

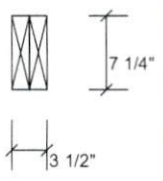
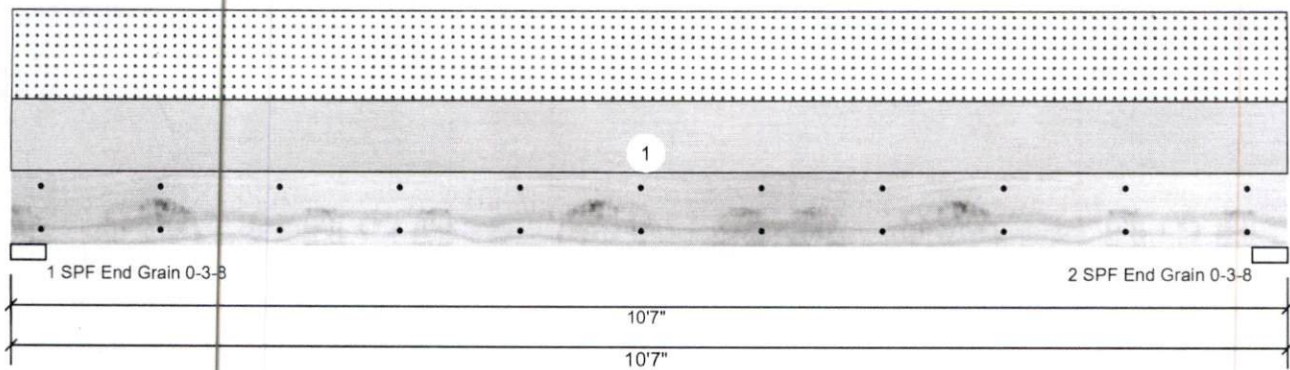


Client: Wombles
 Project:
 Address:

Date: 9/25/2023
 Input by: Jason Hurt
 Job Name: Dean
 Project #:

B1 - SINGLE DOOR **Murphy 2.0E-3100F LVL 1.750" X 7.250" 2-Ply - PASSED**

Level: Level



Member Information

Type: Girder
 Plies: 2
 Moisture Condition: Dry
 Deflection LL: 360
 Deflection TL: 240
 Importance: Normal - II
 Temperature: Temp <= 100°F
 General Load
 Floor Live: 40 PSF
 Dead: 15 PSF

Application: Floor
 Design Method: ASD
 Building Code: IRC 2021
 Load Sharing: No
 Deck: Not Checked

Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	568	661	0	0
2	Vertical	0	568	661	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	13%	568 / 661	1230	L	D+S
2 - SPF End Grain	3.500"	Vert	13%	568 / 661	1230	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2978 ft-lb	5'3 1/2"	9974 ft-lb	0.299 (30%)	D+S	L
Unbraced	2978 ft-lb	5'3 1/2"	5641 ft-lb	0.528 (53%)	D+S	L
Shear	1026 lb	10 3/4"	5642 lb	0.182 (18%)	D+S	L
LL Defl inch	0.133 (L/914)	5'3 1/2"	0.338 (L/360)	0.394 (39%)	S	L
TL Defl inch	0.247 (L/491)	5'3 1/2"	0.506 (L/240)	0.488 (49%)	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 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at end bearings.
- 7 Bottom must be laterally braced at end bearings.
- 8 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 Self Weight			Top	100 PLF 7 PLF	0 PLF	125 PLF	0 PLF	0 PLF	TRUSS GABLE WALL

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 5/29/2026

Manufacturer Info
 Murphy Engineered Wood Products
 412 West Central
 Sutherlin, OR 97479
 (541) 459-4545
 www.murphyplywood.com
 APA: PR-L283, ICC-ES: ESR-2913

Eastern Engineered Wood Products
 1245 Easton Road, PA
 18015

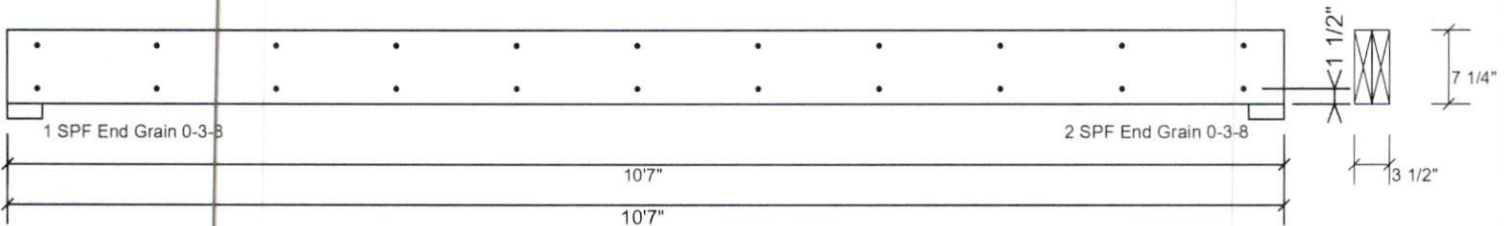




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Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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