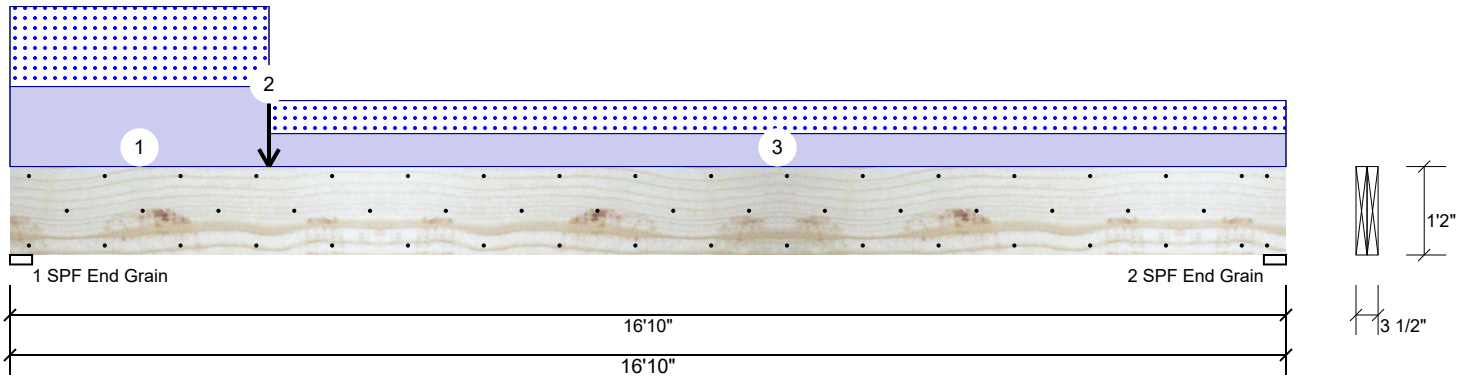
Client:	Weaver Development	Date:	5/23/2023
Project:	Magnolia II	Input by:	Jonathan Landry
Address:	4071 Barbeque Church Road Sanford, NC 27332	Job Name:	Lot 2 Holly Place
		Project #:	J0223-0920

GDH (Side Load) Kerto-S LVL 1.750" X 14.000" 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:	360	Deck:	Not Checked
Importance:	Normal - II	Ceiling:	Gypsum 1/2"
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	2855	2764	0	0
2	Vertical	0	1260	1169	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	55%	2855 / 2764	5619	L	D+S
2 - SPF End Grain	3.500"	Vert	24%	1260 / 1169	2429	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	15402 ft-lb	3'8 3/8"	31049 ft-lb	0.496 (50%)	D+S	L
Unbraced	15402 ft-lb	3'8 3/8"	15412 ft-lb	0.999 (100%)	D+S	L
Shear	5000 lb	1'5 1/2"	12021 lb	0.416 (42%)	D+S	L
LL Defl inch	0.228 (L/861)	7'8 1/16"	0.409 (L/480)	0.558 (56%)	S	L
TL Defl inch	0.468 (L/420)	7'8 5/16"	0.546 (L/360)	0.858 (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 Fasten all plies using 3 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 a maximum of 6'7 7/16" o.c.
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	Part. Uniform	0-0-0 to 3-5-0		Top	211 PLF	0 PLF	211 PLF	0 PLF	0 PLF	B1
2	Point	3-5-0		Top	2044 lb	0 lb	2044 lb	0 lb	0 lb	B1-GR
	Bearing Length	0-3-8								
3	Part. Uniform	3-5-0 to 16-10-0		Top	87 PLF	0 PLF	87 PLF	0 PLF	0 PLF	J1
	Self Weight				11 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 11/3/2024

Manufacturer Info

Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Comtech
Reilly Road Industrial Park P.O. Box 40408, NC
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28309
910-864-8787

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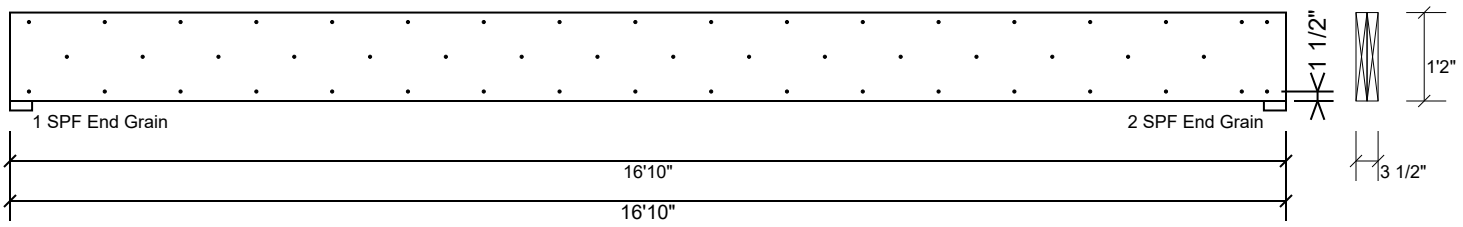

Multi-Ply Analysis

Fasten all plies using 3 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	245.6 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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Lumber

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2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

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3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
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