

Client: Project: Address:

Charlie D Smith Construction ROOF VALLEY - above mud room

200 Gilchrist Road Cameron, N.C. 28326 Harnett County

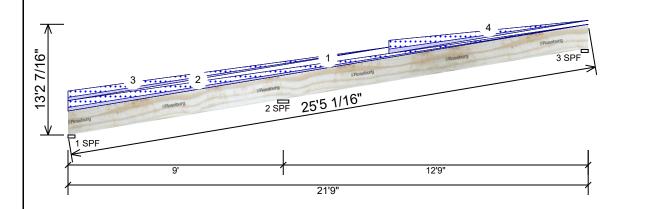
9/14/2021 Input by: RKW

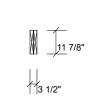
Job Name: Chambers Residence

Project #: 21090009

1.750" X 11.875" 2.0E Rigidlam LVL 2-Ply - PASSED B7

Level: Level





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Mem		

Type:	Girder
Plies:	2
Moisture Condition:	Dry
Deflection LL:	480
Deflection TL:	240
Importance:	Normal - II
Temperature:	Temp <= 100°F

Application: Roof Slope: 6.66/12 Design Method: ASD **Building Code: IBC/IRC 2015** Load Sharing: No

Deck: Not Checked

Reactions UNPATTERNED Ib (Uplift)

				-		
Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1278	2169	0	0
2	Vertical	0	2913	4765	0	0
3	Vertical	0	795	1254	0	0

Bearings

Bearing	Length	Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	69%	1278 / 2333	3611	L_	D+S
2 - SPF	5.563"	Vert	93%	2913 / 4765	7678	LL	D+S
3 - SPF	3.500"	Vert	41%	795 / 1315	2109	_L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-9262 ft-lb	9'	24470 ft-lb	0.379 (38%)	D+S	LL
Unbraced	-9262 ft-lb	9'	9276 ft-lb	0.999 (100%)	D+S	LL
Pos Moment	6953 ft-lb	16' 3/16"	24470 ft-lb	0.284 (28%)	D+S	_L
Unbraced	6953 ft-lb	16' 3/16"	6961 ft-lb	0.999 (100%)	D+S	_L
Shear	3172 lb	9' 7/16"	9241 lb	0.343 (34%)	D+S	LL
LL Defl inch	0.139 (L/1241)	15'9 5/16"	0.358 (L/480)	0.387 (39%)	S	_L
TL Defl inch	0.211 (L/814)	15'10 1/8"	0.716 (L/240)	0.295 (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 Refer to manufacturer's literature for sloped bearing detail.
- 3 Attach with enough nails to prevent sliding between the joist and the sloped bearing wedge at each support.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Multiple plies must be fastened together as per manufacturer's details.
- 6 Top loads must be supported equally by all plies.
- 7 Top must be laterally braced at a maximum of 14'3 11/16" o.c. along the slope.
- 8 Bottom must be laterally braced at a maximum of 10'2 1/16" o.c.
- 9 Lateral slenderness ratio based on single ply width.

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.

- Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

Handling & Installation

- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals

 Damaged Beams must not be used
- Design assumes top edge is laterally restrained
 Provide lateral support at bearing points to avoid
 lateral displacement and rotation
- 6. For flat roofs provide proper drainage to prevent ponding

Roseburg Forest Products

4500 Riddle By-pass Rd Riddle, OR 97469 (541) 784-4005 www.roseburg.com APA: PR-L289, PR-L270, ICC-ES: ESR-1210

Manufacturer Info

Kempsville Building Material 298 Harvey Faulk Road, N.C. U.S.A 27332 919.775.1450

This design is valid until 5/24/2024

EWP Studio Simpson Strong-Tie® Component Solutions™

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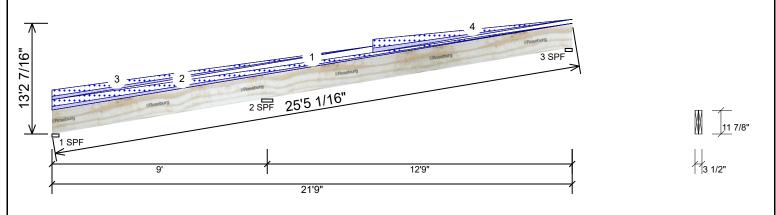
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2-Ply - PASSED 2.0E Rigidlam LVL 1.750" X 11.875" B7

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ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
2	Tapered Start	0-0-0		Тор	185 PLF	0 PLF	365 PLF	0 PLF	0 PLF	Rf Load
	End	21-9-0			0 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
3	Tapered Start	0-0-0		Тор	170 PLF	0 PLF	340 PLF	0 PLF	0 PLF	Rf Load
	End	13-5-0			0 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
4	Tapered Start	13-5-0		Тор	235 PLF	0 PLF	465 PLF	0 PLF	0 PLF	RF Load
	End	21-9-0			0 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				11 PLF					

Notes

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