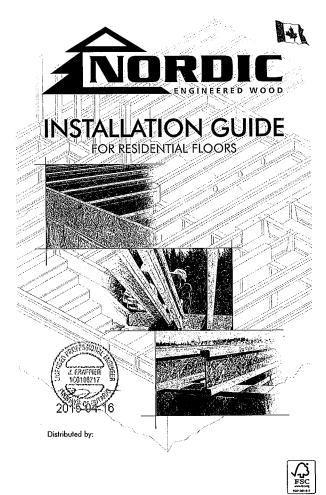
LOADING:

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 D

DATE: 10/27/2018

1st FLOOR



SAFETY AND CONSTRUCTION PRECAUTIONS

STORAGE AND HANDLING GUIDELINES

2. Store, stack, and handle t-joists vertically and level only. -

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

6. Bundled units should be kept intact until time of installation.

■ Pick I-joists in bundles as shipped by the supplier.

8. Do not handle I-joists in a horizontal orientation.

9. NEVER USE OR TRY TO REPAIR A DAMAGED 1-JOIST.

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.

7. When handling I-joists with a crane on the job site, take a few —

simple precautions to prevent damage to the I-joists and injury to your work crew.

Orient the bundles so that the webs of the 1-joists are vertical.

■ Pick the bundles at the 5th points, using a spreader bar if necessary

Bundle wrap can be slippery when wet. Avoid walking on wrapped



Never stack building

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

- Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bridging at joist ends. When I-joists are applied continuous over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
- 2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the Ljoists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be to prevent Ljoist rollover or buckling.
- To prevent 1-past rotiover or overting.

 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 festened to the top surface of each 1-joist. Noil the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two 1-joists.
- Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
- For cantilevered 1-joists, brace top and bottom flonges, 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 Nordici-joists, failure to follow allowable hole sizes and locations, or failure to use web sliffeners when required can result in serious accidants. Follow these installation guidelines carafully.

MAXIMUM FLOOR SPANS

- 1. Maximum clear spans applicable to simple-span or multiple-span residential floor construction with a design live load of 10 pst and dead load of 15 pst. The ultimate limit states are based on the factored loads of 1.50L. + 1.25D. The sevirceability himit states include the consideration for floor vibration and a live load deflection limit of 1/480. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less, or 3/4 inch for joist spacing of 24 inches. Adhesive shall meet the requirements given in CGSS-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.
- Tables are based on Limit States Design per CAN/CSA
 O86-09 Standard, and NBC 2010.
- 7. SI units conversion: 1 inch = 25.4 mm 1 foot = 0.305 m

MAXIMUM FLOOR SPANS FOR NORDIC 1-JOISTS

SIMPLE AND MULTIPLE SPANS

Joist Depth	Joist Series		On centre	spacing			On centre	spacing	
Берлі	Jenes	12*	16"	19.2	24°	12"	16"	19.2"	24"
7.00	NI-20	15'-1'	14'-2	13'-9"	13'-5	16'-3"	15'-4	14'-10	14'-7
	NI-40x	16'-1"	15'-2"	14'-8"	14'-9"	17'-5"	16'-5'	15'-10'	15'-5"
9-1/2"	NI-60	16'-3"	15'-4"	14'-10'	14'-11'	17'-7'	16'-7'	16'-0'	16'-1"
	NI-70	17'-1"	16511	15'-6"	15'-7"	18'-7'	17'-4"	16'-9"	16'-10
as 45,91	NI-80	17'-3"	16'-3"	15'-8"	15'-9"	18-10	17'-6*	16-11"	17'-0"
2 3 4/2 4 24/25	NI-20	16'-11'	16'-0"	15'-5	15'-6"	18'-4	17'-3"	16'-8	16'-7"
	NI-40x	18'-1	17'-0"	16'-5	16'-6"	20'-0	18-6	17'-9	17'-7"
3.54.865	NI-60	18'-4"	17'-3"	16'-7"	16'-9"	20'-3"	18'-9"	18'-0"	18'-1'
11-7/8"	NI-70	19'-6"	18'-0"	17'-4"	17'-5"	211-61	19'-11"	19'-0"	19'-1'
	NI-80	19'-9'	18'-3"	17'-6"	17'-7"	21'-9"	20'-2'	19'-3"	19'-4'
	NI-90	20'-2'	18'-7	17-10	17'-11"	22'-3"	20'-7	19'-8"	19'-9
	NI-90x	20'-4"	18'-9	17-11	18'-0	22'-5"	20'-9"	19'-10"	19'-11
11 S. J. 11 S. T.	NI-40x	20'-1"	18'-7'	17'-10'	17:11	22'-2"	20'-6"	19'-8"	19'-4'
	NI-60	20'-5"	18'-11'	18'-1"	18'-2"	22'-7"	20'-11"	20'-0"	20'-1"
	NI-70	21:-7'	20'-0"	19'-1"	19-2	23' 10'	22'-1"	21'-1"	21'-2"
14"	NI-80	211-111	20'-3"	19'-4"	19'-5"	24'-3"	22'-5"	21-5	21'-6"
	NI-90	22'-5	20'-8"	19'-9	19'-10"	24'-9	22'-10"	21'-10'	21'-10
	NI-90x	22'-7*	20-11	19'-11'	20'-0'	25'-0'	23'-1"	22'-0'	22'-2"
1000	NI-60	22'-3"	20'-8"	19-9	19'-10'	24'-7'	22'-9'	21'-9'	21'-10
4.50	NI-70	23'-6"	21'-9"	20-9	20'-10"	26'-0'	24'-0'	22'-11"	23'-0'
16	NI-80	23'-11	22'-1"	21-1	21'-2"	26'-5"	24'-5"	23'-3"	23'-4'
1.0	NI-90	24'-5'	22'-6	21-5	211-6	26'-11'	24'-10'	23'-9"	23'-9
1000000	NI-90x	24'-8"	22'-9"	21'-9"	21-10	27'-3"	25'-2"	24'-0"	24'-1'

END BEARING

Web stiffeners are required when the sides of the hangers do not laterally brace the top flange of the I-joist.

I-JOIST HANGERS

most commonly us to support I-joists.

. Hangers shown illustrate the three most commonly used metal hanger

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.



CCMC EVALUATION REPORT 13032-R

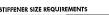
WEB STIFFENERS

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

A bearing stiffener is required when the l-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 han 2,370 bis is applied to the top flange between supports, or in the case of a cantilever, anywhere between the cantilever tip and the support. These values are for 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.

St units conversion: 1 inch = 25.4 mm



Provide backer for

(m)

See table below for web stiffener size requirement

FIGURE 2
WEB STIFFENER INSTALLATION DETAILS

Approx. 2* I 1/8*-1/4* Gap

1/8*-1/4* Gap

(4) 2-1/2* nails, 3* nails required for lipids width

Approx. 2* I flags width

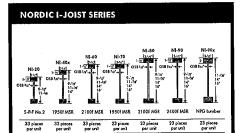
3" nails required for I-joists with 3-1/2" flange width

NER SIZE R	EQUIREMENTS	
ge Width	Web Stiffener Size Each Side of Web	/ =
-1/2"	1" x 2-5/16" minimum width	/ 🏎
-1/2"	1-1/2" x 2-5/16" minimum width	∠ Tight Joint No Gap

(la)

ottachment per detail 1 b

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



Chantiers Chibougamau Ltd. harvests its own trees, which enables Alectic products to adhere to strict quality control procedures through \$1.00 ftm of manufacturing process. Every phase of the operation, from following insisted product, reflects our commitment to quality. manulacturing process. Every phase of the operation, root persists in initiated product, reflects our commitment to quality.

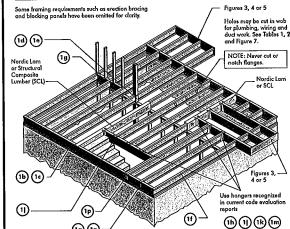
Nordic Engineered Wood Lipists use only finger-joined pack of perfect the lumber in their flanges, ensuring consistent quality, superior strategy languages are convenient to the control of the co

20155041

INSTALLING NORDIC I-JOISTS

- 1. Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, controlled the state of th
- 2. Except for cutting to length, 1-joist flanges should never be cut, drilled, or notched.
- 3. Install 1-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment. 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 bearing
- 6. When using hangers, seat 1-joists firmly in hanger bottoms to minimize settlement.
- 7. Leave a 1/16-inch gap between the !-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 factures, audio equipment and security carners. Never suspend unusual or heavy loads from the Ljoist's bettom flange. Whenever possible, suspend all concentrated loads from the top of the Ljoist. Or, ottach the load to blocking that has been securely fostened to the Ljoist web.
- 9. Never install 4-joists where they will be permonently exposed to weather, or where they will remain in direct contact with
- 10. Restrain ends of floor joists to prevent rollover. Use rim board, rim joists or I-joist blocking panels.
- 11. For I-joists installed over and beneath bearing wells, 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 other engineered wood products such as rim board must be cut to fit between the i-joists, and on i-joist-compatible depth selected.
- 13. Provide permonent lateral support of the bottom flange of all I-joists at interior supports of multiple-span joists. Similarly, support the bottom flange of all contilevered I-joists at the end support next to the cantilever extension. In the completed structure, the gypsum wallboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary bracing or struts must be used.
- 14. If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Glue panels to blocking to minimize squaeks. Blocking is not required under structural finish flooring, such as wood strip flooring, or if a separate underlyament layer is installed.
- 15. Nail spacing: Space nails installed to the flange's top face in accordance with the applicable building code requirements or approved building plans.

TYPICAL NORDIC I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS



(19 (1n) -All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3' (0.122' dia), common spiral nails may be substituted for 2-1/2' (0.126' dia), common wire nails. Framing umber assumed to be Spruce-fine-fir No. 2 or better, Individual components not shown to scale for darity.

Transfer foad from above to bearing below. Install squash blocks per detail 1d. Match bearing area of blocks below to post above. (1)

℩

Top- or face-mount hanger-installed per manufacturer's For nailing schedules for multiple beams, see the manufacturer's

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

(lk)

Use single 1-joist for loads up to 3,300 plf, double 1-joists for loads up to 6,600 plf (filler block not

Rim board may be used in lieu of l-joists. Backer is not required when rim board is used. Bracing per code shall b

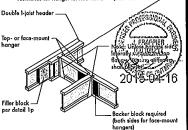
Top-mount hanger installed per Note: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

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

l-joist per detail 1 b Note: Blocking required at bearing for lateral support, not shown for clarity.

Maximum support capacity = 1,620 lbs.

(ih) Backer block (use if hanger load exceeds 360 lbs)
Before instelling a backer block to a double 1-joist, drive three
additional 3° nais through the webs and filler block where the
backer block will fit. Clinch. Instell backer fight to top flange.
Use twelve 3° nails, dinched when possible. Maximum factored
resistance for hanger for this detail = 1,620 lbs.

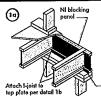


or hanger capacity see hanger manufacturer's recommend ferify double t-joist capacity to support concentrated loads.

BACKER BLOCKS (Blocks must be long enough to permit required

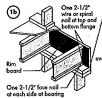
ange Width	Material Thickness Required*	Minlmum Depth*
2-1/2"	l,	5-1/2"
3-1/2*	1-1/2"	7-1/4"

- Manimum grade for backer block material shall be S-PF No. 2 or better for saids sown lumber and wood structural panels conforming to CAN/CSA-0325 or CAN/CSA-0437 Standard. For face-mount hangers use neight 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".



Blocking Panel or Rim Joist Maximum Factored Uniform Vertical Load* (plf)
NI Joists 3,300

The uniform vertical load is limited to a joist depth of 16 inches or less and is based on standard term load dwallon 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.



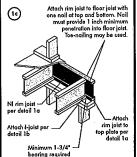
Attach rim board to top plate using 2-1/2" wire or spiral toe-nails at 6" o.c. To avoid splitting flange, start nails at least 1-1/2* from and of 1-joist. Nails

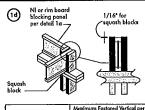
Minimum bearing length shall be 1-3/4° for the end bearings, and 3-1/2° for the intermediate bearings when applical

J. FRAFPIER 100101/17 100101/17 100101/17

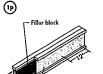
2015-04-16

1-1/8" Rim Board Plus 8,090 "The uniform vertical load is limited to a rim board depth of 16 inche or less and is based on standard term load duration. It shall not bu used in the design of a bending member, such as joist, header, rafter. For concentrated vertical load transfer, see dated 1d.

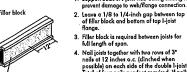




Pair of Squash Blocks Pair of Squ 3-1/2" wide 5-1/2" wide 5 500 1-1/8' Rim Board Plus 4,300 6,600 ovide lateral bracing per detail 1a, 1b, or 1c



Wall sheathing, as required

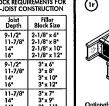


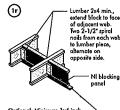
Support back of Ligital web during nailing to prevent damage to web/flange connection. FILLER BLOCK REQUIREMENTS FOR DOUBLE LIGIST CONSTRUCTION Prevent damage to web/flange connection. Flange Joist Filler Size Depth Block Size

 Filler block is required between joists for full length of span. rui i engin of span.

Nail joists together with two rows of 3* nails at 12 inches o.c. (dinched when possible) on each side of the double I-joist. Total of four nails per foot required. If nails can be dinched, only two nails per foot are required. 9-1/2" 11-7/8" 14" 16" 3-1/2°× 1-1/2°

3-1/2° x 11-7/8° 2° 16° 5. The maximum factored load that may be applied to one side of the double joist using this detail is 860 lbf/ft. Verify double 1-joist capacity.



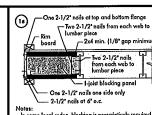


Ni blocking panel per detail 1a

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

(1n)

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

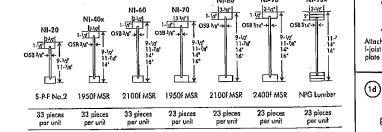


Notes:
In some local codes, blocking is prescriptively required in the first joist space (or first and second joist space) next to the stater joist. Where required, see local code requirement for spacing of the blocking.

All nails are common spiral in this detail.



FSC ANALISATION OF THE PROPERTY OF THE PROPERT



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

WEB HOLE SPECIFICATIONS

Depth

9-1/2"

11-7/B

14"

16"

FIGURE 7

- The distance between the inside edge of the support and the controlline of any hole or duct chase opening shall be in compliance with the requirements of
- Toble 1 or 2, respectively.

 2. I-joist top and bottom flonges must NEVER be cut, notched, or atherwise modified.

 3. Whenever possible, field-cut holes should be contred on the middle of the web.
- 4. The maximum size hole or the maximum death of a duct chose opening that can be cut into an I-joist web shall equal the clear distance between the flunges 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.

LOCATION OF CIRCULAR HOLES IN JOIST WEBS

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

- 5. The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location.

 6. Where more than one hole is necessary, the distance between adjacent hale edges
- shall exceed twice the diameter of the largest round hole or twice the size of the larges shall exceed the diameter of the largest round note of Michine size of the largest aguare hole (or twice the length of the longest side of the longest rectangular hole or duct chose opening) and each hole and duct chose opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.

 7. A knockout is not considered a hole, may be utilized anywhere it accurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct
- Holes measuring 1-1/2 inches or smaller are permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to verification.
- 9. A 1-1/2 inch hole or smaller can be placed anywhere in the web
 - provided that it meets the requirements of rule number 6 above.

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

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

DUCT CHASE OPENING SIZES AND LOCATIONS

Simple Span Only

۰۲	no opi				l- ,		h 4. +.	,		1-																	
		M	inimun	Distar	ce fron	n Insid	e Face	of Any S	Support	to Cer	ire of	Hole (ff -	in.)			ſ	Joist	Joist	Minimu	m distanc					ntre of o	pening (fl	- in.}
•						Rou	nd Hole	Diame	ter (in.)							- 1	Depth	Series				Juct Cha	se Lengt	h (in.)			
S	2	3	4	5	6	6-1/4	7	8	8-5/8	9	10	10-3/4	11	12 1	2-3/4	- 1			8	10	12	14	16	18	20	22	24
n	0'-7"	1'-6"	2'-10"	4'-3'	5'-8"	6'-0"				***						ſ		NI-20	4'-1"	4'-5"	4'-10"	5'-4"			6'-6"	7-1"	7'-5"
Ďν	0'-7"	1.6	3'-0"	4-4	6'-0"	6-4		**-					***	***		l		NI-40x	5-3	5'-8"	6.0	6'-5"				8'-2'	8'-6"
Ö	1'-3"	2'-6"	4'-0"	5'-4"	7'-0"	7'-5"								***			9-1/2"	NI-60	5-4	51-91	6'-2"	6'-7"	7'-1"		8'-0"	8'-3" 8'-1"	8'-9'
Ō	2'-0"	3'-4"	4'-9"	6'-3"	8'-0"	8'-4"	~							***		1	- 1	NI-70	5'-1"	5'-5"	5'-10'	6'-3"			7'-6" 7'-8"	8-2	8'-6"
0	21-3"	3'-6"	5'-0"	6'-6"	8'-2"	8'-8"									***	1		NI-80	5:-3'	5'-8"	6'-0"	6'-5'					9'-4"
0	0'-7"	0'-8"	11-0"	2'-4"	3'-8"	4'-0"	5'-0"	6'-6"	7'-9"		•••							NI-20	5'-9"	6'-2"	6'-6"	7-1	7-5*		8'-3" 9'-6"	8'-9" 10'-1"	10-9"
0x	0'-7"	0'-6"	1'-3"	21-8*	4'-0"	4'-4"	5'-5"	7'-0"	8'-4"				•••			İ		NI-40x	6'-8"	7'-2"	7'-6' 8'-0'	8'-1" 8'-6"			9'-9"	10'-3"	11.0
0	0'-7"	1'-8"	3'-0"	4'-3"	5-9"	6'-0'	7'-3'	8-10	10.0				•••	***				NI-60	7'-3"	7'-8" 7'-4"	7-9	8,-3,			9-6	10'-1"	10'-4"
Q	1'-3"	2'-6"	4'-0"	5'-4"	6-9"	7'-2'	8'-4'	10'-0"	11'-2"						***		11-7/8*	NI-70	7'-1" 7'-2"	71.71	8-0	8-5			9-8-	10'-2"	10-8
0	1'-6"	2'-10"	4'-2"	5'-6"	7'-0"	7'-5'	8, 9,	10-3	11'-4"			***				į		NI-80 NI-90	7.6	7:11	8'-4"	8'-9"		9-7	10-11	10-7	10-11
0	0.7	0'-8"	1'-5"	3'-2"	4-10		6-9	8'-9"	101-21		•••							NI-90x	7:-7	8'-1"	8-5	8-10		9-8	10'-2"	10-8	11-2
0x	0'-7"	0'-8"	0-9*	2-5	4'-4"	41-9	6'-3"	***	4. 6.		P1 00	101.01			<u> </u>		-	NI-40x	8'-1"	8'-7'	5-0°	9'-6"	10'-1"		111-2	12'-0"	12'8'
0x	0-7	0'-8"	0-8	1'-0"	2'-4"	2'-9'	3'.9'	5.2	6-0	6'-6"	8-3"	10'-2"						NI-60	81-9"	9-3	9-8	10-11	10-6		111-6"	13-3	13'-0'
0	0-7	0'-8"	1'-8"	3'-0"	4'-3"	4'-8"	5'-8'	7.2	8,-0,	8'-8" 10'-4"	10'-4"	11'-9' 13'-5'						NI-70	8'-7'	9-1	9'-5"	9-10	10'-4"		11-2*	11-7"	12'-3'
0	0'-8"	1'-10"		4'-5"	5-10		7'-3'	8'-9"	9'-9" 10'-0"	10'-8'	101.4	13'-9"					14"	NI-80	9'-0'	9-3	9.9	10-1	10-7		11'-6"	12'-1"	12'-6"
ō	0-10	2.0.	3'-4"	4-9	6'-2" 4'-0"	6'-5" 4'-5"	7'-6' 5'-9'	9-0" 7-5"	8'-8"	9-4	131 4	12-11						NI-90	9-2	9'-8"	10-0	10-6		111-51	111-91	12'-4"	12411
ō	0'-7"	0'-8"	0'-10"	2'-5"	3-9	4'-2'	5'-5'	7-3	8-5	01 21	11-4	12-11			•••			NI-90x	9.4	9.9	10-3	10'-7"	11'-1"	11-7	12'-1"	12'-7"	13-2"
<u>0x</u>	0'-7"	0.8.	0'-8"	2'-0"			4-2	5-6	6'-4"	7'-0"	B'-5"	S-8,	10/-2	12-2	13'-9"			NI-60	10-3	10'-8"	11:-2"	11'-6"	12-1	12'-6"	13'-2"	14'-1"	14'-10'
ŭ	0'-7"	0'-8" 1'-0"	0'-8" 2'-3"	3'-6"	2'-10' 4'-10'		6-3	7'-8"	8'-6"	9.2	10'-8"			14-0	15'-6"	1		NI-70	10-1	10-5	11-0	11'-4"	11'-10"	12'-3"	12'-8"	13'-3"	14'0"
ŭ	0'-7"	1-3	2-6	3-10		5-6	6-6	8'-0"	9'-0"	9.5	11'-0'			14'.5"	16'-0"		16"	NI-80	10-4	10'-9"	11'-3"	11'-9"	12'-1"	12-7"	13-1"	13'-8"	14'-4"
Ň	0-7	0'-8"	0-8	3.10	3'.3"	37-8	41-91	6'-5"	7'-5"	8-0	9-10			13.9	15'-4"		''	NI-90	10'-9'	11'-2'	1148	12'-0"	12'-6"	13'-0"	13-6	14-2	14'-10"
Ox	0-7	0-8	0-9	2.0	3-6	4'-0"	5'-0'	6.5	71.91	8'-4"	10-2		12'0				1	NI-90x	1351	11'-5"	11410	12'-4"	12'-10"	13:-2"	13'-9'	14-4	15'-2'
									<u> </u>																		
nay '	be used	for I-jo	ist spaci	ng of 2	4 inche	s on ce	ntre or	less.									1. Above to	able may b	used for	rioisi spac	ing of 24	d from in	n centro cido faco	of sunn	orie io c	entre of r	nenina

flarger ho

FIELD-CUT HOLE LOCATOR

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.
 Solistances in this chart are based on uniformly loaded joists.
 The above table is based on the I-joists being used at their moximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

x duct chase leng r hole diameter, rhichaver is larger

3/4x diameter

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

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

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

Holes in webs should be cut with a sharp saw

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

CHANTIERS

SAFETY AND CONSTRUCTION PRECAUTIONS





Never stock building moterials over unsheathed Lipists. Once

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

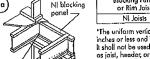
AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

Maintain minimum 1/8" space between top and bottom flange — all duct chase openings and holes

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

 2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist rollover
- shorting is object, temporary includy of the last section of section in the last section of the last secti
- Install and fully notil permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials eyer beams or walls only.
- 5. Never install a domoged l-joist. Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious occidents. Follow these installation guidelines carefully.

PRODUCT WARRANTY Chantlers Chibougamau guarantees that, in accordance with our specifications, Nordic products are free from manufacturing defects in material and workmanship. Furthermore, Chantlers Chibongaman warrants that our products, ohen utilized in accordance with our handling and installation instruction will meet or exceed our specifications for the lifetime of the structure.



Maximum Factored Uniform Vertical Load* (plf) 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.

l-joist to top plate per detail Ib

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

(1b) face nail at each side at bearing

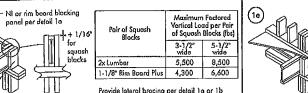
Vertical Load* (plf) 1-1/8" Rim Board Plus 8,090 *The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, reader, or rafter. For concentrated vertical load transfer, see detail 1d.

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

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

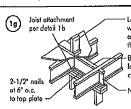
To avoid splitting flange, start nails at least 1-1/2" from end of 1-joist Nails may be driven at an angle to avoid splitting of bearing plate.

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





from above to bearing below Match bearing area of blocks below to post



Load bearing wall above shall align vertically with the bearing below. Other conditions, such as offset bearing walls, are not covered by

Blacking required over all interior supports under load-bearing walls or when floor joists are not continuous over support

—NI blocking panel per detail 1a

Bocker block (use if hanger load exceeds 360 lbs). Before installing a backer block to a double I-loist, drive three additional 3° radis through the wake and filler block in the state of the block in the block in the block in the state of the block in the state of the block in the state of the block in double 1-joist, drive three additional 3" nails through the webs and tiller block where the backer block 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.

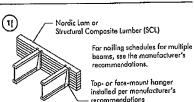
BACKER BLOCKS (Blocks must be long enough to permit required nailing without splitting)

Flange Width	Material Thickness Required*	Minimum Depth**
2-1/2"	70	5-1/2*
3-1/2*	1-1/2"	7-1/4*

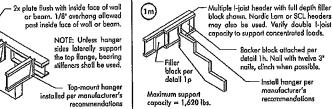
 Minimum grade for backer black material shall be S-P-F No. 2 or better for solid sawn lumber and wood structural panels conforming to CAN/CSA-O325 or CAN/CSA-O437 Standard. *For face-mount hangers use net joist depth minus 3-1/4" for joists with 1-1/2" thick flanges For 2" thick flanges use net depth minus 4-1/4".

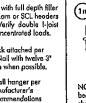
hanger — NOTE: Unless hanger sides laterally su the top flange, bearing Backer black required Filler block (both sides for face mount hangers)

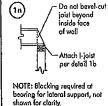
For hanger capacity see hanger manufacturer's recommendations. Verify double I-joist capacity to support

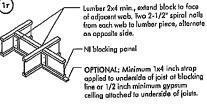


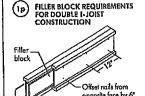
NOTE: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

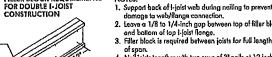








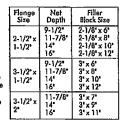




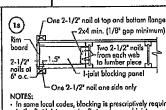
-1/8" to 1/4" gap between top flangs and filler block



FIGURE 2



WEB STIFFENER INSTALLATION DETAILS



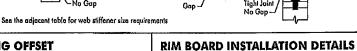
In same local codes, blocking is prescriptively require in the first joist space (or first and second joist space) next to the starter joist. Where required, see local code requirements for spacing of the blocking.
All nails are common spiral in this detail. the above details are assumed to be common wire nails unless otherwise noted, 3° (0,122° dia.) common spiral nails may be substituted for 2-1/2" (0.128" dia.) common wire no Framing lumber essumed to be Spruce-Pine-Fir No. 2 or better, Individual components not she to scale for clarity.

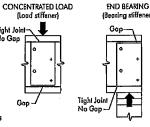
All nails shown in

WEB STIFFENERS

- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joist properties table found of the I-joist Construction Guide (C101). The gap between the stiffener and the flange is at
- A bearing stiffener is required when the I-joist is supported in a honger and the sides of the hanger do not extend up to, and support, the lop flange. The gap between the stiffener and flange is at the top.
- A load stiffener is required at locations where a foctored concentrated load greater than 2,370 lbs is applied to the top flange between supports, or in the case of a cantilever, on where between the contilever 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.

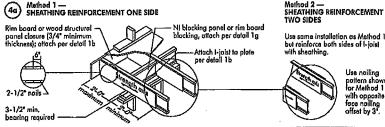
Flange width 2-1/2" or 3-1/2" = 1/8"-1/4" Gap -(4) 2-1/2" nails. Approx. 2° I No Gap 3-1/2" flange widtl





Flange Width	
2-1/2	1° x 2-5/16° minimum width
3-1/2	1-1/2" x 2-5/16" minimum width

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET



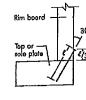
but reinforce both sides of 1-joist with sheathing.

pottern show for Method 1

Rim board loin

(80) ATTACHMENT DETAILS WHERE RIM BOARDS ABUT - 2-1/2" nails at 6" o.c. (typical) Rim Board Joins at Carner

8b TOE-NAIL CONNECTION AT RIM BOARD Top or — sole plate



NOTE: Canadian softwood phywood 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* noils at 6* a.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail 1b. Verify reinforced I-joist copacity.

NORDIC

COMPANY
J9 1ST FLOOR
Oct. 23, 2018 15:10

PROJECT
J1 2ND FLOOR
J1 2ND FLOOR

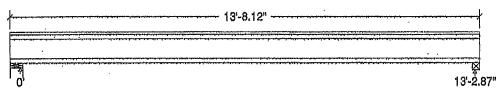
Design Check Calculation Sheet

Nordic Sizer - Canada 7.1

Loads:

1	Load ·	Type	Distribution	Pat-	Location	[ft]	Magnitude	Unit
	·			tern	Start	End	Start En	1 .
	Load1	Dead	Full Area				20.00	psf
	Load2	Live	Full Area				40.00	psf

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



	•		
Unfactored: Dead Live	177 353		177 353
Factored: Total	750		750
Bearing: Resistance Joist Support Des ratio Joist Support Load case Length Min req'd Stiffener KD KB support fop sup	1893 7735 0.40 0.10 #2 4-3/8 1-3/4 No 1.00 1.00	E. FOK	1869 4043 0.40 0.19 #2 2-5/8 1-3/4 No 1.00 1.00 769
Kzcp sup	1.15	•	1.00

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

Nordic 9-1/2" NI-40x Floor Joist @ 16" o.c.

Supports: 1 - Lumber Wall, No.1/No.2; 2 - Lumber Beam, No.1/No.2; Total length: 13'-8.12"; Clear span: 13'-1.11"; 5/8" nalled and glued OSB sheathing with 1/2" gypsum ceiling This section PASSES the design code check.

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

l	Criterion	Analysis Value	Design Value	Unit	Analysis/Design
l	Shear	Vf = 750	Vr = 1895	lbs	Vf/Vr = 0.40
l	Moment (+)	· Mf == 2483	Mr = 4824	lbs-ft	Mf/Mr = 0.51
	Perm. Defl'n	0.08 = < L/999	0.44 = L/360	in	0.18
١	Live Defl'n	0.16 = L/990	0.33 = L/480	in	0.48
۱	Total Defl'n	0.24 = 1/660	0.66 = L/240	in	0.36
١	Bare Defl'n	0.19 = L/828	0.44 = L/360	in	0.43
l	Vibration	Lmax = 13'-2.9	Lv = 15'-9.3	ft	0.84
ı	Defl'n	= 0.030	= 0.051	in	0.58

DWO NO. TAM 2-197-1916
STRUCTURAL
COMPONENT. ONLY

T-1902383

1612

WoodWorks® Sizer

NORDIC STRUCTURES

J1 2ND FLOOR

Nordic Sizer - Canada 7.1

Page 2

1	Additional	Data:						•			
	FACTORS:	£/E		KH	.KZ		KT	KS	KN	LC#	
	۷r	1895				-	. 🕶	-	-	#2	
	Mr+					1.000	-		-	#2	•
	EI	218.1 m			-		-	~	***	#2	
	CRITICAL LO	AD COMB	INATIONS	; ;							
	Shear	: LC #2	= 1.25	5D + 1.5	L						
	Moment (+)	: LC #2	□ 1.25	5D + 1.5	L						
	Deflectio										
					(live)						
					(total						
					(bare						
	Bearing				1.25D +						
	l .	Suppo	rt 2 - I	C #2 =	1.25D +	1.54		+1			•
	Load Type	s: D=dea	d MamMTL	id S⇔sn	OW H=ea	irth, grou	indwate	r "=ear	rnquake		
						ve(stora			r≖rire	ļ	
	All Load		ions (L	(s) are	Traced 1	n the Ar	ятуять	output			
	CALCULATIO		_				~~ 22				
	Deflection	n: Elef	t = 2	368606 T	p-inz K	4,946	OF TOS	/12	4		
	"Live" de	rrection	= Derre	ecrou. r	rom alr	non-dead	i rosos	(TTAE)	wind, s	inow)	

Design Notes:

CUNFORMS TO DBC 2012

- 1, WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-09 Engineering Design in Wood standard, which includes Update No.1
- Please verify that the default deflection limits are appropriate for your application.
 Refer to Nordic Structures technical documentation for installation guidelines and construction details.
- 4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
- 5. Joists shall be laterally supported at supports and continuously along the compression edge.
 6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor sulfability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.

STRUCTURAL COMPONENT ONLY

T. G0283(V)





PASSED

1ST FLOOR FRAMING\Flush Beams\B16(i2204)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

Wind

Snow

Dead

Tributary

Bulld 6475

Job name:

Address:

BC CALC® Member Report

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

Customer: Code reports:

CCMC 12472-R

File name:

SD1-B34 EL A SUNKEN.mmdl

Live

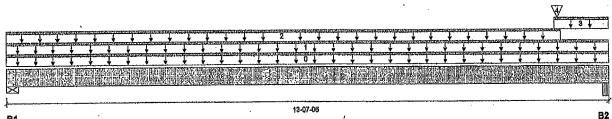
Description:

1ST FLOOR FRAMING\Flush Beams\B16(i2204)

Specifier:

Designer:

Company:



Load Cummary

Total Horizontal Product Length = 13-07-06

Snow

Reaction Summary (Down / Uplift) (lbs)

I A COMMENSAGE HE SALES	/	
Bearing	Live	Dead
B1, 4-3/8"	291 / 0	182/0
B2. 1-5/8"	483 / 0	308 / 0

	au Summary	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00 1.15	
Tag	Description		Ken				1100			20.00
0	Self-Weight	Unf. Lin, (lb/ft)	L	00-00-00	13-07-06	Top		5	•	00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	13-07-06	Top	16	8		n\a
2	FC1 Floor Material	Unf. Lln. (lb/ft)	L	00-00-00	12-06-06	Тор	24	12		n\a
3	STAIR	Unf. Lin. (lb/ft)	· L	12-04-10	13-07-06	Top	120	60	4 P. C. O.	inla
4	B4(I2133)	Conc. Pt. (lbs)	L	12-05-08	12-05-08	Top	101	88	ANOLEGO.	CAV n/a
Co	ntrols Summary	Factored Demand	Factored Resistance	Dem Resi	and/ stance	Case	Location	4	A REBIG	Del

Controls Summary	Factored Demand	Factored Resistance	Resistance	Case	Location
Pos. Moment	2,217 ft-lbs	11,610 ft-lbs	19.1%	1	07-03-09
End Shear	824 lbs	5,785 lbs	14.3%	1	12-08-04
Total Load Deflection	L/784 (0.203")	n\a	30.6%	4	06-11-08
Live Load Deflection	L/999 (0.124")	n\a .	n\a	5	06-11-06
Max Defl.	0,203"	n\a	n\a	4	06-11-06
Span / Depth	16.7				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4-3/8" x 1-3/4"	663 lbs	20.3%	7.1%	Unspecified
B2	Beam	1-5/8" x 1-3/4"	1,110 lbs	91.4%	32.0%	Unspecified

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

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

Calculations assume member is fully braced.

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

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

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Car sign car

BC CALCE, BC FRAMER® , AJSTM ALLJOIST®, BC RIM BOARD™, BCI®, -1 ## BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

STRUCTURAL COMPONENT ONLY

T. 1902St

٠,٥٠٥ - ١



PASSED

1ST FLOOR FRAMING\Flush Beams\B1(12217)

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

January 29, 2019 13:45:29

Bulld 6475

Job name: Address:

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

File name:

SD1-B34 EL A SUNKEN.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B1(i2217)

Specifier:

Designer:

Customer: Code reports:

CCMC 12472-R

Company:

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 	 	<u> </u>
	注意的技术的问题,所有的问题的表现的问题的,他们们就是有一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个	×
<u> .</u>		
n e	13-07-08	20
B7		

Total Horizontal Product Length = 13-07-06

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 3-5/8"	538 / 0	357/0
ED ALRIBI	233 / 0	189 / 0

Load Summary Tag Description Load Type							Live	Dead	Snow	Wind	Tributary
		Load Type	Ref. Start End	End	Loc.	1.00	0.65	1.00	1,15		
0	Self-Weight	Unf. Lln. (lb/ft)	L	00-00-00	13-07-06	Тор		10			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	00-00-00	03-04-12	Top	120	60			. n\a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-01-00	03-03-00	Top	25	12			n\a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	03-03-00	13-07-06	Top	27	14	*		n\a
4	B2(11580)	Conc. Pt. (lbs)	L	03-04-12	03-04-12	Top		30			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Çase	Location
Pos. Moment	2,262 ft-lbs	- 23,220 ft-lbs	9.7%	1	05-02-14
End Shear	908 lbs	11,571 lbs	7.8%	1	01-01-02
Total Load Deflection	L/999 (0.101")	n\a	n\a	4	06-06-02
Live Load Deflection	L/999 (0.057")	n\a	n\e	5	06-06-02
Max Defi.	0.101"	n\a	n\a	4	06-06-02
Span / Depth	16.5		•		

Bearing	Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance -Member	Material	
B1	Beam	3-5/8" x 3-1/2"	1,252 lbs	23.1%	8.1%	Unspecified	
B2	Wall/Plate	4-3/8" x 3-1/2"	586 lbs	9,0%	3,1%	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

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.

DWB NO . YAM 2184 -18H STRUCTURAL COMPONENT ONLY

T-190385

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PASSED

January 29, 2019 13:45:29

1ST FLOOR FRAMING\Flush Beams\B1(i2217)

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 cent.

SD1-B34 EL A SUNKEN,mmdl File name:

Description:

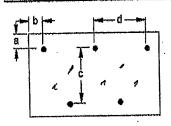
1ST FLOOR FRAMING\Flush Beams\B1(I2217)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

0 = 1-1/2" d= 12" /2"

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

Connectors are: Nalls ARDOX SPIRAL

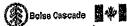


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STRUCTURAL COMPONENT ONLY BC CALC®, BC FRAMER®, AJSTM ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

T. 190238+(n





PASSED

January 29, 2019 13:45:29

1ST FLOOR FRAMING\Dropped Beams\B2(I1580)

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:

SD1-B34 EL A SUNKEN.mmdl

Wind

Description:

1ST FLOOR FRAMING\Dropped Beams\B2(i1580)

Specifier:

Designer:

Company:

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THE RESIDENCE OF THE PROPERTY	PROBERTINANT, INTERPLEE TO THOSE AND ADMINISTRATION OF THE PROBERT OF THE PROPERTY OF THE PROP
. 06-08-04	- B2

Snow

Total Horizontal Product Length = 06-08-04

Reaction Summary (Down / Uplift) (lbs) Bearing

33/0

B1, 5-1/2 B2, 3"

31/0

I Comment						Live	Dead	Snow	Wind	Tributary
Load Summary	I and Wess	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
Tag Description	Load Type	1796	00-00-00	06-08-04	Top		10			00-00-00
0 Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	00-00-04	1 Ob		,,,			44 00 00

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	63 ft-lbs	14,343 ft-lbs	0.4%	0	03-05-06
End Shear	30 lbs	7.521 lbs	0.4%	0	01-03-00
Total Load Deflection	L/999 (0.001")	n\a	n\a.	1	03-05-06
Max Defi.	0.001"	n\a	n\a	1	03-05-06
Span / Denth	7.7				• • • •

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
81 Wall/Plate	5-1/2" x 3-1/2"	46 lbs	0.9%	0.3%	Unspecified
B2 Hanger	3" x 3-1/2"	44 lbs	n\a	0.5%	HGUS410

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

Notes

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

Calculations assume unbraced length of Top: 06-02-12, Bottom: 06-02-12.

Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Member has no side loads.

A STATE OF THE PARTY OF THE PAR ACJES COM COM

DWB NO. TAM 2188-1 STRUCTURAL COMPONENT ONLY



BC CALC® Member Report



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

PASSED

1ST FLOOR FRAMING\Dropped Beams\B2(i1580)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

Bulld 6475

Job name:

Address:

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

Customer:

Code reports:

CCMC 12472-R

File name:

SD1-B34 EL A SUNKEN.mmdl

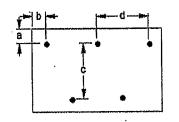
1ST FLOOR FRAMING\Dropped Beams\B2(i1580) Description:

Specifier.

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

c = 5-1/2" 6" d = ##

Member has no side loads. Connectors are: : = 7 . Nalls
31/2 ARDOX SPIRAL



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DWE NO . TAN 2-198 - 18H STRUCTURAL COMPONENT ONLY





PASSED

1ST FLOOR FRAMING\Flush Beams\B17L(i2191)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

Bulld 6475

Job name:

Customer:

Code reports:

Address:

BC CALC® Member Report

City, Province, Postal Code: ST NES

CCMC 12472-R

File name:

SD1-B34 EL A SUNKEN.mmdl

1ST FLOOR FRAMING\Flush Beams\B17L(|2191) Description:

Wind

Specifier:

Designer.

Company:

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	等。 18
· 11- 45 4: 4: 40 March	
1)	·
10-00-14	B2

B1

Total Horizontal Product Length = 10-00-14

Snow

Reaction	Summ	ary (Down /	Uplift) (lbs)
Bearing		Live	Dead

58/0 B1, 3-1/2" 69/0 59/0 B2, 4-3/8" 70 / 0

1	od Dumamanı						Live	Dead	Snow	Wind	Tributary
LO: Tag	nd Summary 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	10-00-14	Top	, , , , , , , , , , , , , , , , , , , ,	5			00-00-00
1	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-00-14	Тор	14	7	•		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	401 ft-lbs	11,610 ft-lbs	3.5%	1	05-00-00
End Shear	138 lbs	5.785 lbs	2.4%	1	01-01-00
Total Load Deflection	L/999 (0,019")	n\a	n\a	4	05-00-00
Live Load Deflection	L/999 (0,01")	n\a	n\a	5	05-00-00
Max Defl.	0.019"	n\a	n\a	4	05-00-00
Span / Depth	12,1		•		

Rearin	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand <i>i</i> Resistance Member	Material
B1	Column	3-1/2" x 1-3/4"	176 lbs	4.4%	2,4%	Unspecified
B2	Wall/Plate	4-3/8" x 1-3/4"	179 lbs	5.5%	1.9%	Unspecified



Notes

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

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

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.

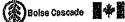
Importance Factor: Normal Part code: Part 9

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

BW8 NO , TAM 2201-18H STRUCTURAL COMPONENT DHLY





PASSED

1ST FLOOR FRAMING\Flush Beams\B18L(i2121)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

BC CALC® Member Report Bulld 6475

Job name:

Customer:

Code reports:

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

CCMC 12472-R

File name: Description:

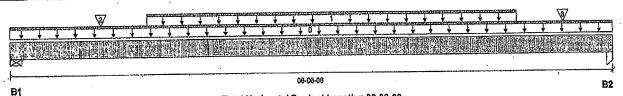
Specifier:

Designer: AJ

SD1-B34 EL A SUNKEN.mmdl

1ST FLOOR FRAMING\Flush Beams\B18L(i2121)

Company:



Total Horizontal Product Length = 06-06-08 Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing B1, 5-1/2" 571/0 318/0 589/0 324/0 B2, 1-3/4"

Live Dead Snow	Wind Tributary
Load Summary Tag Description Load Type Ref. Start End Loc. 1.00 0.65 1.00	1.15
0 Self-Weight Unf. Lin. (lb/ft) L 00-00-00 06-06-08 Top 10	00-00-00
1 Smoothed Load Unf. Lin. (lb/ft) L 01-06-00 05-06-00 Top 202 101	n\a
m. m. n. on on od on on ton 199 01	n\a
2 J3(2174) Conc. Pt. (lbs) L 01-00-00 1-00-00 109 102 91 3	n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2.011 ft-lbs	23,220 ft-lbs	8.7%	1	03-00-00
End Shear	1.117 lbs	11,571 lbs	9.7%	1	01-03-00
Total Load Deflection	L/999 (0.019")	n\a	n\a	4 .	03-05-04
Live Load Deflection	L/999 (0.012")	n\a	n\a	. 5	03-05-04
Max Defl.	0.019"	n\a	n\a	4	03-05-04
Span / Depth	7.7		•		

	•			Demand/ Resistance	Demand/ Resistance	
Bearin	g Supports	Dim. (LxW)	Demand	Support	Member	Material
B1	Wall/Plate	5-1/2" x 3-1/2"	1,255 lbs	15.3%	5.3%	Unspecified
B2	Column	1-3/4" x 3-1/2"	1,289 lbs	32.4%	17.3%	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.

CONFORMS TO DBC 2012

Resistance Factor phi has been applied to all presented results per CSA O86. BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2016 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.

DW8 NO . TAM 2202-19 STRUCTURAL COMPONENT ONLY

T. Gazst





PASSED

January 29, 2019 13:45:29

1ST FLOOR FRAMING\Flush Beams\B18L(i2121)

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: SD1-B34 EL A SUNKEN.mmdl

Description:

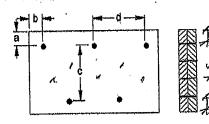
1ST FLOOR FRAMING\Flush Beams\B18L(i2121)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = **£**" b minimum = 3"

c = 1/2" d= 10 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. Connectors are: 🧳 Nalls

31/2" ARDOX SPIRAL



Disclosure

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

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

STRUCTURAL COMPONENT ONLY

でいっぱんり



PASSED

B2

January 29, 2019 13:45:29

1ST FLOOR FRAMING\Flush Beams\B3(i1836)

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 canta

File name:

SD1-B34 EL A SUNKEN.mmdl

1ST FLOOR FRAMING\Flush Beams\B3(i1836) Description:

Specifier:

Designer:

Company:

10-07-12

B1

Total Horizontal Product Length = 10-07-12

Snow

Reaction Summary (Down / Uplift) (ibs)

Dead Bearing 732/0 B1, 5-1/2 624 / 0 738 / 0 462/0 B2, 1-3/4"

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1,00	1.15	
	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-07-12	Тор		. 5			00-00-00
4	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-07-12	Top	10	5			n\a
1		Unf. Lin. (lb/ft)	ī	03-10-00	10-06-00	Top		60			n\a
2	WALL	, ,		00-02-12	00-02-12		567	544	•		n\a
3	E9(1527)	Conc. Pt. (lbs)	.			7	408	420			n\a
4	PBQ3(I545)	Conc. Pt. (lbs)	L.	10-06-14	10-06-14	Top	400	420	open to		· 2
			Factored	Dem					PAN CO PAN	Dress,	ONA
_	 1. A		The selections and	Deal	242242	Care	Location		7 K-37 m	Marian Samuel P	

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1,030 ft-lbs	7,546 ft-lbs	13.7%	0	05-11-05
End Shear	366 lbs	3,761 lbs	9.7%	∵ 0	09-08-08
Total Load Deflection	L/999 (0,063")	n\a	n\a	4	05-06-15
Live Load Deflection	L/999 (0.01")	n\a	n\a	5	06-05-13
Max Defl.	0.063"	. nla	n/a	4	05-06-15
Span / Depth	12.8		•		

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	5-1/2" x 1-3/4"	1,852 lbs	45.0%	15.8%	Unspecified
B2	Column	1-3/4" x 1-3/4"	. 1,615 lbs	81.2%	43.2%	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 DBG 2012

Wind

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 088.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Disclosure

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BC CALCO, BC FRAMERO, AJSTM, ALLJOISTO, BC RIM BOARDTM, BCID, BOISE GLULAMTM, BC FloorValues, VERSA-RIM PLUSO,

STRUCTURAL COMPONENT ONLY

T-12028



BC CALC® Member Report

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

PASSED

1ST FLOOR FRAMING\Flush Beams\B4(i2133)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

Bulld 6475

Job name:

Address:

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

Description:

Specifier:

File name:

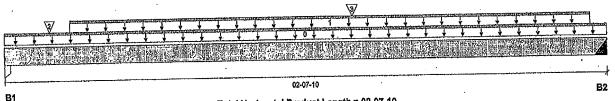
Designer: Company:

SD1-B34 ELA SUNKEN.mmdl

1ST FLOOR FRAMING\Flush Beams\B4(i2133)

Customer: Code reports:

CCMC 12472-R



Total Horizontal Product Length = 02-07-10

Reaction Summa	ry (Down /	Uplift) (lbs) Dead	Snow	Wind	
B1, 3-1/2"	1,100/0	1,052 / 0			
B2. 2"	176 / 0	165 / 0			

	1 6						Live	Dead	Snow	Wind	Tributary
	ad Summary	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1,16.	
Tag	Description Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	02-07-10	Top	,,	5			00-00-00
4	WALL	Unf. Lin. (lb/ft)	L	00-03-08	02-06-12	Top		60			n\a
9		Conc. Pt. (lbs)	L	00-02-08	00-02-06	Тор	1,005	933			n\a
3	_ J1(i2143)	Conc. Pt. (lbs)	L	01-06-04	01-06-04	Top	271	135			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
	430 ft-lbs	11,610 ft-lbs	3.7%	. 1	01-06-04
Pos. Moment	398 lbs	5,785 lbs	8.9%	1	01-08-02
End Shear	L/999 (0.001")	n\a	n\a	4	01-04-10
Total Load Deflection Live Load Deflection	L/999 (0.001")	n\a	n\a	5	01-04-10
Max Defl.	0.001"	n\a	n\a	4	01-04-10
Span / Depth	2,9				

Dooring	Quinnarte	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
	Supports Column	3-1/2" x 1-3/4"	2,965 lbs	74.5%	39.7%	Unspecified
,	Hanger	2" x 1-3/4"	470 lbs	n\a	11.0%	HUS1.81/10

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

Notes

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

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

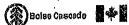
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BC CALC® analysis is been don Consider Limit Office. Gulde and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before Installation.

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

STRUCTURAL COMPONENT ONLY

T-1902390





PASSED

Tributary

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

2ND FLOOR FRAMING\Dropped Beams\B13 DR(i1699)

Dry | 1 span | No cant.

January 29, 2019 13:46:29

BC CALC® Member Report Build 6475

Job name:

Customer:

Code reports:

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

CCMC 12472-R

File name:

SD1-B34 EL A SUNKEN.mmdl

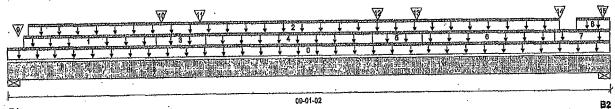
2ND FLOOR FRAMING\Dro...d Beams\B13 DR(I1699) Description:

Wind

Specifier:

Designer:

Company:



B1

Total Horizontal Product Length = 09-01-02

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

Bearing B1, 4" 290/0 1,010/0 1,202/0 1,152 / 0 289/0 1,453 / 0 B2, 5-1/8"

Loa	d Summary		met	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tri
	Description	Load Type	Ref.	00-00-00	09-01-02	Тор	1.00	10			00-
0	Self-Weight	Unf. Lin. (lb/ft)	L		•			41			••
-1	R1(I1859)	Unf. Lin. (lb/ft)	Ļ	00-03-00	02-03-00	Тор					
2	Smoothed Load	Unf, Lin. (lb/ft)	L	00-03-14	08-03-14	Тор	252	126			
3	R1(l1859)	Unf. Lin. (lb/ft)	L	02-03-00	03-00-00	Тор		81			
4	R1(I1859)	Unf, Lin, (lb/ft)	L	03-00-00	05-06-00	Top	•	41			
5	R1(11859)	Unf. Lin. (lb/ft)	L	06-06-00	06-03-00	Top	•	81			
6	R1(i1859)	Unf. Lin. (lb/ft)	L	06-03-00	08-03-00	Top		41			
7	R1(I1859)	Unf. Lin. (lb/ft)	L	08-03-00	09-01-02	Top		81 .			
8	R1(i1859)	Unf, Lin. (lb/ft)	L.	08-07-00	09-01-02	Тор		•	63		
9	R1(11859)	Conc. Pt. (lbs)	L	00-02-00	00-02-00	Top	45	61	86		
10	R1(i1859)	Conc. Pt. (lbs)	L	02-04-00	02-04-00	Top	43	59	82	المارية معرفية معرفية	Ciero.
11	R1(I1859)	Conc. Pt. (lbs)	L.	02-11-00	02-11-00	Top	53	72	DEO!	FEBBIO	NA
12	R1(11859)	Conc. Pt. (lbs)	L	05-07-00	05-07-00	Тор	61	70	198 86	the second	* K
13	R1(i1869)	Conc. Pt, (lbs)	L	06-02-00	06-02-00	Top	45	61/	82	BULL	D
14	R1((1869)	Conc. Pt. (lbs)	L	08-04-00	08-04-00	Top	43	59 🔄	854mm	Mark Carrotter	D.
15	J1(11663)	Conc. Pt. (lbs)	L	08-11-14	08-11-14	Тор	336	168	E.,	FOI	attaca l l

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	6,892 ft-lbs	23,220 ft-lbs	29,7%	1	04-11-14
End Shear	2.941 lbs	11,571 lbs	25.4%	1 .	07-10-08
Total Load Deflection	<u>1</u> /766 (0.132")	n\a	31.3%	35	04-05-14
Live Load Deflection	L/999 (0.079")	n\a	n\a	51	04-05-14
Max Defl.	0.132"	n\a	n\a	35	04-05-14
Span / Depth	10.7	,			

Rearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4" x 3-1/2"	3,355 lbs	36.9%	19.6%	Unspecified
B2		5-1/8" x 3-1/2"	3,908 lbs	33.5%	17.9%	Unspecified

DWB NO . TAMPLOS - 18H STRUCTURAL COMPONENT ONLY





PASSED

January 29, 2019 13:45:29

2ND FLOOR FRAMING\Dropped Beams\B13 DR(i1699) Dry | 1 span | No cant.

BC CALC® Member Report

Bulld 6475 Job name:

Address:

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

Customer: Code reports: **CCMC 12472-R**

File name:

SD1-B34 EL A SUNKEN.mmdl

Description:

2ND FLOOR FRAMING\Dro...d Beams\B13 DR(i1699)

Specifier:

Designer:

Company:

Notes

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

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

Calculations assume member is fully braced.

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

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

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

Design based on Dry Service Condition.

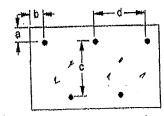
Importance Factor: Normal Part code: Part 9

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

please consult a technical representative or professional of Record.

Member has no side loads.

Connection Diagram: Full Length of Member



a minimum = 🗗 b minimum = 3" c = 0.1/2" 12 d = 🕮

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

Connectors are: ... Nalls ARDOX SPIRAL

Disclosure

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

DWB NO. TAM 2205-18H STRUCTURAL COMPONENT ONLY



PASSED

January 29, 2019 13:45:29

2ND FLOOR FRAMING\Dropped Beams\B14 DR(i1702)

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: SD1-B34 EL A SUNKEN.mmdi

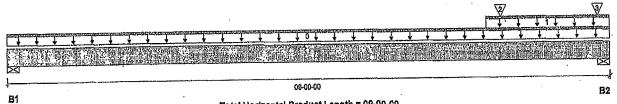
Wind

2ND FLOOR FRAMING\Dro...d Beams\B14 DR(i1702) Description:

Specifier:

Designer:

Company:



Total Horizontal Product Length = 09-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	
B1. 4"	65/0	101 / 0	13/0	
B2. 4"	673/0	608 / 0	122 / 0	

	d Camanamer							Live	Dead	Snow	Wind	Tributary
	d Summary Description	Load Type	Ref.	Start	End	Loc.		1.00	0,65	1.00	1,16	
	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Top			10			00-00-00
-	R1(I1859)	Unf. Lin. (lb/ft)	L	07-02-00	09-00-00	Top		33	113	63		n\a
9	-	Conc. Pt. (lbs)	L.	07-04-10	07-04-10	Top	•	331	247	20		n\a
3	- J1(11682)	Conc. Pt. (lbs)	L	08-09-14	08-09-14	Top		336	168			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand <i>i</i> Resistance	Case	Location
Pos. Moment	1,197 ft-lbs	20,210 ft-lbs	5.9%	1	07-00-04
End Shear	879 lbs	11,571 lbs	7.6%	. 1	07-10-08
Total Load Deflection	L/999 (0,018")	n\a	n\a	35	04-11-15
Live Load Deflection	L/999 (0.009")	n\a	n\a	51	05-01-01
Max Defl. Span / Depth	0.018" 10.7	n\a	n\a	35	04-11-15

Bearing St	innorts	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	•••
B1 Wa	ill/Plate	4" x 3-1/2" 4" x 3-1/2"	221 lbs 1,892 lbs	2,4% 20.8%	1.3% 11.1%	Unspecified Unspecified	

Notes

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

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

Calculations assume unbraced length of Top: 06-06-08, Bottom: 06-06-08.

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

CONFORMS TO OBC 2012

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

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

verification.

一性糖品。

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.

DWG NO. TAM 2206-18H STRUCTURAL COMPONENT ONLY

T Gazon





PASSED

2ND FLOOR FRAMING\Dropped Beams\B14 DR(i1702)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

BC CALC® Member Report **Bulld 6475**

Job name: Address:

City, Province, Postal Code: ST NES

Customer: Code reports:

CCMC 12472-R

File name:

SD1-B34 EL A SUNKEN.mmdl

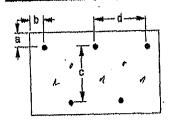
2ND FLOOR FRAMING\Dro...d Beams\B14 DR(i1702) Description:

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 🗗 b minimum = 3" c= 1/2"

Connection dasign 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.

A . . Nails



Disclosure

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BWENU . TAM 2206-18H STRUCTURAL COMPONENT ONLY

BC CALC®, BC FRAMER®, AJSYM ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAMB, VERSA-RIM PLUSB ,

T- Yourshy





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

PASSED

2ND FLOOR FRAMING\Dropped Beams\B5 DR(i2122)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

Build 6475

Job name:

Customer:

Code reports:

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

BC CALC® Member Report

CCMC 12472-R

File name:

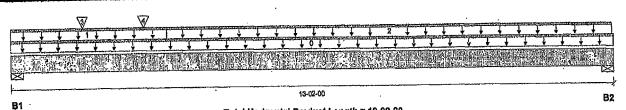
SD1-B34 EL A SUNKEN.mmdl

2ND FLOOR FRAMING\Dro...ed Beams\B5 DR(i2122) Description:

Specifler:

Designer:

Company:



Total Horizontal Product Length = 13-02-00

Reaction Summary (Down / Uplift) (lbs)

Bearing 1,867/0 3,502 / 0 B1, 4" 1,850 / 0 3,466 / 0 B2, 4"

	ad Comemons						Live	Dead	Snow	Wind	Tributary
Load Summary Tag Description		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
1 48	Self-Weight	Unf, Lin. (lb/ft)	[00-00-00	13-02-00	Top		18		•	00-00-00
4	Smoothed Load	Unf, Lin, (lb/ft)	L	00-00-00	03-05-02	Top	327	163			n\a
1	Smoothed Load	Unf, Lin. (lb/ft)	Ĺ	03-05-02	13-01-08	Top	539	269			· n\a
2		Conc. Pt. (ibs)	Ĺ	01-07-02	01-07-02	COT	331	165			n\a
3	J1(I2198)	Conc. Pt. (lbs)	ī	02-11-02	02-11-02	Top	289	145			n\a
4	J1(12123)	COUR Le (ms)	-	Am-11-00	VW-11-0H	, 01		- • •			

Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	22,366 ft-lbs	55,212 ft-lbs	40.5%	1	06-11-02
End Shear	6,434 lbs	21,696 lbs	29.7%	1	11-10-02
Total Load Deflection	L/489 (0.31").	n\a	49.1%	4	06-08-02
Live Load Deflection	1/750 (0.202")	n\a	48.0%	5	06-08-02
Max Defl.	0.31"	n\a	n\a	. 4	06-08-02
Span / Depth	12,8				

Regring	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4" x 5-1/4"	7,586 lbs	55.6%	29,6%	Unspecified
B2	Wall/Plate	4" x 5-1/4"	7,512 lbs	55.1%	29,3%	Unspecified



Notes

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

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

Calculations assume unbraced length of Top: 00-03-09, Bottom: 00-03-09.

Resistance Factor phi has been applied to all presented results per CSA O86. CONFORMS TO OBC 2012 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

please consult a technical representative or professional of Record.

Nailing schedule applies to both sides of the member.

Member has no side loads.

DWB NU . TAW 2007 - 18H STRUCTURAL COMPONENT UNLY



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

PASSED

2ND FLOOR FRAMING\Dropped Beams\B5 DR(i2122)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

BC CALC® Member Report

Bulld 6475 Job name:

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

Customer: Code reports:

CCMC 12472-R

File name:

SD1-B34 EL A SUNKEN.mmdl

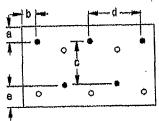
2ND FLOOR FRAMING\Dro...ed Beams\B5 DR(I2122) Description:

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = #" b minimum = 3" c = 6-7/8" // d = 25 6 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.

Member has no side loads.

Connectors are: 3 % .. Nails

ARDOX SPIRAL



Disclosure

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

HYENO YAM 25007 19H STRUCTURAL COMPONENT ONLY

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

T. 19029361





PASSED

Tributary 00-00-00 n\a n∖a n\a n\a n\a n\a n\a n\a n∖a

2ND FLOOR FRAMING\Dropped Beams\B6 DR(I2186)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

BC CALC® Member Report Bulld 6475

Job name:

Address:

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

Customer:

Code reports:

CCMC 12472-R

File name:

SD1-B34 EL A SUNKEN.mmdI

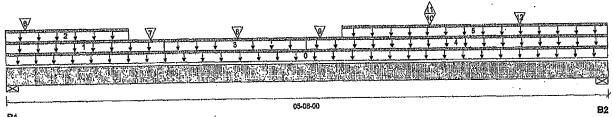
Wind

Description: 2ND FLOOR FRAMING\Dro...ed Beams\B6 DR(I2186)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 05-08-00

Reaction Summary (Down / Uplift) (lbs)
Bearing Live Dead Snow Dead Bearing B1, 4" 1,128/0 1,160 / 0 1,325/1 627 / 0 1,008/0 1,149/3 B2, 4"

ر ما	ad Summary						Live	Dead	Snow	Wind
	Description	Load Type	Ref.	Start	End	Loc.	1,00	0.65	1.00	1,15
0	Self-Weight	Unf. Lin. (ib/ft)	L	00-00-00	05-08-00	Тор		10		
4	R1((2141)	Unf. Lin. (lb/ft)	. L	00-00-00	01-06-00	Top		81		
2	R1(i2141)	Unf, Lin. (lb/ft)	L	00-00-00	01-02-00	Top	121	110	253	
3	R1(12141)	Unf. Lin. (lb/ft)	L	01-06-00	02-10-00	Top		41		
4	R1(i2141)	Unf. Lin. (ib/ft)	Ĺ	02-10-00	05-08-00	Top		81		
5	R1(12141)	Unf. Lin. (lb/ft)	Ĺ	03-02-00	05-08-00	Тор	33	30	63	
		Conc. Pt. (lbs)	Ĺ	00-02-04	00-02-04	Top	208	104	•	
6	J2((1797)	Conc. Pt. (lbs)	Ī.	01-04-08	01-04-08	Тор	551	431	655	
1	10/142021	Conc. Pt. (lbs)	ī.	02-02-04		Top	208	104		
8	J2(11797)	Conc. Pt. (lbs)	ī	02-11-09		Top	527	417	647: F	eri Lances (C)
9	m mm/4.075)	Conc. Pt. (lbs)	ï	04-00-00			458	300	647 P	ADVIOU
10		Conc. Pt. (lbs)	. 1	04-00-00			-4		F SO A	SERVICE THE PARTY OF THE PARTY
11 12	B8(l1675) J1(i1964)	Conc. Pt. (lbs)	L.	04-10-02		•	298	149	5 C	3510
		•						₽.	ell mos	e ere

Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	5,488 ft-lbs	23,220 ft-lbs	23.6%	1	02-11-00
End Shear	3,352 lbs	11,571 lbs	29.0%	1	01-01-08
Total Load Deflection	'L/999 (0.039")	n\a	n\a	58	02-10-00
Live Load Deflection	L/999 (0.026")	n\a	n\a	85	02-10-00
Max Defl.	0.039"	n\a	n\a	58	02-10-00
Snan / Danth	6.5	•			

Rosrina	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4" x 3-1/2"	4,565 lbs	60.2%	26.7%	Unspecified
B2	Wall/Plate	4" x 3-1/2"	3,610 lbs	39.7%	21.1%	Unspecified

DWE NO. TAN 2200-18H STRUCTURAL COMPONENT ONLY

T. Bossep





PASSED

2ND FLOOR FRAMING\Dropped Beams\B6 DR(I2186)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

BC CALC® Member Report Bulld 6475

Job name:

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

Customer: **CCMC 12472-R** Code reports:

SD1-B34 EL A SUNKEN.mmdl File name:

Description: 2ND FLOOR FRAMING\Dro...ed Beams\B6 DR(I2186)

Specifier: Designer:

Company:

Notes

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

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

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

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

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

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

Design based on Dry Service Condition.

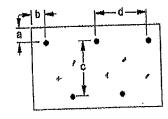
Importance Factor : Normal Part code : Part 9

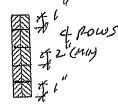
Connection design assumes point load is top-loaded. For connection design of side-loaded point loads,

please consult a technical representative or professional of Record.

Member has no side loads.

Connection Diagram: Full Length of Member





a minimum **= å**" b minimum = 3"

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

Connectors are: ARDUX SPIKAL

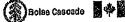
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STRUCTURAL COMPONENT ONLY

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

T. (902949(N)





PASSED

2ND FLOOR FRAMING\Flush Beams\B10(i1826)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

Build 6475

Job name:

Address:

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

BC CALC® Member Report

Customer: Code reports:

CCMC 12472-R

File name:

SD1-B34 EL A SUNKEN.mmdl

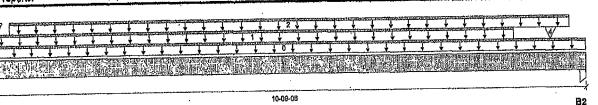
Description:

2ND FLOOR FRAMING\Flush Beams\B10(i1826)

Specifier:

Designer:

ΑJ Company:



B1

Total Horizontal Product Length = 10-09-08

Reaction Sun	nmary (Down / Up	lift) (lbs) Dead	Snow	Wind	
B1, 5-1/2"	818 / 0	774 / 0			
B2. 3-1/2"	773 / 0	714 / 0			

	ad Summary Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.16	Tributary
Tag	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-09-08	Тор		5			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-02-00	09-06-00	Top	154	77			n/a
'n	WALL	Unf. Lin. (lb/ft)	L	00-05-08	10-06-00	Top		60			n\a
2	E27(I1077)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top		37			n∖a
ن الا	13(11860)	Cono. Pt. (lbs)	L	10-02-00	10-02-00	Top	149	75			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Çase	Location
Pos. Moment	5.255 ft-lbs	11,610 ft-lbs	45.3%	1	06-04-00
	1.851 lbs	5,785 lbs	32.0%	1	01-03-00
End Shear	L/429 (0.284")	n\a	56,0%	4	05-06-00
Total Load Deflection	L/824 (0.148")	n\a	43.7%	· 5	05-06-00
Live Load Deflection Max Defl.	0.284"	n\a	n/a	4	05-06-00
Span / Depth	12.8				

: Pogrina	. Cunnarte	Dim. (LxW)	, n	emand	Demand/ Resistance Support	Demand/ Resistance Member	Material
Dearing	Supports	5-1/2" x 1-3/4"		.195 lbs	53,4%	18.7%	Unspecified
B1	Wall/Plate	•					Unspecified
B2	Column	3-1/2" x 1-3/4"	2	,051 lbs	51.5%	27.4%	Dushacilled

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 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9



Disclosure

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

BWE NO . TAM 2009-18H STRUCTURAL COMPONENT ONLY

T. 190395

~aGo ·





PASSED

2ND FLOOR FRAMING\Flush Beams\B11(i1833)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

Build 6475

Job name:

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

BC CALC® Member Report

Customer: Code reports:

CCMC 12472-R

File name:

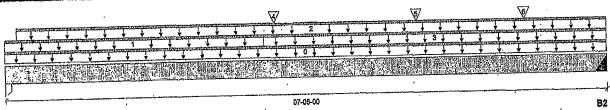
SD1-B34 EL A SUNKEN.mmdl

2ND FLOOR FRAMING/Flush Beams/B11(i1833) Description:

Specifier:

Designer:

Company:



B1

Total Horizontal Product Length = 07-05-00

Reaction Summary (Down / Uplift) (lbs) Wind Snow Dead Bearing 458/0 442/0 B1, 1-3/4" 498/0 503 / 0 B2, 2"

Load Summary		n.s	Otout	tind -	Loc	1.00	Dead 0.65	1,00	1.15	(Industry
Tag Description O Self-Weight 1 FC2 Floor Material 2 WALL 3 FC2 Floor Material 4 - 5 J4(1857) 6 J4(1874)	Load Type Unf. Lin. (lb/ft) Conc. Pt. (lbs) Conc. Pt. (lbs) Conc. Pt. (lbs)	Ref.	Start 00-00-00 00-00-00 00-01-12 03-02-04 03-03-14 05-00-12 06-04-12	07-05-00 03-02-04 07-05-00 07-05-00 03-03-14 05-00-12 06-04-12	Top Top Top	13 11 626 119 112	5 6 60 6 324 60 56	1200	W 48.	00-00-00 n\a n\a n\a n\a n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Name and Address of the Owner, where the Party of the Par	3,389 ft-lbs	11.610 ft-lbs	29,2%	1	03-03-02
Pos. Moment	1.276 lbs	5.785 lbs	22,1%	1	06-05-08
End Shear	.,		n\a	4	03-08-12
Total Load Deflection	L/999 (0.082") L/999 (0.044")	n\a n\a	n\a	5	03-07-05
Live Load Deflection Max Defl.	0.082"	n\a	n\a	4	03-08-12
Span / Depth	9.1				

Danvine	Supporte	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
Bearing B1	Supports Column	1-3/4" x 1-3/4"	1,236 lbs	62,1%	33.1%	Unspecified
B2	Hanger	2" x 1-3/4"	1,377 lbs	n\a	32.2%	HUS1,81/10

Cautions

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

PROFESSION

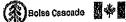
Mind

Tributary

DWS NO. YAM 22-10-184 STRUCTURAL COMPONENT ONLY

T. 190396

. . · (35)



BC CALC® Member Report



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B11(i1833)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

Bulld 6475

Job name:

Address:

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

Customer: Code reports: **CCMC 12472-R**

File name:

SD1-B34 EL A SUNKEN.mmdl

Description: . 2ND FLOOR FRAMING\Flush Beams\B11(i1833)

Specifier:

Designer:

Company:

Notes

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

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

Hanger Manufacturer: Unassigned

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



Disclosure

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DWB NU . YAW 22-10-18H STRUCTURAL COMPONENT OHLY

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

T. 1902396(1)



Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 2ND FLOOR FRAMING\Flush Beams\B12(i1793)

Dry | 1 span | No cant.

PASSED

B2

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

Company:

January 29, 2019 13:45:29

File name:

SD1-B34 EL A SUNKEN.mmdl 2ND FLOOR FRAMING\Flush Beams\B12(11793)

Wind

Description:

Specifier: Designer:

The state of the s
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大学 1977年,1987年,1987年,1987年,1987年,1987年,1987年,1988年,1988年,1988年,1988年,1987年,1987年,1987年,1987年,1987年,1987年,1987年
等。1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、

81

B2, 2"

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

Reaction Sur	mmary (Down / U	plift) (lbs)	3
Bearing	Live	Dead	Snow
B1, 2"	543 / 0	282 / 0	
B2 2"	543 / 0	282 / 0	

	1 O						Live	Dead	Snow	Wind	Tributary
	ad Summary Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1,00	1.16	
Tag	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-04-00	Тор	4	5			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	00-00-00	04-04-00	Top	240	120			n\a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	04-04-00	Top	11	5			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1.146 ft-lbs	11,610 ft-lbs	9.9%	<u> </u>	02-02-00
End Shear	651 lbs	5.785 lbs	11.3%	1	00-11-08
4-47 4-44	L/999 (0.01")	n\a	n\a	4	02-02-00
Total Load Deflection Live Load Deflection	L/999 (0.007")	n\a	n\a	5	02-02-00
Max Defl.	0.01"	n\a	n\a	4	02-02-00
Span / Depth	5.2				

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Matoria]
B1 Hanger	2" x 1-3/4"	1,168 lbs	n/a	27.4%	HUS1.81/10
B2 Hanger	2" x 1-3/4"	1,168 lbs	n/a	27.4%	HUS1.81/10

Cautions

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 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 Q86. 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

PROFESSION

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

DW8 NO. TAN 22/1-18H STRUCTURAL COMPONENT ONLY

CONFORMS TO OBC 2012

......

T. Gazza



PASSED

2ND FLOOR FRAMING\Flush Beams\B15(I1781)

BC CALC® Member Report

Dry | 1 span | No cant.

January 29, 2019 13:45:29

Build 6475

Job name:

Customer:

B1

Code reports:

Address:

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

CCMC 12472-R

File name: Description: SD1-B34 EL A SUNKEN.mmdl

Wind

2ND FLOOR FRAMING\Flush Beams\B15(I1781)

Specifier:

Designer:

Company:

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The state of the s	V	The state of the s	
2.7. Alic 16 - Thirtie 2.1 1 Year and 2.1 Indicates 2.1 In	 		
		100.000	

Total Horizontal Product Length = 01-11-02

Reaction Summary (Down / Uplift) (lbs) Snow Bearing B1, 3-1/2" 83/0 18/0 21/0 116/0 153 / 0 B2, 5-1/4" 72/0

	al Occupants						Live	Dead	Snow	Wind	Tributary
LO: Tag	ad Summary 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	01-11-02	Тор		10			00-00-00
1	FC2 Floor Material	Unf, Lin, (lb/ft)	L.	00-00-00	01-05-14	Top	12	6			n\a
'n	E17(11086)	Unf. Lln. (lb/ft)	L	00-05-08	01-11-02	Тор		81			n\a
2	FC2 Floor Material .	Unf. Lin. (lb/ft)	Ĺ	01-05-14	01-11-02	Top	9	5			n\a
ų.	E33(11347)	Conc. Pt. (lbs)	ï	00-02-12	00-02-12		. 10	32	18		n\a
4		Conc. Pt. (lbs)	ı	01-08-10	01-08-10	•	61	55	116,	1,69	n\a
Ð	E17(I1086)	Cotto: Le (ma)	14	01 00 10	0, 20 14	• -4-					tree.

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment End Shear Span / Depth	28 ft-lbs 47 lbs 1.7	15,093 ft-lbs 7,521 lbs	0.2% 0.6%	0	00-10-13 01-01-00

Rearing :	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
	Beam	3-1/2" x 3-1/2"	116 lbs	1.7%	1.2%	Unspecified	
B2 B	3eam	5-1/4" x 3-1/2"	438 lbs	5.6%	2.0%	Unspecified	

Notes

Calculations assume unbraced length of Top; 00-00-00, Bottom; 00-00-00,

CONFORMS TO OBC 2012

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

please consult a technical representative or professional of Record.

Member has no side loads.

UWE NU . PAM 22/2-18H STRUCTURAL COMPONENT ONLY

T. 190239&

ďΩ





PASSED

2ND FLOOR FRAMING\Flush Beams\B15(i1781)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

BC CALC® Member Report Bulld 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

File name:

SD1-B34 EL A SUNKEN.mmdi

Description:

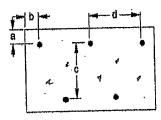
2ND FLOOR FRAMING\Flush Beams\B15(i1781)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = #" b minimum = 3"

c= 1/2" d=#41/2

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

Connectors are: ARDUX



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 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 questions, please call (800)232-0788 before installation.

DWG NO . YAM 2212-18H STRUCTURAL COMPONENT ONLY

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

T. 190398(1)





PASSED

2ND FLOOR FRAMING\Flush Beams\B7(i1847)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

BC CALC® Member Report **Build 6475**

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

File name:

SD1-B34 EL A SUNKEN.mmdl

Wind

Description:

2ND FLOOR FRAMING\Flush Beams\B7(i1847)

Specifier:

Designer:

Company:

B1

Total Horizontal Product Length = 13-08-02

	ımary (Down / Up	lift) (lbs) Dead	Snow .
Bearing B1, 4-3/8"	1,131/0	651 / 0	
B2 2-3/4"	1,452 / 0	1,015/0	

							Live	Dead	Snow	Wind	Tributary
	ad Summary	Land Tremo	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
Tag	Description	Load Type	12011	00-00-00	13-08-02	Top		10			00-00-00
0	Self-Weight	Unf, Lin. (lb/ft)	i	00-00-00	13-08-02	Top	21	10			n\a⋅
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L.				154	77			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-10-14	11-02-14	Тор		11			n\a
-	FC2 Floor Material	Unf. Lin. (lb/ft)	L	12-05-08	13-08-02	Тор	23				
3		Conc. Pt. (lbs)	L	01-02-14	01-02-14	Top	184	92			ri∖a
4	J3(I1890)		1	11-10-14	11-10-14	Top	146	73			n\a
5	J3((1860)	Conc. Pt. (lbs)	1	12-05-08	12-05-08	•	497	492			n\a
6	B11(I1833)	Conc. Pt. (lbs)	L.	12-00-00	12-00-00	יטף	177		and The Land	· · · · · · · · · · · · · · · · · · ·	*COLLANDON

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
	8,937 ft-lbs	23,220 ft-lbs	38,5%	1	06-06-14
Pos. Moment	3.339 lbs	11,571 lbs	28.9%	1	12-07-14
End Shear			61.1%	4	06-10-14
Total Load Deflection	L/393 (0,404")	n\a	57.7%	5	06-10-14
Live Load Deflection	L/624 (0.254")	n\a	******	4	06-10-14
Max Defl.	0.404"	n\a	u/a	7	00-10-1-
Span / Depth	16.7				

Destina	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material -
Dearing		1 0(0) - 0 1(0)	2,511 lbs	38.4%	13.4%	Unspecified
B1	& south a least	4-3/8" x 3-1/2"				Unspecified
B2	Wall/Plate	2-3/4" x 3-1/2"	3,447 lbs	83.8%	29.4%	Ottoherviter

Notes

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

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

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

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 Q83.

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.

P6 12

DW8 NO. TAM 2273.18H STRUCTURAL COMPONENT ONLY

T. Gazge





PASSED

January 29, 2019 13:45:29

2ND FLOOR FRAMING\Flush Beams\B7(i1847)

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.

SD1-B34 EL A SUNKEN.mmdl File name:

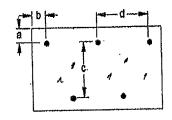
2ND FLOOR FRAMING\Flush Beams\B7(i1847) Description:

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = # b minimum = 3" c = 1-1/2" d = 4

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 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.

STRUCTURAL COMPONENT ONLY

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

T. Gazge(N)





PASSED

January 29, 2019 13:46:39

2ND FLOOR FRAMING\Flush Beams\B9(i1830)

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

Dry | 2 spans | No cant.

File name:

SD1-B34 EL A.mmdl

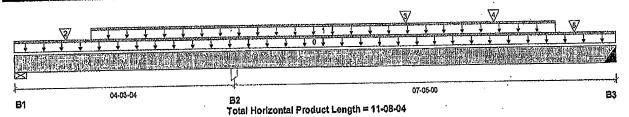
Wind

2ND FLOOR FRAMING\Flush Beams\B9(I1830) Description:

Specifier:

Designer:

Company:



Reaction Summary (Down / Uplift) (lbs)

Dead Bearing 0/33 318 / 401 B1, 5-1/2" 1,184/0 B2, 3-1/2" 2,200 / 0 520 / 0 992/18 B3, 3"

							Live	Dead	Snow	Wind	Tributary
	ad Summary	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1,00	1.15	
Tag		Unf. Lin. (lb/ft)		00-00-00	11-08-04	Top	,	10			00-00-00
Q	Self-Weight		ī	01-06-04	10-06-04	Top	206	103			n\a
1	Smoothed Load	Unf. Lin. (lb/ft)			01-00-04		159	80		•	n\a
2	J2(i1927)	Conc. Pt. (lbs)	Ļ	01-00-04				325			n\a
3		Conc. Pt. (lbs)	L	07-07-02	07-07-02	Тор	628				
4	J4(11843)	Conc. Pt. (lbs)	L	09-04-00	09-04-00	Top .	123	62			n\a
4	14(11043)	Conc. Pt. (lbs)	1	10-10-10	10-10-10	Top	302	151			n\a
	•	CONC. Pt. (IDS)	-	10 10 10	10 10 10	, - p					

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3,872 ft-lbs	23,220 ft-lbs	16.7%	3 .	08-00-04
	-3,656 ft-lbs	-23,220 ft-lbs	15.7%	1	04-03-04
Neg. Moment	1,932 lbs	11.571 lbs	16.7%	3	10-07-12
End Shear		11,571 lbs	23.7%	1	05-02-08
Cont. Shear	2,747 lbs	n/a	n\a	10	08-01-12
Total Load Deflection	L/999 (0.043")		n\a	13	08-01-12
Live Load Deflection	L/999 (0.029")	n\a		10	02-08-08
Total Neg. Defl.	L/999 (-0.007")	n\a	n\a	10	08-01-12
Max Defl.	0.043"	n\a	n\a	10	בניין טיטט
Span / Depth	9.1				



Roaring	Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	5-1/2" x 3-1/2"	447 lbs	5.4%	1.9%	Unspecified
B1	Uplift		643 lbs	00.40/	32.0%	Unspecified
B2	Column	3-1/2" x 3-1/2"	4,779 lbs	60.1%		
B3	Hanger	3" x 3-1/2"	2,138 lbs	n\a	16.7%	HGU\$410

Cautions Uplift of 643 lbs found at span 1 - Left.) _ (S/MPSON /- H Z. 5A (2.57. B1) Header for the hanger HGUS410 at B3 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF.

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

> STRUCTURAL COMPONENT ONLY





PASSED

2ND FLOOR FRAMING\Flush Beams\B9(i1830)

Dry I 2 spans | No cant.

January 29, 2019 13:46:39

BC CALC® Member Report Bulld 6475

Job name:

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

File name: Description: Specifier:

Designer:

Customer: Code reports:

CCMC 12472-R

Company:

SD1-B34 EL A.mmdi

2ND FLOOR FRAMING\Flush Beams\B9(I1830)

Notes

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

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

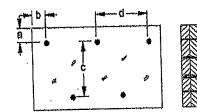
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2016 and CSA O86.

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

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

please consult a technical representative or professional of Record.

Connection Diagram: Full Length of Member



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

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

Connectors are: 180 A Ter in Nails 3%" ARDOX SPIRAL



Disclosure

٠,,'

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

DWEND TAM 22 4 4 6 H STRUCTURAL COMPONENT OHLY

Juga 20 100

T. 190400 (V)





PASSED

2ND FLOOR FRAMING\Flush Beams\B8(i1675)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

BC CALC® Member Report Build 6475

Job name:

Address:

Customer:

Code reports:

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

CCMC 12472-R

File name:

SD1-B34 EL A SUNKEN.mmdl

2ND FLOOR FRAMING\Flush Beams\B8(I1675) Description:

Specifier:

Designer: ΑJ

Company:

**		
	The state of the s	
	· 13-06-10	B2

B1

Total Horizontal Product Length = 13-06-10

Reaction Sumr	nary (Down / Ur Live	olift) (lbs) Dead	Snow	Wind	·
B1, 2-3/4"	969 / 12	568 / 0			
Bo 0.0/8#	454 A	298 / 0			

_							Live	Dead	Snow	wing	Tributary
	nd Summary Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
Tag		Unf. Lin. (lb/ft)	i.	00-00-00	13-06-10	Top		10			00-00-00
U	Self-Weight		-	00-00-00	13-06-10	Top	17	8			· n/a
1	FC2 Floor Material	Unf. Lin. (lb/ft)	h	- "	03-04-00	Top	23	12			n\a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	i	00-00-00				0			n\a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	03-04-00	13-06-10	Top	16	0			
3		Conc. Pt. (lbs)	L	03-04-00	03-04-00	Top	950	499			n\a
4	B9(I1687)		,	03-04-00	03-04-00	Top	-16				n\a
5	B9(i1687)	Conc. Pt. (lbs)	L,	00-04-00	00.0.1.00	4-			2 57 5 4 AM. "	TANK TENN	. .

Controls Summary	Factored Demand	Factored Resistance	Demand <i>l</i> Resistance	Case	Location
Pos. Moment	6.311 ft-lbs	23,220 ft-lbs	27,2%	1	03-04-00
	2.064 lbs	11,571 lbs	17.8%	1	01-00-04
End Shear	L/645 (0.247")	n\a	37.2%	6	06-02-10
Total Load Deflection	L/1,034 (0.154")	n\a	34.8%	8	06-02-10
Live Load Deflection Max Defl. Span / Depth	0,247" 16.7	n\a	nla	6	06-02-10

e S	PHOFESS, CV	
13	FEB 10 18 %	
A5538723	E. FOK \$	
a Co		4 45.43
* 49	The state of the s	

Dooring	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand <i>i</i> Resistance Member	Material
B1	Wall/Plate	2-3/4" x 3-1/2"	2.163 lbs	52.6%	18,4%	Unspecified
ฮา	AASIMLIGIC			• · · · · ·	10.4%	Unspecified
B2	Beam	2-3/8" x 3-1/2"	1,052 lbs	14.5%	10.470	Ditapoonico

Notes

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

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

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

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086,

Design based on Dry Service Condition.

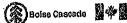
Importance Factor: Normal Part code: Part 9

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

please consult a technical representative or professional of Record.

OWE NO . YAM 22/3 STRUCTURAL COMPONENT ONLY

T. Gorles





PASSED

2ND FLOOR FRAMING\Flush Beams\B8(i1675)

Dry | 1 span | No cant.

January 29, 2019 13:45:29

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

File name:

SD1-B34 EL A SUNKEN.mmdi

Description:

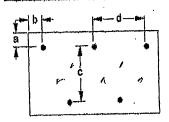
2ND FLOOR FRAMING\Flush Beams\B8(i1675)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = #" b minimum = 3" c=1-1/2" d=2006

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

ARDOX SPIRAL



4. Disclosure

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DWEND. TAN 221518H STRUCTURAL COMPONENT ONLY

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

T-1902401/M





PASSED

В3

2ND FLOOR FRAMING\Flush Beams\B9(i1687)

Dry | 2 spans | No cant.

January 29, 2019 13:45:29

BC CALC® Member Report Build 6475

Job name:

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

File name: Description: SD1-B34 EL A SUNKEN.mmdl

2ND FLOOR FRAMING\Flush Beams\B9(i1687)

07-05-00

Wind

Specifier:

Designer:

Company:

Customer:

Code reports:

CCMC 12472-R

04-03-04 **B**1

Total Horizontal Product Length = 11-08-04 Snow

Reaction Summary (Down / Uplift) (lbs)

Doad Live 318 / 401 07/33 B1, 5-1/2" 2,200/0 1,184 / 0 B2, 3-1/2" 520 / 0 992/18 B3, 3[⊪]

							Live	Dead	Snow	wina	Tributary
	ad Summary	Load Type	Ref.	Start	End	Loc.	1.00	0.66	1.00	1.15	
Tag		Unf. Lin. (lb/ft)	L	00-00-00	11-08-04	Тор		10			00-00-00
Ü	Self-Weight		1	01-06-04	10-06-04	Top	206	103			n\a
1	Smoothed Load	Unf. Lin. (lb/ft)			01-00-04	•	159	80			n\a
2	J2(11690)	Conc. Pt. (lbs)	L	01-00-04							n\a
2		Conc. Pt. (lbs)	l.	07-07-02	07-07-02	Тор	628	325			
٥		Conc. Pt. (lbs)	L	09-04-00	09-04-00	Top	123	62			n\a
4	J4(11857)		- 7	10-10-10	10-10-10	qoT	302	151			n\a
5		Conc. Pt. (lbs)	<u> </u>	10-10-10	10-10-10	1 ab	***				

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
	3,872 ft-lbs	23,220 ft-lbs	16.7%	3	08-00-04
Pos. Moment	-3,656 ft-lbs	-23,220 ft-lbs	15.7%	1	04-03-04
Neg. Moment	•	11.571 lbs	16.7%	3	10-07-12
End Shear	1,932 lbs	11,571 lbs	23.7%	1	05-02-08
Cont. Shear	2,747 lbs		n\a	10	08-01-12
Total Load Deflection	L/999 (0.043")	n\a	****	13	08-01-12
Live Load Deflection	L/999 (0.029")	n\a	n\a	- •	02-08-08
Total Neg, Defl.	L/999 (-0.007")	n\a	n\a	10	***
Max Defl.	0.043"	n\a	n\a	10	08-01-12
Span / Depth	9.1				



Rogri	ng Supports	Dim. (LxW)	Demand	Domand/ Realstance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	5-1/2" x 3-1/2"	447 lbs	5.4%	1.9%	Unspecified
B1 B2	Uplift Column	3-1/2" x 3-1/2"	643 lbs 4,779 lbs	60.1%	32.0%	Unspecified
B3	Hanger	3" x 3-1/2"	2,138 lbs	n\a	16.7%	HGUS410

Cautions

Uplift of 643 lbs found at span 1 - Left.) - (5/17/50) 1-42-54 @ 07-81) Header for the hanger HGUS410 at B3 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

DW8 NO. TAM 2216.184 STRUCTURAL COMPONENT ONLY

T. Gorgo



PASSED

January 29, 2019 13:45:29

2ND FLOOR FRAMING\Flush Beams\B9(i1687) Dry | 2 spans | No cant.

BC CALC® Member Report

Build 6475 Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

File name:

SD1-B34 EL A SUNKEN.mmdl

Specifier:

Designer:

Company:

Description: 2ND FLOOR FRAMING\Flush Beams\B9(I1687)

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

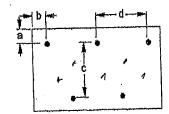
Resistance Factor phl has been applied to all presented results per CSA O86. CONFORMS TO DBC 2012 BC CALO® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86. Resistance Factor phl has been applied to all presented results per CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

Connection Diagram: Full Length of Member



a minimum = 2" 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. ... Nalls

Connectors are:

31/2" ARDOX SPIRAL

Disclosure

hers.

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STRUCTURAL COMPONENT ONLY

BC CALCE, BC FRAMER®, AJSTM. ALLJOIST®, BC RIM BOARDTM, BCI®, BOISE GLULAMIM, BC FloorValue®. VERSA-LAMB, VERSA-RIM PLUSB,

T. (Angorla)



PASSED

January 29, 2019 13:46:39

1ST FLOOR FRAMING\Flush Beams\B1(i2079)

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Dry | 1 span | No cant.

File name: Description: SD1-B34 EL A.mmdl

Wind

1ST FLOOR FRAMING\Flush Beams\B1(i2079)

Specifier:

Designer:

Customer: **CCMC 12472-R** Code reports:

Company:

-12" PA307 BOLZS clumasiters/14075. 13-07-08 6" **B2** В1

Total Horizontal Product Length = 13-07-06

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing 1,218/0 B1, 3-5/8 2,101/0 493/0 790/0 B2, 4-3/8"

	of Cummant						Live	Dead	Snow	Wind	Tributary
	d Summary Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
Tag	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-07-06	Top		10			00-00-00
0	STAIR	Unf, Lin. (lb/ft)	L	00-00-00	03-04-12	Top	120	60			. n\a
1	** - * - ·	Unf. Lin. (lb/ft)	1	00-01-00	03-03-00		25	12			n\a
2	FC1 Floor Material	•	-	03-03-00	13-07-06	Top	39	19			n\a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	<u>.</u>		03-04-12	qoT	2,004	1,136		2.7	m\a n\a
4	B2(2069)	Conc. Pt. (lbs)	L	03-04-12	UG-U4-12	Tup	. 2,004	1,100	and the second	POFES	S'ON MIN

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case_	Location
Pos. Moment	12,934 ft-lbs	23,220 ft-lbs	55.7%	1	03-04-12
End Shear	4,329 lbs	11,571 lbs	37.4%	1	01-01-02
	L/341 (0.46")	n\a	70.3%	4	06-01-01
Total Load Deflection	L/544 (0.288")	n\a	66.2%	5	06-01-01
Live Load Deflection Max Defl.	0.46"	n\a	n\a	4	06-01-01
Snan / Depth	16.5	•			

Regring	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Materiai
B1	Beam	3-5/8" x 3-1/2"	4,674 lbs	86,2%	30.2%	Unspecified
B2	Wall/Plate	4-3/8" x 3-1/2"	1,801 lbs	27,5%	9.6%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86. BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Concentrated side-load exceeds allowable magnitude for connection design. Please consult a technical representative or Professional Engineer for the design of the connection. Of 1976 NAIWAG + BOLTING.

PROVIDE 3 NOWS OF 314" ARDOX SPIRAL NAILS @ 12"0/C FOR "MULTI-PLY NAILING, MAINTAIN A MIN. 2"LUMBER EDGE/END DISTANCE, DO NOT USE AIR NAILS

STRUCTURAL COMPONENT ONLY

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 CONFORMS TO UBC 2012 Application. The output hard specification. The output hard is application. The output hard is based on building code-accounted dealer. 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-LAMB, VERSA-RIM PLUSB

> > T-Unigo3



PASSED

1ST FLOOR FRAMING\Flush Beams\B16(12082)

Dry | 1 span | No cant.

January 29, 2019 13:46:39

BC CALC® Member Report Bulld 6475

Job name:

Customer:

Code reports:

Address:

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

CCMC 12472-R

File name:

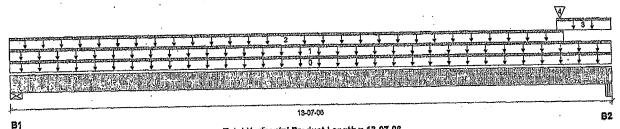
SD1-B34 EL A.mmdl

1ST FLOOR FRAMING\Flush Beams\B16(i2082) Description:

Specifier:

Designer:

Company:



Total Horizontal Product Length = 13-07-06

Snow

Reaction Summary (Down / Uplift) (lbs)

Dead Live 182/0 B1, 4-3/8 291/0 483/0 308 / 0 B2, 1-5/8"

	L Construction many						Live	Dead	Snow	Wind	Tributary
	ad Summary Description	Load Type	Ref.	Start	End	Loc.	1.00	0,65	1.00	1.15	
Tag	Self-Weight	Unf. Lin. (lb/ft)	L.	00-00-00	13-07-06	Top		5			00-00-00
Ų	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	13-07-06	Top	16	8			n\a
1	FC1 Floor Material	Unf. Lln. (lb/ft)	Ĺ	00-00-00	12-06-06	Top	24	12			n\a
2		Unf. Lin. (lb/ft)	Ĺ	12-04-10	13-07-06	Top	120	60			n\a
3 A	STAIR B4(12046)	Conc. Pt. (lbs)	į.	12-05-08	12-05-08	Top	101	88		i. Geografia	n\a
7	m=l/ima ial		Factored	Dem	and/	0	Lagation	S CO	HOFES	CNA	N.

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2,217 ft-lbs	11,810 ft-lbs	19.1%	1	07-03-09
End Shear	824 lbs	5.785 lbs	14.3%	1	12-08-04
	L/784 (0,203")	n\a	30.6%	4	06-11-06
Total Load Deflection Live Load Deflection	L/999 (0.124")	n\a	n\a	б	06-11-06
Max Dell.	0,203"	n\a	n\a	4	06-11-06
Span / Depth	16.7				

Boaring	Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
Dearing		4-3/8" × 1-3/4"	663 lbs	20.3%	7.1%	Unspecified	
BJ	Wall/Plate				32,0%	Unspecified	
D0	Roam	1-5/8" x 1-3/4"	1.110 lbs	91,4%	32,U70	Olishadinen	

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 088.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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DWEND. TAM 2218-18H STRUGTURAL COMPONENT ONLY

CONFORMS TO DBG 2012

T- Gorgoy



BC CALC® Member Report



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B2(i2069)

Dry | 1 span | No cant.

January 29, 2019 13:46:39

MOFESSION

12 19 1

Build 6475

Job name:

Address:

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

Customer:

Code reports:

CCMC 12472-R

Description:

1ST FLOOR FRAMING\Flush Beams\B2(12069)

SD1-B34 EL A.mmdl

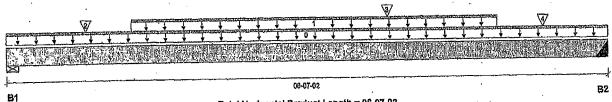
Wind

Specifier:

File name:

Designer:

Company:



Total Horizontal Product Length = 06-07-02 Snow

Reaction Summary (Down / Uplift) (ibs)

Bearing 820 / 0 1,449/0 B1, 4-3/8 2.023 / 0 1,147 / 0 B2, 2"

۱.	ad Cummann						Live	Dead	Snow	Wind	Tributary
	ad Summary	Load Type	Ref.	Start	End	Loc.	1.00	0,66	1.00	1.16	
Tag	Description Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-07-02	Top		10			00-00-00
Ų		Unf. Lin. (lb/ft)	ī	01-04-10	05-04-10	Top	207	104			n\a
1	Smoothed Load		1		00-10-10		185	92			n\a
2	J2(12086)	Conc. Pt. (ibs)	۲		- •		2,267	1,300			n\a
3	PBO4(i553)	Conc. Pt. (lbs)	L	04-02-02	04-02-02	Тор	• •	•			
Ā	12(12(100))	Conc. Pt. (lbs)	Ĺ	05-10-10	05-10-10	Тор	192	96		كسا.	n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	9.290 ft-lbs	23,220 ft-lbs	40.0%	1	04-02-02
	4,328 lbs	11,571 lbs	37.4%	1	05-07-10 "
End Shear	L/999 (0.077")	n\a	n\a	4	03-06-02
Total Load Deflection	∠/999 (0.049")	n\a	n\a	5	03-06-02
Live Load Deflection Max Defl.	0.077"	n\a	n\a	4	03-06-02
Snar / Denth	7.8	•			

Demand	Resistance Support	Resistance Member	Material
3,199 lbs	48,9%	17.1%	Unspecified
4,469 lbs	n\a	52.3%	HGUS410

B1

B2

Bearing Supports

Wall/Plate

Hanger

Header for the hanger HGUS410 at B2 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1,7 2400 DF. Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

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.

Dim. (LxW)

2" x 3-1/2"

4-3/8" x 3-1/2

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA 086. CONFORMS TO UBC 2012

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

DWG NO. YAW221 STRUGTURAL COMPONENT ONLY

T. Proselot





PASSED

1ST FLOOR FRAMING\Flush Beams\B2(12069)

BC CALC® Member Report

Bulld 6475

Job name:

Customer:

Code reports:

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

CCMC 12472-R

Dry | 1 span | No cant.

File name: SD1-B34 EL A.mmdl

Description:

Specifier:

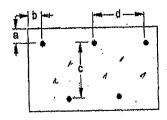
Designer:

Company:

January 29, 2019 13:46:39

1ST FLOOR FRAMING\Flush Beams\B2(i2069)

Connection Diagram: Full Length of Member



a minimum = 4" 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: \(\)

ARDOX SPIRAL

PHOFESSION

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 Bolse Cascade engineered wood products must be in accordance with current installation Guide and applicable building codes. To obtain installation Guide or ask questions, please call (800)232-0788 before installation.

STRUCTURAL COMPONENT ONLY

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

T. 190240x(M





PASSED

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

January 29, 2019 13:46:39

1ST FLOOR FRAMING\Flush Beams\B3(i1793)

BC CALC® Member Report

Bulld 6475

Job name:

Customer:

Code reports:

Address:

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

Dry I 1 span | No cant.

SD1-B34 EL A.mmdl File name:

Description:

1ST FLOOR FRAMING\Flush Beams\B3(I1793)

Specifier:

Designer:

CCMC 12472-R

Company:

10-07-12 B2 **B1**

Total Horizontal Product Length = 10-07-12 Snow

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

732/0 624 / 0 B1, 5-1/2 738 / 0 462/0 B2, 1-3/4"

		nd Summary Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.66	Snow 1.00	Wind 1.15
•	Tag	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-07-12	Тор		5		
	4	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-07-12	Top	10	5		
	n	WALL	Unf. Lin. (lb/ft)	Ĺ.	03-10-00	10-06-00	Top		60		•
	2		Conc. Pt. (lbs)	Ĺ	00-02-12	00-02-12	Top	567	544		Y'SHIN
	3	E9(1527)	Conc. Pt. (lbs)	Ĺ	10-06-14	10-06-14	qoT	408	420	POROFE	SS'ON
	4	PB03(l545)	Coller i ir (100)	-					<i>M</i> 2	سست * به	chann i

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1,030 ft-lbs	7,546 ft-lbs	13.7%	. 0	05-11-05
End Shear	366 lbs	3,761 lbs	9.7%	0	09-08-08
	L/999 (0.063")	n\a	n\a	4	05-06-15
Total Load Deflection Live Load Deflection	L/999 (0.000 /	n/a	n\a	5	05-05-13
Max Defl.	0.063"	n\a	n\a	4	05-06-15
Span / Depth	12.8				

Rearing	Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	5-1/2" x 1-3/4"	1,852 lbs	45.0%	15.8%	Unspecified
B2	Column		1,615 lbs	81.2%	43.2%	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 O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

importance Factor: Normal Part code: Part 9

Disclosure

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DWB NO . TAM 222218H STRUCTURAL COMPONENT ONLY

CONFORMS TO DBG 2012

100 C (360 mg

T- 400c0 6



PASSED

1ST FLOOR FRAMING\Flush Beams\B4(12046)

Dry | 1 span | No cant.

January 29, 2019 13:46:39

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

File name:

SD1-B34 EL A.mmdl

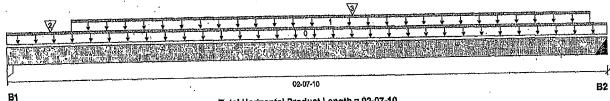
Wind

1ST FLOOR FRAMING\Flush Beams\B4(i2046) Description:

Specifier:

Designer:

Company:



Total Horizontal Product Length = 02-07-10

Snow

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

1,052 / 0 1,100/0 B1, 3-1/2 165 / 0 176/0 B2, 2"

	,		٠.			Live	Dead	Snow	Wind	Tributary
Load Summary	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	**************************************
Tag Description	Unf, Lin, (lb/ft)	L.	00-00-00	02-07-10	Top		5			00-00-00
0 Self-Weight	Unf. Lin. (lb/ft)	Ĺ	00-03-08	02-06-12	Top		60			u/s
1 WALL	Conc. Pt. (lbs)	i	00-02-06	00-02-06	Top	1,005	933			n\a
2 -	Conc. Pt. (lbs)	ī	01-06-04	01-06-04	Top	271	136	A CONTRACTOR	and the same	" nla
3 J1(12016)	Couc. L. (ips)	Ser .	V 1-00 W 1		•			200 MACO F. F	88 ON	Sale.

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	430 ft-lbs	11,610 ft-lbs	3.7%	1	01-06-04
• • • • • • • • • • • • • • • • • • • •	398 lbs	6.785 lbs	6.9%	1	01-08-02
End Shear	L/999 (0,001")	n/a	n\a	4	01-04-10
Total Load Deflection	L/999 (0.001")	u/a ·	n\a	6	01-04-10
Live Load Deflection Max Defl.	0.001"	n/a	n\a	4	01-04-10
Span / Depth	2,9				,

Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material .	
2,965 lbs	74.5%	39.7%	Unspecified	
470 ibs	n/a	11.0%	HU\$1.81/10	

B1

B2

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

Notes

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

3-1/2" x 1-3/4"

2" x 1-3/4"

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

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

Hanger Manufacturer: Unassigned

Bearing Supports Dlm. (LxW)

Column

Hanger

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 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Disclosure

 $\{y_i\}_{i \in I}$

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

DWB NO. TAM 2221-1841 STRUCTURAL COMPONENT ONLY

T-190240



PASSED

2ND FLOOR FRAMING\Dropped Beams\B13 DR(i1949)

Dry | 1 span | No cant.

January 29, 2019 13:46:39

BC CALC® Member Report Build 6475

Job name: Address:

File name:

SD1-B34 EL A.mmdl

Description: 2ND FLOOR FRAMING\Dro...d Beams\B13 DR(i1949)

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

Specifier: Designer:

Customer: Code reports:

CCMC 12472-R

Company:

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		marie and a second	A PROPERTY OF THE PARTY OF THE			***************************************	
The factor of the state of the							
 			09	3-01-02			B2

₿1

End Shear

Max Defl.

Span / Depth

Total Load Deflection

Live Load Deflection

Total Horizontal Product Length = 09-01-02

Reaction Summar	y (Down /	Uplift) (lbs)	Snow	Wind	
B1, 4"	1,202/0	1,010 / 0	290 / 0		
B2, 6-1/8"	1,453 / 0	1,152 / 0	289 / 0	•	

	-1 (O						Live	Dead	Snow	Wind	Tribut	tary
	d Summary	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15		
nag.	Description Self-Weight	Unf, Lln. (lb/ft)	L	00-00-00	09-01-02	Top		10			00-00	
1	R1((1966)	Unf. Lin. (lb/ft)	L	00-03-00	02-03-00	Top		41				u/a
,	Smoothed Load	Unf, Lin. (lb/ft)	L	00-03-14	08-03-14	Top	252	126				n\a
3	R1(I1966)	Unf. Lin. (lb/ft)	L.	02-03-00	03-00-00	Top		81				n\a
4	R1(11966)	Unf, Lin. (lb/ft)	Ļ	03-00-00	05-06-00	Тор		41				n\a
5	R1((1966)	Unf. Lin. (lb/ft)	L	05-06-00	06-03-00	Top		81				n\a
6	R1(i1966)	Unf. Lin. (lb/ft)	L	06-03-00	08-03-00	Top		41				n\a
7	R1(11966)	Unf. Lin. (lb/ft)	L.	08-03-00	09-01-02	Тор		81				กเล
8	R1(I1966)	Unf. Lln. (lb/ft)	L	08-07-00	09-01-02	Тор			63			n\a
9.	R1(11966)	Conc. Pt. (lbs)	L	00-02-00	00-02-00	Тор	45	61	86		Ach.	n\a
10	R1(I1966)	Conc. Pt. (lbs)	۲.	02-04-00	02-04-00	Top	43	59	82		•••	n\a
11	R1(11966)	Conc. Pt. (lbs)	L	02-11-00	02-11-00	Top	53	72	102 98	ent.	C. T. Salvania	n\a
12	R1(11966)	Conc. Pt. (lbs)	L.	05-07-00	05-07-00	Тор	51	70	98	MOLEG	SIONAL	n/a
13	R1(I1966)	Conc. Pt. (lbs)	. L	06-02-00	06-02-00	Top	45	61	\$60°	Charles W.	and the same	Control of
14	R1((1966)	Conc. Pt. (lbs)	L	08-04-00	08-04-00		43	59	[37 <i>[</i> :	FCBI	0183	May 1
15	J1(l1869)	Conc. Pt. (lbs)	L	08-11-14	08-11-14	Тор	336	168	is de	August Manager	614	a marin
	# (fr. = 1)		H- shaned	Don	iand/			Į.	9E G.	E. (*	OW	79
Co	ntrols Summary	Factored Demand	Factored Resistance	Res	stance	Case	Location	,	(C	NEW PARKET OF THE	(DANSON TRANSPORTED	2 K
-	B. Moment	6,892 ft-lbs	23,220 ft-lb	s 29.7	1%	1	04-11-14		15%	Change !	AND STATE OF STREET	PJ,
100	M. 11101110111	*	a a week a thin	OF.	in/	4	07_1D.08		*/ %		54 \ (V)	4 . 50° . 4

25.4%

31.3%

n\a

n\a

1

35

51

35

07-10-08

04-05-14

04-05-14

04-05-14

	,			Demand/ Resistance	Demand/ Resistance	Material
Bearing	Supports	Dim. (LxW)	Demand	Support	Member	And the second name of the secon
	Wall/Plate	4" x 3-1/2"	3,355 lbs	36.9%	19.6%	Unspecified
1	Wall/Plate	5-1/8" x 3-1/2"	3,908 lbs	33,5%	17.9%	Unspecified

11,571 lbs

n\a ·

n\a

n\a

2,941 lbs

0.132"

10.7

L/766 (0.132")

L/999 (0.079")

BWB NU. TAN 22.22-194 STRUCTURAL COMPONENT ONLY

T. Goresos





2ND FLOOR FRAMING\Dropped Beams\B13 DR(I1949)

Dry I 1 span | No cant.

PASSED

January 29, 2019 13:46:39

Build 6475

Job name: Address:

File name: Description:

SD1-B34 EL A.mmdl 2ND FLOOR FRAMING\Dro...d Beams\B13 DR(i1949)

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

BC CALC® Member Report

Specifier:

Designer:

Customer: Code reports:

CCMC 12472-R

Company:

Notes

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

Calculations assume member is fully braced.

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

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

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

verification.

Design based on Dry Service Condition.

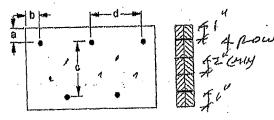
Importance Factor: Normal Part code: Part 9

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.

Member has no side loads.

Connection Diagram: Full Length of Member



a minimum = 🏞 b minimum = 3"

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

Member has no side loads. Connectors are:

3%" ARDOX SPINAL

Disclosure

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

PROFESSION 4

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

DWEND. TAN 2212-19H STRUCTURAL COMPONENT ONLY

(-1802608(v)





PASSED

2ND FLOOR FRAMING\Dropped Beams\B14 DR(I1882)

BC CALC® Member Report

Dry | 1 span | No cant.

January 29, 2019 13:46:39

Build 6475

Job name: Address:

File name:

Description: 2ND FLOOR FRAMING\Dro...d Beams\B14 DR(I1882)

SD1-B34 EL A.mmdl

Customer:

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

Specifier:

Designer:

Code reports:

CCMC 12472-R

Company:

82 В1

Total Horizontal Product Length = 09-00-00

Reaction Sun	imary (Down / O	hiiri (ina)		144 1
Bearing	Live	Dead	Snow	Wind
B1, 4"	55/0	101/0	13/0	
B2, 4"	673 / 0	608 / 0	122 / 0	
DZ, 4	, 01010			

L d Consequents						Live	Dead	Snow	Wind	Tributary .
Load Summary	Load Type	Ref.	Start	End	Loc.	1.00	0.65	- 1.00	1.15	
Tag Description O Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Тор	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	10	•	:	00-00-00
1 R1(I1966)	Unf. Lin. (lb/ft)	Ĺ.	07-02-00	09-00-00	Top	33	113	63		n\a∵
1 ((((ado)	Cono. Pt. (lbs)	Ĺ	07-04-10	07-04-10	Top	331	247	20		n\a
3 J161835)	Conc. Pt. (lbs)	Ĺ	08-09-14	08-09-14	Top	336	168			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1,197 ft-lbs	20,210 ft-lbs	5.9%	1	07-00-04
End Shear	879 lbs	11,571 lbs	7.6%	1	07-10-08
Total Load Deflection	L/999 (0.018")	n\a	n\a	35	04-11-15
Live Load Deflection	L/999 (0.009")	n\a	n\a	51	05-01-01
Max Defl.	0.018"	n/a	n\a	35	04-11-15
Span / Depth	10.7				

Rearing	Supports	Dim. (LxW)	Demand_	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4" x 3-1/2"	221 lbs	2,4%	1.3%	Unspecified
	Wall/Plate	4" x 3-1/2"	1,892 lbs	20.8%	11.1%	Unspecified



Notes

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

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

Calculations assume unbraced length of Top: 06-06-08, Bottom: 06-06-08.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

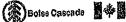
Connection design assumes point load is top-loaded. For connection design of side-loaded point loads,

please consult a technical representative or professional of Record.

Member has no side loads.

DWE NO. TAM 2222184 STRUCTURAL COMPONENT ONLY

T. Grego





PASSED

2ND FLOOR FRAMING\Dropped Beams\B14 DR(i1882) Dry [1 span | No cant.

BC CALC® Member Report Bulld 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

SD1-B34 EL A.mmdl File name:

Description:

Specifier:

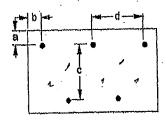
Designer:

Company:

2ND FLOOR FRAMING\Dro...d Beams\B14 DR(I1882)

January 29, 2019 13:46:39

Connection Diagram: Full Length of Member



a minimum = 🏞 b minimum = 3" d= 6 8

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.

312" 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 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™, AŁLJOIST®, BC RIM BOARO™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

BYEND, THE 2223 18H STRUCTURAL COMPONENT ONLY

J. 170

T. Gorgog(v)



BC CALC® Member Report

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

PASSED

2ND FLOOR FRAMING\Dropped Beams\B5 DR(I2092)

Dry | 1 span | No cant.

January 29, 2019 13:46:39

Build 6475

Job name:

Customer:

Code reports:

Address:

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

CCMC 12472-R

File name:

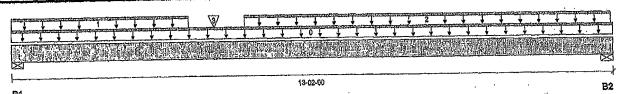
SD1-B34 EL A.mmdl

2ND FLOOR FRAMING\Dro...ed Beams\B5 DR(i2092) Description:

Specifier:

Designer:

Company:



Total Horizontal Product Length = 13-02-00 Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing 3,503 / 0 1,867 / 0 B1, 4" 3,390 / 0 1,810/0 B2, 4"

	1	-I Accommunity						Live	Dead	Snow	Wind	Tributary
		d Summary Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1,00	1.15	
4-	Tag	Self-Weight	Unf. Lln. (lb/ft)	L	00-00-00	13-02-00	Top	,	18			00-00-00
	Ž.	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	03-10-12	Top	534	267			· n\a
	1	Smoothed Load	Unf. Lin. (lb/ft)	Ĺ	05-01-08	13-01-08	Top	519	259			n\a
	2	SHOOKING FORG	Conc. Pt. (lbs)	ī	04-05-08	04-05-08	Top	658	329			. n\a
	3.	•	COHO. IT ((IDS)	₩.	44.44.44					•		

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	22,399 ft-lbs	55,212 ft-lbs	40.6%	1	07-01-08
End Shear	6,405 lbs	21,696 lbs	29.5%	1	11-10-02
Total Load Deflection	L/488 (0.31")	n\a	49.2%	4	06-07-08
• • •	1/749 (0.202")	n\a	48.1%	5	06-07-08
Live Load Deflection Max Defl.	0.31"	n\a	n\a	4	06-07-08
Span / Depth	12.8				

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
B1 Wall/Plate	4" x 5-1/4"	7,588 lbs	55.6%	29.6%	Unspecified	
R2 Wall/Plate	4" x 5-1/4"	7,347 lbs	53.9%	28.7%	Unspecified	٠

Notes

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

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

Calculations assume unbraced length of Top: 00-04-03, Bottom: 00-04-03.

Resistance Factor phi has been applied to all presented results per CSA 086. CONFORMS TO OBC 2012

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

please consult a technical representative or professional of Record.

Nalling schedule applies to both sides of the member.

Member has no side loads.

DWB NO . TAM 2224 1811

STRUCTURAL COMPONENT ONLY

" 10 17 ...

T. 19020 10





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

PASSED

2ND FLOOR FRAMING\Dropped Beams\B5 DR(12092) Dry | 1 span | No cant.

4 pous

January 29, 2019 13:46:39

BC CALC® Member Report Bulld 6475

Job name:

Address;

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

File name: Description:

SD1-B34 EL A,mmdl

2ND FLOOR FRAMING\Dro...ed Beams\B5 DR(i2092)

Specifier:

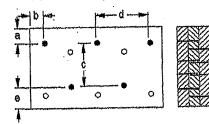
Designer:

Customer: Code reports:

CCMC 12472-R

Company:

Connection Diagram: Full Length of Member



a minimum = #" b minimum = 3"

4" 0=6-7/8" d = 2€3° e minimum = 2"

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

Nalling schedule applies to both sides of the member.

Member has no side loads.

a: Nails Connectors are: .

> ARDOX SPIRAL 31/2"



Disclosure

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

BC CALC®, BC FRAMER® , AJS™ ALLUOIST®, BO RIM BOARD™, BCI®, BOISE GLULAM™, BC FlorValue®, DWB NO . TAN 2224-184 VERSA-LAMB, VERSA-RIM PLUS®,

STRUCTURAL COMPONENT ONLY

- Gorque (1



PASSED

2ND FLOOR FRAMING\Dropped Beams\B6 DR(i2062)

Dry | 1 span | No cant.

January 29, 2019 13:46:39

Wind

PHOFESSION

Tributary

00-00-00 n\a n∖a

n\a n\a

n\a n∖a n\a

n\a n\a

BC CALC® Member Report Build 6476

Job name: Address:

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

File name: Description:

SD1-B34 EL A.mmdl

Wind

2ND FLOOR FRAMING\Dro...ed Beams\B8 DR(i2082)

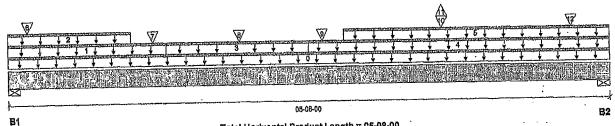
Specifier:

Customer: Code reports:

CCMC 12472-R

Designer:

Company:



Total Horizontal Product Length = 05-08-00

Reaction Summary (Down / Uplift) (lbs)

Snow 1,128 / 0 Dead Bearing 1,155 / 0 1,315/1 B1, 4" 627 / 0 1,203/3 1,034/0 B2, 4"

1 00	d Summary						Live	Dead	Snow
-,	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1:00
Tag	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-08-00	Top		10	
4	R1(i1879)	Unf. Lln. (lb/ft)	L	00-00-00	01-06-00	Top		81	
1		Unf. Lin. (lb/ft)	L	00-00-00	01-02-00	Top	121	110	253
2	R1(11879)	Unf. Lin. (lb/ft)	Ĺ	01-06-00	02-10-00	Top		41	
3	R1(i1879)	Unf. Lin. (lb/ft)	ī.	02-10-00	05-08-00	Top	•	81	
4	R1(I1879)	Unf, Lin. (lb/ft)	í	03-02-00	05-08-00	Top	33	30	63
6	R1(11879)		1	00-02-04	00-02-04	Top	208	104	
6	J2(11947)	Conc. Pt. (lbs)	<u>i.</u>	01-04-08	01-04-08	Top	551	431	655
7	w ·	Conc. Pt. (lbs)	L.	02-02-04	02-02-04	Top	208	104	
8	J2(11947)	Conc. Pt. (lbs))- 1	02-11-09	02-02-04	Top	527	417	647
9	•	Conc. Pt. (lbs)	<u>L</u>	•••	04-01-02	Top	565		-16.5
10		Conc. Pt. (lbs)	i	04-01-02			-4	000	# O 9
11	•	Conc. Pt. (lbs)	Ļ	04-01-02	04-01-02	Тор		-S118.3	I ST L
12	J1(i1989)	Conc. Pt. (lbs)	L.	05-03-12	05-03-12	Тор	202 -	្នាំ116 🖟	IS A
	•		Factored	Den	and/		•		A STAN

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment End Shear Total Load Deflection Live Load Deflection Max Defl. Span / Depth	5,431 ft-lbs	23,220 ft-lbs	23,4%	1	02-11-00
	3,330 lbs	11,571 lbs	28.8%	1	01-01-08
	L/999 (0.039")	n\a	n\a	58	02-10-00
	L/999 (0.026")	n\a	n\a	85	02-10-00
	0.039"	n\a	n\a	58	02-10-00

Beering	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4" x 3-1/2"	4,543 lbs 3,724 lbs	50.0% 40.9%	26.6% 21.8%	Unspecified Unspecified
B2 '	Wall/Plate	4" x 3-1/2"	3,124 105	40.070	211070	-1146-4-114-

DWEND, TAM 222 STRUCTURAL COMPONENT ONLY

T. G0241]





PASSED

2ND FLOOR FRAMING\Dropped Beams\B6 DR(i2062)

Dry | 1 span | No cant.

January 29, 2019 13:46:39

BC CALC® Member Report Bulld 6475

Job name:

Address:

City, Province, Postal Code: ST NES

File name: SD1-B34 EL A.mmdl

Description: 2ND FLOOR FRAMING\Dro...ed Beams\B6 DR(i2062)

Specifier:

Designer.

Customer: Code reports:

CCMC 12472-R

Company:

Notes

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

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

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

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

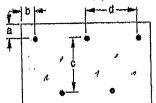
Importance Factor: Normal Part code: Part 9

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.

Member has no side loads.

Connection Diagram: Full Length of Member



a minimum = 4" b minimum = 3"

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

Connectors are: ... Nails

ARDOX SPIRAL

Disclosure

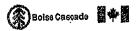
PHOPESSIONAL

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

DWB NO . YAM 2225-19H STRUCTURAL COMPONENT ONLY

T- 1902011(V)



BC CALC® Member Report

Single 1-3/4" x 9-1/2" VERSA-LAM® 2,0 3100 SP

PASSED

Tributary

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

2ND FLOOR FRAMING\Flush Beams\B10(i1845)

Dry | 1 span | No cant.

January 29, 2019 13:46:39

Bulld 6475

Job name:

Customer:

Code reports:

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

CCMC 12472-R

File name: Description:

SD1-B34 EL A,mmdl

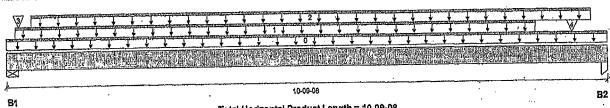
Wind

2ND FLOOR FRAMING\Flush Beams\B10(i1845)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 10-09-08 Snow

Reaction Summary (Down / Uplift) (lbs) Dead

774 10 818/0 B1, 5-1/2 714/0 773/0 B2, 3-1/2"

	ad Summary	Load Type	Ref.	Start	End	Loc.	Live 1,00	Dead 0.65	\$now 1.00	Wind 1.15
Tag	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-09-08	Тор		5		
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-02-00	09-06-00	Top	154	77 ·		
9	WALL	Unf. Lin. (lb/ft)	L.	00-05-08	10-06-00	Top		60		
3	E27(11077)	Conc. Pt. (lbs)	L.	00-02-12	00-02-12	Top		37		
4	J3(i1890)	Conc. Pt. (lbs)	L	10-02-00	10-02-00	Тор	149	75	HOFES	LON

Controle Summany	Fastored Demand	Factored Resistance	Demand/ Resistance	Caso	Location
Pos. Moment End Shear Total Load Deflection Live Load Deflection	Factored Demand 5,255 ft-lbs 1,851 lbs L/429 (0.284") L/824 (0.148")	Resistance 11,610 ft-lbs 5,785 lbs n\a n\a	45.3% 32.0% 56,0% 43.7%	1 1 4 5	05-04-00 01-03-00 05-06-00 05-06-00 05-06-00
Max Defl. Span / Depth	0.284" 12.8	11 <i>10</i>			

Regrine	Supports	Dim. (LxW)	Demand	Resistance Support	Resistance Member	Material	
B1	Wall/Plate	5-1/2" × 1-3/4"	2,195 lbs	53,4%	18.7%	Unspecified	
B2	Column	3-1/2" x 1-3/4"	2,051 lbs	51.5%	27.4%	Unspecified	

Notes

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

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

Calculations assume member is fully braced.

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 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Disclosure

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

DWG NO. TAM 222618H STRUCTURAL COMPONENT ONLY

T- Boupn



PASSED

January 29, 2019 13:46:39

2ND FLOOR FRAMING\Flush Beams\B11(i1986)

BC CALC® Member Report

Build 6476 Job name:

Address:

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

CCMC 12472-R

Customer: Code reports: Dry | 1 span | No cant.

SD1-B34 EL A.mmdi File name:

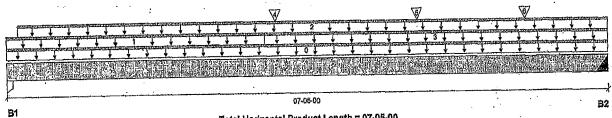
Wind

2ND FLOOR FRAMING\Flush Beams\B11(i1986) Description:

Specifier:

Designer:

Company:



Total Horizontal Product Length = 07-05-00 Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing B1, 1-3/4" B2, 2" Dead 458 / 0 442/0 498 / 0 603/0

٠,	1	.d Cummanı	•					Live	Dead	Snow	Wind	Tributary
	LQ8 Tan	d Summary Description	Load Type	Ref.	Stårt ·	End	Loc.	1.00	0.65	1.00	1.15	00.00
-	189	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	07-06-00	Top		5			00-00-00
	4	FC2 Floor Material	Unf. Lin. (lb/ft)	Ł	00-00-00	03-02-04	Top	13	6			n\a
			Unf. Lin. (lb/ft)	Ī.	00-01-12	07-05-00	Top		60			n\a
	2	WALL	Unf, Lin. (lb/ft)	ï	03-02-04	07-05-00	Top	11	6			n\a
	3	FC2 Floor Material			03-03-14	03-03-14	Top	626	324			n\a
	4	•	Conc, Pt. (lbs)	1 -	05-00-17	06-00-12	Top	119	60			n\a
	5	J4(11843)	Conc. Pt. (lbs)	<u>.</u>		06-04-12		112	56			n\a
	6	J4(I1906)	Conc. Pt. (lbs)	L.	06-04-12	UO-U4-12	rop	112	00	والمستخفظة		٤.
	_			Factored	Dem	and/	Caes	Location	ø	1613 PHO	FESS.C	N. W. Way

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3,389 ft-lbs	11,610 ft-lbs	29,2%	1	03-03-02
	1.276 lbs	5.785 lbs	22,1%	1	06-05-08
End Shear	L/999 (0.082")	n\a	'n\a	4	03-08-12
Total Load Deflection Live Load Deflection	L/999 (0.044")	n\a	n\a	6	03-07-05
Max Deff.	0.082"	n\a	n\a	4	03-08-12
Span / Depth	9.1				

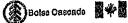
	6	- 1 1 1 1 1 1	Maurand	Demand/ Resistance	Demand/ Resistance Member	Material
Bearing	Supports	Dim. (LxW)	Demand	Support		
B1	Column	1-3/4" x 1-3/4"	1,236 lbs	62.1%	93.1%	Unspecified
W1 .	w. Otto i i i i		4 077 11-4	410	32.2%	HUS1.81/10
B2	Hanger	2" x 1-3/4"	1,377 lbs	n\a	9414 10	11001.01110

Cautions

Header for the hanger HUS1.81/10 at B2 is a Double 1-3/4" x 8-1/2" 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.

DWB NO . TAM 2227-18 H STRUCTURAL COMPONENT ONLY

T. 190413





2ND FLOOR FRAMING\Flush Beams\B11(i1986)

Dry | 1 span | No cant.

PASSED

January 29, 2019 13:46:39

BC CALC® Member Report **Bulld 6475**

Job name:

Customer:

Address:

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

Company: CCMC 12472-R

SD1-B34 EL A.mmdi File name:

2ND FLOOR FRAMING\Flush Beams\B11(i1986) Description:

Specifier:

Designer:

Code reports:

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

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

Hanger Manufacturer: Unassigned

CONFORMS TO OBG 2012 Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2016 and CSA O86.

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



Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of 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 CALCO, BC FRAMER® , AJSTM PGY ALLJOIST®, BC RIM BOARDTM, BCI®, BOISE GLULAMTM, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®

DWG NO . TAN 2027-184 STRUCTURAL COMPONENT ONLY

-T- 1902413(V)



PASSED

82

January 29, 2019 13:46:39

2ND FLOOR FRAMING\Flush Beams\B12(i1912)

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.

SD1-B34 EL A.mmdl

File name: 2ND FLOOR FRAMING\Flush Beams\B12(i1912) Description:

Wind

Specifier:

Designer:

Company:

	•
	Caracana de Caraca
The state of the s	· · · · · ·

B1

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

Snow

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

282/0 543/0 B1, 2" 282 / 0 543 / 0 B2, 2"

_							Live	Dead	Snow	wing	Iriputary
	d Summary	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
Tag	Description Self-Weight	Unf. Lin. (lb/ft)	T.	00-00-00	04-04-00	Top		5			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	00-00-00	04-04-00	Top	240	120			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	04-04-00	Тор	11	5			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment End Shear Total Load Deflection Live Load Deflection Max Defl. Span / Depth	1,146 ft-lbs 651 lbs L/999 (0.01") L/999 (0.007") 0.01" 5.2	11,610 ft-lbs 5,785 lbs n\a n\a n\a	9.9% 11.3% n\a n\a n\a	1 - 1 4 5 4	02-02-00 00-11-08 02-02-00 02-02-00 02-02-00

Demand/ Demand/ Resistance Resistance

Material Member Support Demand Bearing Supports Dim. (LxW) HUS1.81/10 1,168 lbs 27.4% n\a 2" x 1-3/4" Hanger **B**1 HUS1.81/10 27.4% 2" x 1-3/4" 1,168 lbs n\a Hanger **B2**

Cautions

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 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 O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO DBG 2012

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Completeness and accuracy of Input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of 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 Gulde or ask questions, please call (800)232-0788

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

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Disclosure

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

272 918 222 918H STRUGTURAL COMPONENT BALY

T-190414

before installation.



PASSED

January 29, 2019 13:46:39

2ND FLOOR FRAMING\Flush Beams\B15(i1897)

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.

SD1-B34 EL A.mmdl File name:

Description:

Wind

2ND FLOOR FRAMING\Flush Beams\B15(i1897)

Specifier: Designer:

Company:

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Shares to the state of the Person of Paris, Color	到15年0月15日,中国15年15日 - 15年15日 -
d 	01-11-02 P.9
* .	V)=1142 B2
A1 .	Trial Harimonial Broduct & anoth = 01-11-02

Total Horizontal Product Length = 01-11-02

Reaction Summary (Down / Uplift) (lbs) Dead Snow Bearing 18/0 83/0 B1, 3-1/2 21/0 116/0 153 / 0 72/0 B2, 6-1/4"

							Live	Dead	Snow	Wind	Tributary
	ad Summary	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1,00	1.15	**************************************
Tag		Unf. Lin. (lb/ft)	L.		01-11-02	Top		10		•	00-00-00
U	Self-Weight	Unf. Lin. (lb/ft)	Ĭ.	00-00-00	01-05-14	Top	12	6			n\a
1	FC2 Floor Material	Unf. Lin. (lb/ft)	ĩ	00-05-08	01-11-02	αoT		81			n\a
2	E17(11086)		ı.	01-05-14	01-11-02	Top	8	5			n\a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	اب د	00-02-12			10	32	18		n\a
4	E33(i1347)	Conc. Pt. (lbs)	i.				61	55	116		· n\a
5	E17((1086)	Conc. Pt. (lbs)	L	01-08-10	01-08-10	rop.	91	ou		ر. . سافست	" toring

Controls Summary	Factored Demand	Factored Resistance	Demand <i>i</i> Resistance	Case	Location
Pos. Moment	28 ft-lbs 47 lbs	15,093 ft-lbs 7,521 lbs	0.2% 0.6%	0	00-10-13 01-01-00
End Shear	1.7	1,1021 100			

Maneine	Cunnarte	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Supports Beam Beam	3-1/2" x 3-1/2" 5-1/4" x 3-1/2"	116 lbs 438 lbs	1.7% 5.6%	1,2% 2,0%	Unspecified Unspecified

Notes

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

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

please consult a technical representative or professional of Record.

Member has no side loads.

DWO NO . TAN 222918H STRUCTURAL COMPONENT ONLY

T-1901415

Sec. 1 10%





PASSED

2ND FLOOR FRAMING\Flush Beams\B15(i1897)

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.

SD1-B34 EL A.mmdi File name:

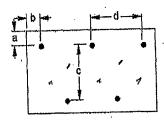
Description:

Specifier: Designer: January 29, 2019 13;46:39 .

2ND FLOOR FRAMING\Flush Beams\B15(i1897)

Company:

Connection Diagram: Full Length of Member



a minimum = 🏚 " b minimum ≈ 3" c=7-1/2" 4/

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

34" ARDOX SPIHAL



Disclosure

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Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to enyone 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 engineers wood products made of it 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 BOARDTM, BCI®, BOISE GLULAMTM, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®

UWG NU . TAM 22-29-18H STRUCTURAL COMPONENT ONLY

-T- (904915(1)



BC CALC® Member Report



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B7(i1926)

Dry | 1 span | No cant.

January 29, 2019 13:46:39

Build 6475

Job name:

Customer:

Address:

Code reports:

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

CCMC 12472-R

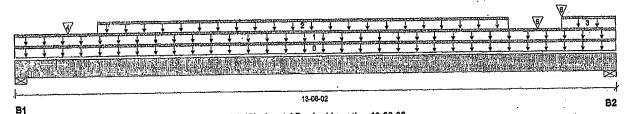
File name: Description: SD1-B34 EL A.mmdl

2ND FLOOR FRAMING\Flush Beams\B7(i1926)

Specifier;

Designer:

Company:



Total Horizontal Product Length = 13-08-02 Snow

Reaction Summary (Down / Uplift) (lbs)

Dead Bearing 651/0 B1, 4-3/8 1,452 / 0 1,015/0 B2, 2-3/4"

1	ad Cumanansi						Live	Dead	Snow	Wind	Tributary
LO: Tag	ad Summary Description	Load Type	Ref.	Start	End	Loc.	1.00	0.66	1.00	1.15	
168	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-08-02	Тор		10	•		00-00-00
4	FC2 Floor Material	Unf. Lin. (lb/ft)	Ĺ	00-00-00	13-08-02	Top	21	10			n\a
,	Smoothed Load	Unf. Lin. (lb/ft)	Ĺ	01-10-14	11-02-14	Top	154	77			n\a
2		Unf. Lin. (lb/ft)	ī	12-05-08	13-08-02		23				n\a
3	FC2 Floor Material		<u></u> ا	01-02-14	01-02-14	Top	184	92			n\a
4	J3(i1983)	Conc. Pt. (lbs)	ا ا	11-10-14	11-10-14		146	73			n\a
5	J3((1890)	Conc. Pt. (lbs)	L			•	497	492	2.0	we that	n\a
6	B11(l1986)	Conc. Pt. (lbs)	Ļ	12-05-08	12-05-08	Top	401	402	OFES	SICOL POLICE	h

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	8,937 ft-lbs	23,220 ft-lbs	38.5%	1	06-06-14
End Shear	3,339 lbs	11,571 lbs	28.9%	: 1	12-07-14
Total Load Deflection	L/393 (0.404")	n\a	61.1%	4	06-10-14
Live Load Deflection	L/624 (0,254")	n\a	57.7%	5	06-10-14
Max Defl.	0,404"	n\a	n\a	4	06-10-14
Span / Depth	16.7				

Dles es	D	, , , , , , , , , , , , , , , , , , ,	Damand	Demand/ Resistance Support	Demand/ Resistance . Member	Material	
Bearing	Supports	Dim. (LxW)	Demand		THE RESERVE AND ADDRESS OF THE PERSON NAMED IN COLUMN 2 IN COLUMN		
B1	Wall/Plate	4-3/8" x 3-1/2"	2,511 lbs	38.4%	13.4%	Unspecified	•
ы,			A 4 477 17-	00.00/	29.4%	Unspecified	
B2	Wall/Plate	2-3/4" x 3-1/2"	3,447 lbs	83.8%	20.470	ottoboottien	

Notes

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

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

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

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

please consult a technical representative or professional of Record.

COMPONENT OHLY

Page 2 of ...

T-1900416



PASSED

January 29, 2019 13:46:39

2ND FLOOR FRAMING\Flush Beams\B7(i1926)

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.

SD1-B34 EL A.mmdi File name:

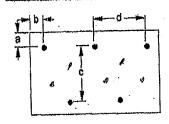
2ND FLOOR FRAMING\Flush Beams\B7(i1926) Description:

Specifier:

Designer:

Company:

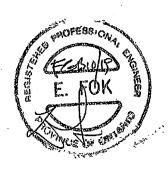
Connection Diagram: Full Length of Member



a minimum = #" b minimum = 3" o = 1/2" d = 24

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,

√...Nalls Connectors are: (🖈 3W" ARDOX SPINAL



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DWG HO, TAM2 23918H STRUCTURAL COMPONENT ONLY

T- 1902016(N



PASSED

Resistance Factor primas been applied to all presented results per COA Coo. Built billing 10 000 20 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor; Normal Part code: Part 9

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

DWG NO.TAM-22-3/18/H STRUCTURAL COMPONENT ONLY

-T-1902417

C CALC® Member Report	AND	FLAAD	FMAI	ANNO E	uah Daam	~100/14	020\			\$p.yendowing	
TO ALLOW Marcher Report	2ND	FLOOR	FRAI	MINGIFI	ush Beam	s/mo(i.i	000)		lanuaru	20 2010	13:46:39
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uild 6475				,		OD4 B	A Cl A sound	11			
ob name:				-	ile name:		34 EL A.mmd LOOR FRAM		h Boams	120/1126	:R)
ddress:					escription:	ZNDFI	LOUR PRAIVI	ING/LIUS	II Desille	NDO(110C	10)
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ustomer:					lesigner:	AJ					
ode reports:	CCMC 12472-R				ompany:				,	· · · · · · · · · · · · · · · · · · ·	<u> </u>
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and the second s		************	**********	ALL DESCRIPTION OF THE PARTY OF				işidinin direşin	A DESCRIPTION OF THE PERSON OF		a personal arrest
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<u> </u>		·		13-08-	in			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	· · · · · · · · · · · · · · · · · · ·		
B1											B2 ,
			orizon	tal Produ	ct Length = 1	3-06-10				·	
Reaction Summary ([Jown / Uplift) (I	bs)				\Aft.					
Bearing Liv	The state of the s	Jead		Sno	<u> </u>	Wir	10		.,, ., ., ., ., ., ., ., ., ., ., .,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
- 1111		532/0									
32, 2-3/8" 38	2/4.	262 / 0									
							Live	Dead	Snow	Wind	Tributary
_oad Summary				***	E. d			0.65	1.00	1:15	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
ag Description	Load Type		Ref.	Start 00 00	End 13-06-10	Loc. Top	1.00	10	1,00	1110	00-00-00
Self-Weight	Unf. Lin. (lb/ft			00-00-00		Top.	6	3			n\a
1 FC2 Floor Material	Unf. Lln. (lb/ft	•		00-00-00		Top	23	12			n\a
2 FC2 Floor Material	Unf. Lin. (lb/fi		L,	00-00-00		Top	16	8			
3 FC2 Floor Material	Unf. Lin. (lb/fl		L i	03-04-00		Top	950	499		· · · .	n\a
4 B9(i1830)	Conc. Pt. (lbs		<u>. </u>	03-04-00			-16	700			ala
5 B9(I1830)	Conc. Pt. (lbs	5)	L.	U3-04-0C	, 03-04-00	rop	-,0		A	PROFE	Ba, OW
		Factor	ed	Dei	mand/			•	13	E ALLES	The state of the s
Controls Summary	Factored Demand				sistance	Case	Location		12	A CON	310/195
Pos. Moment	5,950 ft-lbs) ft-lbs		6%	1	03-04-00		REGUST EN	Opposite Comments	FOK
End Shear	1,941 lbs	11,57	1 lbs		.8%	1	01-00-04		Ĭ		MUK
Total Load Deflection	L/707 (0.225")	n\a			.9%	6.	06-02-10		B Cr.	Recognical and the	The second second
Live Load Deflection	L/1,142 (0.139")	n\a			.5%	8	06-02-10		Very	The state of the s	Section 18 pt
Max Defi	0.225"	n\a		n\a	3	6	06-02-10		X X		STATE OF STA
Span / Depth	16.7			•	,					Part of the	Torre
										2.4	- f-Kulm.
				nand/ ilstance	Demand/ Resistance						
		Jemand		port	Member	Materia	1			7, 0.	
	Im. // vM/\ I			9%	17.1%	Unspec	oified				
Bearing Supports p	im. (LxW) I		70.			11	rified				
Bearing Supports b	-3/4" x 3-1/2" 2	2,010 lbs 200 lbs	12.	4%	8.9%	Unspec	711104				
Bearing Supports of B1 Wall/Plate 2	-3/4" x 3-1/2" 2	2,010 lbs		4%	8.9%	Unspec	y u				
Bearing Supports by Wall/Plate 2 Beam 2	-3/4" x 3-1/2" 2	2,010 lbs	12.	4%	8,9%	Unspec	<i>y</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Bearing Supports b B1 Wall/Plate 2 B2 Beam 2 Notes	-3/4" x 3-1/2" 2 2-3/8" x 3-1/2" 5	2,010 lbs 900 lbs	12.		8.9%	Unspec					
Bearing Supports of B1 Wall/Plate 2 B2 Beam 2 Notes	-3/4" x 3-1/2" 2 2-3/8" x 3-1/2" 5	2,010 lbs 300 lbs ad deflect	12.	teria,	8.9%	Unspec	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Bearing Supports of B1 Wall/Plate 2 B2 Beam 2	-3/4" x 3-1/2" 2 -3/8" x 3-1/2" 5 num (L/240) Total lo	2,010 lbs 200 lbs ad deflect	ion crit	teria, eria. om: 00-00	~00.		And the second s				





2ND FLOOR FRAMING\Flush Beams\B8(i1868)

Dry | 1 span | No cant.

January 29, 2019 13:46:39

PASSED

BC CALC® Member Report Build 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

File name:

SD1-B34 EL A.mmdì

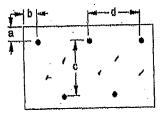
2ND FLOOR FRAMING\Flush Beams\B8(i1868) Description:

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = #" b minimum = 3" o = 1/2" d = 200

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



<u>Disclosure</u>

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

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

DWGNO. FAN 2023618H STRUCTURAL COMPONENT ONLY

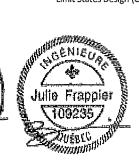
T. 190247(V)



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







			Ва	are	1/2" Gypsum Ceiling				
Depth	Series		On Centr	e Spacing	On Centre Spacing				
,		12"	16"	19.2"	24"	12"	16"	e Spacing 19.2" 14'-2" 15'-1" 15'-3" 15'-10" 16'-0" 16'-11" 17'-1" 17'-9" 17'-11" 18'-5" 18'-6" 18'-9" 19'-8" 20'-0" 20'-6" 20'-6" 21'-5" 21'-9"	24°
	NI-20	15'-1"	14'-2"	13'-9"	N/A	15'-7"	14'-8"	14'-2"	N/A
	N1-40x	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"	15'-10" 16'-0" 16'-0" 16'-11" 17'-1" 17'-9"	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
- 40	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	Blocking	Mid-S	pan Blocking an	d 1/2" Gypsum	Ceiling	
Depth	Series		On Centr	e Spacing	On Centre Spacing				
		12"	16"	19.2"	24"	12"	16"	19.2" 14'-5" 16'-1" 16'-1" 17'-7" 17'-8" 17'-3" 19'-2" 19'-6" 20'-5" 20'-5" 21'-2" 21'-7" 21'-11" 22'-11" 23'-2" 24'-2" 25'-6"	24"
	NI-20	16'-8"	15'-3"	14'-5"	N/A	16'-8"	15'-3"	14'-5"	N/A
	NI-40x	17'-11"	16'-11"	16'-1"	N/A	18'-5"	17'-1"	16'-1"	N/A
9-1/2"	NI-60	18'-2"	17'-1"	16'-4"	N/A	18'-7"	17'-4"	16'-4"	N/A
	NI-70	19'-2"	17'-10"	17'-2"	N/A	19'-7"	18'-3"	17'-7"	N/A
	NI-80	19'-5"	18'-0"	17'-4"	N/A	19'-10"	18'-5"	16'-1" 16'-4" 17'-7" 17'-8" 17'-3" 19'-2" 19'-6" 20'-5" 20'-8" 21'-2" 21'-7" 21'-11"	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
(01)	NI-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"	19'-2" 19'-6" 20'-5" 20'-8" 21'-2" 21'-7" 21'-11" 22'-11" 23'-2" 23'-9"	N/A
	NI-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	25'-3"	24'-2"	N/A
0	NI-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A
16"	NI-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"	25'-6"	N/A
	NI-90x	29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	26'-2"	N/A

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

^{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







N N 9-1/2" N N			Ва	ire		l	1/2" Gyps	um Ceiling		
Denth	Series	1007	On Centr	e Spacing		On Centre Spacing				
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"	
	NI-40x	17'-0"	16'-0"	15'-5"	14'-9"	17'-5"	16'-5"	15'-10"	15'-2"	
9-1/2"	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-6"	16'-7"	15'-11"	15'-3"	
	NI-70	18'-0"	16'-11"	16'-3"	15'-7"	18'-5"	17'-3"	16'-7"	15'-11"	
	NI-80 NI-20 NI-40x	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"	
		17'-10"	16'-10"	16'-2"	15'-6"	18'-6"	17'-4"	16'-9"	16'-1"	
		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"	
	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"	
	NI-90x	24'-1"	22'-3"	21'-2"	20'-0"	24'-8"	22'-10"	21'-9"	20'-7"	
	NI-60	23'-9"	22'-0"	20'-11"	19'-10"	24'-6"	22'-9"	21'-8"	20'-6"	
	NI-70	25'-1"	23'-2"	22'-0"	20'-10"	25'-9"	23'-10"	22'-9"	21'-6"	
16"	NI-80	25'-6"	23'-6"	22'-4"	21'-2"	26'-1"	24'-2"	23'-1"	21'-10"	
	NI-90x	26'-4"	24'-3"	23'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22'-5"	

	Series		Mid-Spar	Blocking	Mid-Span Blocking and 1/2" Gypsum Ceiling On Centre Spacing				
Depth			On Centr	e Spacing					
		12"	16"	19.2"	24"	12"	16"	tre Spacing 19.2" 14'-6" 16'-3" 16'-6" 17'-10" 18'-2" 17'-5" 19'-8" 21'-2" 21'-5" 22'-0" 21'-9" 22'-4" 23'-9" 24'-1" 24'-8"	24"
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"
	NI-40x	18'-8"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"
9-1/2"	NI-60	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17'-6"	16'-6"	15'-5"
J -/	NI-70	20'-0"	18'-7"	17'-9"	16'-7"	20'-5"	18'-11"	17'-10"	16'-7"
	N!-80	20'-3"	18'-10"	17'-11"	16'-10"	20'-8"	19'-3"	19'-3" 18'-2" 18'-5" 17'-5"	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 - 4"	22'-8"	20'-10"	19'-8"	18'-4"
11-7/8"	N1-70	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.

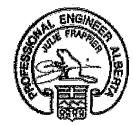
^{4.} Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

^{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, Pead Load = 30 psf Simple Spans, L/480 Deflection Limit 3/4" OSB G&N Sheathing







			B	are]	1/2" Gyps	sum Ceiling	
Depth	Series		On Centi	e Spacing			On Centi	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 NI-20	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 7/08	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-1"
11-7/8"	NI-70	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"
	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"	N!-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-Spar	n Blocking	Mid-Span Blocking and 1/2" Gypsum Ceiling On Centre Spacing				
Depth	Series		On Centr	e Spacing					
		12"	16"	19.2"	24"	12"	16"		24"
	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-9"	16'-1"	15'-1"	13'-11"	17'-9"	16'-1"	15'-1"	13'-11'
9-1/2"	NI-60	18'-1"	16'-5"	15'-5"	14'-3"	18'-1"	16'-5"	15'-5"	14'-3"
	NI-70	19'-10"	17'-11"	16'-9"	15'-6"	19'-10"	17'-11"	16'-9"	15'-6"
	N1-80	20'-2"	18'-3"	17'-1"	15'-10"	20'-2"	18'-3"	15'-5" 16'-9" 17'-1" 16'-0" 17'-9" 18'-5" 20'-1" 20'-5" 21'-3"	15'-10'
	NI-20	18'-10"	17'-1"	16'-0"	14'-10"	18'-10"	17'-1"	16'-0"	14'-10
	NI-40x	21'-3"	19'-3"	17'-9"	15'-10"	21'-3"	19'-3"	17'-9"	15'-10'
44 7/011	NI-60	21'-9"	19'-8"	18'-5"	17'-1"	21'-9"	19'-8"	18'-5"	17'-1"
11-7/8"	NI-70	23'-4"	21'-5"	20'-1"	18'-6"	23'-8"	21'-5"	20'-1"	18'-6"
	N1-80	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"
	N1-90x	27'-3"	25'-4"	24'-1"	22'-4"	27'-9"	25'-10"	24'-3"	22'-4"
	N1-60	27'-3"	24'-11"	23'-5"	21'-7"	27'-6"	24'-11"	23'-5"	21'-7"
4.511	NI-70	28'-8"	26'-8"	25'-3"	23'-4"	29'-3"	26'-11"	25'-3"	23'-4"
16"	NI-80	29'-1"	27'-0"	25'-9"	23'-10"	29'-8"	27'-6"	25'-10"	23'-10'
	NI-90x	29'-11"	27'-10"	26'-6"	24'-10"	30'-6"	28'-5"	26'-11"	24'-10'

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

^{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 5/8" OSB G&N Sheathing







			Ba	ire	1/2" Gypsum Ceiling					
Depth	Series	*******************************	On Centr	e Spacing		On Centre Spacing				
DCptii	50,100	12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	15'-1"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	re Spacing 19.2" 13'-3" 15'-1" 15'-3" 15'-10" 16'-0" 16'-11" 17'-1" 17'-9" 17'-11" 18'-5" 18'-6" 18'-9"	N/A	
	N1-40x	16'-1"	15'-2"	14'-8"	N/A	16'-7"	15'-7"		N/A	
9-1/2"	NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A	
J/-	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"		N/A	
	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"		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"		N/A	
	NI-40x	20'-1"	18'-7"	17'-10"	N/A	20'-10"	19'-4"		N/A	
	NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"	18'-9"	N/A	
14"	NI-70	21'-7"	20'-0"	19'-1"	N/A	22'-3"	20'-7"	19'-8"	N/A	
	NI-80	21'-11"	20'-3"	19'-4"	N/A	22'-7"	20'-11"	20'-0"	N/A	
	NI-90x	22'-7"	20'-11"	19'-11"	N/A	23'-3"	21'-6"	20'-6"	N/A	
	NI-60	22'-3"	20'-8"	19'-9"	N/A	23'-1"	21'-5"	20'-6"	N/A	
	NI-70	23'-6"	21'-9"	20'-9"	N/A	24'-3"	22'-5"	21'-5"	N/A	
16"	NI-80	23'-11"	22'-1"	21'-1"	N/A	24'-8"	22'-10"	21'-9"	N/A	
•	NI-90x	24'-8"	22'-9"	21'-9"	N/A	25'-4"	23'-5"	22'-4"	N/A	

			Mid-Spar	Blocking	Mid-Span Blocking and 1/2" Gypsum Ceiling				
Depth	Series		On Centr	e Spacing	On Centre Spacing				
Берин	•••••	12"	16"	19.2"	24"	12"	16"		24"
	NI-20	15'-7"	14'-1"	13'-3"	N/A	15'-7"	14'-1"		N/A
	NI-40x	17'-9"	16'-1"	15'-1"	N/A	17'-9"	16'-1"		N/A
9-1/2"	NI-60	18'-1"	16'-4"	15'-4"	N/A	18'-1"	16'-4"		N/A
J -/-	NI-70	19'-2"	17'-10"	16'-9"	N/A	19'-7"	17'-10"		N/A
	NI-80	19'-5"	18'-0"	17'-1"	N/A	19'-10"	18'-3"	15'-1" 15'-4" 16'-9" 17'-1" 16'-0" 17'-9" 18'-5" 20'-0" 20'-5" 21'-2" 19'-6" 21'-0"	N/A
	NI-20	18'-9"	17'-0"	16'-0"	N/A	18'-9"	17'-0"		N/A
	NI-40x	21'-0"	19'-3"	17'-9"	N/A	21'-3"	19'-3"		N/A
	NI-60	21'-4"	19'-8"	18'-5"	N/A	21'-8"	19'-8"		N/A
11-7/8"	NI-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-4"		N/A
	N1-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"		N/A
	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"		N/A
	NI-40x	23'-7"	21'-5"	19'-6"	N/A	24'-1"	21'-5"		N/A
	NJ-60	24'-0"	22'-3"	21'-0"	N/A	24'-8"	22'-5"		N/A
14"	NI-70	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"		N/A
	NI-80	25'-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"		N/A
	NI-90x	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"		N/A
	NI-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	24'-10"		N/A
	N1-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5" `		N/A
16"	NI-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"		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.

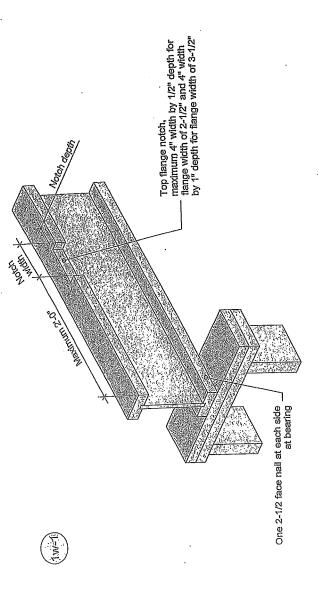
^{2.} Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping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

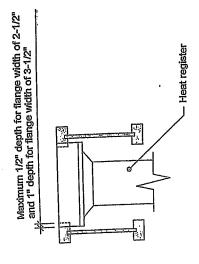
3. Minimum bearing length shall be 1-3/4 inches for the end bearings.

^{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.





Notes:

1. Biocking required at bearing for lateral support, not shown for clarity.

2. The maximum dimensions for a notich on the side of the top flange are 4-inch width by 1/2-inch depth for flange with no 7-4/2 inches, and 4-inch width by 1-inch depth for flange with no 7-4/2 inches.

3. This detail applies to simple-span judis and multiple-span justs where the notich is located at the end half-span, 4. For other applications, contact Nordio Structures.

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 nails shown in the details are assumed to be common nails unless otherwise noted. Nails shall have a diameter not less than 0.128 inch for 2-1/2-inch nails, or 0.144 inch for 3-inch nails, inclividual components not shown to scale for clarity.

STRUCTURES

Notch in I-joist for Heat Register T 514-871-8526 1 866 817-3418 nordic.ca

I-joist - Typical Floor Framing and Construction Details CATEGORY

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DOCUMENT

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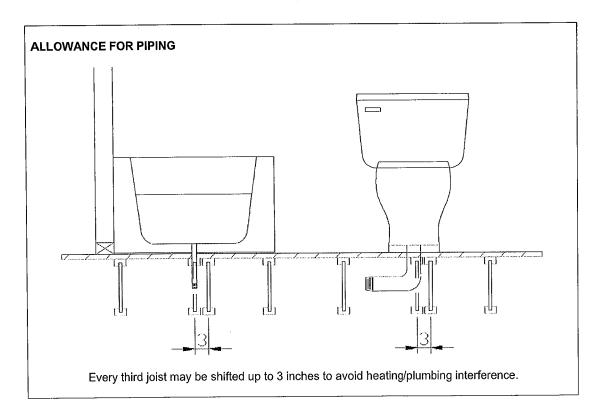
Limit States Design

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