

20.130096.000.00.CM

Issue Date: 02/10/21

LAMPONE INVESTMENT INC

ALL CONSTRUCTION SHALL COMPLY WITH THE
ONTARIO BUILDING CODE.

CITY OF MARKHAM

FLOOR JOISTS SHOP DRAWINGS

MODEL NAME : PEYTON 2

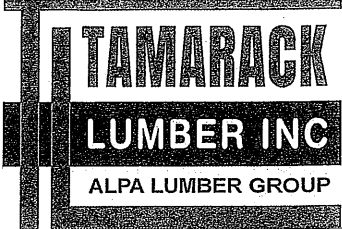
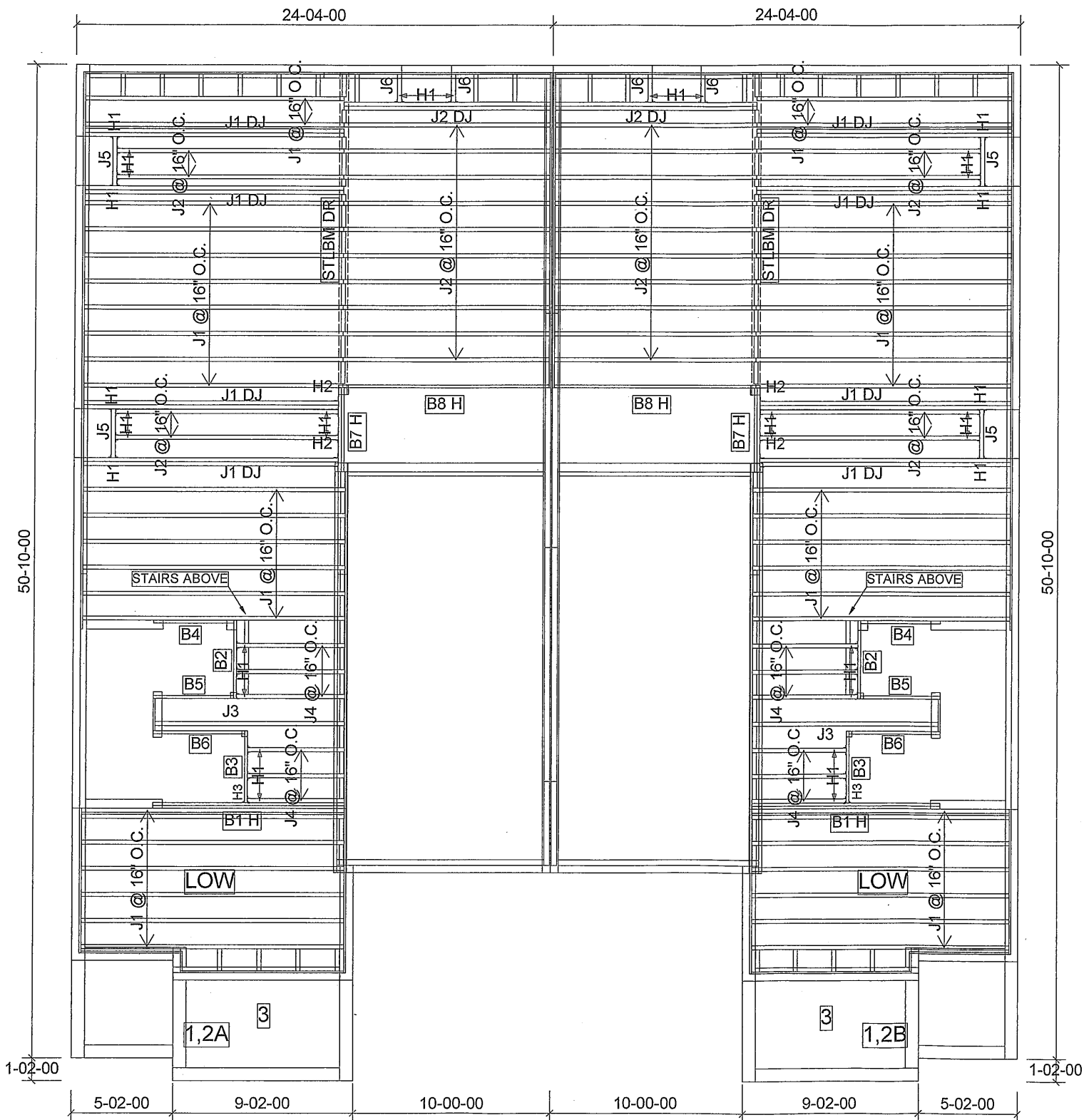
ELEV 1, 2A, 2B & 3

1,2A,3		
Qty	Manuf	Product
6	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
2	H2	HU310-2
1	H3	HUS1.81/10

1,2A,3					
PlotID	Length	Product	Piles	Net Qty	Fab Type
J1	14-00-00	9 1/2" NI-40x	1	23	MFD
J1 DJ	14-00-00	9 1/2" NI-40x	2	8	MFD
J2	12-00-00	9 1/2" NI-40x	1	14	MFD
J2 DJ	12-00-00	9 1/2" NI-40x	2	2	MFD
J3	10-00-00	9 1/2" NI-40x	1	1	MFD
J4	6-00-00	9 1/2" NI-40x	1	6	MFD
J5	4-00-00	9 1/2" NI-40x	1	2	MFD
J6	2-00-00	9 1/2" NI-40x	1	2	MFD
B8 H	12-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD
B1 H	10-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2	MFD
B4	6-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD
B5	6-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD
B6	6-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD
B7 H	6-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2	MFD
B2	4-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD
B3	4-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD

1,2B,3					
PlotID	Length	Product	Piles	Net Qty	Fab Type
J1	14-00-00	9 1/2" NI-40x	1	23	MFD
J1 DJ	14-00-00	9 1/2" NI-40x	2	8	MFD
J2	12-00-00	9 1/2" NI-40x	1	14	MFD
J2 DJ	12-00-00	9 1/2" NI-40x	2	2	MFD
J3	10-00-00	9 1/2" NI-40x	1	1	MFD
J4	6-00-00	9 1/2" NI-40x	1	6	MFD
J5	4-00-00	9 1/2" NI-40x	1	2	MFD
J6	2-00-00	9 1/2" NI-40x	1	2	MFD
B8 H	12-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD
B1 H	10-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2	MFD
B4	6-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD
B5	6-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD
B6	6-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD
B7 H	6-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2	MFD
B2	4-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD
B3	4-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD

1,2B,3		
Qty	Manuf	Product
6	H1	IUS2.56/9.5
2	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
2	H2	HU310-2
1	H3	HUS1.81/10



FROM PLAN DATED: JULY 2, 2020

BUILDER: GREENPARK HOMES

SITE: LAMPONE INVESTMENTS

MODEL: PEYTON 2

ELEVATION: 1,2,3

LOT:

CITY: MARKHAM

SALESMAN: WILL GARCIA

DESIGNER: L.D.

REVISION: L.D.

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 REC 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 TIL** APPLICATION AS PER O.B.C 9.30.6.

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2020-07-29

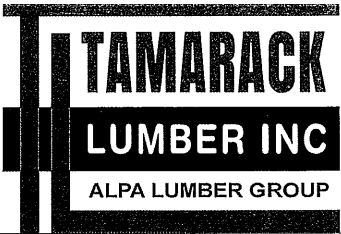
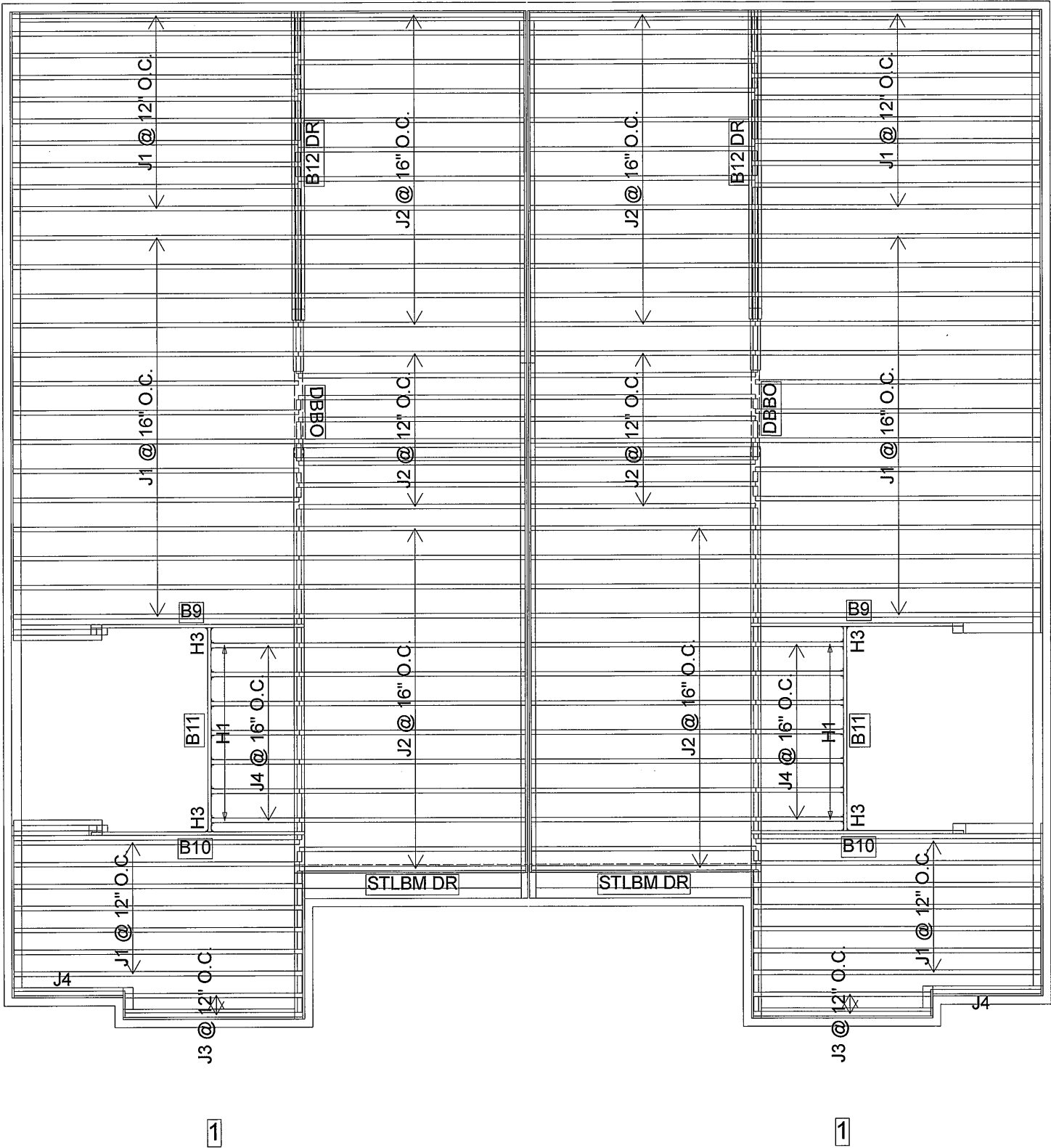
1st FLOOR

1,2A		
Qty	Manuf	Product
7	H1	IUS2.56/9.5
2	H3	HUS1.81/10

1,2A					
PlotID	Length	Product	Piles	Net Qty	Fab Type
J1	14-00-00	9 1/2" NI-40x	1	31	MFD
J2	12-00-00	9 1/2" NI-40x	1	33	MFD
J3	10-00-00	9 1/2" NI-40x	1	2	MFD
J4	6-00-00	9 1/2" NI-40x	1	8	MFD
B12 DR	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	4	4	MFD
B10	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B11	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B9	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD

1,2B					
PlotID	Length	Product	Piles	Net Qty	Fab Type
J1	14-00-00	9 1/2" NI-40x	1	31	MFD
J2	12-00-00	9 1/2" NI-40x	1	32	MFD
J3	10-00-00	9 1/2" NI-40x	1	2	MFD
J4	6-00-00	9 1/2" NI-40x	1	8	MFD
B12 DR	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	4	4	MFD
B10	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B11	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B9	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD

1,2B		
Qty	Manuf	Product
7	H1	IUS2.56/9.5
2	H3	HUS1.81/10



FROM PLAN DATED: JULY 2, 2020

BUILDER: GREENPARK HOMES

SITE: LAMPONE INVESTMENTS

MODEL: PEYTON 2

ELEVATION: 1

LOT:

CITY: MARKHAM

SALESMAN: WILL GARCIA

DESIGNER: L.D.

REVISION: L.D.

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

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2020-12-03

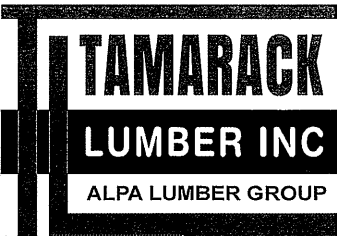
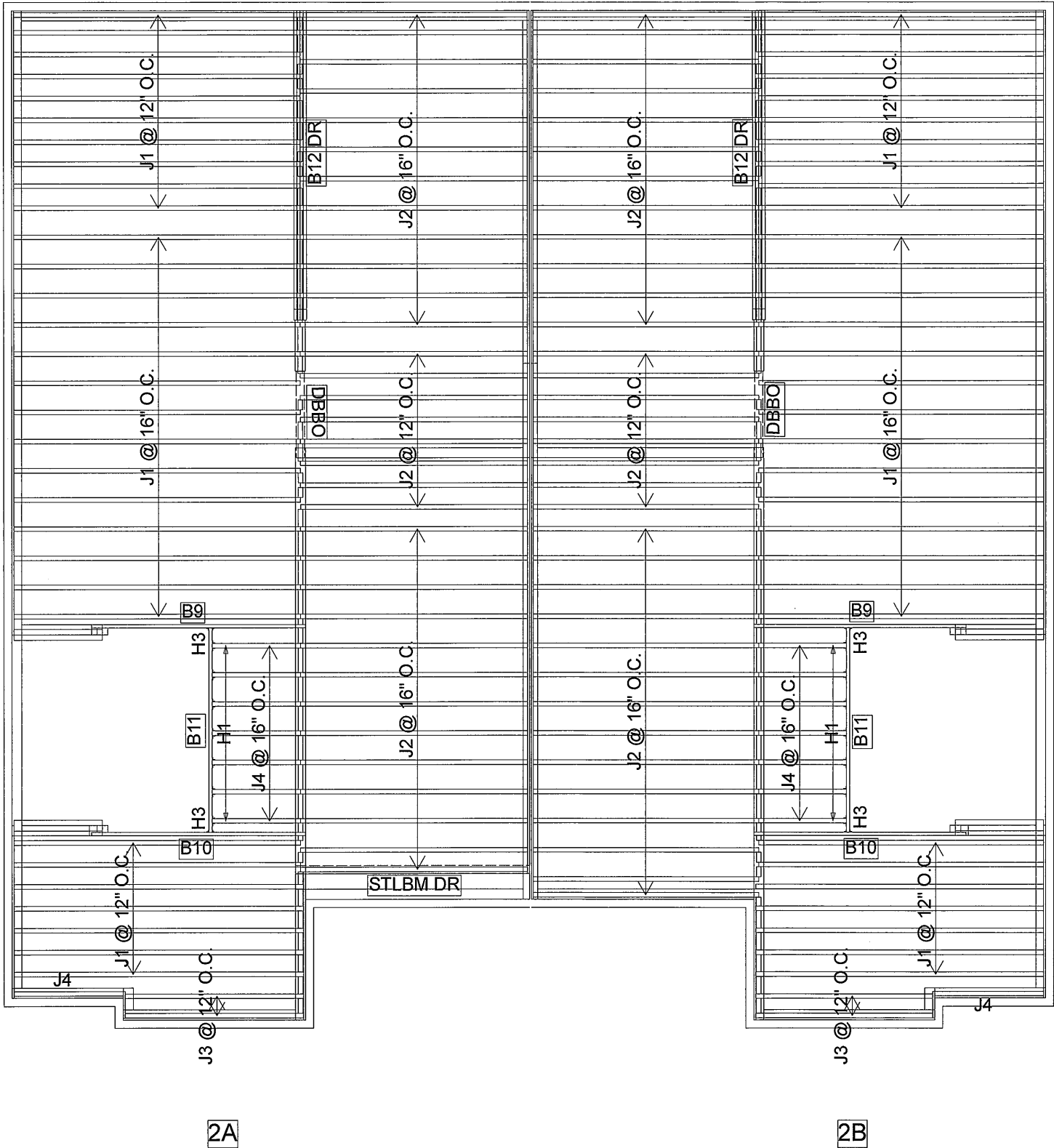
2nd FLOOR

1,2A		
Qty	Manuf	Product
7	H1	IUS2.56/9.5
2	H3	HUS1.81/10

1,2A					
PlotID	Length	Product	Plies	Net Qty	Fab Type
J1	14-00-00	9 1/2" NI-40x	1	31	MFD
J2	12-00-00	9 1/2" NI-40x	1	33	MFD
J3	10-00-00	9 1/2" NI-40x	1	2	MFD
J4	6-00-00	9 1/2" NI-40x	1	8	MFD
B12 DR	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	4	4	MFD
B10	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B11	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B9	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD

1,2B					
PlotID	Length	Product	Plies	Net Qty	Fab Type
J1	14-00-00	9 1/2" NI-40x	1	31	MFD
J2	12-00-00	9 1/2" NI-40x	1	33	MFD
J3	10-00-00	9 1/2" NI-40x	1	2	MFD
J4	6-00-00	9 1/2" NI-40x	1	8	MFD
B12 DR	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	4	4	MFD
B10	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B11	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B9	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD

1,2B		
Qty	Manuf	Product
7	H1	IUS2.56/9.5
2	H3	HUS1.81/10



FROM PLAN DATED: JULY 2, 2020

BUILDER: GREENPARK HOMES

SITE: LAMPONE INVESTMENTS

MODEL: PEYTON 2

ELEVATION: 2

LOT:

CITY: MARKHAM

SALESMAN: WILL GARCIA

DESIGNER: L.D.

REVISION: L.D.

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

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2020-12-03

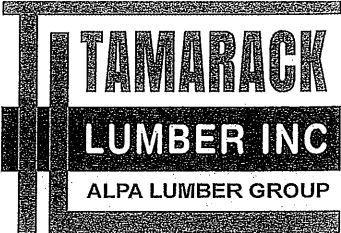
2nd FLOOR

3		
Qty	Manuf	Product
7	H1	IUS2.56/9.5
7	H1	IUS2.56/9.5
1	H2	HU310-2
2	H3	HUS1.81/10

3					
PlotID	Length	Product	Plies	Net Qty	Fab Type
J1	14-00-00	9 1/2" NI-40x	1	31	MFD
J2	12-00-00	9 1/2" NI-40x	1	29	MFD
J3	10-00-00	9 1/2" NI-40x	1	2	MFD
J4	6-00-00	9 1/2" NI-40x	1	8	MFD
J5	4-00-00	9 1/2" NI-40x	1	7	MFD
J6 DJ	4-00-00	9 1/2" NI-40x	2	2	MFD
B12 DR	16-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	4	4	MFD
B21	12-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2	MFD
B10	10-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD
B11	10-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD
B9	10-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD

3					
PlotID	Length	Product	Plies	Net Qty	Fab Type
J1	14-00-00	9 1/2" NI-40x	1	31	MFD
J2	12-00-00	9 1/2" NI-40x	1	29	MFD
J3	10-00-00	9 1/2" NI-40x	1	2	MFD
J4	6-00-00	9 1/2" NI-40x	1	8	MFD
J5	4-00-00	9 1/2" NI-40x	1	7	MFD
J6 DJ	4-00-00	9 1/2" NI-40x	2	2	MFD
B12 DR	16-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	4	4	MFD
B21	12-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	2	2	MFD
B10	10-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD
B11	10-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD
B9	10-00-00	1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP	1	1	MFD

3		
Qty	Manuf	Product
7	H1	IUS2.56/9.5
7	H1	IUS2.56/9.5
1	H2	HU310-2
2	H3	HUS1.81/10



FROM PLAN DATED: JULY 2, 2020

BUILDER: GREENPARK HOMES

SITE: LAMPONE INVESTMENTS

MODEL: PEYTON 2

ELEVATION: 3

LOT:

CITY: MARKHAM

SALESMAN: WILL GARCIA

DESIGNER: L.D.

REVISION: L.D.

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. **MULTIPL SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING **CANT' OVER BRICK** REQ. I-JOIST BLOCKING ALOI BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURE 7 TABLES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR **HOLES** INCLUDING **DUCT CHASE** AND **FIEL CUT OPENINGS** SEE FIGURE 7 TABLES 1 & 8 OF THE INSTALLATION GUIDE. **CERAMIC T** APPLICATION AS PER O.B.C. 9.30.6

LOADING:
 DESIGN LOADS: L/480.000
 LIVE LOAD: 40.0 lb/ft²
 DEAD LOAD: 15.0 lb/ft²
 TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2020-07-24

2nd FLOOR

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

WEB HOLE SPECIFICATIONS

- RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:
- The distance between the inside edge of the support and the centreline of any hole or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
 - I-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified.
 - Whenever possible, field-cut holes should be centred on the middle of the web.
 - The maximum size hole or the maximum depth of a duct chase opening that can be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent I-joist flange.
 - The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location.
 - Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (or twice the length of the longest side of the largest rectangular hole or duct chase opening) and each hole and duct chase opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
 - A knockout is **not** considered a hole, may be utilized anywhere it occurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct chase openings.
 - Holes measuring 1-1/2 inches or smaller are permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to verification.
 - A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
 - All holes and duct chase openings shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 7.
 - Limit three maximum size holes per span, of which one may be a duct chase opening.
 - A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

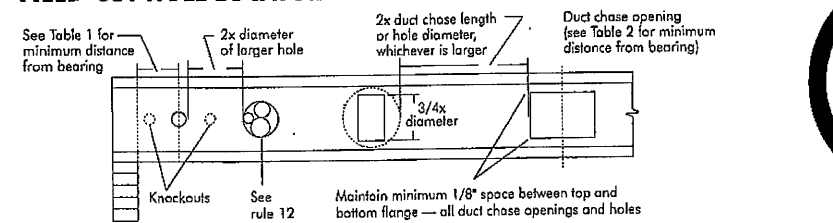
TABLE 1
LOCATION OF CIRCULAR HOLES IN JOIST WEBS

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

Joist Depth	Joist Series	Minimum Distance from Inside Face of Any Support to Centre of Hole (ft - in.)											
		Round Hole Diameter (in.)											
		2	3	4	5	6	6-1/4	7	8	8-5/8	9	10	10-3/4
9-1/2"	NI-20	0-7"	1-6"	2-10"	4-3"	5-8"	6-0"	---	---	---	---	---	---
	NI-40x	0-7"	1-6"	3-0"	4-4"	6-0"	6-4"	---	---	---	---	---	---
	NI-60	1-3"	2-6"	4-0"	5-4"	7-0"	7-5"	---	---	---	---	---	---
	NI-70	2-0"	3-4"	4-9"	6-3"	8-0"	8-4"	---	---	---	---	---	---
	NI-80	2-3"	3-6"	5-0"	6-6"	8-2"	8-8"	---	---	---	---	---	---
11-7/8"	NI-20	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	6-6"	7-9"	---	---	---
	NI-40x	0-7"	0-8"	1-3"	2-8"	4-0"	4-4"	5-5"	7-0"	8-4"	---	---	---
	NI-60	0-7"	1-8"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	---	---	---
	NI-70	1-3"	2-6"	4-0"	5-4"	6-9"	7-2"	8-4"	10-0"	11-2"	---	---	---
	NI-80	1-6"	2-10"	4-2"	5-6"	7-0"	7-5"	8-6"	10-3"	11-4"	---	---	---
14"	NI-20	0-7"	0-8"	1-5"	3-2"	4-10"	5-4"	6-9"	8-9"	10-2"	---	---	---
	NI-40x	0-7"	0-8"	1-5"	3-2"	4-10"	5-4"	6-9"	8-9"	10-2"	---	---	---
	NI-60	0-7"	0-8"	1-8"	3-0"	4-3"	4-8"	5-8"	7-2"	8-0"	8-8"	10-4"	11-9"
	NI-70	0-8"	1-10"	3-0"	4-5"	5-10"	6-2"	7-3"	8-9"	9-9"	10-4"	12-0"	13-5"
	NI-80	0-10"	2-0"	3-4"	4-9"	6-2"	6-5"	7-6"	9-0"	10-0"	10-8"	12-4"	13-9"
16"	NI-20	0-7"	0-8"	0-10"	2-5"	4-0"	4-5"	5-9"	7-5"	8-0"	9-4"	11-4"	12-11"
	NI-40x	0-7"	0-8"	0-8"	2-0"	3-9"	4-2"	5-5"	7-3"	8-5"	9-2"	---	---
	NI-60	0-7"	0-8"	1-6"	2-10"	3-2"	4-2"	5-6"	6-4"	7-0"	8-5"	9-8"	10-2"
	NI-70	0-7"	1-0"	2-3"	3-6"	4-10"	5-3"	6-3"	7-8"	8-6"	9-2"	10-8"	12-0"
	NI-80	0-7"	1-3"	2-6"	3-10"	5-3"	5-6"	6-6"	8-0"	9-0"	9-5"	11-0"	12-3"

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

FIGURE 7
FIELD-CUT HOLE LOCATOR



SAFETY AND CONSTRUCTION PRECAUTIONS

- WARNING:** I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed.
- AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:**
- 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 continuously over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
 - When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist rollover or buckling.
 - Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists.
 - Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
 - For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.
 - Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only.
 - Never install a damaged I-joist.
- Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.

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

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

Holes in webs should be cut with a sharp saw.

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

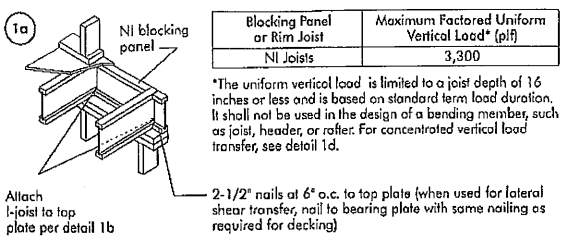


PRODUCT WARRANTY

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

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

1a



Blocking Panel or Rim Joist
NI Joists

Maximum Factored Uniform Vertical Load* (plf)

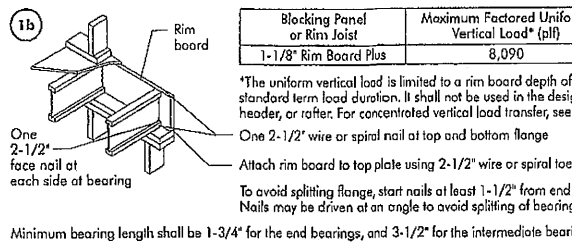
3,300

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

Attach I-joist to top plate per detail 1b

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

1b



Rim board

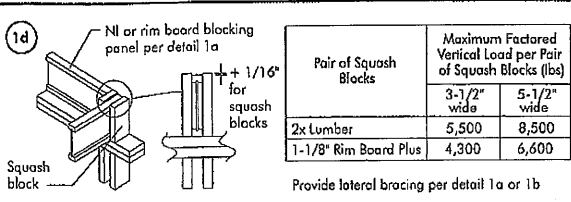
One 2-1/2" face nail at each side of bearing

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

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

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

1d



NI or rim board blocking panel per detail 1a

Squash block

Pair of Squash Blocks

2x Lumber

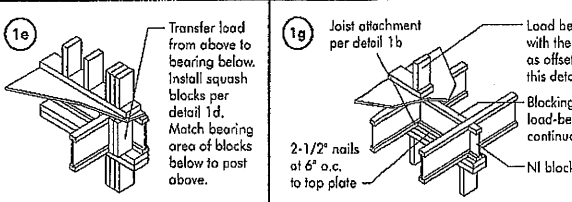
1-1/8" Rim Board Plus

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

3-1/2" wide	5-1/2" wide
5,500	8,500
4,300	6,600

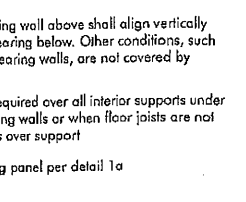
Provide lateral bracing per detail 1a or 1b

1e



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

1g



Joist attachment per detail 1b

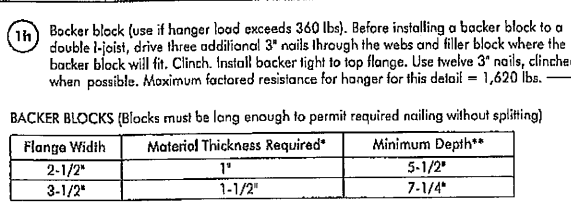
Load bearing wall above shall align vertically with the bearing below. Other conditions, such as offset bearing walls, are not covered by this detail.

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

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

NI blocking panel per detail 1a

1h



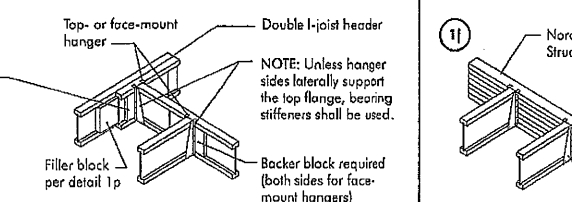
Backer block (use if hanger load exceeds 360 lbs). Before installing a backer block to a double I-joist, drive three additional 3" nails through the webs and filler block where the backer block will fit. Clinch. Install backer tight to top flange. Use twelve 3" nails, clinched when possible. Maximum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

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

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

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

1i



Top- or face-mount hanger

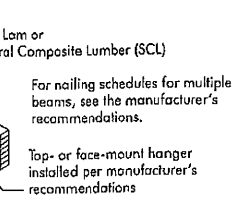
Double I-joist header

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

Backer block required (both sides for face-mount hangers)

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

1j



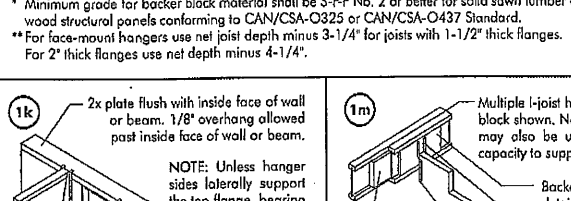
Nordic Lam or Structural Composite Lumber (SCL)

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

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

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

1k

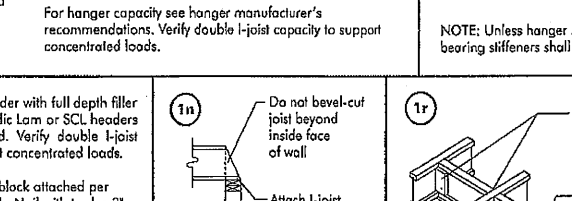


2x plate flush with inside face of wall or beam. 1/8" overhang allowed past inside face of wall or beam.

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

Top-mount hanger installed per manufacturer's recommendations

1m



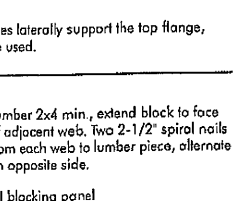
Multiple I-joist header with full depth filler block shown. Nordic Lam or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads.

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

Install hanger per manufacturer's recommendations

Maximum support capacity = 1,620 lbs.

1n

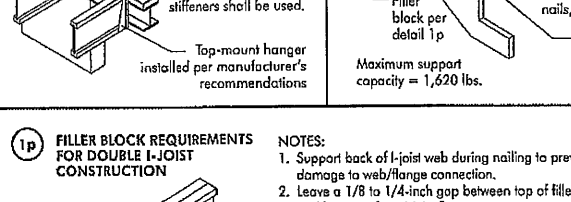


Do not bevel-cut joist beyond inside face of wall

Attach I-joist per detail 1b

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

1p

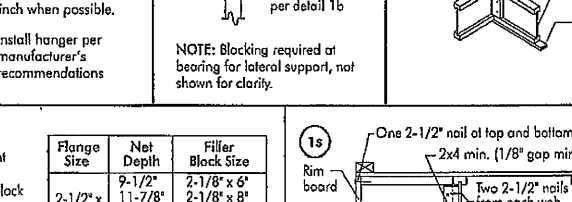


2x plate flush with inside face of wall or beam. 1/8" overhang allowed past inside face of wall or beam.

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

Top-mount hanger installed per manufacturer's recommendations

1q

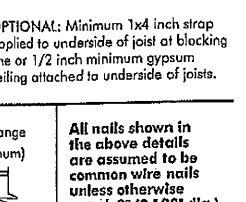


Filler block

Offset nails from opposite face by 6"

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

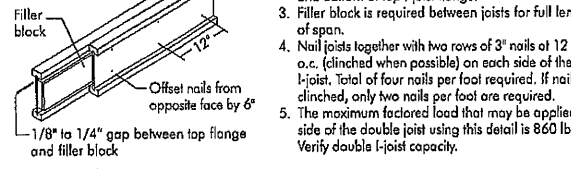
1r



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

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

1s



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

2x4 min. (1/8" gap minimum)

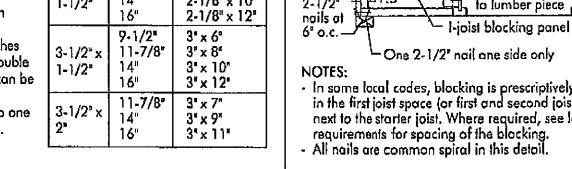
Two 2-1/2" nails from each web to lumber piece

I-joist blocking panel

One 2-1/2" nail one side only

NOTE: In some local codes, blocking is prescriptively required in the first joint space (or first and second joint space) next to the starter joist. Where required, see local code requirements for spacing of the blocking.
- All nails are common spiral in this detail.

1t



All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (0.122" dia.) common spiral nails may be substituted for 2-1/2" (0.128" dia.) common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components not shown to scale for clarity.

WEB STIFFENERS

RECOMMENDATIONS:

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

**FIGURE 2
WEB STIFFENER INSTALLATION DETAILS**

Flange width 2-1/2" or 3-1/2"

Approx. 2" 1/8"-1/4" Gap

Approx. 2" 1"

No Gap

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

No Gap

Tight Joint No Gap

CONCENTRATED LOAD (Load stiffener)

END BEARING (Bearing stiffener)

Gap

Tight Joint No Gap

STIFFENER SIZE REQUIREMENTS

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

See the adjacent table for web stiffener size requirements

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET

4a Method 1 — SHEATHING REINFORCEMENT ONE SIDE

Rim board or wood structural panel closure (3/4" minimum thickness); attach per detail 1b

NI blocking panel or rim board blocking, attach per detail 1g

Attach I-joist to plate per detail 1b

2-1/2" nails

3-1/2" min. bearing required

Use same installation as Method 1 but reinforce both sides of I-joist with sheathing.

Use nailing pattern shown for Method 1 with opposite toe nailing offset by 3".

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

RIM BOARD INSTALLATION DETAILS

8a ATTACHMENT DETAILS WHERE RIM BOARDS ABUT

Rim Board Joint Between Floor Joists

(1) 2-1/2" nail top and bottom (typical)

Rim board joint

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

Rim Board Joint at Corner

1-1/2"

2-1/2" nails

Rim board joint

1-1/2"

8b TOE-NAIL CONNECTION AT RIM BOARD

Rim board

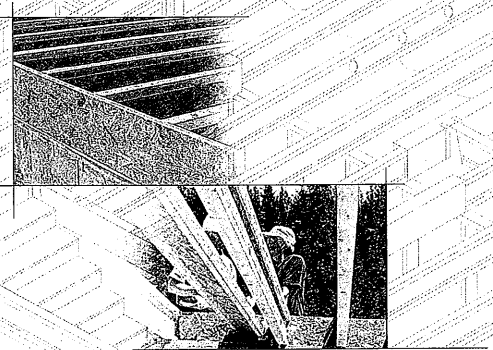
Top or sole plate

30°

6/32"



INSTALLATION GUIDE FOR RESIDENTIAL FLOORS

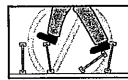


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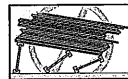


NC30 / November 2014

SAFETY AND CONSTRUCTION PRECAUTIONS



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



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

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

WARNING

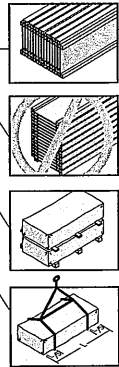
I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed.

Avoid Accidents by Following these Important Guidelines:

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

STORAGE AND HANDLING GUIDELINES

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



MAXIMUM FLOOR SPANS

1. Maximum clear spans applicable to simple-span or multiple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration and a live load deflection limit of L/480. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less, or 3/4 inch for joist spacing of 24 inches. Adhesive shall meet the requirements given in CGS-71.26 Standard. No concrete topping or bridging element was assumed. Increased spans may be achieved with the use of gypsum and/or a row of blocking at mid-span.
3. Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate bearings.
4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
5. This span chart is based on uniform loads. For applications with other than uniform loads, an engineering analysis may be required based on the use of the design properties.
6. Tables are based on Limit States Design per CAN/CSA O86-09 Standard, and NBC 2010.
7. SI units conversion: 1 inch = 25.4 mm, 1 foot = 0.305 m

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

Joist Depth	Joist Series	Simple spans				Multiple spans			
		On centre spacing				On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-1"	14'-2"	13'-9"	13'-5"	16'-3"	15'-4"	14'-10"	14'-7"
	NI-40x	16'-1"	15'-2"	14'-8"	14'-9"	17'-5"	16'-5"	15'-10"	15'-5"
	NI-60	16'-3"	15'-4"	14'-10"	14'-11"	17'-7"	16'-7"	15'-0"	14'-1"
	NI-70	17'-1"	16'-1"	15'-6"	15'-7"	18'-7"	17'-4"	16'-9"	16'-10"
	NI-80	17'-3"	16'-3"	15'-8"	15'-9"	18'-10"	17'-6"	16'-11"	17'-0"
11-7/8"	NI-20	16'-11"	16'-0"	15'-5"	15'-6"	18'-4"	17'-3"	16'-8"	16'-7"
	NI-40x	18'-1"	17'-0"	16'-5"	16'-6"	20'-0"	18'-6"	17'-9"	17'-7"
	NI-60	18'-4"	17'-3"	16'-7"	16'-9"	20'-3"	18'-9"	18'-0"	18'-1"
	NI-70	19'-6"	18'-0"	17'-4"	17'-5"	21'-6"	19'-11"	19'-0"	19'-1"
	NI-80	19'-9"	18'-3"	17'-8"	17'-9"	21'-9"	20'-2"	19'-3"	19'-4"
14"	NI-90	20'-2"	18'-7"	17'-10"	17'-11"	22'-3"	20'-7"	19'-8"	19'-9"
	NI-90x	20'-4"	18'-9"	17'-11"	18'-0"	22'-5"	20'-9"	19'-10"	19'-11"
	NI-40x	20'-1"	18'-7"	17'-10"	17'-11"	22'-2"	20'-6"	19'-8"	19'-4"
	NI-60	20'-5"	18'-11"	18'-1"	18'-2"	22'-7"	20'-11"	20'-0"	20'-1"
	NI-70	21'-7"	20'-0"	19'-1"	19'-2"	23'-10"	22'-1"	21'-1"	21'-2"
16"	NI-80	21'-11"	20'-3"	19'-4"	19'-5"	24'-3"	22'-5"	21'-5"	21'-6"
	NI-90	22'-5"	20'-8"	19'-9"	19'-10"	24'-9"	22'-10"	21'-10"	21'-10"
	NI-90x	22'-7"	20'-11"	19'-11"	20'-0"	25'-0"	23'-1"	22'-0"	22'-2"
	NI-60	22'-3"	20'-8"	19'-9"	19'-10"	24'-7"	22'-9"	21'-9"	21'-10"
	NI-70	23'-6"	21'-9"	20'-9"	20'-10"	26'-0"	24'-0"	22'-11"	23'-0"

CCMC EVALUATION REPORT 13032-R

WEB STIFFENERS

RECOMMENDATIONS:

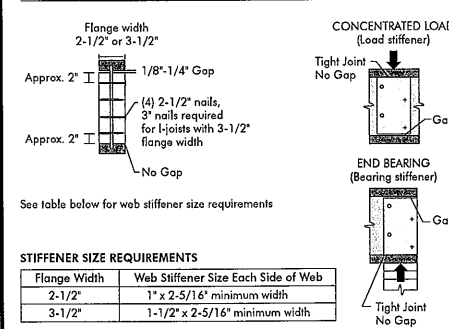
■ A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joist properties table found in the I-joist Construction Guide (C101). The gap between the stiffener and the flange is at the top.

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

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

SI units conversion: 1 inch = 25.4 mm

FIGURE 2
WEB STIFFENER INSTALLATION DETAILS



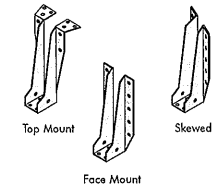
See table below for web stiffener size requirements

STIFFENER SIZE REQUIREMENTS

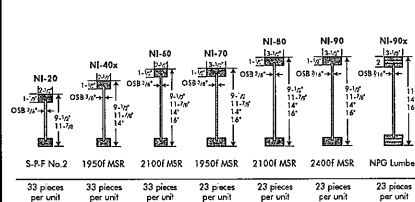
Flange Width	Web Stiffener Size Each Side of Web
2-1/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

I-JOIST HANGERS

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



NORDIC I-JOIST SERIES



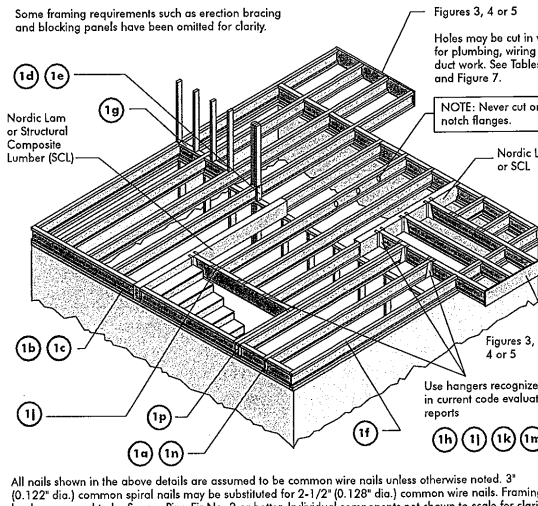
Chantiers Chibougamau Ltd. harvests its own trees, which enables Nordic products to adhere to strict quality control procedures throughout the manufacturing process. Every phase of the operation, from forest to the finished product, reflects our commitment to quality.

Nordic Engineered Wood I-joists use only finger-jointed black spruce lumber in their flanges, ensuring consistent quality, superior strength and longer span carrying capacity.

INSTALLING NORDIC I-JOISTS

1. Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, consult the supplier.
2. Except for cutting to length, I-joist flanges should **never** be cut, drilled, or notched.
3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
4. I-joists must be anchored securely to supports before floor sheathing is attached, and supports for multiple spans must be level.
5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bearings.
6. When using hangers, seat I-joists firmly in hanger bottoms to minimize settlement.
7. Leave a 1/16-inch gap between the I-joist end and a header.
8. Concentrated loads greater than those that can normally be expected in residential construction should only be applied to the top surface of the top flange. Normal concentrated loads include track lighting fixtures, audio equipment and security cameras. Never suspend unusual or heavy loads from the I-joist's bottom flange. Whenever possible, suspend all concentrated loads from the top of the I-joist. Or, attach the load to blocking that has been securely fastened to the I-joist webs.
9. Never install I-joists where they will be permanently exposed to weather, or where they will remain in direct contact with concrete or masonry.
10. Restrain ends of floor joists to prevent rollover. Use rim board, rim joists or I-joist blocking panels.
11. For I-joists installed over and beneath bearing walls, use full depth blocking panels, rim board, or squash blocks (cripple members) to transfer gravity loads through the floor system to the wall or foundation below.
12. Due to shrinkage, common framing lumber set on edge **may never** be used as blocking or rim boards. I-joist blocking panels or other engineered wood products – such as rim board – must be cut to fit between the I-joists, and an I-joist-compatible depth selected.
13. Provide permanent lateral support of the bottom flange of all I-joists at interior supports of multiple-span joists. Similarly, support the bottom flange of all cantilevered I-joists at the end support next to the cantilever extension. In the completed structure, the gypsum wallboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary bracing or struts must be used.
14. If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Glue panels to blocking to minimize squeaks. Blocking is not required under structural finish flooring, such as wood strip flooring, or if a separate underlayment layer is installed.
15. Nail spacing: Space nails installed to the flange's top face in accordance with the applicable building code requirements or approved building plans.

FIGURE 1
TYPICAL NORDIC I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS



1a

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

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

1b

1c

1d

1e

1f

1g

1h

1i

1j

1k

1l

1m

1n

1o

1p

1q

1r

Notes:

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

3a 1-JOIST CANTILEVER DETAIL FOR BALCONIES (No Wall Load)

Cantilever extension—supporting uniform floor loads only

Rim board or wood structural panel closure; attach per detail 1b

Attach I-joists to plate at all supports per detail 1b

I-joist, or rim board

3-1/2" min. bearing required

CAUTION: Cantilevers formed this way must be carefully detailed to prevent moisture intrusion into the structure and potential decay of untreated joist extensions.

Note: This detail is applicable to cantilevers supporting a maximum specified uniform live load of 60 psf.

[illegible]

4a Method 1 — SHEATHING REINFORCEMENT ONE SIDE

Rim board or wood structural panel closure (3/4" minimum thickness); attach per detail 1b

6"

2-1/2" nails

3-1/2" min. bearing required

2'-0" maximum

4'-0" minimum

NI blocking panel or rim board blocking, attach per detail 1g

Attach I-joint to plate per detail 1b

Method 1 — SHEATHING REINFORCEMENT ONE SIDE

Use same installation as Method 1 but reinforce both sides of I-joint with sheathing.

Use nailing pattern shown for Method 1 with opposite face nailing offset by 3".

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

4b Alternate Method 2 — DOUBLE I-JOIST

Rim board, or wood structural panel closure (3/4" minimum thickness); attach per detail 1b

2'-0" maximum

4'-0" minimum

NI blocking panel or rim board blocking, attach per detail 1g

Face nail two rows of 3" nails at 12" o.c. each side through one I-joint web and the filler block to other I-joint web. Offset nails from opposite face by 6".

Clinch if possible (four nails per foot required, except two nails per foot required if clinched).

Attach I-joists to top plate at all supports per detail 1b, 3-1/2" min. bearing required

Block I-joists together with filler blocks for the full length of the reinforcement.

For I-joist flange widths greater than 3 inches place an additional row of 3" nails along the centreline of the reinforcing panel from each side. Clinch when possible.

[illegible]

(5a) SHEATHING REINFORCEMENT

Provide full depth blocking between joists over support (not shown)

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

12" minimum length of sheathing reinforcement

Nail reinforcement to top and bottom joist flanges with 2-1/2" nails at 6" o.c. (offset opposite face nailing by 3" when using reinforcement on both sides of I-joist)

15" max.

3-1/2" min.

(5b) SET-BACK DETAIL

Bearing walls

Rim board or wood structural panel closure (3/4" minimum thickness), attach per detail 1b.

Notes:

- Provide full depth blocking between joists over support (not shown for clarity)
- Attach I-joist to plate at all supports per detail 1b.
- 3-1/2" minimum I-joist bearing required.

5" max.

12" min.

Attach joists to girder per detail 5c.

(5c) SET-BACK CONNECTION

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

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

Hanger may be used in lieu of solid sawn blocks

Notes:

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

FIGURE 5 (continued)

See table below for NI reinforcement requirements at cantilever.

Diagram illustrating the roof truss span and cantilever dimensions. The main span is labeled "Roof truss span" and the cantilever is labeled "2'-0" maximum cantilever". The total length is labeled "5' maximum".

Diagram illustrating the roof truss span and cantilever dimensions. The main span is labeled "Roof truss span" and the cantilever is labeled "2'-0" maximum cantilever". The total length is labeled "5' maximum". The diagram also shows "Roof trusses", "Girder truss", and "Jack trusses".

For hip roofs with the jack trusses running parallel to the cantilevered floor joists, the I-joist reinforcement requirements for a span of 24 ft shall be permitted to be used.

BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST DEPTH (in.)	ROOF TRUSS SPAN (in.)	ROOF LOADING (UNFACTORED)															
		LL = 30 psf, DL = 15 psf								LL = 40 psf, DL = 15 psf							
		JOIST SPACING (in.)								JOIST SPACING (in.)							
		12	16	19.2	24					12	16	19.2	24				
9'-1/2"	26	1	X	X	X	2	X	X	X	2	X	X	X	2	X	X	X
	28	1	X	X	X	2	X	X	X	2	X	X	X	2	X	X	X
	30	1	X	X	X	2	X	X	X	2	X	X	X	2	X	X	X
	32	2	X	X	X	2	X	X	X	2	X	X	X	2	X	X	X
	34	2	X	X	X	2	X	X	X	2	X	X	X	2	X	X	X
	36	2	X	X	X	2	X	X	X	2	X	X	X	2	X	X	X
11-7/8"	26	N	2	X	X	2	X	X	X	2	X	X	X	2	X	X	X
	28	N	2	X	X	2	X	X	X	2	X	X	X	2	X	X	X
	30	N	2	X	X	2	X	X	X	2	X	X	X	2	X	X	X
	32	1	2	X	X	2	X	X	X	2	X	X	X	2	X	X	X
	34	1	2	X	X	2	X	X	X	2	X	X	X	2	X	X	X
	36	1	2	X	X	2	X	X	X	2	X	X	X	2	X	X	X
14"	26	1	X	X	X	2	X	X	X	2	X	X	X	2	X	X	X
	28	N	1	2	X	N	2	X	X	1	2	X	X	1	2	X	X
	30	N	2	X	X	1	2	X	X	1	2	X	X	1	2	X	X
	32	N	2	X	X	1	2	X	X	1	2	X	X	1	2	X	X
	34	N	2	X	X	1	2	X	X	1	2	X	X	1	2	X	X
	36	1	2	X	X	1	2	X	X	1	2	X	X	1	2	X	X
16"	26	1	X	X	X	2	X	X	X	2	X	X	X	2	X	X	X
	28	N	1	2	X	N	1	2	X	N	1	2	X	N	1	2	X
	30	N	1	2	X	N	2	2	X	X	2	2	X	1	2	X	X
	32	N	1	2	X	N	2	X	X	1	2	X	X	1	2	X	X
	34	N	2	X	X	1	2	X	X	1	2	X	X	1	2	X	X
	36	N	2	X	X	1	2	X	X	1	2	X	X	1	2	X	X
18"	40	N	2	X	X	1	2	X	X	2	X	X	X	2	X	X	X
	42	1	2	X	X	1	2	X	X	1	2	X	X	2	X	X	X

- N = No reinforcement required.
- 1 = NI reinforced with 3/4" wood structural panel on one side only.
- 2 = NI reinforced with 3/4" wood structural

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

1. The distance between the inside edge of the support and the centerline of any hole or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
2. I-joint top and bottom flanges must NEVER be cut, notched, or otherwise modified.
3. Whenever possible, field-cut holes should be centered on the middle of the web.
4. The maximum size hole or the maximum depth of a duct chase opening that can be cut into an I-joint web shall equal the clear distance between the flanges of the I-joint minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent I-joint flange.
5. The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location.
6. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (or twice the length of the longest side of the largest rectangular hole or duct chase opening) and each hole and duct chase opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
7. A knockout is not considered a hole, may be utilized anywhere it occurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct chase openings.
8. Holes measuring 1-1/2 inches or smaller shall be permitted anywhere in a cantilevered section of a joint. Holes of greater size may be permitted subject to verification.
9. A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
10. All holes and duct chase openings shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 7.
11. Limit three maximum size holes per span, of which one may be a duct chase opening.
12. A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

Joint Depth	Joint Series	Minimum distance from inside face of any support to centre of hole (in.)												Span Adjustment Factor				
		Round hole diameter (in.)																
		0-1	2	3	4	5	6	6-1/4	7	8	8-5/8	9	10	10-3/4	11	12	12-3/4	
9-1/2"	N-20	0-7	1-6	2-10	4-3	5-8	6-0	13-6
	N-40x	0-7	1-6	3-0	4-4	6-0	6-4	14-9
	N-60	1-3	2-6	4-0	5-4	7-0	7-5	14-11
	N-70	2-0	3-4	4-9	6-3	8-0	8-4	15-7
	N-80	3-3	4-6	6-0	7-4	9-0	9-4	16-3
	N-90	4-7	6-0	7-4	8-8	10-2	10-6	16-9
11-7/8"	N-20	0-7	0-8	1-0	1-4	1-8	0-0	5-0	6-4	7-9	15-6
	N-40x	0-7	0-8	1-3	2-8	4-0	4-4	5-9	7-4	8-4	16-4
	N-60	0-7	1-8	3-0	4-3	5-9	6-0	7-5	8-10	10-0	16-5
	N-70	1-3	2-6	4-0	5-4	6-9	7-2	8-4	10-0	11-2	17-5
	N-80	1-6	2-10	4-2	5-6	7-0	7-5	8-6	10-3	11-4	17-7
	N-90	2-7	0-8	3-5	5-2	6-10	6-4	6-9	8-9	10-2	17-11
14"	N-20x	0-7	0-8	0-9	7-5	4-4	4-9	6-3	18-9
	N-40x	0-7	0-8	0-8	1-0	1-4	1-9	2-9	4-3	4-3	5-8	6-8	7-9	8-9	9-9	10-9	11-9	12-9
	N-60	0-7	0-8	1-8	3-0	4-3	4-8	5-8	7-2	8-0	8-8	10-4	11-9	18-2
	N-70	0-8	1-10	3-0	4-5	5-10	6-2	7-5	8-0	9-9	10-4	12-0	13-3	19-2
	N-80	0-7	1-0	2-10	3-8	4-9	5-2	6-9	7-9	9-9	10-4	12-4	13-9	19-7
	N-90	0-7	0-8	0-10	2-5	4-0	4-5	5-9	7-5	8-8	9-4	11-4	12-11	19-9
16"	N-20x	0-7	0-8	0-8	7-9	3-10	3-7	5-5	7-5	8-5	9-7	20-0
	N-40	0-7	0-8	0-8	1-0	1-4	1-9	2-9	4-3	4-3	5-8	6-8	7-9	8-9	9-9	10-9	11-9	12-9
	N-60	0-7	1-0	2-3	3-6	4-10	5-3	6-3	7-8	8-6	9-9	10-8	12-0	13-4	14-0	15-6	16-0	20-10
	N-70	0-7	1-0	2-3	3-6	4-10	5-3	6-3	7-8	8-6	9-9	10-8	12-0	13-4	14-0	15-6	16-0	20-10
	N-80	0-7	1-0	2-3	3-6	4-10	5-3	6-3	7-8	8-6	9-9	10-8	12-0	13-4	14-0	15-6	16-0	20-10
	N-90	0-7	0-8	0-8	1-9	3-3	3-8	4-9	6-5	7-5	8-0	9-10	11-3	13-9	13-9	15-4	16-4	21-6
N-50x	0-7	0-8	0-9															

See Table 1 for minimum distance from bearing

2x diameter of larger hole

2x duct size length or hole diameter, whichever is larger

Duct chase opening (See Table 2 for minimum distance from bearing)

3/4x diameter

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

Knockouts

See rule 12

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

Holes in webs should be cut with a sharp saw.

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

Minimum distance from inside face of any support to centre of opening (ft-in.)														
Joist Depth	Joist Series	Duct chase length (in.)												
		8	10	12	14	16	18	20	22	24	26	28	30	
9-1/2"	N-20	4-1	4-5	4-10	5-4	5-8	6-1	6-5	7-1	7-5				
	N-40x	5-3	5-8	5-10	6-0	6-10	7-3	7-8	8-2	8-6				
	N-60	6-4	6-9	6-10	7-0	7-10	8-3	8-8	9-2	9-6				
	N-70	7-1	7-5	7-10	8-0	8-7	9-1	9-5	9-9	10-3				
	N-80	7-10	7-10	8-0	8-10	9-0	9-4	9-8	10-2	10-6				
11-7/8"	N-20	5-9	6-2	6-6	7-1	7-5	7-9	8-3	8-7	9-0				
	N-40x	6-8	7-3	7-6	8-1	8-6	9-0	9-5	10-0	10-4				
	N-60	7-8	8-3	8-6	9-1	9-6	10-0	10-5	10-9	11-3				
	N-70	7-1	7-4	7-5	8-3	8-7	9-1	9-5	9-9	10-3				
	N-80	7-10	7-10	8-0	8-10	9-0	9-4	9-8	10-2	10-6				
14"	N-20	6-0	7-1	8-4	8-9	9-2	9-7	10-1	10-6	11-0				
	N-40x	7-1	8-1	9-0	9-10	10-0	10-7	11-0	11-3	11-6				
	N-60	8-1	8-7	9-8	10-1	10-7	11-0	11-3	11-6	11-9				
	N-70	8-9	9-3	9-8	10-1	10-6	10-11	11-1	11-6	12-0				
	N-80	9-7	9-7	10-0	10-10	10-8	11-1	11-4	11-7	12-0				
16	N-20	6-0	9-0	9-3	9-5	10-1	10-7	11-1	11-6	12-1				
	N-40x	6-8	9-9	10-3	10-7	11-1	11-7	12-1	12-5	12-9				
	N-60	10-3	10-8	11-2	11-6	12-1	12-6	13-0	13-4	13-8				
	N-70	10-1	10-5	11-0	11-4	11-10	12-0	12-4	12-8	13-2				
	N-80	10-4	10-9	11-3	11-7	12-1	12-7	13-1	13-5	13-9				
16	N-90	10-9	10-9	11-3	11-7	12-1	12-5	12-9	13-3	13-7				
	N-100	11-1	11-5	11-10	12-4	12-10	13-0	13-5	14-0	14-5				

1. Above table may be used for I-joist spacing of 24 inches on center or less.

2. Duct chase opening location distance is measured from inside face of supports to centre of opening.

3. The above table is based on simple-span joists with continuous supports over the duct chase.

4. Distances are based on uniformly loaded floor joists that meet the span requirements for a design live load of 40 plf and 10 psf.

1. Wipe any mud, dirt, water, or ice from I-joist flanges before gluing.
2. Snap a chalk line across the I-joists four feet in from the wall for panel edge alignment and as a boundary for spreading glue.
3. Spread only enough glue to lay one or two panels at a time, or follow specific recommendations from the glue manufacturer.
4. Lay the first panel with tongue side to the wall, and nail in place. This protects the tongue of the next panel from damage when topped into place with a block and sledgehammer.
5. Apply a continuous line of glue (about 1/4-inch diameter) to the top flange of a single I-joist. Apply glue in a winding pattern over wide areas, such as with double I-joists.
6. Apply two lines of glue on I-joists where panel ends butt to assure proper gluing of each end.
7. After the first row of panels is in place, spread glue in the groove of one or two panels at a time before laying the next row. Glue line may be continuous or spaced, but avoid squeeze-out by applying a thinner line (1/8 inch) than used on I-joist flanges.
8. Tap the second row of panels into place, using a block to protect groove edges.
9. Stagger end joints in each succeeding row of panels. A 1/8-inch space between all end joints and 1/8-inch of all edges, including T&G edges, is recommended. (Use a spacer tool or on 2-1/2" common nail to assure accurate and consistent spacing.)
10. **Complete all nailing of each panel before glue sets.** Check the manufacturer's recommendations for cure time. (Warm weather accelerates glue setting.) Use 2" iron- or screw-shank nails for panels 3/4-inch thick or less, and 2-1/2" iron- or screw-shank nails for thicker panels. Space nails per the table below. Closer nail spacing may be required for some codes, or for diaphragm construction. The finished deck can be walked on right away and will carry construction loads without damage to the glue bond.

(8a) ATTACHMENT DETAILS WHERE RIM BOARDS ABOUT

Rim board Joint Between Floor Joists 2-1/2" nails at 6" o.c. (typical)

Rim board Joint at Corner

(8b) TOE-NAIL CONNECTION AT RIM BOARD

(8c) 2X LEDGER TO RIM BOARD ATTACHMENT DETAIL

Existing stud wall

Rim board

Floor sheathing

I-joint

2" min.

1-5/8" min.

5" max.

2" min.

Existing foundation wall

2x ledger board

Exterior sheathing

Remove siding at ledger prior to installation

Continuous flashing extending at least 3" past joint hange

Slaggered 1/2" diameter lag screw or thru-bolts with washers

Deck joist

Joist hange

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

Maximum Fast Spacing (in.)	Minimum Fast Thickness (in.)	Nail Size and Type			Maximum Spacing of Fasteners	
		Common Wire Spiral Nails	Ring Thread Nails or Screws	Staples	Edges	Interim Supports
16	5/8	2"	1-3/4"	2"	6'	12'
20	5/8	2"	1-3/4"	2"	6'	12'
24	3/4	2"	1-3/4"	2"	6'	12'

1. Fasteners of sheathing and subflooring shall conform to the above table.
2. Staples shall not be less than 1/16-inch in diameter or thickness, with not less than a 3/8-inch crown driven with the crown parallel to framing.
3. Flooring screws shall not be less than 1/8-inch in diameter.
4. Special conditions may impose heavy traffic and concentrated loads that require construction in excess of the minimums shown.
5. Use only adhesives conforming to CAN/CGS87-21.26 Standard, Adhesives for Field-Gluing Plywood to Lumber Framing for Floor System, applied in accordance with the manufacturer's recommendations. If OSB panels with sealed surfaces and edges are to be used, use only solvent-based glues; check with panel manufacturer.

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

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

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

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

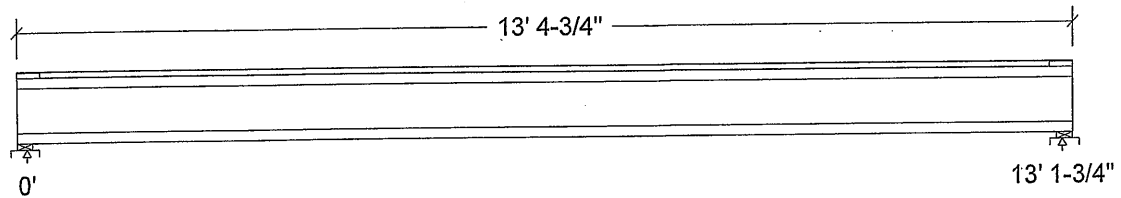
Design Check Calculation Sheet

Nordic Sizer – Canada 7.2

Loads:

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

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



Unfactored:			
Dead	175		175
Live	351		351
Factored:			
Total	745		745
Bearing:			
Capacity			
Joist	1865		1865
Support	3981		3981
Des ratio			
Joist	0.40		0.40
Support	0.19		0.19
Load case	#2		#2
Length	2-3/8		2-3/8
Min req'd	1-3/4		1-3/4
Stiffener	No		No
KD	1.00		1.00
KB support	1.00		1.00
fcp sup	769		769
Kzcp sup	1.09		1.09

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

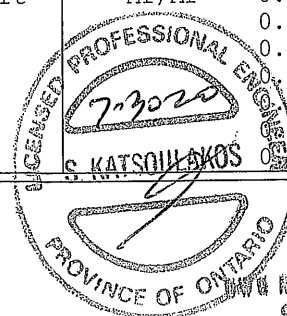
Supports: All - Lumber Sill plate, No.1/No.2

Total length: 13' 4-3/4"; Clear span: 13'; 3/4" nailed and glued OSB sheathing

This section PASSES the design code check.

Limit States Design using CSA O86-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 745	Vr = 1895	lbs	Vf/Vr = 0.39
Moment (+)	Mf = 2448	Mr = 4824	lbs-ft	Mf/Mr = 0.51
Perm. Defl'n	0.08 = < L/999	0.44 = L/360	in	0.17
Live Defl'n	0.15 = < L/999	0.33 = L/480	in	0.46
Total Defl'n	0.23 = L/690	0.66 = L/240	in	0.35
Bare Defl'n	0.19 = L/845	0.44 = L/360	in	0.43
Vibration	Lmax = 13'-1.8	Lv = 16'-2.1	ft	0.81
Defl'n	= 0.027	= 0.052	in	0.52



8612
JUN 11 2020
STRUCTURAL
COMPONENT ONLY

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	1895	1.00	1.00	-	-	-	-	-	#2
Mr+	4824	1.00	1.00	-	1.000	-	-	-	#2
EI	218.1 million	-	-	-	-	-	-	-	#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 W=wind S=snow H=earth,groundwater E=earthquake

L=live(use,occupancy) Ls=live(storage,equipment) f=fire

Load Patterns: s=S/2 L=L+Ls _=no pattern load in this span

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

CALCULATIONS:E_{Ieff} = 275.77 lb-in² K= 4.94e06 lbs

"Live" deflection is due to all non-dead loads (live, wind, snow...) CONFORMS TO OBC 2012

AMENDED 2020

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. 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.



OWN NO. TAM 11/60-20
STRUCTURAL
COMPONENT ONLY

NORDIC STRUCTURES

COMPANY
June 11, 2020 17:05

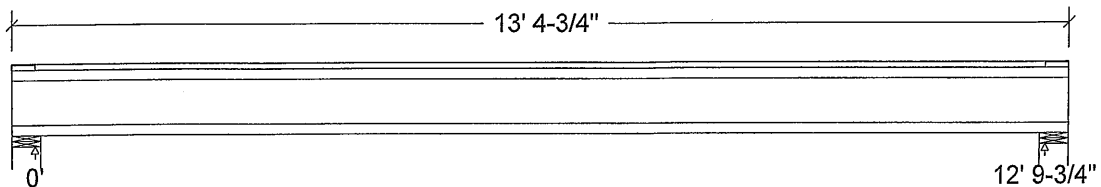
PROJECT
J1 - 2ND FLOOR

Design Check Calculation Sheet Nordic Sizer – Canada 7.2

Loads:

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

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



Unfactored:			
Dead	171		171
Live	342		342
Factored:			
Total	726		726
Bearing:			
Capacity			
Joist	1893		1893
Support	7744		7744
Des. ratio			
Joist	0.38		0.38
Support	0.09		0.09
Load case	#2		#2
Length	4-3/8		4-3/8
Min req'd	1-3/4		1-3/4
Stiffener	No		No
KD	1.00		1.00
KB support	-		-
fcp sup	769		769
Kzcp sup	-		-

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

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

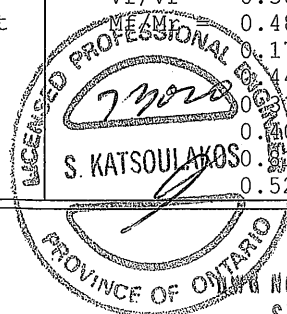
Supports: All - Lumber Wall, No.1/No.2

Total length: 13' 4-3/4"; Clear span: 12' 8"; 5/8" nailed and glued OSB sheathing with 1/2" gypsum ceiling

This section PASSES the design code check.

Limit States Design using CSA O86-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 726	Vr = 1895	lbs	Vf/Vr = 0.38
Moment (+)	Mf = 2325	Mr = 4824	lbs-ft	0.48
Perm. Defl'n	0.07 = < L/999	0.43 = L/360	in	0.17
Live Defl'n	0.14 = < L/999	0.32 = L/480	in	0.44
Total Defl'n	0.21 = L/721	0.64 = L/240	in	0.33
Bare Defl'n	0.17 = L/907	0.43 = L/360	in	0.40
Vibration	Lmax = 12'-9.8	Lv = 15'-9.3	ft	0.81
Defl'n	= 0.028	= 0.054	in	0.52



NO. TAM 11/61-20
STRUCTURAL
COMPONENT ONLY

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	1895	1.00	1.00	-	-	-	-	-	#2
Mr+	4824	1.00	1.00	-	1.000	-	-	-	#2
EI	218.1 million	-	-	-	-	-	-	-	#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 W=wind S=snow H=earth,groundwater E=earthquake
L=live(use,occupancy) Ls=live(storage,equipment) f=fire

Load Patterns: s=S/2 L=L+Ls _=no pattern load in this span

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

CALCULATIONS:E_Ieff = 267.73 lb-in² K= 4.94e06 lbs

"Live" deflection is due to all non-dead loads (live, wind, snow...)

CONFORMS TO OBC 2012**Design Notes:****AMENDED 2020**

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. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.



DWG NO. YAM/11161 -20
 STRUCTURAL
 COMPONENT ONLY

Build 7493

Job name:

File name: PEYTON 2.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B8 H(i3210)

City, Province, Postal Code: MARKHAM

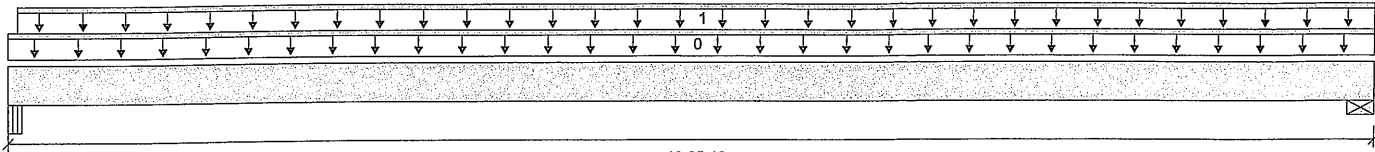
Specifier:

Customer:

Designer: L.D.

Code reports: CCMC 12472-R

Company:



B1

Total Horizontal Product Length = 10-05-12

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-5/8"	149 / 0	100 / 0		
B2, 2-3/8"	150 / 0	100 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-05-12	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC4 Floor Material	Unf. Lin. (lb/ft)	L	00-00-14	10-05-12	Top	29	14			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	871 ft-lbs	11610 ft-lbs	7.5%	1	05-03-00
End Shear	285 lbs	5785 lbs	4.9%	1	01-00-02
Total Load Deflection	L/999 (0.046")	n/a	n/a	4	05-03-00
Live Load Deflection	L/999 (0.028")	n/a	n/a	5	05-03-00
Max Defl.	0.046"	n/a	n/a	4	05-03-00
Span / Depth	12.9				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	2-5/8" x 1-3/4"	348 lbs	17.7%	6.2%	Unspecified
B2 Wall/Plate	2-3/8" x 1-3/4"	351 lbs	13.7%	6.9%	Spruce-Pine-Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



DWG NO. FAM 11162-20

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™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: MARKHAM

Customer:

Code reports: CCMC 12472-R

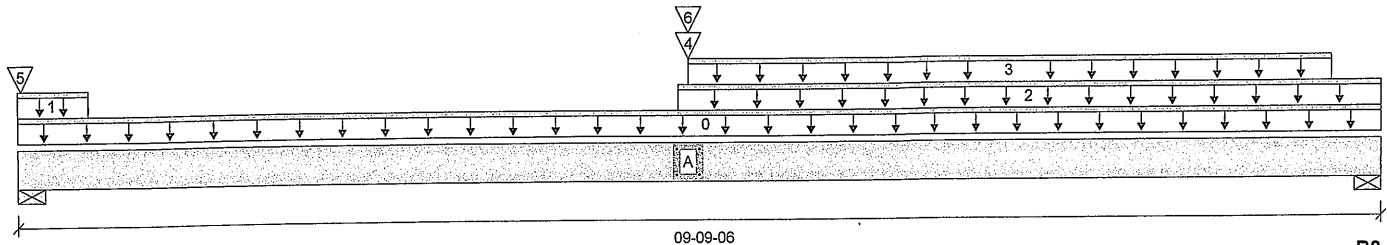
File name: PEYTON 2.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B1 H(i3511)

Specifier:

Designer: L.D.

Company:



B1

Total Horizontal Product Length = 09-09-06

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 6"	1250 / 0	760 / 0		
B2, 4-3/8"	1157 / 0	629 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-09-06	Top		10			00-00-00
1	31(i2642)	Unf. Lin. (lb/ft)	L	00-00-00	00-06-00	Top	1015	644			n/a
2	FC4 Floor Material	Unf. Lin. (lb/ft)	L	04-08-04	09-09-06	Top	8	4			n/a
3	STAIRS	Unf. Lin. (lb/ft)	L	04-09-02	09-05-00	Top	240	120			n/a
4	B3(i3651)	Conc. Pt. (lbs)	L	04-09-02	04-09-02	Top	601	309			n/a
5	31(i2642)	Conc. Pt. (lbs)	L	00-00-04	00-00-04	Top	106	67			n/a
6	STAIRS	Conc. Pt. (lbs)	L	04-09-02	04-09-02	Top	35	18			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	6004 ft-lbs	21674 ft-lbs	27.7%	1	04-09-02
End Shear	2084 lbs	11571 lbs	18.0%	1	08-07-08
Total Load Deflection	L/999 (0.114")	n/a	n/a	4	05-01-08
Live Load Deflection	L/999 (0.074")	n/a	n/a	5	05-01-08
Max Defl.	0.114"	n/a	n/a	4	05-01-08
Span / Depth	11.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 6" x 3-1/2"	2825 lbs	21.9%	11.0%	Spruce-Pine-Fir
B2	Wall/Plate 4-3/8" x 3-1/2"	2521 lbs	26.8%	13.5%	Spruce-Pine-Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume unbraced length of Top: 04-08-04, Bottom: 04-08-04.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



WWW.NO.TAM 11163-20
 STRUCTURAL
 COMPONENT ONLY



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

1ST FLR FRAMING\Flush Beams\B1 H(i3511) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: MARKHAM

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

June 12, 2020 09:04:56

File name: PEYTON 2.mmdl

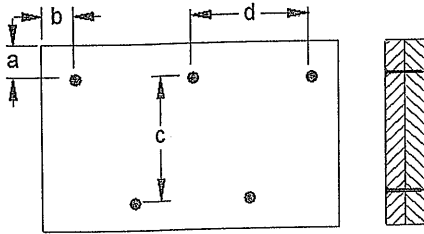
Description: 1ST FLR FRAMING\Flush Beams\B1 H(i3511)

Specifier:

Designer: L.D.

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

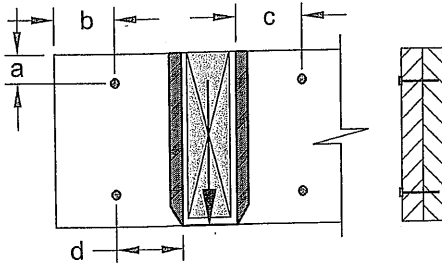
c = 5-1/2"

d = 6"

Connectors are: 3 1/2" ARDOX SPIRAL Nails

Connection Diagrams: Concentrated Side Loads

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



a minimum = 2"

b minimum = 4"

c minimum = 4"

d maximum = 12"

Connectors are: 16d Nails

3 1/2" ARDOX SPIRAL



DWG NO. TAM 11163-20
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™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

BC CALC® Member Report

Build 7493

Job name:

File name: PEYTON 2.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B4(i3635)

City, Province, Postal Code: MARKHAM

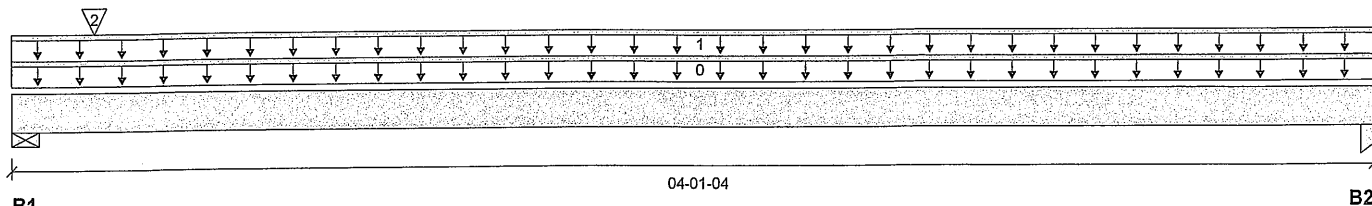
Specifier:

Customer:

Designer: L.D.

Code reports: CCMC 12472-R

Company:



Total Horizontal Product Length = 04-01-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 6"	374 / 0	271 / 0		
B2, 4-1/4"	10 / 0	14 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-01-04	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC4 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	04-01-04	Top	5	2			n/a
2	28(i2482)	Conc. Pt. (lbs)	L	00-03-00	00-03-00	Top	363	255			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	24 ft-lbs	11610 ft-lbs	0.2%	1	02-01-08
End Shear	14 lbs	5785 lbs	0.2%	1	01-03-08
Total Load Deflection	L/999 (0")	n/a	n/a	4	02-01-08
Live Load Deflection	L/999 (0")	n/a	n/a	5	02-01-08
Max Defl.	0"	n/a	n/a	4	02-01-08
Span / Depth	4.3				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 6" x 1-3/4"	899 lbs	13.9%	7.0%	Spruce-Pine-Fir
B2	Column 4-1/4" x 1-3/4"	33 lbs	0.7%	0.4%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO CBC 2012

AMENDED 2020



HWB NO. YAM 11164-20
STRUCTURAL

Disclosure

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

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

BC CALC® Member Report

Dry | 1 span | No cant.

June 12, 2020 09:04:56

Build 7493

Job name:

File name: PEYTON 2.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B5(i3211)

City, Province, Postal Code: MARKHAM

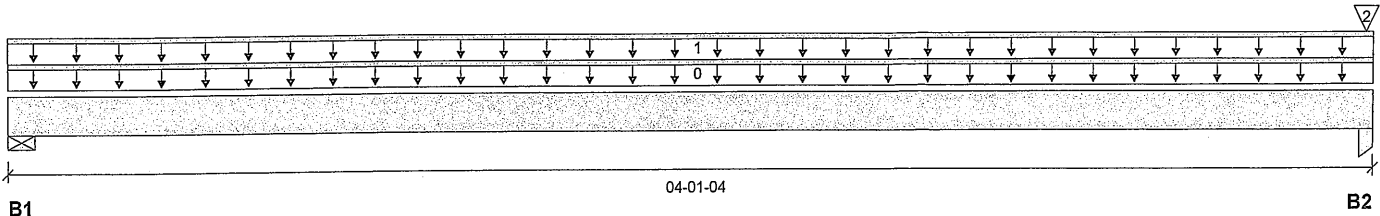
Specifier:

Customer:

Designer: L.D.

Code reports: CCMC 12472-R

Company:



Total Horizontal Product Length = 04-01-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	63 / 0	42 / 0		
B2, 1-3/4"	58 / 0	38 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-01-04	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC4 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	04-01-04	Top	29	14			n/a
2	FC4 Floor Material	Conc. Pt. (lbs)	L	04-01-00	04-01-00	Top	4	2			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	110 ft-lbs	11610 ft-lbs	0.9%	1	02-02-08
End Shear	64 lbs	5785 lbs	1.1%	1	01-03-00
Total Load Deflection	L/999 (0.001")	n/a	n/a	4	02-02-08
Live Load Deflection	L/999 (0")	n/a	n/a	5	02-02-08
Max Defl.	0.001"	n/a	n/a	4	02-02-08
Span / Depth	4.6				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 1-3/4"	148 lbs	2.5%	1.3%	Spruce-Pine-Fir
B2	Column 1-3/4" x 1-3/4"	135 lbs	6.8%	3.6%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86. **AMENDED 2020**

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO CBC 2012



OWN NO. TAM 11165-20

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®,

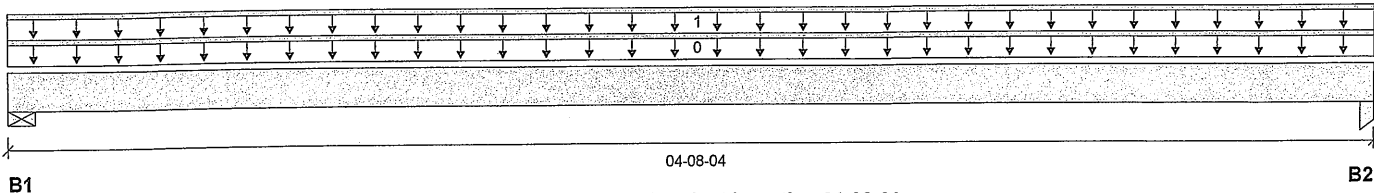
BC CALC® Member Report
 Build 7493

Dry | 1 span | No cant.

June 12, 2020 09:04:56

Job name:
 Address:
 City, Province, Postal Code: MARKHAM
 Customer:
 Code reports: CCMC 12472-R

File name: PEYTON 2.mmdl
 Description: 1ST FLR FRAMING\Flush Beams\B6(i3628)
 Specifier:
 Designer: L.D.
 Company:



Total Horizontal Product Length = 04-08-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	26 / 0	25 / 0		
B2, 1-3/4"	23 / 0	22 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-08-04	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC4 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	04-08-04	Top	10	5			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	62 ft-lbs	11610 ft-lbs	0.5%	1	02-06-00
End Shear	35 lbs	5785 lbs	0.6%	1	01-03-00
Total Load Deflection	L/999 (0.001")	n/a	n/a	4	02-06-00
Live Load Deflection	L/999 (0")	n/a	n/a	5	02-06-00
Max Defl.	0.001"	n/a	n/a	4	02-06-00
Span / Depth	5.3				

				Demand/ Resistance Support	Demand/ Resistance Member	
Bearing Supports	Dim. (LxW)	Demand				Material
B1	Wall/Plate	5-1/2" x 1-3/4"	70 lbs	1.2%	0.6%	Spruce-Pine-Fir
B2	Column	1-3/4" x 1-3/4"	62 lbs	3.1%	1.6%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



WOOD NO. 7AM 11166-20
 STRUCTURAL
 COMPONENT ONLY

Disclosure

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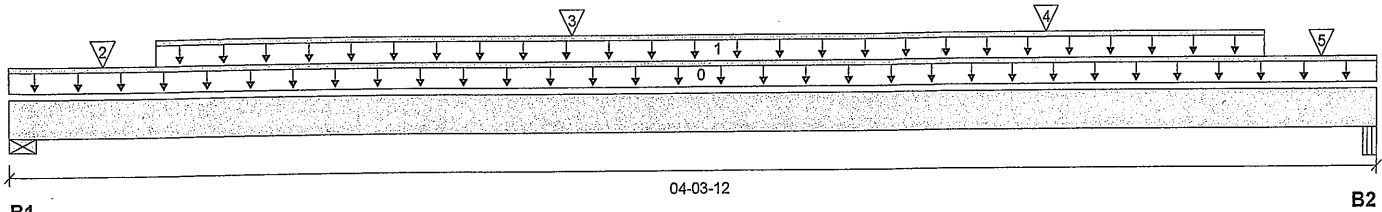
BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

BC CALCO® Member Report
 Build 7493
 Job name:
 Address:
 City, Province, Postal Code: MARKHAM
 Customer:
 Code reports: CCMC 12472-R

Dry | 1 span | No cant.

June 12, 2020 09:04:56

File name: PEYTON 2.mmdl
 Description: 1ST FLR FRAMING\Flush Beams\B7 H(i3497)
 Specifier:
 Designer: L.D.
 Company:



Total Horizontal Product Length = 04-03-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	2294 / 0	1238 / 0		
B2, 4-1/4"	1970 / 0	1062 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-03-12	Top		10			00-00-00
1	STAIRS	Unf. Lin. (lb/ft)	L	00-05-08	03-11-08	Top	240	120			n/a
2	-	Conc. Pt. (lbs)	L	00-03-08	00-03-08	Top	1591	865			n/a
3	J2(i4134)	Conc. Pt. (lbs)	L	01-09-00	01-09-00	Top	310	155			n/a
4	-	Conc. Pt. (lbs)	L	03-03-01	03-03-01	Top	417	209			n/a
5	30(i2464)	Conc. Pt. (lbs)	L	04-01-10	04-01-10	Top	1105	609			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1645 ft-lbs	23220 ft-lbs	7.1%	1	02-01-00
End Shear	1301 lbs	11571 lbs	11.2%	1	03-02-00
Total Load Deflection	L/999 (0.006")	n/a	n/a	4	02-02-08
Live Load Deflection	L/999 (0.004")	n/a	n/a	5	02-02-08
Max Defl.	0.006"	n/a	n/a	4	02-02-08
Span / Depth	4.6				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	4989 lbs	42.1%	21.2%	Spruce-Pine-Fir
B2	Beam 4-1/4" x 3-1/2"	4283 lbs	67.4%	23.6%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



SWG NO. TAM 11167-20
 STRUCTURAL
 COMPONENT ONLY



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

PASSED

1ST FLR FRAMING\Flush Beams\B7 H(i3497) (Flush Beam)

Dry | 1 span | No cant.

June 12, 2020 09:04:56

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: MARKHAM

Customer:

Code reports: CCMC 12472-R

File name: PEYTON 2.mmdl

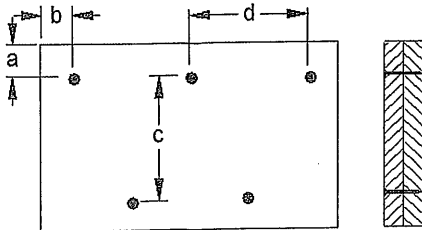
Description: 1ST FLR FRAMING\Flush Beams\B7 H(i3497)

Specifier:

Designer: L.D.

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

c = 5-1/2"

d = 6"

Calculated Side Load = 403.8 lb/ft

Connectors are: 16d \times 1 Nails

3 1/2" ARDOX SPIRAL

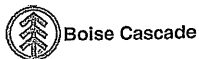


DWG NO. TAM 11/67-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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



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

1ST FLR FRAMING\Flush Beams\B2(i4050) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

June 12, 2020 09:04:56

Build 7493

Job name:

File name: PEYTON 2.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B2(i4050)

City, Province, Postal Code: MARKHAM

Specifier:

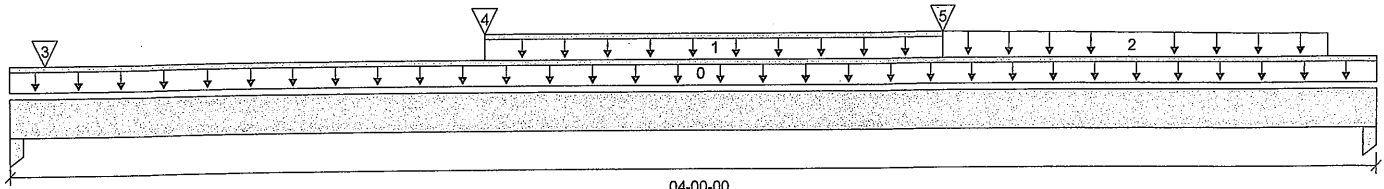
Customer:

Designer: L.D.

Code reports:

CCMC 12472-R

Company:



B1

Total Horizontal Product Length = 04-00-00

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	668 / 0	343 / 0		
B2, 6"	489 / 0	254 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-00-00	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC4 Floor Material	Unf. Lin. (lb/ft)	L	01-04-08	02-08-08	Top	13	7			n/a
2	FC4 Floor Material	Trapezoidal (lb/ft)	L	02-08-08	03-10-04	Top	16	8			n/a
3	J4(i3721)	Conc. Pt. (lbs)	L	00-01-04	00-01-04	Top	272	136			n/a
4	J4(i3720)	Conc. Pt. (lbs)	L	01-04-08	01-04-08	Top	418	208			n/a
5	J4(i4135)	Conc. Pt. (lbs)	L	02-08-08	02-08-08	Top	429	214			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	971 ft-lbs	11610 ft-lbs	8.4%	1	01-04-08
End Shear	1033 lbs	5785 lbs	17.9%	1	02-08-08
Total Load Deflection	L/999 (0.006")	n/a	n/a	4	01-11-00
Live Load Deflection	L/999 (0.004")	n/a	n/a	5	01-11-00
Max Defl.	0.006"	n/a	n/a	4	01-11-00
Span / Depth	4.2				

Bearing Supports

			Demand/ Resistance Support	Demand/ Resistance Member		
Bearing Supports	Dim. (LxW)	Demand			Material	
B1	Column	3-1/2" x 1-3/4"	1431 lbs	36.0%	19.1%	Unspecified
B2	Column	6" x 1-3/4"	1051 lbs	15.4%	8.2%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

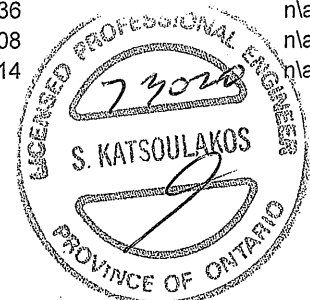
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



OWN NO. TAM 11168-20

STRUCTURAL

COMPONENT ONLY

Disclosure

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BC CALC® Member Report

Dry | 1 span | No cant.

June 12, 2020 09:04:56

Build 7493

Job name:

File name: PEYTON 2.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B3(i3651)

City, Province, Postal Code: MARKHAM

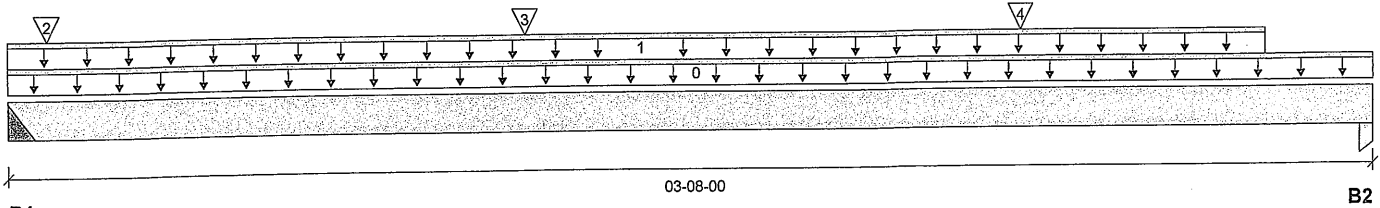
Specifier:

Customer:

Designer: L.D.

Code reports: CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	628 / 0	323 / 0		
B2, 3-1/2"	525 / 0	271 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-08-00	Top		5			00-00-00
1	STAIRS	Unf. Lin. (lb/ft)	L	00-00-00	03-04-08	Top	240	120			n/a
2	J4(i4091)	Conc. Pt. (lbs)	L	00-01-04	00-01-04	Top	82	41			n/a
3	J4(i3724)	Conc. Pt. (lbs)	L	01-04-08	01-04-08	Top	129	64			n/a
4	J4(i3723)	Conc. Pt. (lbs)	L	02-08-08	02-08-08	Top	132	66			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	947 ft-lbs	11610 ft-lbs	8.2%	1	01-09-01
End Shear	671 lbs	5785 lbs	11.6%	1	02-07-00
Total Load Deflection	L/999 (0.005")	n/a	n/a	4	01-09-15
Live Load Deflection	L/999 (0.003")	n/a	n/a	5	01-09-15
Max Defl.	0.005"	n/a	n/a	4	01-09-15
Span / Depth	4.1				

			Demand/Resistance Support	Demand/Resistance Member	
Bearing Supports	Dim. (LxW)	Demand			Material
B1	Hanger	3" x 1-3/4"	1346 lbs	n/a	21.0%
B2	Column	3-1/2" x 1-3/4"	1126 lbs	28.3%	15.1%
					Unspecified

Cautions

Header for the hanger HUS1.81/10 is a Double 1-3/4" x 9-1/2" LVL Beam.
Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.
Hanger Manufacturer: Unassigned
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



DWG NO. TAM 11169-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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Boise Cascade

**Quadruple 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****2ND FLR FRAMING\Dropped Beams\B12 DR(i3190) (Dropped Beam)**

BC CALC® Member Report

Dry | 1 span | No cant.

June 12, 2020 09:04:56

Build 7493

Job name:

File name: PEYTON 2.mmdl

Address:

Description: 2ND FLR FRAMING\Dropped Beams\B12 DR(i3190)

City, Province, Postal Code: MARKHAM

Specifier:

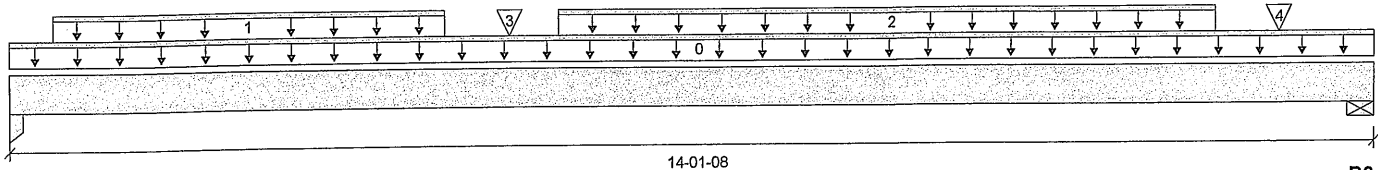
Customer:

Designer: L.D.

Code reports:

CCMC 12472-R

Company:



B1

B2

Total Horizontal Product Length = 14-01-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 6"	3139 / 0	1709 / 0		
B2, 5-1/2"	3075 / 0	1678 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-01-08	Top		19			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-05-08	04-05-08	Top	475	238			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	05-07-08	12-05-08	Top	476	238			n/a
3	-	Conc. Pt. (lbs)	L	05-01-08	05-01-08	Top	589	295			n/a
4	-	Conc. Pt. (lbs)	L	13-01-08	13-01-08	Top	463	232			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	22856 ft-lbs	48297 ft-lbs	47.3%	1	07-01-08
End Shear	6529 lbs	23142 lbs	28.2%	1	01-03-08
Total Load Deflection	L/310 (0.514")	n/a	77.4%	4	07-01-08
Live Load Deflection	L/478 (0.334")	n/a	75.3%	5	07-01-08
Max Defl.	0.514"	n/a	n/a	4	07-01-08
Span / Depth	16.8				

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1 Column	6" x 7"	6844 lbs	25.1%	13.4%	Unspecified
B2 Wall/Plate	5-1/2" x 7"	6710 lbs	13.1%	14.3%	Spruce-Pine-Fir

Notes

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

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

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

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



HWG NO. TAM 11170-20
STRUCTURAL
COMPONENT ONLY



Boise Cascade

**Quadruple 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****2ND FLR FRAMING\Dropped Beams\B12 DR(i3190) (Dropped Beam)**

Dry | 1 span | No cant.

June 12, 2020 09:04:56

BC CALC® Member Report

Build 7493

Job name:

File name: PEYTON 2.mmdl

Address:

Description: 2ND FLR FRAMING\Dropped Beams\B12 DR(i3190)

City, Province, Postal Code: MARKHAM

Specifier:

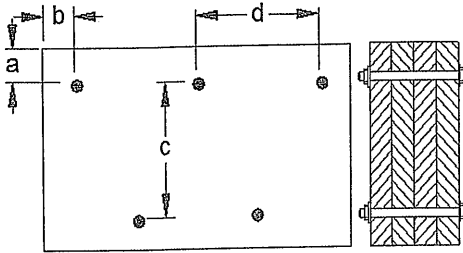
Customer:

Designer: L.D.

Code reports:

CCMC 12472-R

Company:

Connection Diagram: Full Length of Member

a minimum = $2\frac{1}{2}"$ c = $4\frac{1}{2}"$
 b minimum = $2\frac{1}{2}"$ d = $12"$

Bolts are assumed to be Grade A307 or Grade 2 or higher.
 Connectors are: 1/2 in. Staggered Through Bolt



DWG NO. TAM 11170-20
 STRUCTURAL
 COMPONENT ONLY

Disclosure

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

BC CALC® Member Report

Dry | 1 span | No cant.

June 12, 2020 09:04:56

Build 7493

Job name:

File name: PEYTON 2.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B10(i3214)

City, Province, Postal Code: MARKHAM

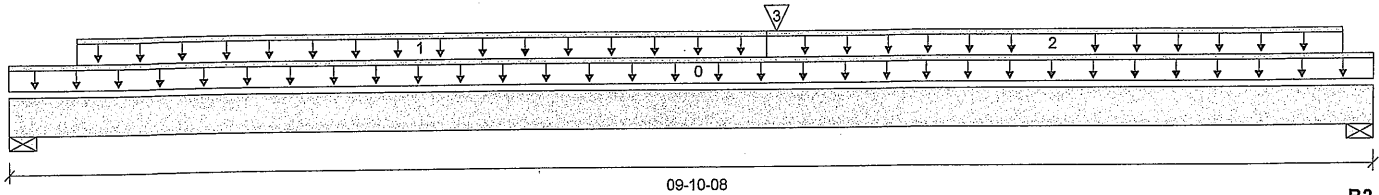
Specifier:

Customer:

Designer: L.D.

Code reports: CCMC 12472-R

Company:



B1

Total Horizontal Product Length = 09-10-08

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 6"	602 / 0	334 / 0		
B2, 5-1/2"	761 / 0	416 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-10-08	Top		5			00-00-00
1	FC6 Floor Material	Unf. Lin. (lb/ft)	L	00-06-00	05-05-00	Top	10	5			n/a
2	FC6 Floor Material	Unf. Lin. (lb/ft)	L	05-05-00	09-07-12	Top	20	10			n/a
3	B11(i4032)	Conc. Pt. (lbs)	L	05-05-14	05-05-14	Top	1219	631			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	6202 ft-lbs	11610 ft-lbs	53.4%	1	05-05-14
End Shear	1610 lbs	5785 lbs	27.8%	1	08-07-08
Total Load Deflection	L/520 (0.209")	n/a	46.2%	4	05-01-14
Live Load Deflection	L/799 (0.136")	n/a	45.0%	5	05-01-14
Max Defl.	0.209"	n/a	n/a	4	05-01-14
Span / Depth	11.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 6" x 1-3/4"	1321 lbs	20.4%	10.3%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 1-3/4"	1661 lbs	28.1%	14.1%	Spruce-Pine-Fir

Notes

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

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

Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO CBC 2012

AMENDED 2020



DWG NO. TAM 1117/-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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Build 7493

Job name:

File name: PEYTON 2.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B11(i4032)

City, Province, Postal Code: MARKHAM

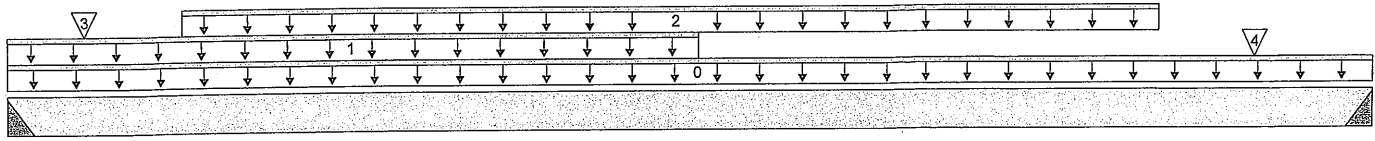
Specifier:

Customer:

Designer: L.D.

Code reports: CCMC 12472-R

Company:



09-04-00
B1 Total Horizontal Product Length = 09-04-00 B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	1227 / 0	635 / 0		
B2, 3"	632 / 0	337 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-04-00	Top	1.00	0.65	1.00	1.15	00-00-00
1	STAIRS	Unf. Lin. (lb/ft)	L	00-00-00	04-08-00	Top	240	120			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-02-04	07-10-04	Top	85	42			n/a
3	J4(i3836)	Conc. Pt. (lbs)	L	00-06-04	00-06-04	Top	81	41			n/a
4	J4(i3960)	Conc. Pt. (lbs)	L	08-06-04	08-06-04	Top	94	47			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	4624 ft-lbs	11610 ft-lbs	39.8%	1	03-10-04
End Shear	1984 lbs	5785 lbs	34.3%	1	01-00-08
Total Load Deflection	L/596 (0.18")	n/a	40.2%	4	04-05-04
Live Load Deflection	L/999 (0.118")	n/a	n/a	5	04-05-04
Max Defl.	0.18"	n/a	n/a	4	04-05-04
Span / Depth	11.3				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger	3" x 1-3/4"	2635 lbs	n/a	41.1% HUS1.81/10
B2	Hanger	3" x 1-3/4"	1370 lbs	n/a	21.4% HUS1.81/10

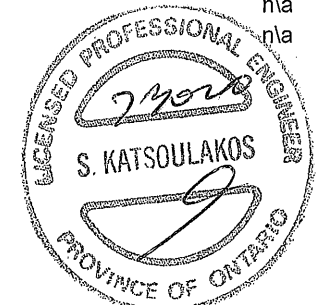
Cautions

Header for the hanger HUS1.81/10 is a Single 1-3/4" x 9-1/2" LVL Beam.
Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.
Hanger Manufacturer: Unassigned
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 9

CONFORMS TO CBC 2012
AMENDED 2020



DOB NO. TAM 11/72-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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

BC CALC® Member Report

Dry | 1 span | No cant.

June 12, 2020 09:04:56

Build 7493

Job name:

File name: PEYTON 2.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B9(i3649)

City, Province, Postal Code: MARKHAM

Specifier:

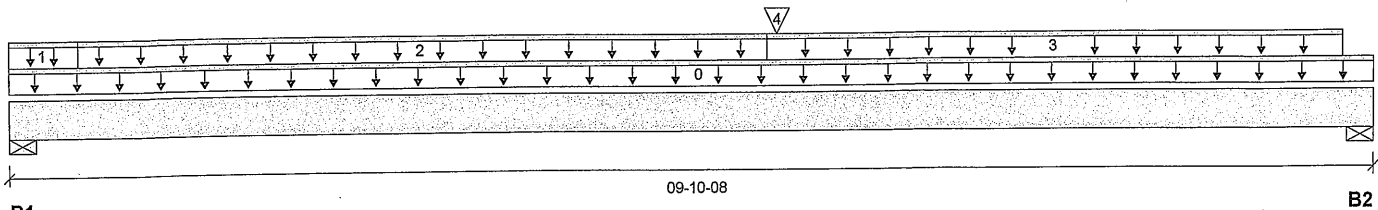
Customer:

Designer: L.D.

Code reports:

CCMC 12472-R

Company:



B1

B2

Total Horizontal Product Length = 09-10-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 6"	356 / 0	211 / 0		
B2, 5-1/2"	461 / 0	266 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-10-08	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC6 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	00-06-00	Top	24	12			n/a
2	FC6 Floor Material	Unf. Lin. (lb/ft)	L	00-06-00	05-05-00	Top	10	5			n/a
3	FC6 Floor Material	Unf. Lin. (lb/ft)	L	05-05-00	09-07-12	Top	27	13			n/a
4	B11(i4032)	Conc. Pt. (lbs)	L	05-05-14	05-05-14	Top	641	342			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	3539 ft-lbs	11610 ft-lbs	30.5%	1	05-05-14
End Shear	959 lbs	5785 lbs	16.6%	1	08-07-08
Total Load Deflection	L/999 (0.121")	n/a	n/a	4	05-01-14
Live Load Deflection	L/999 (0.077")	n/a	n/a	5	05-01-14
Max Defl.	0.121"	n/a	n/a	4	05-01-14
Span / Depth	11.4				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 6" x 1-3/4"	799 lbs	12.4%	6.2%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 1-3/4"	1024 lbs	17.3%	8.7%	Spruce-Pine-Fir

Notes

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

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

Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



OWG NO. TAM 11173-20

STRUCTURAL

COMPONENT ONLY

Disclosure

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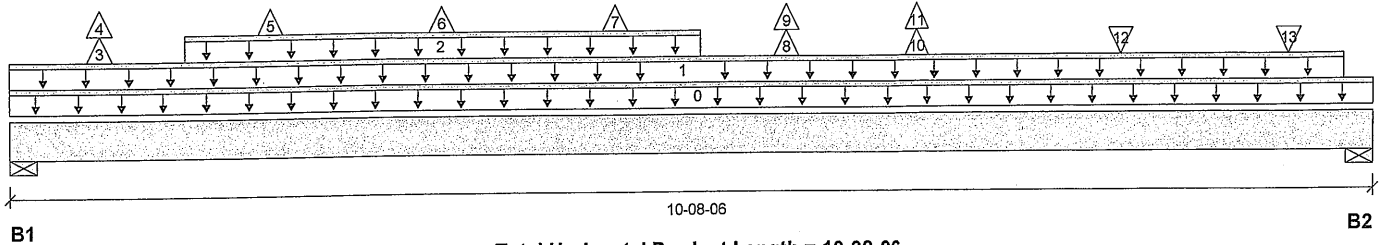
BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

BC CALC® Member Report
 Build 7493
 Job name:
 Address:
 City, Province, Postal Code: MARKHAM
 Customer:
 Code reports: CCMC 12472-R

Dry | 1 span | No cant.

June 27, 2020 12:14:43

File name: PEYTON 2 - EL 3 -2ND FLOOR.mmdl
 Description: 2ND FLR FRAMING\Flush Beams\B21(i5579)
 Specifier:
 Designer: L.D.
 Company:



Total Horizontal Product Length = 10-08-06

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	400 / 50	69 / 0		
B2, 5-1/2"	401 / 29	145 / 0		

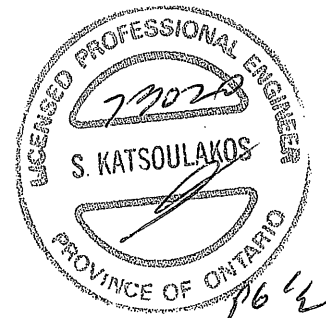
Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-08-06	Top		10			00-00-00
1	FC6 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-05-10	Top	22	11			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-04-06	05-04-06	Top	59				n/a
3	J5(i6062)	Conc. Pt. (lbs)	L	00-08-06	00-08-06	Top	62	-11			n/a
4	J5(i6062)	Conc. Pt. (lbs)	L	00-08-06	00-08-06	Top	-12				n/a
5	J5(i6061)	Conc. Pt. (lbs)	L	02-00-06	02-00-06	Top	-15	-14			n/a
6	J5(i6060)	Conc. Pt. (lbs)	L	03-04-06	03-04-06	Top	-15	-14			n/a
7	J5(i6059)	Conc. Pt. (lbs)	L	04-08-06	04-08-06	Top	-15	-14			n/a
8	J5(i6058)	Conc. Pt. (lbs)	L	06-00-06	06-00-06	Top	69	-10			n/a
9	J5(i6058)	Conc. Pt. (lbs)	L	06-00-06	06-00-06	Top	-13				n/a
10	J6 DJ(i6055)	Conc. Pt. (lbs)	L	07-00-12	07-00-12	Top	78	-5			n/a
11	J6 DJ(i6055)	Conc. Pt. (lbs)	L	07-00-12	07-00-12	Top	-9				n/a
12	J5(i6057)	Conc. Pt. (lbs)	L	08-08-06	08-08-06	Top	83	42			n/a
13	J5(i6056)	Conc. Pt. (lbs)	L	10-00-06	10-00-06	Top	48	24			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1784 ft-lbs	23220 ft-lbs	7.7%	1	05-04-06
Neg. Moment	-26 ft-lbs	-23220 ft-lbs	0.1%	4	02-00-06
End Shear	646 lbs	11571 lbs	5.6%	1	09-05-06
Total Load Deflection	L/999 (0.046")	n/a	n/a	6	05-02-06
Live Load Deflection	L/999 (0.038")	n/a	n/a	8	05-02-06
Max Defl.	0.046"	n/a	n/a	6	05-02-06
Span / Depth	12.8				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/8" x 3-1/2"	686 lbs	13.4%	6.8%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 3-1/2"	783 lbs	6.6%	3.3%	Spruce-Pine-Fir



DWG NO. YAM 11174-20
 STRUCTURAL
 COMPONENT ONLY

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: MARKHAM

Customer:

Code reports: CCMC 12472-R

File name: PEYTON 2 - EL 3 -2ND FLOOR.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B21(i5579)

Specifier:

Designer: L.D.

Company:

Notes

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

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

Calculations assume member is fully braced.

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

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

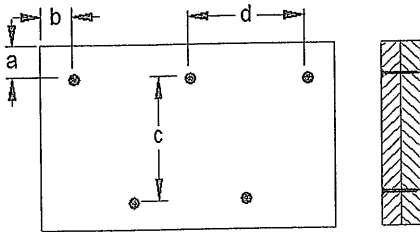
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"

c = 5-1/2"
d = 8"

Calculated Side Load = 147.0 lb/ft

Connectors are: 3/4" ARDOX SPIRAL Nails

3/4" ARDOX SPIRAL



DWG NO. TAM 11174-20
STRUCTURAL
COMPONENT ONLY

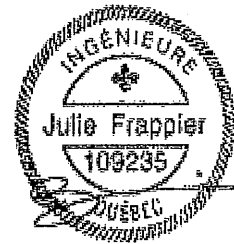
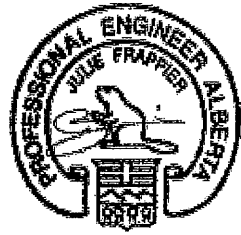
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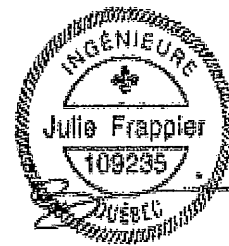
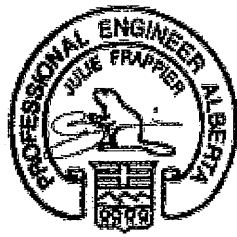
Maximum Floor Spans

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



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

- Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- Minimum bearing length shall be 1-3/4 inches for the end bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans

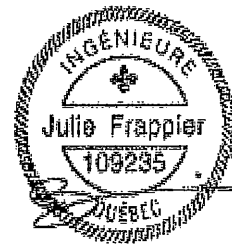
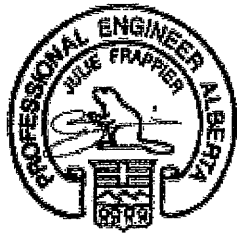
Live Load = 40 psf, Dead Load = 15 psf
Simple Spans, L/480 Deflection Limit
3/4" OSB G&N Sheathing

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

- Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- Minimum bearing length shall be 1-3/4 inches for the end bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.

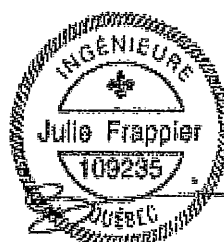
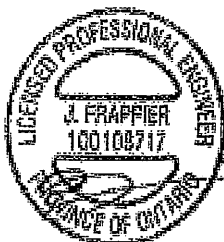
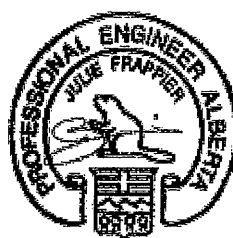
Maximum Floor Spans

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



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

- Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The ultimate limit states are based on the factored loads of $1.50L + 1.25D$. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of $L/480$ and a total load deflection limit of $L/240$.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- Minimum bearing length shall be 1-3/4 inches for the end bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans

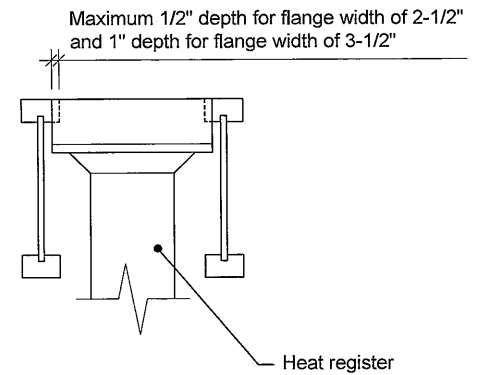
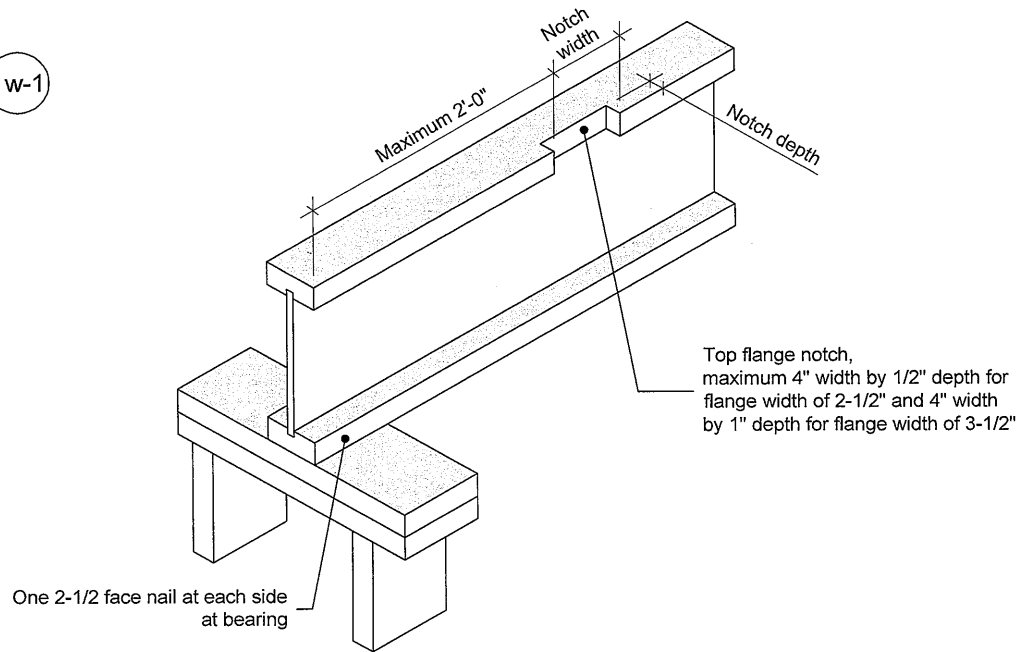
Live Load = 40 psf, Dead Load = 30 psf
Simple Spans, L/480 Deflection Limit
3/4" OSB G&N Sheathing

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

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

- Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- Minimum bearing length shall be 1-3/4 inches for the end bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.

1w-1



Notes:

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

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

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

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TITLE

Notch in I-joist for Heat Register

CATEGORY

I-joist - Typical Floor Framing and Construction Details

DOCUMENT

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DATE

2018-04-10

NUMBER

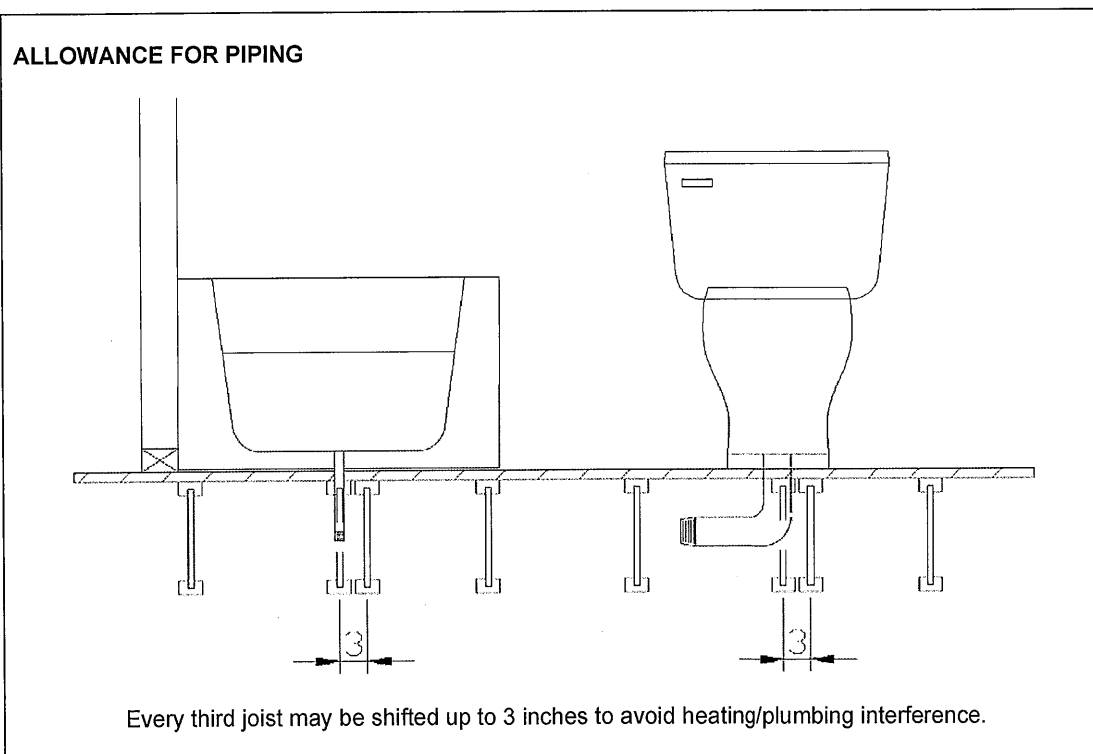
1w-1

Allowance for Piping (Installation Notes)

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

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

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



Revised April 12, 2012