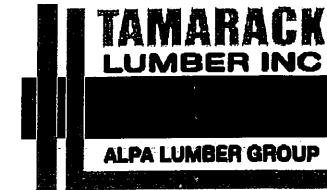


Products				
Plot/D	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	36
J2 DJ	14-00-00	9 1/2" NI-40x	2	10
J2	12-00-00	9 1/2" NI-40x	1	17
J3	10-00-00	9 1/2" NI-40x	1	12
J4 DJ	10-00-00	9 1/2" NI-40x	2	2
J4	8-00-00	9 1/2" NI-40x	1	2
J5	4-00-00	9 1/2" NI-40x	1	5
J6	2-00-00	9 1/2" NI-40x	1	6
B6	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B2	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B4	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B1	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B7L	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B3	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	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
6	H1	IUS2.56/9.5
5	H1	IUS2.56/9.5
2	H3	HUS1.81/10
1	H3	HUS1.81/10

Town of Innisfil Certified Model
04/01/2018 3:17:59 PM kgervais



FROM PLAN DATED: NOV 2015

BUILDER:
BAYVIEW WELLINGTON

SITE:
ALCONA SHORES

MODEL: S32-3-10

ELEVATION: A

LOT:
CITY: INNISFIL

SALESMAN: M D
DESIGNER: LBV
REVISION: CZ

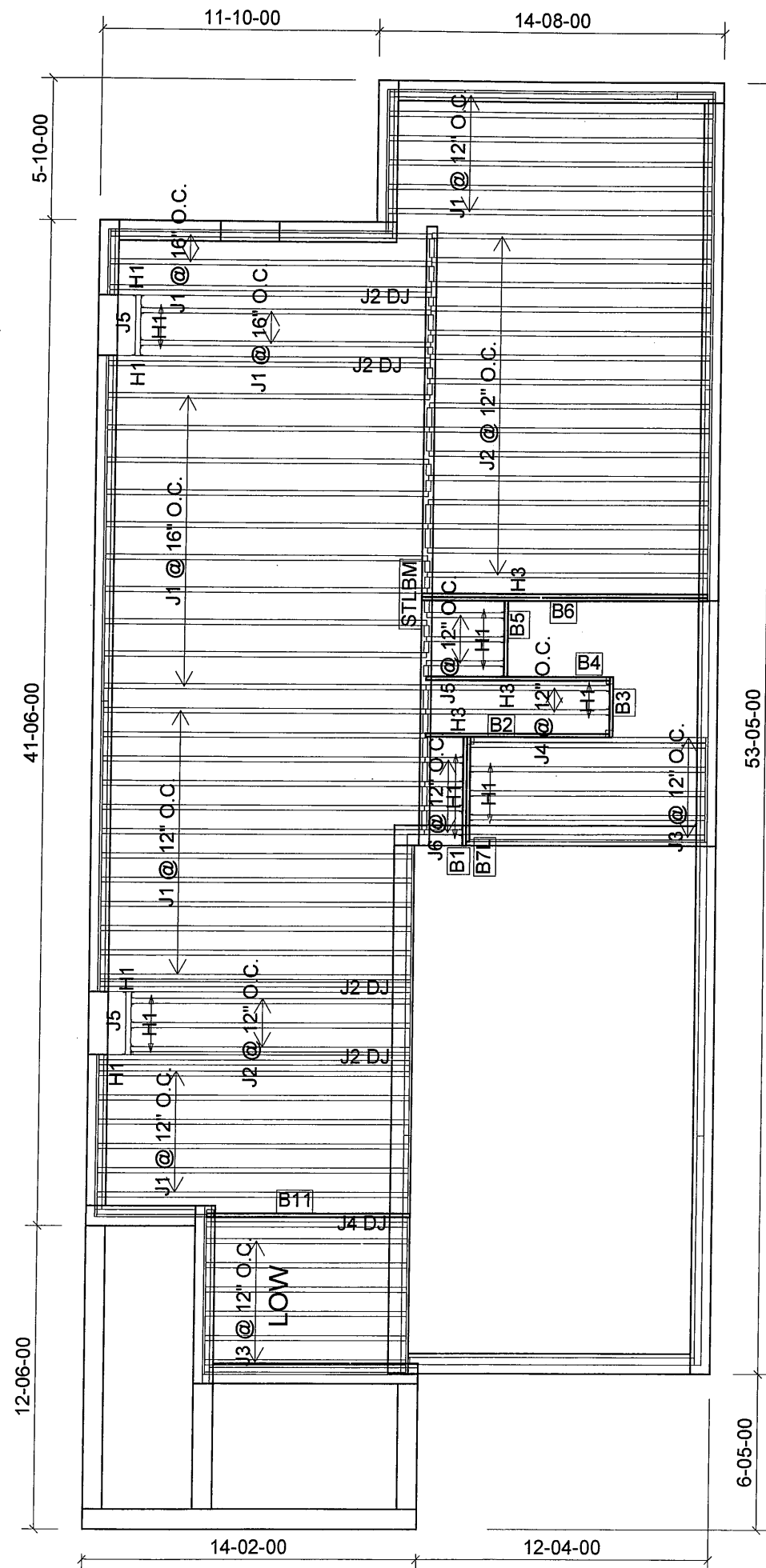
NOTES:
CERAMIC TILE APPLICATION
AS PER O.B.C. 9.30.6.
SQUASH BLOCKS
2x4 OR 2x6 #2 S.P.F. REQ'D UNDER
INTERIOR UNIFORM LOAD BEARING
WALLS.
MULTIPLE SQUASH BLOCKS REQ'D
UNDER CONCENTRATED LOADS.
CANTILEVERED JOISTS
REQUIRE I-JOIST BLOCKING ALONG
BEARING AND RIMBOARD CLOSURE
AT ENDS.
REFER TO THE NORDIC
INSTALLATION GUIDE FOR PROPER
STORAGE AND INSTALLATION.

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: 11/09/2017

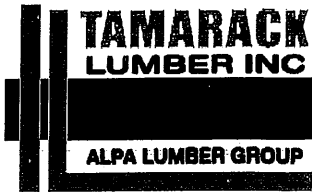
1st FLOOR



Products				
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	38
J2 DJ	14-00-00	9 1/2" NI-40x	2	8
J2	12-00-00	9 1/2" NI-40x	1	18
J3	10-00-00	9 1/2" NI-40x	1	12
J4 DJ	10-00-00	9 1/2" NI-40x	2	2
J4	8-00-00	9 1/2" NI-40x	1	2
J5	4-00-00	9 1/2" NI-40x	1	5
J6	2-00-00	9 1/2" NI-40x	1	4
B6	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B2	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B4	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B1	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B7L	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B3	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	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
5	H1	IUS2.56/9.5
2	H3	HUS1.81/10
1	H3	HUS1.81/10

Town of Innisfil Certified Model
04/01/2018 3:18:02 PM kgervais



FROM PLAN DATED: NOV 2015

BUILDER:
BAYVIEW WELLINGTON

SITE:
ALCONA SHORES

MODEL: S32-3-10

ELEVATION: A

LOT:
CITY: INNISFIL

SALESMAN: M D
DESIGNER: LBV
REVISION: CZ

NOTES:
CERAMIC TILE APPLICATION
AS PER O.B.C. 9.30.6.
SQUASH BLOCKS
2x4 OR 2x6 #2 S.P.F. REQ'D UNDER
INTERIOR UNIFORM LOAD BEARING
WALLS.
MULTIPLE SQUASH BLOCKS REQ'D
UNDER CONCENTRATED LOADS.
CANTILEVERED JOISTS
REQUIRE I-JOIST BLOCKING ALONG
BEARING AND RIMBOARD CLOSURE
AT ENDS.
REFER TO THE NORDIC
INSTALLATION GUIDE FOR PROPER
STORAGE AND INSTALLATION.

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: 11/09/2017

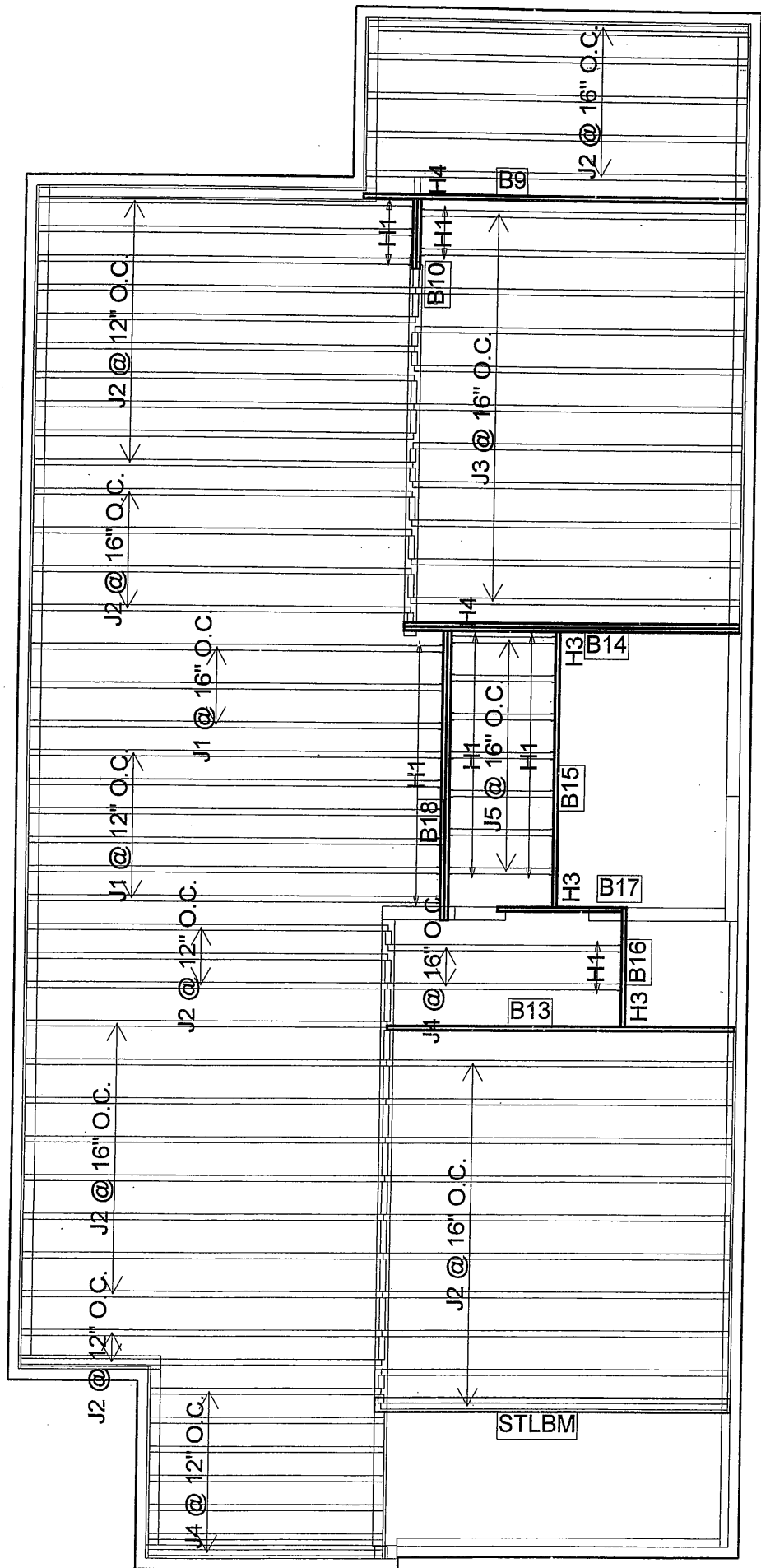
1st FLOOR

WOD





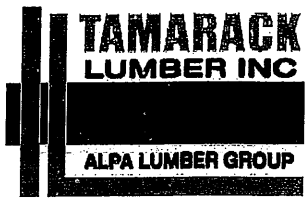
Town of Innisfil Certified Model
04/01/2018 3:18:05 PM kgervais



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	9
J2	14-00-00	9 1/2" NI-40x	1	42
J3	12-00-00	9 1/2" NI-40x	1	11
J4	10-00-00	9 1/2" NI-40x	1	9
J5	4-00-00	9 1/2" NI-40x	1	7
B13	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B9	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B14	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B15	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B18	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B16	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B17	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B10	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
21	H1	IUS2.56/9.5
2	H3	HUS1.81/10
1	H3	HUS1.81/10
1	H4	HGUS410
1	H4	HGUS410

Town of Innisfil Certified Model
04/01/2018 3:18:07 PM kgervais



FROM PLAN DATED: NOV 2015

BUILDER:
BAYVIEW WELLINGTON

SITE:
ALCONA SHORES

MODEL: S32-3-10

ELEVATION: A,B

LOT:
CITY: INNISFIL

SALESMAN: M D
DESIGNER: LBV
REVISION: CZ

NOTES:
CERAMIC TILE APPLICATION
AS PER O.B.C. 9.30.6.
SQUASH BLOCKS
2x4 OR 2x6 #2 S.P.F. REQ'D UNDER
INTERIOR UNIFORM LOAD BEARING
WALLS.
MULTIPLE SQUASH BLOCKS REQ'D
UNDER CONCENTRATED LOADS.
CANTILEVERED JOISTS
REQUIRE I-JOIST BLOCKING ALONG
BEARING AND RIMBOARD CLOSURE
AT ENDS.
REFER TO THE NORDIC
INSTALLATION GUIDE FOR PROPER
STORAGE AND INSTALLATION.

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: 05/09/2017

2nd FLOOR



Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basement\Flush Beams\B1(i2394)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 11, 2017 13:46:31

Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B1(i2394)

Specifier:

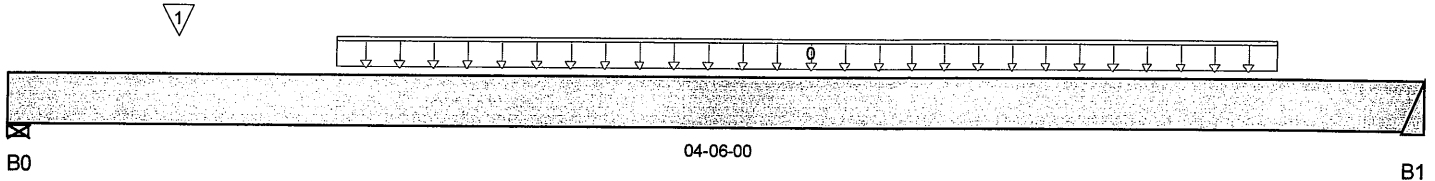
Designer:

Company:

Misc:

Town of Innisfil Certified Model

04/01/2018 3:18:10 PM kgervais



Total Horizontal Product Length = 04-06-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 5-1/2"	1,898 / 0	1,079 / 0		
B1	127 / 0	78 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
0 Smoothed Load	Unf. Lin. (lb/ft)	L	01-00-08	04-00-08	36	18			n/a
1 -	Conc. Pt. (lbs)	L	00-06-08	00-06-08	1,917	1,081			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	603 ft-lbs	12,704 ft-lbs	4.7%	1	00-06-08
End Shear	405 lbs	5,785 lbs	7%	1	01-03-00
Total Load Defl.	L/999 (0.004")	n/a	n/a	4	02-02-00
Live Load Defl.	L/999 (0.003")	n/a	n/a	5	02-02-00
Max Defl.	0.004"	n/a	n/a	4	02-02-00
Span / Depth	5.1	n/a	n/a		00-00-00

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here 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 1-800-964-6999 before installation.

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	5-1/2" x 1-3/4"	4,196 lbs	81.6%	35.7%	Unspecified
B1 Hanger	2" x 1-3/4"	288 lbs	n/a	6.7%	HUS1.81/10

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 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO DBC 2012



DWONG, TAM 4647317
STRUCTURAL
COMPONENT ONLY



Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basement\Flush Beams\B2(i2377)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 11, 2017 13:46:31

Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B2(i2377)

Specifier:

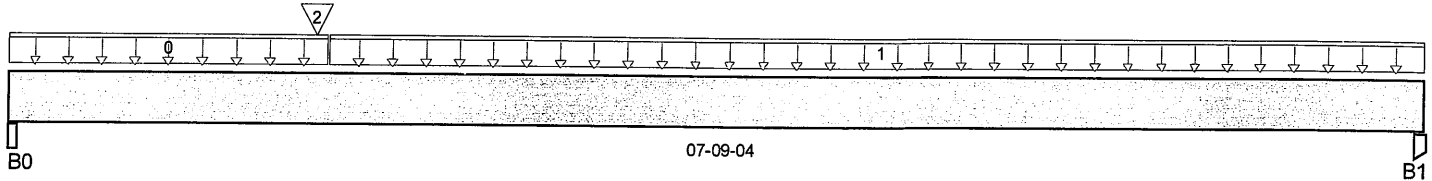
Designer:

Company:

Misc:

Town of Innisfil Certified Model

04/01/2018 3:18:12 PM kgervais



Total Horizontal Product Length = 07-09-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 2-5/8"	158 / 0	105 / 0		
B1, 1-3/4"	95 / 0	68 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	01-09-00	40	20			n/a
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	01-09-00	07-09-04	21	10			n/a
2	B1 (i2394)	Conc. Pt. (lbs)	L	01-08-02	01-08-02	57	38			n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	495 ft-lbs	12,704 ft-lbs	3.9%	1	03-03-02
End Shear	276 lbs	5,785 lbs	4.8%	1	01-00-02
Total Load Defl.	L/999 (0.015")	n/a	n/a	4	03-09-13
Live Load Defl.	L/999 (0.009")	n/a	n/a	5	03-09-13
Max Defl.	0.015"	n/a	n/a	4	03-09-13
Span / Depth	9.5	n/a	n/a		00-00-00

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here 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 1-800-964-6999 before installation.

Bearing Supports	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Beam	2-5/8" x 1-3/4"	368 lbs	15%	6.6%	Unspecified
B1 Post	1-3/4" x 1-3/4"	227 lbs	9.1%	6.1%	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 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012



NO. TAM 46474-17
STRUCTURAL
COMPONENT ONLY



Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basement\Flush Beams\B3(i2213)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 5, 2017 16:42:20

Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B3(i2213)

Specifier:

Designer:

Company:

Misc:

Town of Innisfil Certified Model

04/01/2018 3:18:13 PM kgervais



Total Horizontal Product Length = 02-06-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	110 / 0	61 / 0		
B1, 3-1/2"	167 / 0	89 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
0	J5(i2202)	Conc. Pt. (lbs)	L	01-00-08	01-00-08	162	81			n/a
1	J5(i2181)	Conc. Pt. (lbs)	L	02-00-08	02-00-08	115	57			n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	194 ft-lbs	12,704 ft-lbs	1.5%	1	01-00-08
End Shear	217 lbs	5,785 lbs	3.8%	1	01-01-00
Total Load Defl.	L/999 (0")	n/a	n/a	4	01-02-12
Live Load Defl.	L/999 (0")	n/a	n/a	5	01-02-12
Max Defl.	0"	n/a	n/a	4	01-02-12
Span / Depth	2.6	n/a	n/a		00-00-00

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here 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 1-800-964-6999 before installation.

Bearing Supports	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Post	3-1/2" x 1-3/4"	242 lbs	4.9%	3.2%	Unspecified
B1 Post	3-1/2" x 1-3/4"	361 lbs	7.3%	4.8%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



DWG NO. TAM 45414-17
STRUCTURAL
COMPONENT ONLY



Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basement\Flush Beams\B4(i2208)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 5, 2017 16:42:20

Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B4(i2208)

Specifier:

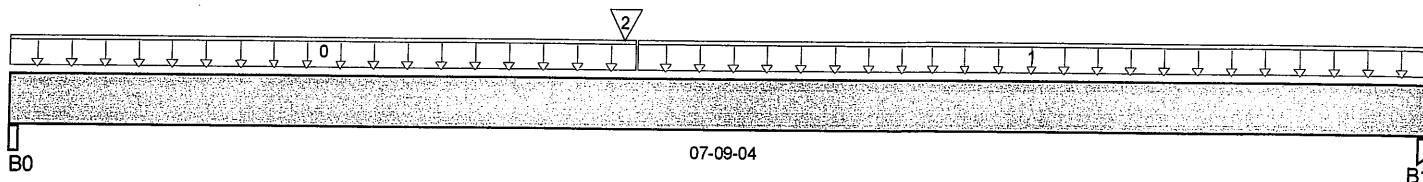
Designer:

Company:

Misc:

Town of Innisfil Certified Model

04/01/2018 3:18:15 PM kgervais



Total Horizontal Product Length = 07-09-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 2-5/8"	336 / 0	192 / 0		
B1, 1-3/4"	242 / 0	143 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
0	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-05-00	20	10			n/a
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	03-05-00	07-09-04	9	5			n/a
2	B5(i2198)	Conc. Pt. (lbs)	L	03-04-02	03-04-02	469	243			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	2,099 ft-lbs	12,704 ft-lbs	16.5%	1	03-04-02
End Shear	694 lbs	5,785 lbs	12%	1	01-00-02
Total Load Defl.	L/999 (0.05")	n/a	n/a	4	03-08-14
Live Load Defl.	L/999 (0.032")	n/a	n/a	5	03-08-14
Max Defl.	0.05"	n/a	n/a	4	03-08-14
Span / Depth	9.5	n/a	n/a		00-00-00

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here 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 1-800-964-6999 before installation.

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Beam	2-5/8" x 1-3/4"	743 lbs	30.3%	13.3%	Unspecified
B1 Post	1-3/4" x 1-3/4"	541 lbs	21.8%	14.5%	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 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO DBC 2012

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



DWONG, TAM 45415-17
STRUCTURAL
COMPONENT ONLY



Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basement\Flush Beams\B5(i2198)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 5, 2017 16:42:21

Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B5(i2198)

Specifier:

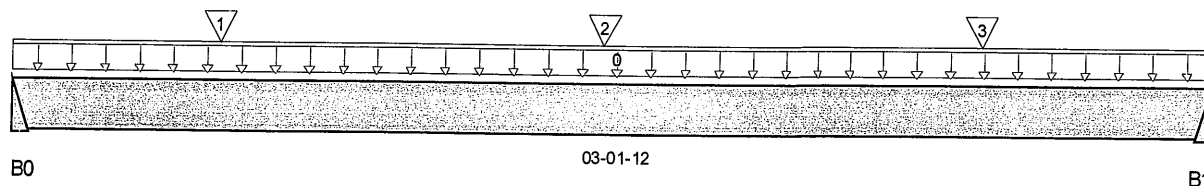
Designer:

Company:

Misc:

Town of Innisfil Certified Model

04/01/2018 3:18:16 PM kgervais



Total Horizontal Product Length = 03-01-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0	469 / 0	243 / 0		
B1	469 / 0	242 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	User Load	Unf. Lin. (lb/ft)	L	00-00-00	03-01-12	240	120			n/a
1	J6(i2185)	Conc. Pt. (lbs)	L	00-06-08	00-06-08	55	28			n/a
2	J6(i2203)	Conc. Pt. (lbs)	L	01-06-08	01-06-08	68	34			n/a
3	J6(i2230)	Conc. Pt. (lbs)	L	02-06-08	02-06-08	60	30			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	720 ft-lbs	12,704 ft-lbs	5.7%	1	01-06-08
End Shear	454 lbs	5,785 lbs	7.8%	1	02-02-04
Total Load Defl.	L/999 (0.003")	n/a	n/a	4	01-07-00
Live Load Defl.	L/999 (0.002")	n/a	n/a	5	01-07-00
Max Defl.	0.003"	n/a	n/a	4	01-07-00
Span / Depth	3.7	n/a	n/a		00-00-00

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here 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 1-800-964-6999 before installation.

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Hanger	2" x 1-3/4"	1,007 lbs	n/a	23.6%	HUS1.81/10
B1 Hanger	2" x 1-3/4"	1,006 lbs	n/a	23.6%	HUS1.81/10

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.

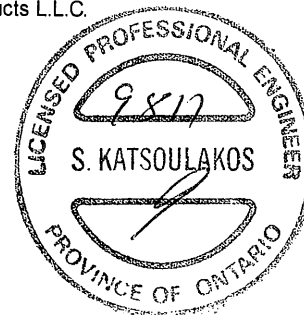
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.


Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

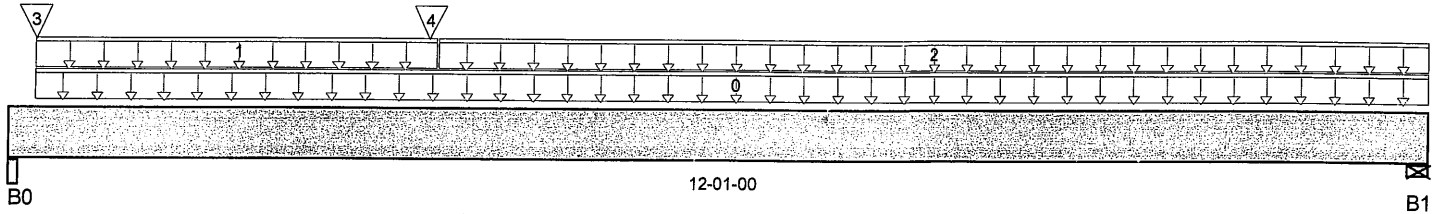


BC CALC® Design Report  Dry | 1 span | No cantilevers | 0/12 slope (deg) September 5, 2017 16:42:21

Build 5033
Job Name:
Address:
City, Province, Postal Code: INNISFIL,
Customer:
Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl
Description: Designs\Flush Beams\Basement\Flush Beams\B6(i2225)
Specifier:
Designer:
Company:
Misc:

Town of Innisfil Certified Model
04/01/2018 3:18:18 PM kgervais



Total Horizontal Product Length = 12'-01-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 5-1/4"	2,588 / 0	1,493 / 0		
B1, 2-1/2"	274 / 0	196 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-02-10	12-01-00	18	9			n/a
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-02-10	03-07-10	15	8			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	03-07-10	12-01-00	5	3			n/a
3	5(i786)	Conc. Pt. (lbs)	L	00-02-10	00-02-10	2,077	1,173			n/a
4	B5(i2198)	Conc. Pt. (lbs)	L	03-06-12	03-06-12	469	242			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	3,252 ft-lbs	25,408 ft-lbs	12.8%	1	03-06-12
End Shear	1,081 lbs	11,571 lbs	9.3%	1	01-02-12
Total Load Defl.	L/999 (0.098")	n/a	n/a	4	05-08-12
Live Load Defl.	L/999 (0.06")	n/a	n/a	5	05-08-12
Max Defl.	0.098"	n/a	n/a	4	05-08-12
Span / Depth	14.6	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Beam	5-1/4" x 3-1/2"	5,749 lbs	58.6%	25.6%	Unspecified
B1 Wall/Plate	2-1/2" x 3-1/2"	656 lbs	13.9%	6.1%	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 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012



DWG NO. TAM 45417-17
STRUCTURAL
COMPONENT ONLY



Boise Cascade

Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basement/Flush Beams/B6(i2225)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 5, 2017 16:42:21

Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl

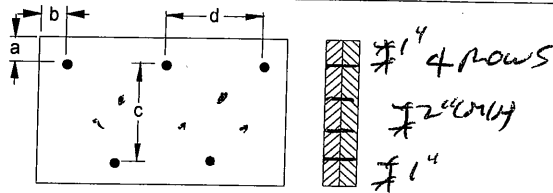
Description: Designs\Flush Beams\Basement\Flush Beams\B6(i2225

Specifier:

Designer:

Company:

Misc:

Connection Diagram

a minimum = 1" c = 1-1/2"
 b minimum = 3" d = 6"

Calculated Side Load = 83.3 lb/ft

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**

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here 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 1-800-964-6999 before installation.

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DWONG, TAM 45417-17
 STRUCTURAL
 COMPONENT ONLY

Boise Cascade Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basement\Flush Beams\B7L(i2330)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 5, 2017 16:42:20

Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B7L(i2330

Specifier:

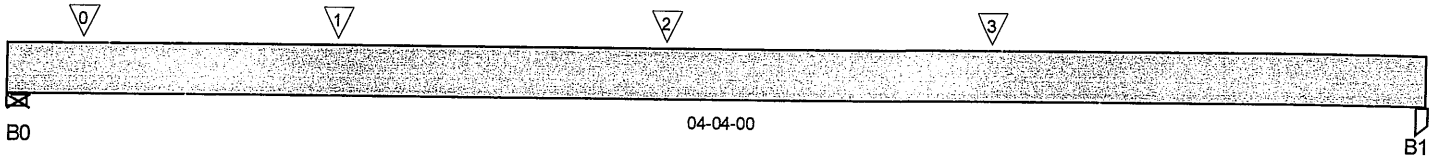
Designer:

Company:

Misc:

Town of Innisfil Certified Model

04/01/2018 3:18:20 PM kgervais



Total Horizontal Product Length = 04-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	315 / 0	182 / 0		
B1, 3-1/2"	274 / 0	147 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
0	9(i818)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	15				n/a
1	J4(i2328)	Conc. Pt. (lbs)	L	01-00-00	01-00-00	183	91			n/a
2	J4(i2333)	Conc. Pt. (lbs)	L	02-00-00	02-00-00	203	101			n/a
3	J4(i2331)	Conc. Pt. (lbs)	L	03-00-00	03-00-00	203	101			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	805 ft-lbs	12,704 ft-lbs	6.3%	1	02-00-00
End Shear	633 lbs	5,785 lbs	10.9%	1	01-01-00
Total Load Defl.	L/999 (0.006")	n/a	n/a	4	02-01-14
Live Load Defl.	L/999 (0.004")	n/a	n/a	5	02-01-14
Max Defl.	0.006"	n/a	n/a	4	02-01-14
Span / Depth	4.9	n/a	n/a		00-00-00

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here 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 1-800-964-6999 before installation.

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	699 lbs	21.4%	9.4%	Unspecified
B1 Post	3-1/2" x 1-3/4"	595 lbs	12%	8%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

BC CALCO®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



DWG NO. TAM 45418-17
STRUCTURAL
COMPONENT ONLY



Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor\Flush Beams\B9(i2048)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 5, 2017 16:42:19

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B9(i2048)

Specifier:

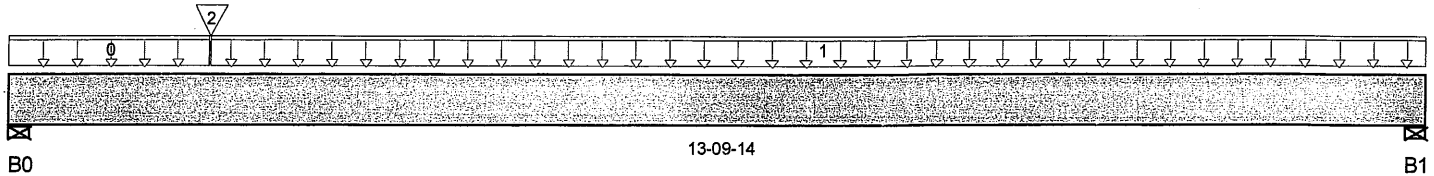
Designer:

Company:

Misc:

Town of Innisfil Certified Model

04/01/2018 3:18:22 PM kgervais



Total Horizontal Product Length = 13-09-14

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 5-1/2"	630 / 0	359 / 0		
B1, 4-3/8"	244 / 0	157 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0 FC4 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	01-11-08	20	10			n/a
1 FC4 Floor Material	Unf. Lin. (lb/ft)	L	01-11-08	13-09-14	27	13			n/a
2 B10(i2065)	Conc. Pt. (lbs)	L	01-11-08	01-11-08	519	271			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	2,352 ft-lbs	12,704 ft-lbs	18.5%	1	04-09-10
End Shear	1,333 lbs	5,785 lbs	23%	1	01-03-00
Total Load Defl.	L/751 (0.21")	0.656"	31.9%	4	06-07-12
Live Load Defl.	L/1,208 (0.13")	0.438"	29.8%	5	06-05-11
Max Defl.	0.21"	n/a	n/a	4	06-07-12
Span / Depth	16.6	n/a	n/a		00-00-00

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here 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 1-800-964-6999 before installation.

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	5-1/2" x 1-3/4"	1,394 lbs	27.1%	11.9%	Unspecified
B1 Wall/Plate	4-3/8" x 1-3/4"	562 lbs	13.7%	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 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

DWG NO. TAM 45419-17
STRUCTURAL
COMPONENT ONLY





Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B10(i2065)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 5, 2017 16:42:20

Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B10(i2065)

Specifier:

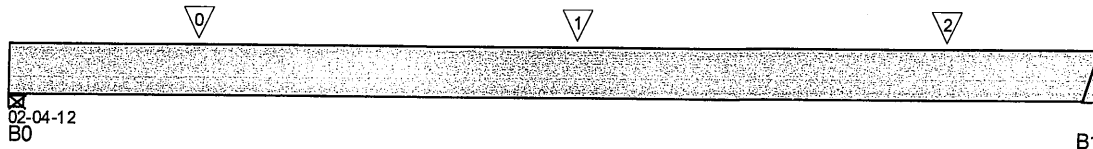
Designer:

Company:

Misc:

Town of Innisfil Certified Model

04/01/2018 3:18:23 PM kgervais



Total Horizontal Product Length = 02-04-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	716 / 0	370 / 0		
B1	554 / 0	289 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
0 -	Conc. Pt. (lbs)	L	00-05-00	00-05-00	584	292			n/a
1 J2(i2063)	Conc. Pt. (lbs)	L	01-02-14	01-02-14	271	136			n/a
2 -	Conc. Pt. (lbs)	L	02-00-11	02-00-11	415	208			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	521 ft-lbs	25,408 ft-lbs	2.1%	1	01-02-14
End Shear	517 lbs	11,571 lbs	4.5%	1	01-01-00
Total Load Defl.	L/999 (0.001")	n/a	n/a	4	01-02-14
Live Load Defl.	L/999 (0")	n/a	n/a	5	01-02-14
Max Defl.	0.001"	n/a	n/a	4	01-02-14
Span / Depth	2.6	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	1,537 lbs	23.5%	10.3%	Unspecified
B1 Hanger	2" x 3-1/2"	1,192 lbs	n/a	14%	HGUS410

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 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012



DWG NO. TAM 4542217
STRUCTURAL
COMPONENT ONLY



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B10(i2065)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 5, 2017 16:42:20

Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports:

CCMC 12472-R

File Name: S32-3-10.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B10(i2065)

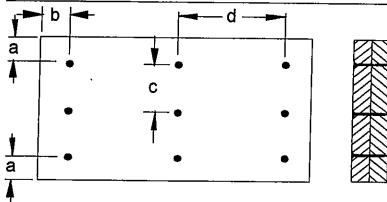
Specifier:

Designer:

Company:

Misc:

Connection Diagram



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

Calculated Side Load = 653.1 lb/ft

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: 16d Common Nails

3 1/2" ARDOX SPIRAL

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here 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 1-800-964-6999 before installation.

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BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 5, 2017 16:42:20

Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B11(i2308

Specifier:

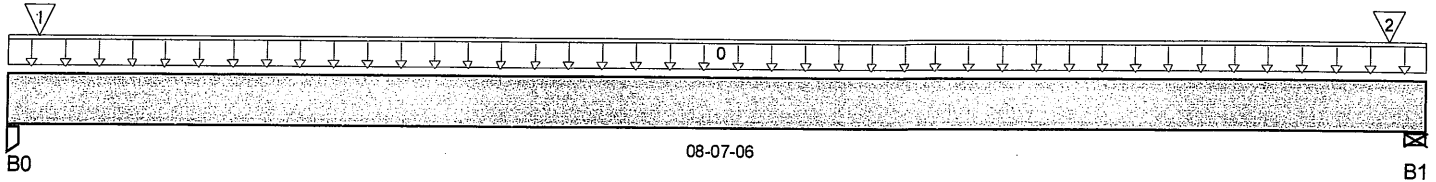
Designer:

Company:

Msc:

Town of Innisfil Certified Model

04/01/2018 3:18:25 PM kgervais



Total Horizontal Product Length = 08-07-06

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	216 / 0	158 / 0		
B1, 3-1/2"	101 / 0	83 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	08-07-06	18	9			n/a
1	E4(i770)	Conc. Pt. (lbs)	L	00-02-03	00-02-03	137	98			n/a
2	2(i781)	Conc. Pt. (lbs)	L	08-04-10	08-04-10	22	23			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	374 ft-lbs	12,704 ft-lbs	2.9%	1	04-03-11
End Shear	145 lbs	5,785 lbs	2.5%	1	01-01-00
Total Load Defl.	L/999 (0.013")	n/a	n/a	4	04-03-11
Live Load Defl.	L/999 (0.007")	n/a	n/a	5	04-03-11
Max Defl.	0.013"	n/a	n/a	4	04-03-11
Span / Depth	10.3	n/a	n/a		00-00-00

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here 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 1-800-964-6999 before installation.

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Post	3-1/2" x 1-3/4"	522 lbs	10.5%	7%	Unspecified
B1 Wall/Plate	3-1/2" x 1-3/4"	255 lbs	7.8%	3.4%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

**DWG NO. TAM 45421 -17
STRUCTURAL
COMPONENT ONLY**



BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 5, 2017 16:42:19

Build 5033

File Name: S32-3-10.mmdl

Job Name:

Description: Designs\Flush Beams\1st Floor\Flush Beams\B13(i1972)

Address:

Specifier:

City, Province, Postal Code:INNISFIL,

Designer:

Customer:

Company:

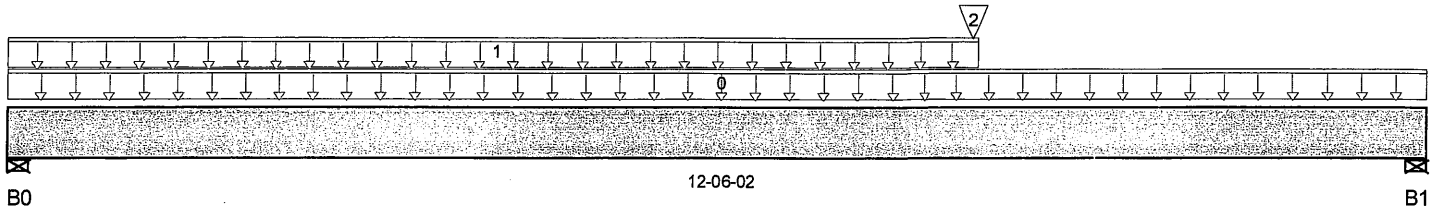
Code reports:

CCMC 12472-R

Misc:

Town of Innisfil Certified Model

04/01/2018 3:18:27 PM kgervais



Total Horizontal Product Length = 12-06-02

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 2-3/4"	533 / 0	299 / 0		
B1, 2-3/8"	706 / 0	388 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	FC4 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	12-06-02	24	12			n/a
1	FC4 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	08-06-12	29	14			n/a
2	-	Conc. Pt. (lbs)	L	08-06-00	08-06-00	674	345			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	5,466 ft-lbs	12,704 ft-lbs	43%	1	08-05-14
End Shear	1,481 lbs	5,785 lbs	25.6%	1	11-06-04
Total Load Defl.	L/392 (0.374")	0.61"	61.2%	4	06-07-07
Live Load Defl.	L/606 (0.242")	0.407"	59.4%	5	06-07-07
Max Defl.	0.374"	n/a	n/a	4	06-07-07
Span / Depth	15.4	n/a	n/a		00-00-00

Disclosure

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Bearing Supports

B0	Wall/Plate	2-3/4" x 1-3/4"	1,173 lbs	45.7%	20%	Unspecified
B1	Wall/Plate	2-3/8" x 1-3/4"	1,545 lbs	69.6%	30.5%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

DWG NO. TAM 45422-17
**STRUCTURAL
 COMPONENT ONLY**

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



BC CALC® Design Report


Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B14(i1973);

Specifier:

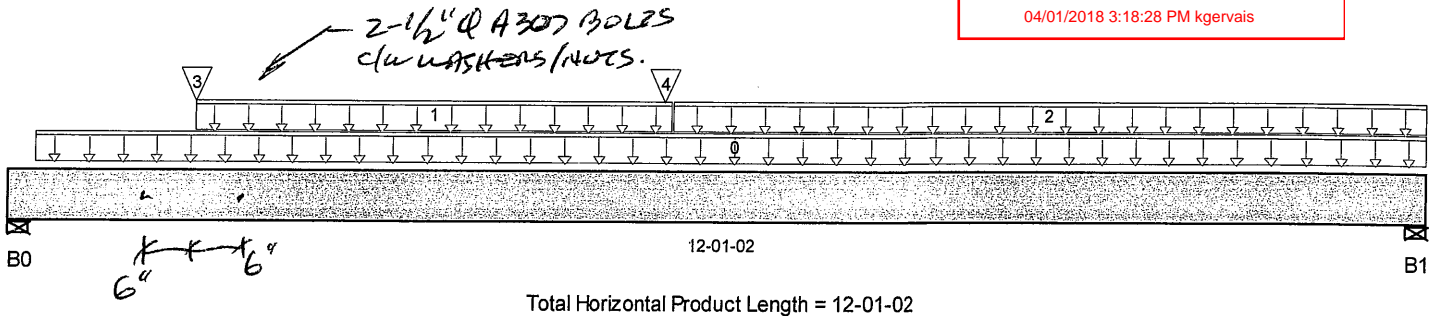
Designer:

Company:

Misc:

Town of Innisfil Certified Model

04/01/2018 3:18:28 PM kgervais


Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 5-1/2"	2,003 / 0	1,113 / 0		
B1, 4-3/8"	511 / 0	328 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	FC4 Floor Material	Unf. Lin. (lb/ft)	L	00-02-12	12-01-02	18	9			n/a
1	FC4 Floor Material	Unf. Lin. (lb/ft)	L	01-07-00	05-07-12	9	4			n/a
2	FC4 Floor Material	Unf. Lin. (lb/ft)	L	05-07-12	12-01-02	6	3			n/a
3	B18(i1974)	Conc. Pt. (lbs)	L	01-07-00	01-07-00	1,823	957			n/a
4	B15(i1971)	Conc. Pt. (lbs)	L	05-06-14	05-06-14	385	215			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	5,997 ft-lbs	25,408 ft-lbs	23.6%	1	05-06-14
End Shear	4,309 lbs	11,571 lbs	37.2%	1	01-03-00
Total Load Defl.	L/713 (0.192")	0.57"	33.6%	4	05-07-12
Live Load Defl.	L/999 (0.12")	n/a	n/a	5	05-07-12
Max Defl.	0.192"	n/a	n/a	4	05-07-12
Span / Depth	14.4	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	5-1/2" x 3-1/2"	4,397 lbs	42.8%	18.7%	Unspecified
B1 Wall/Plate	4-3/8" x 3-1/2"	1,178 lbs	14.4%	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 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 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

 DWG NO. TAM 4542317
**STRUCTURAL
COMPONENT ONLY**

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B14(i19;

Specifier:

Designer:

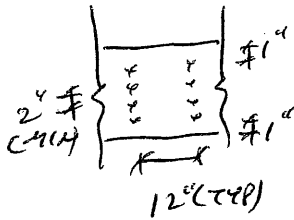
Company:

Misc:

Connection Diagram

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

*OK 476
NAILING
+
BOLTING*



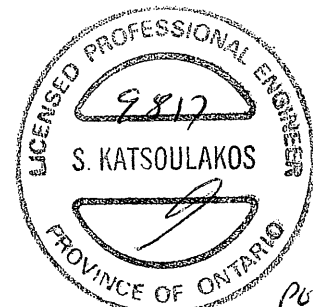
PROVIDE 4 ROWS OF 3 1/2" ARDOX SPIRAL NAILS @ 12" O/C FOR MULTI-PLY NAILING, MAINTAIN A MIN. 1" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS

*+
BOLTS*

Disclosure

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POY
DWG NO. TAM 45423.17
STRUCTURAL
COMPONENT ONLY

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 5, 2017 16:42:19

Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B15(i1971)

Specifier:

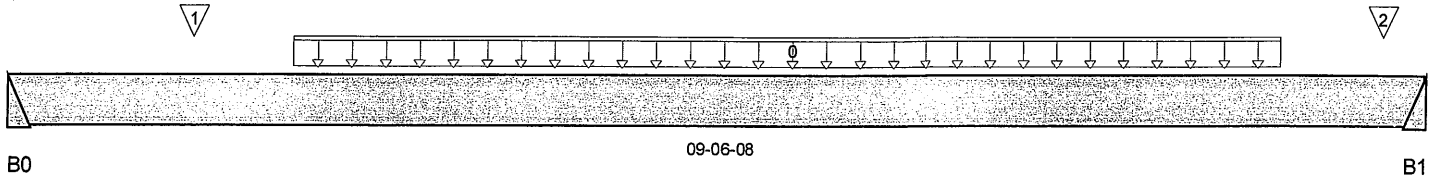
Designer:

Company:

Misc:

Town of Innisfil Certified Model

04/01/2018 3:18:34 PM kgervais



Total Horizontal Product Length = 09-06-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0	348 / 0	197 / 0		
B1	383 / 0	214 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	Smoothed Load	Unf. Lin. (lb/ft)	L	01-11-00	08-07-00	81	40			n/a
1	J5(i1797)	Conc. Pt. (lbs)	L	01-03-00	01-03-00	119	60			n/a
2	J5(i1791)	Conc. Pt. (lbs)	L	09-03-00	09-03-00	72	36			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,942 ft-lbs	12,704 ft-lbs	15.3%	1	05-03-00
End Shear	763 lbs	5,785 lbs	13.2%	1	00-11-08
Total Load Defl.	L/999 (0.086")	n/a	n/a	4	04-09-00
Live Load Defl.	L/999 (0.055")	n/a	n/a	5	04-09-00
Max Defl.	0.086"	n/a	n/a	4	04-09-00
Span / Depth	11.8	n/a	n/a		00-00-00

Disclosure

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Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Hanger	2" x 1-3/4"	769 lbs	n/a	18%	HUS1.81/10
B1 Hanger	2" x 1-3/4"	842 lbs	n/a	19.7%	HUS1.81/10

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 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

**DWG NO. TAM 45424-17
STRUCTURAL
COMPONENT ONLY**



BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 5, 2017 16:42:19

Build 5033

File Name: S32-3-10.mmdl

Job Name:

Description: Designs\Flush Beams\1st Floor\Flush Beams\B16(i1970)

Address:

Specifier:

City, Province, Postal Code: INNISFIL,

Designer:

Customer:

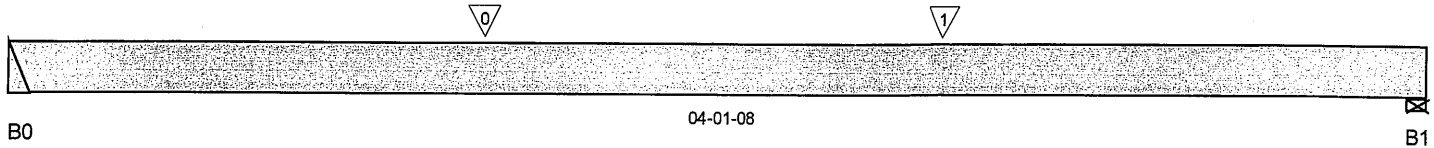
Company:

Code reports: CCMC 12472-R

Misc:

Town of Innisfil Certified Model

04/01/2018 3:18:36 PM kgervais



Total Horizontal Product Length = 04-01-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0	529 / 0	273 / 0		
B1, 5-1/2"	605 / 0	312 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	J4(i1902)	Conc. Pt. (lbs)	L	01-04-08	01-04-08	571	285			n/a
1	J4(i1816)	Conc. Pt. (lbs)	L	02-08-08	02-08-08	563	281			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,437 ft-lbs	12,704 ft-lbs	11.3%	1	01-04-08
End Shear	1,290 lbs	5,785 lbs	22.3%	1	02-10-08
Total Load Defl.	L/999 (0.01")	n/a	n/a	4	01-11-00
Live Load Defl.	L/999 (0.006")	n/a	n/a	5	01-11-00
Max Defl.	0.01"	n/a	n/a	4	01-11-00
Span / Depth	4.6	n/a	n/a		00-00-00

Disclosure

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Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Hanger	2" x 1-3/4"	1,136 lbs	n/a	26.6%	HUS1.81/10
B1 Wall/Plate	5-1/2" x 1-3/4"	1,297 lbs	25.2%	11%	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.

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 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO DBC 2012

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 5, 2017 16:50:06

Build 5033

File Name: S32-3-10.mmdl

Job Name:

Description: Designs\Flush Beams\1st Floor\Flush Beams\B17(i2341)

Address:

Specifier:

City, Province, Postal Code: INNISFIL,

Designer:

Customer:

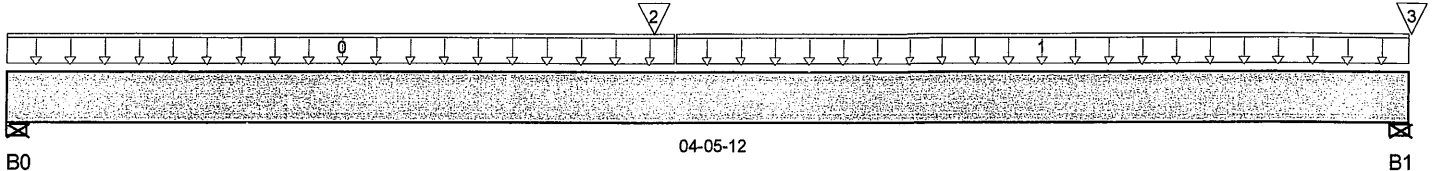
Company:

Code reports: CCMC 12472-R

Msc:

Town of Innisfil Certified Model

04/01/2018 3:18:38 PM kgervais



Total Horizontal Product Length = 04-05-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	292 / 0	170 / 0		
B1, 4"	312 / 0	178 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	FC4 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	02-01-08	53	27			n/a
1	FC4 Floor Material	Unf. Lin. (lb/ft)	L	02-01-08	04-05-12	28	14			n/a
2	B15(i1971)	Conc. Pt. (lbs)	L	02-00-10	02-00-10	346	197			n/a
3	FC4 Floor Material	Conc. Pt. (lbs)	L	04-05-12	04-05-12	78	39			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	937 ft-lbs	12,704 ft-lbs	7.4%	1	02-00-10
End Shear	521 lbs	5,785 lbs	9%	1	01-01-00
Total Load Defl.	L/999 (0.006")	n/a	n/a	4	02-01-15
Live Load Defl.	L/999 (0.004")	n/a	n/a	5	02-01-15
Max Defl.	0.006"	n/a	n/a	4	02-01-15
Span / Depth	5	n/a	n/a		00-00-00

Disclosure

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Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0	Wall/Plate 3-1/2" x 1-3/4"	650 lbs	19.9%	8.7%	Unspecified
B1	Wall/Plate 4" x 1-3/4"	690 lbs	18.4%	8.1%	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 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

DWG NO. TAM45426-17
STRUCTURAL
COMPONENT ONLY

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Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B18(i1974)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 5, 2017 16:42:20

Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B18(i1974)

Specifier:

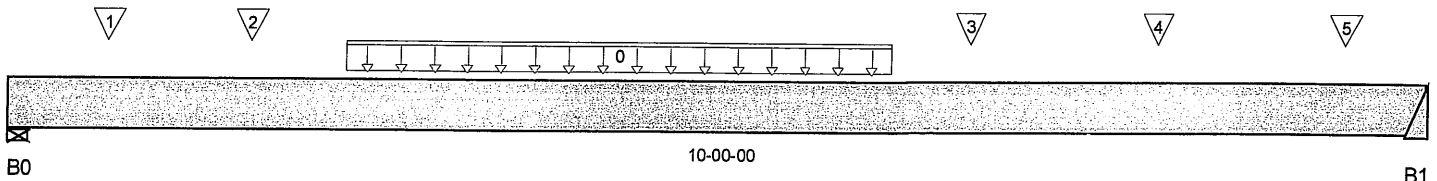
Designer:

Company:

Misc:

Town of Innisfil Certified Model

04/01/2018 3:18:39 PM kgervais



Total Horizontal Product Length = 10-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 5-1/2"	1,866 / 0	983 / 0		
B1	1,837 / 0	965 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
0	Smoothed Load	Unf. Lin. (lb/ft)	L	02-04-08	06-02-08	395	198			n/a
1	J1 (1820)	Conc. Pt. (lbs)	L	00-08-08	00-08-08	323	162			n/a
2	-	Conc. Pt. (lbs)	L	01-08-08	01-08-08	447	223			n/a
3	-	Conc. Pt. (lbs)	L	06-09-07	06-09-07	456	228			n/a
4	-	Conc. Pt. (lbs)	L	08-01-06	08-01-06	506	253			n/a
5	-	Conc. Pt. (lbs)	L	09-05-02	09-05-02	455	227			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	9,282 ft-lbs	25,408 ft-lbs	36.5%	1	04-08-08
End Shear	3,543 lbs	11,571 lbs	30.6%	1	01-03-00
Total Load Defl.	L/533 (0.214")	0.475"	45%	4	05-01-00
Live Load Defl.	L/813 (0.14")	0.317"	44.3%	5	05-01-00
Max Defl.	0.214"	n/a	n/a	4	05-01-00
Span / Depth	12	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	5-1/2" x 3-1/2"	4,028 lbs	39.2%	17.2%	Unspecified
B1 Hanger	2" x 3-1/2"	3,961 lbs	n/a	46.4%	HGUS410

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 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012





Build 5033

Job Name:

Address:

City, Province, Postal Code: INNISFIL,

Customer:

Code reports: CCMC 12472-R

File Name: S32-3-10.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B18(i197

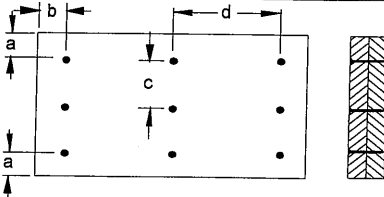
Specifier:

Designer:

Company:

Misc:

Connection Diagram



a minimum = 2" c = 2-3/4"
b minimum = 3" d = 6"

Calculated Side Load = 625.2 lb/ft

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: 16d Nails

3 1/2" ARDOX SPIRAL

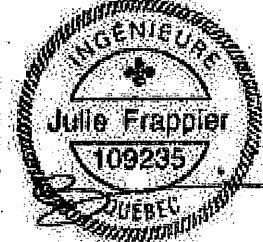
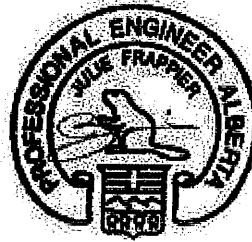
Disclosure

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DW000.TAM45422-17
STRUCTURAL
COMPONENT ONLY



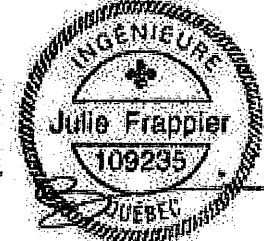
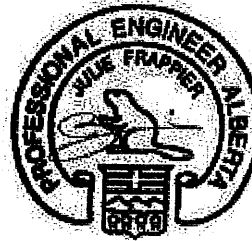
Maximum Floor Spans

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

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

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

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



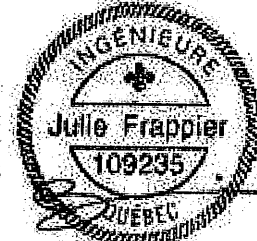
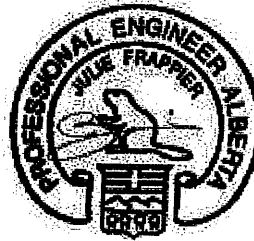
Maximum Floor Spans

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

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

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

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



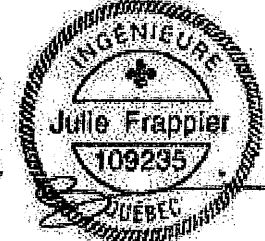
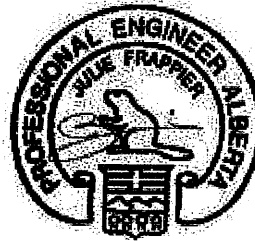
Maximum Floor Spans

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

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

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

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



Maximum Floor Spans

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

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

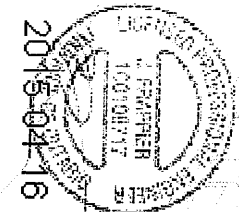
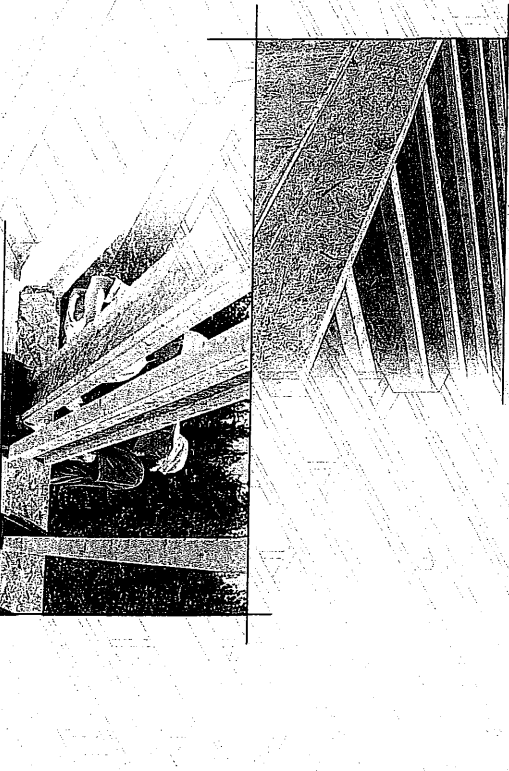
NORDIC

ENGINEERED WOOD

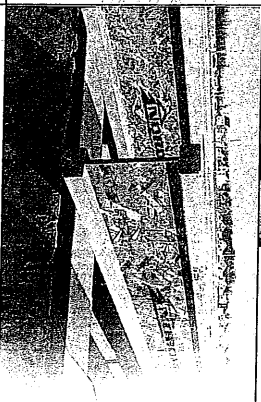


INSTALLATION GUIDE

FOR RESIDENTIAL FLOORS



Distributed by:



N-C301 / November 2014

SAFETY AND CONSTRUCTION PRECAUTIONS

WARNING

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

Avoid Accidents by Following these Important Guidelines:

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

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.



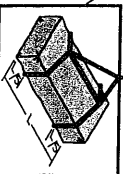
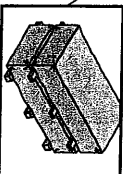
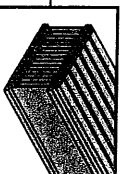
Do not walk on I-joists until fully fastened and braced, or serious injuries can result.



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

STORAGE AND HANDLING GUIDELINES

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



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

- ## WEB STIFFENERS:

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

Approx. 2" I

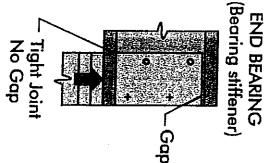
1/8"-1/4" Gap

(4) 2-1/2" bolts,
3" bolts required
for Hoists with 3-1/2
flange width

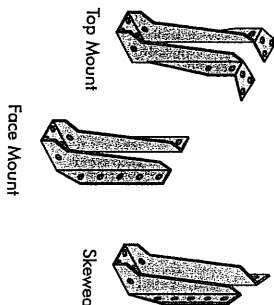
Approx. 2" I

SIFTENER SIZE REQUIREMENTS

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



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



33 pieces per unit	33 pieces per unit	33 pieces per unit	23 pieces per unit	23 pieces per unit	23 pieces per unit	23 pieces per unit	23 pieces per unit
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Chambers Chibougmaou Ltd. harvests its own trees, which enables it to ensure that the timber is of the highest quality. The company's commitment to quality products to adhere to strict quality control procedures throughout the manufacturing process. Every phase of the operation, from forest to the finished product, reflects our commitment to quality.

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

2015-04-16

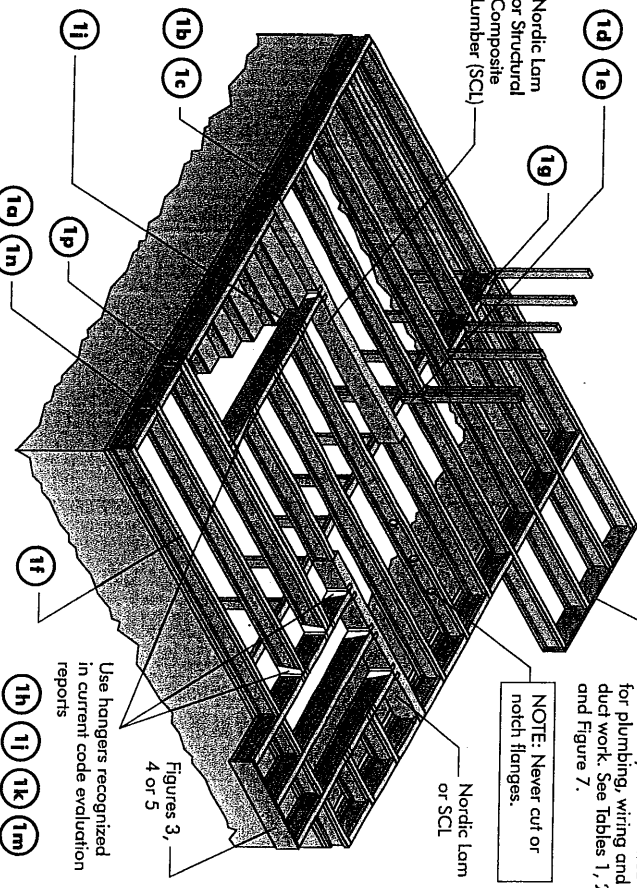
INSTALLING NORDIC I-JOISTS

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

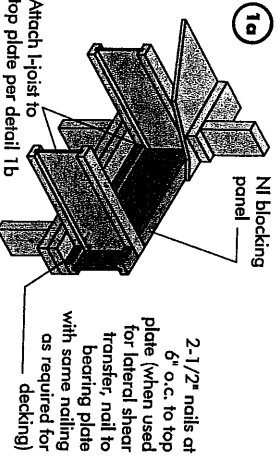
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FIGURE 1
TYPICAL NORDIC I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS

Some framing requirements such as erection bracing and blocking panels have been omitted for clarity.

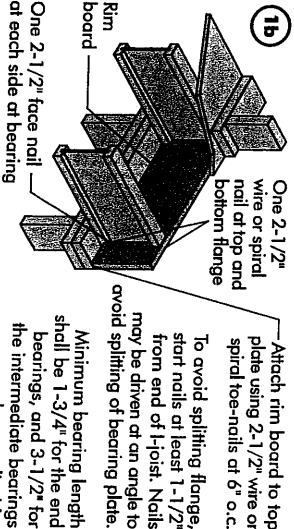


All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (0.122" dia.) common spiral nails may be substituted for 2-1/2" (0.128" dia.) common wire nails. Framing lumber assumed to be Spruce-Pine-Fir, No. 2 or better. Individual components not shown to scale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



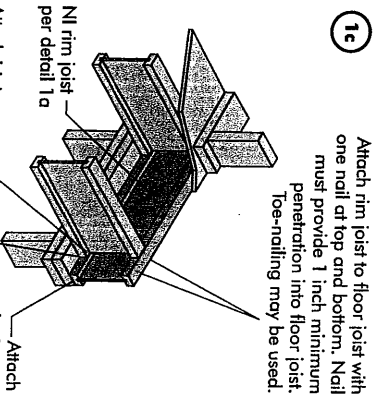
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
Nl Joists	3,300

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

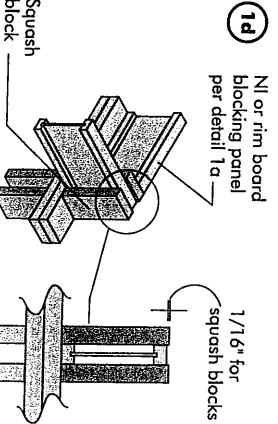


Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
1-1/8" Rim Board Plus	8,070

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

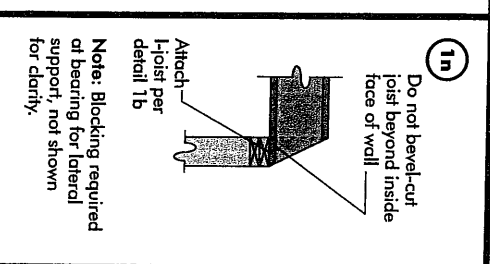
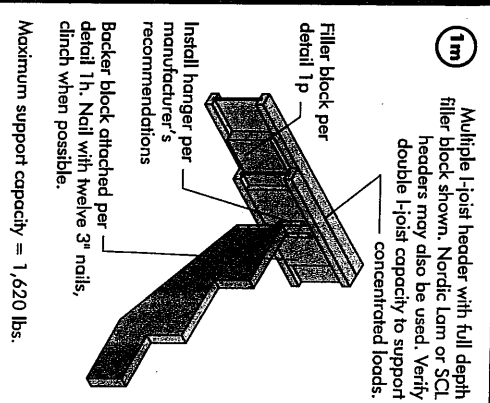
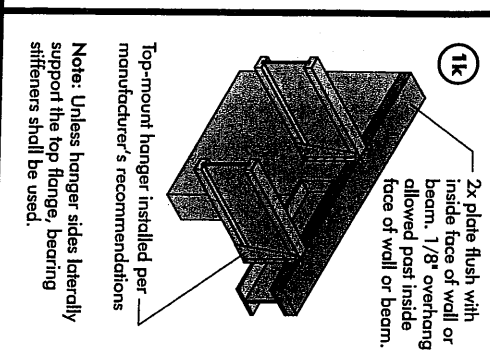
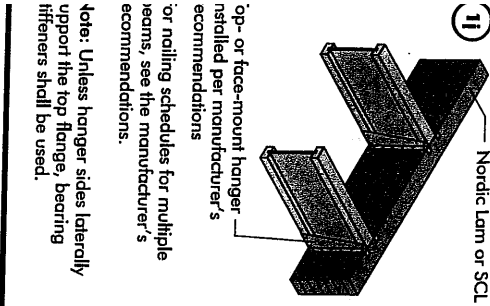
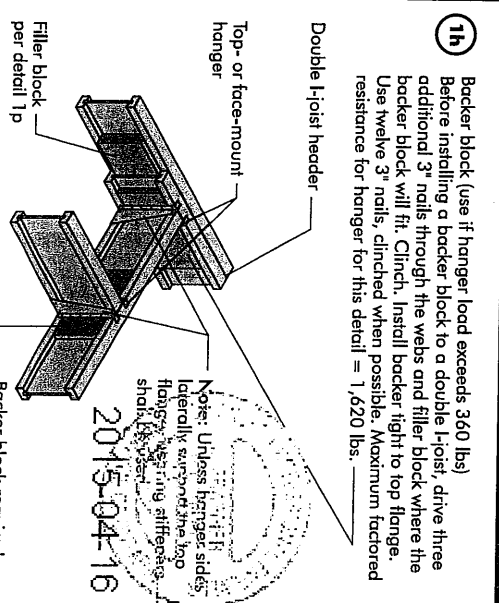
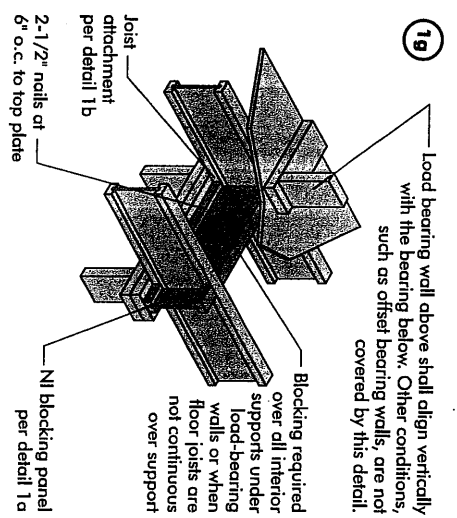
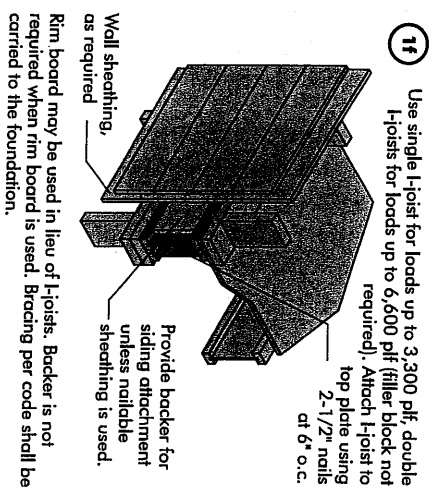
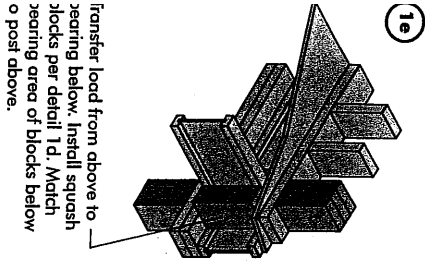


Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
Nl rim joist	3,300



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

Provide lateral bracing per detail 1a, 1b, or 1c



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

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

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

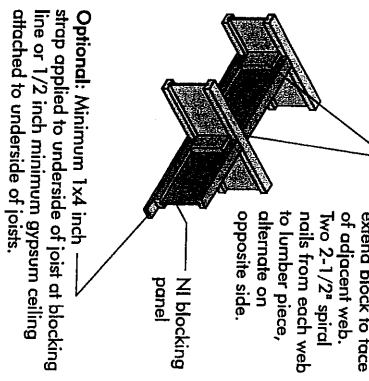
Notes:

1. Support back of I-joist web during nailing to prevent damage to web/flange connection.
2. Leave a 1/8 to 1/4-inch gap between top of filler block and bottom of top I-joist flange.
3. Filler block is required between joists for full length of span.
4. 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.
5. The maximum factored load that may be applied to one side of the double joist using this detail is 860 lb/ft. Verify double I-joist capacity.

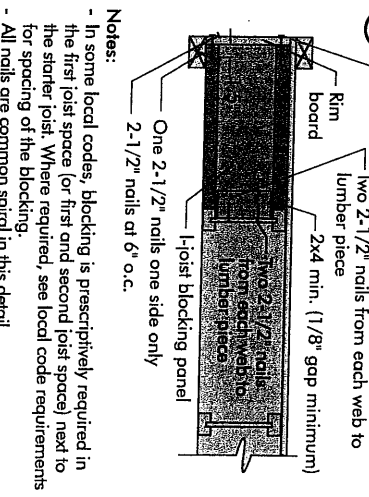
FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION

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

1r

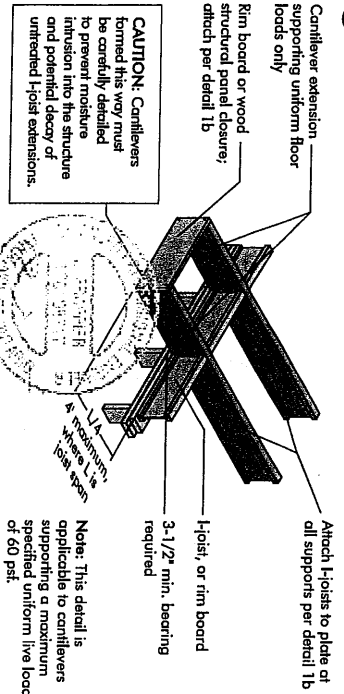


1s

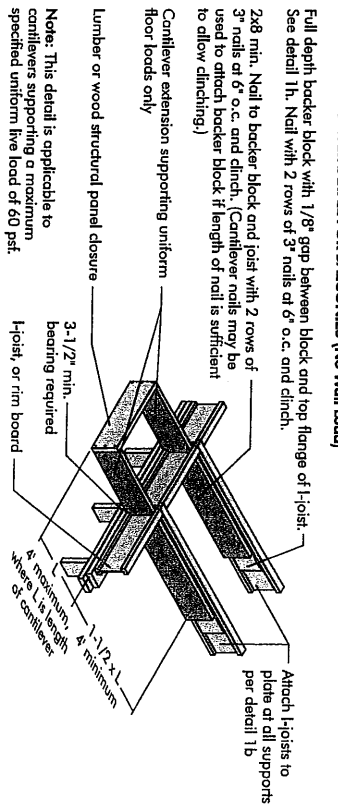


CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)

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

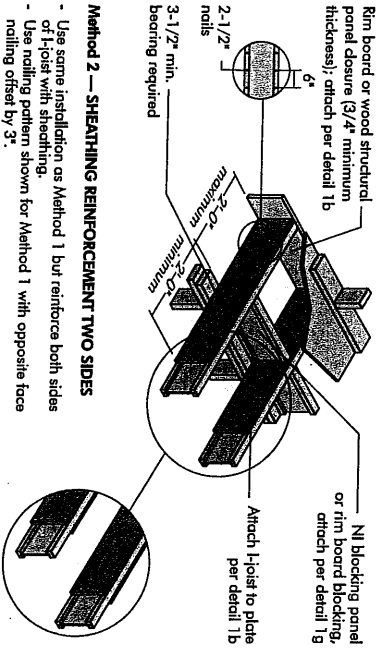


3b) LUMBER CANTILEVER DETAIL FOR BALCONIES (No Wall Load)

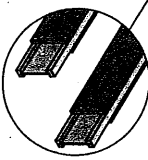


CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

4a) Method 1 — SHEATHING REINFORCEMENT ONE SIDE

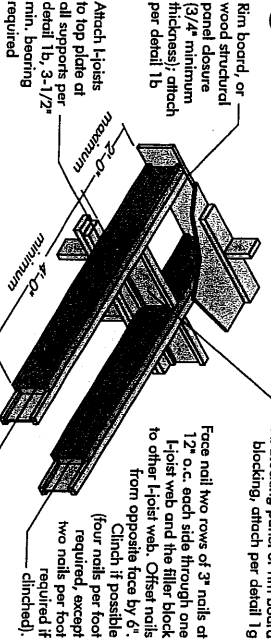


Method 2 — SHEATHING REINFORCEMENT TWO SIDES



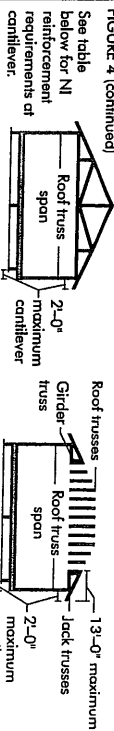
Note: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate or all supports per detail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

4b) Alternate Method 2 — DOUBLE I-JOIST



Block I-joists together with filler blocks for the full length of the reinforcement. For I-joist flange widths greater than 3 inches place an additional row of 3" nails along the cantilever of the reinforcing panel from each side. Clinch when possible.

FIGURE 4 (continued)



CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST DEPTH (in.)	ROOF TRUSS SPAN (ft)	JOIST SPACING (in.)				ROOF LOADING (UNFACTORED)				JOIST SPACING (in.)			
		12	16	19.2	24	12	16	19.2	24	12	16	19.2	24
2 1/2	28	N	N	N	N	N	N	N	N	N	N	N	N
3 1/2	30	N	N	N	N	N	N	N	N	N	N	N	N
4 1/2	32	N	N	N	N	N	N	N	N	N	N	N	N
5 1/2	34	N	N	N	N	N	N	N	N	N	N	N	N
6 1/2	36	N	N	N	N	N	N	N	N	N	N	N	N
7 1/2	38	N	N	N	N	N	N	N	N	N	N	N	N
8 1/2	40	N	N	N	N	N	N	N	N	N	N	N	N
9 1/2	42	N	N	N	N	N	N	N	N	N	N	N	N
10 1/2	44	N	N	N	N	N	N	N	N	N	N	N	N
11 1/2	46	N	N	N	N	N	N	N	N	N	N	N	N
12 1/2	48	N	N	N	N	N	N	N	N	N	N	N	N
13 1/2	50	N	N	N	N	N	N	N	N	N	N	N	N
14 1/2	52	N	N	N	N	N	N	N	N	N	N	N	N
15 1/2	54	N	N	N	N	N	N	N	N	N	N	N	N
16 1/2	56	N	N	N	N	N	N	N	N	N	N	N	N
17 1/2	58	N	N	N	N	N	N	N	N	N	N	N	N
18 1/2	60	N	N	N	N	N	N	N	N	N	N	N	N
19 1/2	62	N	N	N	N	N	N	N	N	N	N	N	N
20 1/2	64	N	N	N	N	N	N	N	N	N	N	N	N
21 1/2	66	N	N	N	N	N	N	N	N	N	N	N	N
22 1/2	68	N	N	N	N	N	N	N	N	N	N	N	N
23 1/2	70	N	N	N	N	N	N	N	N	N	N	N	N
24 1/2	72	N	N	N	N	N	N	N	N	N	N	N	N
25 1/2	74	N	N	N	N	N	N	N	N	N	N	N	N
26 1/2	76	N	N	N	N	N	N	N	N	N	N	N	N
27 1/2	78	N	N	N	N	N	N	N	N	N	N	N	N
28 1/2	80	N	N	N	N	N	N	N	N	N	N	N	N
29 1/2	82	N	N	N	N	N	N	N	N	N	N	N	N
30 1/2	84	N	N	N	N	N	N	N	N	N	N	N	N
31 1/2	86	N	N	N	N	N	N	N	N	N	N	N	N
32 1/2	88	N	N	N	N	N	N	N	N	N	N	N	N
33 1/2	90	N	N	N	N	N	N	N	N	N	N	N	N
34 1/2	92	N	N	N	N	N	N	N	N	N	N	N	N
35 1/2	94	N	N	N	N	N	N	N	N	N	N	N	N
36 1/2	96	N	N	N	N	N	N	N	N	N	N	N	N
37 1/2	98	N	N	N	N	N	N	N	N	N	N	N	N
38 1/2	100	N	N	N	N	N	N	N	N	N	N	N	N
39 1/2	102	N	N	N	N	N	N	N	N	N	N	N	N
40 1/2	104	N	N	N	N	N	N	N	N	N	N	N	N
41 1/2	106	N	N	N	N	N	N	N	N	N	N	N	N
42 1/2	108	N	N	N	N	N	N	N	N	N	N	N	N
43 1/2	110	N	N	N	N	N	N	N	N	N	N	N	N
44 1/2	112	N	N	N	N	N	N	N	N	N	N	N	N
45 1/2	114	N	N	N	N	N	N	N	N	N	N	N	N
46 1/2	116	N	N	N	N	N	N	N	N	N	N	N	N
47 1/2	118	N	N	N	N	N	N	N	N	N	N	N	N
48 1/2	120	N	N	N	N	N	N	N	N	N	N	N	N
49 1/2	122	N	N	N	N	N	N	N	N	N	N	N	N
50 1/2	124	N	N	N	N	N	N	N	N	N	N	N	N
51 1/2	126	N	N	N	N	N	N	N	N	N	N	N	N
52 1/2	128	N	N	N	N	N	N	N	N	N	N	N	N
53 1/2	130	N	N	N	N	N	N	N	N	N	N	N	N
54 1/2	132	N	N	N	N	N	N	N	N	N	N	N	N
55 1/2	134	N	N	N	N	N	N	N	N	N	N	N	N
56 1/2	136	N	N	N	N	N	N	N	N	N	N	N	N
57 1/2	138	N	N	N	N	N	N	N	N	N	N	N	N
58 1/2	140	N	N	N	N	N	N	N	N	N	N	N	N
59 1/2	142	N	N	N	N	N	N	N	N	N	N	N	N
60 1/2	144	N	N	N	N	N	N	N	N	N	N	N	N
61 1/2	146	N	N	N	N	N	N	N	N	N	N	N	N
62 1/2	148	N	N	N	N	N	N	N	N	N	N	N	N
63 1/2	150	N	N	N	N	N	N	N	N	N	N	N	N
64 1/2	152	N	N	N	N	N	N	N	N	N	N	N	N
65 1/2	154	N	N	N	N	N	N	N	N	N	N	N	N
66 1/2	156	N	N	N	N	N	N	N	N	N	N	N	N
67 1/2	158	N	N	N	N	N	N	N	N	N	N	N	N
68 1/2	160	N	N	N	N	N	N	N	N	N	N	N	N
69 1/2	162	N	N	N	N	N	N	N	N	N	N	N	N
70 1/2	164	N	N	N	N	N	N	N	N	N	N	N	N
71 1/2	166	N	N	N	N	N	N	N	N	N	N	N	N
72 1/2	168	N	N	N	N	N	N	N	N	N	N	N	N
73 1/2	170	N	N	N	N	N	N	N	N	N	N	N	N
74 1/2	172	N	N	N	N	N	N	N	N	N	N	N	N
75 1/2	174	N	N	N	N	N	N	N	N	N	N	N	N
76 1/2	176	N	N	N	N	N	N	N	N	N	N	N	N
77 1/2	178	N	N	N	N	N	N	N	N	N	N	N	N
78 1/2	180	N	N	N	N	N	N	N	N	N	N	N	N
79 1/2	182	N	N	N	N	N	N	N	N	N	N	N	N
80 1/2	184	N	N	N	N	N	N	N	N	N	N	N	N
81 1/2	186	N	N	N	N	N	N	N	N	N	N	N	N
82 1/2	188	N	N	N	N	N	N	N	N	N	N	N	N
83 1/2	190	N	N	N	N	N	N	N	N	N	N	N	N
84 1/2	192	N	N	N	N	N	N	N	N	N	N	N	N
85 1/2	194	N	N	N	N	N	N	N	N	N	N	N	N
86 1/2	196	N	N	N	N	N	N	N	N	N	N	N	N
87 1/2	198	N	N	N	N	N	N	N	N	N	N	N	N
88 1/2	200	N	N	N	N	N	N	N	N	N	N	N	N
89 1/2	202	N	N	N	N	N	N	N	N	N	N	N	N
90 1/2	204	N	N	N	N	N	N	N	N	N	N	N	N
91 1/2	206	N	N	N	N	N	N	N	N	N	N	N	N
92 1/2	208	N	N	N	N	N	N	N	N	N	N	N	N
93 1/2	210	N	N	N	N	N	N	N	N	N	N	N	N
94 1/2	212	N	N	N	N	N	N	N	N	N	N	N	N
95 1/2	214	N	N	N	N	N	N	N	N	N	N	N	N
96 1/2	216	N	N	N	N	N	N	N	N	N	N	N	N
97 1/2	218	N	N	N	N	N	N	N	N	N	N	N	N
98 1/2	220	N	N	N	N	N	N	N	N	N	N	N	N
99 1/2	222	N	N	N	N	N	N	N	N	N	N	N	N
100 1/2	224	N	N	N	N	N	N	N	N	N	N	N	N

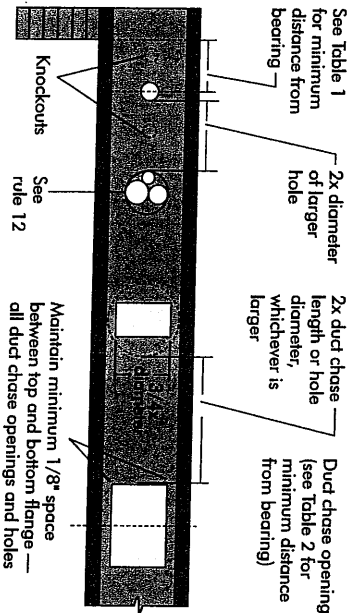
1. N = No reinforcement required.
2. NI = NI reinforced with 3/4" wood structural panel on one side only.
3. NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
4. For larger openings, or multiple 3'-0" with openings spaced less than 6'-0" o.c., additional joists beneath the opening's cripple studs may be required.
5. Table applies to joists 12" to 24" o.c. that meet the floor span requirements for a design dead load, 55 psf floor total load, and 80 psf wall load. Wall load is based on 3'-0" maximum width window or door openings.
6. 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.
7. When the roof is framed using a ridge board, the Roof Truss Span is equivalent to the distance between the supporting walls as if a truss is used.
8. Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

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

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 at 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 prescored holes provided for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2 inches in diameter, and are spaced 15 inches on centre along the length of the 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.

For retriangular 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

[illegible]

1. Above table may be used for 1-joint spacing of 24 inches on centre or less.
2. Hole location distance is measured from inside face of supports to centre of hole.
3. Distances in this chart are based on uniformly loaded joists.

OPTIONAL:

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

$$D_{\text{reduced}} = \frac{D_{\text{actual}}}{2} \times D$$

$$D_{\text{reduced}} = \frac{\text{actual}}{\text{actual} \times D}$$

Where,

reduced

SAF

11

1

The minimum distance from the inside face of any support to centre of hole from this table

If l_{actual} is greater than 1, use 1 in the above calculation for l_{actual}.

SAF SAF

TABLE 2
DUCT CHASE OPENING SIZES AND LOCATIONS — Simla Sagar O-b

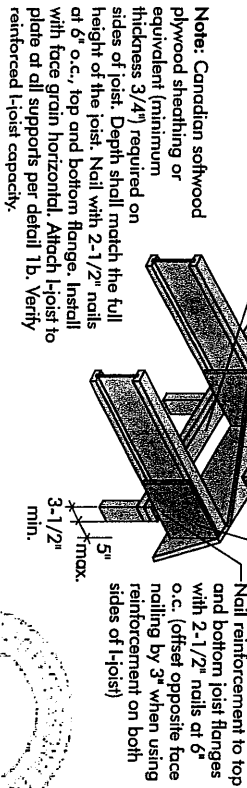
Joist Depth	Joist Series	Minimum distance from inside face of any support to centre of opening (ft-in.)										
		Duct chase length (in.)										
		8	10	12	14	16	18	20	22	24		
6 1/2"	100	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	120	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	140	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	160	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	180	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
8"	100	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	120	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	140	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	160	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	180	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
10"	100	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	120	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	140	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	160	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	180	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
12"	100	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	120	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	140	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	160	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	
	180	7-1 1/2	7-5	7-0	6-5 1/2	6-1	5-8 1/2	5-4	5-0 1/2	4-6 1/2	4-2 1/2	

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

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

5a SHEATHING REINFORCEMENT

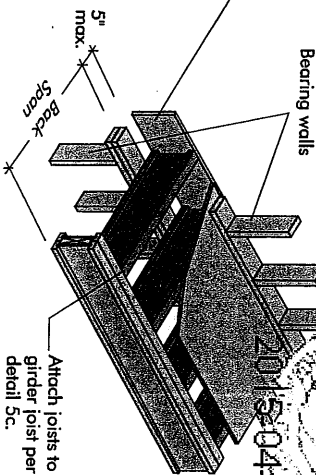
Provide full depth blocking between joists over support (not shown)



5b SET-BACK DETAIL

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

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



5c SET-BACK CONNECTION

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

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

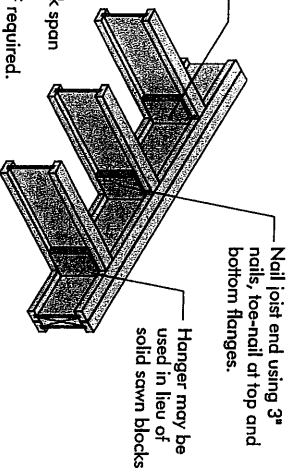
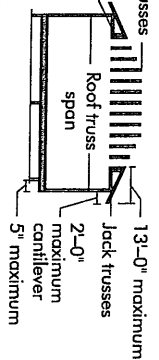
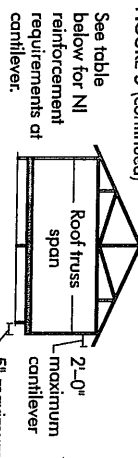


FIGURE 5 (continued)



BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST DEPTH (in.)	ROOF TRUSS SPAN (ft)			ROOF LOADING (UNFACTORED)			JOIST SPACING (in.)			JOIST SPACING (in.)		
	12	16	19.2	12	16	19.2	12	16	19.2	12	16	19.2
12	X	X	X	X	X	X	X	X	X	X	X	X
14	X	X	X	X	X	X	X	X	X	X	X	X
16	X	X	X	X	X	X	X	X	X	X	X	X
18	X	X	X	X	X	X	X	X	X	X	X	X
20	X	X	X	X	X	X	X	X	X	X	X	X
22	X	X	X	X	X	X	X	X	X	X	X	X
24	X	X	X	X	X	X	X	X	X	X	X	X
26	X	X	X	X	X	X	X	X	X	X	X	X
28	X	X	X	X	X	X	X	X	X	X	X	X
30	X	X	X	X	X	X	X	X	X	X	X	X
32	X	X	X	X	X	X	X	X	X	X	X	X
34	X	X	X	X	X	X	X	X	X	X	X	X
36	X	X	X	X	X	X	X	X	X	X	X	X
38	X	X	X	X	X	X	X	X	X	X	X	X
40	X	X	X	X	X	X	X	X	X	X	X	X
42	X	X	X	X	X	X	X	X	X	X	X	X

1. N = No reinforcement required.
2. NI = NI reinforced with 3/4 inch wood structural panel on one side only.
3. For larger openings, or multiple 3-0 inch width openings spaced less than 6-0 inch o.c., additional joists beneath the opening's cripple studs may be required.
4. 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.
5. Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

INSTALLING THE GLUED FLOOR SYSTEM

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

FASTENERS FOR SHEATHING AND SUBFLOORING(1)

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

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

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

IMPORTANT NOTE:

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

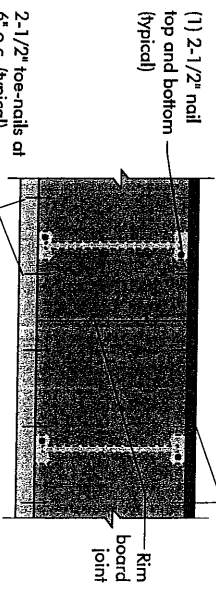
RIM BOARD INSTALLATION DETAILS

8a ATTACHMENT DETAILS WHERE RIM BOARDS ABUT

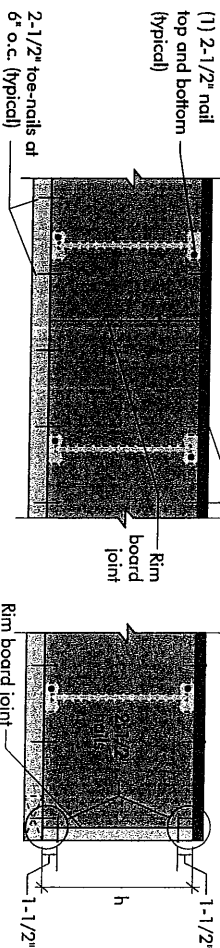
Rim board Joint Between Floor Joists

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

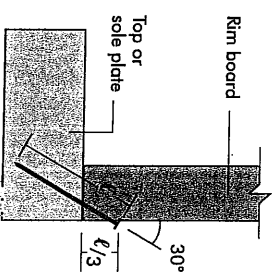
(1) 2-1/2" nail top and bottom (typical)



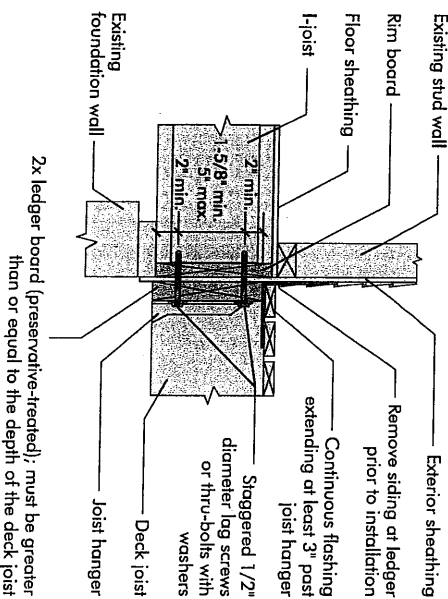
Rim board Joint at Corner



8b TOE-NAIL CONNECTION AT RIM BOARD



8c 2X LEDGER TO RIM BOARD ATTACHMENT DETAIL

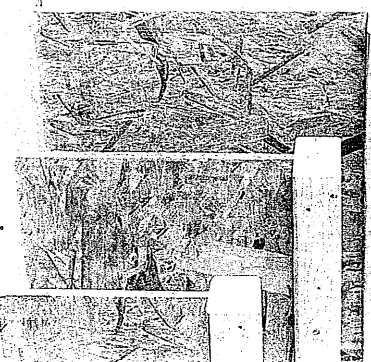


2015-04-16

PRODUCT WARRANTY

Customer acknowledges that, in accordance with our specifications, the products are not to be used for any purpose other than that intended by the manufacturer.

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

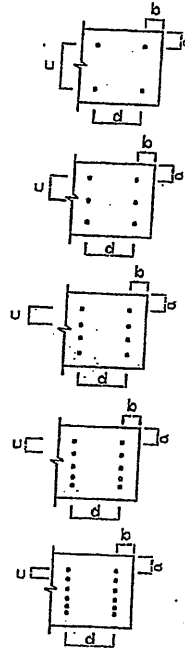


MICRO CITY ENGINEERING SERVICES INC.

TEL: (519) 287 - 2242

R.R. #1, P.O. BOX 61, GLENCOE, ONTARIO, N0L 1M0

LVL HEADER AND CONVENTIONAL LUMBER NAILING DETAILS		
DETAIL NUMBER	NUMBER OF ROWS	SPACING (INCHES o/c) "d"
A	2	12
B	2	8
C	2	6
D	2	4
1A	3	12
1B	3	8
1C	3	6
1D	3	4
2A	4	12
2B	4	8
2C	4	6
2D	4	4
3A	5	12
3B	5	8
3C	5	6
3D	5	4
4A	6	12
4B	6	8
4C	6	6
4D	6	4



NOTES:

- (1) MINIMUM LUMBER EDGE DISTANCE "a" = 1"
- (2) MINIMUM LUMBER END DISTANCE "b" = 2"
- (3) MINIMUM NAIL ROW SPACING "c" = 2"
- (4) STAGGER NAILS "d/2" BETWEEN PLYS FOR MULTI-PLY MEMBERS (3 PLY OR MORE)
- (5) ALL NAILS ARE 3-1/2" ARDOX SPIRAL NAILS
- (6) DO NOT USE AIR-DRIVEN NAILS



DWG NO TAMN1001.14

STRUCTURAL

COMPONENT ONLY

TO BE USED ONLY
WITH BEAM CALCS
BEARING THE
STAMP BELOW

PROVIDE NAILING
DETAIL # X SEE
DWG #TAMN1001-14