

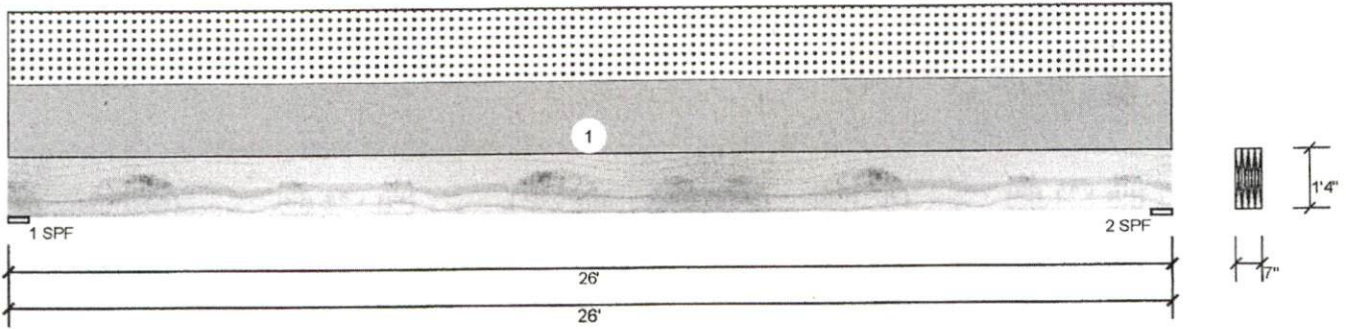


Client: Horizon Building Solutions
 Project: LVL Beams
 Address: 589 Iris Bryant Road
 Dunn, NC

Date: 5/24/2023
 Input by: Joe Ciferni
 Job Name: Porter's Chapel Car-Port
 Project #: 5-24-2023

CP-BM1 onCENTER 2.1E LVL 1.750" X 16.000" 4-Ply - PASSED

Level: Level



Member Information

Type: Girder
 Plies: 4
 Moisture Condition: Dry
 Deflection LL: 360
 Deflection TL: 240
 Importance: Normal - II
 Temperature: Temp <= 100°F
 General Load
 Floor Live: 40 PSF
 Dead: 12 PSF

Application: Floor
 Design Method: ASD
 Building Code: IBC 2018
 Load Sharing: Yes
 Deck: Not Checked

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	3933	3510	0	0
2	Vertical	0	3933	3510	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	45%	3933 / 3510	7443	L	D+S
2 - SPF	5.500"	Vert	45%	3933 / 3510	7443	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	45551 ft-lb	13'	87119 ft-lb	0.523 (52%)	D+S	L
Unbraced	45551 ft-lb	13'	45576 ft-lb	0.999 (100%)	D+S	L
Shear	6460 lb	1'9 1/2"	24472 lb	0.264 (26%)	D+S	L
LL Defl inch	0.512 (L/592)	13' 1/16"	0.841 (L/360)	0.608 (61%)	S	L
TL Defl inch	1.085 (L/279)	13' 1/16"	1.261 (L/240)	0.860 (86%)	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 a maximum of 5'3 7/8" 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			Top	270 PLF	0 PLF	270 PLF	0 PLF	0 PLF	Roof Truss Load
	Self Weight				33 PLF					

Notes

Calculated Structural 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 11/3/2024

Manufacturer Info

BlueLinx
 1950 Spectrum Circle, Suite 300
 Marietta, GA 30067
 877-914-7770
 www.buildoncenter.com
 ICC-ES: ESR-2909, ESR-2913,
 ESR-1210

Professional Builders Supply
 3941 US Hwy. 421 North, NC
 28401
 910-386-4300



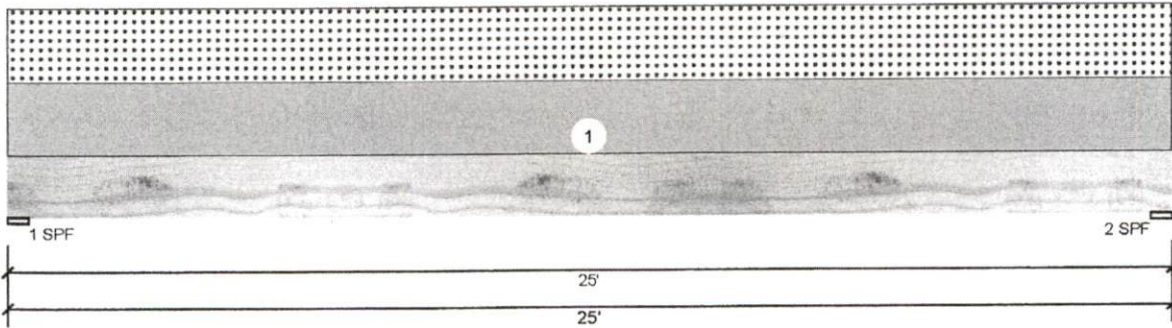


Client: Horizon Building Solutions
 Project: LVL Beams
 Address: 589 Iris Bryant Road
 Dunn, NC

Date: 5/24/2023
 Input by: Joe Ciferri
 Job Name: Porter's Chapel Car-Port
 Project #: 5-24-2023

CP-BM2 onCENTER 2.1E LVL 1.750" X 16.000" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2018
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	12 PSF		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1453	1250	0	0
2	Vertical	0	1453	1250	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	33%	1453 / 1250	2703	L	D+S
2 - SPF	5.500"	Vert	33%	1453 / 1250	2703	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	15869 ft-lb	12'6"	41884 ft-lb	0.379 (38%)	D+S	L
Unbraced	15869 ft-lb	12'6"	15895 ft-lb	0.998 (100%)	D+S	L
Shear	2337 lb	1'9 1/2"	12236 lb	0.191 (19%)	D+S	L
LL Defl inch	0.323 (L/899)	12'6 1/16"	0.808 (L/360)	0.400 (40%)	S	L
TL Defl inch	0.699 (L/415)	12'6 1/16"	1.211 (L/240)	0.577 (58%)	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 a maximum of 7'9 7/16" 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			Top	100 PLF	0 PLF	100 PLF	0 PLF	0 PLF	Gable Roof Truss Load
	Self Weight				16 PLF					

Notes Calculated Structural 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 preservative	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 to 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	Manufacturer Info BlueLinX 1950 Spectrum Circle, Suite 300 Marietta, GA 30067 877-914-7770 www.buildoncenter.com ICC-ES: ESR-2909, ESR-2913, ESR-1210	Professional Builders Supply 3941 US Hwy. 421 North, NC 28401 910-386-4300
			This design is valid until 11/3/2024	

Existing Church

1/4" = 1'

Trusses
2' o.c.

26'

4-LVL-16"

10x10 Post

Chippert

25'-8-LVL 16"

4-LVL-16"

10x10 Post

26'