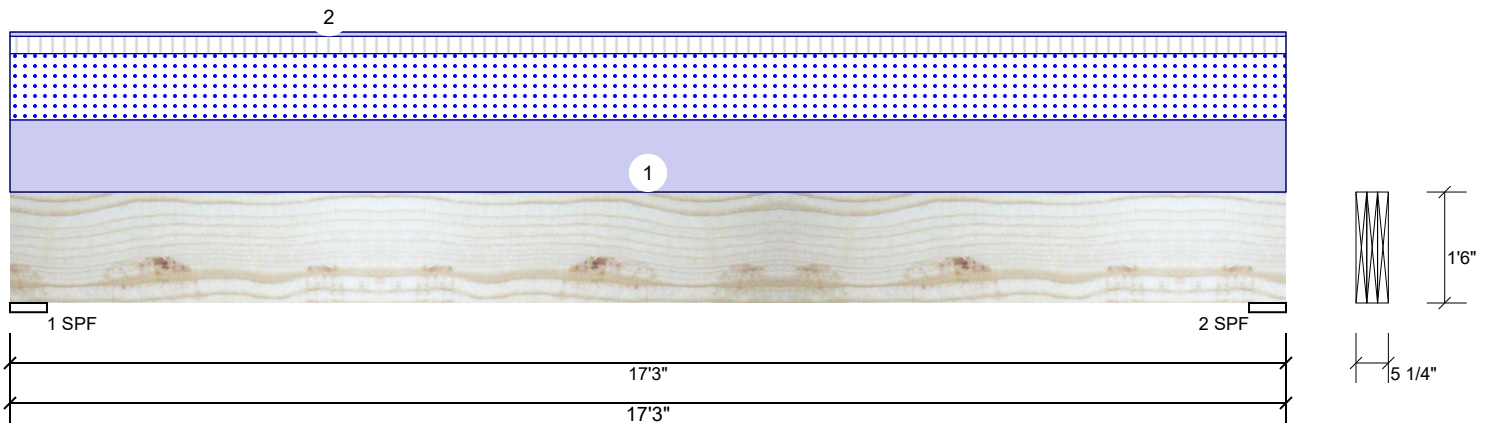
Client:	Signature Home Builders	Date:	8/28/2023
Project:		Input by:	Hampton Horrocks
Address:		Job Name:	Lot 101 South Creek
		Project #:	J0623-3174

GDH Kerto-S LVL 1.750" X 18.000" 3-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	Yes
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	871	4019	3329	0	0
2	Vertical	871	4019	3329	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	6.000"	Vert	55%	4019 / 3329	7349	L	D+S
2 - SPF	6.000"	Vert	55%	4019 / 3329	7349	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	28630 ft-lb	8'7 1/2"	77108 ft-lb	0.371 (37%)	D+S	L
Unbraced	28630 ft-lb	8'7 1/2"	28739 ft-lb	0.996 (100%)	D+S	L
Shear	5676 lb	2'	23184 lb	0.245 (24%)	D+S	L
LL Defl inch	0.139 (L/1417)	8'7 9/16"	0.410 (L/480)	0.339 (34%)	S	L
TL Defl inch	0.306 (L/642)	8'7 9/16"	0.820 (L/240)	0.374 (37%)	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 6'11 3/4" 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	420 PLF	101 PLF	386 PLF	0 PLF	0 PLF	A1
2	Uniform			Top	25 PLF	0 PLF	0 PLF	0 PLF	0 PLF	wall
	Self Weight				21 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

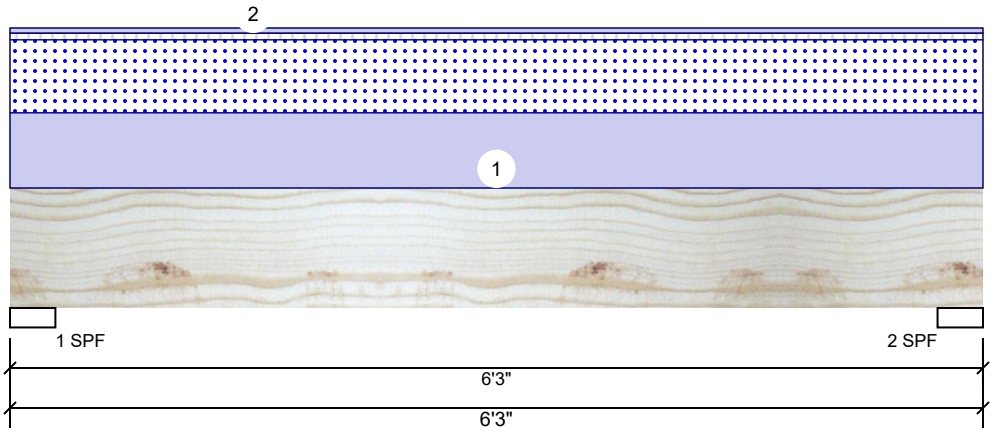
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

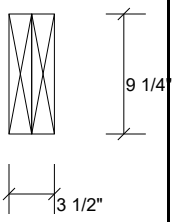
Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

Client:	Signature Home Builders	Date:	8/28/2023
Project:		Input by:	Hampton Horrocks
Address:		Job Name:	Lot 101 South Creek
		Project #:	J0623-3174

BM1 Kerto-S LVL 1.750" X 9.250" 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	125	1507	1350	0	0
2	Vertical	125	1507	1350	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	55%	1507 / 1350	2857	L	D+S
2 - SPF	3.500"	Vert	55%	1507 / 1350	2857	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3833 ft-lb	3'1 1/2"	14423 ft-lb	0.266 (27%)	D+S	L
Unbraced	3833 ft-lb	3'1 1/2"	10779 ft-lb	0.356 (36%)	D+S	L
Shear	1891 lb	5'2 1/4"	7943 lb	0.238 (24%)	D+S	L
LL Defl inch	0.030 (L/2306)	3'1 1/2"	0.145 (L/480)	0.208 (21%)	S	L
TL Defl inch	0.064 (L/1090)	3'1 1/2"	0.290 (L/240)	0.220 (22%)	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 end bearings.
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	445 PLF	40 PLF	432 PLF	0 PLF	0 PLF	A3
2	Uniform			Top	30 PLF	0 PLF	0 PLF	0 PLF	0 PLF	wall
	Self Weight				7 PLF					

Notes

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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

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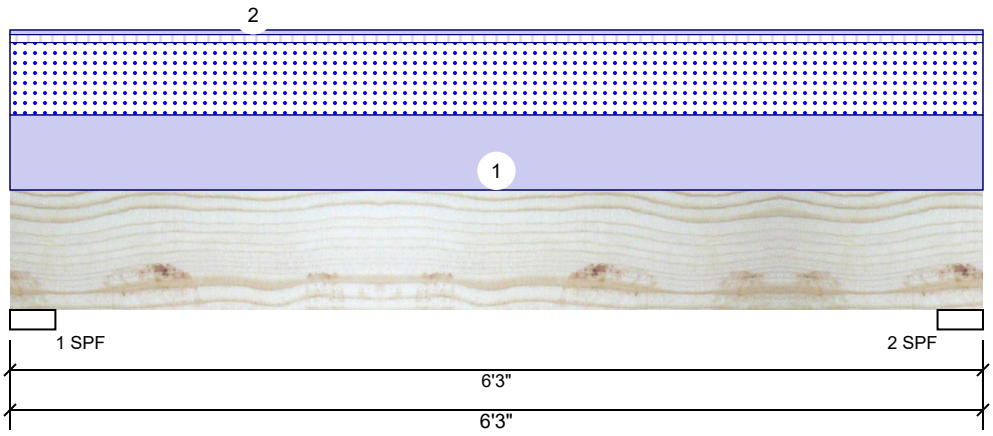
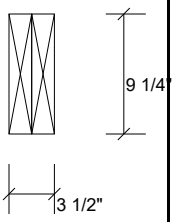
Address:		Job Name:	Lot 101 South Creek
		Project #:	J0623-3174

BM2 Kerto-S LVL 1.750" X 9.250" 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	166	1660	1488	0	0
2	Vertical	166	1660	1488	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	60%	1660 / 1488	3147	L	D+S
2 - SPF	3.500"	Vert	60%	1660 / 1488	3147	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4223 ft-lb	3'1 1/2"	14423 ft-lb	0.293 (29%)	D+S	L
Unbraced	4223 ft-lb	3'1 1/2"	10779 ft-lb	0.392 (39%)	D+S	L
Shear	2083 lb	5'2 1/4"	7943 lb	0.262 (26%)	D+S	L
LL Defl inch	0.033 (L/2093)	3'1 1/2"	0.145 (L/480)	0.229 (23%)	S	L
TL Defl inch	0.070 (L/989)	3'1 1/2"	0.290 (L/240)	0.243 (24%)	D+S	L

Design Notes

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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	494 PLF	53 PLF	476 PLF	0 PLF	0 PLF	A3
2	Uniform			Top	30 PLF	0 PLF	0 PLF	0 PLF	0 PLF	wall
	Self Weight				7 PLF					

Notes

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