

FROM PLAN DATED: SEPT 28 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: KINMOUNT 11B

ELEVATION: 2

LOT:

CITY: CALEDON

SALESMAN: M D

DESIGNER: PL

REVISION:

NOTES:

REFER TO THE **NORDIC INSTALLATION** GUIDE FOR PROPER STORAGE AND INSTALLATION.

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

LOADING:

DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 15.0 lb/ft²

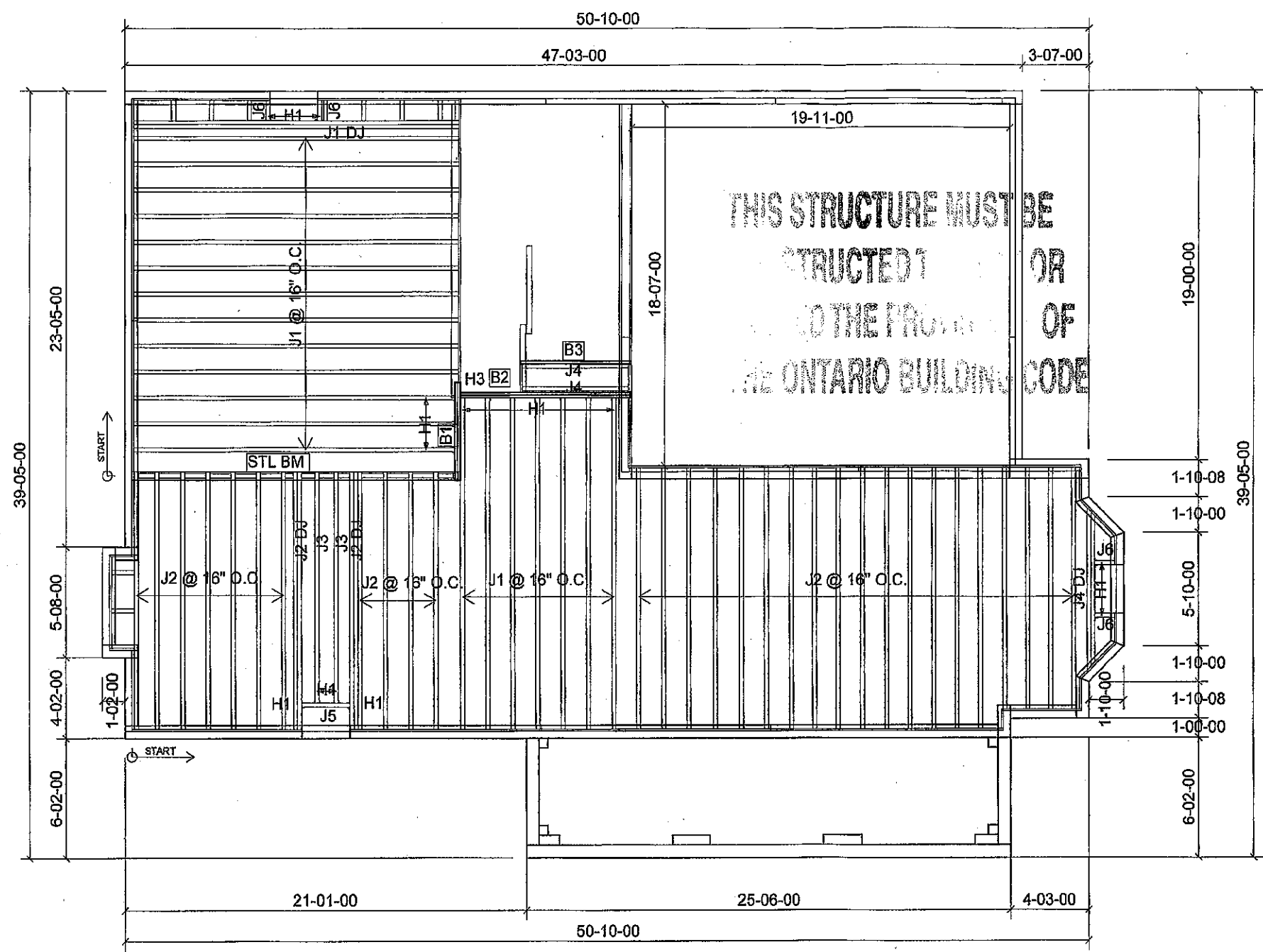
TILED AREAS: 20 lb/ft

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 11/12/2018

1st FLOOR

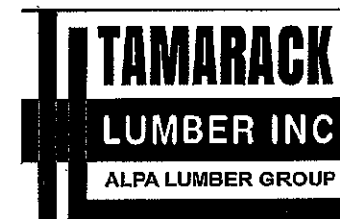
STANDARD



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	20
J1 DJ	18-00-00	11 7/8" NI-40x	2	2
J2	14-00-00	11 7/8" NI-40x	1	30
J2 DJ	14-00-00	11 7/8" NI-40x	2	4
J3	12-00-00	11 7/8" NI-40x	1	2
J4 DJ	10-00-00	11 7/8" NI-40x	2	2
J4	6-00-00	11 7/8" NI-40x	1	2
J5	4-00-00	11 7/8" NI-40x	1	1
J6	2-00-00	11 7/8" NI-40x	1	4
B2	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B3	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
10	H1	IUS2.56/11.88
6	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
1	H3	HGUS410

RECEIVED
JUN 25 2019
TOWN OF CALEDON
BUILDING SECTION



FROM PLAN DATED: SEPT 28 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: KINMOUNT 11B

ELEVATION: 2

LOT:

CITY: CALEDON

SALESMAN: M D

DESIGNER: PL

REVISION:

NOTES:

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION.

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

LOADING:

DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 15.0 lb/ft²

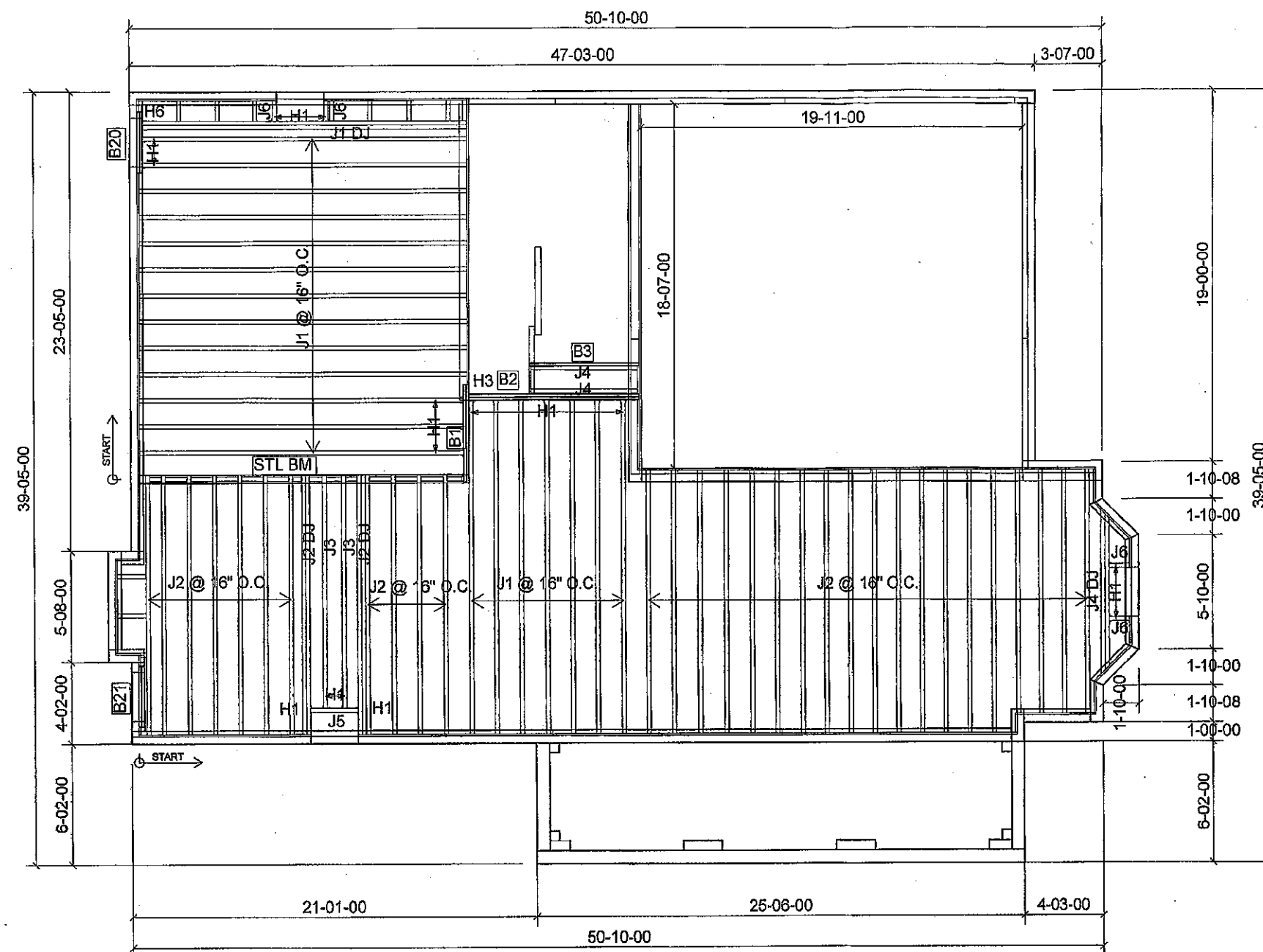
TILED AREAS: 20 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 11/12/2018

1st FLOOR

OPTIONAL W.O.D. CONDITION



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	20
J1 DJ	18-00-00	11 7/8" NI-40x	2	2
J2	14-00-00	11 7/8" NI-40x	1	30
J2 DJ	14-00-00	11 7/8" NI-40x	2	4
J3	12-00-00	11 7/8" NI-40x	1	2
J4 DJ	10-00-00	11 7/8" NI-40x	2	2
J4	6-00-00	11 7/8" NI-40x	1	2
J5	4-00-00	11 7/8" NI-40x	1	1
J6	2-00-00	11 7/8" NI-40x	1	4
B2	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B3	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B20	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B21	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
12	H1	IUS2.56/11.88
6	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
1	H3	HGUS410
1	H6	HU312-2

RECEIVED
JUN 25 2019
TOWN OF CALEDON
FILE NO. 828482

THIS STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
EXCEED THE PROVISIONS OF
THE ONTARIO BUILDING CODE



FROM PLAN DATED: SEPT 28 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: KINMOUNT 11B

ELEVATION: 2

LOT:

CITY: CALEDON

SALESMAN: M D

DESIGNER: PL

REVISION:

NOTES:

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

LOADING:

DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft²

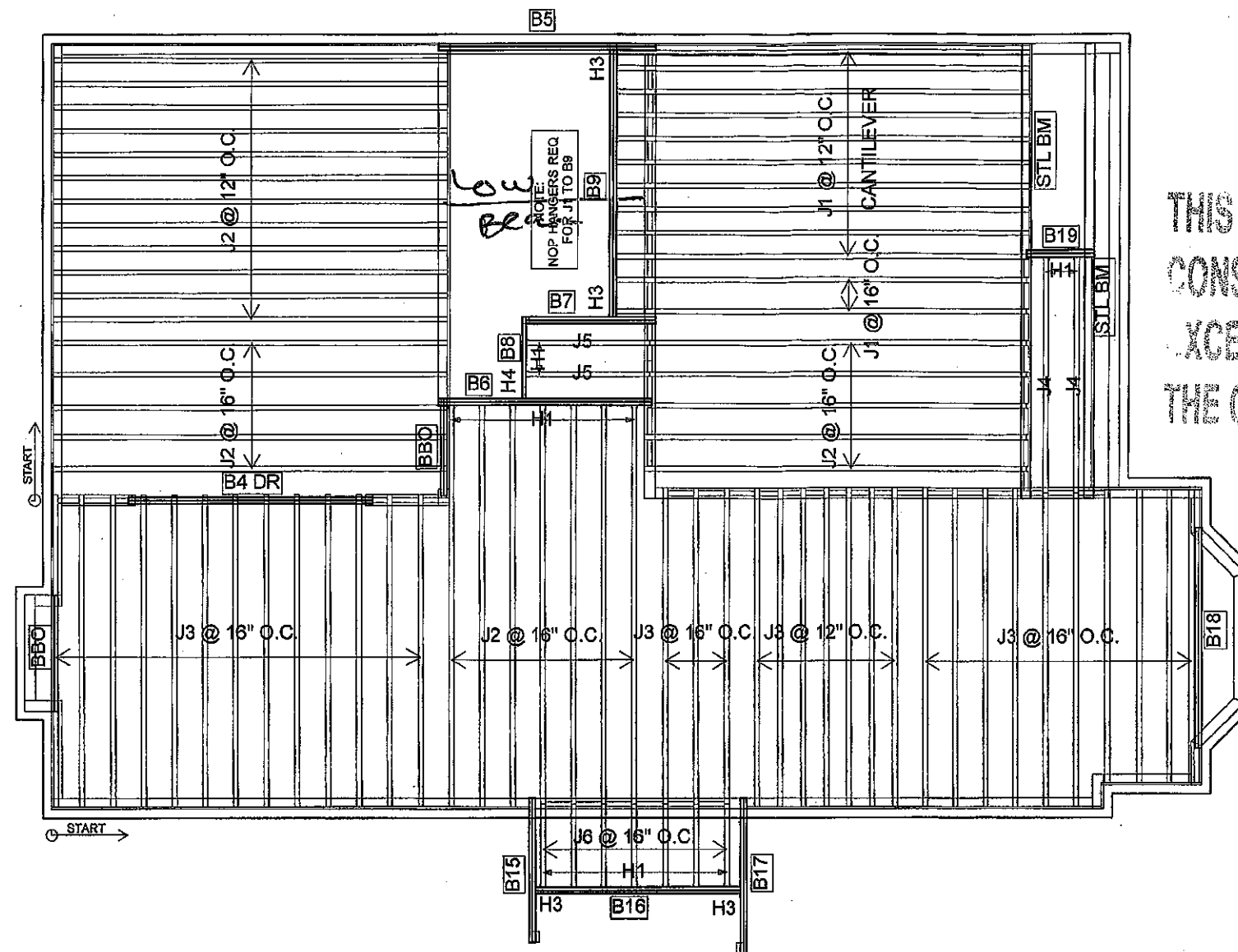
DEAD LOAD: 15.0 lb/ft²

TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 11/12/2018

2nd FLOOR

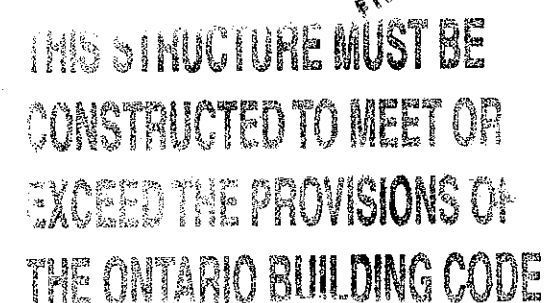


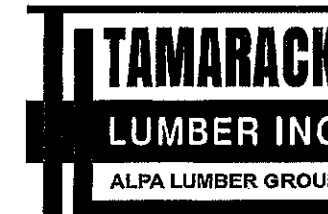
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EXCEED THE PROVISIONS OF
THE ONTARIO BUILDING CODE

Products				
PlotID	Length	Product	Plies	Net Qty
J1	20-00-00	11 7/8" NI-40x	1	12
J2	18-00-00	11 7/8" NI-40x	1	29
J3	14-00-00	11 7/8" NI-40x	1	33
J4	12-00-00	11 7/8" NI-40x	1	2
J5	6-00-00	11 7/8" NI-40x	1	2
J6	4-00-00	11 7/8" NI-40x	1	7
B4 DR	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B16	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B18	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B5	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B6	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B15	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B17	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B7	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B8	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B19	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
2	H1	IUS2.56/11.88
16	H1	IUS2.56/11.88
4	H3	HGUS410
1	H4	HUS1.81/10

RECEIVED
JUN 25 2019
TOWN OF CALEDON
BUILDING SECTION





FROM PLAN DATED: SEPT 28 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: KINMOUNT 11B

ELEVATION: 1

LOT:

CITY: CALEDON

SALESMAN: M D

DESIGNER: PL

REVISION:

NOTES:

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION.

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

LOADING:

DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 15.0 lb/ft²

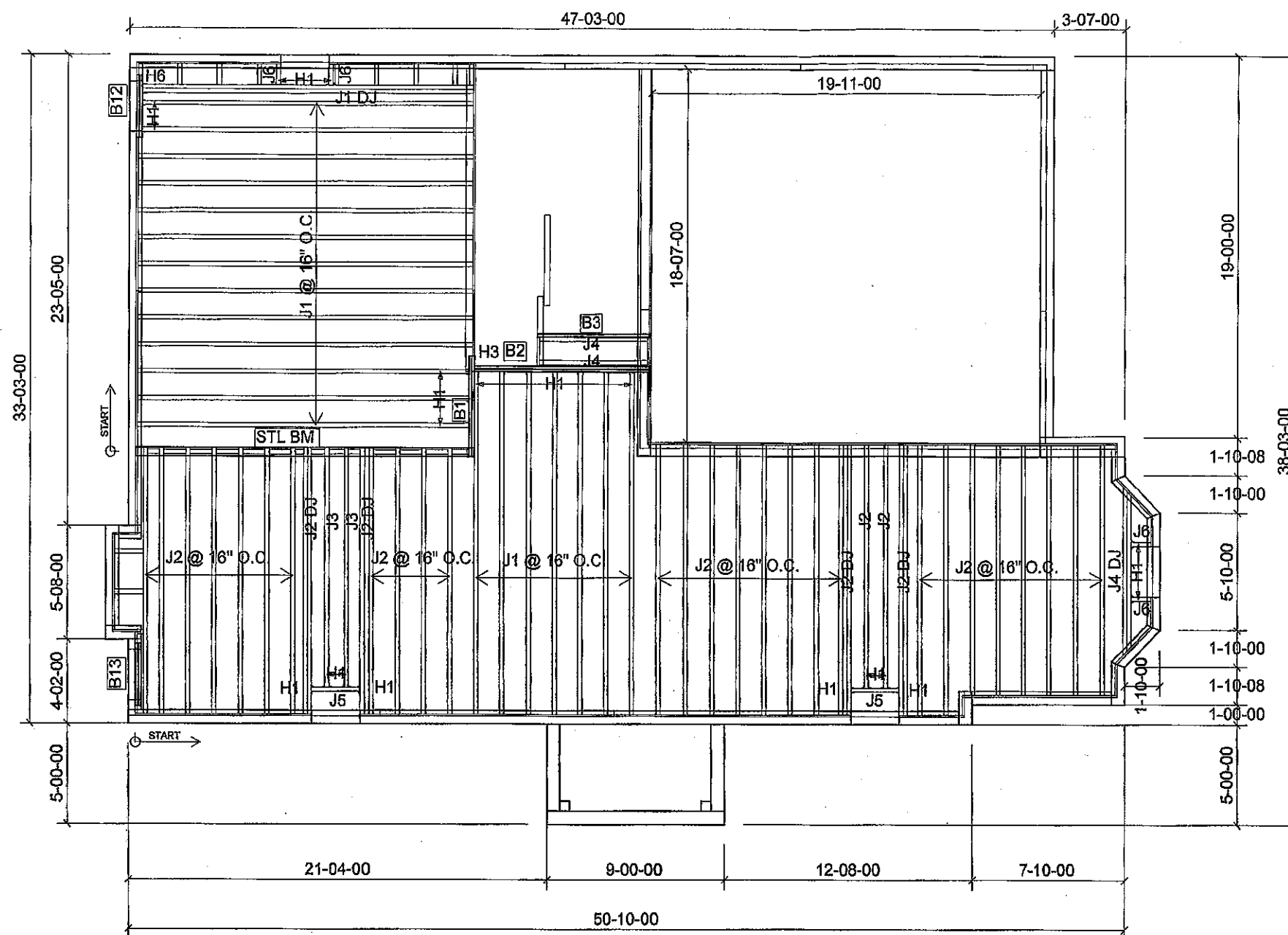
TILED AREAS: 20 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 11/12/2018

1st FLOOR

OPTIONAL WALK OUT DECK

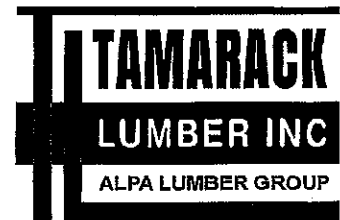


Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	20
J1 DJ	18-00-00	11 7/8" NI-40x	2	2
J2	14-00-00	11 7/8" NI-40x	1	29
J2 DJ	14-00-00	11 7/8" NI-40x	2	8
J3	12-00-00	11 7/8" NI-40x	1	2
J4 DJ	10-00-00	11 7/8" NI-40x	2	2
J4	6-00-00	11 7/8" NI-40x	1	2
J5	4-00-00	11 7/8" NI-40x	1	2
J6	2-00-00	11 7/8" NI-40x	1	4
B2	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B3	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B1	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B13	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
12	H1	IUS2.56/11.88
8	H1	IUS2.56/11.88
4	H1	IUS2.56/11.88
1	H3	HGUS410
1	H6	HU312-2

THIS STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
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THE ONTARIO BUILDING CODE

RECEIVED
JUN 25 2019
TOWN OF CALEDON
BUILDING DEPARTMENT



FROM PLAN DATED: SEPT 28 2018

BUILDER: GREENPARK HOMES

SITE: LAMBERTS LANE

MODEL: KINMOUNT 11B

ELEVATION: 1

LOT:

CITY: CALEDON

SALESMAN: M D

DESIGNER: PL

REVISION:

NOTES:

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

LOADING:

DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft²

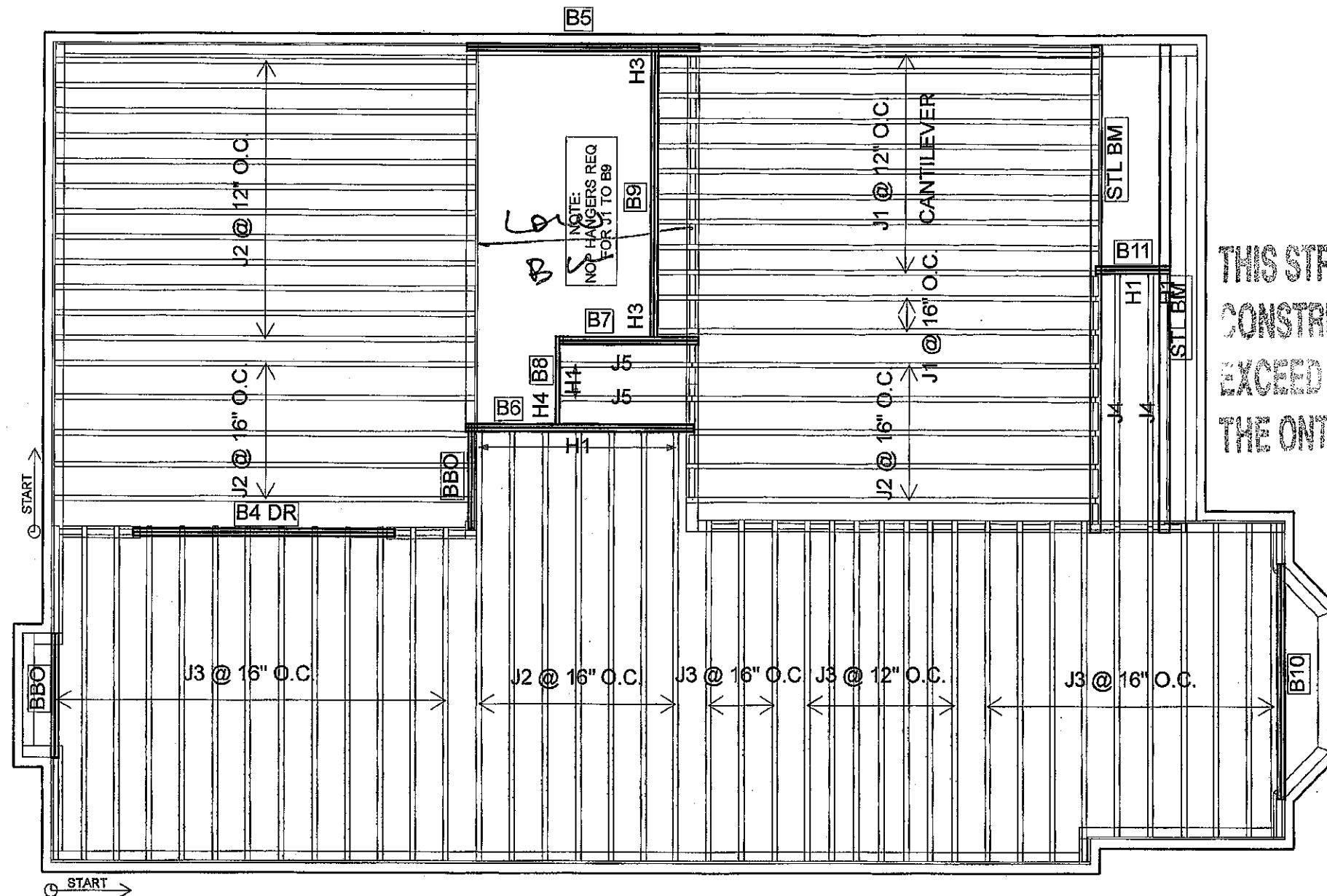
DEAD LOAD: 15.0 lb/ft²

TILED AREAS: 20 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 11/12/2018

2nd FLOOR



Products

PlotID	Length	Product	Plies	Net Qty
J1	20-00-00	11 7/8" NI-40x	1	12✓
J2	18-00-00	11 7/8" NI-40x	1	29✓
J3	14-00-00	11 7/8" NI-40x	1	33✓
J4	12-00-00	11 7/8" NI-40x	1	2✓
J5	6-00-00	11 7/8" NI-40x	1	2✓
B4 DR	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2✓
B9	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2✓
B10	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2✓
B5	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2✓
B6	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2✓
B7	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2✓
B8	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B11	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary

Qty	Manuf	Product
2	H1	IUS2.56/11.88✓
9	H1	IUS2.56/11.88✓
2	H3	HGUS410✓
1	H4	HUS1.81/10✓

Distributed by:

2x4 min.,
black to face
containing
1/2" x 1/2" spiral
corn each web
on each
side.

NI blocking
panel

1a

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

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

Rim board

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

1.5"

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

Joint blocking panel

One 2-1/2" nails one side only

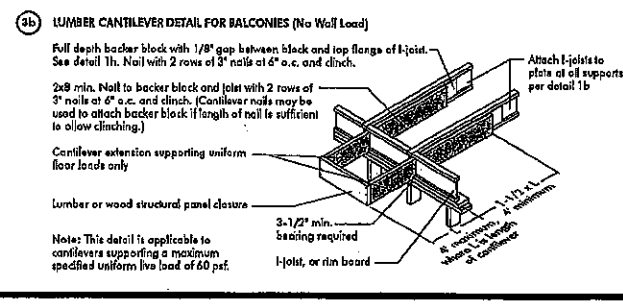
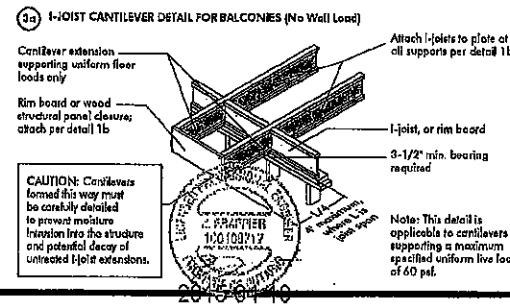
2-1/2" nails at 6" o.c.

Note:

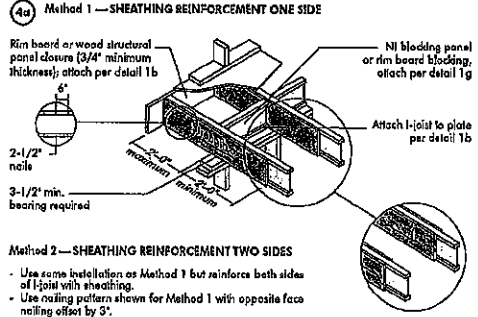
- In some local codes, blocking is prescriptively required in the first joint space (for first and second joint space) next to the starter joint. Where required, see local code requirements for spacing of the blocking.

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TOWN OF CALEDON
BUILDING SECTION
FILE NO.

CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)

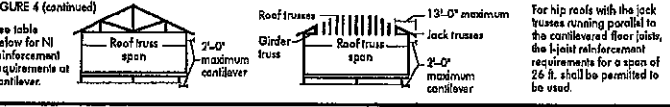
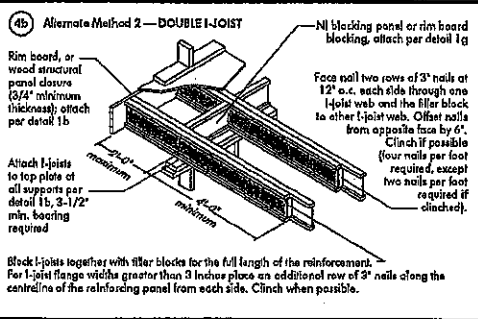


CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)



Method 2 - SHEATHING REINFORCEMENT TWO SIDES

- Use same installation as Method 1 but reinforce both sides of joist with sheathing.
- Use nailing pattern shown for Method 1 with opposite face nailing offset by 5\"/>

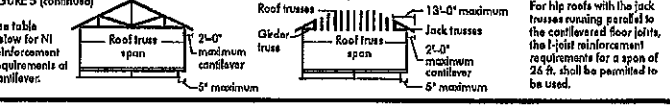
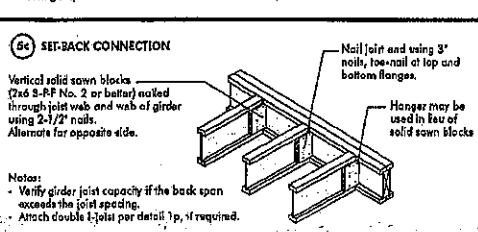
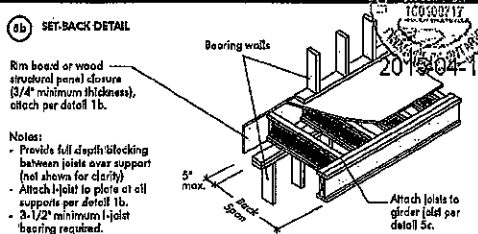
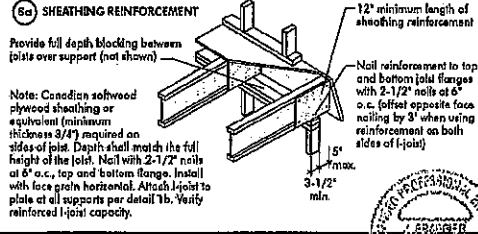


CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST DEPTH (in.)	ROOF TRUSS SPAN (ft)	ROOF LOADING (UNFACTORED)			
		LL = 30 psf, DL = 15 psf	LL = 40 psf, DL = 15 psf	LL = 50 psf, DL = 15 psf	LL = 60 psf, DL = 15 psf
9-1/2"	24	N	N	N	N
	30	N	N	N	N
	36	N	N	N	N
	42	N	N	N	N
11-7/8"	24	N	N	N	N
	30	N	N	N	N
	36	N	N	N	N
	42	N	N	N	N
14"	24	N	N	N	N
	30	N	N	N	N
	36	N	N	N	N
	42	N	N	N	N
16"	24	N	N	N	N
	30	N	N	N	N
	36	N	N	N	N
	42	N	N	N	N

1. N = No reinforcement required.
2. = NI reinforced with 3/4\"/>

BRICK CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)



BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST DEPTH (in.)	ROOF TRUSS SPAN (ft)	ROOF LOADING (UNFACTORED)			
		LL = 30 psf, DL = 15 psf	LL = 40 psf, DL = 15 psf	LL = 50 psf, DL = 15 psf	LL = 60 psf, DL = 15 psf
9-1/2"	24	N	N	N	N
	30	N	N	N	N
	36	N	N	N	N
	42	N	N	N	N
11-7/8"	24	N	N	N	N
	30	N	N	N	N
	36	N	N	N	N
	42	N	N	N	N
14"	24	N	N	N	N
	30	N	N	N	N
	36	N	N	N	N
	42	N	N	N	N
16"	24	N	N	N	N
	30	N	N	N	N
	36	N	N	N	N
	42	N	N	N	N

1. N = No reinforcement required.
2. = NI reinforced with 3/4\"/>

WEB HOLES

- RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:**
- The distance between the inside edge of the support and the centreline of any hole or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
 - 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 largest 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 shall be 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 notations 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 (in.)	SPAN (ft)	Minimum distance from inside face of any support to centre of hole (in.)											
		12	14	16	18	20	22	24	26	28	30	32	34
9-1/2"	24	14	14	14	14	14	14	14	14	14	14	14	14
	30	14	14	14	14	14	14	14	14	14	14	14	14
	36	14	14	14	14	14	14	14	14	14	14	14	14
	42	14	14	14	14	14	14	14	14	14	14	14	14
11-7/8"	24	14	14	14	14	14	14	14	14	14	14	14	14
	30	14	14	14	14	14	14	14	14	14	14	14	14
	36	14	14	14	14	14	14	14	14	14	14	14	14
	42	14	14	14	14	14	14	14	14	14	14	14	14
14"	24	14	14	14	14	14	14	14	14	14	14	14	14
	30	14	14	14	14	14	14	14	14	14	14	14	14
	36	14	14	14	14	14	14	14	14	14	14	14	14
	42	14	14	14	14	14	14	14	14	14	14	14	14
16"	24	14	14	14	14	14	14	14	14	14	14	14	14
	30	14	14	14	14	14	14	14	14	14	14	14	14
	36	14	14	14	14	14	14	14	14	14	14	14	14
	42	14	14	14	14	14	14	14	14	14	14	14	14

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

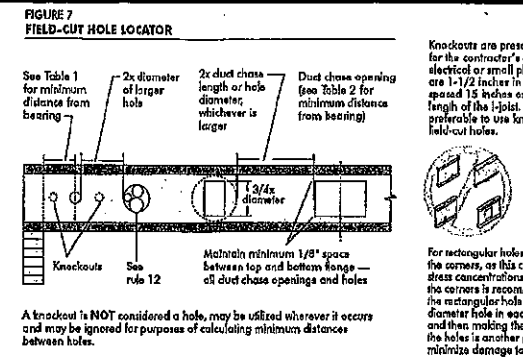
2. Hole location distance is measured from inside face of support to centre of hole.

3. Distances in this chart are based on uniformly loaded joists.

OPTIONAL:
The above table is based on the I-joists used of their maximum span. If the I-joists are placed at less than their full maximum span (see Manufacturer's literature for details), the minimum distance from the centreline of the hole to the face of any support (D) as given above may be reduced as follows:

$$\text{Deduced} = \frac{L_{\text{actual}}}{L_{\text{max}}} \times D$$

- Deduced** = Distance from the inside face of any support to centre of hole, reduced for less than maximum span application.
- L_{actual}** = The actual measured span distance between the inside faces of supports (ft).
- L_{max}** = Span Adjustment Factor given in joist table.
- D** = The minimum distance from the inside face of any support to centre of hole from this table.
- If Deduced is greater than 1, use 1 in the above calculation for L_{actual}.



aces provided to install g lines. They are, and are along the possible, it is instead of the drill, cut or the flange, or cut the web.

in webs be cut with a saw.

over-casting the unnecessary by rounding of flanges.

ing a four corner

between

TABLE 2
DUCT CHASE OPENING SIZES AND LOCATIONS - Simple Span Only

JOIST DEPTH (in.)	JOIST SPACING (ft)	Minimum distance from inside face of any support to centre of opening (in.)											
		12	14	16	18	20	22	24	26	28	30	32	34
9-1/2"	N-26	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"
	N-30	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"
	N-36	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"
	N-42	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"
11-7/8"	N-26	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"
	N-30	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"	4-11"
	N-36	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"
	N-42	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"	5-4"
14"	N-26	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"
	N-30	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"
	N-36	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"
	N-42	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"
16"	N-26	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"
	N-30	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"
	N-36	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"
	N-42	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"	7-1"

1. Above table may be used for joist spacing of 24 inches on centre or less.
2. Duct chase opening location distance is measured from inside face of support to centre of opening.
3. The above table is based on simple span joists only. For other applications, consult your local distributor.
4. Distances are based on uniformly loaded joists (joist table) and the span requirements for a design live load of 40 psf and dead load of 15 psf and a live load deflection limit of L/480. For other applications, consult your local distributor.

INSTALLING THE GLEUED FLOOR SYSTEM

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

FASTENERS FOR SHEATHING AND SUBFLOORING(1)

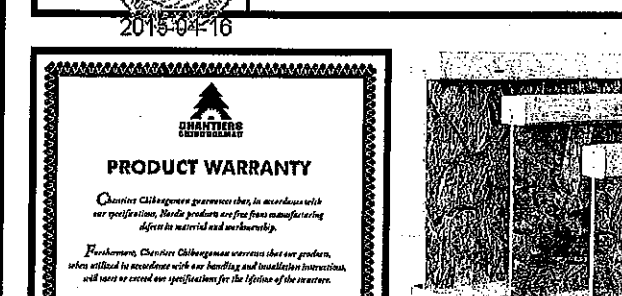
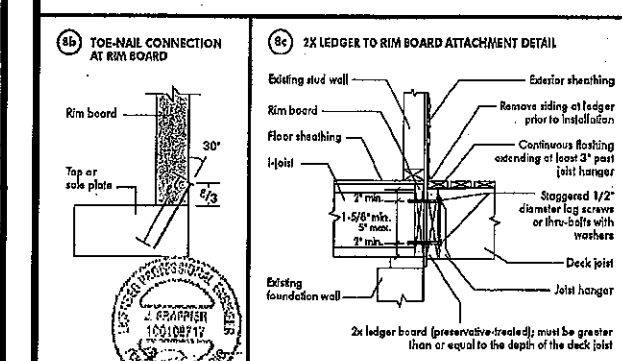
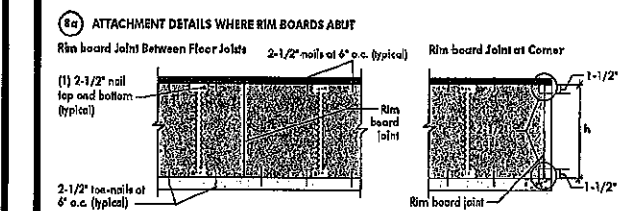
Maximum Joist Spacing (in.)	Minimum Panel Thickness (in.)	Nail Size and Type			Maximum Spacing of Fasteners	
		Common Wire or Spiral Nails	Ring Threaded Nails or Screws	Staples	Edges	Interiors
16	5/8	2"	1-3/4"	2"	6"	12"
20	5/8	2"	1-3/4"	2"	6"	12"
24	3/4	2"	1-3/4"	2"	6"	12"

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

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

IMPORTANT NOTE:
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.

RIM BOARD INSTALLATION DETAILS



RECEIVED JUN 25 2019 TOWN OF BUILDING SECTION FILE NO.

CONSTRUCTION DETAILS FOR RESIDENTIAL FLOORS

N-C303 / April 2014



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 of 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'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
	NI-40x	0'-7"	1'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
	NI-60	0'-7"	1'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
	NI-70	0'-7"	1'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
11-7/8"	NI-20	0'-7"	1'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
	NI-40x	0'-7"	1'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
	NI-60	0'-7"	1'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
	NI-70	0'-7"	1'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
14"	NI-20	0'-7"	1'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
	NI-40x	0'-7"	1'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
	NI-60	0'-7"	1'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
	NI-70	0'-7"	1'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
16"	NI-20	0'-7"	1'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
	NI-40x	0'-7"	1'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
	NI-60	0'-7"	1'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
	NI-70	0'-7"	1'-3"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---

- 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.

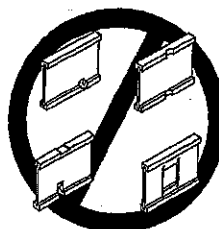
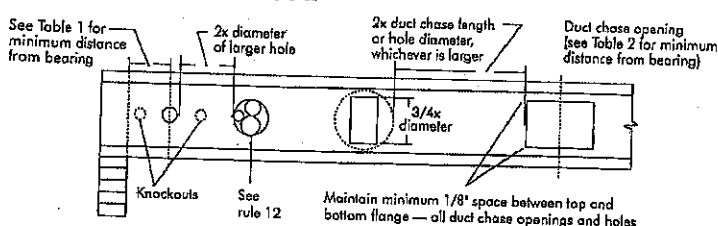
TABLE 2
DUCT CHASE OPENING SIZES AND LOCATIONS

Simple Span Only

Joist Depth	Joist Series	Minimum distance from inside face of supports to centre of opening (ft - in.)											
		Duct Chase Length (in.)											
		8	10	12	14	16	18	20	22	24	26	28	30
9-1/2"	NI-20	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---
	NI-40x	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---
	NI-60	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---
	NI-70	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---
11-7/8"	NI-20	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---
	NI-40x	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---
	NI-60	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---
	NI-70	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---
14"	NI-20	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---
	NI-40x	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---
	NI-60	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---
	NI-70	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---
16"	NI-20	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---
	NI-40x	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---
	NI-60	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---
	NI-70	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	---	---	---

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

FIGURE 7
FIELD-CUT HOLE LOCATOR



Knockouts are preformed 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.

SAFETY AND CONSTRUCTION PRECAUTIONS



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

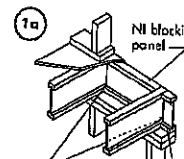


Never stack building materials over unbraced I-joists. Once sheathed, do not over-stress I-joists with concentrated loads from building materials.

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:

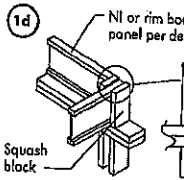
- Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bridging at joist ends. When I-joists are applied continuously over interior supports and a load-bearing wall is planned at that location, blocking will be required of the interior support.
 - When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



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.

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



Pair of Squash Blocks	Maximum Factored Vertical Load per Pair of Squash Blocks (lbs)	
	3-1/2" wide	5-1/2" wide
2x Lumber	5,500	8,500
1-1/8" Rim Board Plus	4,300	6,600

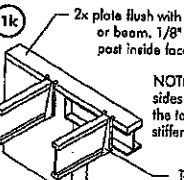
Provide lateral bracing per detail 1a or 1b

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 right to top flange. Use twelve 3" nails, clinched when possible. Maximum factored resistance for hanger for this detail = 1,620 lbs.

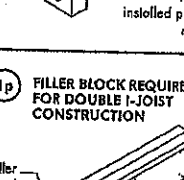
Flange Width	Material Thickness Required*	Minimum Depth**
2-1/2"	1"	5-1/2"
3-1/2"	1-1/2"	7-1/4"

* Minimum grade for backer block material shall be S-PF 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".

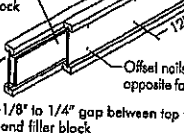
BACKER BLOCKS (Blocks must be long enough to permit required nailing without splitting)



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



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



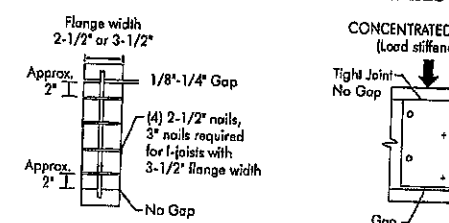
Offset nails from opposite face by 6"

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 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

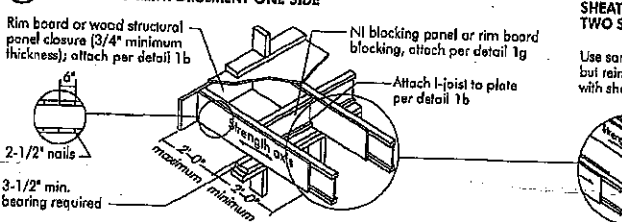


See the adjacent table for web stiffener size requirements

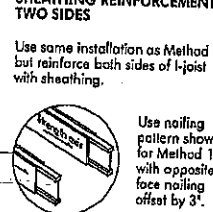
STIFFENER SIZE REQUIREMENTS	
Flange Width	Web Stiffener Size Each Side of Web
2-1/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET

Method 1 — SHEATHING REINFORCEMENT ONE SIDE



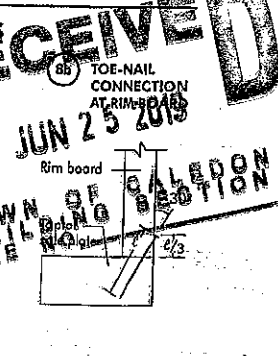
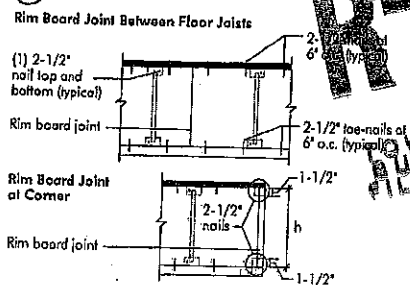
Method 2 — SHEATHING REINFORCEMENT TWO SIDES



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 BOARD JOINTS ARE REQUIRED





Boise Cascade



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B2\I3105

Dry | 1 span | No cant.

November 12, 2018 14:28:00

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

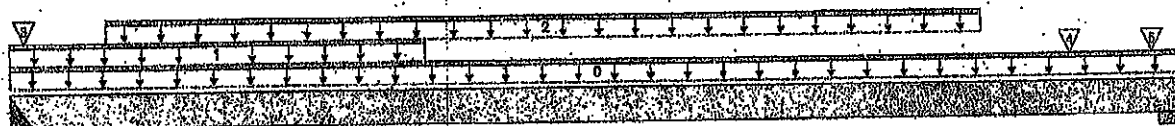
File name: KINMOUNT 11B.mxd

Description: 1ST FLOOR FRAMING\Flush Beams\B2\I3105

Specifier:

Designer: PL

Company:



B1

08-11-08

B2

Total Horizontal Product Length = 08-11-08

Reaction Summary (Down / Uplift) (lbs)

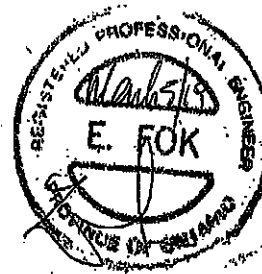
Bearing	Live	Dead	Snow	Wind
B1, 4"	2,303 / 0	1,204 / 0		
B2, 6-1/2"	3,636 / 0	1,988 / 0		

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	08-11-08	Top		12			00-00-00
1	STAIRS	Unf. Lin. (lb/ft)	L	00-00-00	03-02-00	Top	240	120			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	00-09-00	07-05-00	Top	346	172			n/a
3	J1(I2919)	Conc. Pl. (lbs)	L	00-01-08	00-01-08	Top	382	191			n/a
4	J1(I3109)	Conc. Pl. (lbs)	L	08-01-00	08-01-00	Top	429	214			n/a
5	5(I382)	Conc. Pl. (lbs)	L	08-08-12	08-08-12	Top	2,027	1,131			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	7,730 ft-lbs	35,382 ft-lbs	21.8%	1	04-01-00
End Shear	3,454 lbs	14,464 lbs	23.9%	1	01-03-14
Total Load Deflection	1/999 (0.060")	n/a	n/a	4	04-04-00
Live Load Deflection	1/999 (0.046")	n/a	n/a	5	04-04-00
Max Defl.	0.060"	n/a	n/a	4	04-04-00
Span / Depth	8.4				



Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 4" x 3-1/2"	4,960 lbs	n/a	29.0%	HGUS410
B2	Wall/Plate 6-1/2" x 3-1/2"	7,938 lbs	96.6%	33.6%	Unspecified

Cautions

Header for the hanger HGUS410 at B1 is a Double 1-3/4" x 11-7/8" VERSA-LAM® 1.7, 2400 DF. Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

THIS STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
EXCEED THE PROVISIONS OF
THE ONTARIO BUILDING CODE

RECEIVED
JUN 25 2019
TOWN OF CALEDON
BUILDING DEPARTMENT
FILE NO. 12472-R

DWR NO. TAM3424-18H
STRUCTURAL
COMPONENT ONLY P624

T-1903178



Boise Cascade



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B2(I3105)

Dry | 1 span | No cant.

November 12, 2018 14:25:00

BC CALC® Member Report

Build 8475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports:

CCMC 12472-R

File name: KINMOUNT 11B.mmd

Description: 1ST FLOOR FRAMING\Flush Beams\B2(I3105)

Specifier:

Designer: PL

Company:

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

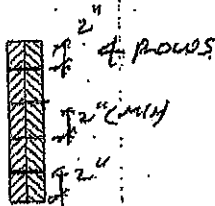
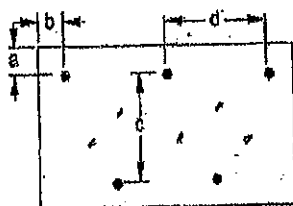
Resistance Factor phi has been applied to all presented results per CSA O86. CONFORMS TO NBC 2012

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

Connection Diagram: Full Length of Membera minimum = 2"
b minimum = 3"c = 7-7/8"
d = 8"

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

Connectors are: Nails

3 1/2" ARDOX SPIRAL

**Disclosure**

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to ensure 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™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

P022

OWNED BY 3424-18H
STRUCTURAL
COMPONENT ONLY

RECEIVED
JUN 25 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO.

T-19012861



Boise Cascade



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B3(13150)

Dry | 1 span | No cant.

November 12, 2018 14:26:00

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

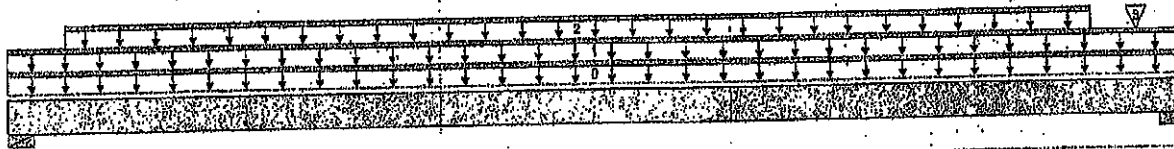
File name: KINMOUNT 11B.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B3(13150)

Specifier:

Designer: PL

Company:



B1

Total Horizontal Product Length = 05-09-08

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	620 / 0	327 / 0		
B2, 5-1/2"	675 / 0	359 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.85	Snow 1.00	Wind 1.15	Tributary 00-00-00
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-09-08	Top	8	3			n/a
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	05-09-08	Top	240	120			n/a
2	STAIRS	Unf. Lin. (lb/ft)	L	00-03-08	05-04-00	Top	54	41			n/a
3	6(1382)	Conc. Pl. (lbs)	L	05-06-12	05-06-12	Top					

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1,762 ft-lbs	17,895 ft-lbs	10.0%	1	02-09-12
End Shear	809 lbs	7,232 lbs	11.2%	1	01-03-08
Total Load Deflection	L/999 (0.012")	n/a	n/a	4	02-09-12
Live Load Deflection	L/999 (0.008")	n/a	n/a	5	02-09-12
Max Defl.	0.012"	n/a	n/a	4	02-09-12
Span / Depth	5.2				

Bearing Supports

	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate 3-1/2" x 1-3/4"	1,336 lbs	61.1%	17.9%	Unspecified
B2	Wall/Plate 5-1/2" x 1-3/4"	1,474 lbs	35.8%	12.6%	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

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 JUN 25 2019
 TOWN OF CALEDON
 BUILDING SECTION
 FILE NO. TAM 3425-18H
 STRUCTURAL
 COMPONENT ONLY

Disclosure

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

T-193179



Boise Cascade



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

PASSED

1ST FLOOR FRAMING Flush Beams B1 (12939)

Dry | 1 span | No cant.

November 12, 2018 14:25:00

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

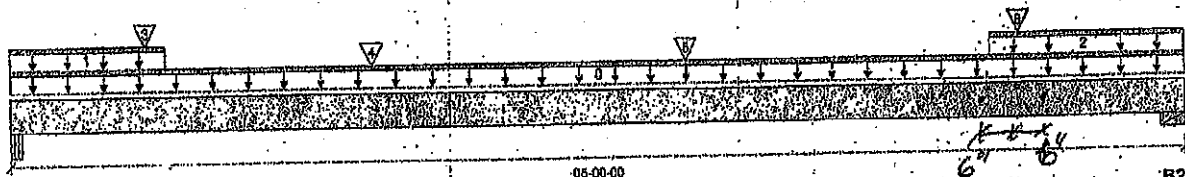
File name: KINMOUNT 11B.mmd

Description: 1ST FLOOR FRAMING Flush Beams B1 (12939)

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 05-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 6"	1,021 / 0	620 / 0		
B2, 9-1/2"	6,766 / 0	3,145 / 0		

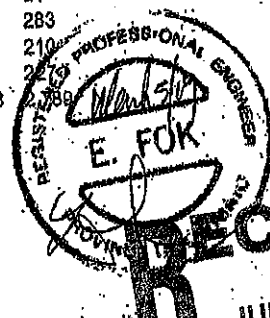
2-1/2" x 11-7/8" BOLTS
CLW WASHERS / NUTS.

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	05-00-00	Top	1.00	0.65	1.00	1.15	00-00-00
1	8(1385)	Unf. Lin. (lb/ft)	L	00-00-00	00-06-00	Top		86			n/a
2	11(1388)	Unf. Lin. (lb/ft)	L	04-02-00	05-00-00	Top		81			n/a
3	8(1385)	Conc. Pt. (lbs)	L	00-07-00	00-07-00	Top	506	283			n/a
4	J1(12923)	Conc. Pt. (lbs)	L	01-06-08	01-06-08	Top	420	210			n/a
5	J1(13226)	Conc. Pt. (lbs)	L	02-10-08	02-10-08	Top	464	232			n/a
6		Conc. Pt. (lbs)	L	04-03-08	04-03-08	Top	5,258	2,389			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,626 ft-lbs	35,392 ft-lbs	4.3%	1	02-10-08
End Shear	1,194 lbs	14,464 lbs	8.3%	1	01-04-14
Total Load Deflection	L/999 (0.003")	n/a	n/a	4	02-03-08
Live Load Deflection	L/999 (0.002")	n/a	n/a	5	02-03-08
Max Defl.	0.003"	n/a	n/a	4	02-03-08
Span / Depth	4.0				



JUN 25 2019

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 6" x 3-1/2"	2,306 lbs	30.8%	10.8%	Unspecified
B2	Wall/Plate 9-1/2" x 3-1/2"	12,580 lbs	88.6%	31.0%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Concentrated side-load exceeds allowable magnitude for connection design. Please consult a technical representative or Professional Engineer for the design of the connection. OR WITH NAILING 3 BOLTS.

CONFORMS TO OBC 2012

PROVIDE 4 ROWS OF 3/4" ARDOX
SPIRAL NAILS @ 8" O/C FOR
MULTI-PLY NAILING. MAINTAIN
A MIN. 2" LUMBER EDGE/END
DISTANCE. DO NOT USE AIR NAILS NO. FAM 3423-18H

STRUCTURAL
COMPONENT ONLY

Disclosure TOWN OF CALEDON BUILDING SECTION

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®, AIS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®

T-1903177



Bolted Cascade



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B12(13366)

Dry | 1 span | No cant.

November 12, 2018 13:30:22

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

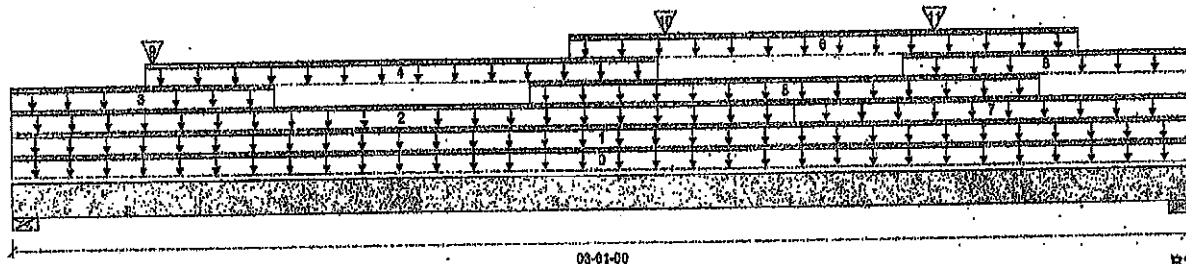
File name: KINMOUNT 11B OPT W.O.D..mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B12(13366)

Specifier:

Designer: PL

Company:



B1

Total Horizontal Product Length = 03-01-00

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	1,285 / 0	883 / 0	110 / 0	
B2, 3-1/2"	1,139 / 0	932 / 0	369 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.66	Snow 1.00	Wind 1.18	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top		12			00-00-00
1	E41(13106)	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top		81			n/a
2	E41(13106)	Unf. Lin. (lb/ft)	L	00-00-00	02-00-08	Top		41			n/a
3	E41(13106)	Unf. Lin. (lb/ft)	L	00-00-00	00-08-04	Top	352	177			n/a
4	E41(13106)	Unf. Lin. (lb/ft)	L	00-04-04	01-08-04	Top	259	130			n/a
5	E41(13106)	Unf. Lin. (lb/ft)	L	01-04-04	02-08-04	Top	259	130			n/a
6	E41(13106)	Unf. Lin. (lb/ft)	L	01-06-08	02-09-08	Top	68	131			n/a
7	E41(13106)	Unf. Lin. (lb/ft)	L	02-00-08	03-01-00	Top		81			n/a
8	E41(13106)	Unf. Lin. (lb/ft)	L	02-04-00	03-01-00	Top	248	160			n/a
9	J1(13308)	Conc. Pt. (lbs)	L	00-04-08	00-04-08	Top	468	229			n/a
10	J1(13330)	Conc. Pt. (lbs)	L	01-08-08	01-08-08	Top	350	175			n/a
11	J1 D.J(13304)	Conc. Pt. (lbs)	L	02-05-00	02-05-00	Top	378	189			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,823 ft-lbs	36,392 ft-lbs	5.2%	1	01-08-08
End Shear	1,805 lbs	14,464 lbs	12.5%	1	01-09-10
Total Load Deflection	L/999 (0.002")	n/a	n/a	35	01-08-14
Live Load Deflection	L/999 (0.001")	n/a	n/a	61	01-08-14
Max Defl.	0.002"	n/a	n/a	35	01-08-14
Span / Depth	2.7				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	3,112 lbs	69.6%	20.8%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	3,242 lbs	61.9%	21.7%	Unspecified

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STRUCTURAL
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T-1903189



Boise Cascade



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B12(I3356)

Dry | 1 span | No cant.

November 12, 2018 13:30:22

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON.

Customer:

Code reports:

CCMC 12472-R

File name: KINMOUNT 11B OPT W.O.D..mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B12(I3356)

Specifier:

Designer: PL

Company:

Notes

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

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

Calculations assume member is fully braced.

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

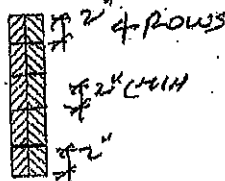
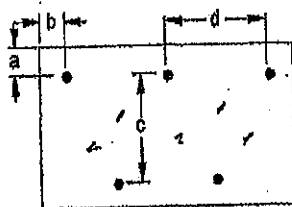
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

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

Connection Diagram: Full Length of Member

a minimum = 2"

b minimum = 3"

c = 7-7/8"

d = 4"

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

Connectors are:

Nails

3/4" ARDOX SPIRAL

**Disclosure**

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Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to 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®, AJST®, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

DWG NO. TAM3435-18H
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F-190318967

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JUN 25 2019
TOWN OF CALEDON
BUILDING DEPARTMENT
FILE NO.



Boise Cascade



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B13(13480)

Dry | 1 span | No cant

November 12, 2018 13:30:22

BC CALC® Member Report

Build 8476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

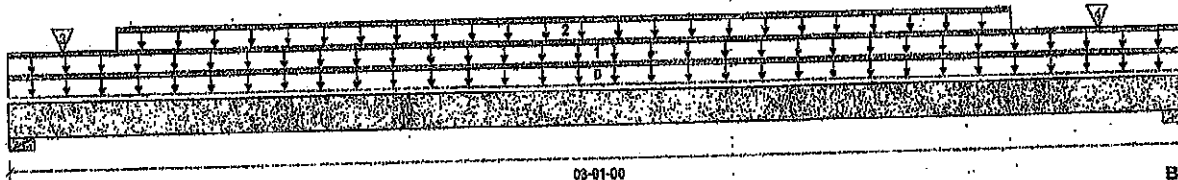
File name: KINMOUNT 11B OPT W.O.D.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B13(13480)

Specifier:

Designer: PL

Company:



B1

Total Horizontal Product Length = 03-01-00.

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	124 / 0	309 / 0	188 / 0	
B2, 3-1/2"	135 / 0	351 / 0	180 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.85	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	12	5			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	10	5			n/a
2	E48(13265)	Unf. Lin. (lb/ft)	L	00-03-08	02-07-08	Top	41				n/a
3	E12(1309)	Conc. Pt. (lbs)	L	00-01-12	00-01-12	Top	108	232	188		n/a
4	E47(13254)	Conc. Pt. (lbs)	L	02-10-04	02-10-04	Top	119	280	180		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	89 ft-lbs	23,005 ft-lbs	0.3%	0	01-08-08
End Shear	80 lbs	9,401 lbs	0.7%	0	01-09-10
Total Load Deflection	L/999 (0")	n/a	n/a	35	01-08-08
Max Defl.	0"	n/a	n/a	35	01-08-08
Span / Depth	2.7				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	762 lbs	14.6%	5.1%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	843 lbs	16.2%	5.7%	Unspecified

Notes

Design meets Code minimum (L/240) Total 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.
 BO CALC® analysis is based on Canadian Limit States Design, as per NBCC-2015 and CSA O86.
 Unbalanced snow loads determined from building geometry were used in selected product's verification.
 Design based on Dry Service Condition.
 Importance Factor: Normal Part code: Part 8
 Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
 Member has no side loads.



RECEIVED
 JUN 25 2019
 TOWN OF CALEDON
 BUILDING SECTION
 FILE NO.

OWNED, TAM 3436-184
 STRUCTURAL
 COMPONENT ONLY

T. 1903190



Boise Cascade



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

1ST FLOOR FRAMING\Flush Beams\B13(13480)

Dry | 1 span | No cant.

PASSED

November 12, 2018 13:30:22

BC CALC® Member Report

Build 8476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports:

CCMC 12472-R

File name: KINMOUNT 11B-OPT W.O.D..mmdl

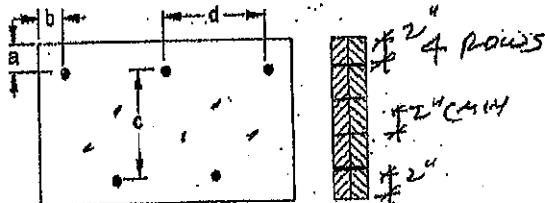
Description: 1ST FLOOR FRAMING\Flush Beams\B13(13480)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"

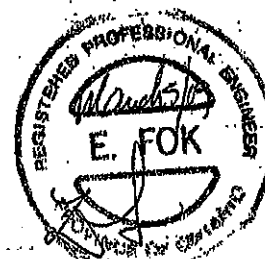
c = 7-7/8"
d = 6"

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

Member has no side loads.

Connectors are: 1/4" Nails

3/4" ARDOX SPIRAL



Disclosure

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

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

RECEIVED
JUN 25 2019

TOWN OF CALEDON
BUILDING SECTION
FILE NO.

DWG NO. TAM 3436-18H
STRUCTURAL
COMPONENT ONLY

T-190906(1)

**Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP****PASSED****1ST FLOOR FRAMING\Flush Beams\B20\18367**

Dry | 1 span | No cant.

November 12, 2018 16:03:15

BC CALCO Member Report

Build 8475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

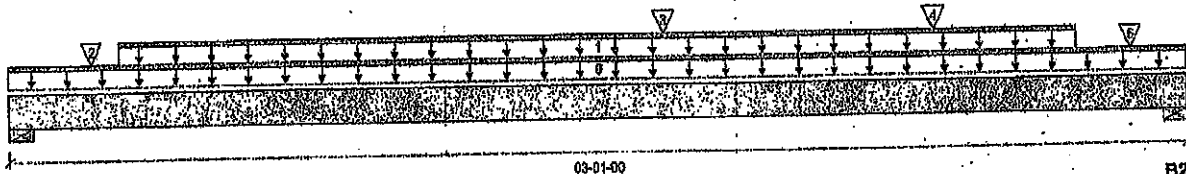
File name: KINMOUNT 11B ELEV 2 WOD.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B20\18367

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 03-01-00

Reaction Summary (Down / Uplift) (lbs)

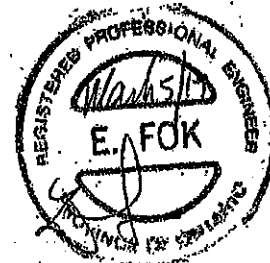
Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	1,392 / 0	924 / 0	125 / 0	
B2, 3-1/2"	1,232 / 0	946 / 0	353 / 0	

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	03-01-00	Top		12			00-00-00
1	E48\16081	Unf. Lin. (lb/ft)	L	00-03-08	02-09-08	Top		41			n/a
2		Conc. Pt. (lbs)	L	00-02-10	00-02-10	Top	1,201	759	125		n/a
3	J1\16273	Conc. Pt. (lbs)	L	01-08-08	01-08-08	Top	350	175			n/a
4	J1 DJ\16290	Conc. Pt. (lbs)	L	02-05-00	02-05-00	Top	378	189			n/a
5	E49\16107	Conc. Pt. (lbs)	L	02-11-04	02-11-04	Top	689	606	353		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	796 ft-lbs	35,392 ft-lbs	2.2%	1	01-08-08
End Shear	887 lbs	14,464 lbs	4.6%	1	01-09-10
Total Load Deflection	L/999 (0.001")	n/a	n/a	35	01-07-03
Live Load Deflection	L/999 (0")	n/a	n/a	51	01-07-03
Max Defl.	0.001"	n/a	n/a	35	01-07-03
Span / Depth	2.7				



Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	3,366 lbs	51.6%	22.5%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	3,383 lbs	51.7%	22.8%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

BC CALCO analysis is based on Canadian Limit States Design, as per NBC 2015 and CSA O86.

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

RECEIVED
JUN 25 2019
TOWN OF CALEDON
BUILDING DEPARTMENT
FILE NO.**THIS STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
EXCEED THE PROVISIONS OF
THE ONTARIO BUILDING CODE**OWN NO. YAM 3433.18H
STRUCTURAL
COMPONENT ONLY
P612

T. 1903187



Boise Cascade



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

PASSED

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

November 12, 2018 15:03:15

File name: KINMOUNT 11B-ELEV 2 WOD.mmdl

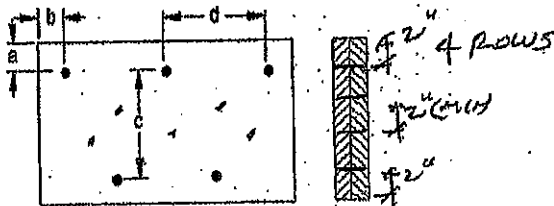
Description: 1ST FLOOR FRAMING\Flush Beams\B20(16387)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member

a minimum = 2"
b minimum = 3"c = 7-7/8"
d = 4"

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

Connectors are: 1" Nails

3/4" ARDAX SPIRAL



Disclosure

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

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

PUSH

RECEIVED
JUN 25 2019

TOWN OF CALEDON
BUILDING SECTION
FILE NO. DWG NO. TAM 3433.18H

STRUCTURAL
COMPONENT ONLY

T-190318761



Bolsa Casado



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B21(I6277)

Dry | 1 span | No cant.

November 12, 2018 16:03:16

BC CALCO Member Report
Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports:

CCMC 12472-R

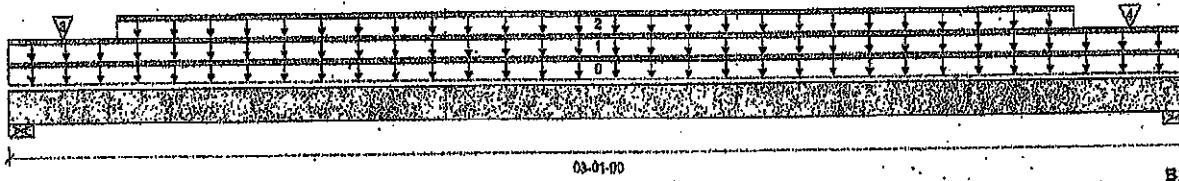
File name: KINMOUNT 11B ELEV 2 WOD.mxd

Description: 1ST FLOOR FRAMING\Flush Beams\B21(I6277)

Specifier:

Designer: PL

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	126 / 0	342 / 0	165 / 0	
B2, 3-1/2"	141 / 0	343 / 0	211 / 0	

Load Summary

Tap	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	12	5			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	10	5			n/a
2	E60(I6108)	Unf. Lin. (lb/ft)	L	00-03-08	02-09-08	Top		41			n/a
3	E12(I309)	Conc. Pt. (lbs)	L	00-01-12	00-01-12	Top	110	264	165		n/a
4	E61(I6109)	Conc. Pt. (lbs)	L	02-11-04	02-11-04	Top	126	285	211		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	70 ft-lbs	23,005 ft-lbs	0.3%	0	01-06-08
End Shear	21 lbs	9,401 lbs	0.2%	0	01-03-08
Total Load Deflection	L/699 (0")	n/a	n/a	35	01-06-08
Max Defl.	0"	n/a	n/a	35	01-06-08
Span / Depth	2.7				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	800 lbs	12.2%	6.4%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	885 lbs	13.5%	6.9%	Unspecified

Notes

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

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

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

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

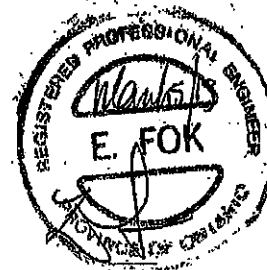
Unbalanced snow loads determined from building geometry were used in selected products verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

Member has no side loads.

OWNER, TAM 3434-18H
STRUCTURAL
COMPONENT ONLY

T-190188



Boise Cascade



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

PASSED

1ST FLOOR FRAMING Flush Beams B21 (16277)

Dry | 1 span | No cant.

November 12, 2018 15:03:15

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

File name: KINMOUNT 11B ELEV 2 WOD.mmdl

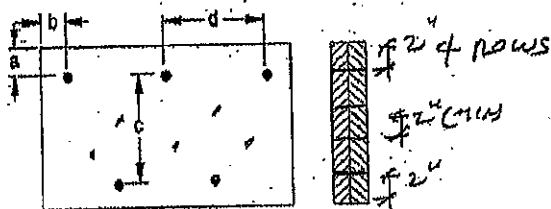
Description: 1ST FLOOR FRAMING Flush Beams B21 (16277)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

c = 7-7/8" u

d = 4"

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

Member has no side loads.

Connectors are: 1 Nails

3/4" ARDOX SPIKAL



Disclosure

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RECEIVED
JUN 25 2019
TOWN OF CALEDON
BUILDING DEPARTMENT

DWG NO. TAM 3434-18H
STRUCTURAL
COMPONENT ONLY

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

T-19030886



Boise Cascade



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

2ND FLOOR FRAMING\Dropped Beams\B4 DR\3197

PASSED

BC CALCO Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

November 12, 2018 14:26:00

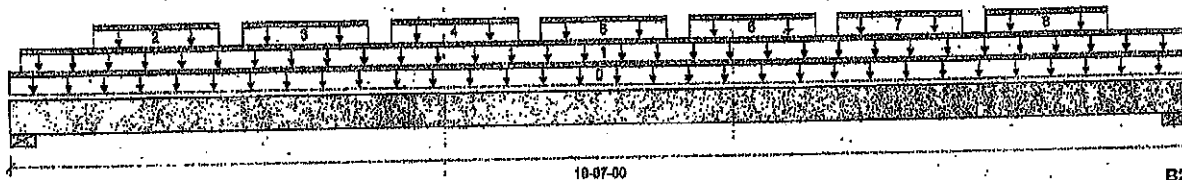
File name: KINMOUNT 11B.mmdl

Description: 2ND FLOOR FRAMING\Dropped Beams\B4 DR\3197

Specifier:

Designer: PL

Company:



Reaction Summary (Down / Uplift) (lbs)

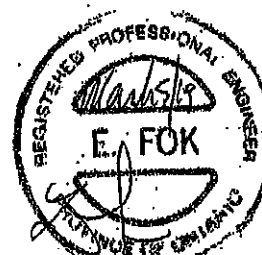
Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	1,488 / 0	805 / 0		
B2, 3-1/2"	1,510 / 0	817 / 0		

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	10-07-00	Top	1.00	0.85	1.00	1.15	00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-01-04	10-06-12	Top	264	132			n/a
2	Bk1(3282)	Unf. Lin. (lb/ft)	L	00-08-04	01-10-12	Top	27				n/a
3	Bk1(3251)	Unf. Lin. (lb/ft)	L	02-01-04	03-02-12	Top	27				n/a
4	Bk1(3139)	Unf. Lin. (lb/ft)	L	03-05-04	04-06-12	Top	27				n/a
5	Bk1(3018)	Unf. Lin. (lb/ft)	L	04-08-04	05-10-12	Top	27				n/a
6	Bk1(3117)	Unf. Lin. (lb/ft)	L	06-01-04	07-02-12	Top	27				n/a
7	Bk1(3180)	Unf. Lin. (lb/ft)	L	07-05-04	08-06-12	Top	27				n/a
8	Bk1(3271)	Unf. Lin. (lb/ft)	L	08-08-04	09-10-12	Top	27				n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	7,830 ft-lbs	35,382 ft-lbs	22.1%	1	05-00-10
End Shear	2,748 lbs	14,464 lbs	19.0%	1	01-03-08
Total Load Deflection	L/999 (0.105")	n/a	n/a	4	05-04-00
Live Load Deflection	L/999 (0.086")	n/a	n/a	5	05-04-00
Max Defl.	0.105"	n/a	n/a	4	05-04-00
Span / Depth	10.2				



Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	3,239 lbs	40.7%	21.7%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	3,286 lbs	41.3%	22.0%	Unspecified

Notes

- Design meets Code minimum (L/240) Total load deflection criteria.
- Design meets Code minimum (L/360) Live load deflection criteria.
- Calculations assume unbraced length of Top: 00-01-15, Bottom: 00-01-15.
- 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
- Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
- Member has no side loads.

CONFORMS TO CBC 2012

DWG NO. TAM 3426-18H
STRUCTURAL
COMPONENT ONLY

T. 190380



Boise Cascade



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

PASSED

2ND FLOOR FRAMING\Dropped Beams\B4 DR\13197

Dry | 1 span | No cant.

November 12, 2018 14:25:00

BC CALC® Member Report

Build 8475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

File name: KINMOUNT 11B.mml

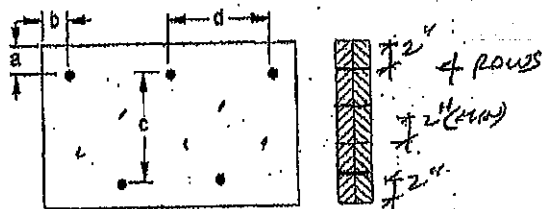
Description: 2ND FLOOR FRAMING\Dro...ed Beams\B4 DR\13197

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

c = 7-7/8"

d = 12"

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

Member has no side loads.

Connectors are:

Nails

3 1/2" ARDOX SPIRAL



Disclosure

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

BY AND FOR THE
STRUCTURAL
COMPONENT ONLY

P622

T-1903180 (M)



Bolas Cascade

**Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP****PASSED****2ND FLOOR FRAMING** Flush Beams B9(12890)

Dry | 1 span | No cent.

November 12, 2016 14:26:00

BC CALCO Member Report

Build 8476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

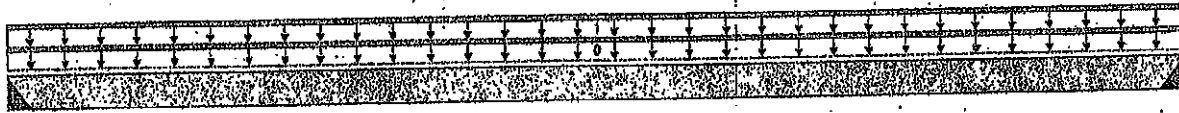
File name: KINMOUNT 11B.mmdl

Description: 2ND FLOOR FRAMING Flush Beams B9(12890)

Specifier:

Designer: PL

Company:



B1

11-04-00

B2

Total Horizontal Product Length = 11-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4"		408 / 0		
B2, 4"		408 / 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	11-04-00	Top	12				00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	11-04-00	Top	60				n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,468 ft-lbs	23,005 ft-lbs	6.4%	0	05-08-00
End Shear	438 lbs	9,401 lbs	4.7%	0	01-08-14
Total Load Deflection	L/999 (0.023")	n/a	n/a	1	05-08-00
Max Defl.	0.023"	n/a	n/a	1	05-08-00
Span / Depth	10:9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Hanger	4" x 3-1/2"	571 lbs	n/a	6.1%	HGUS410
B2 Hanger	4" x 3-1/2"	571 lbs	n/a	6.1%	HGUS410

Cautions

Header for the hanger HGUS410 at B1 is a Double 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2400 DF. Hanger model HGUS410 and seat length were input by the User. Hanger has not been analyzed for adequate capacity.

Header for the hanger HGUS410 at B2 is a Double 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2400 DF.

Notes

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

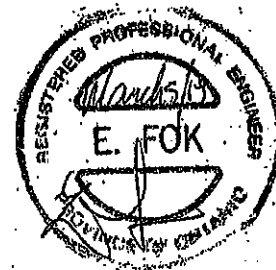
Resistance Factor phi has been applied to all presented results per CSA O86. CONFORMS TO DBC 2012

BC 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 0

Member has no side loads.



DWG NO. 7AM 3432-18H
STRUCTURAL
COMPONENT ONLY

T-1803186



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

PASSED

2ND FLOOR FRAMING Flush Beams B9(12890)

Dry | 1 span | No cant.

November 12, 2018 14:26:00

BC CALCO® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: QCMC 12472-R

File name: KINMOUNT 11B.mmd

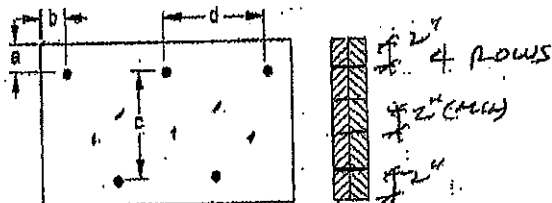
Description: 2ND FLOOR FRAMING Flush Beams B9(12890)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"

c = 7-7/8"
d = 12"

Member has no side loads.

Connectors are: 1 x Nails

3/8" ARBOX SPIRAL

THIS STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
EXCEED THE PROVISIONS OF
THE ONTARIO BUILDING CODE



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

RECEIVED
JUN 25 2019

TOWN OF CALEDON
BUILDING SECTION
FILE NO.

DWG NO. TKN 3432-18H
STRUCTURAL
COMPONENT ONLY

T-1903186 (M)



BC Cascade



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

PASSED

2ND FLOOR FRAMING Flush Beams B10 (I2755)

Dry | 1 span | No cant.

November 12, 2018 14:25:00

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

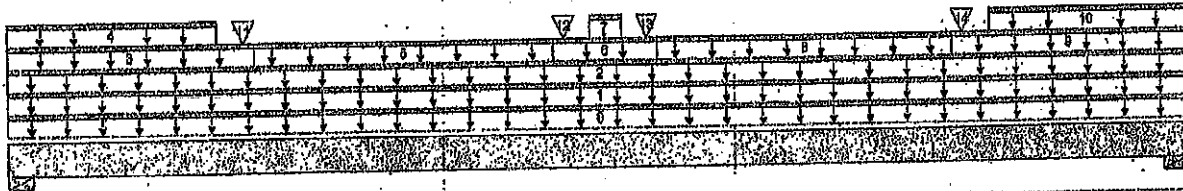
File name: KINMOUNT 11B.mxd

Description: 2ND FLOOR FRAMING Flush Beams B10 (I2755)

Specifier:

Designer: PL

Company:



09-04-00

B2

Total Horizontal Product Length = 09-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 6-7/8"	349 / 0	685 / 0	963 / 0	
B2, 6-7/8"	348 / 0	684 / 0	950 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.68	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-04-00	Top		12			00-00-00
1	LOW ROOF	Unf. Lin. (lb/ft)	L	00-00-00	09-04-00	Top	33	30	102		n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	09-04-00	Top	9	4			n/a
3	E36(I1505)	Unf. Lin. (lb/ft)	L	00-00-00	01-11-08	Top		81			n/a
4	E36(I1505)	Unf. Lin. (lb/ft)	L	00-00-00	01-08-00	Top	33	30	102		n/a
5	E36(I1504)	Unf. Lin. (lb/ft)	L	01-11-08	04-03-08	Top		41			n/a
6	E34(I1503)	Unf. Lin. (lb/ft)	L	04-03-08	05-01-08	Top		81			n/a
7	E34(I1503)	Unf. Lin. (lb/ft)	L	04-07-00	04-10-00	Top	33				n/a
8	E33(I1502)	Unf. Lin. (lb/ft)	L	05-01-08	07-05-08	Top		41			n/a
9	E28(I1478)	Unf. Lin. (lb/ft)	L	07-05-08	09-04-00	Top		81			n/a
10	E28(I1478)	Unf. Lin. (lb/ft)	L	07-09-00	09-04-00	Top	33	30			n/a
11	E36(I1505)	Conc. Pt. (lbs)	L	01-10-08	01-10-08	Top	49	66	15		n/a
12	E34(I1503)	Conc. Pt. (lbs)	L	04-04-08	04-04-08	Top	47	66	145		n/a
13	E34(I1503)	Conc. Pt. (lbs)	L	05-00-08	05-00-08	Top	49	66			n/a
14	E28(I1478)	Conc. Pt. (lbs)	L	07-08-08	07-08-08	Top	47	66			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	4,624 ft-lbs	36,392 ft-lbs	13.6%	13	04-08-08
End Shear	1,747 lbs	14,464 lbs	12.1%	13	01-08-12
Total Load Deflection	L/999 (0.045")	n/a	n/a	35	04-08-08
Live Load Deflection	L/999 (0.03")	n/a	n/a	51	04-08-08
Max Defl.	0.045"	n/a	n/a	35	04-08-08
Span / Depth	8.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 6-7/8" x 3-1/2"	2,636 lbs	25.6%	8.0%	Unspecified
B2	Wall/Plate 6-7/8" x 3-1/2"	2,628 lbs	25.5%	8.9%	Unspecified

RECEIVED
JUN 25 2019

TOWN OF CALEDON
BUILDING SECTION
FILE NO.

U.W.N.D. T.A.W. 3927-18H
STRUCTURAL
COMPONENT ONLY

T-190318 |



Boise Cascade



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B10(12755)

Dry | 1 span | No cant.

November 12, 2018 14:25:00

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMO 12472-R

File name: KINMOUNT 11B.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B10(12755)

Specifier:

Designer: PL

Company:

Notes

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

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

Calculations assume member is fully braced.

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

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

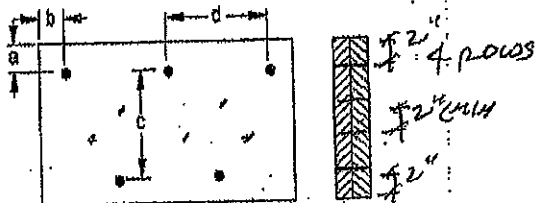
Unbalanced snow loads determined from building geometry were used in selected products verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

Member has no side loads.

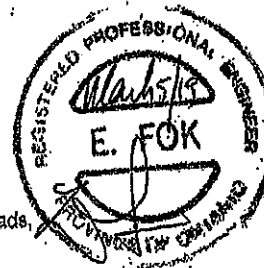
Connection Diagram: Full Length of Membera minimum = 2"
b minimum = 3"c = 7-7/8"
d = 12"

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

Member has no side loads.

Connectors are: Nails

3/4" ARDUX SPIRAL

**Disclosure**

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TOWN OF CALEDON
BUILDING SECTION
FILE NO.

DYNO TAY 3427-18H
STRUCTURAL
COMPONENT ONLY

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

pwh

T-1903181(1)



Boise Casade



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

2ND FLOOR FRAMING\Flush Beams\B6(13099)

Dry | 2 spans | L cant.

PASSED

November 12, 2018 14:25:00

BC CALCO Member Report

Build 0475

Job name:

Address:

City, Province, Postal Code: CALEDON.

Customer:

Code reports: CCMC 12472-R

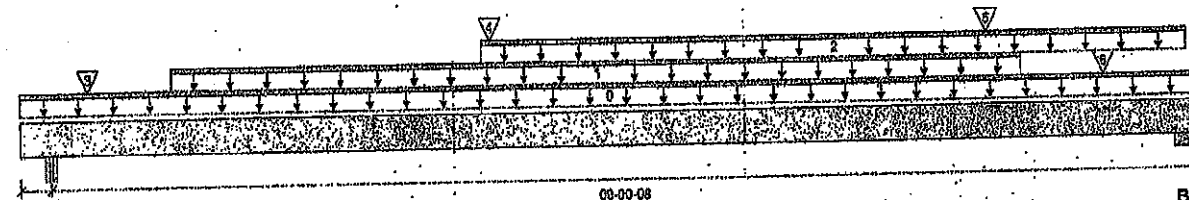
File name: KINMOUNT 11B.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B6(13099)

Specifier:

Designer: PL

Company:



Total Horizontal Product Length = 00-03-04

Reaction Summary (Down / Uplift) (lbs)

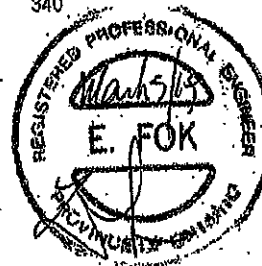
Bearing	Live	Dead	Snow	Wind
B1, 3"	1,897 / 0	928 / 0		
B2, 3-3/4"	1,924 / 0	1,062 / 0		

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	09-03-04	Top	12	12			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-02-08	07-10-08	Top	342	171			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	03-07-08	08-02-04	Top	23	12			n/a
3	J2(13127)	Conc. Pt. (lbs)	L	00-08-08	00-06-08	Top	381	191			n/a
4	B8(13141)	Conc. Pt. (lbs)	L	03-08-08	03-08-08	Top	133	96			n/a
5	WALL	Conc. Pt. (lbs)	L	07-07-04	07-07-04	Top	27	27			n/a
6	J2(12970)	Conc. Pt. (lbs)	L	08-08-08	08-08-08	Top	680	340			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	8,309 ft-lbs	35,392 ft-lbs	23.5%	3	04-08-08
End Shear	3,328 lbs	14,464 lbs	23.0%	1	07-11-10
Cont. Shear	3,017 lbs	14,464 lbs	20.9%	1	01-04-02
Total Load Deflection	L/999 (0.083")	n/a	n/a	10	04-08-08
Live Load Deflection	L/999 (0.083")	n/a	n/a	13	04-08-08
Total Neg. Defl.	2xL/1,998 (-0.007")	n/a	n/a	10	00-00-00
Max Defl.	0.083"	n/a	n/a	10	04-08-08
Span / Depth	8.9				



Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 3" x 3-1/2"	3,703 lbs	82.8%	28.9%	Unspecified
B2	Wall/Plate 3-3/4" x 3-1/2"	4,201 lbs	74.9%	26.2%	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 086. CONFORMS TO NBC 2012
- BC CALCO analysis is based on Canadian Limit States Design, as per NBC 2015 and CSA 086.
- Design based on Dry Service Condition.
- Importance Factor: Normal. Part code: Part 9
- Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.
- Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

RECEIVED JUN 25 2019

TOWN OF CALEDON BUILDING SECTION FILE NO

BW6 NO. 744 3422 - 18H
STRUCTURAL
COMPONENT ONLY

T-1903183



Boise Cascade



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

2ND FLOOR FRAMING\Flush Beams\B6(I3099)

Dry | 2 spans | L cant.

PASSED

November 12, 2018 14:25:00

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

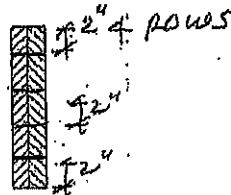
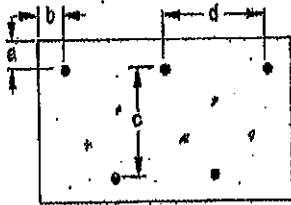
File name: KINMOUNT 11B.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B6(I3099)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member

a minimum = 2"

b minimum = 3"

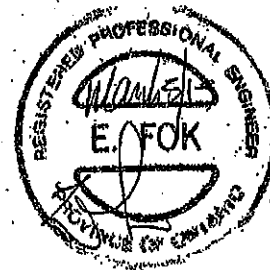
c = 7-7/8"

d = 6"

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

Connectors are: 7 Nails

3/8" ARDOX SPIRAL

**Disclosure**

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TOWN OF CALEDON
BUILDING SECTION
FILE # 2018-11-13-3429-184
STRUCTURAL
COMPONENT ONLY

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

T-18031836



Boise Cascade



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B7(12881)

Dry | 1 span | No cant.

November 12, 2018 14:25:00

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

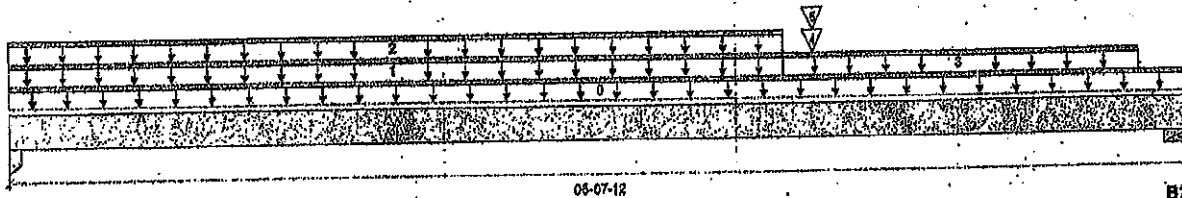
File name: KINMOUNT 11B.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B7(12881)

Specifier:

Designer: PL

Company:



B1

Total Horizontal Product Length = 05-07-12

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	643 / 0	471 / 0		
B2, 5-1/2"	370 / 0	532 / 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	05-07-12	Top	12	120			00-00-00
1	STAIRS	Unf. Lin. (lb/ft)	L	00-00-00	03-08-04	Top	240	11			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-08-04	Top	22	13			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	03-08-04	05-05-00	Top	27	408			n/a
4	B9(12880)	Conc. Pl. (lbs)	L	03-10-00	03-10-00	Top		21			n/a
5	WALL	Conc. Pl. (lbs)	L	03-10-00	03-10-00	Top					n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,984 ft-lbs	35,392 ft-lbs	5.6%	1	02-08-12
End Shear	1,128 lbs	14,464 lbs	7.8%	1	04-02-06
Total Load Deflection	L/999 (0.007")	n/a	n/a	4	02-08-05
Live Load Deflection	L/999 (0.004")	n/a	n/a	5	02-08-14
Max Defl.	0.007"	n/a	n/a	4	02-08-05
Span / Depth	6.2				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 1-3/4" x 3-1/2"	1,654 lbs	39.1%	20.8%	Unspecified
B2	Wall/Plate 5-1/2" x 3-1/2"	1,219 lbs	14.8%	5.2%	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 086. CONFORMS TO NBC 2012

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

THIS STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
EXCEED THE PROVISIONS OF
THE ONTARIO BUILDING CODE



HWB NO. 7483430.184
STRUCTURAL
COMPONENT ONLY
p6/14

T. 1903184



Boise Cascade



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B7(12881)

Dry | 1 span | No cent.

November 12, 2018 14:28:00

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports:

CCMC 12472-R

File name: KINMOUNT 11B.mrdl

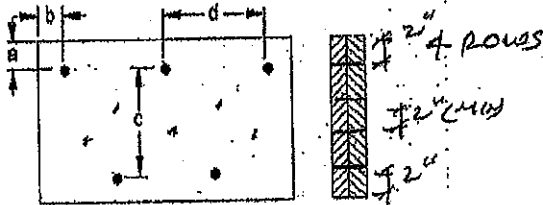
Description: 2ND FLOOR FRAMING\Flush Beams\B7(12881)

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"

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

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
Connectors are: 3 1/2" ARDQX SPIRAL



Disclosure

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RECEIVED
JUN 25 2019

TOWN OF CALEDON
BUILDING SECTION
FILE NO. 3430-18H
STRUCTURAL
COMPONENT ONLY

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

T-190318p(v)

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

PASSED

BC CALCO® Member Report

Dry | 1 span | No cant.

November 12, 2018 14:26:00

Build 0475

Job name:

Address:

City: Province: Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

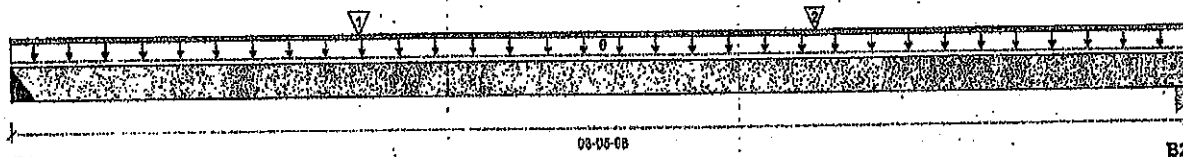
File name: KINMOUNT 11B.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B8(13141)

Specifier:

Designer: FL

Company:



Total Horizontal Product Length = 03-08-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 8"	140 / 0	101 / 0		
B2, 3-1/2"	134 / 0	98 / 0		

Load Summary

Load Summary							Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-05-08	Top		8			00-00-00
1	J5(2997)	Conc. Pt. (lbs)	L	01-00-04	01-00-04	Top	139	90			na
2	J5(3132)	Conc. Pt. (lbs)	L	02-04-04	02-04-04	Top	135	88			na

Controls Summary

Controls Summary	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	280 ft-lbs	17,696 ft-lbs	1.6%	1	01-11-11
End Shear	259 lbs	7,232 lbs	3.6%	1	02-02-02
Total Load Deflection	L/999 (0.001")	n/a	n/a	4	01-08-08
Live Load Deflection	L/999 (0")	n/a	n/a	5	01-08-08
Max Defl.	0.001"	n/a	n/a	4	01-08-08
Span / Depth	3.1				

Bearing Supports

Bearing Supports		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	3" x 1-3/4"	336 lbs.	n/a	5.2%	HUS1.81/10
B2	Column	3-1/2" x 1-3/4"	324 lbs.	8.1%	4.3%	Unspecified



Cautions

Cautions
Header for the hanger HUS1.81/10 at B1 is a Double 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2400 DF.
Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Disclosure

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 CALCO, BC FRAMER®, AUST,
ALLJOIST®, BC RIM BOARD™, BC®
BOISE CEMENT™, BC FloorValue®,
VERBA™, BC, VERBA-RIM PLUS®,

DWG NO. TAM 3431 - 18H
STRUCTURAL
COMPONENT ONLY

Before installation.

BC CALCO, BC FRAMES, 1ST ALUIONIST, 10 RIM BOARD, BOISE GYM, BC FloorValue, VERSA RIM, VERSA RIM PLUS.

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JUN 25 2019

TOWN OF CALEDON

SECTION

1000



Bolse Cascode



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B11(13145)

Dry | 1 span | No cent.

November 12, 2018 14:25:00

BC CALCO® Member Report

Build 8475

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CCMC 12472-R

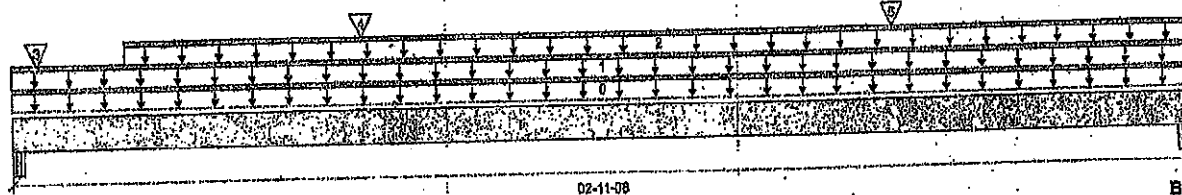
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Description: 2ND FLOOR FRAMING\Flush Beams\B11(13145)

Specifier:

Designer: PL

Company:



B1

Total Horizontal Product Length = 02-11-08

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-1/2"	481 / 0	525 / 0	710 / 0	
B2, 5"	505 / 0	572 / 0	743 / 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	02-11-08	Top	12				00-00-00
1	LOW ROOF	Unf. Lin. (lb/ft)	L	00-00-00	02-11-08	Top	39	30	102		n/a
2	E23(1471)	Unf. Lin. (lb/ft)	L	00-03-08	02-11-08	Top	119	236	368		n/a
3	E22(1475)	Conc. Pt. (lbs)	L	00-00-12	00-00-12	Top	55	95	169		n/a
4	J4(3203)	Conc. Pt. (lbs)	L	00-10-08	00-10-08	Top	279	140			n/a
5	J4(3219)	Conc. Pt. (lbs)	L	02-02-08	02-02-08	Top	217	109			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,140 ft-lbs	36,892 ft-lbs	3.2%	13	01-03-11
End Shear	1,321 lbs	14,464 lbs	9.1%	13	01-02-06
Total Load Deflection	L/999 (0.001")	n/a	n/a	35	01-04-08
Live Load Deflection	L/999 (0.001")	n/a	n/a	51	01-04-08
Max Defl.	0.001"	n/a	n/a	35	01-04-08
Span / Depth	2.5				



Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	2-1/2" x 3-1/2"	2,182 lbs	58.2%	20.4%	Unspecified
B2 Beam	5" x 3-1/2"	2,335 lbs	31.1%	10.9%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.
 Resistance Factor phi has been applied to all presented results per CSA O86. **CONFORMS TO NBC 2012**
 BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Unbalanced snow loads determined from building geometry were used in selected product's verification.
 Design based on Dry Service Condition.
 Importance Factor: Normal Part code: Part 9
 Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

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JUN 25 2019

TOWN OF CALEDON
BUILDING SECTION
FILE: KM 342B-10H
STRUCTURAL
COMPONENT ONLY
P64L

T-1903182



Boise Cascade



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B11\I3145

Dry | 1 span | No cant.

November 12, 2018 14:25:00

BC CALC® Member Report

Build 6476

Job name:

Address:

City, Province, Postal Code: CALEDON

Customer:

Code reports: CGMC 12472-R

File name: KINMOUNT 11B.mxd

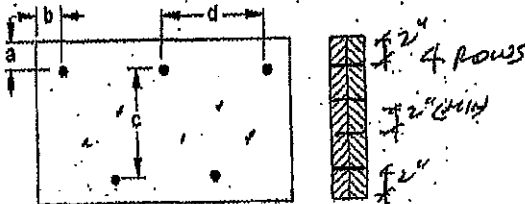
Description: 2ND FLOOR FRAMING\Flush Beams\B11\I3145

Specifier:

Designer: PL

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

c = 7-7/8"

b minimum = 3"

d = 4"

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

Connectors are: 1 Nails

3 1/2" ARDOX SPIRAL



Disclosure

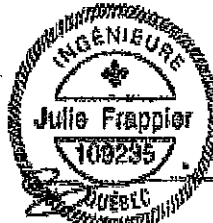
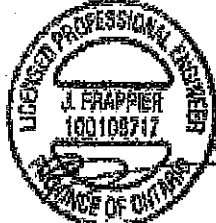
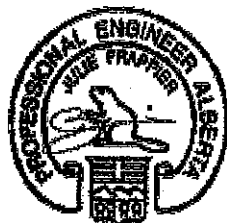
Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability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

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

UWENB.TAM 342B.18H
STRUCTURAL
COMPONENT ONLY

pork

T. 19031826



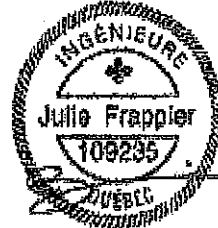
Maximum Floor Spans

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"
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'-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"
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'-1"	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"
14"	NI-90x	24'-3"	22'-6"	21'-3"	19'-7"	24'-8"	22'-7"	21'-3"	19'-7"
	NI-40x	24'-2"	21'-5"	19'-6"	17'-5"	24'-2"	21'-5"	19'-6"	17'-5"
	NI-60	24'-9"	22'-5"	21'-0"	19'-6"	24'-9"	22'-5"	21'-0"	19'-6"
	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"
16"	NI-90x	27'-3"	25'-4"	24'-1"	22'-4"	27'-9"	25'-10"	24'-3"	22'-4"
	NI-60	27'-3"	24'-11"	23'-5"	21'-7"	27'-6"	24'-11"	23'-5"	21'-7"
	NI-70	28'-8"	26'-8"	25'-3"	23'-4"	29'-3"	26'-11"	25'-3"	23'-4"
	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.



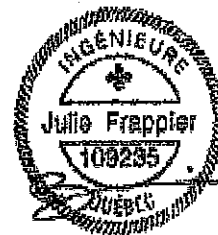
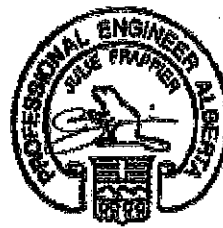
Maximum Floor Spans

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-1274C.



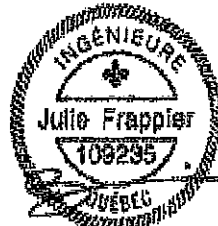
Maximum Floor Spans

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'-5"	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
	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	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
	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
14"	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
	NI-90x	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"	23'-9"	N/A
16"	NI-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	24'-10"	23'-4"	N/A
	NI-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A
	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 2x4 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.

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Construction Detail

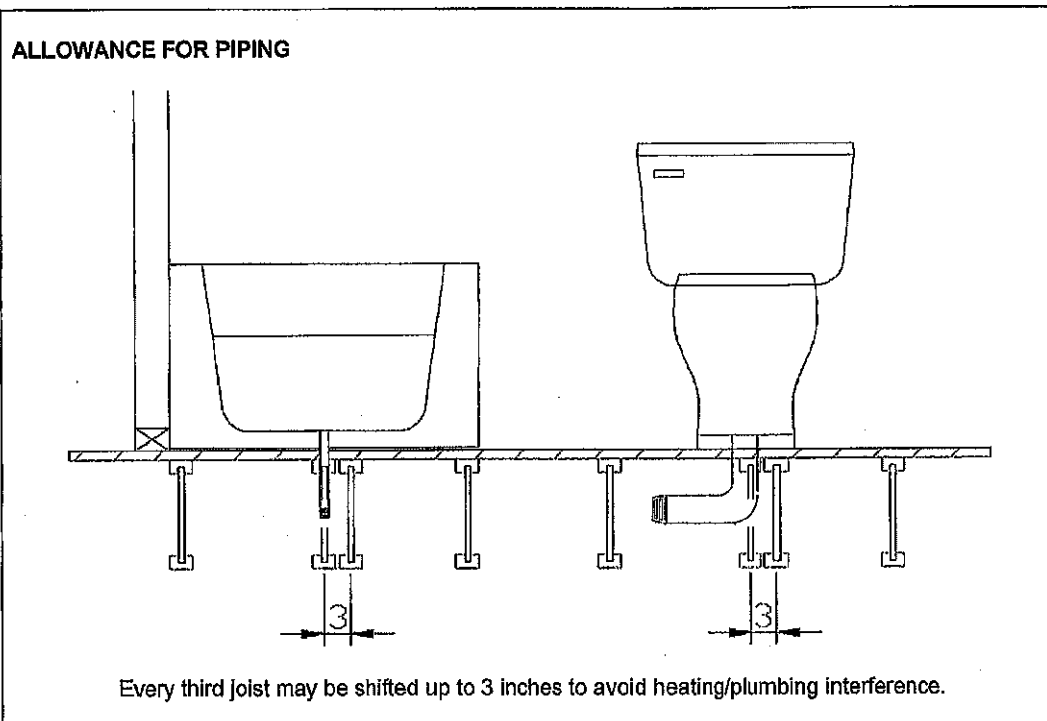
Limit States Design

Allowance for Piping (Installation Notes)

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

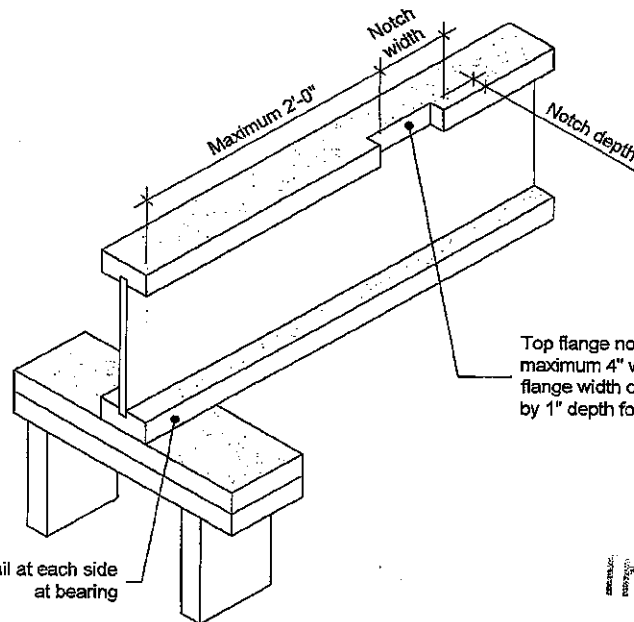
Installation of Nordic I-joists shall be as per *Nordic Joist Installation Guide for Residential Floors*. Refer to Tables 1 and 2 for maximum web hole and duct chase openings, respectively. These tables are based on the I-joists being used at their maximum spans. The minimum distance given may be reduced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

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

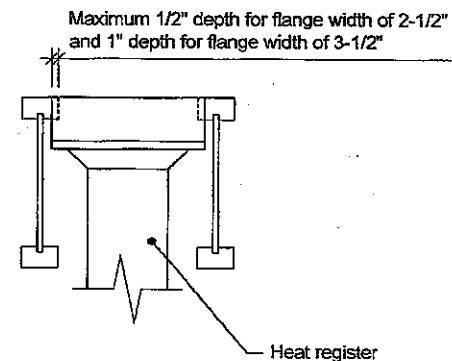


Revised April 12, 2012

1W-1



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



**THIS STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
EXCEED THE PROVISIONS OF
THE ONTARIO BUILDING CODE**

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.

FILE NO. TOWN OF CALEDON BUILDING DEPARTMENT

RECORDED
NORDIC STRUCTURES

T 514-871-8526
1 888 817-3418
nordic.ca

TITLE

Notch in I-joist for Heat Register

CATEGORY

I-joist - Typical Floor Framing and Construction Details

DOCUMENT

DATE

2018-04-10

NUMBER

1w-1

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 these 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.