



**hdr-01 (Roof Beam)**

Dry | 1 span | No cant.

November 18, 2021 15:08:17

BC CALC® Member Report

Build 8104

Job name: RED DOOR

File name: RD West HDR-2

Address:

Description:

City, State, Zip:

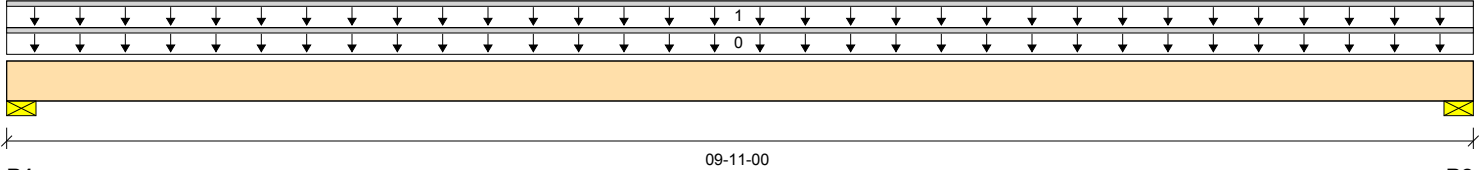
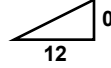
Specifier:

Customer:

Designer: Marjorie Williams Murray

Code reports: ESR-1040

Company: 84 Lumber



Total Horizontal Product Length = 09-11-00

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

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"		2030 / 0			1983 / 0
B2, 3-1/2"		2030 / 0			1983 / 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	09-11-00	Top	9					00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	09-11-00	Top	400				400	n/a

**Controls Summary**

	Value	% Allowable	Duration	Case	Location
Pos. Moment	9051 ft-lbs	54.6%	125%	4	04-11-08
End Shear	3153 lbs	41.0%	125%	4	01-00-12
Total Load Deflection	L/360 (0.316")	50.1%	n/a	4	04-11-08
Live Load Deflection	L/728 (0.156")	33.0%	n/a	5	04-11-08
Max Defl.	0.316"	31.6%	n/a	4	04-11-08
Span / Depth	12.3				

**Bearing Supports**

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	4013 lbs	n/a	43.7%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	4013 lbs	n/a	43.7%	Unspecified

**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 2015.
- Design based on Dry Service Condition.
- Calculations assume member is fully braced.



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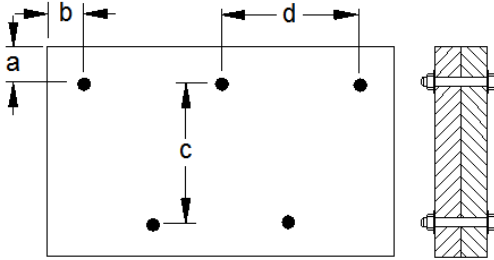
Description:

Specifier:

Designer: Marjorie Williams Murray

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**Connection Diagram: Full Length of Member**



a minimum = 2"      c = 5-1/4"  
b minimum = 2-1/2"      d = 24"

Calculated Side Load = 0.0 lb/ft  
Bolts are assumed to be Grade A307 or Grade 2 or higher.  
Connectors are: 1/2 in. Staggered Through Bolt

**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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