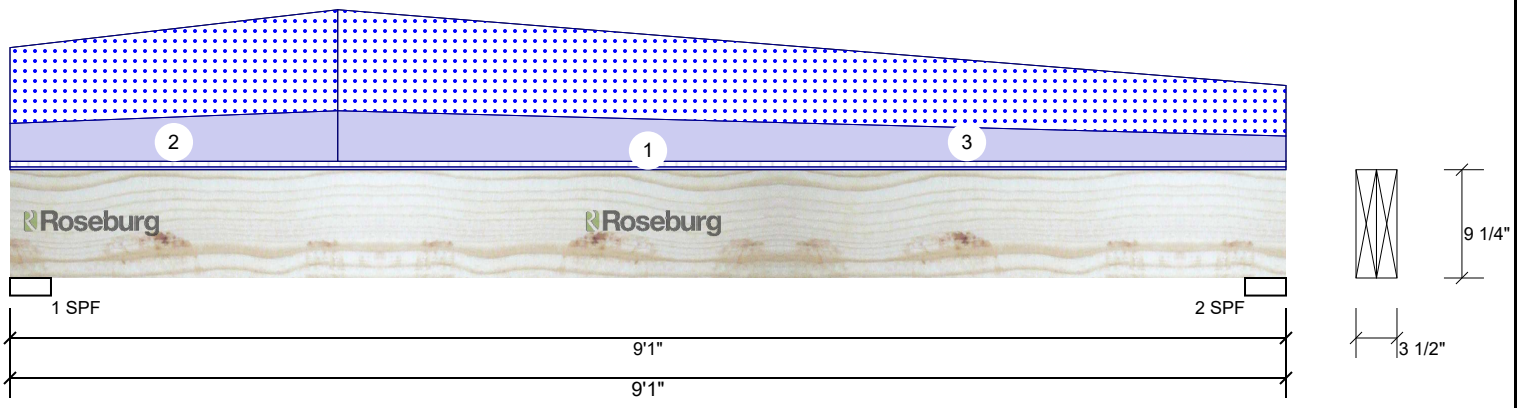
EWP Studio
Simpson Strong-Tie®
Component Solutions™

Client:	Charlie D Smith Construction	Date:	9/14/2021
Project:	HEADER - master suite triple window	Input by:	RKW
Address:	200 Gilchrist Road Cameron, N.C. 28326 Harnett County	Job Name:	Chambers Residence
		Project #:	21090009

B1 2.0E Rigidlam LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	68	770	1394	0	0
2	Vertical	68	655	1163	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	42%	770 / 1394	2164	L	D+S
2 - SPF	3.500"	Vert	35%	655 / 1163	1818	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4285 ft-lb	4'3 13/16"	15318 ft-lb	0.280 (28%)	D+S	L
Unbraced	4285 ft-lb	4'3 13/16"	8384 ft-lb	0.511 (51%)	D+S	L
Shear	1691 lb	1' 3/4"	7198 lb	0.235 (23%)	D+S	L
LL Defl inch	0.080 (L/1302)	4'5 7/8"	0.216 (L/480)	0.369 (37%)	S	L
TL Defl inch	0.124 (L/838)	4'5 15/16"	0.431 (L/240)	0.287 (29%)	D+S	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Girders are designed to be supported on the bottom edge only.
3 Multiple plies must be fastened together as per manufacturer's details.
4 Top loads must be supported equally by all plies.
5 Top must be laterally braced at end bearings.
6 Bottom must be laterally braced at end bearings.
7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		0-9-0	Top	10 PSF	20 PSF	0 PSF	0 PSF	0 PSF	C.J. Load
2	Tapered Start	0-0-0		Top	135 PLF	0 PLF	270 PLF	0 PLF	0 PLF	Rf Load
	End	2-4-0			180 PLF	0 PLF	360 PLF	0 PLF	0 PLF	
3	Tapered Start	2-4-0		Top	180 PLF	0 PLF	360 PLF	0 PLF	0 PLF	Rf Load
	End	9-1-0			90 PLF	0 PLF	180 PLF	0 PLF	0 PLF	
	Self Weight				9 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

Manufacturer Info

Roseburg Forest Products
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