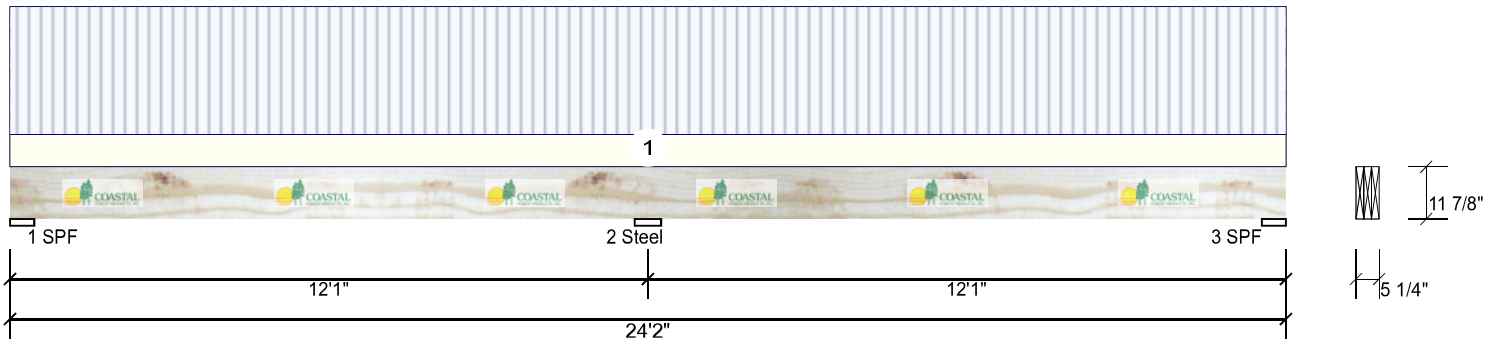
isDesign™

Client:
Project:
Address: BALLANTYNE RESIDENCE
SUMMIT STREET
PORTLAND, ME

Date: 20/12/2017
Designer: JLP
Job Name: BALLANTYNE RES
Project #:

B1 2.0E CP-LAM 1.750" X 11.875" 3-Ply - PASSED

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	10 PSF		

Reactions lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	3213	880	0	0	0
2	10005	2740	0	0	0
3	3215	880	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	37%	880 / 3714	4593	L_	D+L
2 - Steel	6.000"	48%	2740 / 10005	12745	LL	D+L
3 - SPF	5.500"	37%	880 / 3715	4595	_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-15002 ft-lb	12'1"	33220 ft-lb	0.452 (45%)	D+L	LL
Unbraced	-15002 ft-lb	12'1"	15006 ft-lb	1.000 (100%)	D+L	LL
Pos Moment	10796 ft-lb	18'10 3/8"	33220 ft-lb	0.325 (32%)	D+L	_L
Unbraced	10796 ft-lb	18'10 3/8"	12066 ft-lb	0.895 (89%)	D+L	_L
Shear	5516 lb	13' 7/8"	11845 lb	0.466 (47%)	D+L	LL
LL Defl inch	0.141 (L/1003)	5'10 1/2"	0.392 (L/360)	0.360 (36%)	L	L_
TL Defl inch	0.163 (L/865)	5'9 5/16"	0.588 (L/240)	0.280 (28%)	D+L	L_

Design Notes

1 Girders are designed to be supported on the bottom edge only.
2 Multiple plies must be fastened together as per manufacturer's details.
3 Top loads must be supported equally by all plies.
4 Compression edge bracing required at 9' o.c. or less.
5 Lateral slenderness ratio based on single ply width.

STATE OF MAINE
PHILLIP E. ROBBINS
LICENSED PROFESSIONAL ENGINEER
12/20/2017

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		17-0-0	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
	Self Weight				16 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

Job# PER172138
P. E. Robbins, P.E.
1777 State Rt 167
Victoria IL 61485
ph#309-879-3258

Manufacturer Info

Pacific Woodtech Corp
1850 Park Lane
Burlington, WA 98233
(888) 707-2285
www.pacificwoodtech.com
APA: PR-L233, ICC-ES: ESR-2909

Coastal Forest Products
451 South River Rd, NH
USA
03110

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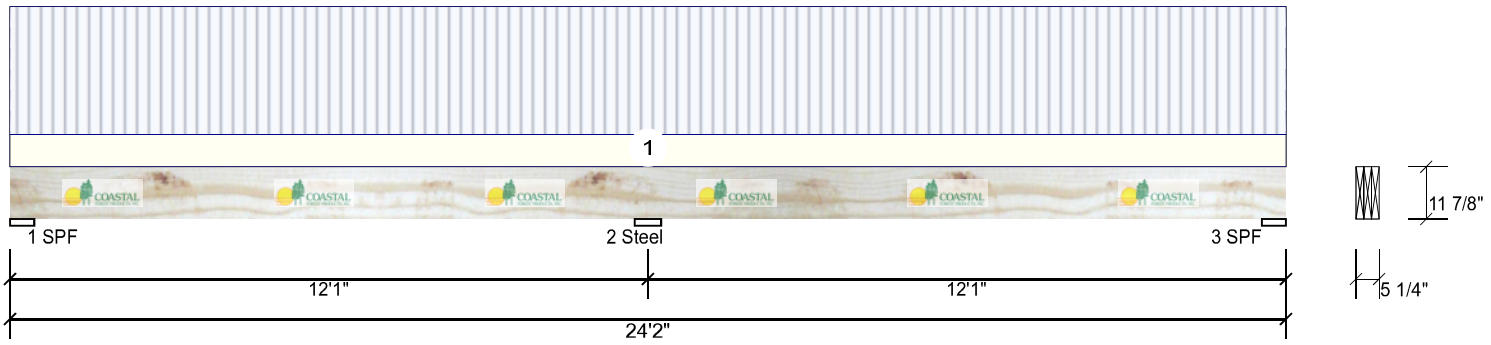
...as independent as the dealers we support

B2 2.0E CP-LAM 1.750" X 11.875" 3-Ply - PASSED

Level: Ground Floor



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Reactions lb (Uplift)

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2	10005	2740	0	0	0
3	3215	880	0	0	0

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Pos Moment	10796 ft-lb	18'10 3/8"	33220 ft-lb	0.325 (32%)	D+L	_L
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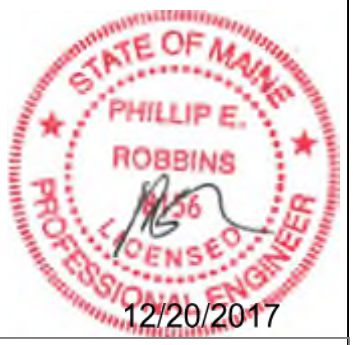
5 Lateral slenderness ratio based on single ply width.



ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		17-0-0	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
	Self Weight				16 PLF					

Notes

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Lumber

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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

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Victoria IL 61485
ph#309-879-3258

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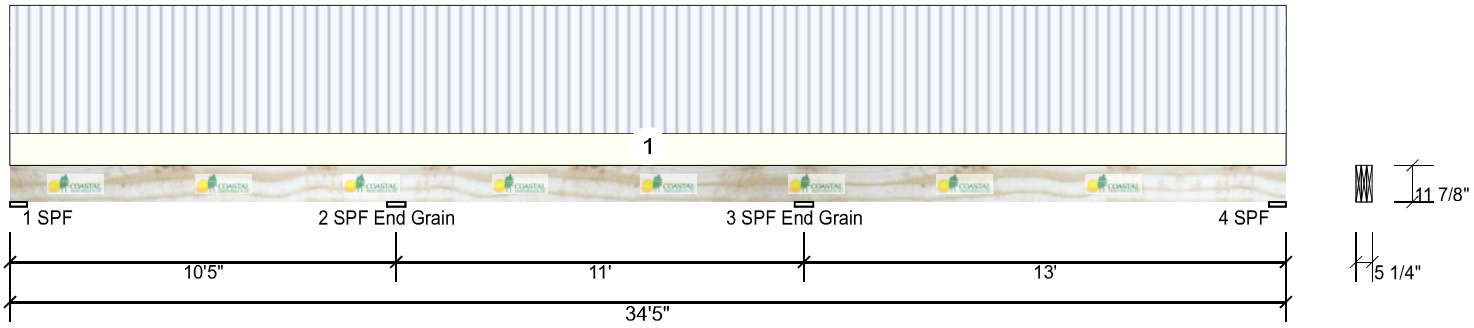
Level: Ground Floor



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Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	10 PSF		

Reactions lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	3503	947	0	0	0
2	8827	2385	0	0	0
3	10854	2933	0	0	0
4	4349	1175	0	0	0

Bearings

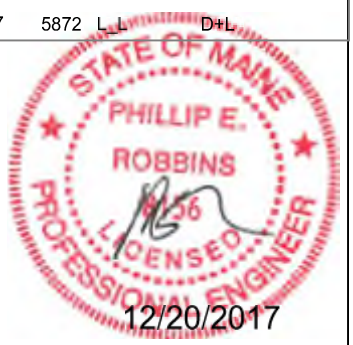
Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	40%	947 / 4013	4960	L_L	D+L
2 - SPF End Grain	6.000"	47%	2385 / 10116	12501	LL_	D+L
3 - SPF End Grain	6.000"	54%	2933 / 11532	14465	_LL	D+L
4 - SPF	5.500"	48%	1175 / 4697	5872	L_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-16949 ft-lb	21'5"	33220 ft-lb	0.510 (51%)	D+L	_LL
Unbraced	-16949 ft-lb	21'5"	16986 ft-lb	0.998 (100%)	D+L	_LL
Pos Moment	15181 ft-lb	28'7 11/16"	33220 ft-lb	0.457 (46%)	D+L	L_L
Unbraced	15181 ft-lb	28'7 11/16"	15221 ft-lb	0.997 (100%)	D+L	L_L
Shear	6777 lb	22'4 7/8"	11845 lb	0.572 (57%)	D+L	_LL
LL Defl inch	0.225 (L/678)	28'1 1/4"	0.423 (L/360)	0.530 (53%)	L	L_L
TL Defl inch	0.272 (L/561)	28'1 7/8"	0.634 (L/240)	0.430 (43%)	D+L	L_L

Design Notes

1 Girders are designed to be supported on the bottom edge only.
2 Multiple plies must be fastened together as per manufacturer's details.
3 Top loads must be supported equally by all plies.
4 Compression edge bracing required at 7'7" o.c. or less.
5 Lateral slenderness ratio based on single ply width.



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1	Uniform		20-0-0	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
	Self Weight				16 PLF					

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Handling & Installation

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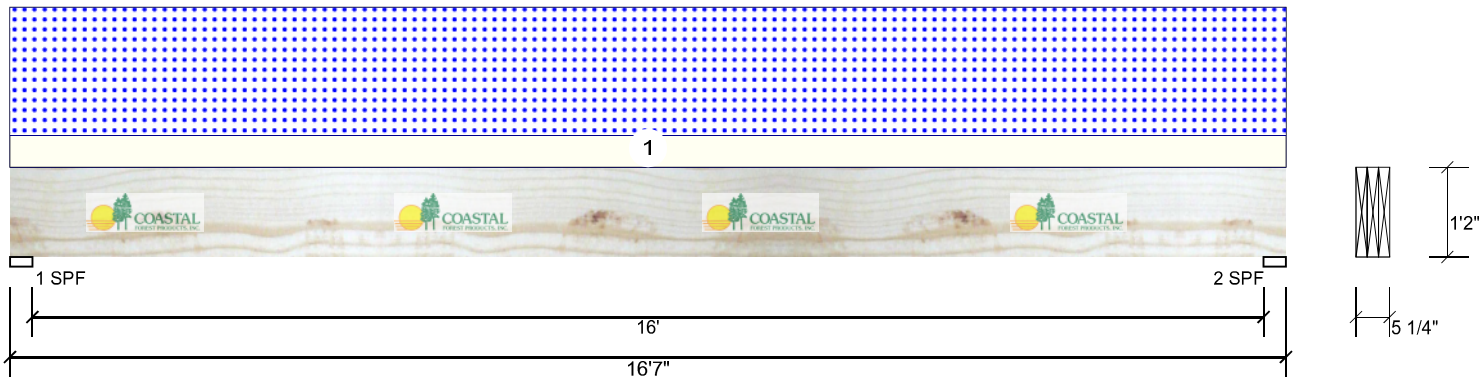

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Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	10 PSF		

Reactions lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	1526	5473	0	0
2	0	1526	5473	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	90%	1526 / 5473	6999	L	D+S
2 - SPF	3.500"	90%	1526 / 5473	6999	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	28005 ft-lb	8'3 1/2"	51379 ft-lb	0.545 (55%)	D+S	L
Unbraced	28005 ft-lb	8'3 1/2"	28103 ft-lb	0.997 (100%)	D+S	L
Shear	5891 lb	1'3 3/4"	16060 lb	0.367 (37%)	D+S	L
LL Defl inch	0.436 (L/449)	8'3 9/16"	0.543 (L/360)	0.800 (80%)	S	L
TL Defl inch	0.557 (L/351)	8'3 9/16"	0.815 (L/240)	0.680 (68%)	D+S	L

Design Notes

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4 Compression edge bracing required at 5'3" o.c. or less.
5 Lateral slenderness ratio based on single ply width.

STATE OF MAINE PHILLIP E. ROBBINS 11756 LICENSED PROFESSIONAL ENGINEER
12/20/2017

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		11-0-0	Top	15 PSF	0 PSF	60 PSF	0 PSF	0 PSF	
	Self Weight				19 PLF					

Notes

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