

FROM PLAN DATED: AUG 27, 2020

BUILDER: GREENPARK HOMES

SITE: RUSSELL GARDENS PH 3

MODEL: MOUNTAINASH 6

ELEVATION: 3

LOT: 295

CITY: WATERDOWN

SALESMAN: MARIO DICIANO

DESIGNER: AJ

REVISION: L.D.

NOTES:

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

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

LOADING:

DESIGN LOADS: L/480.000

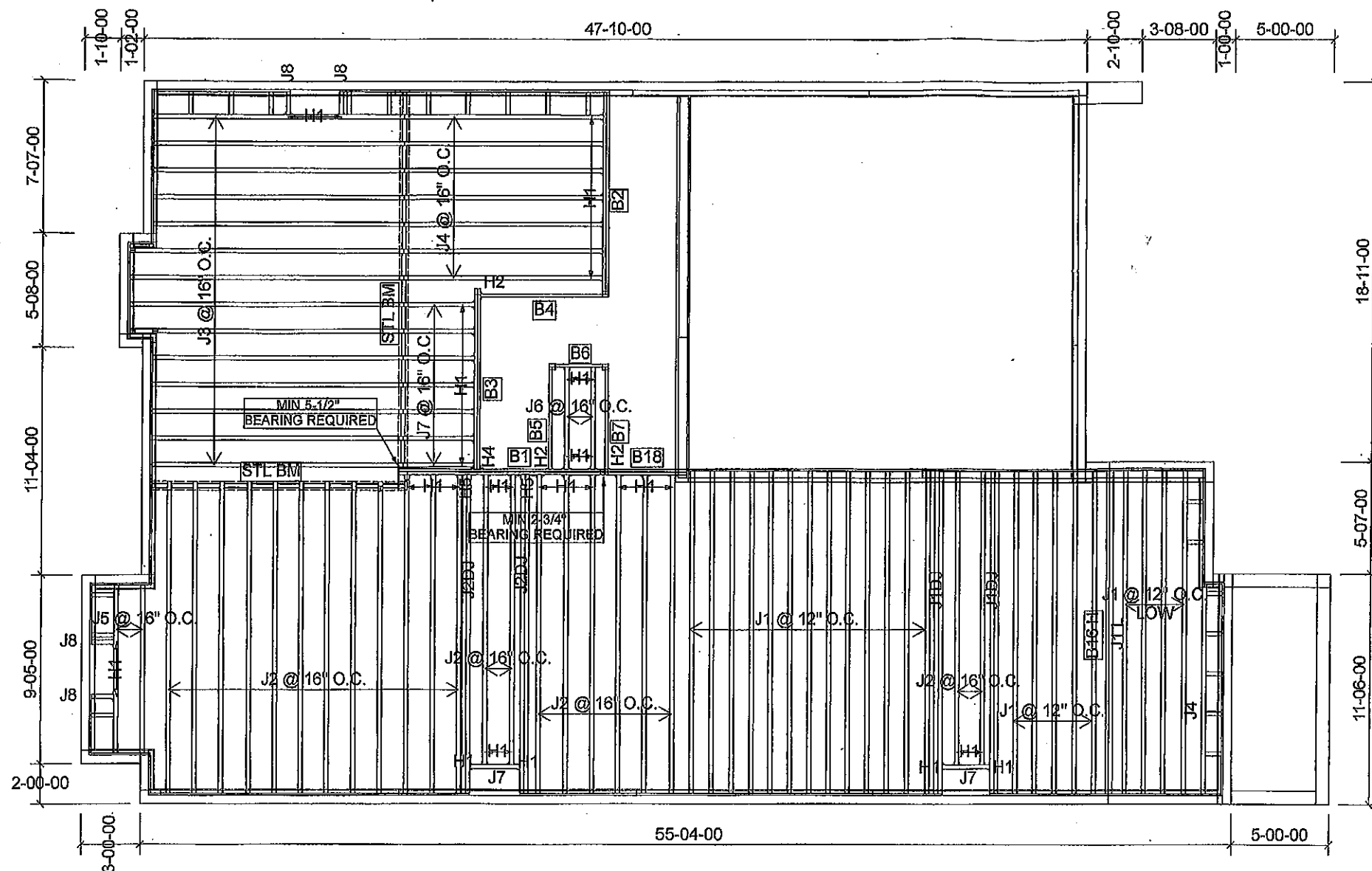
LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2020-09-17

1st FLOOR



Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
J1	18-00-00	9 1/2" NI-40x	1	22	MFD
J1 L	18-00-00	9 1/2" NI-40x	1	1	MFD
J1DJ	18-00-00	9 1/2" NI-40x	2	4	MFD
J2	16-00-00	9 1/2" NI-40x	1	22	MFD
J2DJ	16-00-00	9 1/2" NI-40x	2	4	MFD
J3	14-00-00	9 1/2" NI-40x	1	14	MFD
J4	12-00-00	9 1/2" NI-40x	1	8	MFD
J5	10-00-00	9 1/2" NI-40x	1	2	MFD
J6	6-00-00	9 1/2" NI-40x	1	2	MFD
J7	4-00-00	9 1/2" NI-40x	1	9	MFD
J8	2-00-00	9 1/2" NI-40x	1	4	MFD
B16 H	18-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B1	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B2	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B3	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B4	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B5	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B7	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B18	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B6	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD

Connector Summary		
Qty	Manuf	Product
2	H1	IUS2.56/9.5
27	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
3	H2	HUS1.81/10
1	H4	HGUS410
2	H5	HU312-2

CITY OF HAMILTON
Building Division

Permit No. 21-107161

THESE STAMPED DRAWINGS SHALL BE AVAILABLE ON SITE

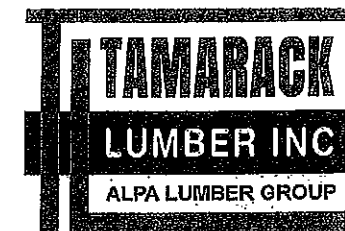
THE OWNER AND/OR CONTRACTOR SHALL COMPLY WITH
THE ONTARIO BUILDING CODE AND ALL OTHER APPLICABLE LAW

These drawings and/or specifications have been reviewed by

FEB 26 2021

FOR CHIEF BUILDING OFFICIAL

DATE



FROM PLAN DATED: AUG 27, 2020

BUILDER: GREENPARK HOMES

SITE: RUSSELL GARDENS PH 3

MODEL: MOUNTAINASH 6

ELEVATION: 3

LOT: 295

CITY: WATERDOWN

SALESMAN: MARIO DICIANO

DESIGNER: AJ

REVISION: L.D.

NOTES:

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

LOADING:

DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft²

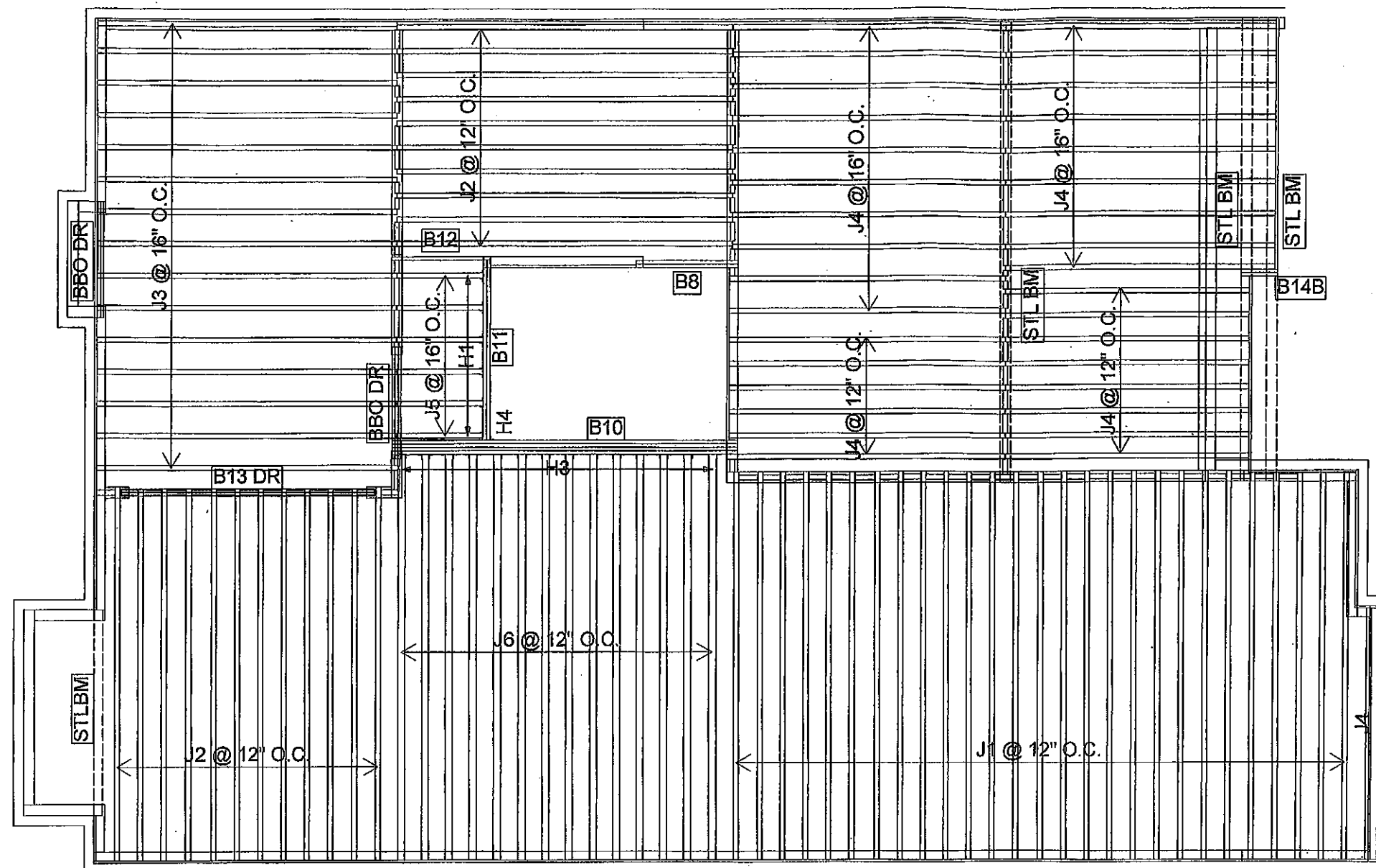
DEAD LOAD: 20.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2020-09-16

2nd FLOOR

OPT 5 BEDROOM



Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
J1	18-00-00	9 1/2" NI-40x	1	27	MFD
J2	16-00-00	9 1/2" NI-40x	1	22	MFD
J3	14-00-00	9 1/2" NI-40x	1	15	MFD
J4	12-00-00	9 1/2" NI-40x	1	34	MFD
J5	4-00-00	9 1/2" NI-40x	1	6	MFD
J6	18-00-00	9 1/2" NI-80	1	14	MFD
B10	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	4	4	MFD
B13 DR	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B11	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B12	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B8	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B14B	2-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2	MFD

Connector Summary		
Qty	Manuf	Product
6	H1	IUS2.56/9.5
14	H3	IUS3.56/9.5
1	H4	HGUS410

CITY OF HAMILTON
Building Division

Permit No. **21-107161**

THESE STAMPED DRAWINGS SHALL BE AVAILABLE ON SITE

THE OWNER AND/OR CONTRACTOR SHALL COMPLY WITH
THE ONTARIO BUILDING CODE AND ALL OTHER APPLICABLE LAW

These drawings and/or specifications have been reviewed by

FEB 26 2021

FOR CHIEF BUILDING OFFICIAL

DATE

NORDIC STRUCTURES

COMPANY
Apr. 9, 2020 10:01

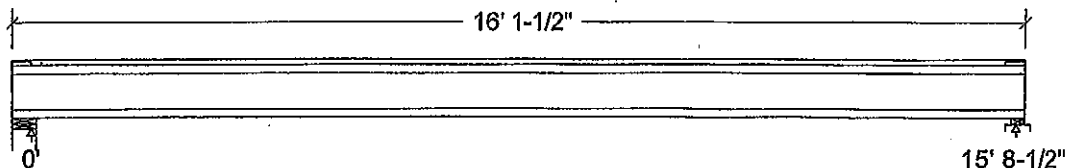
PROJECT
J1 1ST FLOOR.wwb

Design Check Calculation Sheet Nordic Sizer – Canada 7.2

Loads:

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

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



Unfactored:			
Dead	157		157
Live	314		314
Factored:			
Total	668		668
Bearing:			
Capacity			
Joist	1893		1865
Support	7744		3971
Des ratio			
Joist	0.35		0.36
Support	0.09		0.17
Load case	#2		#2
Length	4-3/8		2-3/8
Min req'd	1-3/4		1-3/4
Stiffener	No		No
KD	1.00		1.00
KB support	-		1.00
fcp sup	769		769
Kzcp sup	-		1.09

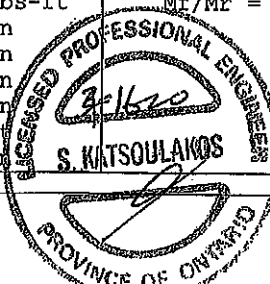
Bearing for wall supports is perpendicular-to-grain bearing on top plate. No stud design included.

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

Supports: 1 - Lumber Wall, No.1/No.2; 2 - Lumber Sill plate, No.1/No.2;
Total length: 16' 1-1/2"; Clear span: 15' 6-3/4"; 3/4" nailed and glued OSB sheathing
This section PASSES the design code check.

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

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 668	Vr = 1895	lbs	Vf/Vr = 0.35
Moment(+)	Mf = 2622	Mr = 4824	lbs-ft	Mf/Mr = 0.54
Perm. Defl'n	0.12 = < L/999	0.52 = L/360	in	0.22
Live Defl'n	0.23 = L/817	0.39 = L/480	in	0.59
Total Defl'n	0.35 = L/545	0.79 = L/240	in	0.44
Bare Defl'n	0.28 = L/684	0.52 = L/360	in	0.53
Vibration	Lmax = 15'-8.5	Lv = 17'-1.8	ft	0.92
Defl'n	= 0.031	= 0.041	in	0.76



DWG NO. TAN 6078 -20
STRUCTURAL
COMPLIMENT ONLY

Additional Data:

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

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = 1.25D + 1.5L

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

Deflection: LC #1 = 1.0D (permanent)

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

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

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

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

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

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

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

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

CALCULATIONS:E_{Ieff} = 265.29 lb-in² K = 4.94e06 lbs

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

CONFORMS TO OBC 2012

AMENDED 2020

Design Notes:

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



QWA NO. YAM6076 -20
STRUCTURAL
COMPONENT ONLY

NORDIC STRUCTURES

COMPANY
Apr. 9, 2020 09:59

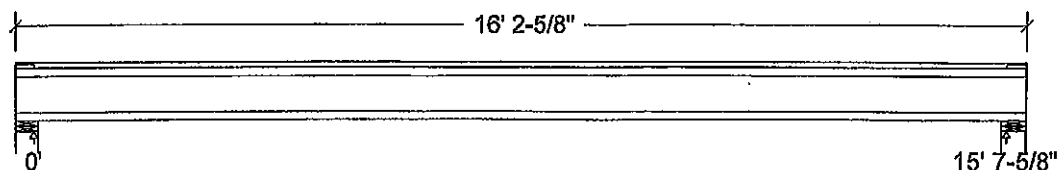
PROJECT
J1 2ND FLOOR.wwb

Design Check Calculation Sheet Nordic Sizer - Canada 7.2

Loads:

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

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



Unfactored:			
Dead	156		156
Live	313		313
Factored:			
Total	664		664
Bearing:			
Capacity			
Joist	1893		1893
Support	7744		7744
Des ratio			
Joist	0.35		0.35
Support	0.09		0.09
Load case	#2		#2
Length	4-3/8		4-3/8
Min req'd	1-3/4		1-3/4
Stiffener	No		No
KD	1.00		1.00
KB support	-		-
fcp sup	769		769
Kzcp sup	-		-

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

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

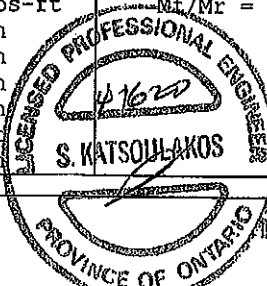
Supports: All - Lumber Wall, No.1/No.2

Total length: 16' 2-5/8"; Clear span: 15' 5-7/8"; 5/8" nailed and glued OSB sheathing with 1/2" gypsum ceiling

This section PASSES the design code check.

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

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 664	Vr = 1895	lbs	Vf/Vr = 0.35
Moment (+)	Mf = 2597	Mr = 4824	lbs-ft	Mf/Mr = 0.54
Perm. Defl'n	0.12 = < L/999	0.52 = L/360	in	0.22
Live Defl'n	0.23 = L/808	0.39 = L/480	in	0.59
Total Defl'n	0.35 = L/539	0.78 = L/240	in	0.45
Bare Defl'n	0.27 = L/694	0.52 = L/360	in	0.52
Vibration	Lmax = 15'-7.6	Lv = 16'-8.5	ft	0.94
Defl'n	= 0.034	= 0.041	in	0.81



NO. YAM6079-20
STRUCTURAL
PERMITS ONLY

Additional Data:

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

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = 1.25D + 1.5L

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

Deflection: LC #1 = 1.0D (permanent)

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

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

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

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

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

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

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

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

CALCULATIONS:E_Ieff = 258.29 lb-in² K= 4.94e06 lbs

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

CONFORMS TO OBC 2012

AMENDED 2020

Design Notes:

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



DWG NO. YAW 6079 -20
STRUCTURAL
COMPONENT ONLY

NORDIC STRUCTURES

COMPANY
Apr. 9, 2020 10:02

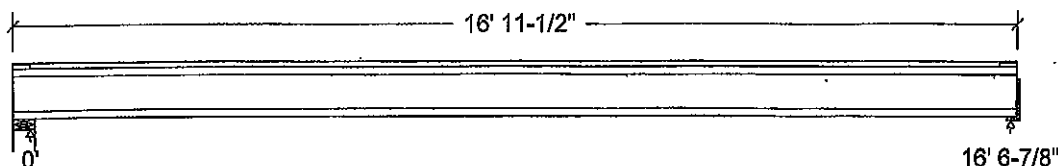
PROJECT
J6 2ND FLOOR.wwb

Design Check Calculation Sheet Nordic Sizer – Canada 7.2

Loads:

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

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



Unfactored:			
Dead	166		166
Live	331		331
Factored:			
Total	704		704
Bearing:			
Capacity			
Joist	1893		1893
Support	10841		-
Des ratio			
Joist	0.37		0.37
Support	0.06		-
Load case	#2		#2
Length	4-3/8		2
Min req'd	1-3/4		1-3/4
Stiffener	No		No
KD	1.00		1.00
KB support	-		-
fcp sup	769		-
Kzcp sup	-		-

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

Nordic 9-1/2" NI-80 Floor Joist @ 12" o.c.

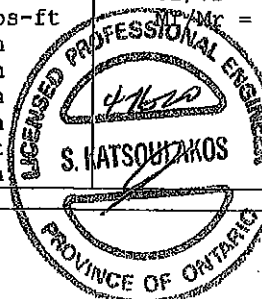
Supports: 1 - Lumber Wall, No.1/No.2; 2 - Hanger;

Total length: 16' 11-1/2"; Clear span: 16' 5-1/8"; 5/8" nailed and glued OSB sheathing with 1/2" gypsum ceiling

This section **PASSES** the design code check.

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

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 704	Vr = 1895	lbs	Vf/Vr = 0.37
Moment (+)	Mf = 2918	Mr = 8958	lbs-ft	Mf/Mr = 0.33
Perm. Defl'n	0.11 = < L/999	0.55 = L/360	in	0.19
Live Defl'n	0.21 = L/940	0.41 = L/480	in	0.51
Total Defl'n	0.32 = L/626	0.83 = L/240	in	0.38
Bare Defl'n	0.24 = L/841	0.55 = L/360	in	0.43
Vibration	Lmax = 16'-6.9	Lv = 17'-9.5	ft	0.93
Defl'n	= 0.031	= 0.038	in	0.80



OWG NO. FAN 6080-20
STRUCTURAL
COMPONENT ONLY

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	1895	1.00	1.00	-	-	-	-	-	#2
Mr+	8958	1.00	1.00	-	1.000	-	-	-	#2
EI	324.1 million	-	-	-	-	-	-	-	#2

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = 1.25D + 1.5L
 Moment(+) : LC #2 = 1.25D + 1.5L
 Deflection: LC #1 = 1.0D (permanent)
 LC #2 = 1.0D + 1.0L (live)
 LC #2 = 1.0D + 1.0L (total)
 LC #2 = 1.0D + 1.0L (bare joist)
 Bearing : Support 1 - LC #2 = 1.25D + 1.5L
 Support 2 - LC #2 = 1.25D + 1.5L
 Load Types: D=dead W=wind S=snow R=earth,groundwater E=earthquake
 L=live(use,occupancy) Ls=live(storage,equipment) f=fire
 Load Patterns: s=S/2 L=L+Ls _=no pattern load in this span
 All Load Combinations (LCs) are listed in the Analysis output

CALCULATIONS:

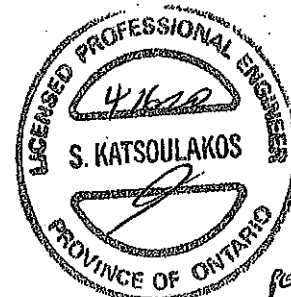
E_{teff} = 367.27 lb-in² K= 4.94e06 lbs
 "Live" deflection is due to all non-dead loads (live, wind, snow...)

CONFORMS TO OBC 2012

AMENDED 2020

Design Notes:

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



DWG NO. YAW 6080-20
 STRUCTURAL
 COMPONENT ONLY

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****2ND FLR FRAMING\Flush Beams\B17D(I3135) (Flush Beam)**

Dry | 2 spans | L cant.

November 25, 2020 08:03:28

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

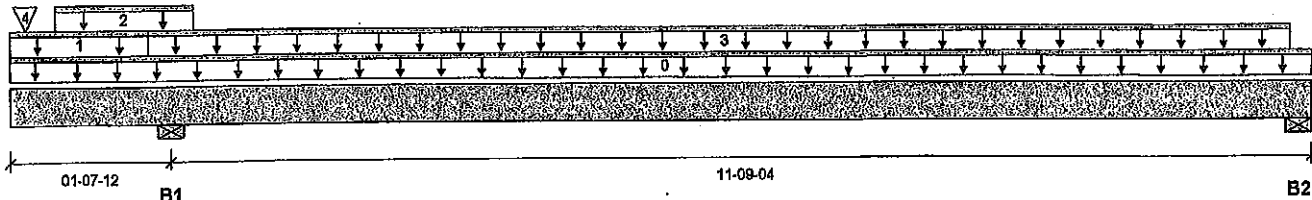
File name: MOUNTAINASH 6 EL 3 LOT 12.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B17D(I3135)

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 13-05-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	179 / 0	884 / 0	367 / 0	
B2, 5-1/2"	117 / 6	38 / 0	0 / 43	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-05-00	Top		10			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	01-05-00	Top	15	7			n/a
2	E30(I3261)	Unf. Lin. (lb/ft)	L	00-05-08	01-10-08	Top		81			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	01-05-00	13-02-04	Top	20	10			n/a
4	-	Conc. Pt. (lbs)	L	00-01-13	00-01-13	Top	33	550	324		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	419 ft-lbs	23220 ft-lbs	1.8%	36	08-10-13
Neg. Moment	-1265 ft-lbs	-15093 ft-lbs	8.4%	0	01-07-12
End Shear	165 lbs	11571 lbs	1.4%	33	12-02-00
Cont. Shear	1246 lbs	11571 lbs	10.8%	37	00-07-08
Total Load Deflection	2xL/1998 (0.029")	n/a	n/a	82	00-00-00
Live Load Deflection	L/999 (-0.016")	n/a	n/a	120	06-06-05
Total Neg. Defl.	L/999 (-0.028")	n/a	n/a	82	05-11-03
Max Defl.	-0.028"	n/a	n/a	82	05-11-03
Span / Depth	14.4				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	1238 lbs	16.1%	8.1%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 3-1/2"	223 lbs	1.9%	0.9%	Spruce-Pine-Fir

Cautions

Concentrated side load(s) 2 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.



OWG NO. TAM16095-20
STRUCTURAL
COMPONENT ONLY



Boise Cascade



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

2ND FLR FRAMING\Flush Beams\B17D(I3135) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

Dry | 2 spans | L cant.

November 25, 2020 08:03:28

File name: MOUNTAINASH 6 EL 3 LOT 12.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B17D(I3135)

Specifier:

Designer: AJ

Company:

Notes

Design meets User specified (2xL/240) Total load deflection criteria.

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

Calculations assume member is fully braced.

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

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

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

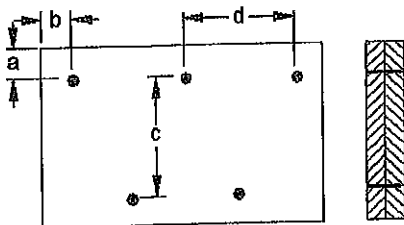
Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

CONFORMS TO CBC 2012

AMENDED 2020

Connection Diagram: Full Length of Membera minimum = 2"
b minimum = 3"c = 5-1/2"
d = 8"

Calculated Side Load = 227.3 lb/ft

Connectors are: 1 3-1/2" ARDOX SPIRAL

DWG NO. YAM 16085-20
STRUCTURAL
COMPONENT ONLY**Disclosure**

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

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



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B18D(i3150) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 2 spans | L cant.

November 25, 2020 08:03:28

Build 7493

Job name:

File name: MOUNTAINASH 6 EL 3 LOT 12.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B18D(i3150)

City, Province, Postal Code: WATERDOWN

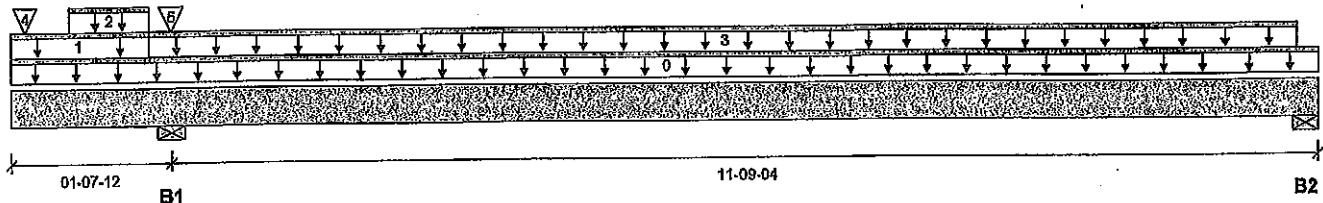
Specifier:

Customer:

Designer: AJ

Code reports: CCMC 12472-R

Company:



Total Horizontal Product Length = 13-05-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	222 / 0	906 / 0	387 / 0	
B2, 5-1/2"	117 / 12	34 / 0	0 / 45	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-05-00	Top		10			00-00-00
1	E28(i3262)	Unf. Lin. (lb/ft)	L	00-00-00	01-05-00	Top		81			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-07-04	01-05-00	Top	10				n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	01-05-00	13-02-04	Top	20	10			n/a
4	-	Conc. Pt. (lbs)	L	00-01-13	00-01-13	Top	84	550	342		n/a
5	E23(i3255)	Conc. Pt. (lbs)	L	01-07-12	01-07-12	Top		24			n/a

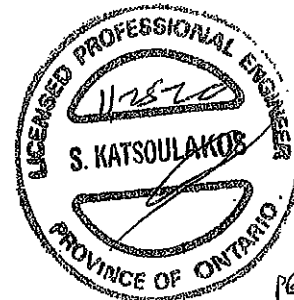
Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	403 ft-lbs	23220 ft-lbs	1.7%	36	08-10-13
Neg. Moment	-2083 ft-lbs	-23220 ft-lbs	9.0%	37	01-07-12
End Shear	159 lbs	11571 lbs	1.4%	33	12-02-00
Cont. Shear	1356 lbs	11571 lbs	11.7%	37	00-07-08
Total Load Deflection	2xL/1998 (0.032")	n/a	n/a	82	00-00-00
Live Load Deflection	L/999 (-0.018")	n/a	n/a	120	06-06-05
Total Neg. Defl.	L/999 (-0.031")	n/a	n/a	82	06-01-00
Max Defl.	-0.031"	n/a	n/a	82	06-01-00
Span / Depth	14.4				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	1268 lbs	16.5%	8.3%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 3-1/2"	218 lbs	1.8%	0.8%	Spruce-Pine-Fir

Cautions

Concentrated side load(s) 2 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.



096 NO. 7AM16096-20
STRUCTURAL
COMPONENT ONLY



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B18D(I3150) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 2 spans | L cant.

November 25, 2020 08:03:28

Build 7493

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

File name: MOUNTAINASH 6 EL 3 LOT 12.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B18D(I3150)

Specifier:

Designer: AJ

Company:

Notes

Design meets User specified (2xL/240) Total load deflection criteria.

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

Calculations assume member is fully braced.

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

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

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

Design based on Dry Service Condition.

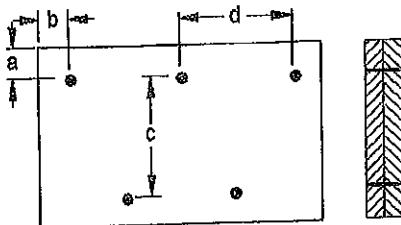
Importance Factor : Normal Part code : Part 9

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

CONFORMS TO OBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"

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

Calculated Side Load = 231.8 lb/ft

Connectors are: 1 Nails

3-1/2" ARDOX SPIRAL



UWG NO. TAM 16096-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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



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

2ND FLR FRAMING\Flush Beams\B19D(I3184) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

November 25, 2020 08:03:28

Build 7493

Job name:

File name: MOUNTAINASH 6 EL 3 LOT 12.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B19D(I3184)

City, Province, Postal Code: WATERDOWN

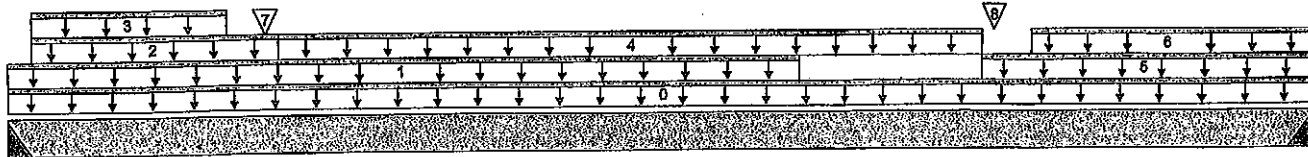
Specifier:

Customer:

Designer: AJ

Code reports: CCMC 12472-R

Company:



B1

Total Horizontal Product Length = 08-08-00

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	78 / 0	528 / 0	301 / 0	
B2, 2"	33 / 0	523 / 0	311 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-08-00	Top		10			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	05-02-08	Top	22	11			n/a
2	E29(I3263)	Unf. Lin. (lb/ft)	L	00-02-00	01-09-08	Top		81			n/a
3	E29(I3263)	Unf. Lin. (lb/ft)	L	00-02-00	01-05-08	Top		28	72		n/a
4	E31(I3264)	Unf. Lin. (lb/ft)	L	01-09-08	06-05-08	Top		61			n/a
5	E32(I3265)	Unf. Lin. (lb/ft)	L	06-05-08	08-08-00	Top		81			n/a
6	E32(I3265)	Unf. Lin. (lb/ft)	L	06-09-08	08-08-00	Top		28	72		n/a
7	E29(I3263)	Conc. Pt. (lbs)	L	01-08-08	01-08-08	Top		115	193		n/a
8	E32(I3265)	Conc. Pt. (lbs)	L	06-08-08	06-08-08	Top		114	191		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1364 ft-lbs	15093 ft-lbs	9.0%	0	04-04-04
End Shear	978 lbs	11571 lbs	8.5%	13	00-11-08
Total Load Deflection	L/999 (0.042")	n/a	n/a	35	04-04-04
Live Load Deflection	L/999 (0.016")	n/a	n/a	51	04-04-04
Max Defl.	0.042"	n/a	n/a	35	04-04-04
Span / Depth	10.7				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Hanger	2" x 3-1/2"	1189 lbs	n/a	13.9%	Hanger
B2 Hanger	2" x 3-1/2"	1154 lbs	n/a	13.5%	Hanger

Cautions

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.



2020 NO. 16097-20
STRUCTURAL
COM. ONENT ONLY

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****2ND FLR FRAMING\Flush Beams\B19D(I3184) (Flush Beam)**

Dry | 1 span | No cant.

November 25, 2020 08:03:28

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

File name: MOUNTAINASH 6 EL 3 LOT 12.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B19D(I3184)

Specifier:

Designer: AJ

Company:

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

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

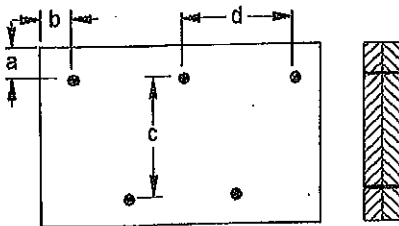
CONFORMS TO OBC 2012**AMENDED 2020**

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Connection Diagram: Full Length of Membera minimum = 2"
b minimum = 3"c = 5-1/2"
d = 2 1/2"

Connectors are: Nails

3-1/2" ARDOX SPIRAL**BWG NO. TAM 16097-20
STRUCTURAL
COMPONENT ONLY****Disclosure**

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

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



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

2ND FLR FRAMING\Flush Beams\B21(12792) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 2 spans | L cant.

August 26, 2020 09:26:19

Build 7493

Job name:

File name: MOUNTAINASH 6

Address:

Description: 2ND FLR FRAMING\Flush Beams\B21(12792)

City, Province, Postal Code: HAMILTON

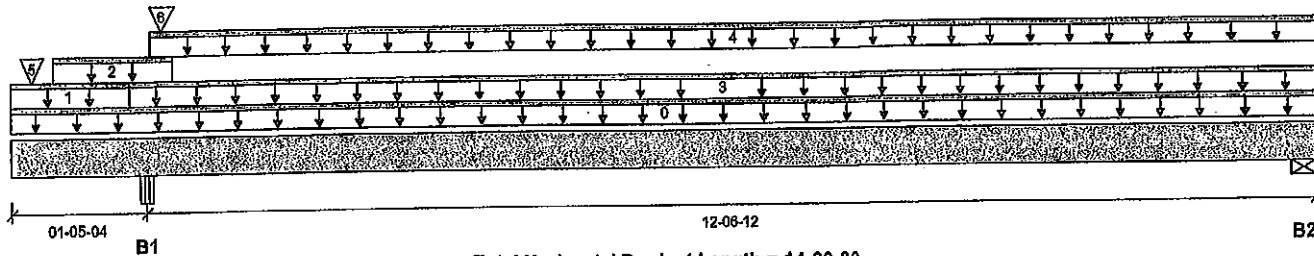
Specifier:

Customer:

Designer: CH

Code reports: CCMC 12472-R

Company:



Total Horizontal Product Length = 14-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-1/2"	278 / 0	799 / 0	805 / 0	
B2, 2-3/4"	255 / 2	171 / 0	0 / 12	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.85	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-00-00	Top		10			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	01-03-00	Top	20	10			n/a
2	E75(11685)	Unf. Lin. (lb/ft)	L	00-05-08	01-08-08	Top		176	144		n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	01-03-00	14-00-00	Top	23	11			n/a
4	FC2 Floor Material	Unf. Lin. (lb/ft)	L	01-05-12	14-00-00	Top	17	9			n/a
5	E86(11925)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top		95	67		n/a
6	E75(11685)	Conc. Pt. (lbs)	L	01-07-04	01-07-04	Top		255	547		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1733 ft-lbs	23220 ft-lbs	7.5%	45	07-10-08
Neg. Moment	-520 ft-lbs	-23220 ft-lbs	2.2%	49	01-05-04
End Shear	497 lbs	11571 lbs	4.3%	45	12-11-12
Cont. Shear	572 lbs	11571 lbs	4.9%	1	02-05-00
Total Load Deflection	L/999 (0.067")	n/a	n/a	108	07-08-08
Live Load Deflection	L/999 (0.042")	n/a	n/a	160	07-08-08
Total Neg. Defl.	2xL/1998 (-0.023")	n/a	n/a	108	00-00-00
Max Defl.	0.067"	n/a	n/a	108	07-08-08
Span / Depth	15.7				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 4-1/2" x 3-1/2"	2485 lbs	29.5%	12.9%	Unspecified
B2	Wall/Plate 2-3/4" x 3-1/2"	596 lbs	10.1%	5.1%	Spruce-Pine-Fir



BWG NO. 4AM12885-80
STRUCTURAL
COMPONENT ONLY



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B21(i2792) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 2 spans | L cant.

August 26, 2020 09:26:19

Build 7493

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer:

Code reports: CCMC 12472-R

File name: MOUNTAINASH 6

Description: 2ND FLR FRAMING\Flush Beams\B21(i2792)

Specifier:

Designer: CH

Company:

Notes

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

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

Calculations assume member is fully braced.

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

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

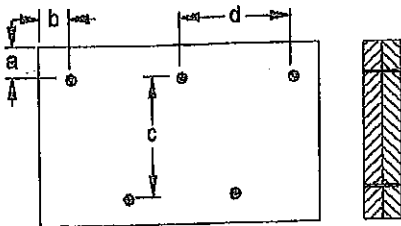
Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"

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

Connectors are: Nails

3-1/2" ARDOX SPIRAL



REG NO. 92320
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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



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

2ND FLR FRAMING\Flush Beams\B20(I3104) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 2 spans | L cant.

August 26, 2020 09:26:19

Build 7493

Job name:

File name: MOUNTAINASH 6

Address:

Description: 2ND FLR FRAMING\Flush Beams\B20(I3104)

City, Province, Postal Code: HAMILTON

Specifier:

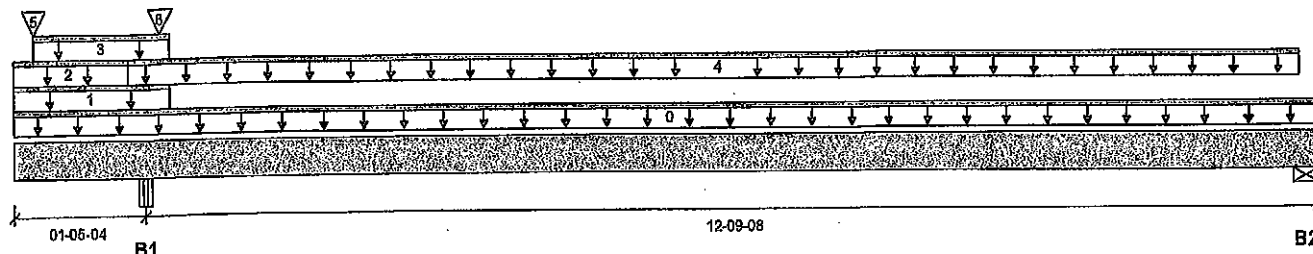
Customer:

Designer: CH

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 14-02-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-1/2"	139 / 0	702 / 0	782 / 0	
B2, 5-1/2"	127 / 1	113 / 0	0 / 10	

Load Summary

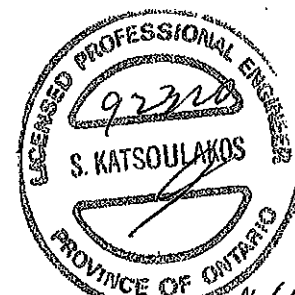
Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-02-12	Top	1.00	0.65	1.00	1.15	00-00-00
1	E73(I1679)	Unf. Lin. (lb/ft)	L	00-00-00	01-08-08	Top		100			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	01-03-00	Top	8				n/a
3	E73(I1679)	Unf. Lin. (lb/ft)	L	00-02-12	01-08-08	Top		78	144		n/a
4	FC2 Floor Material	Unf. Lin. (lb/ft)	L	01-03-00	14-00-00	Top	20	10			n/a
5	E73(I1679)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top		7	13		n/a
6	E73(I1679)	Conc. Pt. (lbs)	L	01-07-04	01-07-04	Top		255	547		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	940 ft-lbs	23220 ft-lbs	4.1%	45	08-00-05
Neg. Moment	-417 ft-lbs	-23220 ft-lbs	1.8%	49	01-05-04
End Shear	273 lbs	11571 lbs	2.4%	43	12-11-12
Cont. Shear	342 lbs	11571 lbs	3.0%	1	02-05-00
Total Load Deflection	L/999 (0.036")	n/a	n/a	108	07-08-06
Live Load Deflection	L/999 (0.021")	n/a	n/a	160	07-08-06
Total Neg. Defl.	2xL/1998 (-0.012")	n/a	n/a	108	00-00-00
Max Defl.	0.036"	n/a	n/a	108	07-08-06
Span / Depth	15.7				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 4-1/2" x 3-1/2"	2190 lbs	26.0%	11.4%	Unspecified
B2	Wall/Plate 5-1/2" x 3-1/2"	332 lbs	2.8%	1.4%	Spruce-Pine-Fir



92320
S. KATSOULAKOS
PROVINCE OF ONTARIO
1612
BWS NO. 7AM/2EB6-20
STRUCTURAL
COMPONENT ONLY



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

2ND FLR FRAMING\Flush Beams\B20(i3104) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 2 spans | L cant.

August 26, 2020 09:26:19

Build 7493

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer:

Code reports: CCMC 12472-R

File name: MOUNTAINASH 6

Description: 2ND FLR FRAMING\Flush Beams\B20(i3104)

Specifier:

Designer: CH

Company:

Notes

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

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

Calculations assume member is fully braced.

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

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

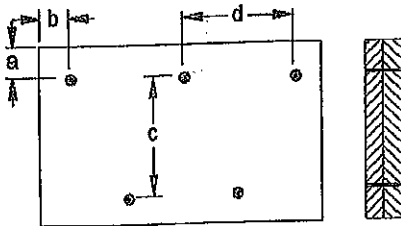
Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

Connection Diagram: Full Length of Member



a minimum = 2"

c = 5-1/2"

b minimum = 3"

d = 8"

Connectors are: Nails

3-1/2" ARDOX SPIRAL



DWG NO. TAM 12836-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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



Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
1ST FLR FRAMING\Flush Beams\B16 H(16553) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

September 17, 2020 07:57:48

Build 7493

Job name:

File name: MOUNTAINASH 6

Address:

Description: 1ST FLR FRAMING\Flush Beams\B16 H(16553)

City, Province, Postal Code: WATERDOWN

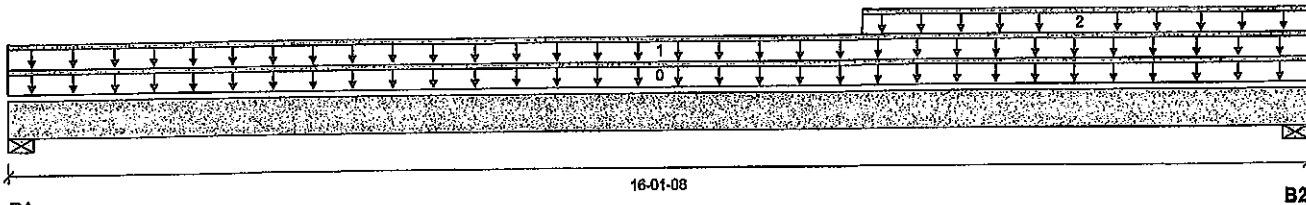
Specifier:

Customer:

Designer: AJ

Code reports: CCMC 12472-R

Company:



Total Horizontal Product Length = 16-01-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 1-7/8"	110 / 0	94 / 0		
B2, 4-1/8"	124 / 0	101 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	16-01-08	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	16-01-08	Top	14	7			n/a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	10-06-14	16-01-08	Top	3	1			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1122 ft-lbs	11610 ft-lbs	9.7%	1	08-02-00
End Shear	266 lbs	5785 lbs	4.6%	1	14-11-14
Total Load Deflection	L/1302 (0.145")	n/a	18.4%	4	08-00-03
Live Load Deflection	L/999 (0.079")	n/a	n/a	5	08-00-03
Max Defl.	0.145"	n/a	n/a	4	08-00-03
Span / Depth	19.9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 1-7/8" x 1-3/4"	283 lbs	14.0%	7.1%	Spruce-Pine-Fir
B2	Wall/Plate 4-1/8" x 1-3/4"	313 lbs	7.0%	3.6%	/Spruce-Pine-Fir

Notes

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

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

Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

AMENDED 2020



WWW.BC.CALC.COM/12867-20

STRUCTURAL

COMPONENT ONLY

Disclosure

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

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

Build 7493

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

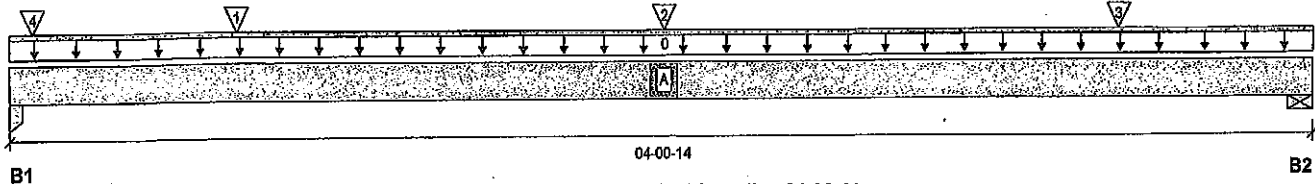
File name: MOUNTAINASH 6

Description: 1ST FLR FRAMING\Flush Beams\B18(16765)

Specifier:

Designer: AJ

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	1009 / 0	535 / 0		
B2, 5-1/2"	1207 / 0	662 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-00-14	Top	1.00	0.65	1.00	1.15	00-00-00
1	J2(16650)	Conc. Pt. (lbs)	L	00-08-06	00-08-06	Top	690	345			n/a
2	J2(16682)	Conc. Pt. (lbs)	L	02-00-06	02-00-06	Top	751	375			n/a
3	-	Conc. Pt. (lbs)	L	03-05-10	03-05-10	Top	733	404			n/a
4	B7(16767)	Conc. Pt. (lbs)	L	00-00-14	00-00-14	Top	42	33			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2066 ft-lbs	23220 ft-lbs	8.9%	1	02-00-06
End Shear	1623 lbs	11571 lbs	14.0%	1	00-11-04
Total Load Deflection	L/999 (0.006")	n/a	n/a	4	01-10-12
Live Load Deflection	L/999 (0.004")	n/a	n/a	5	01-10-12
Max Defl.	0.006"	n/a	n/a	4	01-10-12
Span / Depth	4.5				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 1-3/4" x 3-1/2"	2182 lbs	54.8%	29.2%	Unspecified
B2	Wall/Plate 5-1/2" x 3-1/2"	2637 lbs	22.3%	11.2%	Spruce-Pine-Fir

Cautions

Concentrated side load(s) 2,4 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.

Notes

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

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

Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO CBC 2012

AMENDED 2020

DWG NO. YAM 12000-20
STRUCTURAL
COMPONENT ONLY



P66

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****1ST FLR FRAMING\Flush Beams\B18(i6765) (Flush Beam)**

Dry | 1 span | No cant.

September 17, 2020 07:57:48

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

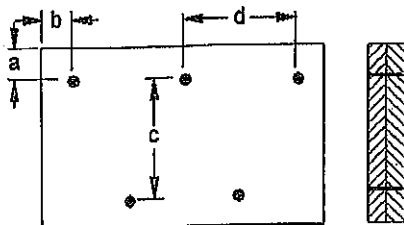
File name: MOUNTAINASH 6

Description: 1ST FLR FRAMING\Flush Beams\B18(i6765)

Specfier:

Designer: AJ

Company:

Connection Diagram: Full Length of Membera minimum = 2"
b minimum = 3"c = 5-1/2"
d = 6"

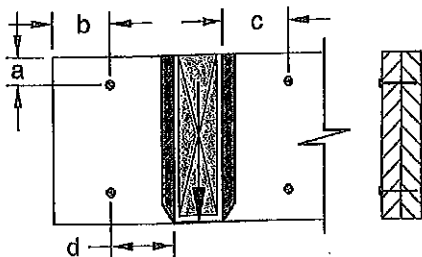
Calculated Side Load = 52.1 lb/ft

Connectors are: 1 Nails

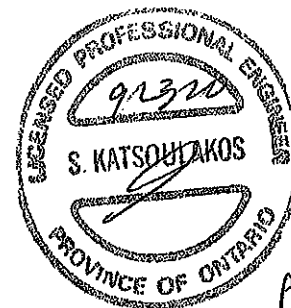
3-1/2" ARDOX SPIRAL
Connection Diagrams: Concentrated Side Loads

Connection Tag: A

Applies to load tag(s): 3

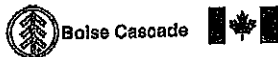
a minimum = 2"
b minimum = 4"
c minimum = 4"
d maximum = 12"

Connectors are: 16d Nails

3-1/2" ARDOX SPIRALOWN NO. YAM NBB-20
STRUCTURAL
COMPONENT ONLY**Disclosure**

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

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

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****1ST FLR FRAMING\Flush Beams\B1(I6766) (Flush Beam)**

Dry | 1 span | No cant.

September 17, 2020 07:57:48

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

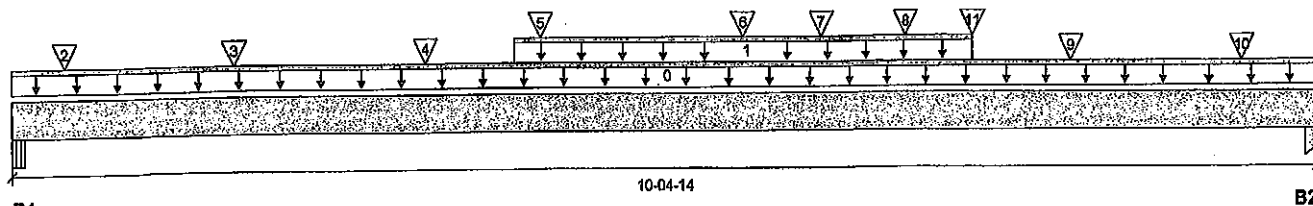
File name: MOUNTAINASH 6.

Description: 1ST FLR FRAMING\Flush Beams\B1(I6766)

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 10-04-14

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	3601 / 0	1979 / 0		
B2, 2-3/4"	2544 / 0	1352 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-04-14	Top		10			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	03-11-12	07-07-12	Top	240	120			n/a
2	-	Conc. Pt. (lbs)	L	00-05-02	00-05-02	Top	1528	850			n/a
3	J2(I6759)	Conc. Pt. (lbs)	L	01-09-04	01-09-04	Top	431	215			n/a
4	-	Conc. Pt. (lbs)	L	03-03-06	03-03-06	Top	522	261			n/a
5	-	Conc. Pt. (lbs)	L	04-02-04	04-02-04	Top	707	415			n/a
6	J2(I6757)	Conc. Pt. (lbs)	L	05-09-04	05-09-04	Top	295	147			n/a
7	J2DJ(I6760)	Conc. Pt. (lbs)	L	06-04-12	06-04-12	Top	255	127			n/a
8	J2(I6756)	Conc. Pt. (lbs)	L	07-01-04	07-01-04	Top	332	166			n/a
9	-	Conc. Pt. (lbs)	L	08-05-04	08-05-04	Top	547	273			n/a
10	-	Conc. Pt. (lbs)	L	09-09-04	09-09-04	Top	568	284			n/a
11	B5(I6752)	Conc. Pt. (lbs)	L	07-07-12	07-07-12	Top		34			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	14154 ft-lbs	23220 ft-lbs	61.0%	1	05-07-04
End Shear	4906 lbs	11571 lbs	42.4%	1	09-04-10
Total Load Deflection	L/342 (0.345")	n/a	70.2%	4	05-03-04
Live Load Deflection	L/526 (0.225")	n/a	68.5%	5	05-03-04
Max Defl.	0.345"	n/a	n/a	4	05-03-04
Span / Depth	12.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 5-1/2" x 3-1/2"	7875 lbs	95.8%	33.5%	Unspecified
B2	Column 2-3/4" x 3-1/2"	5506 lbs	88.1%	46.9%	Unspecified

Cautions

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



ENG NO. YAM 12899-20
STRUCTURAL
COMPONENT ONLY



Boise Cascade

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****1ST FLR FRAMING\Flush Beams\B1(i6766) (Flush Beam)**

Dry | 1 span | No cant.

PASSED

September 17, 2020 07:57:48

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

File name: MOUNTAINASH 6

Description: 1ST FLR FRAMING\Flush Beams\B1(i6766)

Specifier:

Designer: AJ

Company:

Notes

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

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

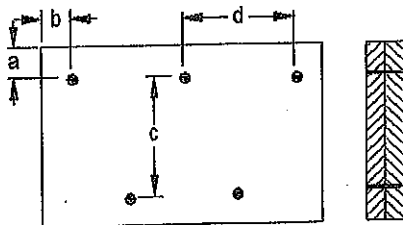
Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012**AMENDED 2020****Connection Diagram: Full Length of Member**

a minimum = 2"

c = 5-1/2"

b minimum = 3"

d = 6"

Calculated Side Load = 1012.3 lb/ft

Connectors are: Nails

3-1/2" ARDOX SPIRAL

DWG NO. FAM12309-20

STRUCTURAL**COMPONENT ONLY****Disclosure**

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

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

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer:

Code reports: CCMC 12472-R

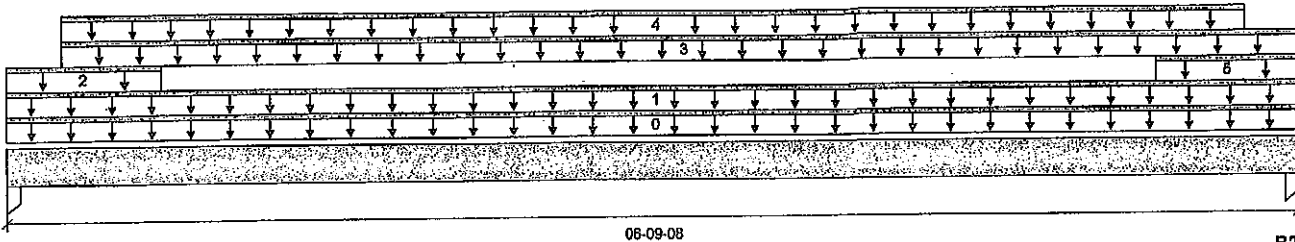
File name: MOUNTAINASH 6 EL 3

Description: 1ST FLR FRAMING\Flush Beams\B17(I2700)

Specifier:

Designer: CH

Company:



Total Horizontal Product Length = 06-09-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	538 / 0	1073 / 0		
B2, 3-1/2"	227 / 0	768 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-09-08	Top		10			00-00-00
1	5(I782)	Unf. Lin. (lb/ft)	L	00-00-00	06-09-08	Top		81			n/a
2	5(I782)	Unf. Lin. (lb/ft)	L	00-00-00	00-09-12	Top	481	612			n/a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-03-08	06-09-08	Top	20	10			n/a
4	5(I782)	Unf. Lin. (lb/ft)	L	00-03-08	06-06-00	Top	31	80			n/a
5	5(I782)	Unf. Lin. (lb/ft)	L	06-00-08	06-09-08	Top	71	221			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1363 ft-lbs	15093 ft-lbs	9.0%	0	03-03-14
End Shear	1010 lbs	7521 lbs	13.4%	0	01-01-00
Total Load Deflection	L/999 (0.019")	n/a	n/a	4	03-04-12
Live Load Deflection	L/999 (0.004")	n/a	n/a	5	03-03-14
Max Defl.	0.019"	n/a	n/a	4	03-04-12
Span / Depth	8.0				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 3-1/2" x 3-1/2"	1503 lbs	23.2%	15.5%	Unspecified
B2	Column 3-1/2" x 3-1/2"	1075 lbs	16.6%	11.1%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020


 0996 NO. YAM12117 -20
STRUCTURAL
 COMMENT ONLY



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

PASSED

1ST FLR FRAMING\Flush Beams\B17(i2700) (Flush Beam)

Dry | 1 span | No cant.

August 26, 2020 09:26:19

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer:

Code reports: CCMC 12472-R

File name: MOUNTAINASH 6 EL 3

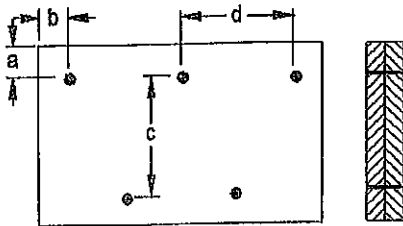
Description: 1ST FLR FRAMING\Flush Beams\B17(i2700)

Specifier:

Designer: CH

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

c = 5-1/2"

b minimum = 3"

d = 0" 0"

Connectors are: ... Nails

3-1/2" ARDOX SPIRAL



SW6 H0.1AM 12/17-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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

BC CALC® Member Report

Dry | 1 span | No cant.

August 26, 2020 09:26:19

Build 7493

Job name:

File name: MOUNTAINASH 6 EL 3

Address:

Description: 2ND FLR FRAMING\Flush Beams\B18(i2803)

City, Province, Postal Code: HAMILTON

Specifier:

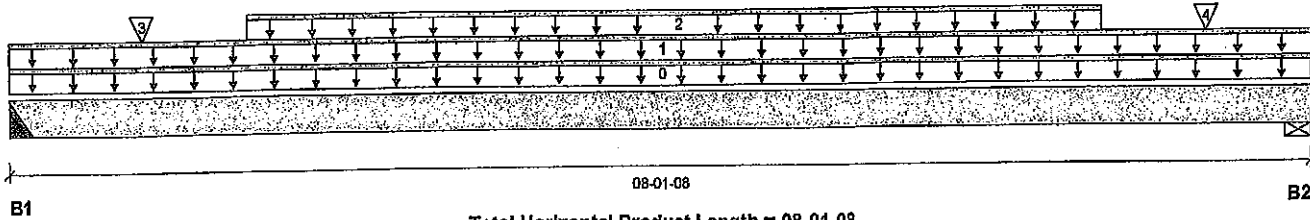
Customer:

Designer: CH

Code reports:

CCMC 12472-R

Company:


Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4"	310 / 0	440 / 0		
B2, 3-1/2"	307 / 0	435 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-01-08	Top	10				00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	08-01-08	Top	60				n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-06-00	06-10-00	Top	82	40			n/a
3	J6(i2742)	Conc. Pt. (lbs)	L	00-10-00	00-10-00	Top	101	50			n/a
4	J6(i2748)	Conc. Pt. (lbs)	L	07-06-00	07-06-00	Top	82	41			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1874 ft-lbs	23220 ft-lbs	8.1%	1	03-10-00
End Shear	839 lbs	11571 lbs	7.2%	1	01-01-08
Total Load Deflection	L/999 (0.029")	n/a	n/a	4	04-01-00
Live Load Deflection	L/999 (0.012")	n/a	n/a	5	04-01-00
Max Defl.	0.029"	n/a	n/a	4	04-01-00
Span / Depth	9.6				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Hanger	4" x 3-1/2"	1015 lbs	n/a	5.9%	HGUS410
B2 Wall/Plate	3-1/2" x 3-1/2"	1004 lbs	13.3%	6.7%	Spruce-Pine-Fir

Cautions

Header for the hanger HGUS410 is a Quadruple 1-3/4" x 9-1/2" LVL Beam.
Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

Notes

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

CONFORMS TO OBC 2012

AMENDED 2020



DWG NO. TAM12116-20
STRUCTURAL
COMPONENT ONLY



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

PASSED

2ND FLR FRAMING\Flush Beams\B18(i2803) (Flush Beam)

Dry | 1 span | No cant.

August 26, 2020 09:26:19

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer:

Code reports: CCMC 12472-R

File name: MOUNTAINASH 6 EL 3

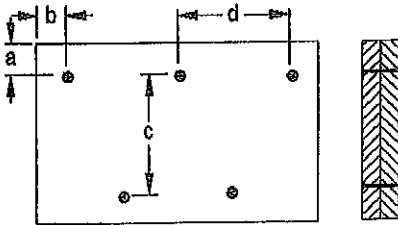
Description: 2ND FLR FRAMING\Flush Beams\B18(i2803)

Specifier:

Designer: CH

Company:

Connection Diagram: Full Length of Member



a minimum = 2" c = 5-1/2"
b minimum = 3" d = 6"

Calculated Side Load = 232.3 lb/ft

Connectors are: 1 Nails

3-1/2" ARDOX SPIRAL



ENG NO. TAM 12110-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer:

Code reports: CCMC 12472-R

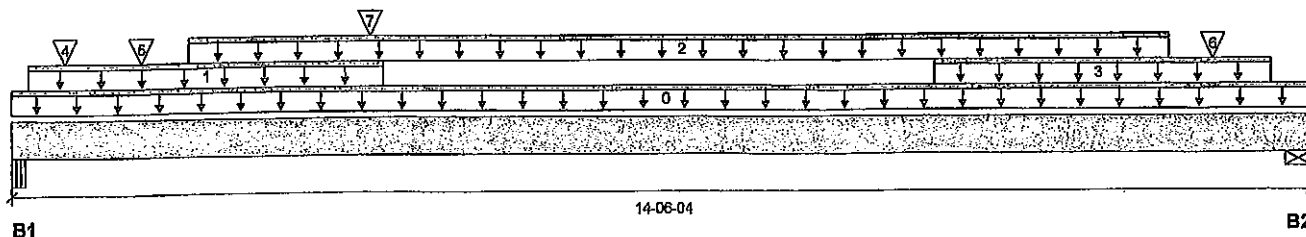
File name: MOUNTAINASH 6 EL 3

Description: 2ND FLR FRAMING\Flush Beams\B19(i2627)

Specifier:

Designer: CH

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-1/2"	2856 / 0	1769 / 0		
B2, 5-1/2"	3171 / 0	1798 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-06-04	Top		19			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-02-04	04-01-04	Top	22	11			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-11-04	12-11-04	Top	342	170			n/a
3	STAIRS	Unf. Lin. (lb/ft)	L	10-03-04	14-00-12	Top	240	120			n/a
4	J7(i2837)	Conc. Pt. (lbs)	L	00-07-04	00-07-04	Top	324	162			n/a
5	J7(i2847)	Conc. Pt. (lbs)	L	01-05-04	01-05-04	Top	305	152			n/a
6	J7(i3121)	Conc. Pt. (lbs)	L	13-05-04	13-05-04	Top	325	162			n/a
7	B18(i2803)	Conc. Pt. (lbs)	L	03-11-08	03-11-08	Top	301	426			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	21829 ft-lbs	48297 ft-lbs	45.2%	1	07-05-04
End Shear	6416 lbs	23142 lbs	27.7%	1	13-03-04
Total Load Deflection	L/308 (0.542")	n/a	78.6%	4	07-02-04
Live Load Deflection	L/489 (0.339")	n/a	73.6%	5	07-02-04
Max Defl.	0.542"	n/a	n/a	4	07-02-04
Span / Depth	17.4				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	4-1/2" x 7"	6495 lbs	38.6%	16.9%	Unspecified
B2 Wall/Plate	5-1/2" x 7"	7004 lbs	29.6%	14.9%	Spruce-Pine-Fir

Notes

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

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

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

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

AMENDED 2020



OWN NO. 12119-20
STRUCTURAL
COMPONENT ONLY



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

PASSED

2ND FLR FRAMING\Flush Beams\B19(i2627) (Flush Beam)

Dry | 1 span | No cant.

August 26, 2020 09:26:19

BC CALC® Member Report

Build 7493

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer:

Code reports: CCMC 12472-R

File name: MOUNTAINASH 6 EL 3

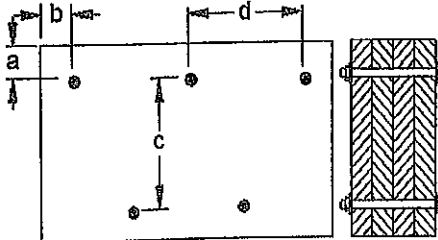
Description: 2ND FLR FRAMING\Flush Beams\B19(i2627)

Specifier:

Designer: CH

Company:

Connection Diagram: Full Length of Member



a minimum = 2-1/2" c = 4-1/2"
b minimum = 3-1/8" d = 16"

Calculated Side Load = 731.0 lb/ft

Bolts are assumed to be Grade A307 or Grade 2 or higher.

Connectors are: 5/8 in. Staggered Through Bolt



DWG NO. TAM 12/19 -20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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



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

PASSED

2ND FLR FRAMING\Dropped Beams\B13 DR(1726) (Dropped Beam)

Dry | 1 span | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 2ND FLR FRAMING\Dropped Beams\B13 DR(1726)

City, Province, Postal Code:

Specifier:

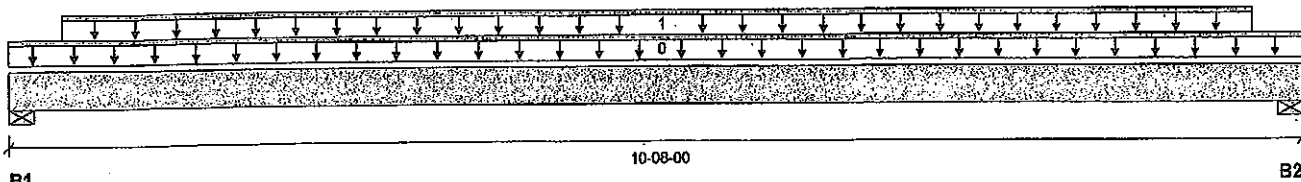
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 10-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4"	1619 / 0	861 / 0		
B2, 4"	1618 / 0	861 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-08-00	Top	1.00	0.65	1.00	1.15	00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-05-04	10-02-12	Top	313	156			n/a

Controls Summary	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	8926 ft-lbs	23220 ft-lbs	38.4%	1	05-08-12
End Shear	3236 lbs	11571 lbs	28.0%	1	01-01-08
Total Load Deflection	L/623 (0.232")	n/a	45.9%	4	04-11-04
Live Load Deflection	L/800 (0.152")	n/a	45.0%	5	04-11-04
Max Defl.	0.232"	n/a	n/a	4	04-11-04
Span / Depth	12.8				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 4" x 3-1/2"	3504 lbs	18.8%	20.5%	Spruce-Pine-Fir
B2	Wall/Plate 4" x 3-1/2"	3503 lbs	18.8%	20.5%	Spruce-Pine-Fir

Notes

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

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

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

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

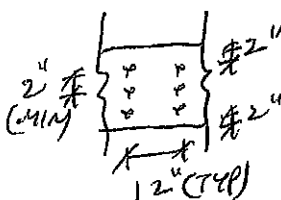
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

AMENDED 2020



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



DWG NO. TAM6001-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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



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

PASSED

2ND FLR FRAMING\Flush Beams\B10(12111) (Flush Beam)

Dry | 1 span | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B10(12111)

City, Province, Postal Code:

Specifier:

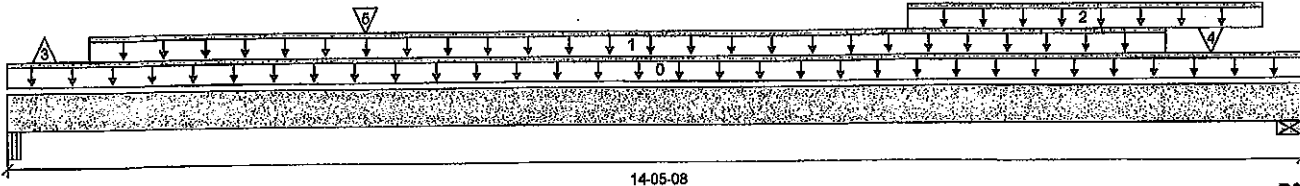
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 14-05-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-1/2"	2574 / 597	1313 / 0		
B2, 5-1/2"	2883 / 0	1649 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-05-08	Top		19			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-11-00	12-11-00	Top	353	176			n/a
2	STAIR	Unf. Lin. (lb/ft)	L	10-00-00	14-00-00	Top	120	60			n/a
3	J6(1586)	Conc. Pt. (lbs)	L	00-05-00	00-05-00	Top	-597	-282			n/a
4	J6(12121)	Conc. Pt. (lbs)	L	13-05-00	13-05-00	Top	338	169			n/a
5	B11(12153)	Conc. Pt. (lbs)	L	03-11-10	03-11-10	Top	305	406			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	21228 ft-lbs	48297 ft-lbs	44.0%	1	07-05-00
End Shear	5935 lbs	23142 lbs	25.6%	1	13-02-08
Total Load Deflection	L/317 (0.52")	n/a	75.6%	6	07-02-00
Live Load Deflection	L/508 (0.325")	n/a	70.9%	8	07-02-00
Max Defl.	0.52"	n/a	n/a	6	07-02-00
Span / Depth	17.4				

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1 Beam	4-1/2" x 7"	5502 lbs	28.4%	14.3%	Spruce-Pine-Fir
B2 Wall/Plate	5-1/2" x 7"	6387 lbs	27.0%	13.6%	Spruce-Pine-Fir

Notes

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

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

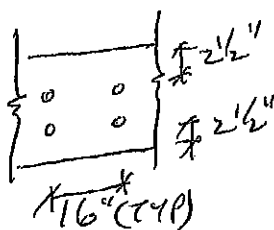
Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9



BOLT MULTI-PLY MEMBERS USING
2 ROWS 1/2" Ø A307 BOLTS
c/w WASHERS / NUTS @ 16" O.C.

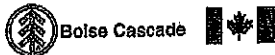


HWB NO. TAM 6092-20

STRUCTURAL COMPONENT ONLY Disclosure

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

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

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****2ND FLR FRAMING\Flush Beams\B11(I2153) (Flush Beam)**

Dry | 1 span | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

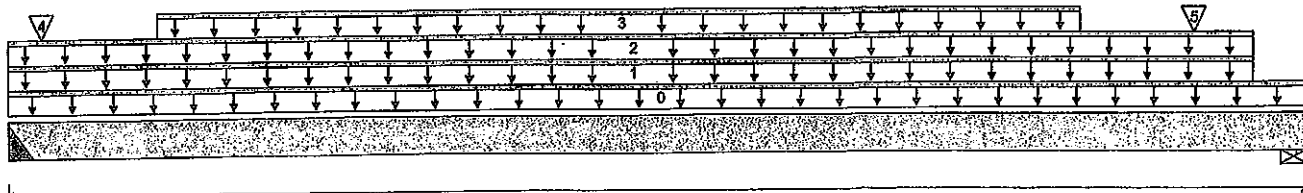
File name: MOUNTAINASH 6 EL 1.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B11(I2153)

Specifier:

Designer:

Company:



B1

Total Horizontal Product Length = 07-08-02

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	307 / 0	409 / 0		
B2, 3-3/4"	290 / 0	393 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	07-06-02	Top		10			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	07-02-06	Top		60			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	07-02-06	Top	6	3			n/a
3	Smoothed Load	Unf. Lin. (lb/ft)	L	00-10-06	06-02-06	Top	76	38			n/a
4	J5(I1619)	Conc. Pt. (lbs)	L	00-02-06	00-02-06	Top	70	35			n/a
5	J5(I1506)	Conc. Pt. (lbs)	L	06-10-06	06-10-06	Top	77	39			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1645 ft-lbs	23220 ft-lbs	7.1%	1	03-11-06
End Shear	744 lbs	11571 lbs	6.4%	1	06-04-14
Total Load Deflection	L/999 (0.022")	n/a	n/a	4	03-08-06
Live Load Deflection	L/999 (0.009")	n/a	n/a	5	03-08-06
Max Defl.	0.022"	n/a	n/a	4	03-08-06
Span / Depth	9.0				

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
------------------	------------	--------	----------------------------------	---------------------------------	----------

Cautions

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

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

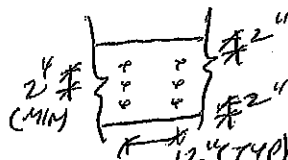
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012**AMENDED 2020**

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



DWG NO. YAM 6083-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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



Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B12(1651) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

February 10, 2020 11:38:52

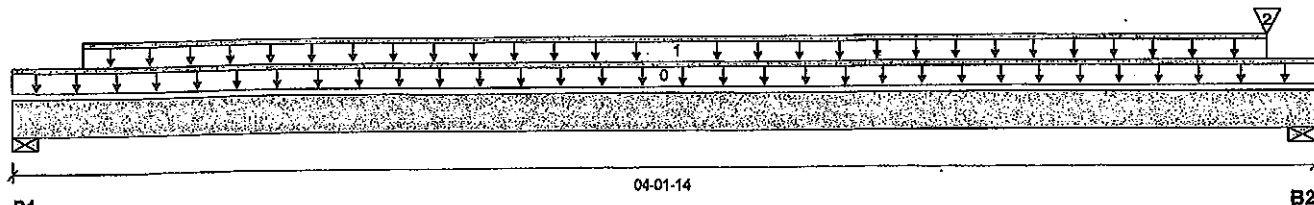
File name: MOUNTAINASH 6 EL 1.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B12(1651)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 04-01-14

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	52 / 0	36 / 0		
B2, 3-1/2"	51 / 0	35 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-01-14	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-02-12	04-00-02	Top	27	13			n/a
2	FC2 Floor Material	Conc. Pt. (lbs)	L	04-00-02	04-00-02	Top	2	1			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	98 ft-lbs	11610 ft-lbs	0.8%	1	02-01-15
End Shear	57 lbs	5785 lbs	1.0%	1	01-03-00
Total Load Deflection	L/999 (0.001")	n/a	n/a	4	02-01-15
Live Load Deflection	L/999 (0")	n/a	n/a	5	02-01-15
Max Defl.	0.001"	n/a	n/a	4	02-01-15
Span / Depth	4.5				

Bearing Supports

	Dlm. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 1-3/4"	123 lbs	2.1%	1.0%	Spruce-Pine-Fir
B2	Wall/Plate 3-1/2" x 1-3/4"	121 lbs	3.2%	1.6%	Spruce-Pine-Fir

Notes

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

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

Calculations assume member is fully braced.

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

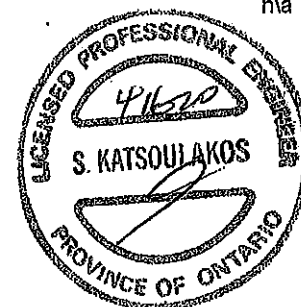
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

AMENDED 2020



DWG NO. TAM 6084-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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



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

2ND FLR FRAMING\Flush Beams\B14(I2151) (Flush Beam)

PASSED

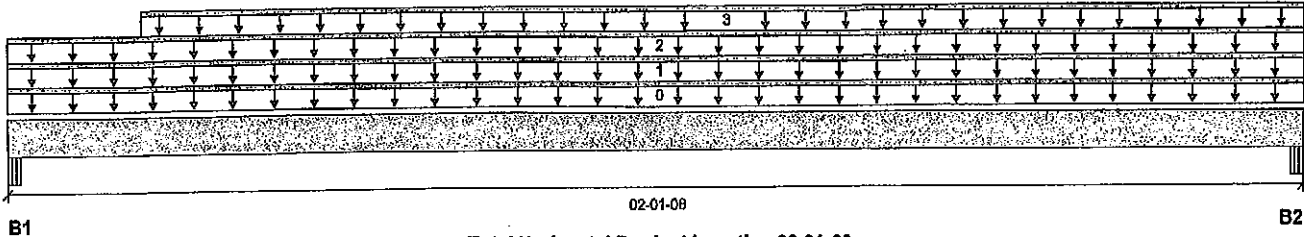
BC CALC® Member Report
Build 7239
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports:

Dry | 1 span | No cant.

February 10, 2020 11:38:52

File name: MOUNTAINASH 6 EL 1.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B14(I2151)
Specifier:
Designer:
Company:

CCMC 12472-R



Total Horizontal Product Length = 02-01-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-5/8"	43 / 0	120 / 0	42 / 0	
B2, 4-1/8"	55 / 0	138 / 0	47 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	02-01-08	Top	10				00-00-00
1	SNOW	Unf. Lin. (lb/ft)	L	00-00-00	02-01-08	Top	22	20	42		n/a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	02-01-08	Top		80			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-02-10	02-01-08	Top	27	13			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	96 ft-lbs	23220 ft-lbs	0.4%	1	01-00-02
End Shear	2 lbs	7521 lbs	n/a	0	01-00-02
Total Load Deflection	L/999 (0")	n/a	n/a	35	01-00-02
Max Defl.	0"	n/a	n/a	35	01-00-02
Span / Depth	2.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 2-5/8" x 3-1/2"	168 lbs	5.3%	2.3%	Unspecified
B2	Beam 4-1/8" x 3-1/2"	302 lbs	3.9%	1.7%	Unspecified

Notes

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

Calculations assume member is fully braced.

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

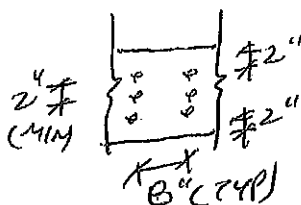
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

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

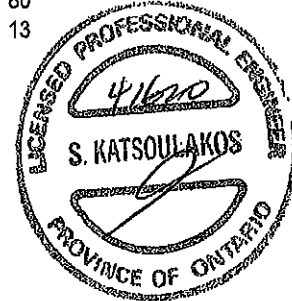
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012



PROVIDE 3 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 8" O/C FOR MULTI-PLY NAILING, MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS



DWG NO. YAW 6085-20

STRUCTURAL COMPONENT ONLY

Disclosure

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

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

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****2ND FLR FRAMING\Flush Beams\B16(I2154) (Flush Beam)**

Dry | 1 span | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B16(I2154)

City, Province, Postal Code:

Specifier:

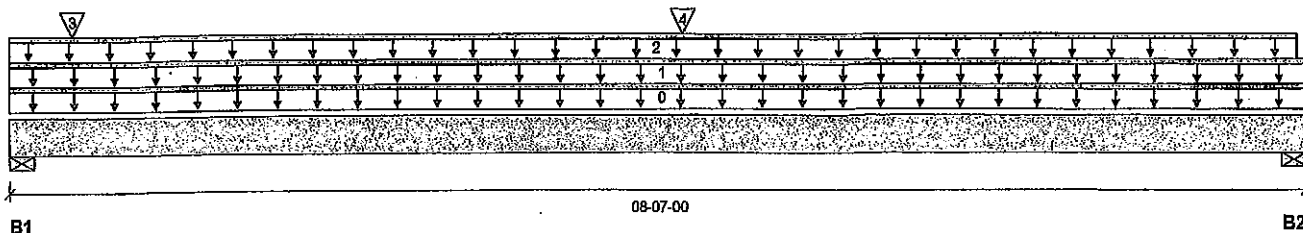
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 08-07-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	184 / 0	517 / 0	187 / 0	
B2, 5-1/2"	120 / 0	452 / 0	65 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-07-00	Top		10			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	08-07-00	Top	20	10			n/a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	08-06-01	Top		80			n/a
3	WINDOW	Conc. Pt. (lbs)	L	00-05-00	00-05-00	Top	66	60	126		n/a
4	WINDOW	Conc. Pt. (lbs)	L	04-05-00	04-05-00	Top	66	60	126		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1221 ft-lbs	15093 ft-lbs	8.1%	0	04-05-00
End Shear	468 lbs	7521 lbs	6.2%	0	07-04-00
Total Load Deflection	L/999 (0.028")	n/a	n/a	35	04-03-13
Live Load Deflection	L/999 (0.01")	n/a	n/a	51	04-03-13
Max Defl.	0.028"	n/a	n/a	35	04-03-13
Span / Depth	9.8				

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	723 lbs	9.4%	4.7%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 3-1/2"	633 lbs	8.2%	4.1%	Spruce-Pine-Fir

Notes

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

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

Calculations assume member is fully braced.

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

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

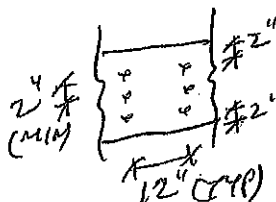
Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

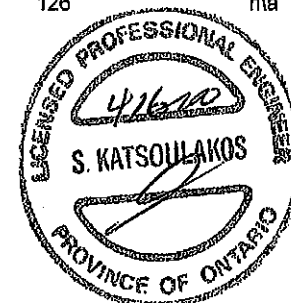
Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



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

**Disclosure**

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

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

NWG NO. TAM6086-20

STRUCTURAL

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****2ND FLR FRAMING\Flush Beams\B8(i2152) (Flush Beam)**

Dry | 1 span | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B8(i2152)

City, Province, Postal Code:

Specifier:

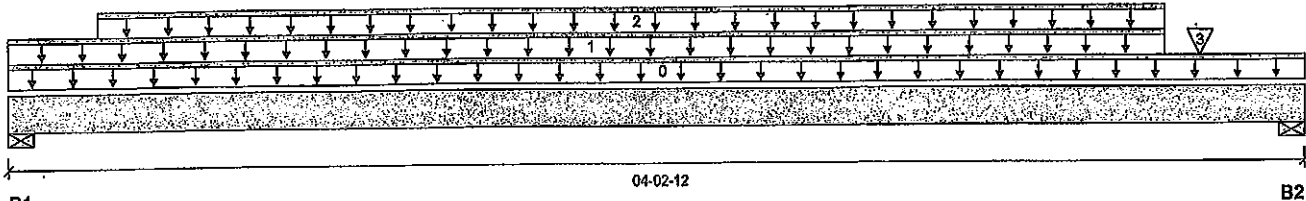
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 04-02-12

Reaction Summary (Down / Uplift) (lbs)

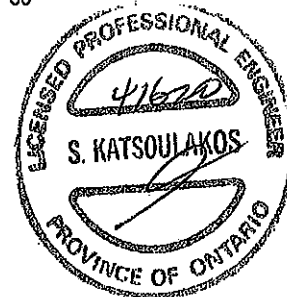
Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	41 / 0	144 / 0		
B2, 5-1/2"	36 / 0	143 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-02-12	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-09-04	Top	20	10			n/a
2	WALL	Unf. Lin. (lb/ft)	L	00-03-08	03-09-04	Top		60			n/a
3	FC2 Floor Material	Conc. Pt. (lbs)	L	03-10-10	03-10-10	Top	1				n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	181 ft-lbs	15093 ft-lbs	1.2%	0	02-00-06
End Shear	106 lbs	7521 lbs	1.4%	0	01-01-00
Total Load Deflection	L/999 (0.001")	n/a	n/a	4	02-00-06
Live Load Deflection	L/999 (0")	n/a	n/a	5	02-00-06
Max Defl.	0.001"	n/a	n/a	4	02-00-06
Span / Depth	4.6				



ENG NO. YAM 6087-20
**STRUCTURAL
 COMPONENT ONLY**

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	202 lbs	4.1%	2.1%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 3-1/2"	201 lbs	2.6%	1.3%	Spruce-Pine-Fir

Notes

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

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

Calculations assume member is fully braced.

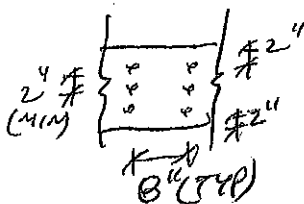
Resistance Factor phi has been applied to all presented results per CSA O86. **AMENDED 2020**

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012



PROVIDE 3 ROWS OF 3/4" ARDOX
 SPIRAL NAILS @ 8" O/C FOR
 MULTI-PLY NAILING. MAINTAIN
 A MIN. 2" LUMBER EDGE/END
 DISTANCE. DO NOT USE AIR NAILS

Disclosure

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

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



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

PASSED

1ST FLR FRAMING\Flush Beams\B1(i1955) (Flush Beam)

Dry | 2 spans | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B1(i1955)

City, Province, Postal Code:

Specifier:

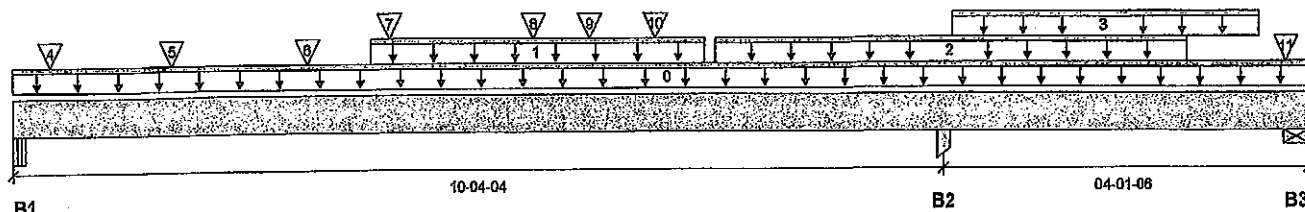
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 14-05-10

Reaction Summary (Down / Uplift) (lbs)

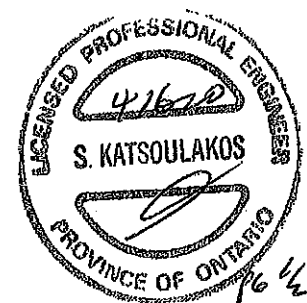
Bearing	Live	Dead	Snow	Wind
B1, 5-1/4"	3149 / 27	1723 / 0		
B2, 4-1/2"	5407 / 0	2876 / 0		
B3, 5-1/2"	4368 / 1288	3245 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-05-10	Top		10			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	03-11-10	07-07-10	Top	240	120			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	07-09-02	13-01-02	Top	323	161			n/a
3	STAIR	Unf. Lin. (lb/ft)	L	10-05-06	13-10-10	Top	240	120			n/a
4	J2(i2040)	Conc. Pt. (lbs)	L	00-05-02	00-05-02	Top	1454	789			n/a
5	J2(i2099)	Conc. Pt. (lbs)	L	01-09-02	01-09-02	Top	431	215			n/a
6	-	Conc. Pt. (lbs)	L	03-03-04	03-03-04	Top	522	261			n/a
7	-	Conc. Pt. (lbs)	L	04-02-02	04-02-02	Top	710	417			n/a
8	J2(i2016)	Conc. Pt. (lbs)	L	05-09-02	05-09-02	Top	295	147			n/a
9	J2DJ(i2081)	Conc. Pt. (lbs)	L	06-04-10	06-04-10	Top	255	127			n/a
10	J2(i1959)	Conc. Pt. (lbs)	L	07-01-02	07-01-02	Top	332	166			n/a
11	-	Conc. Pt. (lbs)	L	14-02-06	14-02-06	Top	3733	3598			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	9867 ft-lbs	23220 ft-lbs	42.5%	2	04-05-02
Neg. Moment	-10975 ft-lbs	-23220 ft-lbs	47.3%	1	10-04-04
End Shear	3496 lbs	11571 lbs	30.2%	2	01-02-12
Cont. Shear	5922 lbs	11571 lbs	51.2%	1	09-04-08
Total Load Deflection	L/584 (0.205")	n/a	41.1%	9	04-11-02
Live Load Deflection	L/886 (0.135")	n/a	40.7%	12	04-11-02
Total Neg. Defl.	L/999 (-0.021")	n/a	n/a	9	11-10-09
Max Defl.	0.205"	n/a	n/a	9	04-11-02
Span / Depth	12.6				



OWN NO. YAM 6088-20
STRUCTURAL
COMPONENT ONLY

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	5-1/4" x 3-1/2"	6878 lbs	70.1%	30.7%	Unspecified
B2 Column	4-1/2" x 3-1/2"	11705 lbs	91.5%	60.9%	Unspecified
B3 Wall/Plate	5-1/2" x 3-1/2"	10607 lbs	89.6%	45.2%	Spruce-Pine-Fir



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

PASSED

1ST FLR FRAMING\Flush Beams\B1(i1955) (Flush Beam)

Dry | 2 spans | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File name: MOUNTAINASH 6 EL 1.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B1(i1955)

Specifier:

Designer:

Company:

Notes

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

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

Calculations assume member is fully braced.

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

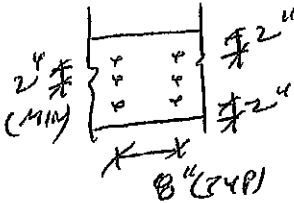
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



PROVIDED ROWS OF 3 1/2" ARDOX
SPIRAL NAILS @ 8" O/C FOR
MULTI-PLY NAILING. MAINTAIN
A MIN. 2" LUMBER EDGE/END
DISTANCE. DO NOT USE AIR NAILS



DWG NO. TAW 6088-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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



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

PASSED

1ST FLR FRAMING\Flush Beams\B2(1994) (Flush Beam)

Dry | 1 span | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

BUILD 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

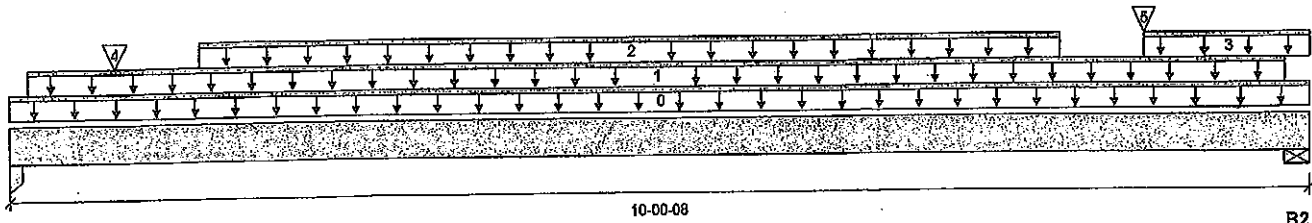
File name: MOUNTAINASH 6 EL 1.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B2(1994)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 10-00-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	985 / 0	834 / 0		
B2, 1-7/8"	942 / 0	810 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-00-08	Top		10			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-01-12	09-10-02	Top		60			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-05-10	08-01-10	Top	210	104			n/a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	08-09-10	10-00-08	Top	22				n/a
4	J4(1985)	Conc. Pt. (lbs)	L	00-09-10	00-09-10	Top	244	122			n/a
5	J4(1973)	Conc. Pt. (lbs)	L	08-09-10	08-09-10	Top	262	131			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	6498 ft-lbs	23220 ft-lbs	28.0%	1	04-09-10
End Shear	2370 lbs	11571 lbs	20.5%	1	09-01-02
Total Load Deflection	L/728 (0.163")	n/a	33.0%	4	05-00-10
Live Load Deflection	L/999 (0.089")	n/a	n/a	5	05-00-10
Max Defl.	0.163"	n/a	n/a	4	05-00-10
Span / Depth	12.5				

Bearing Supports

	Dlm. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 1-3/4" x 3-1/2"	2520 lbs	50.7%	33.7%	Unspecified
B2	Wall/Plate 1-7/8" x 3-1/2"	2426 lbs	60.1%	30.3%	Spruce-Pine-Flr

Notes

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

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

Calculations assume member is fully braced.

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

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

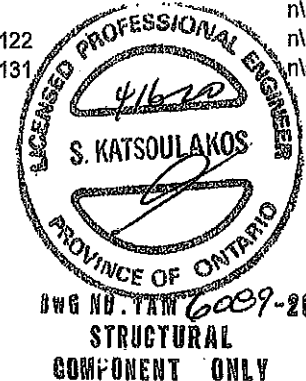
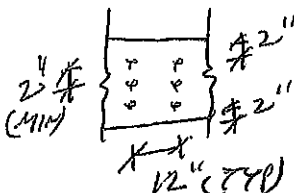
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020

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



Disclosure

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

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



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

PASSED

1ST FLR FRAMING\Flush Beams\B3(1931) (Flush Beam)

Dry | 1 span | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

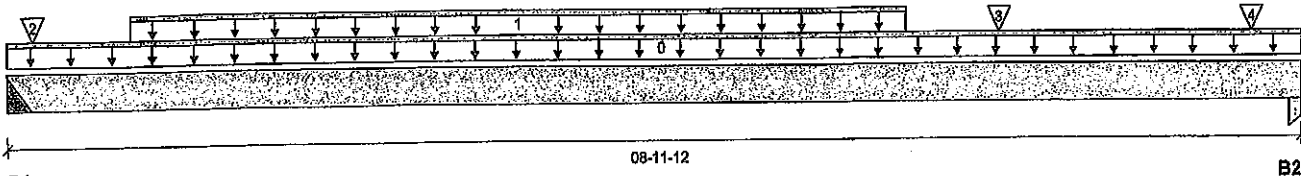
File name: MOUNTAINASH 6 EL 1.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B3(1931)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 08-11-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	358 / 0	222 / 0		
B2, 3-1/2"	810 / 0	999 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-11-12	Top		10			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-10-04	08-02-04	Top	80	40			n/a
2	J7(12069)	Conc. Pt. (lbs)	L	00-02-04	00-02-04	Top	67	34			n/a
3	J7(12079)	Conc. Pt. (lbs)	L	06-10-04	08-10-04	Top	108	54			n/a
4	-	Conc. Pt. (lbs)	L	08-07-07	08-07-07	Top	559	830			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1714 ft-lbs	23220 ft-lbs	7.4%	1	04-02-04
End Shear	708 lbs	11571 lbs	6.1%	1	07-10-12
Total Load Deflection	L/999 (0.032")	n/a	n/a	4	04-04-04
Live Load Deflection	L/999 (0.02")	n/a	n/a	5	04-04-04
Max Defl.	0.032"	n/a	n/a	4	04-04-04
Span / Depth	10.9				

Bearing Supports

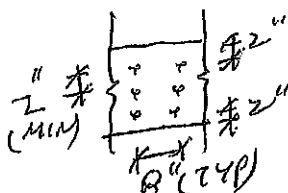
	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 3-1/2"	813 lbs	n/a	9.5%	Hanger
B2	Column 3-1/2" x 3-1/2"	2463 lbs	24.8%	16.5%	Unspecified

Cautions

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00. **CONFORMS TO OBC 2012**
 Hanger Manufacturer: Unassigned
 Resistance Factor phi has been applied to all presented results per CSA O86. **AMENDED 2020**
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor: Normal Part code: Part 9



PROVIDE 3 ROWS OF 3/4" ARDOX
 SPIRAL NAILS @ 8" O/C FOR
 MULTI-PLY NAILING. MAINTAIN
 A MIN. 2" LUMBER EDGE/END
 DISTANCE. DO NOT USE AIR NAILS



DWG NO. YAW 6090-20
 STRUCTURAL
 COMPONENT ONLY

Disclosure

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

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

**Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****1ST FLR FRAMING\Flush Beams\B4(I2084) (Flush Beam)**

Dry | 1 span | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

File name: MOUNTAINASH 6 EL 1.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B4(I2084)

City, Province, Postal Code:

Specifier:

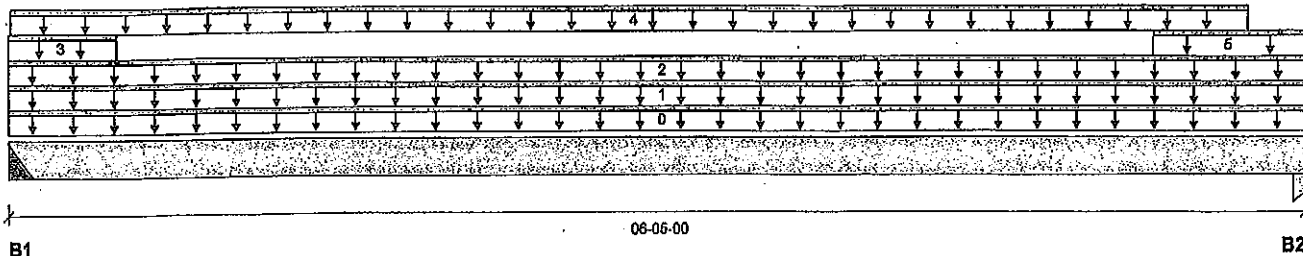
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 06-05-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	344 / 0	618 / 0		
B2, 3-1/2"	167 / 0	496 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-05-00	Top		5			00-00-00
1	3(I760)	Unf. Lin. (lb/ft)	L	00-00-00	06-05-00	Top		81			n/a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	06-05-00	Top	19	9			n/a
3	3(I760)	Unf. Lin. (lb/ft)	L	00-00-00	00-06-06	Top	427	536			n/a
4	3(I760)	Unf. Lin. (lb/ft)	L	00-00-02	06-01-08	Top	20	12			n/a
5	3(I760)	Unf. Lin. (lb/ft)	L	05-08-00	06-05-00	Top	53	192			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	748 ft-lbs	7546 ft-lbs	9.9%	0	03-01-12
End Shear	594 lbs	3761 lbs	15.8%	0	00-11-08
Total Load Deflection	L/999 (0.02")	n/a	n/a	4	03-01-12
Live Load Deflection	L/999 (0.006")	n/a	n/a	5	03-00-15
Max Defl.	0.02"	n/a	n/a	4	03-01-12
Span / Depth	7.7				

			Demand/Resistance Support	Demand/Resistance Member	
Bearing Supports	Dim. (LxW)	Demand			Material
B1	Hanger	2" x 1-3/4"	865 lbs	n/a	31.2% Hanger
B2	Column	3-1/2" x 1-3/4"	694 lbs	21.5% 14.3%	Unspecified

Cautions

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

Notes

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

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

Calculations assume member is fully braced.

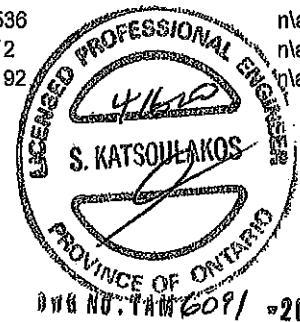
Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012**AMENDED 2020****STRUCTURAL COMPONENT ONLY Disclosure**

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

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



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

PASSED

1ST FLR FRAMING\Flush Beams\B5\I2038) (Flush Beam)

Dry | 1 span | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

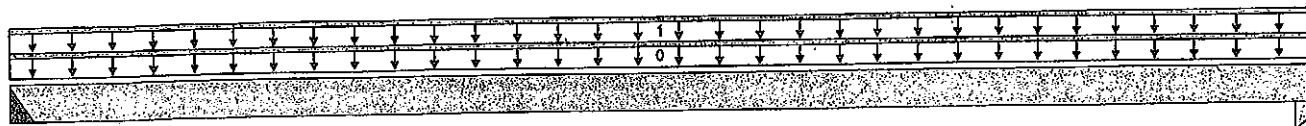
File name: MOUNTAINASH 6 EL 1.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B5\I2038)

Specifier:

Designer:

Company:



05-01-02

B1

B2

Total Horizontal Product Length = 05-01-02

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	44 / 0	34 / 0		
B2, 1-3/4"	44 / 0	34 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-01-02	Top		5			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	05-01-02	Top	17	9			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	129 ft-lbs	11610 ft-lbs	1.1%	1	02-06-11
End Shear	68 lbs	5785 lbs	1.2%	1	00-11-08
Total Load Deflection	L/999 (0.002")	n/a	n/a	4	02-06-11
Live Load Deflection	L/999 (0.001")	n/a	n/a	5	02-06-11
Max Defl.	0.002"	n/a	n/a	4	02-06-11
Span / Depth	6.2				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Hanger	2" x 1-3/4"	109 lbs	n/a	2.6%	Hanger
B2 Column	1-3/4" x 1-3/4"	108 lbs	4.4%	2.9%	Unspecified

Cautions

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



SW# NO. TAN 6092-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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



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

PASSED

1ST FLR FRAMING\Flush Beams\B6(I2036) (Flush Beam)

Dry | 1 span | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

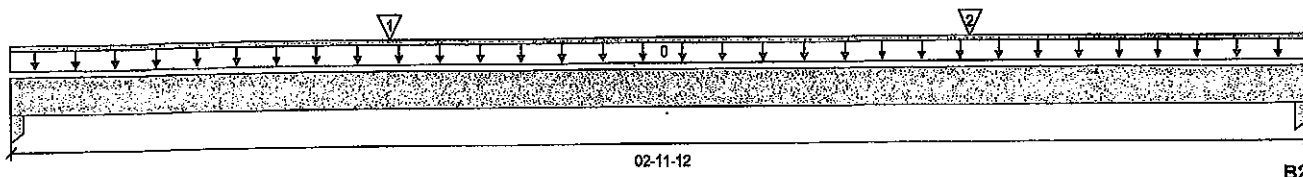
File name: MOUNTAINASH 6 EL 1.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B6(I2036)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 02-11-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	113 / 0	64 / 0		
B2, 3-1/2"	119 / 0	67 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	02-11-12	Top	1.00	0.65	1.00	1.15	00-00-00
1	J6(I1935)	Conc. Pt. (lbs)	L	00-10-06	00-10-06	Top	118	59			n/a
2	J6(I2002)	Conc. Pt. (lbs)	L	02-02-06	02-02-06	Top	114	57			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	167 ft-lbs	11610 ft-lbs	1.3%	1	00-10-11
End Shear	174 lbs	5785 lbs	3.0%	1	01-01-00
Total Load Deflection	L/999 (0.001")	n/a	n/a	4	01-05-14
Live Load Deflection	L/999 (0")	n/a	n/a	5	01-05-14
Max Defl.	0.001"	n/a	n/a	4	01-05-14
Span / Depth	3.2				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 3-1/2" x 1-3/4"	249 lbs	5.0%	3.3%	Unspecified
B2	Column 3-1/2" x 1-3/4"	261 lbs	5.3%	3.5%	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. AMENDED 2020

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012



SWG NO. YAM 6093-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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

**Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****1ST FLR FRAMING\Flush Beams\B7(I2063) (Flush Beam)**

Dry | 1 span | No cant.

February 10, 2020 11:38:52

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

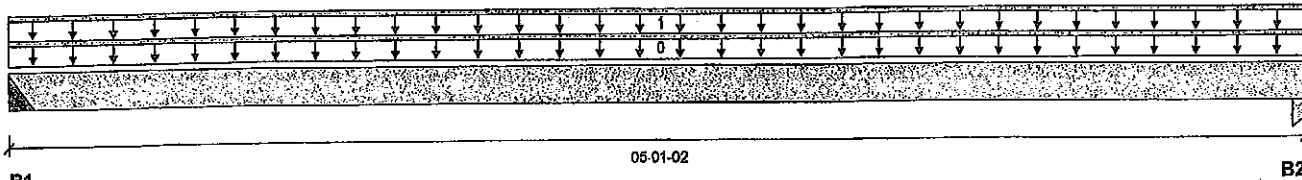
File name: MOUNTAINASH 6 EL 1.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B7(I2063)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 05-01-02

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	40 / 0	32 / 0		
B2, 1-3/4"	40 / 0	32 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-01-02	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	05-01-02	Top	16	8			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	118 ft-lbs	11610 ft-lbs	1.0%	1	02-06-11
End Shear	63 lbs	5785 lbs	1.1%	1	00-11-08
Total Load Deflection	L/999 (0.001")	n/a	n/a	4	02-06-11
Live Load Deflection	L/999 (0.001")	n/a	n/a	5	02-06-11
Max Defl.	0.001"	n/a	n/a	4	02-06-11
Span / Depth	6.2				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 1-3/4"	100 lbs	n/a	2.3%	Hanger
B2	Column 1-3/4" x 1-3/4"	99 lbs	4.0%	2.7%	Unspecified

Cautions

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

AMENDED 2020



UWA NO. TAM 6094 -20

STRUCTURAL

COMPONENT ONLY

Disclosure

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

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



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B14B(i2247) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

February 10, 2020 12:41:53

Build 7239

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

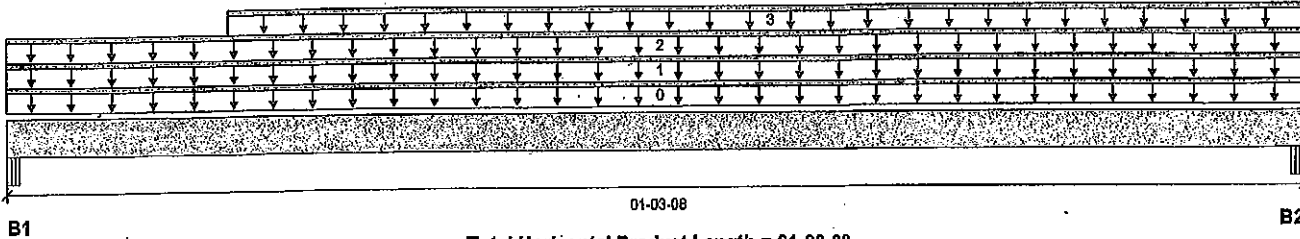
File name: MOUNTAINASH 6 EL 2.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B14B(i2247)

Specifier:

Designer: AJ

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-5/8"	12 / 0	59 / 0	23 / 0	
B2, 5-1/4"	17 / 0	83 / 0	32 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	01-03-08	Top	1.00	0.65	1.00	1.15	00-00-00
1	SNOW	Unf. Lin. (lb/ft)	L	00-00-00	01-03-08	Top	22	20	42		n/a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	01-03-08	Top		80			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-02-10	01-03-08	Top	1				n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	11 ft-lbs	15093 ft-lbs	n/a	0	00-06-07
End Shear	49 lbs	7521 lbs	0.6%	0	00-02-10
Span / Depth	1.0				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	2-5/8" x 3-1/2"	82 lbs	2.6%	1.1%	Unspecified
B2 Beam	5-1/4" x 3-1/2"	116 lbs	1.8%	0.8%	Unspecified

Notes

Calculations assume member is fully braced.

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

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

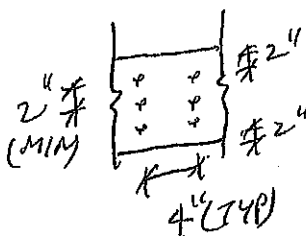
Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

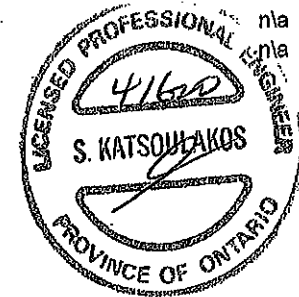
Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



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



DWG NO. TAM 6095 -20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP****PASSED****1ST FLR FRAMING\Flush Beams\B1A(12350) (Flush Beam)**

Dry | 1 span | No cant.

April 16, 2020 08:43:03

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

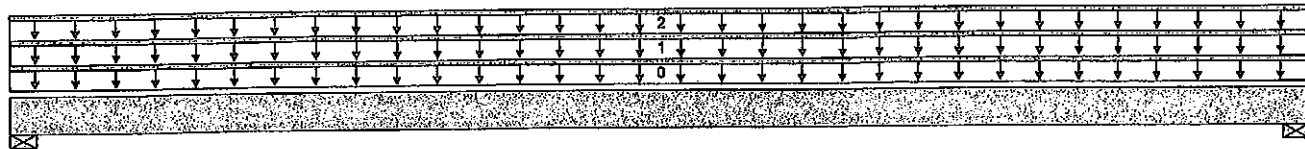
File name: MOUNTAINASH 6 EL 1 DECK CONDITION.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B1A(12350)

Specifier:

Designer: AJ

Company:



03-01-00

B1

B2

Total Horizontal Product Length = 03-01-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	41 / 0	160 / 0		
B2, 3"	41 / 0	160 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	10	81			00-00-00
1	E3(i585)	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top		13			n/a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	27				n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	133 ft-lbs	15093 ft-lbs	0.9%	0	01-06-08
End Shear	73 lbs	7521 lbs	1.0%	0	01-00-08
Total Load Deflection	L/999 (0")	n/a	n/a	4	01-06-08
Live Load Deflection	L/999 (0")	n/a	n/a	5	01-06-08
Max Defl.	0"	n/a	n/a	4	01-06-08
Span / Depth	3.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3" x 3-1/2"	224 lbs	5.3%	2.7%	Spruce-Pine-Fir
B2	Wall/Plate 3" x 3-1/2"	224 lbs	5.3%	2.7%	Spruce-Pine-Fir

Notes

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

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

Calculations assume member is fully braced.

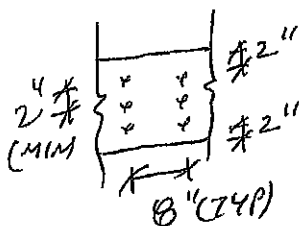
Resistance Factor phi has been applied to all presented results per CSA O86. AMENDED 2020

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

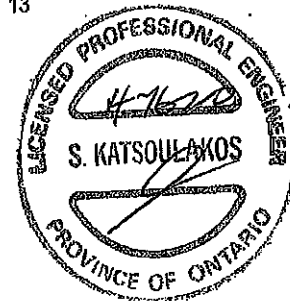
Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012



PROVIDE 3 ROWS OF 3/8" ARDOX
SPIRAL NAILS @ 8" O/C FOR
MULTI-PLY NAILING. MAINTAIN
A MIN. 2" LUMBER EDGE/END
DISTANCE. DO NOT USE AIR NAILS



OWN NO. TAM 6096-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

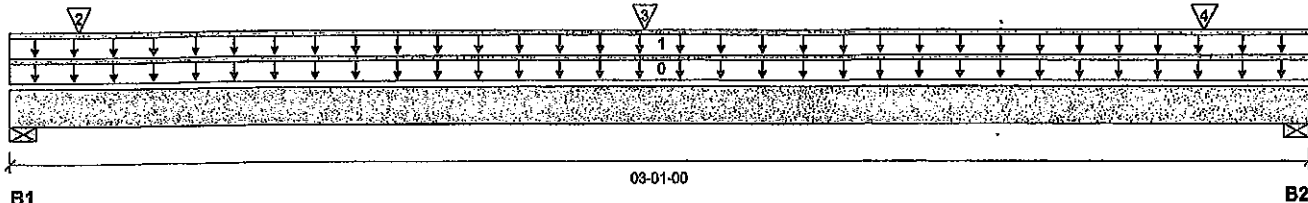
File name: MOUNTAINASH 6 EL 1 DECK CONDITION.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B1B(i2351)

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 03-01-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	938 / 0	610 / 0		
B2, 3"	928 / 0	604 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	10				00-00-00
1	E9(i588)	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	270	216			n/a
2	J3(i2302)	Conc. Pt. (lbs)	L	00-02-00	00-02-00	Top	345	173			n/a
3	J3(i2284)	Conc. Pt. (lbs)	L	01-06-00	01-06-00	Top	345	173			n/a
4	J3(i2227)	Conc. Pt. (lbs)	L	02-10-00	02-10-00	Top	345	173			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1125 ft-lbs	23220 ft-lbs	4.8%	1	01-06-00
End Shear	721 lbs	11571 lbs	6.2%	1	01-00-08
Total Load Deflection	L/999 (0.002")	n/a	n/a	4	01-06-07
Live Load Deflection	L/999 (0.001")	n/a	n/a	5	01-06-07
Max Defl.	0.002"	n/a	n/a	4	01-06-07
Span / Depth	3.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3" x 3-1/2"	2170 lbs	33.6%	16.9%	Spruce-Pine-Fir
B2	Wall/Plate 3" x 3-1/2"	2147 lbs	33.2%	16.8%	Spruce-Pine-Fir

Notes

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

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

Calculations assume member is fully braced.

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

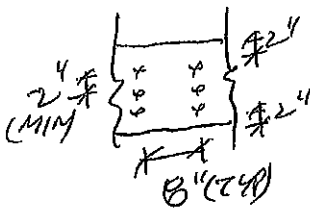
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

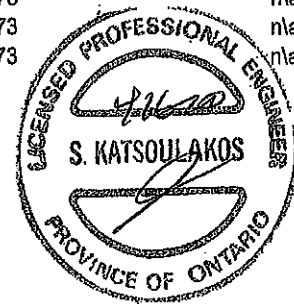
Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

AMENDED 2020



PROVIDE 3 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 8" O/C FOR MULTI-PLY NAILING. MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS



DWG NO. TAM6097-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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

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