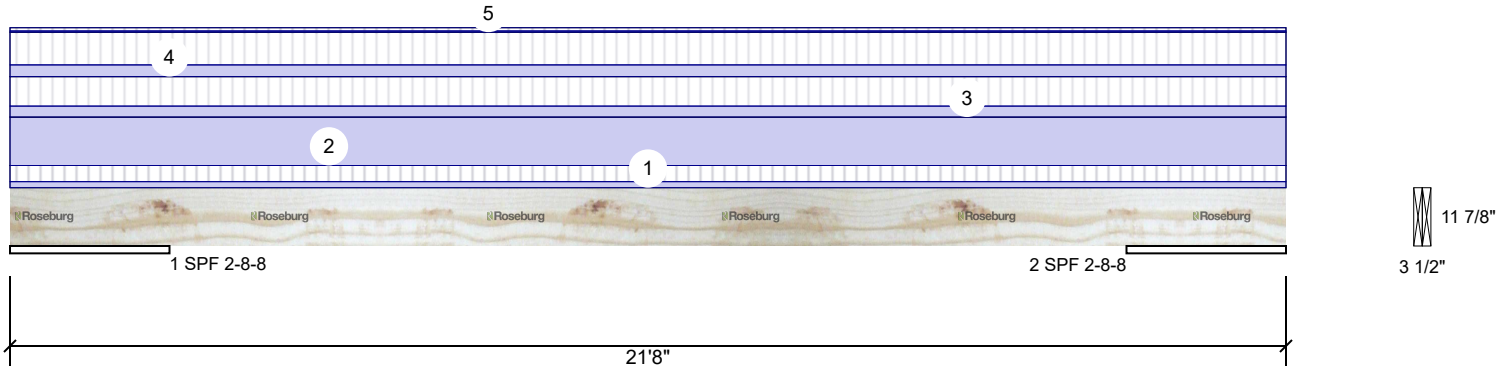
Client:		Date:	10/16/2024
Project:		Input by:	
Address:		Job Name:	Garage Beam
		Project #:	

B1 2.1E RigidLam LVL SP 1.750" X 11.875" 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	2188	2233	0	0	0
2	Vertical	2188	2233	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	32.500"	Vert	9%	2233 / 2188	4421	L	D+L
2 - SPF	32.500"	Vert	9%	2233 / 2188	4421	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	13679 ft-lb	10'10"	21295 ft-lb	64%	D+L	L
Unbraced	13679 ft-lb	10'10"	13694 ft-lb	100%	D+L	L
Shear	2912 lb	3'8 3/8"	8035 lb	36%	D+L	L
LL Defl inch	0.336 (L/584)	10'10 1/16"	0.409 (L/480)	82%	L	L
TL Defl inch	0.680 (L/289)	10'10 1/16"	0.819 (L/240)	83%	D+L	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings.
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 a maximum of 6' 15/16" o.c.
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		1-0-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
2	Uniform			Top	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
3	Uniform			Top	27 PLF	73 PLF	0 PLF	0 PLF	0 PLF	ROOF
4	Uniform			Top	29 PLF	81 PLF	0 PLF	0 PLF	0 PLF	FLOOR
5	Uniform			Top	3 PLF	8 PLF	0 PLF	0 PLF	0 PLF	TRUSS
	Self Weight				12 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 2/14/2027

Manufacturer Info

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APA: PR-L289, ICC-ES: ESR-1210