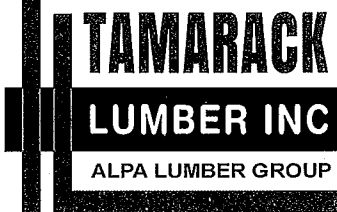


Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	9 1/2" NI-40x	2	38
J2	12-00-00	9 1/2" NI-40x	1	12
J3	8-00-00	9 1/2" NI-40x	1	5
J4	6-00-00	9 1/2" NI-40x	1	7
J5	2-00-00	9 1/2" NI-40x	1	4
B1	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B2	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B3	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B4	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B7	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
12	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
3	H2	HUS1.81/10
1	H2	HUS1.81/10



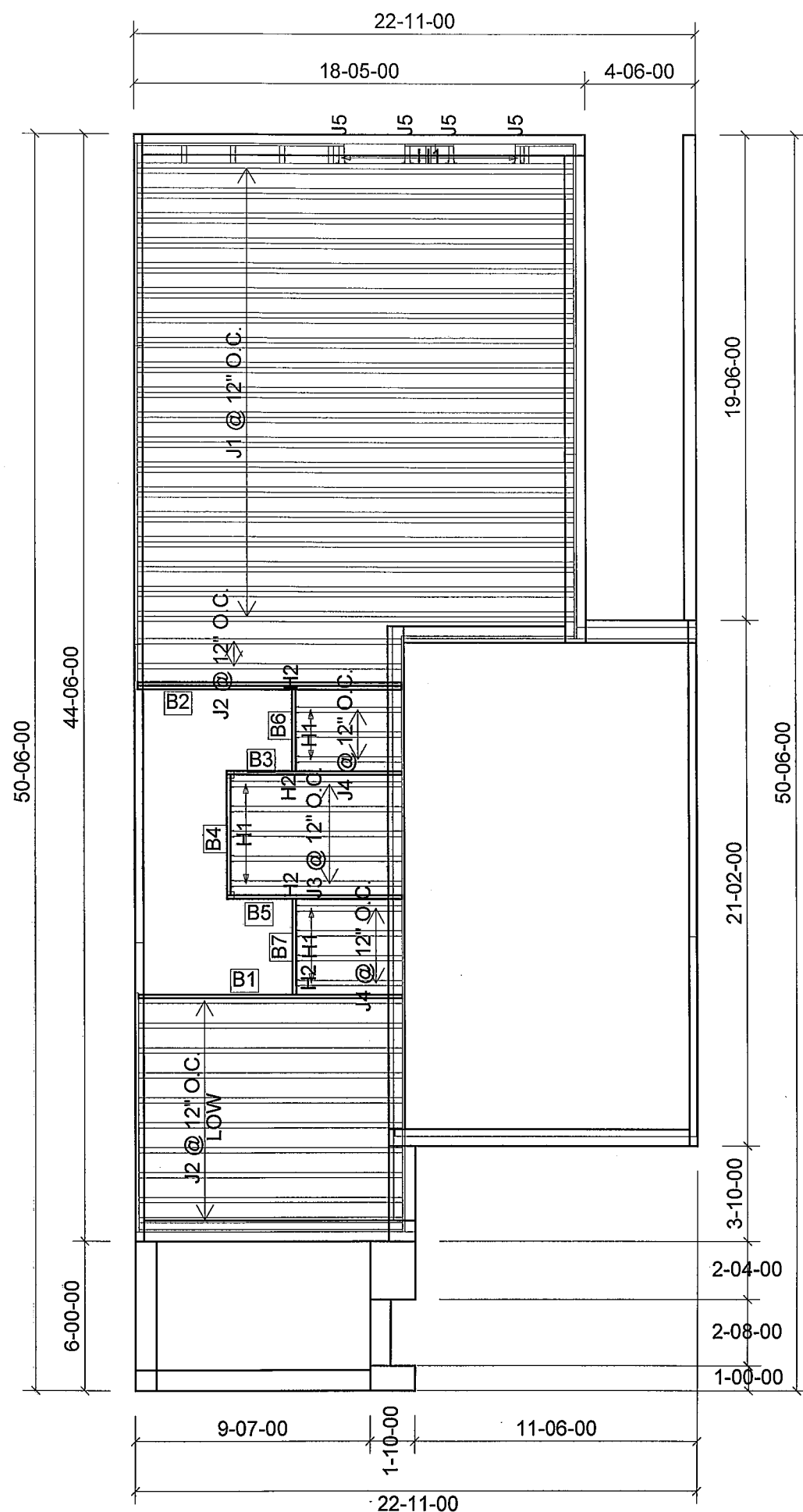
FROM PLAN DATED:
BUILDER: BAYVIEW WELLINGTON
SITE: PASSAGE ON THE CANAL
MODEL: TH2 MOD
ELEVATION: A
LOT:
CITY: ST CATHERINES
SALESMAN: M D
DESIGNER: AJ
REVISION:

NOTES:
REFER TO THE NORDIC
INSTALLATION GUIDE FOR PROPER
STORAGE AND INSTALLATION.
SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2
S.P.F REQ'D UNDER INTERIOR
UNIFORM LOAD BEARING WALLS.
MULTIPLE SQUASH BLOCKS REQ'D
UNDER CONCENTRATED LOADS. SEE
FIGURE 1. CANTILEVERED JOISTS
INCLUDING CANT' OVER BRICK REQ.
I-JOIST BLOCKING ALONG BEARING
AND RIMBOARD CLOSURE AT ENDS.
SEE FIGURES 4 & 5 FOR
REINFORCEMENT REQUIREMENTS.
FOR HOLES INCLUDING DUCT
CHASE AND FIELD CUT OPENINGS
SEE FIGURE 7, TABLES 1 & 2.
CERAMIC TILE APPLICATION AS PER
O.B.C 9.30.6.
LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft
TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 10/27/2018

1st FLOOR



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	9 1/2" NI-40x	2	38
J2	12-00-00	9 1/2" NI-40x	1	12
J3	8-00-00	9 1/2" NI-40x	1	5
J4	6-00-00	9 1/2" NI-40x	1	7
J5	2-00-00	9 1/2" NI-40x	1	4
B1	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B2	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B3	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B4	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B7	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
12	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
3	H2	HUS1.81/10
1	H2	HUS1.81/10



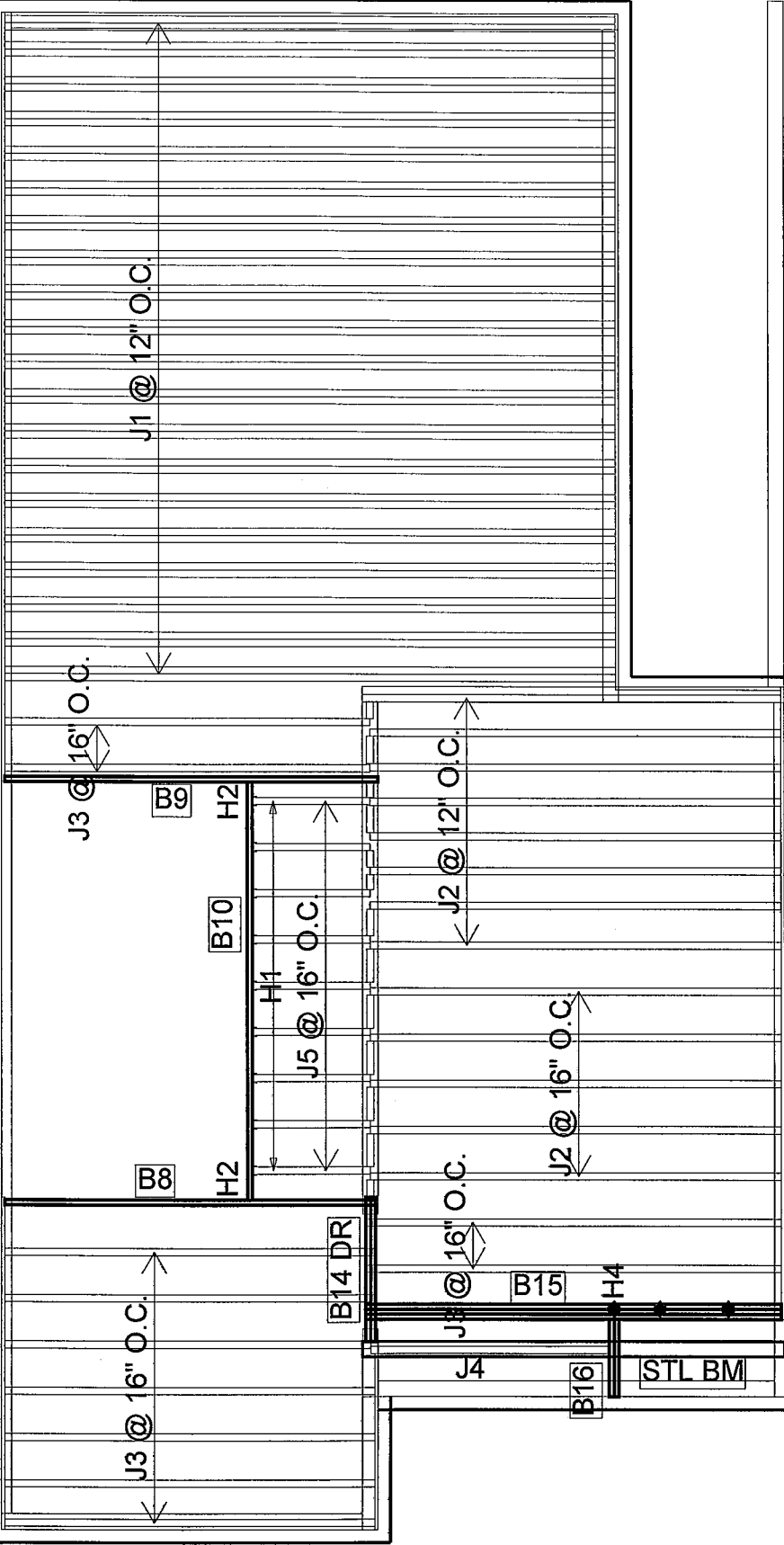
FROM PLAN DATED:
BUILDER: BAYVIEW WELLINGTON
SITE: PASSAGE ON THE CANAL
MODEL: TH2 MOD
ELEVATION: B
LOT:
CITY: ST CATHERINES
SALESMAN: M D
DESIGNER: AJ
REVISION:

NOTES:
REFER TO THE NORDIC
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S.P.F REQ'D UNDER INTERIOR
UNIFORM LOAD BEARING WALLS.
MULTIPLE SQUASH BLOCKS REQ'D
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FIGURE 1. CANTILEVERED JOISTS
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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/ft
TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

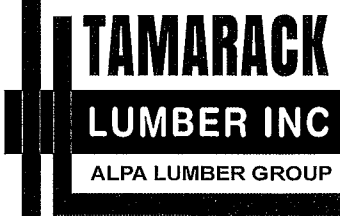
DATE: 10/27/2018

1st FLOOR



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	9 1/2" NI-40x	2	40
J2	14-00-00	9 1/2" NI-40x	1	13
J3	12-00-00	9 1/2" NI-40x	1	11
J4	8-00-00	9 1/2" NI-40x	1	1
J5	4-00-00	9 1/2" NI-40x	1	9
B10	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B15	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B8	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B9	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B14 DR	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B16	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2

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



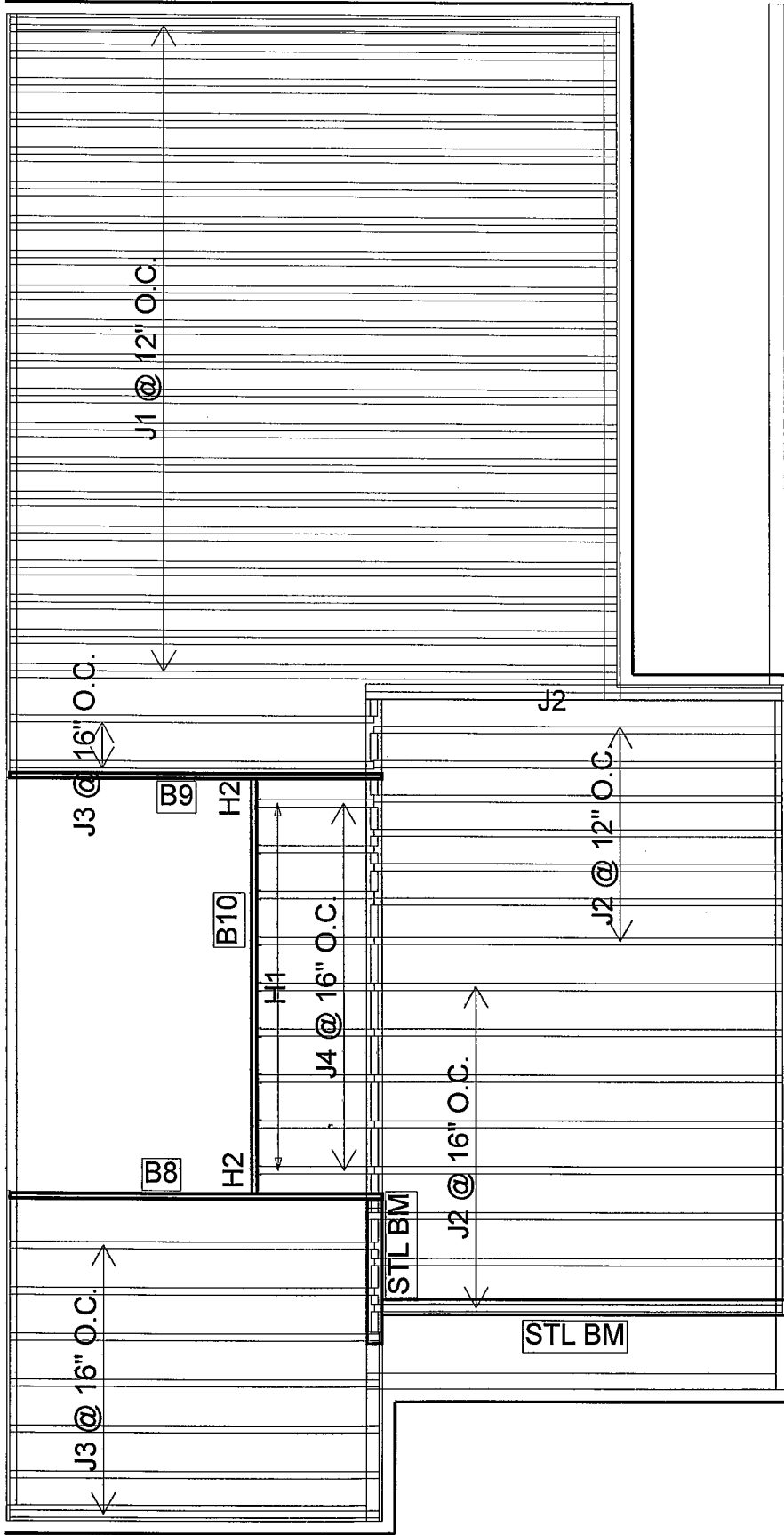
FROM PLAN DATED:
BUILDER: BAYVIEW WELLINGTON
SITE: PASSAGE ON THE CANAL
MODEL: TH2 MOD
ELEVATION: B, B2
LOT:
CITY: ST CATHERINES
SALESMAN: M D
DESIGNER: AJ
REVISION:

NOTES:
REFER TO THE NORDIC
INSTALLATION GUIDE FOR PROPER
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SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2
S.P.F. REQ'D UNDER INTERIOR
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FIGURE 1. CANTILEVERED JOISTS
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AND RIMBOARD CLOSURE AT ENDS.
SEE FIGURE 7 TABLES 4 & 5 FOR
REINFORCEMENT REQUIREMENTS.
FOR HOLES INCLUDING DUCT
CHASE AND FIELD CUT OPENINGS
SEE FIGURE 7 TABLES 1 & 2 OF THE
INSTALLATION GUIDE. CERAMIC TILE
APPLICATION AS PER O.B.C. 9.30.6
LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft
TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

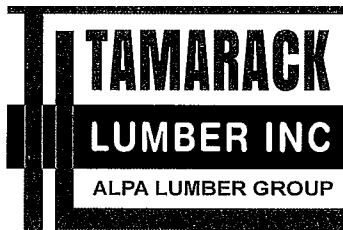
DATE: 10/29/2018

2nd FLOOR



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	9 1/2" NI-40x	2	40
J2	14-00-00	9 1/2" NI-40x	1	16
J3	12-00-00	9 1/2" NI-40x	1	9
J4	4-00-00	9 1/2" NI-40x	1	9
B10	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B8	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B9	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

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



FROM PLAN DATED:

BUILDER: BAYVIEW WELLINGTON

SITE: PASSAGE ON THE CANAL

MODEL: TH2 MOD

ELEVATION: A

LOT:

CITY: ST CATHERINES

SALESMAN: M D

DESIGNER: AJ

REVISION:

NOTES:

REFER TO THE NORDIC
INSTALLATION GUIDE FOR PROPER
STORAGE AND INSTALLATION.
SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2
S.P.F. REQ'D UNDER INTERIOR
UNIFORM LOAD BEARING WALLS.
MULTIPLE SQUASH BLOCKS REQ'D
UNDER CONCENTRATED LOADS. SEE
FIGURE 1. CANTILEVERED JOISTS
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SEE FIGURE 7 TABLES 4 & 5 FOR
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CHASE AND FIELD CUT OPENINGS
SEE FIGURE 7 TABLES 1 & 2 OF THE
INSTALLATION GUIDE. CERAMIC TILE
APPLICATION AS PER O.B.C. 9.30.6
LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft
TILED AREAS: 20 lb/ft

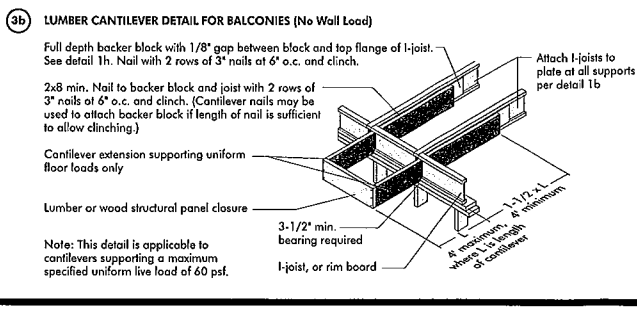
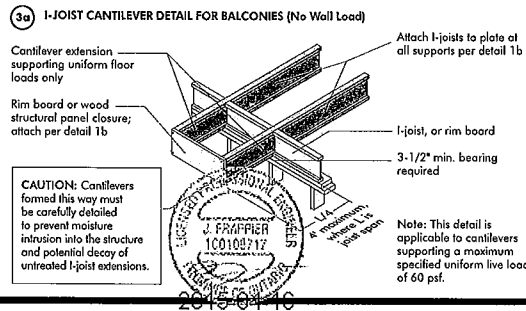
SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 10/27/2018

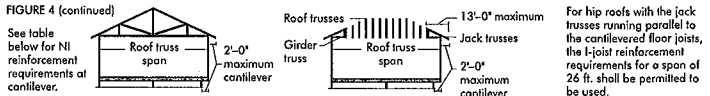
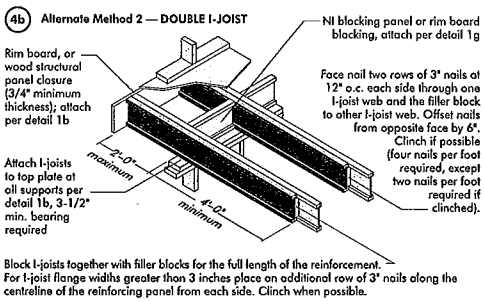
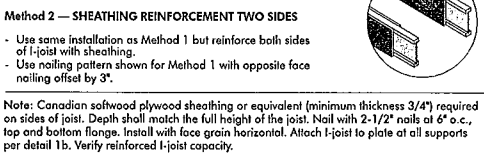
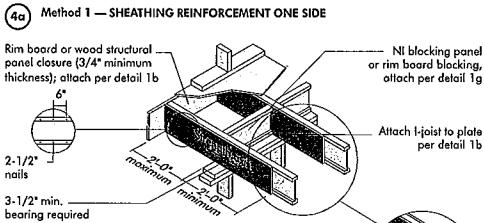
2nd FLOOR



CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)



CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

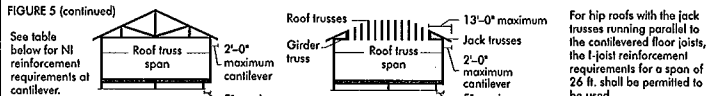
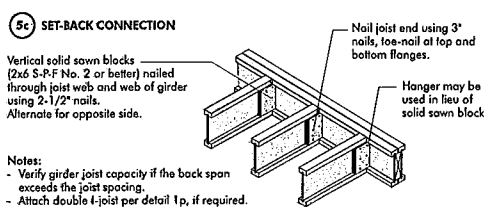
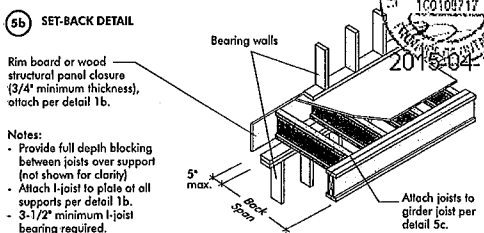
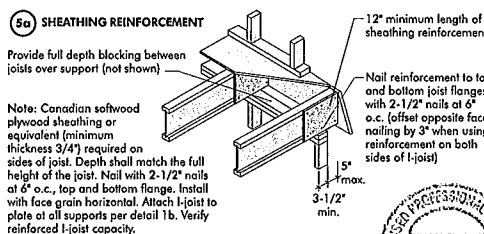


CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST DEPTH (in.)	ROOF TRUSS SPAN (ft.)	LL = 30 psf, DL = 15 psf				LL = 40 psf, DL = 15 psf				LL = 50 psf, DL = 15 psf			
		12	16	19.2	24	12	16	19.2	24	12	16	19.2	24
9-1/2"	26	N	N	1	2	N	N	1	2	N	N	1	2
	28	N	N	1	2	N	N	1	2	N	N	1	2
	30	N	N	1	2	N	N	1	2	N	N	1	2
	32	N	N	1	2	N	N	1	2	N	N	1	2
	34	N	N	1	2	N	N	1	2	N	N	1	2
11-7/8"	26	N	N	1	2	N	N	1	2	N	N	1	2
	28	N	N	1	2	N	N	1	2	N	N	1	2
	30	N	N	1	2	N	N	1	2	N	N	1	2
	32	N	N	1	2	N	N	1	2	N	N	1	2
	34	N	N	1	2	N	N	1	2	N	N	1	2
14"	26	N	N	1	2	N	N	1	2	N	N	1	2
	28	N	N	1	2	N	N	1	2	N	N	1	2
	30	N	N	1	2	N	N	1	2	N	N	1	2
	32	N	N	1	2	N	N	1	2	N	N	1	2
	34	N	N	1	2	N	N	1	2	N	N	1	2
16"	26	N	N	1	2	N	N	1	2	N	N	1	2
	28	N	N	1	2	N	N	1	2	N	N	1	2
	30	N	N	1	2	N	N	1	2	N	N	1	2
	32	N	N	1	2	N	N	1	2	N	N	1	2
	34	N	N	1	2	N	N	1	2	N	N	1	2

1. N = No reinforcement required.
2. N = Ni reinforced with 3/4" wood structural panel on one side only.
3. N = Ni reinforced with 3/4" wood structural panel on both sides, or double I-joist.
4. X = Try a deeper joist or closer spacing.
5. Maximum design load shall be: 15 psf roof dead load, 40 psf roof total load, and 60 psf wall load. Wall load is based on 3-0" maximum width window or door openings.
6. For larger openings, or multiple 3-0" width openings spaced less than 6-0" o.c., additional joists beneath the opening's cripple studs may be required.
7. Table applies to joists 12" to 24" o.c. that meet the floor 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. Use 12" o.c. requirements for lesser spacing.
8. For conventional roof construction using a ridge beam, the Roof Truss Span column above is equivalent to the distance between the supporting wall and the ridge beam. When the roof is framed using a ridge beam, the Roof Truss Span is equivalent to the distance between the supporting walls as if a truss is used.
9. Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

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



BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST DEPTH (in.)	ROOF TRUSS SPAN (ft.)	LL = 30 psf, DL = 15 psf				LL = 40 psf, DL = 15 psf				LL = 50 psf, DL = 15 psf			
		12	16	19.2	24	12	16	19.2	24	12	16	19.2	24
9-1/2"	26	1	X	X	X	2	X	X	X	2	X	X	X
	28	1	X	X	X	2	X	X	X	2	X	X	X
	30	1	X	X	X	2	X	X	X	2	X	X	X
	32	2	X	X	X	2	X	X	X	2	X	X	X
	34	2	X	X	X	2	X	X	X	2	X	X	X
11-7/8"	26	2	X	X	X	2	X	X	X	2	X	X	X
	28	2	X	X	X	2	X	X	X	2	X	X	X
	30	1	2	X	X	1	2	X	X	1	2	X	X
	32	1	2	X	X	1	2	X	X	1	2	X	X
	34	1	2	X	X	1	2	X	X	1	2	X	X
14"	26	1	2	X	X	1	2	X	X	1	2	X	X
	28	1	2	X	X	1	2	X	X	1	2	X	X
	30	1	2	X	X	1	2	X	X	1	2	X	X
	32	1	2	X	X	1	2	X	X	1	2	X	X
	34	1	2	X	X	1	2	X	X	1	2	X	X
16"	26	1	2	X	X	1	2	X	X	1	2	X	X
	28	1	2	X	X	1	2	X	X	1	2	X	X
	30	1	2	X	X	1	2	X	X	1	2	X	X
	32	1	2	X	X	1	2	X	X	1	2	X	X
	34	1	2	X	X	1	2	X	X	1	2	X	X

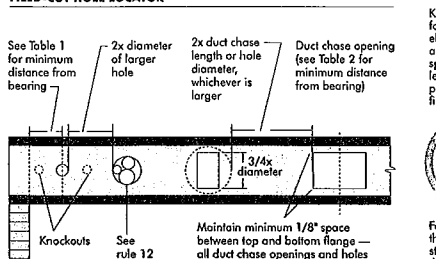
1. N = No reinforcement required.
2. N = Ni reinforced with 3/4" wood structural panel on one side only.
3. N = Ni reinforced with 3/4" wood structural panel on both sides, or double I-joist.
4. X = Try a deeper joist or closer spacing.
5. Maximum design load shall be: 15 psf roof dead load, 40 psf roof total load, and 60 psf wall load. Wall load is based on 3-0" maximum width window or door openings.
6. For larger openings, or multiple 3-0" width openings spaced less than 6-0" o.c., additional joists beneath the opening's cripple studs may be required.
7. Table applies to joists 12" to 24" o.c. that meet the floor 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. Use 12" o.c. requirements for lesser spacing.
8. For conventional roof construction using a ridge beam, the Roof Truss Span column above is equivalent to the distance between the supporting wall and the ridge beam. When the roof is framed using a ridge beam, the Roof Truss Span is equivalent to the distance between the supporting walls as if a truss is used.
9. Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

WEB HOLES

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

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

FIGURE 7 FIELD-CUT HOLE LOCATOR



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

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

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

Holes in webs should be cut with a sharp saw.

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

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.)												Span adjustment factor
		Round hole diameter (in.)												
		2	3	4	5	6	7	8	9	10	10-3/4	11	12	12-3/4
9-1/2"	N-20	0-7	1-0	2-10	4-3	5-5	6-0	6-4	6-8	7-2	7-6	8-0	8-4	8-8
	N-40x	0-7	1-0	2-10	4-3	5-5	6-0	6-4	6-8	7-2	7-6	8-0	8-4	8-8
	N-60	0-7	2-0	3-4	4-9	6-3	8-0	8-4	8-8	9-2	9-6	10-0	10-4	10-8
	N-80	0-7	2-0	3-4	4-9	6-3	8-0	8-4	8-8	9-2	9-6	10-0	10-4	10-8
	N-100	0-7	2-0	3-4	4-9	6-3	8-0	8-4	8-8	9-2	9-6	10-0	10-4	10-8
11-7/8"	N-20	0-7	0-8	1-0	2-4	3-8	4-0	5-0	6-4	7-8	8-4	9-0	9-6	10-0
	N-40x	0-7	0-8	1-0	2-4	3-8	4-0	5-0	6-4	7-8	8-4	9-0	9-6	10-0
	N-60	0-7	0-8	1-0	2-4	3-8	4-0	5-0	6-4	7-8	8-4	9-0	9-6	10-0
	N-80	0-7	0-8	1-0	2-4	3-8	4-0	5-0	6-4	7-8	8-4	9-0	9-6	10-0
	N-100	0-7	0-8	1-0	2-4	3-8	4-0	5-0	6-4	7-8	8-4	9-0	9-6	10-0
14"	N-20	0-7	0-8	0-8	1-2	2-4	3-4	4-0	5-0	6-0	6-8	7-8	8-8	9-8
	N-40x	0-7	0-8	0-8	1-2	2-4	3-4	4-0	5-0	6-0	6-8	7-8	8-8	9-8
	N-60	0-7	0-8	0-8	1-2	2-4	3-4	4-0	5-0	6-0	6-8	7-8	8-8	9-8
	N-80	0-7	0-8	0-8	1-2	2-4	3-4	4-0	5-0	6-0	6-8	7-8	8-8	9-8
	N-100	0-7	0-8	0-8	1-2	2-4	3-4	4-0	5-0	6-0	6-8	7-8	8-8	9-8
16"	N-20	0-7	0-8	0-8	1-0	2-10	3-2	4-2	5-6	6-8	7-8	8-8	9-8	10-8
	N-40x	0-7	0-8	0-8	1-0	2-10	3-2	4-2	5-6	6-8	7-8	8-8	9-8	10-8
	N-60	0-7	0-8	0-8	1-0	2-10	3-2	4-2	5-6	6-8	7-8	8-8	9-8	10-8
	N-80	0-7	0-8	0-8	1-0	2-10	3-2	4-2	5-6	6-8	7-8	8-8	9-8	10-8
	N-100	0-7	0-8	0-8	1-0	2-10	3-2	4-2	5-6	6-8	7-8	8-8	9-8	10-8



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 centerline 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 centered 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 longest 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.)											
9-1/2"	NI-20	0'-7"	1'-6"	2'-10"	4'-3"	5'-8"	6'-0"	---	---	---	---	---	---
	NI-40x	0'-7"	1'-6"	3'-0"	4'-4"	6'-0"	6'-4"	---	---	---	---	---	---
	NI-60	1'-3"	2'-6"	4'-0"	5'-4"	7'-0"	7'-5"	---	---	---	---	---	---
	NI-70	2'-0"	3'-4"	4'-9"	6'-3"	8'-0"	8'-4"	---	---	---	---	---	---
	NI-80	2'-5"	3'-9"	5'-0"	6'-6"	8'-2"	8'-6"	---	---	---	---	---	---
11-7/8"	NI-20	0'-7"	0'-8"	1'-0"	2'-4"	3'-8"	4'-0"	5'-0"	6'-4"	7'-9"	---	---	---
	NI-40x	0'-7"	0'-8"	1'-3"	2'-8"	4'-0"	4'-4"	5'-5"	7'-0"	8'-4"	---	---	---
	NI-60	0'-7"	1'-8"	3'-0"	4'-3"	5'-9"	6'-0"	7'-3"	8'-10"	10'-0"	---	---	---
	NI-70	1'-3"	2'-6"	4'-0"	5'-4"	6'-9"	7'-2"	8'-4"	10'-0"	11'-2"	---	---	---
	NI-80	1'-6"	2'-10"	4'-2"	5'-6"	7'-0"	7'-5"	8'-6"	10'-3"	11'-4"	---	---	---
14"	NI-20	0'-7"	0'-8"	1'-5"	3'-2"	4'-10"	5'-4"	6'-9"	8'-9"	10'-2"	---	---	---
	NI-40x	0'-7"	0'-8"	0'-9"	2'-5"	4'-4"	4'-9"	6'-3"	---	---	---	---	---
	NI-60	0'-7"	0'-8"	1'-0"	2'-4"	3'-9"	3'-9"	5'-2"	6'-0"	6'-6"	8'-3"	10'-2"	---
	NI-70	0'-7"	1'-0"	1'-8"	3'-0"	4'-3"	4'-8"	5'-6"	7'-2"	8'-0"	8'-8"	10'-4"	11'-9"
	NI-80	0'-8"	1'-0"	3'-0"	4'-5"	5'-10"	6'-2"	7'-3"	8'-9"	9'-9"	10'-4"	12'-0"	13'-5"
16"	NI-20	0'-7"	0'-8"	1'-5"	3'-2"	4'-10"	5'-4"	6'-9"	8'-9"	10'-2"	---	---	---
	NI-40x	0'-7"	0'-8"	0'-9"	2'-5"	4'-4"	4'-9"	6'-3"	---	---	---	---	---
	NI-60	0'-7"	0'-8"	1'-0"	2'-4"	3'-9"	3'-9"	5'-2"	6'-0"	6'-6"	8'-3"	10'-2"	11'-9"
	NI-70	0'-7"	1'-0"	2'-3"	3'-6"	4'-10"	5'-3"	6'-3"	7'-8"	8'-6"	9'-2"	10'-8"	12'-4"
	NI-80	0'-7"	1'-3"	2'-6"	3'-10"	5'-3"	5'-6"	6'-6"	8'-0"	9'-0"	9'-5"	11'-0"	12'-3"

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

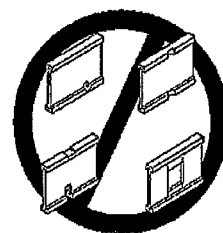
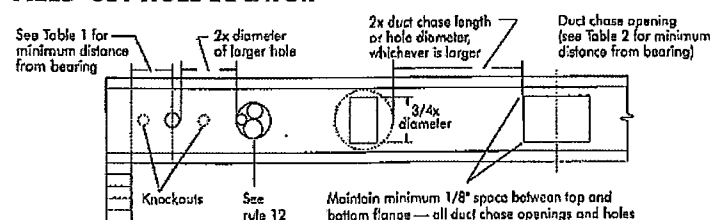
TABLE 2
DUCT CHASE OPENING SIZES AND LOCATIONS

Simple Span Only

Joist Depth	Joist Series	Minimum distance from inside face of supports to centre of opening (ft - in.)											
		Duct Chase Length (in.)											
9-1/2"	NI-20	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-5"	7'-1"	7'-5"	7'-9"	8'-4"	8'-8"
	NI-40x	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-2"	8'-6"	9'-0"	9'-4"	9'-8"
	NI-60	5'-4"	5'-9"	6'-2"	6'-7"	7'-1"	7'-5"	8'-0"	8'-4"	8'-8"	9'-2"	9'-6"	10'-0"
	NI-70	5'-11"	5'-5"	5'-10"	6'-3"	6'-7"	7'-1"	7'-5"	8'-0"	8'-4"	8'-8"	9'-2"	9'-6"
	NI-80	6'-5"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-2"	8'-6"	9'-0"	9'-4"	9'-8"
11-7/8"	NI-20	5'-0"	5'-4"	5'-8"	6'-1"	6'-5"	6'-9"	7'-3"	7'-7"	8'-1"	8'-5"	8'-9"	9'-3"
	NI-40x	6'-8"	7'-2"	7'-6"	8'-1"	8'-5"	8'-9"	9'-3"	9'-7"	10'-1"	10'-5"	10'-9"	11'-3"
	NI-60	7'-3"	7'-8"	8'-0"	8'-4"	8'-8"	9'-2"	9'-6"	10'-0"	10'-4"	10'-8"	11'-2"	11'-6"
	NI-70	7'-1"	7'-4"	7'-9"	8'-4"	8'-9"	9'-3"	9'-7"	10'-1"	10'-5"	10'-9"	11'-3"	11'-7"
	NI-80	7'-2"	7'-7"	8'-0"	8'-5"	8'-10"	9'-3"	9'-8"	10'-2"	10'-6"	11'-0"	11'-4"	11'-8"
14"	NI-20	7'-6"	7'-11"	8'-4"	8'-9"	9'-2"	9'-7"	10'-1"	10'-5"	10'-9"	11'-3"	11'-7"	12'-1"
	NI-40x	7'-7"	8'-1"	8'-5"	8'-10"	9'-4"	9'-8"	10'-2"	10'-6"	11'-0"	11'-4"	11'-8"	12'-2"
	NI-60	8'-1"	8'-7"	9'-0"	9'-6"	10'-1"	10'-5"	10'-9"	11'-3"	11'-7"	12'-1"	12'-5"	12'-9"
	NI-70	8'-9"	9'-3"	9'-8"	10'-1"	10'-6"	11'-1"	11'-5"	11'-9"	12'-3"	12'-7"	13'-1"	13'-5"
	NI-80	8'-7"	9'-1"	9'-5"	9'-10"	10'-4"	10'-8"	11'-2"	11'-6"	12'-0"	12'-4"	12'-8"	13'-2"
16"	NI-20	9'-0"	9'-5"	9'-9"	10'-1"	10'-6"	11'-1"	11'-5"	11'-9"	12'-3"	12'-7"	13'-1"	13'-5"
	NI-40x	9'-1"	9'-6"	10'-0"	10'-4"	10'-8"	11'-2"	11'-6"	12'-0"	12'-4"	12'-8"	13'-2"	13'-6"
	NI-60	10'-3"	10'-8"	11'-2"	11'-6"	12'-1"	12'-5"	12'-9"	13'-3"	13'-7"	14'-1"	14'-5"	14'-9"
	NI-70	10'-1"	10'-5"	11'-0"	11'-4"	11'-8"	12'-3"	12'-7"	13'-1"	13'-5"	13'-9"	14'-3"	14'-7"
	NI-80	10'-4"	10'-9"	11'-3"	11'-7"	12'-1"	12'-5"	12'-9"	13'-3"	13'-7"	14'-1"	14'-5"	14'-9"

- 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 predrilled 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.

SAFETY AND CONSTRUCTION PRECAUTIONS



Do not walk on I-joists until fully braced and sheathed, 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 continuous over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
- When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist rollover or buckling.
 - Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Top 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.

PRODUCT WARRANTY

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

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

1a

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

Attach I-joist to top plate per detail 1b

1b

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

1d

1e

1f

1h

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

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

* Minimum grade for backer block material shall be S-PF No. 2 or better for solid sawn lumber and wood structural panels conforming to CAN/CSA-C308 or CAN/CSA-C407 Standard.
** For face-mount hangers use net joist depth minus 3-1/4" for joists with 1-1/2" thick flanges. For 2" thick flanges use net depth minus 4-1/4".

1i

1j

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

1k

1m

1n

1p

NOTES:

- Support back of I-joist web during nailing to prevent damage to web/flange connection.
- Leave a 1/8 to 1/4 inch gap between top of filler block and bottom of top I-joist flange.
- Filler block is required between joists for full length of span.
- Nail joists together with two rows of 3" nails at 12 inches o.c. (clinched when possible) on each side of the double I-joist. Total of four nails per foot required. If nails can be clinched, only two nails per foot are required.
- The maximum factored load that may be applied to one side of the double joist using this detail is 860 lbs/ft. Verify double I-joist capacity.

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

1s

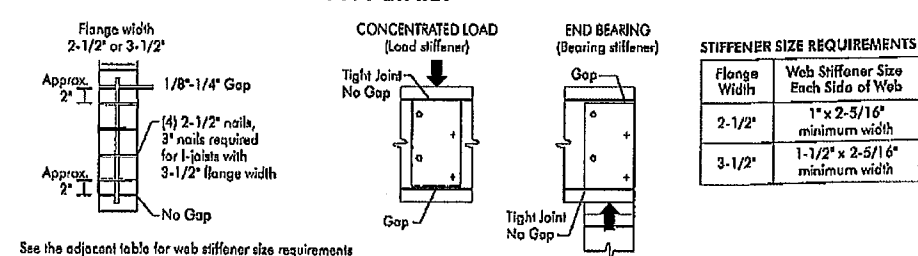
All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (0.125" dia.) common spiral nails may be substituted for 2-1/2" (0.125" dia.) common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components not shown to scale for clarity.

WEB STIFFENERS

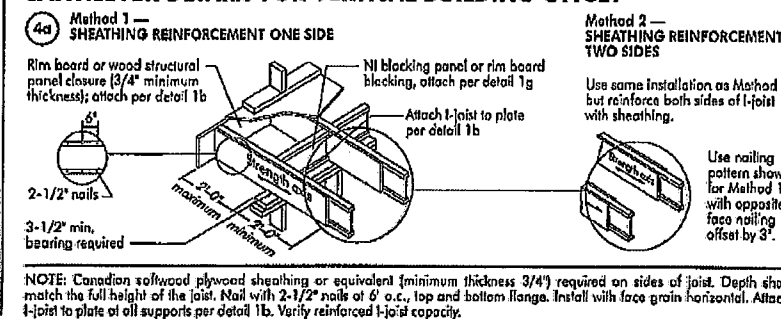
RECOMMENDATIONS:

- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joist properties table found at 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.

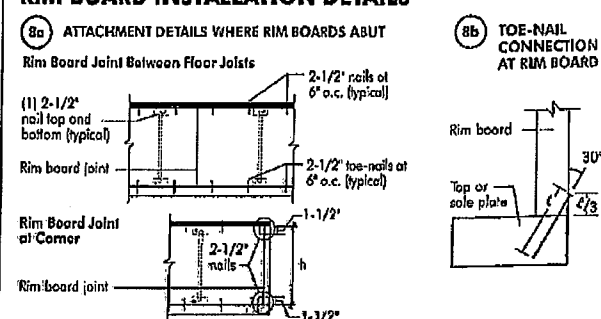
FIGURE 2
WEB STIFFENER INSTALLATION DETAILS



CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET



RIM BOARD INSTALLATION DETAILS



NORDIC STRUCTURES

COMPANY
J9 1ST FLOOR
Oct. 24, 2018 14:54

PROJECT
J1 2ND FLOOR
J1 2ND FLOOR

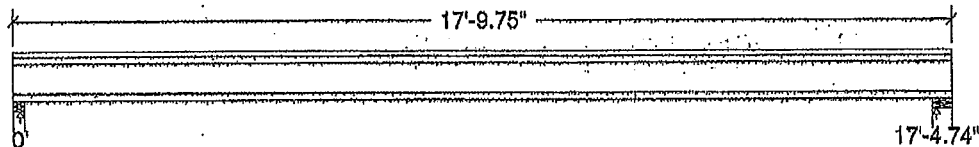
Design Check Calculation Sheet

Nordic Sizer - Canada 7.1

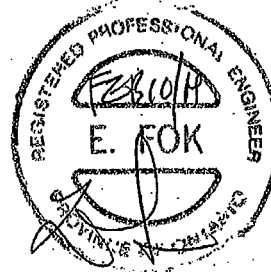
Loads:

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

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



Unfactored:			
Dead	174		174
Live	348		348
Factored:			
Total	739		739
Bearing:			
Resistance			
Joist	3731		3786
Support	7962		15488
Des ratio			
Joist	0.20		0.20
Support	0.09		0.05
Load case	#2		#2
Length	2-3/8		4-3/8
Min req'd	1-3/4		1-3/4
Stiffener	No		No
KD	1.00		1.00
KB support	1.00		1.00
fcp sup	769		769
Kzcp sup	1.09		1.15



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

Nordic 9-1/2" NI-40x 2-ply Floor Joist @ 12" o.c.

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

Total length: 17'-9.75"; Clear span: 17'-2.99"; 5/8" nailed and glued OSB sheathing with 1/2" gypsum ceiling

This section PASSES the design code check.

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

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 739	Vr = 3790	lbs	Vf/Vr = 0.20
Moment (+)	Mf = 3215	Mr = 9647	lbs-ft	Mf/Mr = 0.33
Perm. Defl'n	0.09 = < L/999	0.58 = L/360	in	0.16
Live Defl'n	0.19 = < L/999	0.43 = L/480	in	0.43
Total Defl'n	0.28 = L/749	0.87 = L/240	in	0.32
Bare Defl'n	0.20 = < L/999	0.58 = L/360	in	0.35
Vibration	Lmax = 17'-4.8	Lv = 19'-2.6	ft	0.91
Defl'n	= 0.027	= 0.036	in	0.76

DWG NO. TAN 2417-18H
STRUCTURAL
COMPONENT ONLY

T-1902206

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	1895	1.00	1.00	-	-	-	-	-	#2
Mr+	4824	1.00	1.00	-	1.000	-	-	-	#2
EI	218.1 million	-	-	-	-	-	-	-	#2

CRITICAL LOAD COMBINATIONS:

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

Bearing : Support 1 - LC #2 = 1.25D + 1.5L
 Support 2 - LC #2 = 1.25D + 1.5L

Load Types: D=dead W=wind S=snow H=earth,groundwater E=earthquake
 L=live(use,occupancy) Ls=live(storage,equipment) f=fire

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

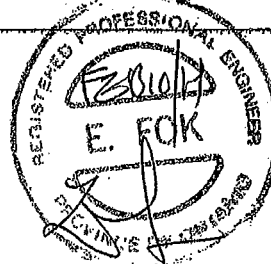
CALCULATIONS:

Deflection: $EI_{eff} = 241e06 \text{ lb-in}^2/\text{ply}$ $K = 4.94e06 \text{ lbs/ply}$
 "Live" deflection = Deflection from all non-dead loads (live, wind, snow...)

CONFORMS TO CBC 2012

Design Notes:

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



DWU HU, YAM 2417-1864
 STRUCTURAL
 COMPONENT ONLY

T-1902206(v)

NORDIC STRUCTURES

COMPANY
J9 1ST FLOOR
Oct. 24, 2018 14:55

PROJECT
J1 1ST FLOOR
J1 1ST FLOOR

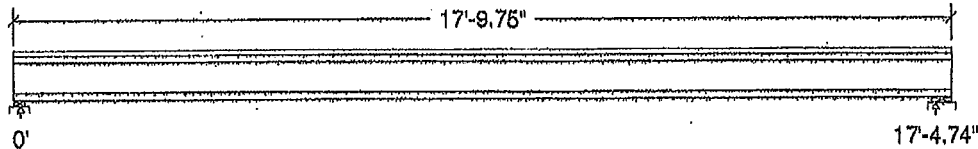
Design Check Calculation Sheet

Nordic Sizer - Canada 7.1

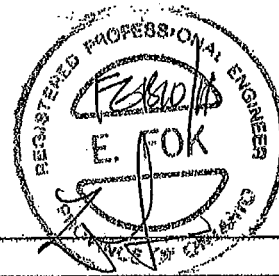
Loads:

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

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



Unfactored:			
Dead	174		174
Live	348		348
Factored:			
Total	739		739
Bearing:			
Resistance			
Joist	3731		3786
Support	7318		15488
Des ratio			
Joist	0.20		0.20
Support	0.10		0.05
Load case	#2		#2
Length	2-3/8		4-3/8
Min req'd	1-3/4		1-3/4
Stiffener	No		No
KD	1.00		1.00
KB support	1.00		1.00
fcp sup	769		769
Kzcp sup	1.00		1.15



Nordic 9-1/2" NI-40x 2-ply Floor joist @ 12" o.c.

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

Total length: 17'-9.75"; Clear span: 17'-2.99"; 5/8" nailed and glued OSB sheathing

This section PASSES the design code check.

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

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 739	Vr = 3790	lbs	Vf/Vr = 0.20
Moment (+)	Mf = 3215	Mr = 9647	lbs-ft	Mf/Mr = 0.33
Perm. Defl'n	0.09 = < L/999	0.58 = L/360	in	0.16
Live Defl'n	0.19 = < L/999	0.43 = L/480	in	0.43
Total Defl'n	0.28 = L/749	0.87 = L/240	in	0.32
Bare Defl'n	0.20 = < L/999	0.58 = L/360	in	0.35
Vibration	Lmax = 17'-4.8	Lv = 18'-9.4	ft	0.93
Defl'n	= 0.029	= 0.036	in	0.80

DWG NO. YAW 2418-18H
STRUCTURAL
COMPONENT ONLY

-1902207

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	1895	1.00	1.00	-	-	-	-	-	#2
Mr+	4824	1.00	1.00	-	1.000	-	-	-	#2
EI	218.1 million	-	-	-	-	-	-	-	#2

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = 1.25D + 1.5L

Moment(+) : LC #2 = 1.25D + 1.5L

Deflection: LC #1 = 1.0D (permanent)

LC #2 = 1.0D + 1.0L (live)

LC #2 = 1.0D + 1.0L (total)

LC #2 = 1.0D + 1.0L (bare joist)

Bearing : Support 1 - LC #2 = 1.25D + 1.5L

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

Load Types: D=dead W=wind S=snow H=earth, groundwater E=earthquake

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

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

CALCULATIONS:Deflection: $EI_{eff} = 241e06 \text{ lb-in}^2/\text{ply}$ $K = 4.94e06 \text{ lbs/ply}$

"Live" deflection = Deflection from all non-dead loads (live, wind, snow...)

Design Notes:**CONFORMS TO OBC 2012**

1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-09 Engineering Design in Wood standard, which includes Update No.1

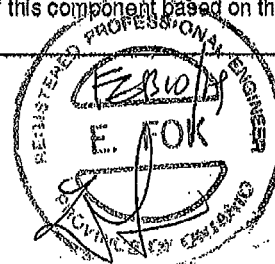
2. Please verify that the default deflection limits are appropriate for your application.

3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.

4. Nordic I-joists are listed in CCMC evaluation report 13032-R.

5. Joists shall be laterally supported at supports and continuously along the compression edge.

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



DWG NO. YAM 2418-18H
STRUCTURAL
COMPONENT ONLY

T-19022076



Boise Cascade



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

1ST FLOOR FRAMING\Flush Beams\B1(1759)

PASSED

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

October 27, 2018 08:23:37

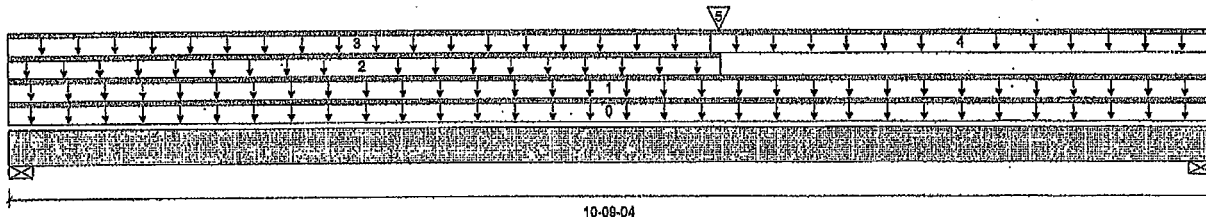
File name: TH2 MOD.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B1(1759)

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 10-09-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	278 / 0	438 / 0		
B2, 4-3/8"	423 / 0	356 / 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	10-09-04	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-09-04	Top	4	2			n/a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	06-04-06	Top		60			n/a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	06-03-06	Top	3				n/a
4	FC1 Floor Material	Unf. Lin. (lb/ft)	L	06-03-06	10-09-04	Top	11	5			n/a
5	B7(1768)	Conc. Pt. (lbs)	L	06-04-04	06-04-04	Top	596	307			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	4,086 ft-lbs	11,610 ft-lbs	35.2%	1	06-04-04
End Shear	1,037 lbs	5,785 lbs	17.9%	1	09-07-06
Total Load Deflection	L/635 (0.195")	n/a	37.8%	4	05-05-07
Live Load Deflection	L/999 (0.099")	n/a	n/a	5	05-07-07
Max Defl.	0.195"	n/a	n/a	4	05-05-07
Span / Depth	13.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/8" x 1-3/4"	964 lbs	54.3%	19.0%	Unspecified
B2	Wall/Plate 4-3/8" x 1-3/4"	1,079 lbs	33.0%	11.6%	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.

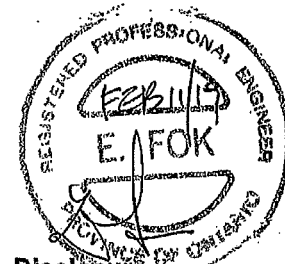
Resistance Factor phi has been applied to all presented results per CSA O86.

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 QBC 2012



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.

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DWG NO. FAW 2419-1864
STRUCTURAL
COMPONENT ONLY

T-1902208



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B2(1760)

Dry | 1 span | No cant.

October 27, 2018 08:23:37

BC CALC® Member Report

Build 6476

Job name:

Address:

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

Customer:

Code reports: CCMC 12472-R

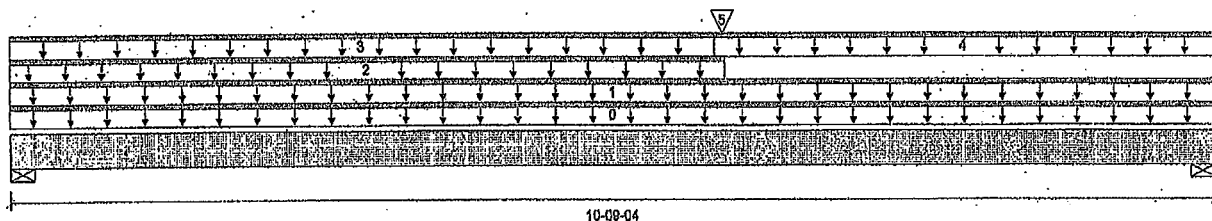
File name: TH2 MOD.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B2(1760)

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 10-09-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	328 / 0	487 / 0		
B2, 4-3/8"	471 / 0	406 / 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	10-09-04	Top	10				00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-09-04	Top	16	8			n/a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	06-04-07	Top	60				n/a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	06-03-06	Top	6	3			n/a
4	FC1 Floor Material	Unf. Lin. (lb/ft)	L	06-03-06	10-09-04	Top	19	10			n/a
6	B6(1778)	Conc. Pt. (lbs)	L	06-04-04	06-04-04	Top	506	260			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	4,158 ft-lbs	23,220 ft-lbs	17.9%	1	06-04-04
End Shear	1,114 lbs	11,571 lbs	9.6%	1	09-07-06
Total Load Deflection	L/999 (0.103")	n/a	n/a	4	05-05-07
Live Load Deflection	L/899 (0.052")	n/a	n/a	6	05-07-07
Max Defl.	0.103"	n/a	n/a	4	05-05-07
Span / Depth	13.1				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/8" x 3-1/2"	1,101 lbs	31.0%	10.9%	Unspecified
B2	Wall/Plate 4-3/8" x 3-1/2"	1,214 lbs	18.6%	6.5%	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.

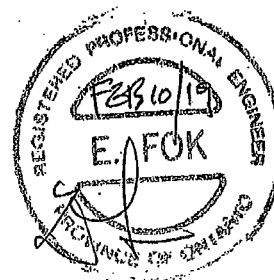
Resistance Factor phi has been applied to all presented results per CSA O86. **CONFORMS TO OBC 2012**

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

Design based on Dry Service Condition.

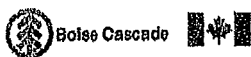
Importance Factor: Normal Part code: Part 9

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



DWG NO. TAW 21920-18 H
STRUCTURAL
COMPONENT ONLY

T-190220-9



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

1ST FLOOR FRAMING\Flush Beams\B2(I760)

Dry | 1 span | No cant.

PASSED

October 27, 2018 08:23:37

BC CALC® Member Report

Buld 6476

Job name:

Address:

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

Customer:

Code reports: CCMC 12472-R

File name: TH2 MOD.mmdl

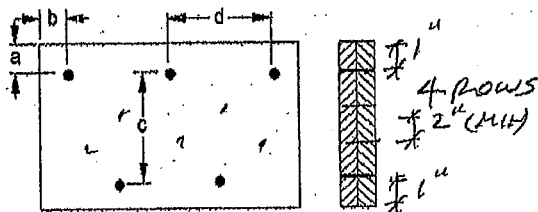
Description: 1ST FLOOR FRAMING\Flush Beams\B2(I760)

Specifier:

Designer: AJ

Company:

Connection Diagram: Full Length of Member



a minimum = 1/2"

c = 1 1/2"

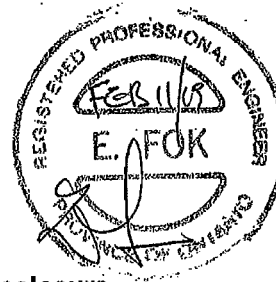
b minimum = 3"

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: Nails

3 1/2" ARDOX SPIRAL



Disclosure

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STRUCTURAL
COMPONENT ONLY

T-190220961



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B3(1762)

Dry | 1 span | No cant.

October 27, 2018 08:23:37

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer:

Code reports: CCMC 12472-R

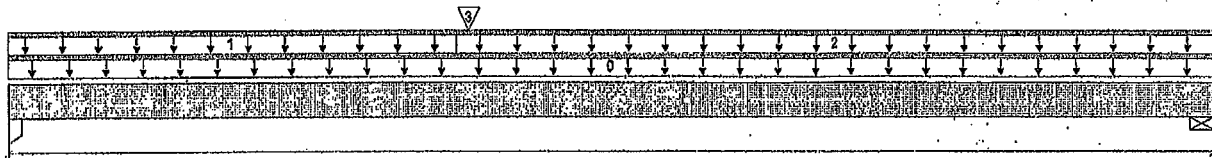
File name: TH2 MOD.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B3(1762)

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 07-01-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	373 / 0	208 / 0		
B2, 4-3/8"	265 / 0	162 / 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	07-01-12	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	02-07-14	Top	11	5			n/a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	02-07-14	07-01-12	Top	20	10			n/a
3	B6(1778)	Conc. Pt. (lbs)	L	02-08-12	02-08-12	Top	520	267			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,945 ft-lbs	11,610 ft-lbs	16.8%	1	02-08-12
End Shear	789 lbs	5,785 lbs	13.6%	1	01-01-00
Total Load Deflection	L/999 (0.036")	n/a	n/a	4	03-04-01
Live Load Deflection	L/999 (0.023")	n/a	n/a	5	03-04-01
Max Defl.	0.036"	n/a	n/a	4	03-04-01
Span / Depth	8.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 3-1/2" x 1-3/4"	820 lbs	20.6%	11.0%	Unspecified
B2	Wall/Plate 4-3/8" x 1-3/4"	587 lbs	18.0%	6.3%	Unspecified

Notes

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

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

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

Resistance Factor ϕ has been applied to all presented results per CSA Q86.

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

Disclosure

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DWG NO. TAM 2421-18H
STRUCTURAL
COMPONENT ONLY

T-1902210



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B4\B08

Dry | 1 span | No cant.

October 27, 2018 08:23:37

BC CALC® Member Report

Build 6476

Job name:

Address:

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

Customer:

Code reports: CCMC 12472-R

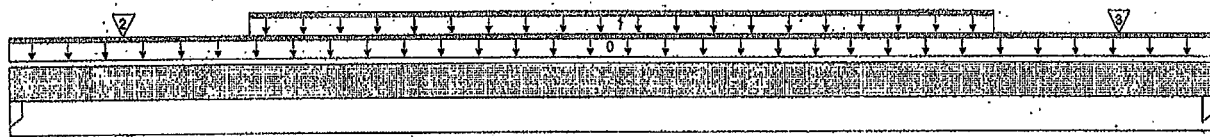
File name: TH2 MOD.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B4\B08

Specifier:

Designer: AJ

Company:



B1

04-10-04

B2

Total Horizontal Product Length = 04-10-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	315 / 0	170 / 0		
B2, 1-3/4"	321 / 0	173 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-10-04	Top		5			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-11-10	03-11-10	Top	140	70			n/a
2	J3(B02)	Conc. Pt. (lbs)	L	00-05-10	00-05-10	Top	111	56			n/a
3	J3(I779)	Conc. Pt. (lbs)	L	04-05-10	04-05-10	Top	105	53			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	843 ft-lbs	11,610 ft-lbs	7.3%	1	02-05-10
End Shear	539 lbs	5,765 lbs	9.3%	1	00-11-04
Total Load Deflection	L/999 (0.009")	n/a	n/a	4	02-04-14
Live Load Deflection	L/999 (0.006")	n/a	n/a	5	02-04-14
Max Defl.	0.009"	n/a	n/a	4	02-04-14
Span / Depth	5.9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 1-3/4" x 1-3/4"	684 lbs	34.4%	18.3%	Unspecified
B2	Column 1-3/4" x 1-3/4"	697 lbs	35.1%	18.7%	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.

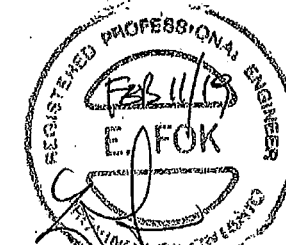
Resistance Factor phi has been applied to all presented results per CSA O86.

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



Disclosure

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DWG NO. YAM 2422-184
STRUCTURAL
COMPONENT ONLY

T-1902211



Boise Cascade



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

1ST FLOOR FRAMING\Flush Beams\B5\I761

PASSED

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer:

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

October 27, 2018 08:23:37

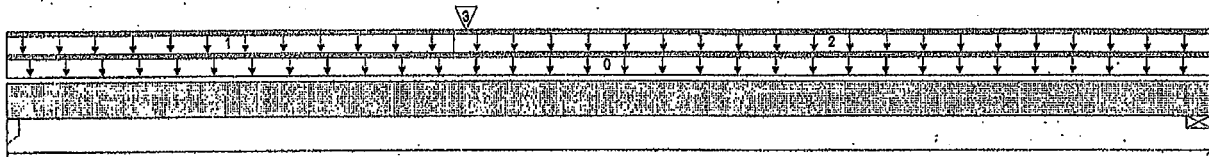
File name: TH2 MOD.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B5\I761

Specifier:

Designer: AJ

Company:



B1

Total Horizontal Product Length = 07-01-12

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	438 / 0	241 / 0		
B2, 4-3/8"	301 / 0	172 / 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	07-01-12	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	02-07-14	Top	12	6			n/a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	02-07-14	07-01-12	Top	20	10			n/a
3	B7\I768	Conc. Pt. (lbs)	L	02-08-12	02-08-12	Top	615	317			n/a

Controls Summary

Pos.	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Moment	2,270 ft-lbs	11,810 ft-lbs	19.6%	1	02-08-12
End Shear	921 lbs	5,785 lbs	15.9%	1	01-01-00
Total Load Deflection	L/999 (0.041")	n/a	n/a	4	03-04-01
Live Load Deflection	L/999 (0.027")	n/a	n/a	5	03-04-01
Max Defl.	0.041"	n/a	n/a	4	03-04-01
Span / Depth	8.4				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 3-1/2" x 1-3/4"	856 lbs	24.0%	12.8%	Unspecified
B2	Wall/Plate 4-3/8" x 1-3/4"	666 lbs	20.4%	7.1%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

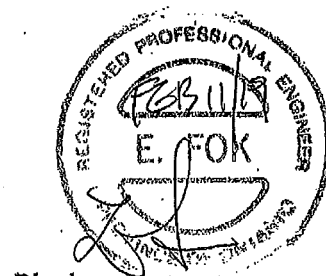
Resistance Factor phi has been applied to all presented results per CSA O86.

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 QBC 2012



Disclosure

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

DWG NO. TAM 2423-18H
STRUCTURAL
COMPONENT - ONLY

T. L. G. 2018



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B6(1778)

Dry | 1 span | No cant.

October 27, 2018 08:23:37

BC CALC® Member Report

Build 6476

Job name:

Address:

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

Customer:

Code reports: CCMC 12472-R

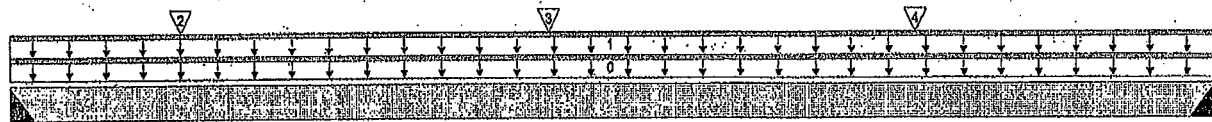
File name: TH2 MOD.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B6(1778)

Specifier:

Designer: AJ

Company:



03-03-06

B1

Total Horizontal Product Length = 03-03-06

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	521 / 0	267 / 0		
B2, 2"	506 / 0	260 / 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	03-03-06	Top	6				00-00-00
1	User Load	Unf. Lin. (lb/ft)	L	00-00-00	03-03-06	Top	240	120			n/a
2	J4(1791)	Conc. Pt. (lbs)	L	00-05-10	00-05-10	Top	67	33			n/a
3	J4(1783)	Conc. Pt. (lbs)	L	01-05-10	01-05-10	Top	87	43			n/a
4	J4(1798)	Conc. Pt. (lbs)	L	02-05-10	02-05-10	Top	85	42			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	827 ft-lbs	11,610 ft-lbs	7.1%	1	01-06-04
End Shear	556 lbs	5,785 lbs	9.6%	1	02-03-14
Total Load Deflection	L/999 (0.004")	n/a	n/a	4	01-07-09
Live Load Deflection	L/999 (0.003")	n/a	n/a	5	01-07-09
Max Defl.	0.004"	n/a	n/a	4	01-07-09
Span / Depth	3.9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Hanger	2" x 1-3/4"	1,115 lbs	n/a	26.1%	HUS1.81/10
B2 Hanger	2" x 1-3/4"	1,084 lbs	n/a	26.4%	HUS1.81/10

Cautions

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

Header for the hanger HUS1.81/10 at B2 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF.

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA Q86.

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

DWG NO. TAM 242418H
STRUCTURAL
COMPONENT ONLY



Disclosure

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

T-192213



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

PASSED

1ST FLOOR FRAMING\Flush Beams\B7(1768)

Dry | 1 span | No cant.

October 27, 2018 08:23:37

BC CALC® Member Report

Build 6476

Job name:

Address:

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

Customer:

Code reports: CCMC 12472-R

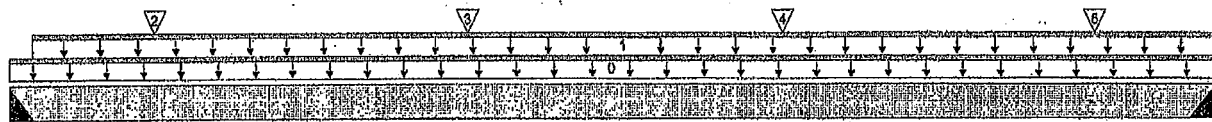
File name: TH2 MOD.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B7(1768)

Specifier:

Designer: AJ

Company:



B1 03-10-04 B2
Total Horizontal Product Length = 03-10-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	595 / 0	306 / 0		
B2, 2"	616 / 0	317 / 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	03-10-04	Top	1.00	0.85	1.00	1.15	00-00-00
1	User Load	Unf. Lin. (lb/ft)	L	00-00-14	03-10-04	Top	240	120			n/a
2	J4(1801)	Conc. Pt. (lbs)	L	00-05-10	00-05-10	Top	67	33			n/a
3	J4(1792)	Conc. Pt. (lbs)	L	01-05-10	01-05-10	Top	87	43			n/a
4	J4(1782)	Conc. Pt. (lbs)	L	02-05-10	02-05-10	Top	87	43			n/a
5	J4(1789)	Conc. Pt. (lbs)	L	03-05-10	03-05-10	Top	63	32			n/a

Controls Summary	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1,146 ft-lbs	11,610 ft-lbs	9.9%	1	01-10-14
End Shear	730 lbs	5,785 lbs	12.6%	1	00-11-08
Total Load Deflection	L/999 (0.008")	n/a	n/a	4	01-10-14
Live Load Deflection	L/999 (0.005")	n/a	n/a	5	01-10-14
Max Defl.	0.008"	n/a	n/a	4	01-10-14
Span / Depth	4.6				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Hanger	2" x 1-3/4"	1,275 lbs	n/a	29.9%	HUS1.81/10
B2 Hanger	2" x 1-3/4"	1,321 lbs	n/a	30.9%	HUS1.81/10



Cautions

Header for the hanger HUS1.81/10 at B1 is a Single 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF.
Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.
Header for the hanger HUS1.81/10 at B2 is a Single 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF.

00600, PAM 242518H
STRUCTURAL
COMPONENT ONLY

T-190244



Boise Cascade



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

1ST FLOOR FRAMING\Flush Beams\B7(I768)

Dry | 1 span | No cant.

PASSED

October 27, 2018 08:23:37

BC CALC® Member Report

Build 6476

Job name:

Address:

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

Customer:

Code reports: CCMC 12472-R

File name: TH2 MOD.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B7(I768)

Specifier:

Designer: AJ

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 OBC 2012**

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

**Disclosure**

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DWG NO. TAM 2425-18H
STRUCTURAL
COMPONENT ONLY

10/27/18

T. 19022142(L)



Boise Cascade



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

2ND FLOOR FRAMING\Flush Beams\B10\I652

PASSED

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

October 27, 2018 08:23:37

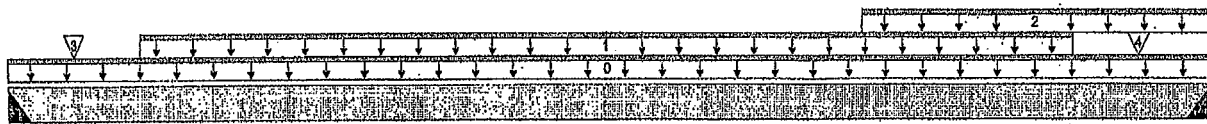
File name: TH2 MOD.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B10\I652

Specifier:

Designer: AJ

Company:



B1

12-00-14

B2

Total Horizontal Product Length = 12-00-14

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	528 / 0	294 / 0		
B2, 2"	1,134 / 0	598 / 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	12-00-14	Top	1.00	0.65	1.00	1.15	00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-04-04	10-08-04	Top	72	36			n/a
2	STAIR	Unf. Lin. (lb/ft)	L	08-08-14	12-00-14	Top	240	120			n/a
3	J4(I658)	Conc. Pt. (lbs)	L	00-08-04	00-08-04	Top	75	38			n/a
4	J4(I751)	Conc. Pt. (lbs)	L	11-04-04	11-04-04	Top	76	38			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	4,485 ft-lbs	11,610 ft-lbs	38.5%	1	07-04-04
End Shear	1,904 lbs	5,785 lbs	32.9%	1	11-01-06
Total Load Deflection	L/445 (0.32")	n/a	54.0%	4	06-04-04
Live Load Deflection	L/686 (0.208")	n/a	52.5%	5	06-04-04
Max Defl.	0.32"	n/a	n/a	4	06-04-04
Span / Depth	15.0				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Hanger	2" x 1-3/4"	1,161 lbs	n/a	27.2%	HUS1.81/10
B2 Hanger	2" x 1-3/4"	2,447 lbs	n/a	57.3%	HUS1.81/10

Cautions

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

Header for the hanger HUS1.81/10 at B2 is a Single 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF.

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

DWG NO. TAM 2426-104
STRUCTURAL
COMPONENT ONLY



Disclosure

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T-L9025



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B8\1679

Dry | 1 span | No cant.

October 27, 2018 08:23:37

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer:

Code reports: CCMC 12472-R

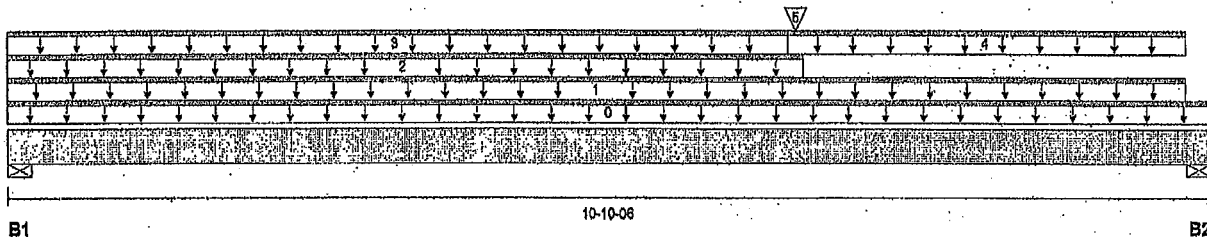
File name: TH2 MOD.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B8\1679

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 10-10-06

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	348 / 0	494 / 0		
B2, 6-1/2"	566 / 0	473 / 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	10-10-06	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-07-10	Top	29	14			n/a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	07-02-01	Top		60			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	07-00-06	Top	3				n/a
4	FC2 Floor Material	Unf. Lin. (lb/ft)	L	07-00-06	10-07-10	Top	15	8			n/a
5	B10\1652	Conc. Pt. (lbs)	L	07-01-04	07-01-04	Top	535	297			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	4,223 ft-lbs	11,610 ft-lbs	36.4%	1	07-01-04
End Shear	1,337 lbs	6,785 lbs	23.1%	1	09-07-06
Total Load Deflection	L/572 (0.217")	n/a	41.9%	4	05-06-04
Live Load Deflection	L/999 (0.107")	n/a	n/a	5	05-08-08
Max Defl.	0.217"	n/a	n/a	4	05-06-04
Span / Depth	13.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/8" x 1-3/4"	1,140 lbs	64.2%	22.5%	Unspecified
B2	Wall/Plate 6-1/2" x 1-3/4"	1,439 lbs	35.0%	12.3%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO CBC 2012

Disclosure

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DWG NO. TAM 2427-18H
STRUCTURAL
COMPONENT ONLY

T-190226



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

PASSED

2ND FLOOR FRAMING\Flush Beams\B9\I657)

Dry | 1 span | No cant.

October 27, 2018 08:23:37

BC CALC® Member Report

Buld 6476

Job name:

Address:

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

Customer:

Code reports: CCMC 12472-R

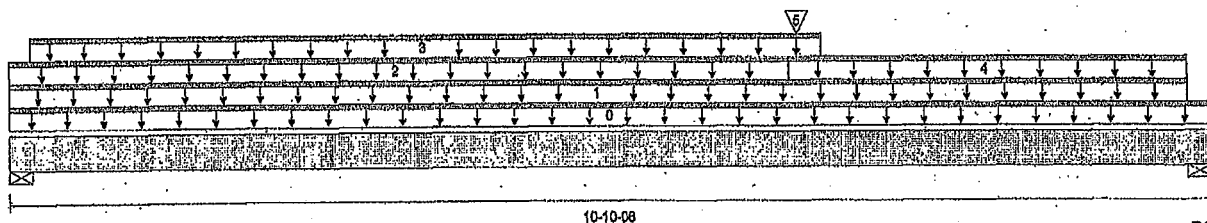
File name: TH2 MOD.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B9\I657)

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 10-10-06

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	424 / 0	525 / 0		
B2, 5-1/2"	850 / 0	621 / 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	10-10-06	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-07-10	Top	6	3			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	07-00-06	Top	3				n/a
3	WALL	Unf. Lin. (lb/ft)	L	00-02-06	07-03-14	Top		60			n/a
4	FC2 Floor Material	Unf. Lin. (lb/ft)	L	07-00-06	10-07-10	Top	16	8			n/a
5	B10(I652)	Conc. Pt. (lbs)	L	07-01-04	07-01-04	Top	1,128	593			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	6,564 ft-lbs	11,610 ft-lbs	56.5%	1	07-01-04
End Shear	1,995 lbs	5,785 lbs	34.5%	1	09-07-06
Total Load Deflection	L/408 (0.304")	n/a	58.8%	4	05-07-06
Live Load Deflection	L/753 (0.165")	n/a	47.8%	5	05-08-08
Max Defl.	0.304"	n/a	n/a	4	05-07-06
Span / Depth	13.1				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/8" x 1-3/4"	1,293 lbs	72.8%	25.5%	Unspecified
B2	Wall/Plate 5-1/2" x 1-3/4"	2,051 lbs	49.9%	17.5%	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

Disclosure

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

DWG NO. YAM 242B.18H

STRUCTURAL
COMPONENT ONLY

T-1902217



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

2ND FLOOR FRAMING\Dropped Beams\B14 DR\866

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

October 24, 2018 14:47:23

Build 6476

Job name:

File name: TH2 MOD EL B,B2.mmdl

Address:

Description: 2ND FLOOR FRAMING\Dro...ed Beams\B14 DR\866

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

Specifier:

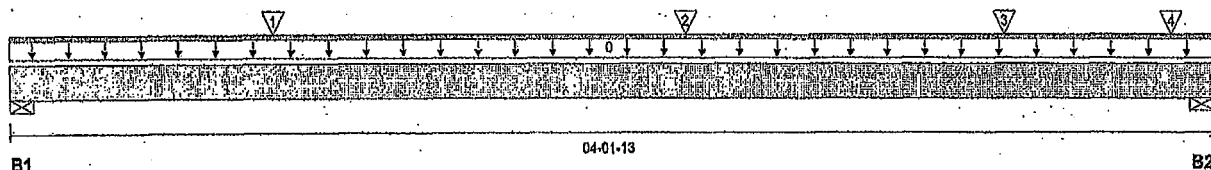
Customer:

Designer: AJ

Code reports:

CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-7/16"	1,108 / 0	895 / 0	774 / 0	
B2, 5-3/4"	1,726 / 0	1,175 / 0	148 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.66	Snow 1.00	Wind 1.16	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-01-13	Top		10			00-00-00
1	-	Conc. Pt. (lbs)	L	00-11-00	00-11-00	Top	1,032	898	922		n/a
2	-	Conc. Pt. (lbs)	L	02-04-00	02-04-00	Top	600	301			n/a
3	J3(823)	Conc. Pt. (lbs)	L	03-05-03	03-05-03	Top	319	169			n/a
4	B8(895)	Conc. Pt. (lbs)	L	04-00-01	04-00-01	Top	882	671			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2,167 ft-lbs	23,220 ft-lbs	9.3%	1	01-02-16
End Shear	2,398 lbs	11,571 lbs	20.7%	1	01-01-16
Total Load Deflection	L/999 (0.007")	n/a	n/a	35	01-11-00
Live Load Deflection	L/999 (0.006")	n/a	n/a	51	01-11-00
Max Defl.	0.007"	n/a	n/a	35	01-11-00
Span / Depth	4.3				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 4-7/16" x 3-1/2"	3,554 lbs	28.1%	18.7%	Unspecified
B2	Wall/Plate 5-3/4" x 3-1/2"	4,206 lbs	25.7%	17.1%	Unspecified

Notes

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

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

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

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.

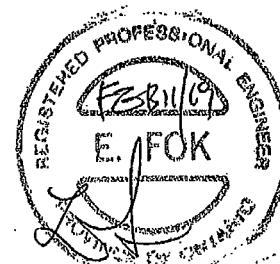
Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

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

Member has no side loads.



OWNED, TAM 2/12/18
STRUCTURAL
COMPONENT ONLY

T-190248



Bolsa Cascade

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****2ND FLOOR FRAMING\Dropped Beams\B14 DR\B66)**

Dry | 1 span | No cant.

PASSED

October 24, 2018 14:47:23

BC CALC® Member Report

Build 6476

Job name:

Address:

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

Customer:

Code reports: CCMC 12472-R

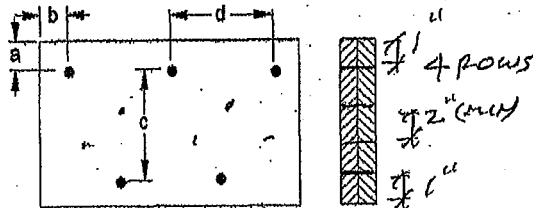
File name: TH2 MOD EL B,B2.mmdl

Description: 2ND FLOOR FRAMING\Dro...ed Beams\B14 DR\B66)

Specifier:

Designer: AJ

Company:

Connection Diagram: Full Length of Member

a minimum = 1/2"

b minimum = 3"

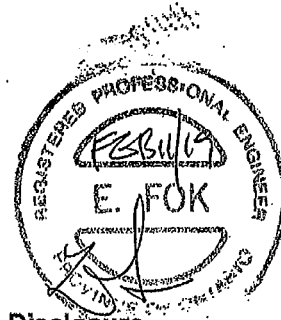
c = 1 1/2"

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

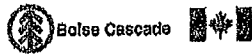
3 1/2" ARDOX SPIRAL**Disclosure**

Use of the Bolsa 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 Bolsa 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.

DWG NO. TAM 2429.18H
STRUCTURAL
COMPONENT ONLY

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

T-190228(1)



Triple 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLOOR FRAMING\Flush Beams\B15(1899)

PASSED

BC CALCO® Member Report

Dry | 1 span | No cant.

October 24, 2018 14:47:23

Build 6476

Job name:

File name: TH2 MOD EL B,B2.mmd

Address:

Description: 2ND FLOOR FRAMING\Flush Beams\B15(1899)

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

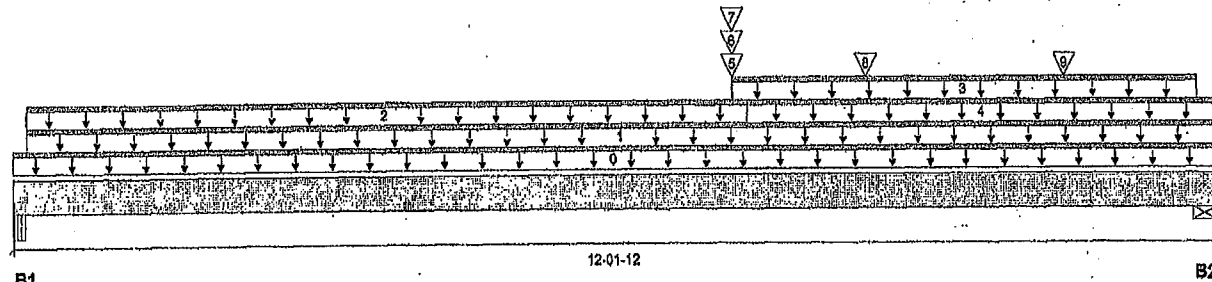
Specifier:

Customer:

Designer: AJ

Code reports: CCMC 12472-R

Company:



B1

B2

Total Horizontal Product Length = 12-01-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	765 / 0	772 / 0	950 / 0	
B2, 2-3/8"	1,000 / 0	1,277 / 0	1,468 / 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	12-01-12	Top	14				00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-01-12	12-01-12	Top	25	12			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-01-12	07-04-14	Top	22	11			n/a
3	ROOF	Unf. Lin. (lb/ft)	L	07-03-02	11-11-06	Top		100			n/a
4	FC2 Floor Material	Unf. Lin. (lb/ft)	L	07-04-14	12-01-12	Top	9	4			n/a
5	GIRDER	Conc. Pt. (lbs)	L	07-03-02	07-03-02	Top	1,100	1,000	2,100		n/a
6	B16(1779)	Conc. Pt. (lbs)	L	07-03-02	07-03-02	Top	52	51	100		n/a
7	ROOF	Conc. Pt. (lbs)	L	07-03-02	07-03-02	Top	48	44	92		n/a
8	WINDOW	Conc. Pt. (lbs)	L	08-07-04	08-07-04	Top	33	30			n/a
9	WINDOW	Conc. Pt. (lbs)	L	10-07-04	10-07-04	Top	33	30			n/a

Controls Summary

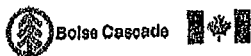
	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	19,780 ft-lbs	36,222 ft-lbs	54.6%	13	07-03-02
End Shear	4,627 lbs	17,356 lbs	26.7%	13	11-01-14
Total Load Deflection	L/338 (0.419")	n/a	71.1%	35	06-05-14
Live Load Deflection	L/481 (0.294")	n/a	74.8%	51	06-05-14
Max Defl.	0.419"	n/a	n/a	35	06-05-14
Span / Depth	14.9				



Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	3-1/2" x 5-1/4"	3,155 lbs	15.8%	14.1%	Unspecified
B2 Wall/Plate	2-3/8" x 5-1/4"	4,798 lbs	72.1%	31.5%	Unspecified

P64
DWG NO. TAW2430-18H
STRUCTURAL
COMPONENT ONLY

T-190219



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

2ND FLOOR FRAMING\Flush Beams\B16(I779)

PASSED

BC CALC® Member Report

Dry | 2 spans | No cant.

October 24, 2018 14:47:23

Build 6476

Job name:

Address:

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

Customer:

Code reports: CCMC 12472-R

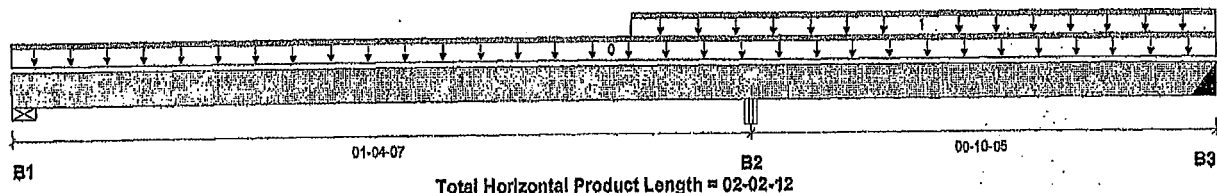
File name: TH2 MOD EL B,B2.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B16(I779)

Specifier:

Designer: AJ

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	1 / 4	6 / 0	0 / 5	
B2, 5-1/4"	74 / 0	78 / 0	141 / 0	
B3, 2"	49 / 2	46 / 0	91 / 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	02-02-12	Top	1.00	0.65	1.00	1.15	00-00-00
1	ROOF	Unf. Lin. (lb/ft)	L	01-01-13	02-02-12	Top	110	100	210		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	30 ft-lbs	23,220 ft-lbs	0.1%	66	01-09-10
Neg. Moment	-24 ft-lbs	-23,220 ft-lbs	0.1%	49	01-04-07
End Shear	149 lbs	11,571 lbs	1.3%	66	02-00-12
Cont. Shear	122 lbs	11,571 lbs	1.1%	49	01-07-01
Span / Depth	1.2				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	8 lbs	0.1%	n/a	Unspecified
B2	Beam 5-1/4" x 3-1/2"	382 lbs	3.9%	1.7%	Unspecified
B3	Hanger 2" x 3-1/2"	243 lbs	n/a	2.8%	HGUS410



Cautions

Header for the hanger HGUS410 at B3 is a Triple 1-3/4" x 9-1/2" VERSA-LAM® 1,7 2400 DF.
Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

Notes

Calculations assume unbraced length of Top: 00-08-05, Bottom: 00-08-05.
Hanger Manufacturer: Unassigned
Resistance Factor phi has been applied to all presented results per CSA O86. **CONFORMS TO OBC 2012**
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
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
Member has no side loads.

OWN NO. 2431-18H
STRUCTURAL
COMPONENT ONLY

T-1902220



Boise Cascade



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

2ND FLOOR FRAMING\Flush Beams\B16(I779)

Dry | 2 spans | No cant.

PASSED

October 24, 2018 14:47:23

BC CALC® Member Report

Build 6476

Job name:

Address:

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

Customer:

Code reports: CCMC 12472-R

File name: TH2 MOD EL B,B2.mmdl

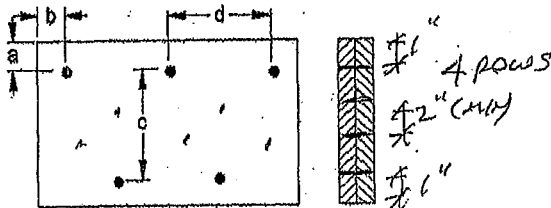
Description: 2ND FLOOR FRAMING\Flush Beams\B16(I779)

Specifier:

Designer: AJ

Company:

Connection Diagram: Full Length of Member



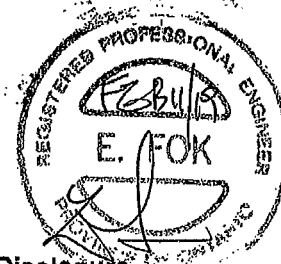
a minimum = 1 1/2"
b minimum = 3"

c = 1 1/2"
d = 6"

Member has no side loads.

Connectors are: 3/4" x 6" Nails

3/4" ARDOX SPIRAL



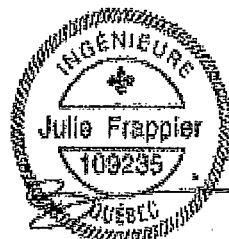
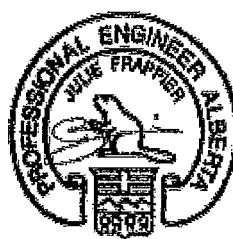
Disclosure

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

DWNO.TAM
STRUCTURAL
COMPONENT ONLY

T-190222062



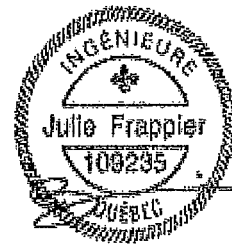
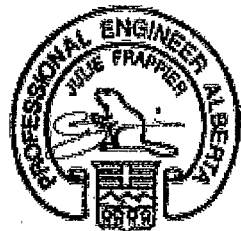
Maximum Floor Spans

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'-6"	23'-6"	22'-4"	21'-2"	26'-1"	24'-2"	23'-1"	21'-10"
	NI-90x	26'-4"	24'-3"	23'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22'-5"

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



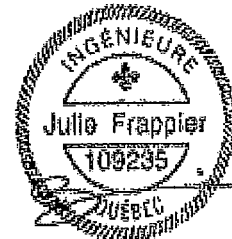
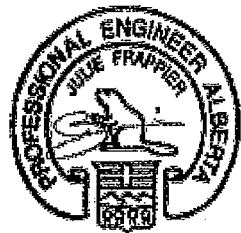
Maximum Floor Spans

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

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

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



Maximum Floor Spans

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

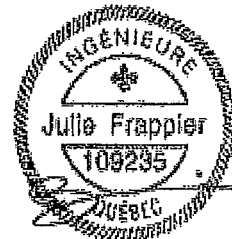
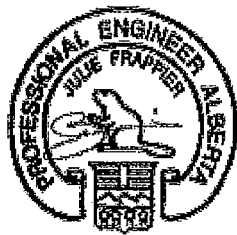
Depth	Series	Bare				1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
	NI-40x	17'-0"	16'-0"	15'-5"	14'-9"	17'-5"	16'-5"	15'-10"	15'-2"
	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-6"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

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

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

Maximum Floor Spans

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



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

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

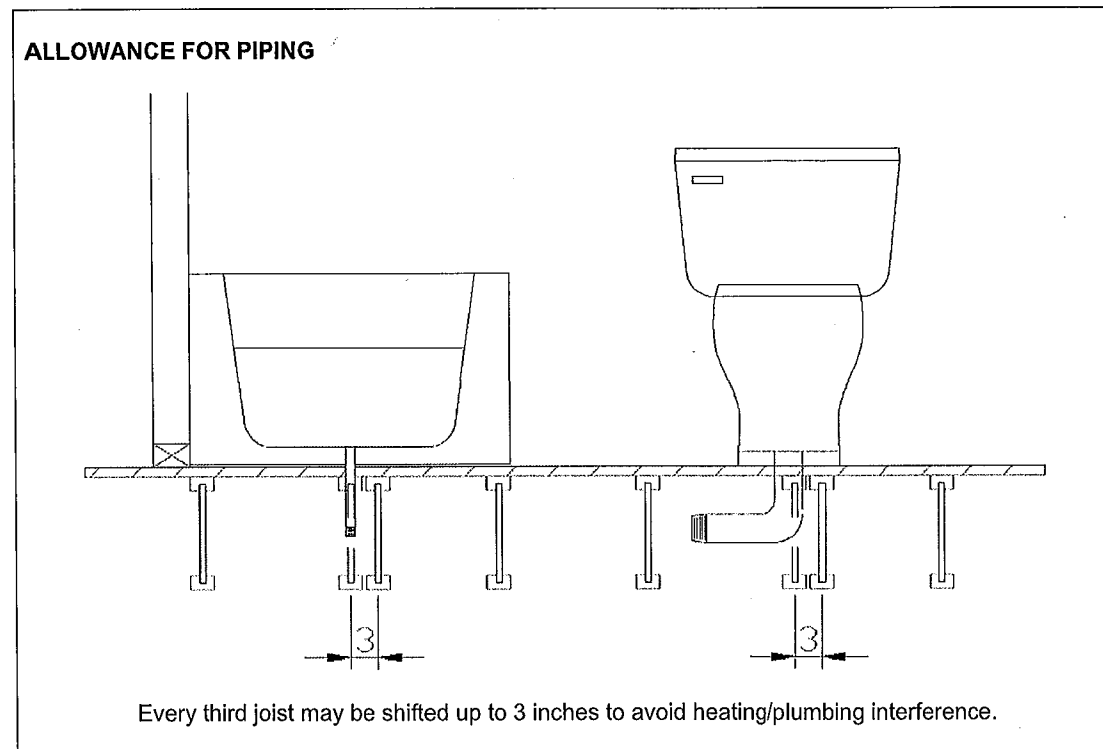
- Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load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

Allowance for Piping (Installation Notes)

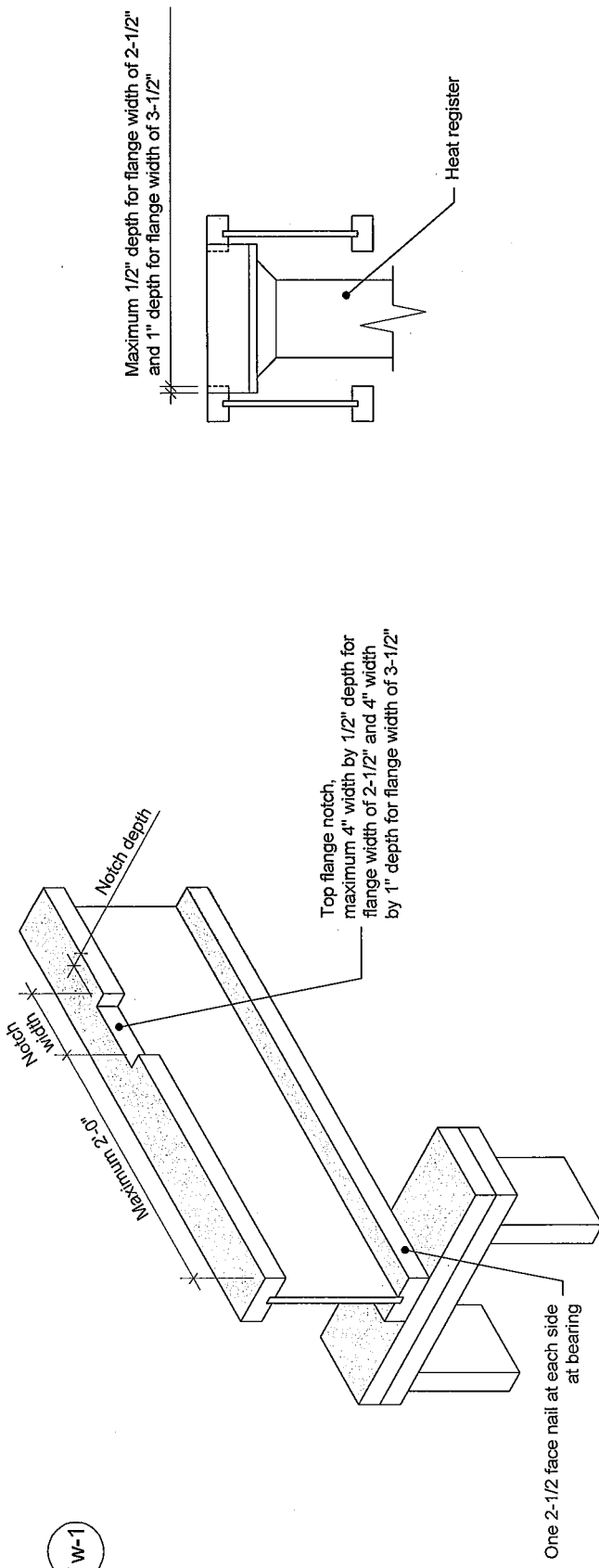
The floor layouts have usually not been checked for heating and/or plumbing interference. On-site adjustment of joists of up to 3 inches is permitted to avoid interferences. When moving a joist, the subfloor thickness shall be checked with code requirements when the joist spacing exceeds 19.2 inches.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

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

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



Revised April 12, 2012



Notes:

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

This document supersedes all previous versions. If the document has been in effect for more than one year, consult nordic.ca or contact Nordic Structures. All nails shown in the details are assumed to be common nails unless otherwise noted. Nails shall have a diameter not less than 0,128 inch for 2-1/2-inch nails, or 0,144 inch for 3-inch nails. Individual components not shown to scale for clarity.

NORDIC STRUCTURES	T 514-871-8526 1 866 817-3418		nordic.ca		1w-1	
	Notch in I-joist for Heat Register		I-joist - Typical Floor Framing and Construction Details		2018-04-10	
	1 866 817-3418		nordic.ca		2018-04-10	