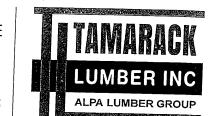


	Products						
PlotID	Length	Product	Plies	Net Qty			
J1	12-00-00	9 1/2" NI-40x	1	5			
J2	10-00-00	9 1/2" NI-40x	1	2			
J3	20-00-00	11 100	1	4			
J4	16-00-00	11 7/8" NI-40x	1	13			
J4DJ	16-00-00	11 7/8" NI-40x	2	4			
J5	14-00-00	11 7/8" NI-40x	1	33			
J5DJ	14-00-00	11 7/8" NI-40x	2	12			
J6	12-00-00	11 7/8" NI-40x	1	1			
J7	10-00-00	11 7/8" NI-40x	1	3			
J8	6-00-00	11 7/8" NI-40x	1	13			
J9	4-00-00	11 7/8" NI-40x	1	4			
J10	2-00-00	11 7/8" NI-40x	1	4			
B2 -	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3			
B4 /	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1			
B6-	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1			
B7 -	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	i			
B5	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	i			
B8	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1			
B9 ~	00-00-8	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1			
B3 -	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			
B10L-	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1			
B1L -	2-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1			

L	Connector Summary						
L	Qty	Manuf	Product				
1	17	H1	IUS2.56/11.88				
1	4	H1	IUS2.56/11.88				
1	8	H1	IUS2.56/11.88				
	12	H1	IUS2.56/11.88				
	2	H2	HUS1.81/10				
	1	H2	HUS1.81/10				
	3	H2	HUS1.81/10				
	1	H4C	HUC412				
L	1	Н9	IUS2.56/9.5				

NOTES:

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



FROM PLAN DATED: 2021/6

BUILDER:

ROYAL PINE HOMES

VALES OF HUMBER NORTH

MODEL: 4100

ELEVATION: A

LOT: 30

CITY: BRAMPTON

SALESMAN: RICK DICIANO

DESIGNER: AJ REVISION:

DATE: 2021-09-27

1st FLOOR

DESIGN LOADS: L/480.000

SUBFLOOR: 3/4" GLUED AND NAILED

LIVE LOAD: 40.0 lb/ft2 DEAD LOAD: 15.0 lb/ff²

TILE LOAD: 20.0 lb/ft2

LOADING:

DATE 1004 V BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS DAS PER PLAN WORKED ON NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION.

MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM

FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL.

INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY WHICH WILL AID IN THE OVERALL PROPER INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE WHICH WILL AID IN THE OVERALL PROPER INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE AND INSTALLATION GUIDELINES BEFORE PROCEEDING. THE SUPPLIER AND SEALING ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY CONFIRMATION OF ALL QUANTITIES, LENGHTS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 7811 THROUGH DWG# TAM 17878-24, INCLUSIVE DATED 91424

SEALED STRUCTURAL COMPONENTS ONLY: +1787-21+1785024

SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY: 2X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PEPPOJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.

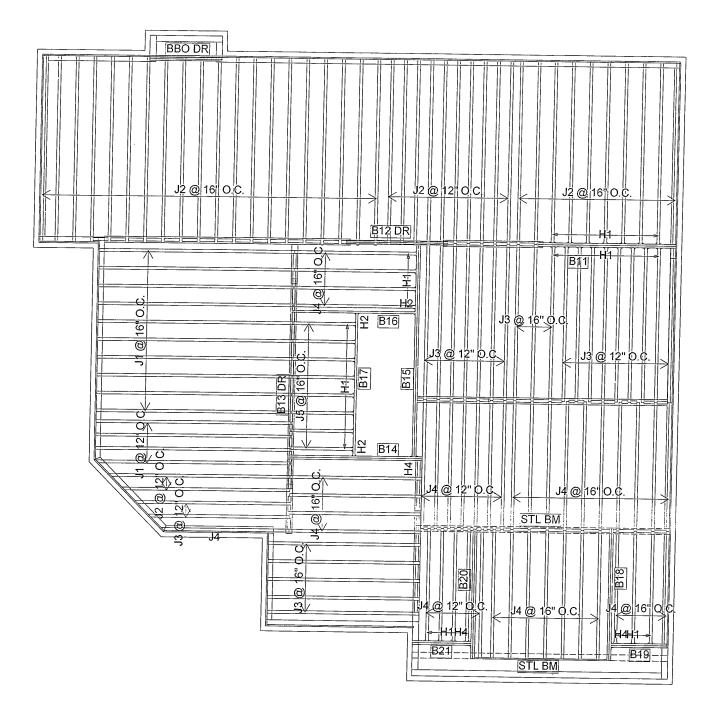
A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS, AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE. PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/16D DEEPER THAN JOIS DEPTH, SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE, PAMOUALIFIED AND HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM BCIN: 26064 SEALED STRUCTURAL COMPONENTS ONLY

10000



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	11 7/8" NI-40x	1	14
J2	14-00-00	11 7/8" NI-40x	1	42
J3	12-00-00	11 7/8" NI-40x	1	26
J4	10-00-00	11 7/8" NI-40x	1	42
J5	6-00-00	11 7/8" NI-40x	1	8
B12 DR	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B15 ~	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B13 DR '	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3
B17~	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B11	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B14	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B16	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B18 🧹	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B20 1	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B19~	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B21	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary						
Qty	Manuf	Product				
8	H1	IUS2.56/11.88				
27	H1	IUS2.56/11.88				
1	H2	HUS1.81/10				
2	H2	HUS1.81/10				
1	H4	HGUS410				
2	H4	HGUS412				



NOTES:

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



FROM PLAN DATED: 2021/6

BUILDER:

ROYAL PINE HOMES

SITE:

VALES OF HUMBER NORTH

MODEL: 4100

ELEVATION: A

LOT: 30

CITY: BRAMPTON

SALESMAN: RICK DICIANO

DESIGNER: AJ **REVISION:**

DATE: 2021-09-27

2nd FLOOR

100421

DESIGN LOADS: L/480.000

SUBFLOOR: 5/8" GLUED AND NAILED

LIVE LOAD: 40.0 lb/ft²

TILE LOAD: 20.0 lb/ft2

DEAD LOAD: 15.0 lb/ft²

LOADING:

BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS DAS PER PLAN WORKED DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION.

MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM

FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL.

INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY HAVE A COPY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE WHICH WILL AID IN THE OVERALL PROPER INSTALLATION OF THIS FLOOR SYSTEM, INSTALLERS ARE TO READ ALL PRODUCT LITERATURE AND INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGHTS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 1786-71 THROUGH DWG# TAM 1786-71 INCLUSIVE DATED OF THE SUPPLIER AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

SEALED STRUCTURAL COMPONENTS ONLY: (+17868-1+1980-1) ANCIN &-14-U)
SEALED, THIRD PARTY LVL TYPE BEAMS, BUIL FUP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED
LOADED NORDIC WOOD-1 JOIST ONLY: 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PEF
PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED
JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.
A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION
REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED
DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS,
AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE.
PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH
ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/160 DEEPER THAN JOIS
DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE. VAN QUALIFIED AND HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM_ BCIN: 26064 FIRM: SEALED STRUCTURAL COMPONENTS ONLY

MORDIC

INSTALLATION GUIDE

NS-GI33 *

2020-10-01

Engineered Wood Products

BASIC **INSTALLATION GUIDE FOR** RESIDENTIAL **FLOORS**

MORDIC JOIST

NORDIC

nordic.ca

- NSTALLING NORDIC I-JOISTS stallation of Nordic I-joists shall be as shown in details
- Except for cutting to length, Hoist flanges should never be out, drilled or notched
- Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
- Concentrated loads should only be applied to the top surface of the top flange. Concentrated loads should not be suspe bottom flange with the exception of light loads, such as ceiling fans or light fixtures.
- Ljoists must not be used in applications where they will be permanently exposed to weather, or will reach a moisture content of
- Ends of floor joists shall be restrained to prevent rollover. Use rim board or I-joist blocking panels.
-). I-joists installed beneath bearing walls perpendicular to the joists shall have full-depth blocking panels, rim board, or squash blocks (cripple blocks) to transfer gravity loads from above the floor system to the wall or foundation below
- using a single I-joist is 3,300 plf, and 6,600 plf if double I-joists are used
- ous lateral support of the I-joist's compression flange is required to prevent rotation and buckling. In simple span uses, lateral support of the top flange is normally supplied by the floor sheathing. In multiple-span or cantilever applications, bracing of the I-joist's bottom flange is also required at interior supports of multiple-span joists, and at the end support next to the cantilever extension. The ends of all cantilever extensions must be laterally braced as shown in details 3, 4, or 5.
- Nails installed in flange face or edge shall be spaced in accordance
- with the applicable building code requirements or approved building plans, but should not be closer than those specified on page 3.3 of the Nordic Joist Technical Guide (NS-GT3).

13. Details 1 show only I-joist-specific fastener requirements. For other fastener requirements, see the applicable building code. 4. For proper temporary bracing of wood I-joists and placemen

of temporary construction loads, see APA Technical Note: Temporary Construction Loads over I-Joist Roofs and Floors,

All nails shown in the details are assumed to be common nails variants 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. Individual components not shown to scale for darity. NI-20 Depths 9-1/2 and 11-7/8 in.

ORDIC I-JOIST SERIES RESIDENTIAL SERIES

NI-40x N1-60 235 2100f MSR 3/8 in. web 1950f MSR 3/8 in. web 9-1/2, 11-7/8 9-1/2, 11-7/8, and 14 in. 14 and 16 in 33 pieces per unit

Unless hange shall be used.



SAFETY AND CONSTRUCTION PRECAUTIONS

Avoid Accidents by Following these Important Guideline

and sheathed.

rim board, or cross-bridging.

Never install a damaged I-joist.

joists are not stable until completely installed, and will not carry any load until fully braced

. 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

. When the building is completed, the floor sheathing will provide lateral support for the top

flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist rollover or buckling.

Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced

no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2-inch

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

For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels.

Install and fully nail permanent sheathing to each I-joist before placing loads on the flor

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

system. Then, stack building materials over beams or walls only.

nails fastened to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists.

> 2×4 2100f MSR 3/8 in. web Depths 9-1/2, 11-7/8, 14 and 16 in. 23 pieces per uni 23 pieces per

Width Length 1-1/8 in. 16 ft APA Rim Board Plus

2x4 2400f MSF

RIM BOARDS

Never stack building

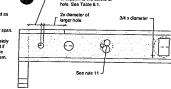
WEB HOLES AND OPENINGS

WEB HOLES IN I-JOISTS

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

 - A 1-1/2 inch hote or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
- Once sheathed, do n

TABLE 6.1 - LOCATION OF WEB HOLES



TOIOL I

DUCT CHASE OPENINGS

Minimum distance from support to the centre of See Table 6.2.

- The distance between the inside edge of the support and the centreline of a duct chase operand shall be in complaint with the requirements of Table 6
- I-joist top and bottom flanges must never be cut, notched or otherwise mo

nimum 1/8" space between o or bottom flange and oper

CE Certification Numbers

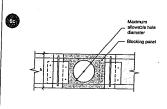
NI-40x MADE IN CANAD

- I-ioist Series

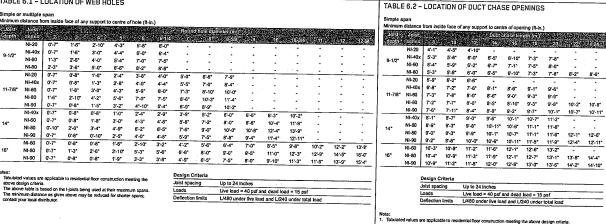
- foles out into the blocking panels are subject to the following limitation: The top and bottom flanges of an I-joist blocking panel must never be cut notched or otherwise modified.
- All openings shall be cut in accordance with the restrictions listed above and as illustrated in detail 6b.
 - While mund holes are preferred, rectangle holes may be used provided the corners are not over cut. Slightly rounding corners or pre-drilling cowith a 1-inch-diameter bit is recommended.

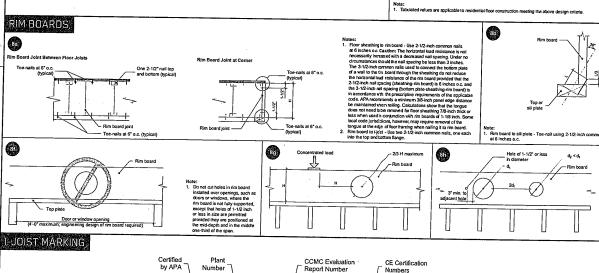
HOLES IN BLOCKING PANELS



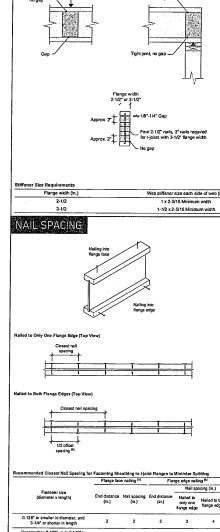


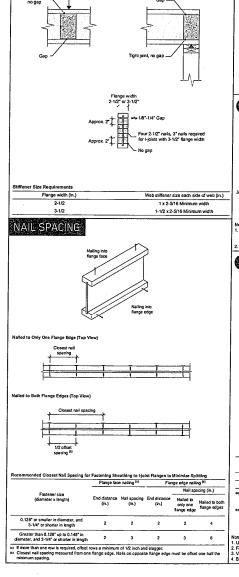
l_	i-joist or rim board blocking depth (in.) 9-1/2 11-7/8 14 16	Maximum allowable hole diameter (in.) (a)
1	9-1/2	6-1/4
1	11-7/8	7-3/4
1	14	9-1/4
 	16	10-1/2
ĺ ≈ ħ	faximum allowable hole diameter in I	slocking panel, where the blocking pane

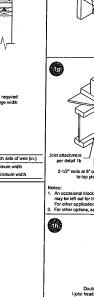


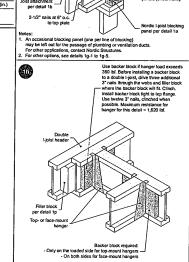


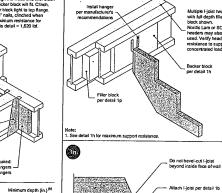
ICC-FS Evaluation





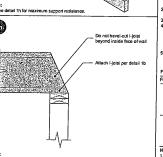


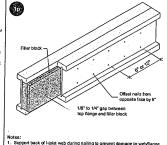




Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

For nating schedules for multiple Nordic Lam or SCL beams, see the manufacturer's recommendations.



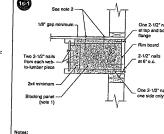


The point back of I-joist web during nailing to prevent damage to webflange connection.

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

Filler block is required between joists for full length of span.
For flange width of 2-1/2 inches, nail joists together with two rows of 3-inch

2-1/8 to 2-1/4 x 6 2x6 + 5/8* or 3/4* she 2-1/8 to 2-1/4 x 12 2x12 + 5/8" or 3/4" sheathing



FOR ALL

construction details →DC3

Use one form for each individual who review	ws and takes re	sponsibility for design activ	ities with respect to	the project.		
A. Project Information		Application				
Building number, street name:			Unit no.	Lot/con. 30		
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other des	cription			
B. Individual who reviews and takes	s responsibili	tv for design activities				
Name	•	Firm				
SAM KATSOULAKOS		MICRO CITY ENG	INEERING SERVICE	CES INC.		
Street address R.R #1, PO BOX 61			Unit no.	Lot/con.		
Municipality GLENCOE	Postal code N0L 1M0	Province ONTARIO	E-mail mcengr	@xplornet.com		
Telephone number (519) 287-2242 Business	Fax number		Cell number			
C. Design activities undertaken by i Division C]			uilding Code Ta	ble 3.5.2.1. of		
☐ House	☐ HVAC -		■ Building State			
☐ Small Buildings ☐ Large Buildings		Services	☐ Plumbing –			
☐ Complex Buildings	☐ Detection ☐ Fire Pro	on, Lighting and Power	☐ Plumbing – ☐ On-site Se			
Description of designer's work:	LI THETTO	rection	U On-site Sei	wage Systems		
ROYAL PINE HOMES-PROJECT: VALES OF HU REVIEW PRE-ENGINEERED FLOOR SYST TAMARACK LUMBER INC. (SEE DWG #TAM REVIEWED AND VERIFED BY QUALIFIED E	EM COMPONE //21598-21 DAT	NT DRAWINGS AND LAY(ED _ 10-04-21). SUPPORT	OUT PLACEMENT	PLAN SUPPLIED BY		
D. Declaration of Designer						
I, <u>SAM KATSOULAKOS</u>		de	eclare that (choose	one as appropriate):		
(print name) I review and take responsibility C, of the Building Code. I am q	, for the design	work on behalf of a firm reg firm is registered, in the ap	istered under subso propriate classes/c	ection 3.2.4.of Division ategories.		
Individual BCIN:26064	<u> </u>					
Firm BCIN: <u>29991</u>	•					
☐ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code. Individual BCIN:						
Basis for exemption from registration: The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification:						
I certify that:	_	-				
 The information contained in this sch I have submitted this application with 						
			0			
Date / O	yN	Signature of Designer				

NOTE:

- 1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- 2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, Association of Architects. Schedule 1 is also not required to be somplified by or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

 DWG #TAM21598-21S

DWG #TAM21600-21S

Use one form for each individual who revie	ws and takes re	sponsibility for design ac	ctivities with respect to	the project		
A. Project Information		Applicatio		s trio project.		
Building number, street name:			Unit no.	Lot/con. 30		
Municipality	Postal code	Plan number/ other o	lescription			
CITY OF BRAMPTON						
B. Individual who reviews and take	s responsibili		es			
Name SAM KATSOULAKOS		Firm MICRO CITY EI	NGINEERING SERVI	CES INC.		
Street address R.R #1, PO BOX 61			Unit no.	Lot/con.		
Municipality GLENCOE	Postal code N0L 1M0	Province ONTARIO	E-mail mcengi	r@xplornet.com		
Telephone number (519) 287-2242 Business	Fax number		Cell number			
C. Design activities undertaken by i Division C]	ndividual ide	ntified in Section B.	[Building Code Ta	ble 3.5.2.1. of		
☐ House	☐ HVAC -	- House	⊠ Building S	'terratural		
☐ Small Buildings		Services	☐ Plumbing -			
☐ Large Buildings		on, Lighting and Power	☐ Plumbing –			
☐ Complex Buildings Description of designer's work:	☐ Fire Pro	tection		wage Systems		
ROYAL PINE HOMES—PROJECT: VALES OF HU REVIEW PRE-ENGINEERED FLOOR SYST TAMARACK LUMBER INC. (SEE DWG #TAM REVIEWED AND VERIFED BY QUALIFIED E	EM COMPONE //21599-21 DAT	NT DRAWINGS AND LA ED 10-04-21), SUPPOI	YOUT PLACEMENT	DI AN CLIDDLIED DV		
D. Declaration of Designer						
I, SAM KATSOULAKOS			declare that (choose	one as appropriate):		
(print name) I review and take responsibility C, of the Building Code. I am qu	, for the desian v	work on behalf of a firm r firm is registered, in the	egistered under subs	ection 3.2.4 of Division		
Individual BCIN:26064	<u> </u>					
Firm BCIN: 29991						
☐ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code. Individual BCIN:						
Basis for exemption from registration: The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification:						
I certify that:						
 The information contained in this sch I have submitted this application with 	nedule is true to n the knowledge	the best of my knowledg and consent of the firm.	e.			
Date /oa	ren :	Signature of Designer	P-			

NOTE:

- 1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- 2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

DWG #TAM21599-21S DWG #TAM21601-21S

Use one form for each individual who review	ws and takes re	sponsibility for design ac	tivities with respect to	the project.
A. Project Information		Application		
Building number, street name:			Unit no.	Lot/con.
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other d	•	
B. Individual who reviews and takes	s responsibili	ty for design activitie	S	
Name		Firm		
SAM KATSOULAKOS		MICRO CITY EN	IGINEERING SERVI	CES INC.
Street address R.R #1, PO BOX 61			Unit no.	Lot/con.
Municipality GLENCOE	Postal code N0L 1M0	Province ONTARIO	E-mail mcengr	@xplornet.com
Telephone number (519) 287-2242 Business	Fax number		Cell number	
C. Design activities undertaken by i Division C]	ndividual ide	ntified in Section B.	Building Code Ta	ble 3.5.2.1. of
☐ House ☐ Small Buildings ☐ Large Buildings ☐ Complex Buildings Description of designer's work:		Services on, Lighting and Power	⊠ Building S □ Plumbing - □ Plumbing - □ On-site Se	- House
ROYAL PINE HOMES-PROJECT:VALES O REVIEW PRE-ENGINEERED FLOOR SYST TAMARACK LUMBER INC. (SEE DWG #TAM AND VERIFED BY QUALIFIED BUILDING DE	EM COMPONE //19525-21 DAT	NT DRAWINGS AND LA	YOUT PLACEMENT	PLAN SUPPLIED BY
D. Declaration of Designer				
I, <u>SAM KATSOULAKOS</u>			_declare that (choose	one as appropriate):
(print name) ☑ I review and take responsibility C, of the Building Code. I am q	for the design	work on behalf of a firm refirm is registered, in the	egistered under subs appropriate classes/o	ection 3.2.4.of Division categories.
Individual BCIN:26064	ļ.			
Firm BCIN: 29991				
☐ I review and take responsibility under subsection 3.2.5.of Divising Individual BCIN:	for the design a ion C, of the Bui	and am qualified in the ap ilding Code.	propriate category as	an "other designer"
Basis for exemption from re ☐ The design work is exempt from Basis for exemption from re	n the registration	n and qualification require		
I certify that:				
 The information contained in this sch I have submitted this application with 			e.	
Date 4	7014	Signature of Designer		

NOTE:

- 1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- 2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

DWG #TAM19525-21S DWG #TAM19527-21S

A. Project Information	ws and takes re	Application		tne project.			
Building number, street name:		Application	Unit no.	Lot/con.			
	T			Loudon.			
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other des	cription				
B. Individual who reviews and takes	 s responsibili	ty for design activities					
Name	- respondibili	Firm					
SAM KATSOULAKOS		MICRO CITY ENG	INEERING SERVIC	ES INC.			
Street address R.R #1, PO BOX 61			Unit no.	Lot/con.			
Municipality	Postal code	Province	E-mail mcengr@	Dyplornet com			
GLENCOE	NOL 1MO	ONTARIO		2×p1011101.00111			
Telephone number (519) 287-2242 Business	Fax number		Cell number				
C. Design activities undertaken by i Division C]	ndividual ide	ntified in Section B. [B	uilding Code Tab	le 3.5.2.1. of			
☐ House	☐ HVAC -		⊠ Building Str				
☐ Small Buildings☐ Large Buildings		Services	☐ Plumbing —				
☐ Complex Buildings	☐ Fire Pro	on, Lighting and Power	☐ Plumbing – /☐ On-site Sew	All Buildings			
Description of designer's work:							
ROYAL PINE HOMES-PROJECT:VALES O REVIEW PRE-ENGINEERED FLOOR SYST TAMARACK LUMBER INC. (SEE DWG #TAM AND VERIFED BY QUALIFIED BUILDING DE D. Declaration of Designer	EM COMPONE //19526-21 DAT	NT DRAWINGS AND LAY	OUT PLACEMENT P	PLAN SUPPLIED BY			
I, SAM KATSOULAKOS		d	eclare that (choose o	one as appropriate):			
(print name) I review and take responsibility C, of the Building Code. I am qu	for the desian	work on behalf of a firm red	istered under subse	ction 3.2.4 of Division			
Individual BCIN: 26064	<u> </u>	"					
Firm BCIN: 29991							
☐ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code. Individual BCIN:							
Basis for exemption from registration:							
☐ The design work is exempt from the registration and qualification requirements of the Building Code.							
Basis for exemption from re	egistration and o	qualification:					
I certify that: 1. The information contained in this sch	adula ia trua ta	the heat of way long out a long					
		•					
2. Thave submitted this application with	2. I have submitted this application with the knowledge and consent of the firm.						
			~				
D .	- 1 - 1						
Date 9	OW	Signature of Designer					

NOTE:

- 1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
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DWG #TAM19526-21S DWG #TAM19528-21S

NORDIC STRUCTURES

COMPANYJuly 17, 2021 11:30

PROJECT
J3 1ST FLOOR wwb

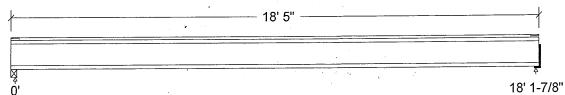
Design Check Calculation Sheet

Nordic Sizer - Canada 8.0

Loads:

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

Maximum Reactions (lbs) and Support Bearing (in):



U		
182 363		182 363
772		772
2137	v.	2048
0.36		0.38
#2 2-5/8		#2 2 1-1/2
No		No 1.00
	182 363 772 2137 - 0.36 - #2 2-5/8 1-1/2 No 1.00	182 363 772 2137 - 0.36 - #2 2-5/8 1-1/2 No 1.00

*Minimum bearing length for joists is 1-1/2" for exterior supports

Nordic Joist 11-7/8" NI-40x Floor joist @ 12" o.c.

Supports: 1 - Steel Beam, W; 2 - Hanger;

Total length: 18' 5"; Clear span: 18' 3/8"; 3/4" nailed and glued OSB sheathing

This section PASSES the design code check.

S. KATSONTOKOS

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J3 1ST FLOOR.wwb

Nordic Sizer - Canada 8.0

Page 2

Limit States Design using CSA 086-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 772	Vr = 2336	lbs	Vf/Vr = 0.33
Moment(+)	Mf = 3502	Mr = 6255	lbs-ft	Mf/Mr = 0.56
Perm. Defl'n	0.12 = < L/999	0.61 = L/360	in	0.20
Live Defl'n	0.25 = L/885	0.45 = L/480	in	0.54
Total Defl'n	0.37 = L/590	0.91 = L/240	in	0.41
Bare Defl'n	0.29 = L/740	0.61 = L/360	in	0.49
Vibration	Lmax = 18'-1.9	Lv = 19'-6.3	ft	0.93
Defl'n	= 0.029	= 0.034	in	0.83

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	2336	1.00	1.00	_	-	_	-	_	#2
Mr+	6255	1.00	1.00	_	1.000	-	-	_	#2
EI	371.1 m	illion	_		_	_	_	-	#2

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = 1.25D + 1.5L Moment(+) : LC #2 = 1.25D + 1.5L Deflection: LC #1 = 1.0D (permanent) LC #2 = 1.0D + 1.0L (live) LC #2 = 1.0D + 1.0L (total) LC #2 = 1.0D + 1.0L (bare joist) Bearing : Support 1 - LC #2 = 1.25D + 1.5L

Support 2 - LC #2 = 1.25D + 1.5L

Load Types: D=dead L=live(use,occupancy)

Load Patterns: s=S/2 L=L+Ls _=no pattern load in this span All Load Combinations (LCs) are listed in the Analysis output

CONFORMS TO OBE 2012
AMENDED 2020

CALCULATIONS:

EIeff = 443.45 lb-in^2 K = 6.18e06 lbs GA = 0.77e06 lb "Live" deflection is due to all non-dead loads (live, wind, snow...)

Design Notes:

- 1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
- 2. Please verify that the default deflection limits are appropriate for your application.
- 3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
- 4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
- 5. Joists shall be laterally supported at supports and continuously along the compression edge.
- 6. Allowable vibration-controlled span as per the Concluding Report, Development of Design Procedures for Vibration Controlled Spans using Engineered Wood Members, CWC et al for CCMC, 1997.
- 7. Floor vibration design from the CCMC Concluding Report (1997) on vibration controlled spans for engineered wood products.
- 8. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.

OVINCE OF CHIEFFE

DWG NO. TAW 10886-21

STRUCTURAL

COMPONENT ONLY





Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B18(i3003) (Flush Beam)

PASSED

September 27, 2021 12:58:48

BC CALC® Member Report

Build 7773

Job name: Address:

City, Province, Postal Code: BRAMPTON

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

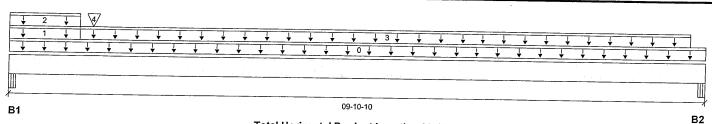
4100 LOT 30.mmdl

File name: Description: 2ND FLR FRAMING\Flush Beams\B18(i3003)

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 09-10-10

Reaction Summary (Down / Uplift) (lbs)

		pint) (ib3)	
Bearing	Live	Dead	Snow
B1, 5-1/4"	422 / 0	879 / 0	867 / 0
B2, 5-1/4"	153 / 0	190 / 0	88 / 0

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-10-10	Тор		12	1.00	1.10	00-00-00
1	E28(i2125)	Unf. Lin. (lb/ft)	L	00-00-00	01-00-00	Top		81			
2	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	01-00-00	Тор	20	10			n∖a n∖a
3	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	01-00-00	09-08-00	Тор	27	13			n\a
4	-	Conc. Pt. (lbs)	L	01-02-05	01-02-05	Тор	324	743	955		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2216 ft-lbs	35392 ft-lbs	6.3%	13	01-02-12
End Shear	2111 lbs	14464 lbs	14.6%	13	01-02-12
Total Load Deflection	L/999 (0.024")	n\a	n\a	35	04-06-01
Live Load Deflection	L/999 (0.014")	n\a	n\a	51	04-06-01
Max Defl.	0.024"	n\a	n\a	35	04-06-01
Span / Depth	9.2			00	04-00-01

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	5-1/4" x 3-1/2"	2821 lbs	28.8%	12.6%	Unspecified Unspecified
B2	Beam	5-1/4" x 3-1/2"	554 lbs	5.7%	2.5%	

Cautions

Concentrated side load(s) 4 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.

Notes

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

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

CONFORMS TO OBE 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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 08-01-14.



STRUCTURAL COMPONENT UNLY





Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B18(i3003) (Flush Beam)

PASSED

September 27, 2021 12:58:48

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: BRAMPTON

Customer:

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

4100 LOT 30.mmdl

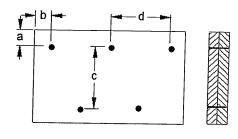
File name: Description: 2ND FLR FRAMING\Flush Beams\B18(i3003)

Specifier:

Designer: ΑJ

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

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

312" ARDOX SPIRAL

Connectors are:

Nails.

DE OF ONE

0716 NO. TAM 21596-21 STRUCTURAL COMPONENT ONLY

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.





Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B20(i2997) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

September 27, 2021 12:58:48

Build 7773

Job name: Address:

City, Province, Postal Code: BRAMPTON

Customer: Code reports:

CCMC 12472-R

4100 LOT 30.mmdl

File name:

Wind

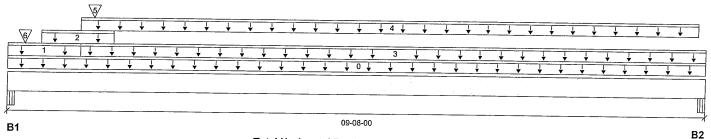
ΑJ

Description: 2ND FLR FRAMING\Flush Beams\B20(i2997)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 09-08-00

Reaction Summary (Down / Uplift) (Ibs)

Bearing	Live	Dead	Snow
B1, 5-1/4"	411 / 0	862 / 0	852 / 0
B2, 2-5/8"	123 / 0	172 / 0	86 / 0

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-08-00	Top		12		1.10	00-00-00
1	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	01-00-00	Тор	14				n\a
2	E26(i2128)	Unf. Lin. (lb/ft)	L	00-05-08	01-05-08	Top		81			n\a
3	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	01-00-00	09-08-00	1-	11	5			n\a
4	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	01-00-00	09-06-12	Тор	9	5			n\a
5	•	Conc. Pt. (lbs)	L	01-02-04	01-02-04	Тор	348	719	938		n\a
6	E27(i2126)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Тор	3.0	24	000		n\a n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2185 ft-lbs	35392 ft-lbs	6.2%	13	01-02-12
End Shear	2079 lbs	14464 lbs	14.4%	13	01-02-12
Total Load Deflection	L/999 (0.022")	n\a	n\a	35	04-06-04
Live Load Deflection	L/999 (0.013")	n\a	n\a	51	04-04-15
Max Defl.	0.022"	n\a	n\a	35	04-06-04
Span / Depth	9.2			00	0-1-00-0-4

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	5-1/4" x 3-1/2"	2766 lbs	28.2%	12.3%	Unspecified
B2	Beam	2-5/8" x 3-1/2"	486 lbs	9.9%	4.3%	Unspecified

Cautions

Concentrated side load(s) 6 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.

1996 NO. TAMZ 1597 = 21 STRUCTURAL COMPONENT ONLY





Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B20(i2997) (Flush Beam)

Passed

BC CALC® Member Report

Build 7773

Dry | 1 span | No cant.

September 27, 2021 12:58:48

Job name:

Address:

Customer:

City, Province, Postal Code: BRAMPTON

File name:

4100 LOT 30.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B20(i2997)

Specifier:

Designer: ΑJ

Code reports:

CCMC 12472-R

Company:

Notes

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

convolms to dec 2012

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

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

AMENDED 2020

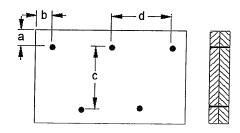
Unbalanced snow loads determined from building geometry were used in selected product's

verification.

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 08-01-14.

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

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

Connectors are: 5 1/2.

.∄⊡ Nails

ARDOX SPIRAL

OWNER OF OR

1916 NO. TAM 21597 = 21 STRUCTURAL COMPONENT ONLY

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.





PASSED

1ST FLR FRAMING\Flush Beams\B2(i2509) (Flush Beam)

Dry | 1 span | No cant.

July 17, 2021 11:40:16

Build 7773

Job name:

Address:

City, Province, Postal Code: BRAMPTON

BC CALC® Member Report

Customer: Code reports:

CCMC 12472-R

File name:

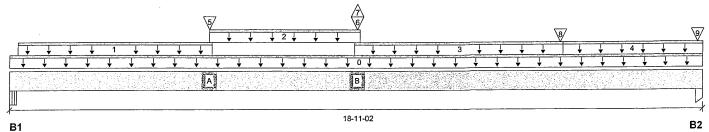
4100 LOT 30.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B2(i2509)

Wind

Specifier:

Designer: ΑJ Company:



Total Horizontal Product Length = 18-11-02

Snow

Reaction Summary (Down / Uplift) (lbs)

Live B1, 5-1/4" 1579 / 50 1148 / 0 B2, 5-1/4" 2098 / 49 1623 / 0

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
	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	18-11-02	Тор		18	,		00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-02-10	05-05-10	Тор	35	17			n\a
2	STAIR	Unf. Lin. (lb/ft)	L	05-04-12	09-05-10	Top	240	120			n\a
3	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	09-03-14	15-00-10	Тор	50	25			n\a
4	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	15-00 - 10	18-11-02	Тор	22	11			n\a
5	B6(i2515)	Conc. Pt. (lbs)	L	05-04-12	05-04-12	Top	566	316			n\a
6	B7(i2488)	Conc. Pt. (lbs)	L	09-04-12	09-04-12	Top	450	544			n\a
7	B7(i2488)	Conc. Pt. (lbs)	L	09-04-12	09-04-12	Top	-99				n\a
8	B9(i2497)	Conc. Pt. (lbs)	L	14-11-12	14-11-12	Top	294	165			n\a
q	B3(i2504)	Conc. Pt. (lbs)	L	18-09-06	18-09-06	Top	799	621			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	21604 ft-lbs	55211 ft-lbs	39.1%	1	09-00-15
End Shear	3682 lbs	21696 lbs	17.0%	1	01-05-02
Total Load Deflection	L/369 (0.59")	n\a	65.0%	6	09-03-14
Live Load Deflection	L/644 (0.339")	n\a	55.9%	8	09-00-15
Max Defl.	0.59"	n\a	n\a	6	09-03-14
Span / Depth	18 4				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	5-1/4" x 5-1/4"	3803 lbs	25.8%	11.3%	Unspecified
B2	Column	5-1/4" x 5-1/4"	5176 lbs	23.1%	15.4%	Unspecified

Cautions

Concentrated side load(s) 10 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.





Jagres I al A

STRUCTURAL COMPONENT ONLY





Triple 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1ST FLR FRAMING\Flush Beams\B2(i2509) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Dry | 1 span | No cant.

July 17, 2021 11:40:16

Job name:

Address:

Customer:

Code reports:

City, Province, Postal Code: BRAMPTON

File name:

4100 LOT 30.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B2(i2509)

Specifier:

Designer:

CCMC 12472-R

ΑJ Company:

Notes

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

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

CONFORMS TO OBC 2012

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

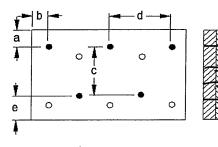
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

AMENDED 2020

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 05-05-04.

Connection Diagram: Full Length of Member



4 pows.

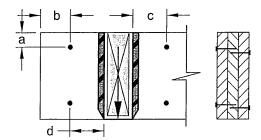
a minimum = 1" b minimum = 3"

c = 7-7/8" e minimum = 2"

Calculated Side Load = 323.6 lb/ft Nailing applies to both sides of the member Connectors are: 16d A. Nails 3½ ARDUX SPIRAL

Connection Diagrams: Concentrated Side Loads

Connection Tag: A Applies to load tag(s): 2



a minimum = 2"

b minimum = 4"

c minimum = 4"

d maximum = 12"

Nailing applies to both sides of the member

Connectors are: 16d [] Nails

312" ARDOX SPIRAL

Connection Tag: B

Applies to load tag(s): 6+7







Triple 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1ST FLR FRAMING\Flush Beams\B2(i2509) (Flush Beam)

PASSED

July 17, 2021 11:40:16

BC CALC® Member Report

Build 7773 Job name:

Address:

City, Province, Postal Code: BRAMPTON

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

4100 LOT 30.mmdl

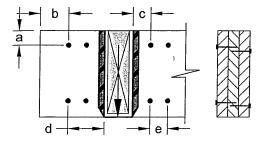
File name: 1ST FLR FRAMING\Flush Beams\B2(i2509) Description:

Specifier:

Designer: AJ

Company:

Connection Diagrams: Concentrated Side Loads



a minimum = 2"

b minimum = 4"

c minimum = 4"

d maximum = 12" e minimum = 4"

Nailing applies to both sides of the member

Connectors are: ' Nails

ARDOX SPIRAL

POLYNCE OF ONLY DWG NO. TAN 1285 STRUCTURAL COMPONENT ONLY

Disclosure

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



BC CALC® Member Report



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

PASSED

1ST FLR FRAMING\Flush Beams\B8(i2646) (Flush Beam)

Dry | 1 span | No cant.

August 9, 2021 15:42:02

Build 7773

Job name:

Customer:

Address:

Code reports:

City, Province, Postal Code: BRAMPTON

File name:

Description: 1ST FLR FRAMING\Flush Beams\B8(i2646)

4100 LOT 30.mmdl

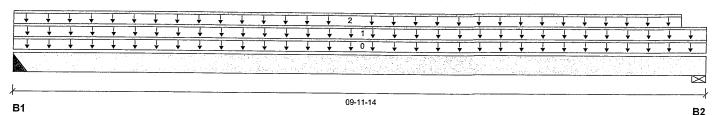
Wind

Specifier:

Designer: ΑJ

CCMC 12472-R

Company:



Total Horizontal Product Length = 09-11-14

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	
B1, 2"	88 / 0	367 / 0	
B2 4-3/8"	91 / 0	360 / 0	

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-11-14	Тор		6			00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	09-11-14	Тор	18	9			n\a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	09-07-08	Тор		60	فد		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Casa	1
				Case	Location
Pos. Moment	1205 ft-lbs	11502 ft-lbs	10.5%	0	04-10-00
End Shear	405 lbs	4701 lbs	8.6%	0	01-01-14
Total Load Deflection	L/999 (0.036")	n\a	n\a	4	04-10-00
Live Load Deflection	L/999 (0.007")	n\a	n\a	5	04-10-00
Max Defl.	0.036"	n\a	n\a	4	04-10-00
Span / Depth	9.7				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 1-3/4"	514 lbs	n\a	18.5%	HUS1.81/10
B2	Wall/Plate	4-3/8" x 1-3/4"	504 lbs	16.5%	8.3%	Spruce-Pine-Fir

Cautions

Header for the hanger HUS1.81/10 is a Double 1-3/4" x 11-7/8" LVL Beam.

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

Notes

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

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

CANVARMS TO OBC 2012

Hanger Manufacturer: Unassigned

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

AMENDED 2020

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 09-07-08.



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.





PASSED

August 9, 2021 15:42:02

2ND FLR FRAMING\Dropped Beams\B12 DR(i2576) (Dropped Beam)

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

Build 7773

Job name:

Address:

Customer:

Code reports:

City, Province, Postal Code: BRAMPTON

CCMC 12472-R

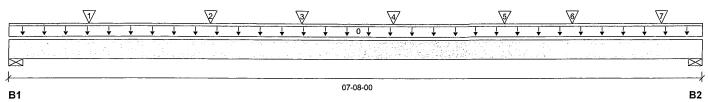
File name: 4100 LOT 30.mmdl

Description: 2ND FLR FRAMING\Dropped Beams\B12 DR(i2576)

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 07-08-00

Reaction Summary (Down / Uplift) (lbs)

	(,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Bearing	Live	Dead	Snow	Wind	
B1, 4"	1488 / 0	873 / 0			
B2, 4"	2654 / 0	1615 / 0			

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L L	00-00-00	07-08-00	Тор		10			00-00-00
1	J2(i2541)	Conc. Pt. (lbs)	L	00-10-08	00-10-08	Top	357	179			n\a
2	J2(i2574)	Conc. Pt. (lbs)	L	02-02-08	02-02-08	Top	313	156			n\a
3	J2(i2553)	Conc. Pt. (lbs)	L	03-02-08	03-02-08	Top	269	135			n\a
4	J2(i2598)	Conc. Pt. (lbs)	L	04-02-08	04-02-08	Top	269	135			n\a
5	•	Conc. Pt. (lbs)	L	05-05-07	05-05-07	Top	1809	1249			n\a
6	-	Conc. Pt. (lbs)	L	06-02-08	06-02-08	Top	537	268			n\a
7		Conc. Pt. (lbs)	L	07-02-08	07-02-08	Top	501	251			n\a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	8789 ft-lbs	23219 ft-lbs	37.9%	1	05-05-12
End Shear	5089 lbs	11571 lbs	44.0%	1	06-06-08
Total Load Deflection	L/999 (0.107")	n\a	n\a	4	04-01-04
Live Load Deflection	L/999 (0.066")	n\a	n\a	5	04-01-04
Max Defl.	0.107"	n\a	n\a	4	04-01-04
Span / Depth	9.0				

Beari	ng Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4" x 3-1/2"	3323 lbs	17.8%	19.5%	Spruce-Pine-Fir
B2	Wall/Plate	4" x 3-1/2"	6000 lbs	32.1%	35.1%	Spruce-Pine-Fir

Notes

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

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

CONFORMS TO OBE 2012

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

AMENDED 2020

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

Calculations assume unbraced length of Top: 01-01-08, Bottom: 07-08-00.



STRUCTURAL COMPONENT ONLY





Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Dropped Beams\B12 DR(i2576) (Dropped Beam)

PASSED

BC CALC® Member Report

Job name:

Dry | 1 span | No cant.

August 9, 2021 15:42:02

Build 7773

Address:

Customer:

City, Province, Postal Code: BRAMPTON

File name:

4100 LOT 30.mmdl

2ND FLR FRAMING\Dropped Beams\B12 DR(i2576) Description:

Specifier:

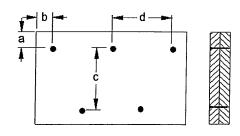
Designer: AJ

Code reports:

CCMC 12472-R

Company:

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

c = 5-1/2" d = 😰 👂 "

ARDOX SPIRAL

POLYNCE OF ONLY

146 NO. TAN 178621 STRUCTURAL COMPONENT ONLY

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.





PASSED

July 17, 2021 11:26:25

2ND FLR FRAMING\Dropped Beams\B13 DR(i1017) (Dropped Beam)

BC CALC® Member Report

City, Province, Postal Code:

Build 7773 Job name:

Address:

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

4100 LOT 30.mmdl

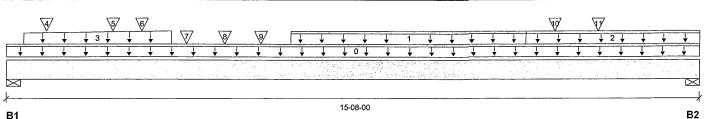
File name:

Description: 2ND FLR FRAMING\Dropped Beams\B13 DR(i1017)

Specifier:

Designer: Company:

CCMC 12472-R



Total Horizontal Product Length = 15-08-00

Reaction Summary (Down / Uplift) (Ibs)

Bearing Live Dead Snow B1, 4" 3414 / 0 2043 / 0 B2, 4" 3728 / 0 2073 / 0

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
	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	15-08-00	Тор		18			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	06-04-02	11-08-02	Top	415	207			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	11-08-02	15-08-00	Top	306	153			n\a
3	Smoothed Load	Trapezoidal (lb/ft)	L	00-04-08		Top	247	123			n\a
					03-08-02		290	146			
4	J4(i1195)	Conc. Pt. (lbs)	L	00-10-08	00-10-08	Top	306	153			n\a
5	B14(i1018)	Conc. Pt. (lbs)	L	02-04-04	02-04-04	Тор	437	438			n∖a
6	J6(i2090)	Conc. Pt. (lbs)	L	03-00-02	03-00-02	Top	96	48			n\a
7		Conc. Pt. (lbs)	L	04-00-03	04-00-03	Тор	419	210			n\a
8	J1(i2030)	Conc. Pt. (lbs)	L	04-10-08	04-10-08	Тор	262	131			n\a
9	-	Conc. Pt. (lbs)	L	05-08-02	05-08-02	Тор	439	219			n\a
10	J6(i1194)	Conc. Pt. (lbs)	L	12-04-02	12-04-02	Тор	107	54			n\a
11	- '	Conc. Pt. (lbs)	L	13-04-00	13-04-00	Top	759	422			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	26789 ft-lbs	55211 ft-lbs	48.5%	1	08-04-02
End Shear	7243 lbs	21696 lbs	33.4%	1	14-04-02
Total Load Deflection	L/335 (0.542")	n\a	71.7%	4	08-00-02
Live Load Deflection	L/525 (0.346")	n\a	68.6%	5	08-00-02
Max Defl.	0.542"	n\a	n\a	4	08-00-02
Span / Depth	15.3				

Bearin	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4" x 5-1/4"	7675 lbs	27.4%	30.0%	Spruce-Pine-Fir
B2	Wall/Plate	4" x 5-1/4"	8183 lbs	29.2%	31.9%	Spruce-Pine-Fir

Notes

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

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

CONFORMS to obe 2012

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

Resistance Factor phi has been applied to all presented results per CSA 086. AMENDED 2020 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

Calculations assume unbraced length of Top: 01-02-12, Bottom: 15-08-00.



OWE NO. TAN 196121 STRUCTURAL COMPONENT ONLY





Triple 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Dropped Beams\B13 DR(i1017) (Dropped Beam)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

July 17, 2021 11:26:25

Build 7773

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

File name:

4100 LOT 30.mmdl

Description: 2ND FLR FRAMING\Dropped Beams\B13 DR(i1017)

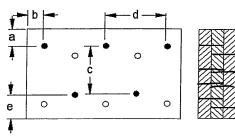
Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member

CCMC 12472-R



a minimum = ₽" b minimum = 3"

c = **8**-7/8" d = **20**" **8** 4 e minimum = 3"

Nailing applies to both sides of the member ÄRDOX SPIRAL Nails Connectors are:

OVINCE OF ON OWG NO. FAN 1786-21 STRUGTURAL COMPONENT ONLY

Disclosure

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PASSED

2ND FLR FRAMING\Flush Beams\B11(i1012) (Flush Beam)

Dry | 1 span | No cant.

July 17, 2021 11:26:25

BC CALC® Member Report

Build 7773 Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

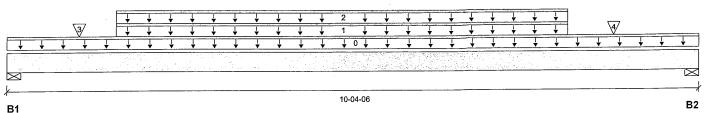
4100 LOT 30.mmdl

File name: Description: 2ND FLR FRAMING\Flush Beams\B11(i1012)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 10-04-06

Snow

Reaction Summary (Down / Uplift) (lbs)

Dead Bearing Live 2382 / 0 1254 / 0 B1, 4" 1196 / 0 2264 / 0 B2, 4-3/8"

CCMC 12472-R

I٥	ad Summary						Live	Dead	Snow	Wind	Tributary
	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	10-04-06	Тор		12			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-07-08	08-04-08	Top	267	134			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-07-08	08-04-08	Top	243	121			n\a
3	-	Conc. Pt. (lbs)	L	01-00-15	01-00-15	Top	623	311			n\a
4	-	Conc. Pt. (lbs)	L	09-00-14	09-00-14	Тор	580	290			n\a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	13154 ft-lbs	35392 ft-lbs	37.2%	1	05-00-08
End Shear	4793 lbs	14464 lbs	33.1%	1	01-03-14
Total Load Deflection	L/720 (0.163")	n\a	33.3%	4	05-01-08
Live Load Deflection	L/999 (0.107")	n\a	n\a	5 ·	05-01-08
Max Defl.	0.163"	n\a	n\a	4	05-01-08
Span / Depth	9.9				

Bear	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4" x 3-1/2"	5140 lbs	59.7%	30.1%	Spruce-Pine-Fir
B2	Wall/Plate	4-3/8" x 3-1/2"	4891 lbs	51.9%	26.2%	Spruce-Pine-Fir

Notes

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

CONFORMS TO OBE 2012

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

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

AMENDED 2020

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-11-04.



OWE NO. TAM 118621 STRUGTURAL COMPONENT ONLY





2ND FLR FRAMING\Flush Beams\B11(i1012) (Flush Beam)

Dry | 1 span | No cant.

July 17, 2021 11:26:25

PASSED

BC CALC® Member Report Build 7773

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

Description: 2ND FLR FRAMING\Flush Beams\B11(i1012)

Specifier:

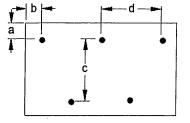
Designer:

File name:

4100 LOT 30.mmdl

Company:

Connection Diagram: Full Length of Member





CCMC 12472-R

a minimum = 2"

b minimum = 3"

c = 7-7/8" d = 84

Calculated Side Load = 767.8 lb/ft Connectors are: 16d Co.

31/2" ARDOX SPIRAL

POLINCE OF 148 HO. TAN 178621 STRUCTURAL COMPONENT ONLY

Disclosure

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

BC CALC®, BC FRAMER®, AJS™, ALLJOIST® , BC RIM BOARD™, BCI® , BOISE GLULAM $^{\text{TM}}$, BC FloorValue $^{\text{R}}$, VERSA-LAM®, VERSA-RIM PLUS®,





Double 1-3/4" x 11-7/8" VERSA-LAM® 2,0 3100 SP 2ND FLR FRAMING\Flush Beams\B14(i1018) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Dry | 1 span | No cant.

July 17, 2021 11:26:25

Job name: Address:

City, Province, Postal Code:

Customer: Code reports:

CCMC 12472-R

File name:

4100 LOT 30.mmdl

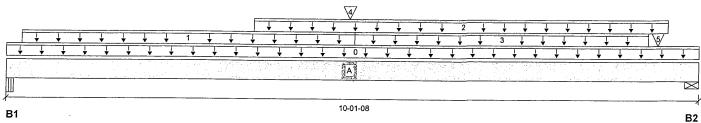
Wind

Description: 2ND FLR FRAMING\Flush Beams\B14(i1018)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 10-01-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	
B1, 5-1/4"	417 / 0	406 / 0		
B2, 5-1/2"	964 / 0	1339 / 0		

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-01-08	Тор	***************************************	12			00-00-00
1	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-02-10	05-00-08	Тор	43	21			n\a
2	WALL	Unf. Lin. (lb/ft)	L	03-06-15	09-08-00	Top		60			n\a
3	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	05-00-08	09-04-08	Тор	6				n\a
4	B17(i1021)	Conc. Pt. (lbs)	L	04-11-10	04-11-10	Top	498	280			n\a
5	B15(i1019)	Conc. Pt. (lbs)	L	09-06-04	09-06-04	Тор	646	860			n\a

Controls Summary	Factored Dames	Factored	Demand/	_	
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	3922 ft- l bs	35392 ft-lbs	11.1%	1	04-11-10
End Shear	1001 lbs	14464 lbs	6.9%	1	01-05-02
Total Load Deflection	L/999 (0.04")	n\a	n\a	4	05-00-08
Live Load Deflection	L/999 (0.019")	n\a	n\a	5	04-11-10
Max Defl.	0.04"	n\a	n\a	4	05-00-08
Span / Depth	9.5				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	5-1/4" x 3-1/2"	1133 lbs	5.1%	5.1%	VL 2.0 3100 SP
B2	Wall/Plate	5-1/2" x 3-1/2"	3119 lbs	26.3%	13.3%	Spruce-Pine-Fir

Cautions

Concentrated side load(s) 6 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.

Notes

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

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

CONFORMS TO OBC 2012

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

AMENDED 2020

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 04-05-08.



HE HO. FAM NEB21 STRUCTURAL COMPONENT ONLY



BC CALC® Member Report



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

2ND FLR FRAMING\Flush Beams\B14(i1018) (Flush Beam)

Dry | 1 span | No cant.

July 17, 2021 11:26:25

PASSED

Build 7773

Job name: Address:

City, Province, Postal Code:

Customer: Code reports:

CCMC 12472-R

File name:

4100 LOT 30.mmdl

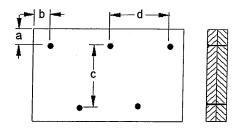
Description: 2ND FLR FRAMING\Flush Beams\B14(i1018)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

c = 7-7/8" d = 899

b minimum = 3"

-0

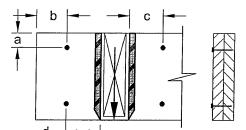
Connectors are:

Nails

312" ARDOX SPIRAL

Connection Diagrams: Concentrated Side Loads

Connection Tag: A Applies to load tag(s): 3



a minimum = 2" b minimum = 4"

c minimum = 4"

d maximum = 12"

Connectors are:

Nails

312" ARDOX SPIRAL



OWG NO. TAM 1186321
STRUCTURAL
COMPONENT ONLY

Disclosure

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Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B15(i1019) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Dry | 1 span | No cant.

July 17, 2021 11:26:25

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R File name:

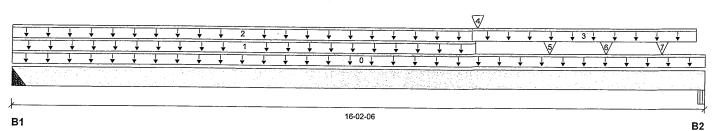
4100 LOT 30.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B15(i1019)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 16-02-06

Reaction Summary (Down / Uplift) (lbs)

	a., (DOIII., O)	7111 C) (1100)			
Bearing	Live	Dead	Snow	Wind	
B1, 4"	650 / 0	869 / 0			
B2, 5-1/4"	1609 / 0	1144 / 0			

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	16-02-06	Тор		12			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	10-09-03	Тор		60			n\a
2	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	10-08-00	Тор	18	9			n\a
3	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	10-08-00	15-11-12	Тор	15	7			n\a
4	-	Conc. Pt. (lbs)	L	10-09-09	10-09-09	Top	1293	690			n\a
5	J4(i1203)	Conc. Pt. (lbs)	L	12-06-02	12-06-02	Тор	248	124			n\a
6	J4(i1184)	Conc. Pt. (lbs)	L	13-10-02	13-10-02	Тор	248	124			n\a
7	J4(i1185)	Conc. Pt. (lbs)	L	15-02-02	15-02-02	Тор	194	97			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	14247 ft-lbs	35392 ft-lbs	40.3%	1	10-08-14
End Shear	3611 lbs	14464 lbs	25.0%	1	14-09-04
Total Load Deflection	L/468 (0.399")	n\a	51.3%	4	08-05-10
Live Load Deflection	L/883 (0.211")	n\a	40.8%	5	08-08-01
Max Defl.	0.399"	n\a	n\a	4	08-05-10
Span / Depth	15.7				

Beari	ng Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	4" x 3-1/2"	2061 lbs	n\a	12.1%	HGUS410
B2	Beam	5-1/4" x 3-1/2"	3844 lbs	17.1%	17.1%	VL 2.0 3100 SP

Header for the hanger HGUS410 is a Double 1-3/4" x 11-7/8" LVL Beam.

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

188 NO. TAM 106421

STRUGTURAL COMPONENT ONLY





Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B15(i1019) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

July 17, 2021 11:26:25

Build 7773 Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File name:

4100 LOT 30.mmdl

4100 LOT 30.11111di

Description: 2ND FLR FRAMING\Flush Beams\B15(i1019)

Specifier:

Designer:

Company:

Notes

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

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

Hanger Manufacturer: Unassigned

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 2015 and CSA O86.

Design based on Dry Service Condition.

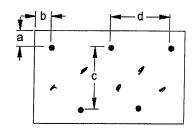
Importance Factor: Normal Part code: Part 9

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

CONFORMS TO OBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member



7 4 po

a minimum = 2" b minimum = 3" c = 7-7/8" d = **666** "/

Calculated Side Load = 1664.5 lb/ft Connectors are: 16d \ Nails

312" ARDOX SPIRAL



Disclosure

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2ND FLR FRAMING\Flush Beams\B16(i1020) (Flush Beam)

Dry | 1 span | No cant.

July 17, 2021 11:26:25

PASSED

Build 7773 Job name:

Address:

City, Province, Postal Code:

BC CALC® Member Report

Customer:

Code reports:

File name:

4100 LOT 30.mmdl

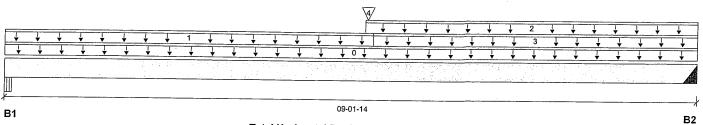
Description: 2ND FLR FRAMING\Flush Beams\B16(i1020)

Wind

Specifier:

Designer:

CCMC 12472-R Company:



Total Horizontal Product Length = 09-01-14

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	
B1, 2-5/8"	592 / 0	339 / 0		
B2 2"	1126 / 0	607 / 0		

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	•
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-01-14	Top		6			00-00-00
1	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	04-09-14	Тор	27	13			n\a
2	STAIR	Unf. Lin. (lb/ft)	L	04-08-10	09-01-14	Top	240	120			n\a
3	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	04-09-14	09-01-14	•	10	5			n\a
4	B17(i1021)	Conc. Pt. (lbs)	L	04-09-00	04-09-00	Тор	480	271			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	5299 ft-lbs	17696 ft-lbs	29.9%	1	04-09-00
End Shear	1824 lbs	7232 lbs	25.2%	1	08-00-00
Total Load Deflection	L/999 (0.099")	n\a	n\a	4	04-09-14
Live Load Deflection	L/999 (0.064")	n\a	n\a	5	04-09-14
Max Defl.	0.099"	n\a	n\a	4	04-09-14
Span / Depth	9.0				

Bear	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	2-5/8" x 1-3/4"	1311 lbs	23.4%	23.4%	VL 2.0 3100 SP
B2	Hanger	2" x 1-3/4"	2448 lbs	n\a	57.3%	HUS1.81/10

Cautions

Header for the hanger HUS1.81/10 is a Double 1-3/4" x 11-7/8" LVL Beam.

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



STRUCTURAL COMPONENT ONLY





Single 1-3/4" x 11-7/8" VERSA-LAM® 2,0 3100 SP

PASSED

July 17, 2021 11:26:25

2ND FLR FRAMING\Flush Beams\B16(i1020) (Flush Beam)

Build 7773

Job name:

Address:

BC CALC® Member Report

City, Province, Postal Code:

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

4100 LOT 30.mmdl

File name:

Description: 2ND FLR FRAMING\Flush Beams\B16(i1020)

Specifier:

Designer. Company:

Notes

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

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 04-05-08.

CONFORMS TO OBC 2012

AMENDED 2020



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2ND FLR FRAMING\Flush Beams\B17(i1021) (Flush Beam)

Dry | 1 span | No cant.

July 17, 2021 11:26:25

PASSED

BC CALC® Member Report Build 7773

Job name:

Address:

City, Province, Postal Code:

Customer: Code reports:

CCMC 12472-R

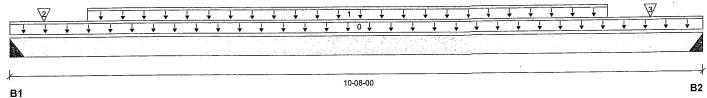
4100 LOT 30.mmdl

File name: Description: 2ND FLR FRAMING\Flush Beams\B17(i1021)

Wind

Specifier:

Designer: Company:



Total Horizontal Product Length = 10-08-00

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead			
B1, 2"	498 / 0	280 / 0			
B2, 2"	480 / 0	271 / 0			

10	ad Summary						Live	Dead	Snow	Wind	Tributary
	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	10-08-00	Top		6			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-02-02	09-02-02	Top	97	48			n\a
2	J6(i2090)	Conc. Pt. (lbs)	L	00-06-02	00-06-02	Top	96	48			n\a
3	J6(i1194)	Conc. Pt. (lbs)	L	09-10-02	09-10-02	Top	108	54			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2892 ft-lbs	17696 ft-lbs	16.3%	1	05-10-02
End Shear	972 lbs	7232 lbs	13.4%	1	09-06-02
Total Load Deflection	L/999 (0.082")	n\a	n\a	4	05-04-02
I ive Load Deflection	L/999 (0.053")	n\a	n\a	5	05-04-02
Max Defl.	0.082"	n\a	n\a	4	05-04-02
Span / Depth	10.6				

Bearin	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
B1	Hanger	2" x 1-3/4"	1097 lbs	n\a	25.7%	HUS1.81/10	
B2	Hanger	2" x 1-3/4"	1058 lbs	n\a	24.8%	HUS1.81/10	

Cautions

Header for the hanger HUS1.81/10 is a Double 1-3/4" x 11-7/8" LVL Beam.

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 is a Single 1-3/4" x 11-7/8" LVL Beam.

Notes

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

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

CONFORMS TO OBC 2012

Hanger Manufacturer: Unassigned

AMENDED 2020

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 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

ON NOE OF O

178 10. TAN 106621 STRUCTURAL

Disclosure

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2ND FLR FRAMING\Flush Beams\B19(i1025) (Flush Beam)

Dry | 1 span | No cant.

July 17, 2021 11:26:25

PASSED

Build 7773

Job name: Address:

City, Province, Postal Code:

BC CALC® Member Report

Customer: Code reports: CCMC 12472-R

4100 LOT 30.mmdl

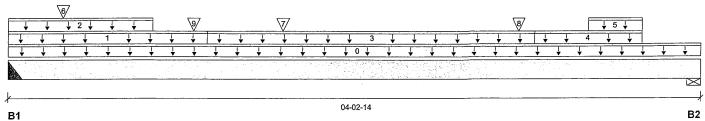
File name:

Description: 2ND FLR FRAMING\Flush Beams\B19(i1025)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 04-02-14

Reaction Summary (Down / Unlift) (lbs)

reaction our	illialy (Dollis / O	pinty (ibo)			
Bearing	Live	Dead	Snow	Wind	
B1, 4"	327 / 0	448 / 0	166 / 0		
B2. 4-3/8"	228 / 0	356 / 0	136 / 0		

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-02-14	Top		12			00-00-00
1	E29(i2130)	Unf. Lin. (lb/ft)	L	00-00-00	01-02-08	Top		81			n\a
2	E29(i2130)	Unf. Lin. (lb/ft)	L	00-00-00	00-10-08	Top		42	78		n\a
3	E33(i2135)	Unf. Lin. (lb/ft)	L	01-02-08	03-02-08	Top		61			n\a
4	E34(i2136)	Unf. Lin. (lb/ft)	L	03-02-08	03-10-08	Top		81			n\a
5	E34(i2136)	Unf. Lin. (lb/ft)	L	03-06-08	03-10 - 08	Top		42	78		n\a
6	J5(i1096)	Conc. Pt. (lbs)	L	00-04-00	00-04-00	Top	145	72			n\a
7	J5(i1103)	Conc. Pt. (lbs)	L	01-08-00	01-08-00	Top	213	106			n\a
8	• · · ·	Conc. Pt. (lbs)	L	03-01-05	03-01-05	Top	197	173	101		n∖a
9	E29(j2130)	Conc. Pt. (lbs)	L	01-01-08	01-01-08	Top		78	107		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	868 ft-lbs	35392 ft-lbs	2.5%	1	01-08-00
End Shear	775 lbs	14464 lbs	5.4%	1	02-10-10
Total Load Deflection	L/999 (0.002")	n\a	n\a	35	02-01-00
Live Load Deflection	L/999 (0.001")	n\a	n\a	51	02-01-00
Max Defl.	0.002"	n\a	n\a	35	02-01-00
Span / Depth	3.7				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	4" x 3-1/2"	1217 lbs	n\a	7.1%	HGUS410
B2	Wall/Plate	4-3/8" x 3-1/2"	923 lbs	9.8%	4.9%	Spruce-Pine-Fir

Cautions

Header for the hanger HGUS410 is a Double 1-3/4" x 11-7/8" LVL Beam.

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









2ND FLR FRAMING\Flush Beams\B19(i1025) (Flush Beam)

Dry | 1 span | No cant.

July 17, 2021 11:26:25

PASSED

BC CALC® Member Report Build 7773

Job name:

Address:

Customer:

City, Province, Postal Code:

Code reports: CCMC 12472-R File name:

4100 LOT 30.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B19(i1025)

Specifier:

Designer:

Company:

Notes

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

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

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.

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

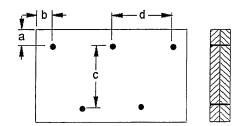
Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

CONFORMS TO OBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

c = 7-7/8" d = 110 8

Calculated Side Load = 226.0 lb/ft

Connectors are:

Nails ARDOX SPIRAL

NOTE OF ONLY

DAR HO. TAN NB6821 STRUCTURAL COMPONENT ONLY

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.





PASSED

July 17, 2021 11:26:25

2ND FLR FRAMING\Flush Beams\B21(i1027) (Flush Beam)

BC CALC® Member Report

Build 7773

Job name: Address:

Customer: Code reports:

City, Province, Postal Code:

CCMC 12472-R

Dry | 1 span | No cant.

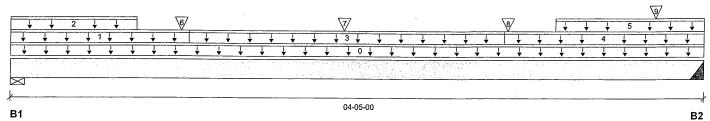
File name:

4100 LOT 30.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B21(i1027) Specifier:

Designer:

Company:



Total Horizontal Product Length = 04-05-00

Reaction Summary (Down / Uplift) (lbs)

i todotion oai	reaction Cammary (Domir Opine) (183)								
Bearing	Live	Dead	Snow	Wind					
B1, 5-1/2"	254 / 0	435 / 0	179 / 0						
B2, 4"	334 / 0	455 / 0	166 / 0						

Lo	ad Summary	. •					Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-05-00	Тор		12			00-00-00
1	E25(i2124)	Unf. Lin. (lb/ft)	L	00-00-00	01-01-08	Top		81			n\a
2	E25(i2124)	Unf. Lin. (lb/ft)	L	00-00-00	00-09-08	Top		42	78		n\a
3	E31(i2133)	Unf. Lin. (lb/ft)	L	01-01-08	03-01-08	Тор		61			n\a
4	E32(i2134)	Unf. Lin. (lb/ft)	L	03-01-08	04-05-00	Тор		81			n\a
5	E32(i2134)	Unf. Lin. (lb/ft)	L	03-05-08	04-05-00	Top		42	78		n\a
6	-	Conc. Pt. (lbs)	L	01-00-15	01-00-15	Тор	151	154	107		n\a
7	J5(i1762)	Conc. Pt. (lbs)	Ĺ	02-01-04	02-01-04	Тор	160	80			n\a
8	-	Conc. Pt. (lbs)	L	03-01-12	03-01-12	Тор	160	154	101		n\a
9	J5(i1800)	Conc. Pt. (lbs)	L	04-01-04	04-01-04	Top	117	58			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	944 ft-lbs	35392 ft-lbs	2.7%	1	02-01-04
End Shear	864 lbs	14464 lbs	6.0%	1	03-01-02
Total Load Deflection	L/999 (0.002")	n\a	n\a	35	02-03-08
Live Load Deflection	L/999 (0.001")	n\a	n\a	51	02-03-08
Max Defl.	0.002"	n\a	n\a	35	02-03-08
Span / Depth	3.8				

Bearing	յ Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	5-1/2" x 3-1/2"	1104 lbs	9.3%	4.7%	Spruce-Pine-Fir
B2	Hanger	4" x 3-1/2"	1236 lbs	n\a	7.2%	HGUS410

Cautions

Header for the hanger HGUS410 is a Double 1-3/4" x 11-7/8" LVL Beam.

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

148 HO. TAN 187221 STRUGTURAL COMPONENT ONLY





PASSED

2ND FLR FRAMING\Flush Beams\B21(i1027) (Flush Beam)

BC CALC® Member Report Dry | 1 span | No cant. July 17, 2021 11:26:25

Build 7773

Job name: Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File name:

4100 LOT 30.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B21(i1027)

Specifier:

Designer:

Company:

Notes

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

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

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.

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

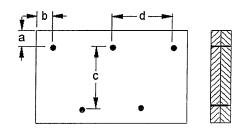
Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-09-08.

CONFARMS TO OBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

c = 7-7/8"

Calculated Side Load = 170.0 lb/ft Connectors are: .

Nails

ARDOX SPIRAL



STRUCTURAL COMPONENT ONLY

Disclosure

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Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1ST FLR FRAMING\Flush Beams\B10L(i58) (Flush Beam)

PASSED

July 17, 2021 11:26:25

BC CALC® Member Report

Build 7773 Job name:

Address:

Customer:

Code reports:

City, Province, Postal Code:

Dry | 1 span | No cant.

File name:

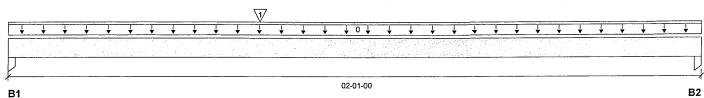
4100 LOT 30.mmdl Description: 1ST FLR FRAMING\Flush Beams\B10L(i58)

Wind

Specifier:

Designer:

CCMC 12472-R Company:



Total Horizontal Product Length = 02-01-00

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	
B1, 3-1/2"	171 / 0	92 / 0	
B2, 3-1/2"	81 / 0	47 / 0	

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	02-01-00	Тор		6			00-00-00
1	J2(i62)	Conc. Pt. (lbs)	L	00-09-00	00-09-00	Top	252	126			n\a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	192 ft-lbs	17696 ft-lbs	1.1%	1	00-09-00
End Shear	170 lbs	7232 lbs	2.4%	1	00-09-10
Total Load Deflection	L/999 (0")	n\a	n\a	4	00-11-10
Live Load Deflection	L/999 (0")	n\a	n\a	5	00-11-10
Max Defl.	0"	n\a	n\a	4	00-11-10
Span / Depth	1.6				

Bearing	յ Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column	3-1/2" x 1-3/4"	371 lbs	7.5%	5.0%	Unspecified
B2	Column	3-1/2" x 1-3/4"	180 lbs	3.6%	2.4%	Unspecified

Notes

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

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

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-00-04.

CONFORMS TO OBE 2012 AMENDED 2020

ONNCE OF TWE NO. TAN 1087121 STRUCTURAL COMPONENT ONLY

Disclosure

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Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1ST FLR FRAMING\Flush Beams\B1L(i41) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Address:

City, Province, Postal Code: Customer:

Code reports:

Job name:

Dry | 1 span | No cant.

July 17, 2021 11:26:25

File name:

4100 LOT 30.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B1L(i41)

Specifier:

Designer: Company:

CCMC 12472-R

+	\	<u>+</u>	<u>+</u>	\	<u> </u>	+	<u> </u>	<u> </u>	\	1	. ↓	+	V	+	Ţ	1 ↓	+	_ \	+	+	+	¥	¥	1	+	+	1	¥	+	+	+
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			1.17												TO F		15 (15 to 16	11.0													
1																															

Total Horizontal Product Length = 01-09-00

Reaction Sun	nmary (Down / U	plift) (lbs)			
Bearing	Live	Dead	Snow	Wind	
B1, 4-3/8"	108 / 0	145 / 0			
B2, 1-3/4"	13 / 0	11 / 0			

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	01-09-00	Top		6		*******	00-00-00
1	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	01-09-00	Тор	18	9			n\a
2	E1(i950)	Conc. Pt. (lbs)	L	00-01-10	00-01-10	Top	91	130			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	10 ft-lbs	17696 ft-lbs	n\a	1	00-11-13
End Shear	17 lbs	7232 lbs	0.2%	1	01-04-04
Span / Depth	1.4				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4-3/8" x 1-3/4"	343 lbs	7.3%	3.7%	Spruce-Pine-Fir
B2	Column	1-3/4" x 1-3/4"	34 lbs	1.4%	0.9%	Unspecified

Notes

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

CONFORMS TO OBC 2012

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-04-10.

AMENDED 2020



188 NO. TAN 178721 STRUCTURAL COMPONENT ONLY

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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.





PASSED

July 17, 2021 11:26:25

1ST FLR FRAMING\Flush Beams\B3(i2292) (Flush Beam)

BC CALC® Member Report Build 7773

Job name:

Address:

City, Province, Postal Code: Customer:

Code reports:

Dry | 1 span | No cant.

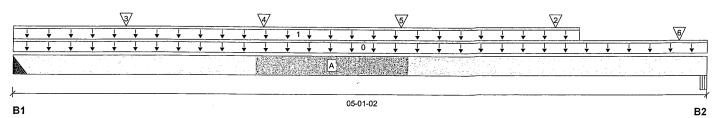
4100 LOT 30.mmdl

File name: Description: 1ST FLR FRAMING\Flush Beams\B3(i2292)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 05-01-02

Snow

Reaction Summary (Down / Uplift) (Ibs)

CCMC 12472-R

Live Dead B1, 2" 809 / 0 620 / 0 B2, 5-1/4" 3310/0 2182 / 0

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-01-02	Тор		12			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	04-01-10	Top		60			n\a
2	-	Conc. Pt. (lbs)	L	03-11-08	03-11-08	Top	465	582			n\a
3	J3(i2293)	Conc. Pt. (lbs)	L	00-09-12	00-09-12	Top	408	204			n\a
4	J3(i2311)	Conc. Pt. (lbs)	L	01-09-12	01-09-12	Top	350	173			n∖a
5	J3(i2318)	Conc. Pt. (lbs)	L	02-09-12	02-09-12	Тор	377	188			n\a
6	7(i1013)	Conc. Pt. (lbs)	L	04-10-10	04-10-10	Top	2497	1332			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2551 ft-lbs	35392 ft-lbs	7.2%	1	02-09-12
End Shear	1842 lbs	14464 lbs	12.7%	1	03-08-00
Total Load Deflection	L/999 (0.007")	n\a	n\a	4	02-05-04
Live Load Deflection	L/999 (0.004")	n\a	n\a	5	02-05-04
Max Defl.	0.007"	n\a	n\a	4	02-05-04
Span / Depth	47				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 3-1/2"	1987 lbs	n\a	23.3%	HUC412
B2	Beam	5-1/4" x 3-1/2"	7692 lbs	78.4%	34.3%	Unspecified

Cautions

Header for the hanger HUC412 is a Double 1-3/4" x 11-7/8" LVL Beam.

Hanger model HUC412 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.



STRUGTURAL COMPONENT ONLY





Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1ST FLR FRAMING\Flush Beams\B3(i2292) (Flush Beam)

PASSED

July 17, 2021 11:26:25

BC CALC® Member Report

Build 7773

Job name: Address:

City, Province, Postal Code:

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

4100 LOT 30.mmdl

File name:

Description: 1ST FLR FRAMING\Flush Beams\B3(i2292)

Specifier:

Designer:

Company:

Notes

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

Hanger Manufacturer: Unassigned

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

CCMC 12472-R

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

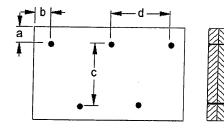
Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-09-08.

CONFORMS TO OBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2"

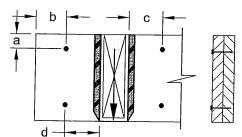
c = 7-7/8" d = 🎾 🔗 " b minimum = 3"

Calculated Side Load = 433.5 lb/ft Connectors are: 16d . Nails

312" ARDOX SPIRAL

Connection Diagrams: Concentrated Side Loads

Connection Tag: A Applies to load tag(s): 3+4



a minimum = 2"

b minimum = 4"

c minimum = 4"

d maximum = 12"

Connectors are: 16d 🤄 🧳 🔧 Nails

ARDOX SPIRAL



COMPONENT ONLY

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





1ST FLR FRAMING\Flush Beams\B4(i2467) (Flush Beam)

Dry | 1 span | No cant.

July 17, 2021 11:26:25

PASSED

Build 7773

Job name:

Address:

City, Province, Postal Code:

BC CALC® Member Report

Customer: Code reports: CCMC 12472-R

File name:

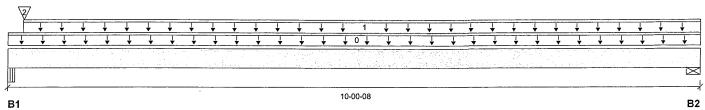
4100 LOT 30.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B4(i2467)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 10-00-08

Snow

Reaction Summary (Down / Uplift) (lbs)

	<i>3</i> \	1 " '/ \" '
Bearing	Live	Dead
B1, 5-1/4"	153 / 0	118 / 0
B2, 4-3/8"	94 / 0	77 / 0

Lo	Load Summary							Dead	Snow	Wind	Tributary
Ta	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	10-00-08	Тор		6			00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-02-10	10-00-08	Тор	19	10			n\a
2	9(i1016)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top	61	42	.ve	STATE OF THE PARTY	n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	524 ft-lbs	17696 ft-lbs	3.0%	1	05-00-11
End Shear	174 lbs	7232 lbs	2.4%	1	01-05-02
Total Load Deflection	L/999 (0.012")	n\a	n\a	4	05-00-11
Live Load Deflection	L/999 (0.007")	n\a	n\a	5	05-00-11
Max Defl.	0.012"	n\a	n\a	4	05-00-11
Span / Depth	9.5				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	5-1/4" x 1-3/4"	377 lbs	7.7%	3.4%	Unspecified
B2	Wall/Plate	4-3/8" x 1-3/4"	238 lbs	5.1%	2.6%	Spruce-Pine-Fir

Notes

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

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

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 09-02-14.

CONFORMS TO OBG 2012

AMENDED 2020



WE NO. TAM MOSTY STRUCTURAL COMPONENT ONLY

Disclosure

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



BC CALC® Member Report



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

1ST FLR FRAMING\Flush Beams\B5(i2480) (Flush Beam)

Dry | 1 span | No cant.

July 17, 2021 11:26:25

PASSED

Build 7773

Job name:

Address: City, Province, Postal Code:

Customer: Code reports:

CCMC 12472-R

File name:

4100 LOT 30.mmdl

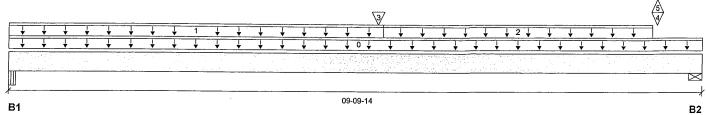
Description: 1ST FLR FRAMING\Flush Beams\B5(i2480)

Wind

Specifier:

Designer:

Company:



Total Horizontal Product Length = 09-09-14

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow
B1, 2-5/8"	463 / 5	287 / 0	
B2 4-3/8"	604 / 127	642 / 0	

Loa	ld Summary						Live
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-09-14	Тор	
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	05-03-00	Тор	53
2	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	05-03-00	09-01-04	Тор	3
3	B6(i2287)	Conc. Pt. (lbs)	L	05-02-02	05-02-02	Тор	527
4	B7(i2481)	Conc. Pt. (lbs)	L	09-02-02	09-02-02	Тор	248
5	B7(i2481)	Conc. Pt. (lbs)	L	09-02-02	09-02-02	Тор	-132

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3666 ft-lbs	17696 ft-lbs	20.7%	1	05-02-02
End Shear	1049 lbs	7232 lbs	14.5%	1	08-05-10
Total Load Deflection	L/999 (0.073")	n\a	n\a	6	04-11-02
Live Load Deflection	L/999 (0.045")	n\a	n\a	8	04-11-02
Max Defl.	0.073"	n\a	n\a	6	04-11-02
Span / Depth	9.5				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	2-5/8" x 1-3/4"	1053 lbs	42.9%	18.8%	Unspecified
B2	Wall/Plate	4-3/8" x 1-3/4"	1708 lbs	36.3%	18.3%	Spruce-Pine-Fir

Notes

1 11 25 2

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

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

CONFORMS TO OBC 2012

Resistance Factor phi has been applied to all presented results per CSA 086. AMENDED 2020 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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 04-10-10.

nla
297
427
S. KATSOULAROS

S. KATSOULAROS

OLIVICE OF ONTOS

STRUCTURAL

COMPONENT Disclosure

Dead

0.65

6

27

Snow

1.00

Wind

1.15

Tributary

00-00-00

n\a

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.

ONLY

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





Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1ST FLR FRAMING\Flush Beams\B6(i2287) (Flush Beam)

PASSED

July 17, 2021 11:26:25

BC CALC® Member Report

Build 7773 Job name:

Address:

Customer:

Code reports:

City, Province, Postal Code:

Dry | 1 span | No cant.

4100 LOT 30.mmdl File name:

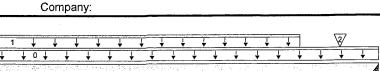
Description: 1ST FLR FRAMING\Flush Beams\B6(i2287)

Wind

Specifier:

Designer:

CCMC 12472-R



11-02-04 B2 R1

Total Horizontal Product Length = 11-02-04

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	
B1, 2"	527 / 0	297 / 0	
B2. 2"	563 / 0	315 / 0	

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-02-04	Тор		6			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-06-12	09-10-12	Top	105	52			n\a
2	J8(i2288)	Conc. Pt. (lbs)	L	10-06-12	10-06-12	Top	111	55			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3479 ft-lbs	17696 ft-lbs	19.7%	1	05-02-12
				,	
End Shear	1152 lbs	7232 lbs	15.9%	1	01-01-14
Total Load Deflection	L/999 (0.109")	n\a	n\a	4	05-06-12
Live Load Deflection	L/999 (0.07")	n\a	n\a	5	05-06-12
Max Defl.	0.109"	n\a	n\a	4	05-06-12
Span / Depth	11.1				

Bearin	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
B1	Hanger	2" x 1-3/4"	1161 lbs	n\a	27.2%	HUS1.81/10	
B2	Hanger	2" x 1-3/4"	1238 lbs	n\a	29.0%	HUS1.81/10	

Cautions

Header for the hanger HUS1.81/10 is a Single 1-3/4" x 11-7/8" LVL Beam.

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 is a Double 1-3/4" x 11-7/8" LVL Beam.

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

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

CONFORMS TO OBG 2012

Hanger Manufacturer: Unassigned

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

AMENDED 2020

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.



Disclosure

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PASSED

1ST FLR FRAMING\Flush Beams\B7(i2481) (Flush Beam)

Dry | 1 span | No cant.

July 17, 2021 11:26:25

BC CALC® Member Report Build 7773

Job name:

Address:

City, Province, Postal Code:

Customer: Code reports:

CCMC 12472-R

File name:

4100 LOT 30.mmdl

Description: 4100 LOT 30.mmd

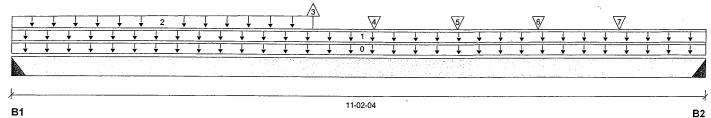
Description: 1ST FLR FRAMING\Flush Beams\B7(i2481)

Wind

Specifier:

Designer:

Company:



Total Horizontal Product Length = 11-02-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow
B1, 2"	246 / 132	426 / 0	
R2 2"	440 / 00	E42 / O	

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-02-04	Тор		6			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	00-00-00	11-02-04	Top		60			n\a
2	FC2 Floor Decking (Plan	Trapezoidal (lb/ft)	L	00-00-00		Top	17	8 .			n\a
	View Fill)				04-09-08		19	9			
3	J8(i2471)	Conc. Pt. (lbs)	L	04-09-08	04-09-08	Top	-231	-113			n\a
4	J8(i2464)	Conc. Pt. (lbs)	L	05-09-04	05-09-04	Тор	132	66			n\a
5	J8(i2433)	Conc. Pt. (lbs)	L	07-01-04	07-01-04	Тор	153	76			n\a
6	J8(i2433)	Conc. Pt. (lbs)	L	08-05-04	08-05-04	Top	153	76			n\a
7	J8(i2474)	Conc. Pt. (lbs)	L	09-09-04	09-09-04	Top	166	83			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3320 ft-lbs	17696 ft- l bs	18.8%	1	06-11-04
End Shear	1257 lbs	7232 lbs	17.4%	1	10-00-06
Total Load Deflection	L/999 (0.104")	n\a	n\a	6	05-09-04
Live Load Deflection	L/999 (0.047")	n\a	n\a	8	05-11-04
Max Defl.	0.104"	n\a	n\a	6	05-09-04
Span / Depth	11.1	*			

Beari	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 1-3/4"	596 lbs	n\a	21.5%	HUS1.81/10
B2	Hanger	2" x 1-3/4"	1352 lbs	n\a	31.7%	HUS1.81/10

Cautions

Header for the hanger HUS1.81/10 is a Single 1-3/4" x 11-7/8" LVL Beam.

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 is a Double 1-3/4" x 11-7/8" LVL Beam.







PASSED

July 17, 2021 11:26:25

1ST FLR FRAMING\Flush Beams\B7(i2481) (Flush Beam)

BC CALC® Member Report

Build 7773 Job name:

Address:

City, Province, Postal Code:

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name: 4100 LOT 30.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B7(i2481)

Specifier:

Designer:

Company:

Notes

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

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

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 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 04-08-04.

CONFORMS TO OBC 2012

AMENDED 2020



Disclosure

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1ST FLR FRAMING\Flush Beams\B9(i2450) (Flush Beam)

Dry | 1 span | No cant.

July 17, 2021 11:26:25

PASSED

Build 7773

Job name:

Address:

City, Province, Postal Code:

BC CALC® Member Report

Customer: Code reports:

CCMC 12472-R

File name:

4100 LOT 30.mmdl

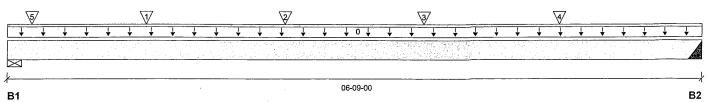
Description: 1ST FLR FRAMING\Flush Beams\B9(i2450)

Wind

Specifier:

Designer:

Company:



Total Horizontal Product Length = 06-09-00

Reaction Summary (Down / Uplift) (Ibs)

Bearing	Live	Dead	Snow
B1, 5-1/2"	309 / 0	187 / 0	
B2 2"	295 / 0	166 / 0	

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
	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	06-09-00	Тор		6			00-00-00
1 -	J8(i2464)	Conc. Pt. (lbs)	L	01-04-00	01-04-00	Top	132	66			n\a
2	J8(i2433)	Conc. Pt. (lbs)	L	02-08-00	02-08-00	Top	153	76			n\a
3	J8(i2460)	Conc. Pt. (lbs)	L	04-00-00	04-00-00	Top	153	76			n\a
4	J8(i2474)	Conc. Pt. (lbs)	L	05-04-00	05-04-00	Top	166	83			n\a
5	2(i1007)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Тор		12	200	OFESS	/O∧ n\a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	1221 ft-lbs	17696 ft-lbs	6.9%	1	04-00-00
End Shear	641 lbs	7232 lbs	8.9%	1	05-07-02
Total Load Deflection	L/999 (0.012")	n\a	n\a	4	03-06-00
Live Load Deflection	L/999 (0.008")	n\a	n\a	5	03-06-00
Max Defl.	0.012"	n\a	n\a	4	03-06-00
Span / Depth	6.3				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	5-1/2" x 1-3/4"	698 lbs	11.8%	5.9%	Spruce-Pine-Fir
B2	Hanger	2" x 1-3/4"	650 lbs	n\a	15.2%	HUS1.81/10

Cautions

Header for the hanger HUS1.81/10 is a Double 1-3/4" x 11-7/8" LVL Beam.

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

Notes

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

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

CONFORMS TO 186 2012 AMENDED 2020

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 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-03-12.

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STRUCTURA COMPONENT ONLY



Maximum Floor Spans - S2.1

Design Criteria

Spans: Simple span

Loads:

Live load = 40 psf and dead load = 15 psf

Deflection limits:

L/480 under live load and L/240 under total load

Sheathing:

5/8 in. nailed-glued oriented strand board (OSB) sheathing

Maximum Floor Spans

			8	Bare			1/2 in. gy	osum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-1"	14'-3"	13'-10"	-	15'-7"	14'-9"	14'-3"	-
0.4/0"	NI-40x	16'-2"	15'-3"	14'-8"	-	16'-7"	15'-8"	15'-1"	-
9-1/2"	NI-60	16'-4"	15'-4"	14'-10"	-	16'-9"	15'-9"	15'-3"	-
	NI-80	17'-3"	16'-3"	15'-8"	-	17'-8"	16'-7"	16'-0"	-
	NI-20	17'-0"	16'-0"	15'-6"	-	17'-6"	16'-7"	16'-0"	-
	NI-40x	18'-2"	17'-1"	16'-6"	-	18'-9"	17'-6"	16'-11"	-
11-7/8"	NI-60	18'-5"	17'-3"	16'-8"	-	19'-0"	17'-8"	17'-1"	-
	NI-80	19'-9"	18'-3"	17'-7"	-	20'-4"	18'-10"	18'-0"	-
	NI-90	20'-2"	18'-8"	17'-10"	-	20'-9"	19'-2"	18'-4"	-
	NI-40x	20'-1"	18'-8"	17'-10"	-	20'-10"	19'-4"	18'-6"	-
14"	NI-60	20'-6"	18'-11"	18'-2"	-	21'-2"	19'-8"	18'-9"	-
14	NI-80	21'-11"	20'-3"	19'-4"	-	22'-7"	20'-11"	20'-0"	-
	NI-90	22'-5"	20'-8"	19'-9"	-	23'-0"	21'-4"	20'-4"	-
	NI-60	22'-4"	20'-8"	19'-9"	-	23'-1"	21'-5"	20'-6"	-
16"	NI-80	23'-11"	22'-1"	21'-1"	-	24'-8"	22'-10"	21'-9"	-
	NI-90	24'-5"	22'-6"	21'-6"	_	25'-1"	23'-2"	22'-2"	_

		Mi	d-span blocking	g with 1x4 inch st	trap	Mid-sp	oan blocking an	d 1/2 in. gypsum	ceiling
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-8"	15'-3"	14'-5"	-	16'-8"	15'-3"	14'-5"	-
0.4/0!!	NI-40x	17'-11"	17'-0"	16'-1"	-	18'-5"	17'-1"	16'-1"	-
9-1/2"	NI-60	18'-2"	17'-1"	16'-4"	-	18'-8"	17'-4"	16'-4"	-
	NI-80	19'-5"	18'-0"	17'-5"	-	19'-10"	18'-5"	17'-8"	-
	NI-20	19'-7"	18'-2"	17'-3"	-	19'-11"	18'-3"	17'-3"	-
	NI-40x	21'-1"	19'-7"	18'-8"	-	21'-8"	20'-2"	19'-2"	-
11-7/8"	NI-60	21'-4"	19'-9"	18'-11"	-	21'-11"	20'-5"	19'-6"	-
	NI-80	22'-9"	21'-1"	20'-2"	-	23'-3"	21'-8"	20'-8"	-
	NI-90	23'-3"	21'-6"	20'-6"	-	23'-9"	22'-0"	21'-0"	-
	NI-40x	23'-8"	21'-11"	20'-11"	-	24'-4"	22'-8"	21'-8"	-
14"	NI-60	24'-0"	22'-3"	21'-3"	-	24'-8"	22'-11"	21'-11"	-
14	NI-80	25'-7"	23'-9"	22'-7"	-	26'-2"	24'-4"	23'-3"	-
	NI-90	26'-1"	24'-2"	23'-0"	-	26'-8"	24'-9"	23'-7"	-
	NI-60	26'-5"	24'-6"	23'-5"	-	27'-2"	25'-3"	24'-2"	-
16"	NI-80	28'-2"	26'-1"	24'-10"	-	28'-10"	26'-9"	25'-6"	-
	NI-90	28'-8"	26'-6"	25'-3"	-	29'-3"	27'-2"	25'-11"	_

- 1. The tabulated clear spans are based on CSA 086-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

NORDIC STRUCTURES

Maximum Floor Spans - S4.1

Design Criteria

Spans:

Simple span

Loads:

Live load = 40 psf and dead load = 15 psf

Deflection limits:

L/480 under live load and L/240 under total load

Sheathing:

3/4 in. nailed-glued oriented strand board (OSB) sheathing

Maximum Floor Spans

			E	Bare			1/2 in. gy	psum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-11"	15'-0"	14'-6"	13'-5"	16'-5"	15'-5"	14'-6"	13'-5"
9-1/2"	NI-40x	17'-0"	16'-0"	15'-5"	14'-10"	17'-5"	16'-5"	15'-10"	15'-2"
9-1/2	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-7"	16'-7"	16'-0"	15'-4"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
	NI-20	17'-11"	16'-11"	16'-3"	15'-8"	18'-7"	17'-5"	16'-10"	16'-2"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-7"	19'-11"	18'-6"	17'-9"	17'-0"
11-7/8"	NI-60	19'-7"	18'-2"	17'-6"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
	NI-80	21'-1"	19'-6"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-90	21'-6"	19'-10"	18'-11"	17'-11"	22'-0"	20'-4"	19'-5"	18'-4"
	NI-40x	21'-5"	19'-11"	18'-11"	18'-0"	22'-1"	20'-7"	19'-7"	18'-7"
14"	NI-60	21'-10"	20'-2"	19'-3"	18'-3"	22'-6"	20'-10"	19'-11"	18'-10'
14	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	NI-90	23'-10"	22'-1"	21'-0"	19'-10"	24'-5"	22'-7"	21'-6"	20'-4"
	NI-60	23'-9"	22'-0"	21'-0"	19'-10"	24'-6"	22'-9"	21'-8"	20'-7"
16"	NI-80	25'-6"	23'-7"	22'-5"	21'-2"	26'-2"	24'-3"	23'-1"	21'-10'
	NI-90	26'-0"	24'-0"	22'-10"	21'-6"	26'-7"	24'-8"	23'-5"	22'-2"

		Mi	d-span blocking	with 1x4 inch	strap	Mid-sp	oan blocking an	d 1/2 in. gypsu	m ceiling
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"
9-1/2"	NI-40x	18'-8"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"
9-1/2	NI-60	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17'-6"	16'-6"	15'-5"
	NI-80	20'-3"	18'-10"	17'-11"	16'-10"	20'-8"	19'-3"	18'-2"	16'-10"
	NI-20	20'-1"	18'-5"	17'-5"	16'-2"	20'-1"	18'-5"	17'-5"	16'-2"
	NI-40x	21'-10"	20'-4"	19'-4"	17'-8"	22'-5"	20'-6"	19'-4"	17'-8"
11-7/8"	NI-60	22'-1"	20'-7"	19'-8"	18'-4"	22'-8"	20'-10"	19'-8"	18'-4"
	NI-80	23'-8"	22'-0"	20'-11"	19'-10"	24'-1"	22'-6"	21'-6"	20'-0"
	NI-90	24'-1"	22'-5"	21'-4"	20'-2"	24'-7"	22'-11"	21'-10"	20'-7"
	NI-40x	24'-5"	22'-9"	21'-9"	19'-5"	25'-1"	23'-2"	21'-9"	19'-5"
14"	NI-60	24'-10"	23'-2"	22'-1"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10"
14	NI-80	26'-6"	24'-8"	23'-6"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
	NI-90	27'-0"	25'-1"	23'-11"	22'-7"	27'-6"	25'-8"	24'-6"	23'-2"
	NI-60	27'-3"	25'-5"	24'-3"	22'-11"	28'-0"	26'-2"	24'-9"	23'-1"
16"	NI-80	29'-1"	27'-1"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
	NI-90	29'-7"	27'-6"	26'-2"	24'-9"	30'-2"	28'-2"	26'-10"	25'-5"

- 1. The tabulated clear spans are based on CSA 086-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans - S6.1

Design Criteria

Spans:

Simple span

Loads:
Deflection limits:
Sheathing:

Live load = 40 psf and dead load = 15 psf L/480 under live load and L/240 under total load

5/8 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

			E	are			1/2 in. gyp	sum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	14'-11"	14'-1"	13'-7"	-	15'-4"	14'-6"	14'-1"	-
9-1/2"	NI-40x	15'-11"	15'-0"	14'-6"	-	16'-4"	15'-5"	14'-11"	-
9-1/2	NI-60	16'-1"	15'-2"	14'-8"	-	16'-6"	15'-7"	15'-1"	-
	NI-80	17'-1"	16'-1"	15'-6"	-	17'-5"	16'-5"	15'-10"	-
	NI-20	16'-9"	15'-10"	15'-4"	-	17'-4"	16'-4"	15'-10"	-
	NI-40x	17'-10"	16'-10"	16'-3"	-	18'-6"	17'-4"	16'-9"	-
11-7/8"	NI-60	18'-1"	17'-0"	16'-5"	-	18'-9"	17'-6"	16'-11"	-
	NI-80	19'-6"	18'-0"	17'-4"	-	20'-1"	18'-7"	17'-9"	-
	NI-90	19'-11"	18'-4"	17'-8"	-	20'-5"	18'-11"	18'-1"	-
	NI-40x	19'-10"	18'-4"	17'-8"	-	20'-6"	19'-1"	18'-3"	-
4.40	NI-60	20'-2"	18'-8"	17'-11"	-	20'-10"	19'-4"	18'-6"	-
14"	NI-80	21'-8"	20'-0"	19'-1"	-	22'-4"	20'-8"	19'-9"	-
	NI-90	22'-1"	20'-5"	19'-6"	-	22'-9"	21'-0"	20'-1"	-
	NI-60	22'-0"	20'-4"	19'-6"	-	22'-9"	21'-1"	20'-2"	-
16"	NI-80	23'-7"	21'-10"	20'-10"	-	24'-4"	22'-6"	21'-6"	-
	NI-90	24'-1"	22'-2"	21'-2"	-	24'-9"	22'-11"	21'-10"	_

		Mi	d-span blocking	with 1x4 inch s	trap	Mid-sp	an blocking an	d 1/2 in. gypsum	ceiling
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-6"	15'-1"	14'-3"	-	16'-6"	15'-1"	14'-3"	-
0.4/0!	NI-40x	17'-9"	16'-10"	15'-11"	-	18'-2"	16'-11"	15'-11"	-
9-1/2"	NI-60	17'-11"	16'-11"	16'-2"	-	18'-5"	17'-2"	16'-2"	-
	NI-80	19'-3"	17'-10"	17'-3"	-	19'-8"	18'-3"	17'-7"	-
	NI-20	19'-4"	18'-0"	17'-1"	-	19'-9"	18'-1"	17'-1"	-
	NI-40x	20'-10"	19'-4"	18'-6"	-	21'-5"	19'-11"	19'-0"	-
11-7/8"	NI-60	21'-1"	19'-7"	18'-8"	-	21'-8"	20'-2"	19'-3"	-
	NI-80	22'-6"	20'-10"	19'-11"	-	23'-1"	21'-5"	20'-5"	-
	NI-90	23'-0"	21'-3"	20'-4"	-	23'-6"	21'-10"	20'-10"	-
	NI-40x	23'-5"	21'-8"	20'-9"	-	24'-0"	22'-5"	21'-5"	-
4.411	NI-60	23'-9"	22'-0"	21'-0"	-	24'-5"	22'-8"	21'-8"	-
14"	NI-80	25'-4"	23'-6"	22'-5"	-	25'-11"	24'-1"	23'-0"	-
	NI-90	25'-10"	23'-11"	22'-9"	-	26'-5"	24'-6"	23'-4"	-
	NI-60	26'-2"	24'-3"	23'-2"	-	26'-11"	25'-0"	23'-11"	-
16"	NI-80	27'-11"	25'-10"	24'-7"	-	28'-7"	26'-6"	25'-3"	-
	NI-90	28'-5"	26'-3"	25'-0"	_	29'-0"	26'-11"	25'-8"	_

- 1. The tabulated clear spans are based on CSA 086-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans - S7.1

Design Criteria

Spans:

Simple span

Loads: Deflection limits: Live load = 40 psf and dead load = 15 psf L/480 under live load and L/240 under total load

Sheathing:

3/4 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

			Е	are			1/2 in. gy	osum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
9-1/2"	NI-40x	16'-11"	15'-11"	15'-4"	14'-9"	17'-4"	16'-4"	15'-9"	15'-1"
9-1/2	NI-60	17'-1"	16'-1"	15'-6"	14'-10"	17'-6"	16'-6"	15'-11"	15'-3"
	NI-80	18'-1"	17'-0"	16'-4"	15'-8"	18'-7"	17'-4"	16'-8"	16'-0"
	NI-20	17'-10"	16'-10"	16'-2"	15'-7"	18'-5"	17'-4"	16'-9"	16'-1"
	NI-40x	19'-3"	17'-10"	17'-2"	16'-6"	19'-10"	18'-5"	17'-8"	16'-11'
11-7/8"	NI-60	19'-6"	18'-1"	17'-4"	16'-8"	20'-1"	18'-8"	17'-10"	17'-1"
	NI-80	20'-11"	19'-4"	18'-5"	17'-7"	21'-5"	19'-10"	18'-11"	17'-11'
	NI-90	21'-4"	19'-9"	18'-9"	17'-10"	21'-10"	20'-3"	19'-3"	18'-3"
	NI-40x	21'-4"	19'-9"	18'-10"	17'-11"	22'-0"	20'-5"	19'-6"	18'-6"
14"	NI-60	21'-8"	20'-1"	19'-2"	18'-2"	22'-4"	20'-9"	19'-9"	18'-9"
14	NI-80	23'-3"	21'-6"	20'-5"	19'-4"	23'-10"	22'-1"	21'-0"	19'-11'
	NI-90	23'-9"	21'-11"	20'-10"	19'-8"	24'-3"	22'-6"	21'-5"	20'-3"
	NI-60	23'-7"	21'-10"	20'-10"	19'-9"	24'-4"	22'-7"	21'-7"	20'-5"
16"	NI-80	25'-4"	23'-5"	22'-3"	21'-1"	26'-0"	24'-1"	22'-11"	21'-8"
	NI-90	25'-10"	23'-10"	22'-8"	21'-5"	26'-5"	24'-6"	23'-4"	22'-0"

		Mi	d-span blocking	with 1x4 inch	strap	Mid-sp	oan blocking an	d 1/2 in. gypsu	m ceiling
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"
0.4/0"	NI-40x	18'-7"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"
9-1/2"	NI-60	18'-10"	17'-6"	16'-6"	15'-5"	19'-1"	17'-6"	16'-6"	15'-5"
	NI-80	20'-2"	18'-9"	17'-11"	16'-10"	20'-7"	19'-2"	18'-2"	16'-10'
	NI-20	20'-1"	18'-5"	17'-5"	16'-2"	20'-1"	18'-5"	17'-5"	16'-2"
	NI-40x	21'-9"	20'-3"	19'-4"	17'-8"	22'-4"	20'-5"	19'-4"	17'-8"
11-7/8"	NI-60	22'-0"	20'-6"	19'-7"	18'-4"	22'-7"	20'-10"	19'-8"	18'-4"
	NI-80	23'-6"	21'-10"	20'-10"	19'-9"	24'-0"	22'-5"	21'-4"	20'-0"
	NI-90	24'-0"	22'-4"	21'-3"	20'-1"	24'-6"	22'-10"	21'-9"	20'-7"
	NI-40x	24'-4"	22'-8"	21'-8"	19'-5"	25'-0"	23'-2"	21'-9"	19'-5"
14"	NI-60	24'-9"	23'-0"	22'-0"	20'-9"	25'-5"	23'-8"	22'-4"	20'-10'
14	NI-80	26'-5"	24'-6"	23'-4"	22'-1"	27'-0"	25'-2"	24'-0"	22'-8"
	NI-90	26'-11"	25'-0"	23'-10"	22'-6"	27'-5"	25'-7"	24'-5"	23'-1"
	NI-60	27'-2"	25'-4"	24'-2"	22'-10"	27'-11"	26'-1"	24'-9"	23'-1"
16"	NI-80	29'-0"	26'-11"	25'-8"	24'-3"	29'-7"	27'-7"	26'-4"	24'-11'
	NI-90	29'-6"	27'-5"	26'-1"	24'-8"	30'-1"	28'-1"	26'-9"	25'-4"

- 1. The tabulated clear spans are based on CSA 086-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans - M2.1

Design Criteria

Spans:

Simple span

Loads:

Live load = 40 psf and dead load = 20 psf

Deflection limits:

L/480 under live load and L/240 under total load

Sheathing:

5/8 in. nailed-glued oriented strand board (OSB) sheathing

Maximum Floor Spans

			E	Bare			1/2 in. gy	osum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-1"	14'-3"	13'-10"	-	15'-7"	14'-9"	14'-3"	-
9-1/2"	NI-40x	16'-2"	15'-3"	14'-8"	-	16'-7"	15'-8"	15'-1"	-
9-1/2	NI-60	16'-4"	15'-4"	14'-10"	-	16'-9"	15'-9"	15'-3"	-
	NI-80	17'-3"	16'-3"	15'-8"	-	17'-8"	16'-7"	16'-0"	-
	NI-20	17'-0"	16'-0"	15'-6"	-	17'-6"	16'-7"	16'-0"	-
	NI-40x	18'-2"	17'-1"	16'-6"	-	18'-9"	17'-6"	16'-11"	-
11-7/8"	NI-60	18'-5"	17'-3"	16'-8"	-	19'-0"	17'-8"	17'-1"	-
	NI-80	19'-9"	18'-3"	17'-7"	-	20'-4"	18'-10"	18'-0"	-
	NI-90	20'-2"	18'-8"	17'-10"	-	20'-9"	19'-2"	18'-4"	-
	NI-40x	20'-1"	18'-8"	17'-10"	-	20'-10"	19'-4"	18'-6"	-
14"	NI-60	20'-6"	18'-11"	18'-2"	-	21'-2"	19'-8"	18'-9"	-
14	NI-80	21'-11"	20'-3"	19'-4"	-	22'-7"	20'-11"	20'-0"	-
	NI-90	22'-5"	20'-8"	19'-9"	_	23'-0"	21'-4"	20'-4"	-
	NI-60	22'-4"	20'-8"	19'-9"	-	23'-1"	21'-5"	20'-6"	-
16"	NI-80	23'-11"	22'-1"	21'-1"	-	24'-8"	22'-10"	21'-9"	-
	NI-90	24'-5"	22'-6"	21'-6"	-	25'-1"	23'-2"	22'-2"	_

		Mi	d-span blocking	with 1x4 inch s	trap	Mid-sp	oan blocking an	d 1/2 in. gypsum	ceiling
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-8"	15'-3"	14'-5"	-	16'-8"	15'-3"	14'-5"	-
0.4/0!!	NI-40x	17'-11"	17'-0"	16'-1"	-	18'-5"	17'-1"	16'-1"	-
9-1/2"	NI-60	18'-2"	17'-1"	16'-4"	-	18'-8"	17'-4"	16'-4"	-
	NI-80	19'-5"	18'-0"	17'-5"	-	19'-10"	18'-5"	17'-8"	-
	NI-20	19'-7"	18'-2"	17'-3"	-	19'-11"	18'-3"	17'-3"	-
	NI-40x	21'-1"	19'-7"	18'-8"	-	21'-8"	20'-2"	19'-0"	-
11-7/8"	NI-60	21'-4"	19'-9"	18'-11"	-	21'-11"	20'-5"	19'-6"	-
	NI-80	22'-9"	21'-1"	20'-2"	-	23'-3"	21'-8"	20'-8"	-
	NI-90	23'-3"	21'-6"	20'-6"	-	23'-9"	22'-0"	21'-0"	-
	NI-40x	23'-8"	21'-11"	20'-11"	-	24'-4"	22'-8"	20'-11"	-
14"	NI-60	24'-0"	22'-3"	21'-3"	-	24'-8"	22'-11"	21'-11"	-
14	NI-80	25'-7"	23'-9"	22'-7"	-	26'-2"	24'-4"	23'-3"	-
	NI-90	26'-1"	24'-2"	23'-0"	-	26'-8"	24'-9"	23'-7"	-
	NI-60	26'-5"	24'-6"	23'-5"	-	27'-2"	25'-3"	24'-2"	-
16"	NI-80	28'-2"	26'-1"	24'-10"	-	28'-10"	26'-9"	25'-6"	-
	NI-90	28'-8"	26'-6"	25'-3"	-	29'-3"	27'-2"	25'-11"	_

- 1. The tabulated clear spans are based on CSA 086-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans - M4.1

Design Criteria

Spans: Simple span

Loads:

Live load = 40 psf and dead load = 20 psf

Deflection limits:

L/480 under live load and L/240 under total load

Sheathing:

3/4 in. nailed-glued oriented strand board (OSB) sheathing

Maximum Floor Spans

			E	Bare			1/2 in. gy _l	psum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-11"	15'-0"	14'-6"	13'-5"	16'-5"	15'-5"	14'-6"	13'-5"
9-1/2"	NI-40x	17'-0"	16'-0"	15'-5"	14'-10"	17'-5"	16'-5"	15'-10"	14'-11
9-1/2	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-7"	16'-7"	16'-0"	15'-4"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
	NI-20	17'-11"	16'-11"	16'-3"	15'-8"	18'-7"	17'-5"	16'-10"	16'-1"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-7"	19'-11"	18'-6"	17'-9"	17'-0"
11-7/8"	NI-60	19'-7"	18'-2"	17'-6"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
	NI-80	21'-1"	19'-6"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-90	21'-6"	19'-10"	18'-11"	17'-11"	22'-0"	20'-4"	19'-5"	18'-4"
	NI-40x	21'-5"	19'-11"	18'-11"	18'-0"	22'-1"	20'-7"	19'-7"	18'-7"
14"	NI-60	21'-10"	20'-2"	19'-3"	18'-3"	22'-6"	20'-10"	19'-11"	18'-10'
14	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	NI-90	23'-10"	22'-1"	21'-0"	19'-10"	24'-5"	22'-7"	21'-6"	20'-4"
	NI-60	23'-9"	22'-0"	21'-0"	19'-10"	24'-6"	22'-9"	21'-8"	20'-7"
16"	NI-80	25'-6"	23'-7"	22'-5"	21'-2"	26'-2"	24'-3"	23'-1"	21'-10'
	NI-90	26'-0"	24'-0"	22'-10"	21'-6"	26'-7"	24'-8"	23'-5"	22'-2"

		Mi	d-span blocking	with 1x4 inch	strap	Mid-sp	oan blocking an	d 1/2 in. gypsui	m ceiling
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"
9-1/2"	NI-40x	18'-8"	17'-2"	16'-3"	14'-11"	18'-10"	17'-2"	16'-3"	14'-11"
9-1/2	NI-60	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17'-6"	16'-6"	15'-5"
	NI-80	20'-3"	18'-10"	17'-11"	16'-10"	20'-8"	19'-3"	18'-2"	16'-10"
	NI-20	20'-1"	18'-5"	17'-5"	16'-1"	20'-1"	18'-5"	17'-5"	16'-1"
	NI-40x	21'-10"	20'-4"	19'-0"	17'-0"	22'-5"	20'-6"	19'-0"	17'-0"
11-7/8"	NI-60	22'-1"	20'-7"	19'-8"	18'-4"	22'-8"	20'-10"	19'-8"	18'-4"
	NI-80	23'-8"	22'-0"	20'-11"	19'-10"	24'-1"	22'-6"	21'-6"	20'-0"
	NI-90	24'-1"	22'-5"	21'-4"	20'-2"	24'-7"	22'-11"	21'-10"	20'-7"
	NI-40x	24'-5"	22'-9"	20'-11"	18'-8"	25'-1"	22'-11"	20'-11"	18'-8"
14"	NI-60	24'-10"	23'-2"	22'-1"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10"
14	NI-80	26'-6"	24'-8"	23'-6"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
	NI-90	27'-0"	25'-1"	23'-11"	22'-7"	27'-6"	25'-8"	24'-6"	23'-2"
,	NI-60	27'-3"	25'-5"	24'-3"	22'-11"	28'-0"	26'-2"	24'-9"	23'-1"
16"	NI-80	29'-1"	27'-1"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
	NI-90	29'-7"	27'-6"	26'-2"	24'-9"	30'-2"	28'-2"	26'-10"	25'-5"

- 1. The tabulated clear spans are based on CSA 086-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans - M6.1

Design Criteria

Spans: Simple span

Loads: Live load = 40 psf and dead load = 20 psf
Deflection limits: L/480 under live load and L/240 under total load
Sheathing: 5/8 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

			8	are			1/2 in. gyp	osum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	14'-11"	14'-1"	13'-7"	-	15'-4"	14'-6"	14'-1"	-
0.4/0"	NI-40x	15'-11"	15'-0"	14'-6"	-	16'-4"	15'-5"	14'-11"	-
9-1/2"	NI-60	16'-1"	15'-2"	14'-8"	-	16'-6"	15'-7"	15'-1"	-
	NI-80	17'-1"	16'-1"	15'-6"	-	17'-5"	16'-5"	15'-10"	-
	NI-20	16'-9"	15'-10"	15'-4"	-	17'-4"	16'-4"	15'-10"	-
	NI-40x	17'-10"	16'-10"	16'-3"	-	18'-6"	17'-4"	16'-9"	-
11-7/8"	NI-60	18'-1"	17'-0"	16'-5"	-	18'-9"	17'-6"	16'-11"	-
	NI-80	19'-6"	18'-0"	17'-4"	-	20'-1"	18'-7"	17'-9"	-
	NI-90	19'-11"	18'-4"	17'-8"	-	20'-5"	18'-11"	18'-1"	-
	NI-40x	19'-10"	18'-4"	17'-8"	-	20'-6"	19'-1"	18'-3"	-
14"	NI-60	20'-2"	18'-8"	17'-11"	-	20'-10"	19'-4"	18'-6"	-
14	NI-80	21'-8"	20'-0"	19'-1"	-	22'-4"	20'-8"	19'-9"	-
	NI-90	22'-1"	20'-5"	19'-6"	-	22'-9"	21'-0"	20'-1"	-
	NI-60	22'-0"	20'-4"	19'-6"	-	22'-9"	21'-1"	20'-2"	-
16"	NI-80	23'-7"	21'-10"	20'-10"	-	24'-4"	22'-6"	21'-6"	-
	NI-90	24'-1"	22'-2"	21'-2"	-	24'-9"	22'-11"	21'-10"	_

		Mi	d-span blocking	with 1x4 inch s	trap	Mid-sp	an blocking an	d 1/2 in. gypsum	ceiling
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-6"	15'-1"	14'-3"	-	16'-6"	15'-1"	14'-3"	-
0.4/0"	NI-40x	17'-9"	16'-10"	15'-11"	-	18'-2"	16'-11"	15'-11"	-
9-1/2"	NI-60	17'-11"	16'-11"	16'-2"	-	18'-5"	17'-2"	16'-2"	-
	NI-80	19'-3"	17'-10"	17'-3"	-	19'-8"	18'-3"	17'-7"	-
	NI-20	19'-4"	18'-0"	17'-1"	-	19'-9"	18'-1"	17'-1"	-
	NI-40x	20'-10"	19'-4"	18'-6"	-	21'-5"	19'-11"	19'-0"	-
11-7/8"	NI-60	21'-1"	19'-7"	18'-8"	-	21'-8"	20'-2"	19'-3"	-
	NI-80	22'-6"	20'-10"	19'-11"	-	23'-1"	21'-5"	20'-5"	-
	NI-90	23'-0"	21'-3"	20'-4"	-	23'-6"	21'-10"	20'-10"	-
	NI-40x	23'-5"	21'-8"	20'-9"	-	24'-0"	22'-5"	20'-11"	-
14"	NI-60	23'-9"	22'-0"	21'-0"	-	24'-5"	22'-8"	21'-8"	-
14	NI-80	25'-4"	23'-6"	22'-5"	-	25'-11"	24'-1"	23'-0"	-
	NI-90	25'-10"	23'-11"	22'-9"	-	26'-5"	24'-6"	23'-4"	-
	NI-60	26'-2"	24'-3"	23'-2"	-	26'-11"	25'-0"	23'-11"	-
16"	NI-80	27'-11"	25'-10"	24'-7"	-	28'-7"	26'-6"	25'-3"	-
	NI-90	28'-5"	26'-3"	25'-0"	-	29'-0"	26'-11"	25'-8"	_

- 1. The tabulated clear spans are based on CSA 086-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans - M7.1

Design Criteria

Spans:

Simple span

Loads: Deflection limits: Live load = 40 psf and dead load = 20 psf L/480 under live load and L/240 under total load

Sheathing:

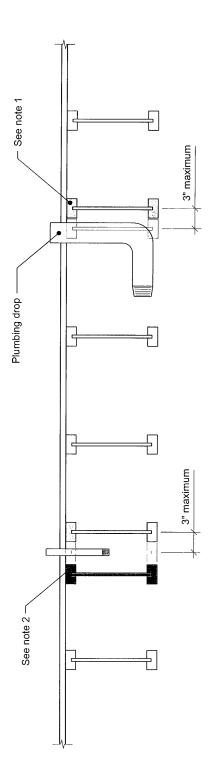
3/4 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

			E	Bare			1/2 in. gy	osum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
9-1/2"	NI-40x	16'-11"	15'-11"	15'-4"	14'-9"	17'-4"	16'-4"	15'-9"	14'-11'
5-1/2	NI-60	17'-1"	16'-1"	15'-6"	14'-10"	17'-6"	16'-6"	15'-11"	15'-3"
	NI-80	18'-1"	17'-0"	16'-4"	15'-8"	18'-7"	17'-4"	16'-8"	16'-0"
	NI-20	17'-10"	16'-10"	16'-2"	15'-7"	18'-5"	17'-4"	16'-9"	16'-1"
	NI-40x	19'-3"	17'-10"	17'-2"	16'-6"	19'-10"	18'-5"	17'-8"	16'-11'
11-7/8"	NI-60	19'-6"	18'-1"	17'-4"	16'-8"	20'-1"	18'-8"	17'-10"	17'-1"
	NI-80	20'-11"	19'-4"	18'-5"	17'-7"	21'-5"	19'-10"	18'-11"	17'-11'
	NI-90	21'-4"	19'-9"	18'-9"	17'-10"	21'-10"	20'-3"	19'-3"	18'-3"
	NI-40x	21'-4"	19'-9"	18'-10"	17'-11"	22'-0"	20'-5"	19'-6"	18'-6"
14"	NI-60	21'-8"	20'-1"	19'-2"	18'-2"	22'-4"	20'-9"	19'-9"	18'-9"
14	NI-80	23'-3"	21'-6"	20'-5"	19'-4"	23'-10"	22'-1"	21'-0"	19'-11'
	NI-90	23'-9"	21'-11"	20'-10"	19'-8"	24'-3"	22'-6"	21'-5"	20'-3"
	NI-60	23'-7"	21'-10"	20'-10"	19'-9"	24'-4"	22'-7"	21'-7"	20'-5"
16"	NI-80	25'-4"	23'-5"	22'-3"	21'-1"	26'-0"	24'-1"	22'-11"	21'-8"
	NI-90	25'-10"	23'-10"	22'-8"	21'-5"	26'-5"	24'-6"	23'-4"	22'-0"

		Mi	d-span blocking	with 1x4 inch	strap	Mid-sp	oan blocking an	d 1/2 in. gypsui	m ceiling
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"
9-1/2"	NI-40x	18'-7"	17'-2"	16'-3"	14'-11"	18'-10"	17'-2"	16'-3"	14'-11'
9-1/2	NI-60	18'-10"	17'-6"	16'-6"	15'-5"	19'-1"	17'-6"	16'-6"	15'-5"
	NI-80	20'-2"	18'-9"	17'-11"	16'-10"	20'-7"	19'-2"	18'-2"	16'-10'
	NI-20	20'-1"	18'-5"	17'-5"	16'-1"	20'-1"	18'-5"	17'-5"	16'-1"
	NI-40x	21'-9"	20'-3"	19'-0"	17'-0"	22'-4"	20'-5"	19'-0"	17'-0"
11-7/8"	NI-60	22'-0"	20'-6"	19'-7"	18'-4"	22'-7"	20'-10"	19'-8"	18'-4"
	NI-80	23'-6"	21'-10"	20'-10"	19'-9"	24'-0"	22'-5"	21'-4"	20'-0"
	NI-90	24'-0"	22'-4"	21'-3"	20'-1"	24'-6"	22'-10"	21'-9"	20'-7"
	NI-40x	24'-4"	22'-8"	20'-11"	18'-8"	25'-0"	22'-11"	20'-11"	18'-8"
14"	NI-60	24'-9"	23'-0"	22'-0"	20'-9"	25'-5"	23'-8"	22'-4"	20'-10'
14	NI-80	26'-5"	24'-6"	23'-4"	22'-1"	27'-0"	25'-2"	24'-0"	22'-8"
	NI-90	26'-11"	25'-0"	23'-10"	22'-6"	27'-5"	25'-7"	24'-5"	23'-1"
	NI-60	27'-2"	25'-4"	24'-2"	22'-10"	27'-11"	26'-1"	24'-9"	23'-1"
16"	NI-80	29'-0"	26'-11"	25'-8"	24'-3"	29'-7"	27'-7"	26'-4"	24'-11'
	NI-90	29'-6"	27'-5"	26'-1"	24'-8"	30'-1"	28'-1"	26'-9"	25'-4"

- 1. The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.



- Notes:

 1. To prevent interference with plumbing, a joist may be shifted up to 3 inches if the edge of the floor panel is supported and the span rating is not exceeded.

 2. In all other cases, an additional joist is required.

		TITLE .		DRAWING	
NORDIC	4	Allowance for Piping		7c	
STRUCTURES	NS-DU3 FF	CATEGORY	SCALE	DATE	PAGE
nordic.ca	NORDIC JOIST	Openings for Vertical Elements	•	2020-10-01	3.10

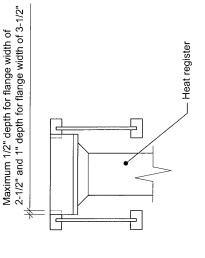


· Notch Oboth

mmixem or 2

- utonal Noton

Top flange notch, maximum 4" length by 1/2" depth for – flange width of 2-1/2" and 4" length by 1" depth for flange width of 3-1/2"



One 2-1/2 face nail on each side at bearing

- Blocking required at bearing for lateral support, not shown for clarity.
 The maximum dimensions for a notch on the side of the top flange are 4-inch length by 1/2-inch depth for flange width of 2-1/2 inches, and 4-inch length by 1-inch depth for flange width of 3-1/2 inches.
 This detail applies to simple-span joists and multiple-span joists where the notch is located at the end half-span.
 For other applications, contact Nordic Structures.

MOROIC	;	тис Notch in I-joist for Heat Register		drawing 7d	
structures	NS-DC3	CATEGORY	SCALE	DATE	PAGE
nordic.ca	NORDIC JOIST	Openings for Vertical Elements	•	2020-10-01 3.11	3.11