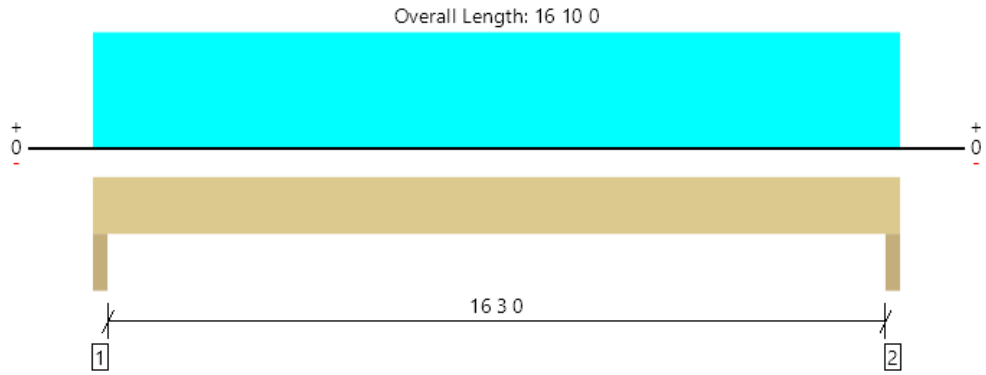
Level, DB01

2 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1617 @ 0 2 0	8881 (3.50")	Passed (18%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	1371 @ 1 3 6	9081	Passed (15%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	6538 @ 8 5 0	20525	Passed (32%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.108 @ 8 5 0	0.825	Passed (L/999+)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.346 @ 8 5 0	1.100	Passed (L/572)	--	1.0 D + 1.0 S (All Spans)

System : Roof
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2018
Design Methodology : ASD
Member Pitch : 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Column - SPF	3.50"	3.50"	1.50"	1112	505	1617	None
2 - Column - SPF	3.50"	3.50"	1.50"	1112	505	1617	None

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	16 10 0 o/c	
Bottom Edge (Lu)	16 10 0 o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 0 0 to 16 10 0	N/A	12.1	--	
1 - Uniform (PSF)	0 0 0 to 16 10 0 (Top)	2 0 0	10.0	30.0	Default Load
2 - Uniform (PLF)	0 0 0 to 16 10 0 (Top)	N/A	100.0	-	

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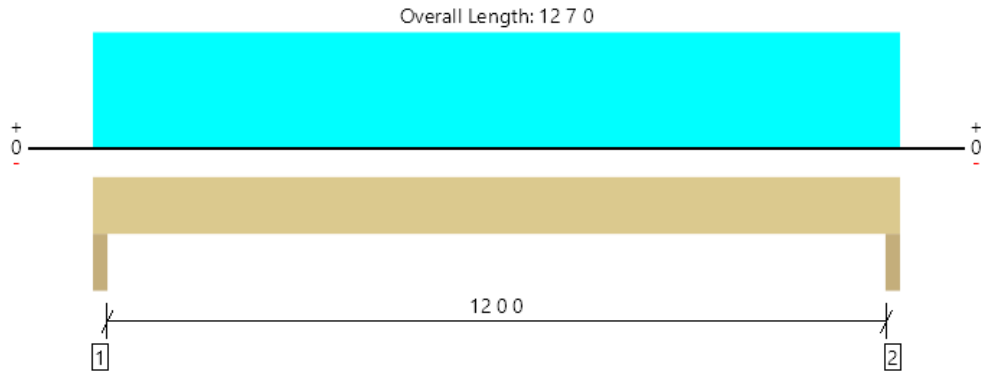
The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Cameron Lallathin Carolina Structural Systems (336) 423-2910 clallathin@carolinastructuralsystems.com	

Weyerhaeuser

Level, DB02

2 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	4757 @ 0 2 0	8881 (3.50")	Passed (54%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	3788 @ 1 3 6	9081	Passed (42%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	14183 @ 6 3 8	20525	Passed (69%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.276 @ 6 3 8	0.613	Passed (L/532)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.432 @ 6 3 8	0.817	Passed (L/341)	--	1.0 D + 1.0 S (All Spans)

System : Roof
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2018
Design Methodology : ASD
Member Pitch : 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Column - SPF	3.50"	3.50"	1.87"	1712	3045	4757	None
2 - Column - SPF	3.50"	3.50"	1.87"	1712	3045	4757	None

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	9 3 0 o/c	
Bottom Edge (Lu)	12 7 0 o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 0 0 to 12 7 0	N/A	12.1	--	
1 - Uniform (PLF)	0 0 0 to 12 7 0 (Top)	N/A	260.0	484.0	C02

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Cameron Lallathin Carolina Structural Systems (336) 423-2910 clallathin@carolinastructuralsystems.com	

Weyerhaeuser

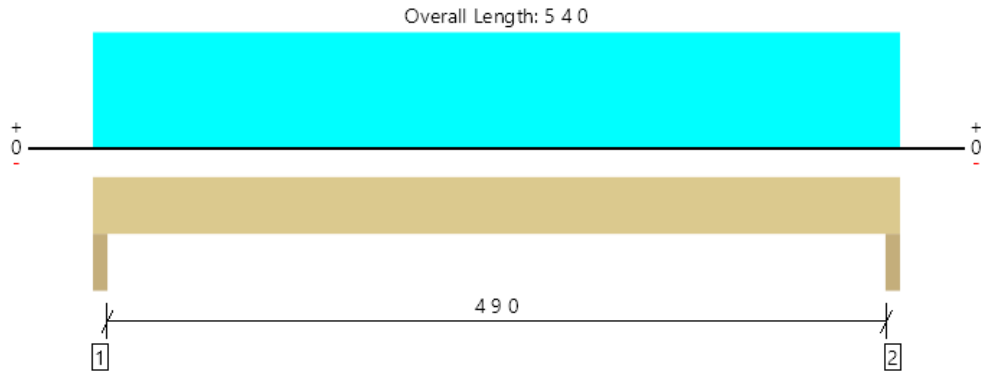
FORTE WEB

MEMBER REPORT

PASSED

Level, DB03

2 piece(s) 2 x 10 Spruce-Pine-Fir No. 1 / No. 2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1024 @ 0 2 0	4463 (3.50")	Passed (23%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	616 @ 1 0 12	2872	Passed (21%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	1200 @ 2 8 0	3946	Passed (30%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.012 @ 2 8 0	0.250	Passed (L/999+)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.019 @ 2 8 0	0.333	Passed (L/999+)	--	1.0 D + 1.0 S (All Spans)

System : Roof
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2018
Design Methodology : ASD
Member Pitch : 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Column - SPF	3.50"	3.50"	1.50"	371	653	1024	None
2 - Column - SPF	3.50"	3.50"	1.50"	371	653	1024	None

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	5 4 0 o/c	
Bottom Edge (Lu)	5 4 0 o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 0 0 to 5 4 0	N/A	7.0	--	
1 - Uniform (PLF)	0 0 0 to 5 4 0 (Top)	N/A	132.0	245.0	Default Load

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Cameron Lallathin Carolina Structural Systems (336) 423-2910 clallathin@carolinastructuralsystems.com	

Weyerhaeuser

8/3/2020 4:54:23 PM UTC

ForteWEB v3.0, Engine: V8.1.2.3, Data: V8.0.0.0

File Name: 514 Carolina Lakes

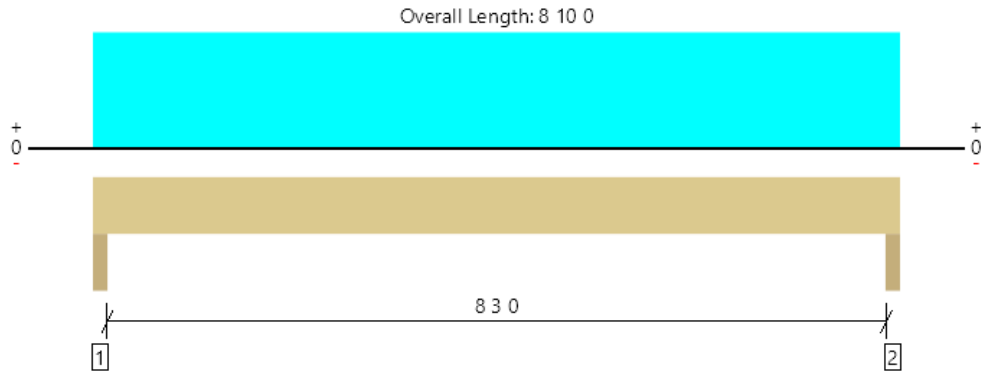
FORTE WEB

MEMBER REPORT

PASSED

Level, DB04

2 piece(s) 2 x 10 Spruce-Pine-Fir No. 1 / No. 2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	605 @ 0 2 0	4463 (3.50")	Passed (14%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	460 @ 1 0 12	2872	Passed (16%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	1238 @ 4 5 0	3946	Passed (31%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.025 @ 4 5 0	0.425	Passed (L/999+)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.058 @ 4 5 0	0.567	Passed (L/999+)	--	1.0 D + 1.0 S (All Spans)

System : Roof
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2018
Design Methodology : ASD
Member Pitch : 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Column - SPF	3.50"	3.50"	1.50"	340	265	605	None
2 - Column - SPF	3.50"	3.50"	1.50"	340	265	605	None

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	8 10 0 o/c	
Bottom Edge (Lu)	8 10 0 o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 0 0 to 8 10 0	N/A	7.0	--	
1 - Uniform (PSF)	0 0 0 to 8 10 0 (Top)	2 0 0	10.0	30.0	Default Load
2 - Uniform (PLF)	0 0 0 to 8 10 0 (Top)	N/A	50.0	-	

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Cameron Lallathin Carolina Structural Systems (336) 423-2910 clallathin@carolinastructuralsystems.com	

Weyerhaeuser

8/3/2020 4:54:28 PM UTC

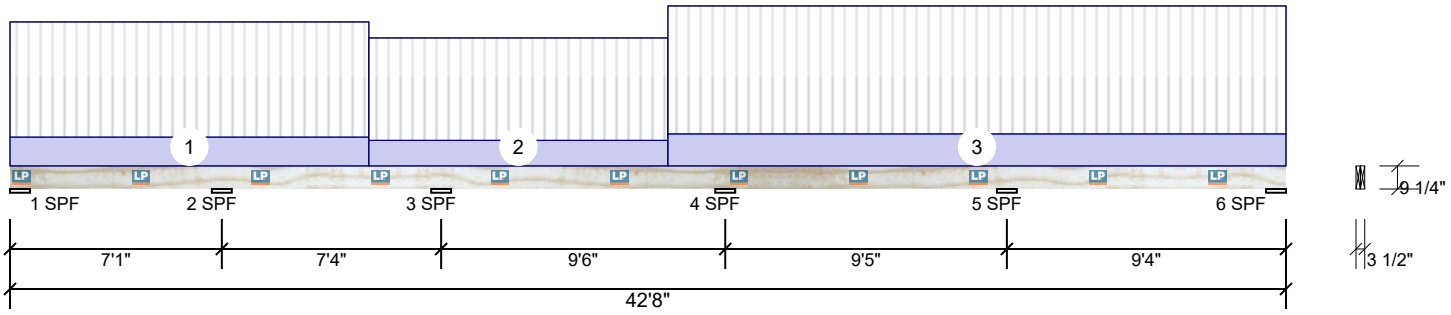
ForteWEB v3.0, Engine: V8.1.2.3, Data: V8.0.0.0

File Name: 514 Carolina Lakes

Client:	SOUTH SCAN	Date:	7/31/2020
Project:		Input by:	THORN COLLINS
Address:	110 MAPLE WOOD DR. LOT 514 SANFORD N.C. 27332	Job Name:	SOUTH SCAN (110 MAPLEWOOD)
		Project #:	

DBM1 LP-LVL 2900Fb-2.0E 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		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	1140	315	0	0	0
2	2658	732	0	0	0
3	2750	767	0	0	0
4	3557	978	0	0	0
5	4077	1113	0	0	0
6	1604	438	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	8.000"	14%	313 / 1316	1629	L_L_L	D+L
2 - SPF	8.000"	32%	736 / 3078	3814	LL_L_	D+L
3 - SPF	8.000"	34%	765 / 3291	4055	_LL_L	D+L
4 - SPF	8.000"	42%	975 / 4031	5006	L_LL_	D+L
5 - SPF	8.000"	46%	1118 / 4356	5473	_L_LL	D+L
6 - SPF	8.000"	19%	436 / 1809	2245	L_L_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-4772 ft-lb	33'4"	12416 ft-lb	0.384 (38%)	D+L	_L_LL
Pos Moment	3685 ft-lb	38'3 1/8"	12416 ft-lb	0.297 (30%)	D+L	L_L_L
Shear	2377 lb	34'1 1/4"	6151 lb	0.386 (39%)	D+L	_L_LL
LL Defl inch	0.100 (L/1048)	37'10 5/16"	0.218 (L/480)	0.460 (46%)	L	L_L_L
TL Defl inch	0.118 (L/884)	37'10 15/16"	0.436 (L/240)	0.270 (27%)	D+L	L_L_L

Design Notes

1 Provide lateral support to prevent rotation at end bearings and at interior bearings when required by code for seismic design.
2 Dead Load Deflection: Instant = 0.019", Long Term = 0.028"
3 Girders are designed to be supported on the bottom edge only.
4 Multiple plies must be fastened together as per manufacturer's details.
5 Top loads must be supported equally by all plies.
6 Top braced at bearings.
7 Bottom braced at bearings.

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 12-0-0		Top	90 PLF	360 PLF	0 PLF	0 PLF	0 PLF	FLOOR LOAD AT 40 LIVE AND 10 DEAD WITH 9' TRIB
2	Part. Uniform	12-0-0 to 22-0-0		Top	80 PLF	320 PLF	0 PLF	0 PLF	0 PLF	FLOOR LOAD AT 40 LIVE AND 10 DEAD WITH 8' TRIB
3	Part. Uniform	22-0-0 to 42-8-0		Top	100 PLF	400 PLF	0 PLF	0 PLF	0 PLF	FLOOR LOAD AT 40 LIVE AND 10 DEAD WITH 10' TRIB
	Self Weight				9 PLF					

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

This design is valid until 10/31/2021

Manufacturer Info

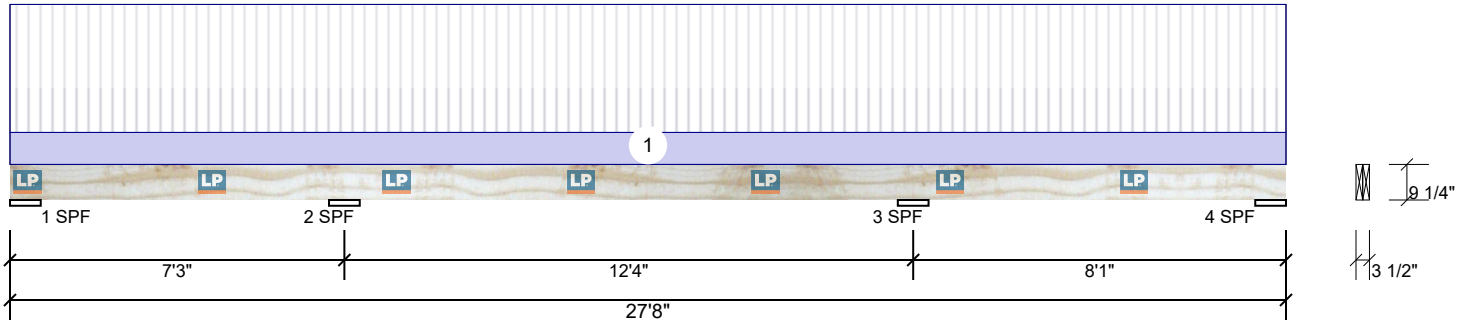
Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L280, ICC-ES: ESR-2403, LADBS: RR-25783, Florida: FL15228

CAROLINA STRUCTURAL SYSTEMS, NORTH CAROLINA
USA
27356

Client:	SOUTH SCAN	Date:	7/31/2020
Project:		Input by:	THORN COLLINS
Address:	110 MAPLE WOOD DR. LOT 514 SANFORD N.C. 27332	Job Name:	SOUTH SCAN (110 MAPLEWOOD)
		Project #:	

DBM2 LP-LVL 2900Fb-2.0E 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		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	592	170	0	0	0
2	2779	797	0	0	0
3	2877	825	0	0	0
4	724	208	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	8.000"	9%	168 / 944	1112 (-39)	L_L	D+L(D+L)
2 - SPF	8.000"	31%	799 / 2901	3700	LL_	D+L
3 - SPF	8.000"	32%	827 / 2963	3789	_LL	D+L
4 - SPF	8.000"	10%	206 / 1018	1224	L_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-3786 ft-lb	19'7"	12416 ft-lb	0.305 (30%)	D+L	_LL
Pos Moment	3064 ft-lb	13'5 5/16"	12416 ft-lb	0.247 (25%)	D+L	_L_
Shear	1820 lb	18'9 3/4"	6151 lb	0.296 (30%)	D+L	_LL
LL Defl inch	0.139 (L/1063)	13'5 5/16"	0.308 (L/480)	0.450 (45%)	L	_L_
TL Defl inch	0.170 (L/869)	13'5 1/8"	0.617 (L/240)	0.280 (28%)	D+L	_L_

Design Notes

1 Provide lateral support to prevent rotation at end bearings and at interior bearings when required by code for seismic design.
2 Dead Load Deflection: Instant = 0.031", Long Term = 0.047"
3 Girders are designed to be supported on the bottom edge only.
4 Multiple plies must be fastened together as per manufacturer's details.
5 Top loads must be supported equally by all plies.
6 Tie-down connection required at bearing 1 for uplift 39 lb (Combination D+L, Load Case _L_).
7 Top braced at bearings.
8 Bottom braced at bearings.

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	63 PLF	252 PLF	0 PLF	0 PLF	0 PLF	FLOOR LIVE LOAD AT 40 LIVE AND 10 DEAD WITH 6' 3" TRIB
	Self Weight				9 PLF					

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

This design is valid until 10/31/2021

Manufacturer Info

Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
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CAROLINA STRUCTURAL SYSTEMS, NORTH CAROLINA
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27356