



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Roof Beam RB01

Dry | 2 spans | No cantilevers | 0/12 slope

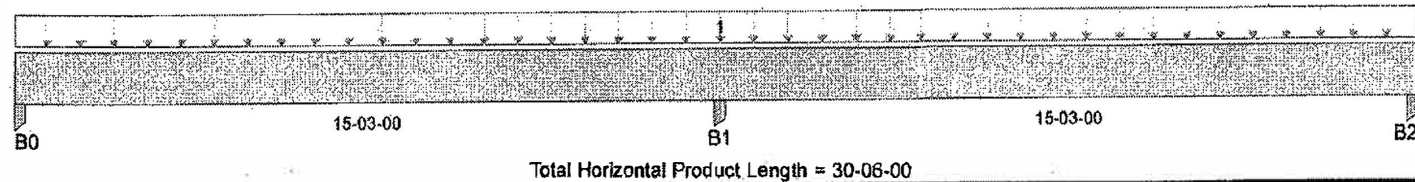
October 24, 2017 08:04:36

BC CALC® Design Report



Build 6080
 Job Name: STRUCTURAL RIDGE
 Address: MONUMENT STREET
 City, State, Zip: WINDHAM, ME
 Customer: HANCOCK LUMBER
 Code reports: ESR-1040

File Name: BC CALC Project
 Description: Design\RB01
 Specifier:
 Designer: GUY DOYON
 Company: HANCOCK LUMBER COMPANY
 Misc:



Reaction Summary (Down / Uplift) (lbs)

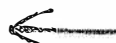
Bearing	Live	Dead	Snow	Wind	Roof Live
B0, 5-1/8"		577 / 0	3,815 / 0		
B1, 5-1/8"		1,806 / 0	11,071 / 0		
B2, 5-1/8"		577 / 0	3,815 / 0		

Tag	Description	Load Type	Ref.	Start	End	100%	90%	115%	160%	125%	Trib.
1	Standard Load	Unf. Area (lb/ft^2)	L	00-00-00	30-06-00		10	70			08-06-00

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	12,380 ft-lbs	50.6%	115%	7	06-03-05
Neg. Moment	-19,167 ft-lbs	78.3%	115%	9	15-03-00
End Shear	3,412 lbs	37.6%	115%	7	01-05-00
Cont. Shear	5,606 lbs	61.7%	115%	9	14-00-09
Total Load Defl.	L/425 (0.42")	42.4%	n/a	7	06-11-09
Live Load Defl.	L/476 (0.375")	50.4%	n/a	10	07-01-07
Total Neg. Defl.	L/999 (-0.028")	n/a	n/a	7	17-00-01
Max Defl.	0.42"	42%	n/a	7	06-11-09
Span / Depth	15	n/a	n/a	0	00-00-00
Squash Blocks	Valid				

Bearing Supports	Dim. (L x W)	Value	% Allow Support	% Allow Member	Material
B0 Post	5-1/8" x 3-1/2"	4,392 lbs	8.2%	32.6%	Versa-Lam 1.8
B1 Post	5-1/8" x 3-1/2"	12,877 lbs	23.9%	95.7%	Versa-Lam 1.8
B2 Post	5-1/8" x 3-1/2"	4,392 lbs	8.2%	32.6%	Versa-Lam 1.8



Cautions

For roof members with slope (1/4)/12 or less final design must ensure that ponding instability will not occur.
 For roof members with slope (1/2)/12 or less final design must account for Rain-on-Snow surcharge load.

Notes

Design meets Code minimum (L/180) Total load deflection criteria.
 Design meets Code minimum (L/240) Live load deflection criteria.
 Design meets arbitrary (1") Maximum Total load deflection criteria.
 Calculations assume member is fully braced.
 Design based on Dry Service Condition.



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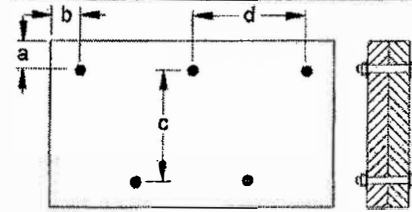
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 Description: Designs\RB01
 Specifier:
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 Misc:

Connection Diagram



a minimum = 2" c = 7-7/8"
 b minimum = 2-1/2" d = 24"

Bolts are assumed to be Grade A307 or Grade 2 or higher.
 Member has no side loads.
 Connectors are: 1/2 in. Staggered Through Bolt

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

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



Quadruple 1-3/4" x 14" VERSA-LAM® 2.0 3100 SP

Floor Beam\FB02

Dry | 1 span | No cantilevers | 0/12 slope

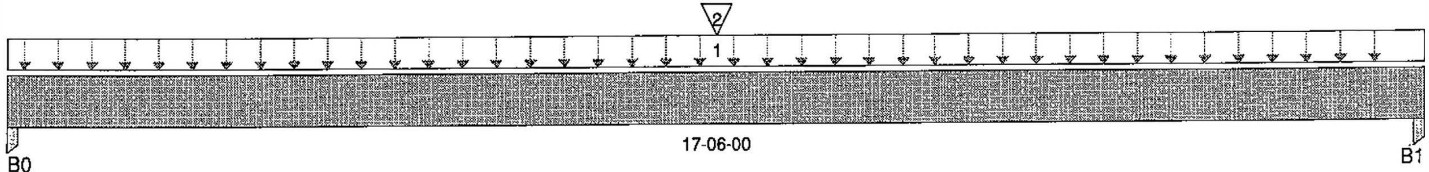
October 25, 2017 12:00:38

BC CALC® Design Report



Build 6080
 Job Name: 1st floor ceiling beam, supports ridge
 Address: MONUMENT STREET
 City, State, Zip: WINDHAM, ME
 Customer: HANCOCK LUMBER
 Code reports: ESR-1040

File Name: adler-monument st
 Description: Designs\FB02
 Specifier:
 Designer: GUY DOYON
 Company: HANCOCK LUMBER COMPANY
 Misc:



Total Horizontal Product Length = 17-06-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B0, 3-1/2"	4,419 / 0	1,268 / 0			
B1, 3-1/2"	4,419 / 0	1,267 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	100%	90%	115%	160%	125%	Trib.
1	Standard Load	Unf. Area (lb/ft^2)	L	00-00-00	17-06-00	40	10				01-03-15
2	ridge support column	Conc. Pt. (lbs)	L	08-09-00	08-09-00	7,908	1,806				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	44,829 ft-lbs	77.2%	100%	1	08-09-00
End Shear	5,548 lbs	29.8%	100%	1	01-05-08
Total Load Defl.	L/343 (0.597")	70%	n/a	1	08-09-00
Live Load Defl.	L/434 (0.472")	83%	n/a	2	08-09-00
Max Defl.	0.597"	95.5%	n/a	1	08-09-00
Span / Depth	14.6	n/a	n/a	0	00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Value	% Allow Support	% Allow Member	Material
B0 Post	3-1/2" x 3-1/2"	5,687 lbs	n/a	61.9%	Unspecified
B1 Post	3-1/2" x 3-1/2"	5,686 lbs	n/a	61.9%	Unspecified

Cautions

Member is not fully supported at post B0. A connector is required at this bearing.
 Member is not fully supported at post B1. A connector is required at this bearing.

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets arbitrary (0.625") Maximum Total load deflection criteria.
 Calculations assume member is fully braced.
 Design based on Dry Service Condition.



Quadruple 1-3/4" x 14" VERSA-LAM® 2.0 3100 SP

Floor Beam\FB02

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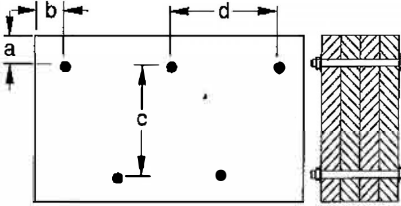
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 Code reports: ESR-1040

File Name: adler-monument st
 Description: Designs\FB02
 Specifier:
 Designer: GUY DOYON
 Company: HANCOCK LUMBER COMPANY
 Misc:

Connection Diagram



a minimum = 2" c = 10"
 b minimum = 2-1/2" d = 24"

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

Beams 7 inches wide will be assumed to be either top-loaded only, or equally loaded from each side.

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

Member has no side loads.

Connectors are: 1/2 in. Staggered Through Bolt

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

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