



BC CALC® Member Report

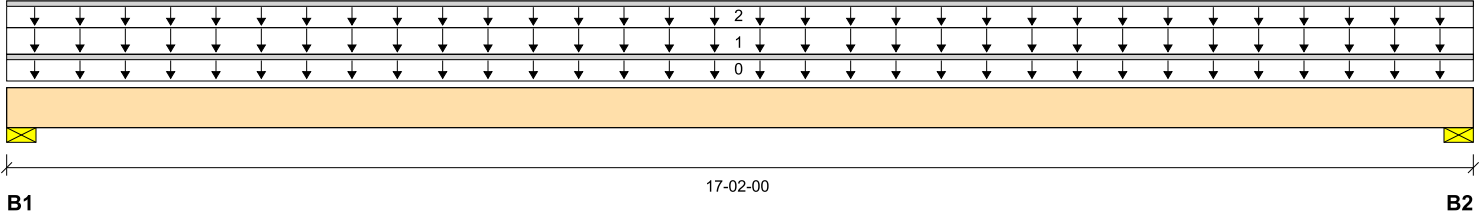
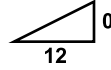
Dry | 1 span | No cant.

March 4, 2021 20:07:42

Build 7883

Job name: JOB# 2021-0133  
 Address: 4476 Hwy 211 W  
 City, State, Zip: West End, NC, 27376  
 Builder: VALUE BUILD HOMES  
 Code reports: ESR-1040

File name: P21-02024  
 Description: BEAM RB01  
 Specifier:  
 Designer: Mark Lovelace  
 Company: LongLeaf



### Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 5-1/2"		3212 / 0	2232 / 0		
B2, 5-1/2"		3212 / 0	2232 / 0		

### Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	17-02-00	Top		14				00-00-00
1	Standard Load	Unf. Area (lb/ft²)	L	00-00-00	17-02-00	Top		20	20			13-00-00
2		Unf. Lin. (lb/ft)	L	00-00-00	17-02-00	Top		100				n/a

### Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	21256 ft-lbs	63.7%	115%	4	08-07-00
End Shear	4413 lbs	41.2%	115%	4	01-07-08
Total Load Deflection	L/299 (0.658")	60.3%	n/a	4	08-07-00
Live Load Deflection	L/728 (0.27")	32.9%	n/a	5	08-07-00
Max Defl.	0.658"	65.8%	n/a	4	08-07-00
Span / Depth	14.0				

### Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	5443 lbs	66.5%	37.7%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 3-1/2"	5443 lbs	66.5%	37.7%	Spruce-Pine-Fir

### 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.
- BC CALC® analysis is based on IBC 2018.
- Design based on Dry Service Condition.
- Calculations assume member is fully braced.



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## RB01 (Roof Beam)

Dry | 1 span | No cant.

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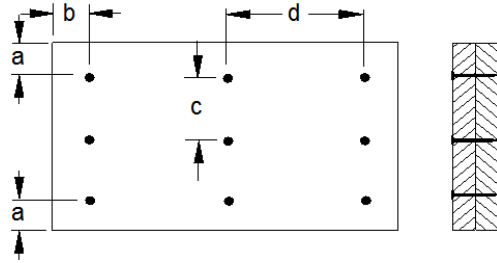
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### User Notes

This design is provided as a courtesy to the builder and does NOT guarantee a complete structural review of this project. Neither lateral nor seismic analysis has been considered. All bearing conditions, connections, spans, o.c. spacing, loading and product usages shall be verified by the builder and engineer of record. This design shall be reviewed, verified and approved by the builder, project engineer and local building department prior to ordering materials.

### Connection Diagram: Full Length of Member



a minimum = 2"      c = 5"  
 b minimum = 3"      d = 24"

Calculated Side Load = 0.0 lb/ft  
 Connectors are: 3-1/4 in. Pneumatic Gun 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.

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