Boise Cascade

Double 1-3/4" x 9-1/4" VERSA-LAM® 2.0 3100 SP

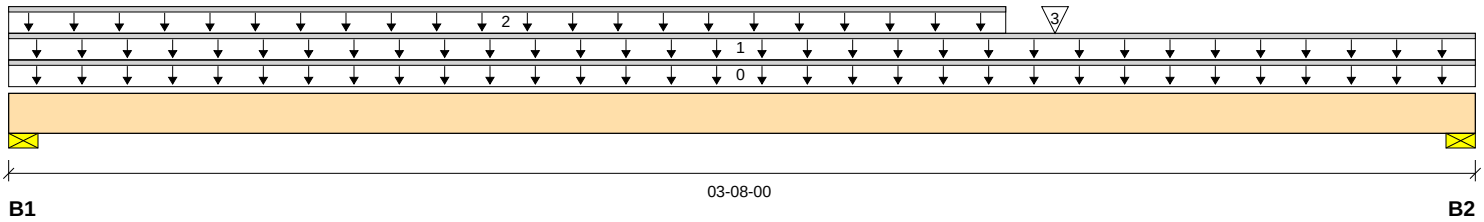
PASSED

2nd Floor Layout\Dropped Beams\BM2-2(i2380)

BC CALC® Member Report — Dry | 1 span | No cant. — October 1, 2019 15:44:18

Build 7118

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Dropped Beams\BM2-2(i2380)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development



Total Horizontal Product Length = 03-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 4"	62 / 0	893 / 0	700 / 0		
B2, 4"	135 / 0	1,530 / 0	1,262 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-08-00	Top		9				00-00-00
1	User Load	Unf. Lin. (lb/ft)	L	00-00-00	03-08-00	Top		228	228			n\a
2	Rim1(i2364)	Unf. Lin. (lb/ft)	L	00-00-00	02-05-15	Top	13	66				n\a
3	-	Conc. Pt. (lbs)	L	02-07-06	02-07-06	Top	164	1,389	1,126			n\a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	1,883 ft-lbs	12.4%	115%	2	02-07-11
End Shear	2,050 lbs	29.0%	115%	2	02-06-12
Total Load Deflection	L/999 (0.007")	n\a	n\a	2	01-11-08
Live Load Deflection	L/999 (0.003")	n\a	n\a	13	01-11-08
Max Defl.	0.007"	n\a	n\a	2	01-11-08
Span / Depth	4.1				

Bearing Supports

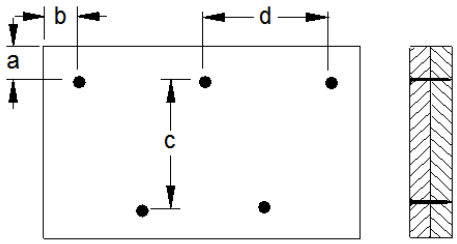
		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate	4" x 3-1/2"	1,593 lbs	14.2%	15.2%	Unspecified
B2	Wall/Plate	4" x 3-1/2"	2,792 lbs	24.9%	26.6%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum Total load deflection criteria.
Design meets arbitrary (0.75") Maximum live load deflection criteria.
Calculations assume unbraced length of Top: 00-06-09, Bottom: 00-06-09.
BC CALC® analysis is based on IBC 2009.
Unbalanced snow loads determined from building geometry were used in selected product's verification.
Design based on Dry Service Condition.
Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
Member has no side loads.

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Dropped Beams\BM2-2(i2380)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development

Connection Diagram: Full Length of Member



a minimum = 2" c = 5-1/4"
b minimum = 3" d = 24"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
Member has no side loads.
Connectors are: 16d Sinker Nails

Disclosure

Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

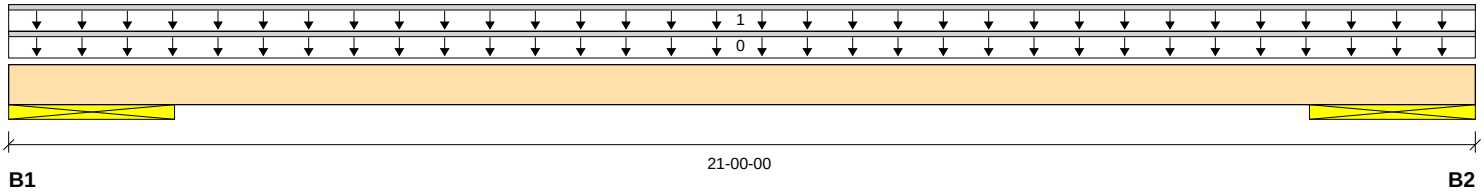
PASSED

2nd Floor Layout\Dropped Beams\BM3-2(i1603)

BC CALC® Member Report — Dry | 1 span | No cant. — October 1, 2019 15:44:26

Build 7118

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Dropped Beams\BM3-2(i1603)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development



Total Horizontal Product Length = 21-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 28-1/2"		546 / 0	420 / 0		
B2, 28-1/2"		546 / 0	420 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	21-00-00	Top		12				00-00-00
1	User Load	Unf. Lin. (lb/ft)	L	00-00-00	21-00-00	Top		40	40			n\a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	3,085 ft-lbs	38.8%	115%	1	10-06-00
End Shear	657 lbs	7.2%	115%	1	03-04-06
Total Load Deflection	L/1,289 (0.152")	18.6%	n\a	1	10-06-00
Live Load Deflection	L/999 (0.066")	n\a	n\a	6	10-06-00
Max Defl.	0.152"	15.2%	n\a	1	10-06-00
Span / Depth	16.5				
Dist. Load (B1)	80.00 lb/ft	0.3%	100%		
Dist. Load (B2)	80.00 lb/ft	0.3%	100%		

Bearing Supports

		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate	28-1/2" x 3-1/2"	966 lbs	1.2%	1.3%	Unspecified
B2	Wall/Plate	28-1/2" x 3-1/2"	966 lbs	1.2%	1.3%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum Total load deflection criteria.
Design meets arbitrary (0.75") Maximum live load deflection criteria.
Calculations assume unbraced length of Top: 16-03-00, Bottom: 16-03-00.
BC CALC® analysis is based on IBC 2009.
Unbalanced snow loads determined from building geometry were used in selected product's verification.
Design based on Dry Service Condition.
Member has no side loads.

Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

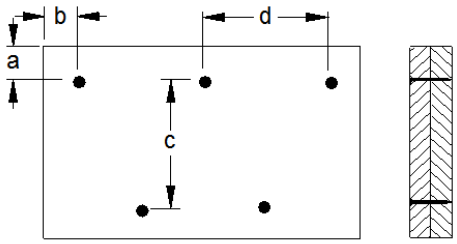
PASSED

2nd Floor Layout\Dropped Beams\BM3-2(i1603)

BC CALC® Member Report — Dry | 1 span | No cant. — October 1, 2019 15:44:26
Build 7118

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Dropped Beams\BM3-2(i1603)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"
c = 7-7/8"
d = 24"

Member has no side loads.
Connectors are: 16d Sinker Nails

Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER® , AJS™, ALLJOIST® , BC RIM BOARD™, BCI® , BOISE GLULAM™, BC FloorValue® , VERSA-LAM®, VERSA-RIM PLUS® ,

Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

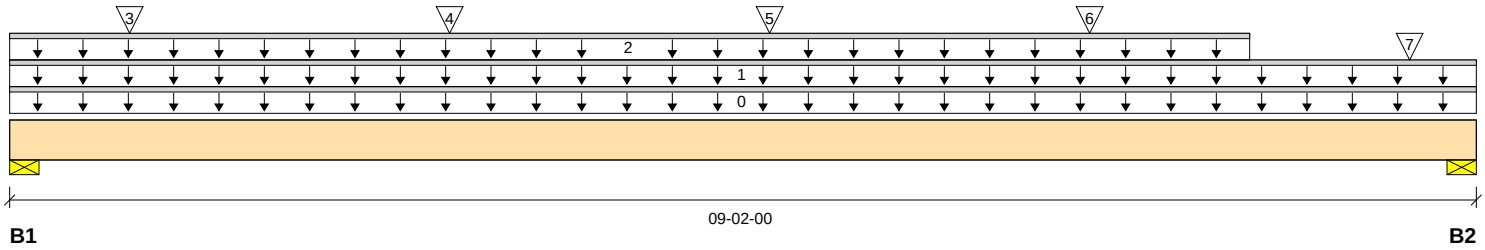
PASSED

2nd Floor Layout\Dropped Beams\BM5-2(i2417)

BC CALC® Member Report — Dry | 1 span | No cant. — October 1, 2019 15:44:40

Build 7118

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Dropped Beams\BM5-2(i2417)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development



Total Horizontal Product Length = 09-02-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 4"	1,718 / 0	2,862 / 0	1,645 / 0		
B2, 4"	1,880 / 0	2,796 / 0	1,645 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-02-00	Top		12				00-00-00
1	Rim1(i2416)	Unf. Lin. (lb/ft)	L	00-00-00	09-02-00	Top		421	359			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	07-09-00	Top	372					n\a
3	J6(i2409)	Conc. Pt. (lbs)	L	00-09-00	00-09-00	Top		297				n\a
4	J6(i2411)	Conc. Pt. (lbs)	L	02-09-00	02-09-00	Top		393				n\a
5	J8(i2406)	Conc. Pt. (lbs)	L	04-09-00	04-09-00	Top		536				n\a
6	J8(i2403)	Conc. Pt. (lbs)	L	06-09-00	06-09-00	Top		230				n\a
7	J8(i2407)	Conc. Pt. (lbs)	L	08-09-00	08-09-00	Top	719	229				n\a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	11,003 ft-lbs	45.0%	115%	7	04-09-00
End Shear	3,970 lbs	43.7%	115%	7	01-03-14
Total Load Deflection	L/701 (0.148")	34.2%	n\a	7	04-07-08
Live Load Deflection	L/999 (0.068")	n\a	n\a	18	04-07-08
Max Defl.	0.148"	14.8%	n\a	7	04-07-08
Span / Depth	8.7				

Bearing Supports

		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate	4" x 3-1/2"	5,385 lbs	48.1%	51.3%	Unspecified
B2	Wall/Plate	4" x 3-1/2"	5,440 lbs	48.6%	51.8%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Design meets arbitrary (1") Maximum Total load deflection criteria.

Design meets arbitrary (0.75") Maximum live load deflection criteria.

Calculations assume member is fully braced.

BC CALC® analysis is based on IBC 2009.

Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Member has no side loads.

Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

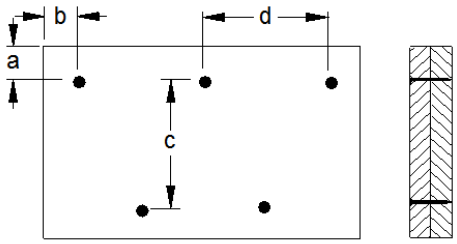
PASSED

2nd Floor Layout\Dropped Beams\BM5-2(i2417)

BC CALC® Member Report — Dry | 1 span | No cant. — October 1, 2019 15:44:40
Build 7118

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Dropped Beams\BM5-2(i2417)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development

Connection Diagram: Full Length of Member



a minimum = 2" c = 7-7/8"
b minimum = 3" d = 24"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
Member has no side loads.
Connectors are: 16d Sinker Nails

Disclosure

Boise Cascade

Quadruple 1-3/4" x 14" VERSA-LAM® 2.0 3100 SP

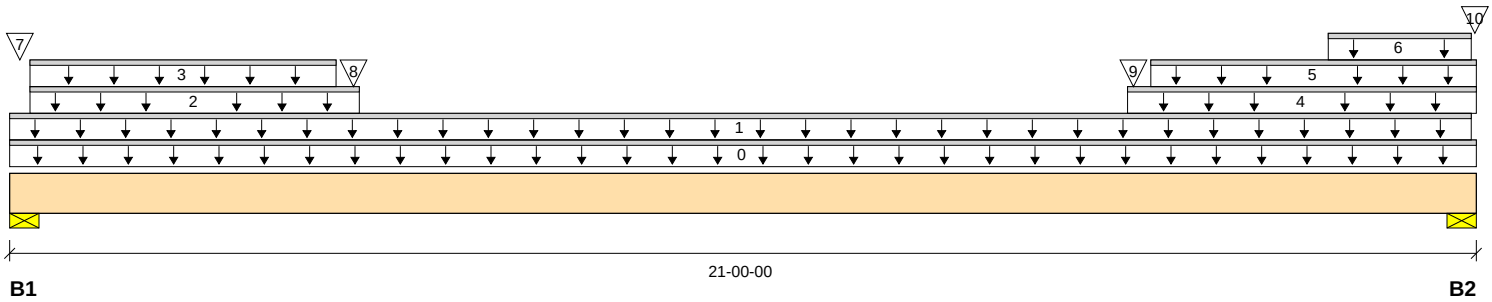
PASSED

2nd Floor Layout\Flush Beams\BM6-4(i2391)

BC CALC® Member Report — Dry | 1 span | No cant. — October 1, 2019 15:45:45

Build 7118

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Flush Beams\BM6-4(i2391)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development



Total Horizontal Product Length = 21-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"	158 / 0	4,541 / 0	3,770 / 0		
B2, 3-1/2"	166 / 0	4,802 / 0	3,994 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	21-00-00	Top		28				00-00-00
1	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	20-11-02	Top	15	5				n\a
2	1(i1258)	Unf. Lin. (lb/ft)	L	00-03-08	05-00-01	Top		62				n\a
3	1(i1258)	Unf. Lin. (lb/ft)	L	00-03-08	04-08-01	Top		359	359			n\a
4	2(i1259)	Unf. Lin. (lb/ft)	L	16-00-01	21-00-00	Top		62				n\a
5	2(i1259)	Unf. Lin. (lb/ft)	L	16-04-01	21-00-00	Top		359	359			n\a
6	FC3 Floor Material	Unf. Lin. (lb/ft)	L	18-10-09	20-11-02	Top	5					n\a
7	E27(i1200)	Conc. Pt. (lbs)	L	00-01-12	00-01-12	Top		141	105			n\a
8	1(i1258)	Conc. Pt. (lbs)	L	04-11-01	04-11-01	Top		2,182	2,094			n\a
9	2(i1259)	Conc. Pt. (lbs)	L	16-01-01	16-01-01	Top		2,182	2,094			n\a
10	2(i1259)	Conc. Pt. (lbs)	L	20-11-12	20-11-12	Top		263	224			n\a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	29,610 ft-lbs	44.3%	115%	2	10-06-01
End Shear	7,123 lbs	33.3%	115%	2	19-06-08
Total Load Deflection	L/313 (0.788")	76.7%	n\a	2	10-06-01
Live Load Deflection	L/689 (0.358")	52.2%	n\a	13	10-06-01
Max Defl.	0.788"	78.8%	n\a	2	10-06-01
Span / Depth	17.6				

Bearing Supports

		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate	3-1/2" x 7"	8,311 lbs	79.8%	45.2%	Unspecified
B2	Wall/Plate	3-1/2" x 7"	8,796 lbs	84.5%	47.9%	Unspecified

Boise Cascade

Quadruple 1-3/4" x 14" VERSA-LAM® 2.0 3100 SP

PASSED

2nd Floor Layout\Flush Beams\BM6-4(i2391)

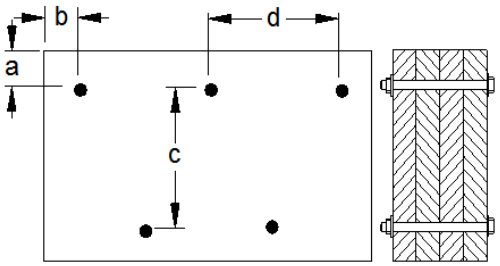
BC CALC® Member Report — Dry | 1 span | No cant. — October 1, 2019 15:45:45
Build 7118

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Flush Beams\BM6-4(i2391)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum Total load deflection criteria.
Design meets arbitrary (0.75") Maximum live load deflection criteria.
Calculations assume member is fully braced.
BC CALC® analysis is based on IBC 2009.
Unbalanced snow loads determined from building geometry were used in selected product's verification.
Design based on Dry Service Condition.
Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
Beams 7 inches wide will be assumed to be either top-loaded only, or equally loaded from each side.
Bolts are assumed to be Grade A307 or Grade 2 or higher.
Member has no side loads.

Connection Diagram: Full Length of Member



a minimum = 2" c = 10"
b minimum = 2-1/2" d = 24"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
Beams 7 inches wide will be assumed to be either top-loaded only, or equally loaded from each side.
Bolts are assumed to be Grade A307 or Grade 2 or higher.
Member has no side loads.
Connectors are: 1/2 in. Staggered Through Bolt

Disclosure

Boise Cascade

Double 1-3/4" x 14" VERSA-LAM® 2.0 3100 SP

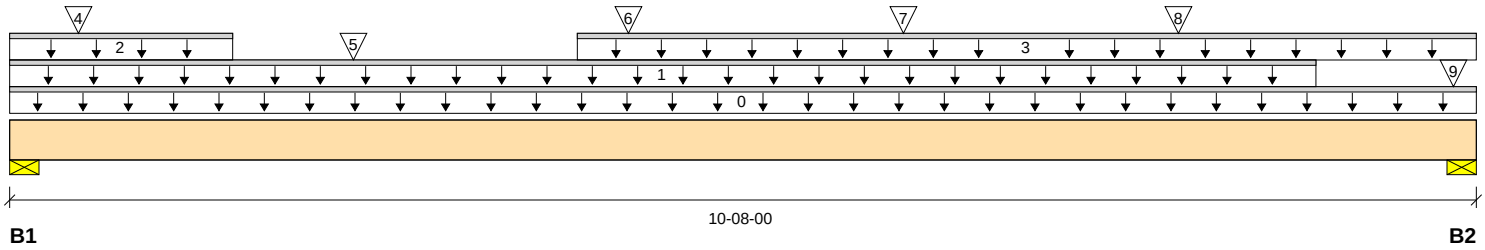
PASSED

2nd Floor Layout\Flush Beams\BM7-2(i2328)

BC CALC® Member Report — Dry | 1 span | No cant. — October 1, 2019 15:46:00

Build 7118

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Flush Beams\BM7-2(i2328)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development



Total Horizontal Product Length = 10-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 4"	2,110 / 0	1,442 / 0			
B2, 4"	2,234 / 0	1,133 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-08-00	Top		14				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	09-06-00	Top	381					n\a
2	17(i2269)	Unf. Lin. (lb/ft)	L	00-00-00	01-07-07	Top		62				n\a
3	18(i2271)	Unf. Lin. (lb/ft)	L	04-01-09	10-08-00	Top		62				n\a
4	J9(i2402)	Conc. Pt. (lbs)	L	00-06-00	00-06-00	Top		639				n\a
5	J9(i2404)	Conc. Pt. (lbs)	L	02-06-00	02-06-00	Top		181				n\a
6	J9(i2405)	Conc. Pt. (lbs)	L	04-06-00	04-06-00	Top		467				n\a
7	J9(i2358)	Conc. Pt. (lbs)	L	06-06-00	06-06-00	Top		198				n\a
8	J9(i2340)	Conc. Pt. (lbs)	L	08-06-00	08-06-00	Top		192				n\a
9	J9(i2394)	Conc. Pt. (lbs)	L	10-06-00	10-06-00	Top	723	237				n\a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	7,233 ft-lbs	24.9%	100%	1	04-06-00
End Shear	2,292 lbs	24.6%	100%	1	09-02-00
Total Load Deflection	L/999 (0.082")	n\a	n\a	1	05-04-08
Live Load Deflection	L/999 (0.053")	n\a	n\a	2	05-04-08
Max Defl.	0.082"	n\a	n\a	1	05-04-08
Span / Depth	8.7				

Bearing Supports

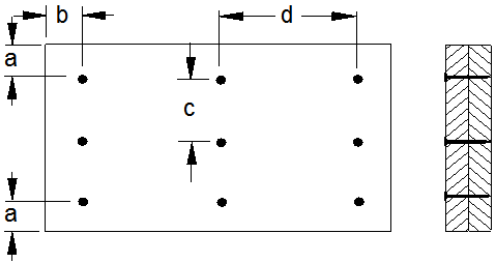
		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate	4" x 3-1/2"	3,552 lbs	59.7%	33.8%	Unspecified
B2	Wall/Plate	4" x 3-1/2"	3,366 lbs	56.6%	32.1%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum Total load deflection criteria.
Design meets arbitrary (0.75") Maximum live load deflection criteria.
Calculations assume member is fully braced.
BC CALC® analysis is based on IBC 2009.
Design based on Dry Service Condition.
Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Flush Beams\BM7-2(i2328)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development

Connection Diagram: Full Length of Member



a minimum = 2" c = 5"
b minimum = 3" d = 12"

Calculated Side Load = 586.7 lb/ft
Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
Connectors are: 16d Box Nails

Disclosure

Boise Cascade

Single 1-3/4" x 14" VERSA-LAM® 2.0 3100 SP

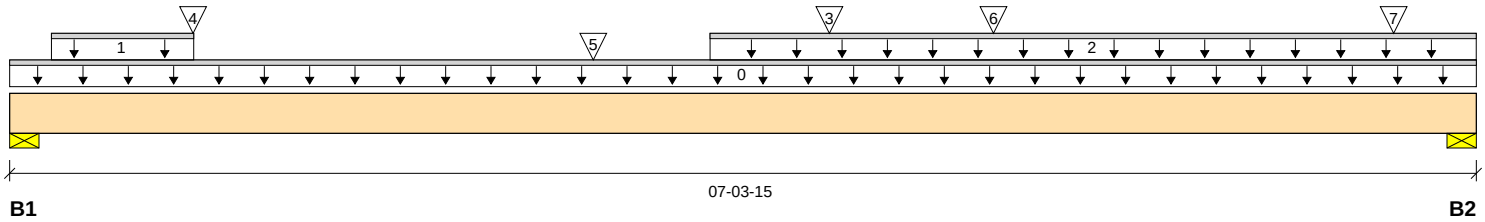
PASSED

2nd Floor Layout\Flush Beams\BM8(i2354)

BC CALC® Member Report — Dry | 1 span | No cant. — October 1, 2019 15:46:27

Build 7118

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Flush Beams\BM8(i2354)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development



Total Horizontal Product Length = 07-03-15

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 2-1/2"	1,166 / 0	509 / 0			
B2, 4"	1,605 / 0	869 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	07-03-15	Top		7				00-00-00
1	14(i2265)	Unf. Lin. (lb/ft)	L	00-02-08	00-11-01	Top		62				n\a
2	13(i2248)	Unf. Lin. (lb/ft)	L	03-06-00	07-03-15	Top		62				n\a
3	BM1(i2390)	Conc. Pt. (lbs)	L	04-01-03	04-01-03	Top	80	137				n\a
4	J6(i2336)	Conc. Pt. (lbs)	L	00-11-00	00-11-00	Top	534	136				n\a
5	J6(i2359)	Conc. Pt. (lbs)	L	02-11-00	02-11-00	Top	712	208				n\a
6	J6(i2408)	Conc. Pt. (lbs)	L	04-11-00	04-11-00	Top	714	250				n\a
7	J6(i2410)	Conc. Pt. (lbs)	L	06-11-00	06-11-00	Top	717	307				n\a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	3,155 ft-lbs	21.7%	100%	1	03-06-00
End Shear	1,397 lbs	30.0%	100%	1	01-04-08
Total Load Deflection	L/999 (0.034")	n\a	n\a	1	03-07-13
Live Load Deflection	L/999 (0.023")	n\a	n\a	2	03-06-14
Max Defl.	0.034"	n\a	n\a	1	03-07-13
Span / Depth	5.9				

Bearing Supports

		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate	2-1/2" x 1-3/4"	1,675 lbs	90.1%	51.0%	Unspecified
B2	Wall/Plate	4" x 1-3/4"	2,474 lbs	83.2%	47.1%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum Total load deflection criteria.
Design meets arbitrary (0.75") Maximum live load deflection criteria.
Calculations assume member is fully braced.
BC CALC® analysis is based on IBC 2009.
Design based on Dry Service Condition.

Disclosure

Boise Cascade

Double 1-3/4" x 14" VERSA-LAM® 2.0 3100 SP

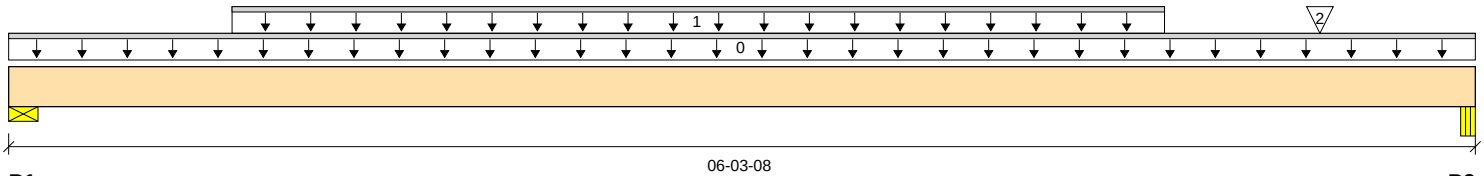
PASSED

2nd Floor Layout\Flush Beams\BM9-2(i2393)

BC CALC® Member Report — Dry | 1 span | No cant. — October 1, 2019 15:46:39

Build 7118

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Flush Beams\BM9-2(i2393)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development



Total Horizontal Product Length = 06-03-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"	130 / 0	1,020 / 0	804 / 0		
B2, 3-1/2"	164 / 0	1,284 / 0	1,022 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-03-08	Top		14				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-11-08	04-11-08	Top	59	440	363			n\a
2	J10(i2379)	Conc. Pt. (lbs)	L	05-07-08	05-07-08	Top	58	454	374			n\a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	3,458 ft-lbs	10.5%	115%	2	02-11-08
End Shear	1,804 lbs	16.8%	115%	2	01-05-08
Total Load Deflection	L/999 (0.013")	n\a	n\a	2	03-01-08
Live Load Deflection	L/999 (0.006")	n\a	n\a	13	03-01-08
Max Defl.	0.013"	n\a	n\a	2	03-01-08
Span / Depth	5.0				

Bearing Supports

		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate	3-1/2" x 3-1/2"	1,824 lbs	35.0%	19.9%	Unspecified
B2	Beam	3-1/2" x 3-1/2"	2,306 lbs	25.1%	25.1%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum Total load deflection criteria.
Design meets arbitrary (0.75") Maximum live load deflection criteria.
Calculations assume unbraced length of Top: 01-03-00, Bottom: 01-03-00.
BC CALC® analysis is based on IBC 2009.
Unbalanced snow loads determined from building geometry were used in selected product's verification.
Design based on Dry Service Condition.
Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Boise Cascade

Double 1-3/4" x 14" VERSA-LAM® 2.0 3100 SP

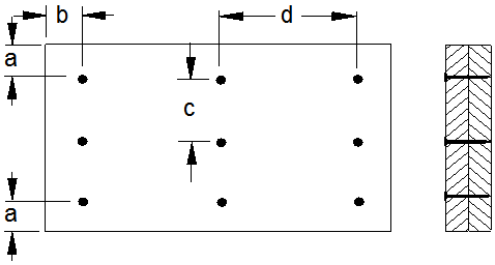
PASSED

2nd Floor Layout\Flush Beams\BM9-2(i2393)

BC CALC® Member Report — Dry | 1 span | No cant. — October 1, 2019 15:46:39
Build 7118

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Flush Beams\BM9-2(i2393)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development

Connection Diagram: Full Length of Member



a minimum = 2" c = 5"
b minimum = 3" d = 12"

Calculated Side Load = 689.0 lb/ft
Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
Connectors are: 16d Sinker Nails

Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER® , AJS™, ALLJOIST® , BC RIM BOARD™, BCI® , BOISE GLULAM™, BC FloorValue® , VERSA-LAM®, VERSA-RIM PLUS® ,

Boise Cascade

Single 1-3/4" x 14" VERSA-LAM® 2.0 3100 SP

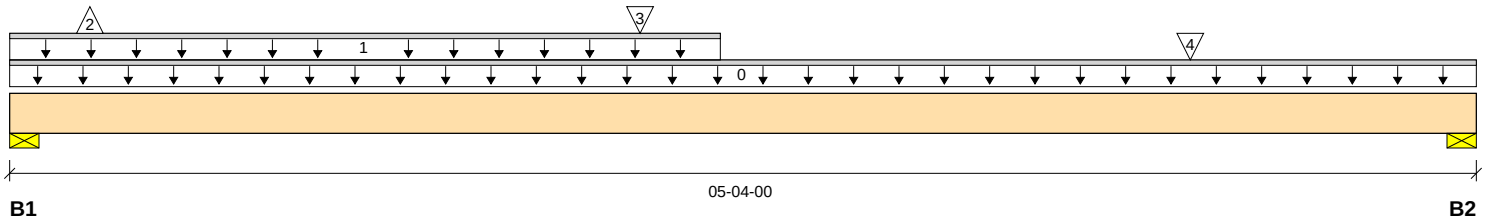
PASSED

2nd Floor Layout\Flush Beams\BM10(i2353)

BC CALC® Member Report — Dry | 1 span | No cant. — October 1, 2019 15:46:52

Build 7118

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Flush Beams\BM10(i2353)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development



Total Horizontal Product Length = 05-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"	1,236 / 0	652 / 0	0 / 23		
B2, 4"	905 / 0	414 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-04-00	Top		7				00-00-00
1	13(i2248)	Unf. Lin. (lb/ft)	L	00-00-00	02-07-00	Top		62				n\a
2	J8(i2334)	Conc. Pt. (lbs)	L	00-03-08	00-03-08	Top	712	199	-23			n\a
3	J9(i2402)	Conc. Pt. (lbs)	L	02-03-08	02-03-08	Top	714	488				n\a
4	J9(i2404)	Conc. Pt. (lbs)	L	04-03-08	04-03-08	Top	714	179				n\a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	1,831 ft-lbs	12.6%	100%	1	02-03-08
End Shear	956 lbs	20.5%	100%	1	03-10-00
Total Load Deflection	L/999 (0.009")	n\a	n\a	1	02-07-08
Live Load Deflection	L/999 (0.005")	n\a	n\a	12	02-07-15
Max Defl.	0.009"	n\a	n\a	1	02-07-08
Span / Depth	4.1				

Bearing Supports

		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate	3-1/2" x 1-3/4"	1,888 lbs	72.5%	41.1%	Unspecified
B2	Wall/Plate	4" x 1-3/4"	1,319 lbs	44.3%	25.1%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum Total load deflection criteria.
Design meets arbitrary (0.75") Maximum live load deflection criteria.
Calculations assume member is fully braced.
BC CALC® analysis is based on IBC 2009.
Unbalanced snow loads determined from building geometry were used in selected product's verification.
Design based on Dry Service Condition.

Disclosure

Boise Cascade

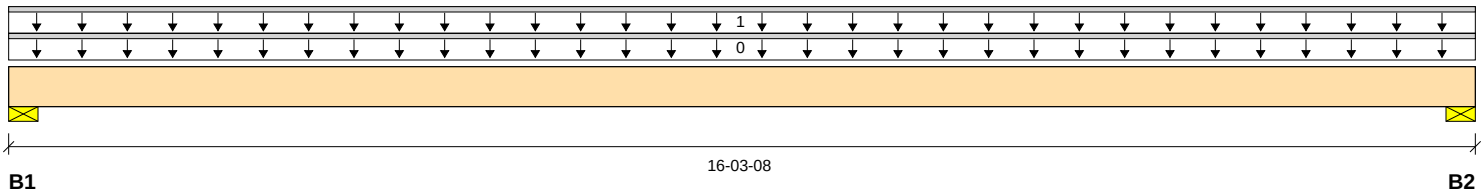
Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

2nd Floor Layout\Dropped Beams\BM11-2(i2414)

BC CALC® Member Report — Dry | 1 span | No cant. — October 1, 2019 15:47:01
Build 7118

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Dropped Beams\BM11-2(i2414)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development



Total Horizontal Product Length = 16-03-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"		913 / 0			815 / 0
B2, 3-1/2"		913 / 0			815 / 0

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	16-03-08	Top		12				00-00-00
1	Trusses	Unf. Lin. (lb/ft)	L	00-00-00	16-03-08	Top		100			100	n\a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	6,645 ft-lbs	74.4%	125%	1	08-01-12
End Shear	1,456 lbs	14.7%	125%	1	01-03-06
Total Load Deflection	L/619 (0.307")	38.8%	n\a	1	08-01-12
Live Load Deflection	L/1,312 (0.145")	27.4%	n\a	2	08-01-12
Max Defl.	0.307"	30.7%	n\a	1	08-01-12
Span / Depth	16.0				

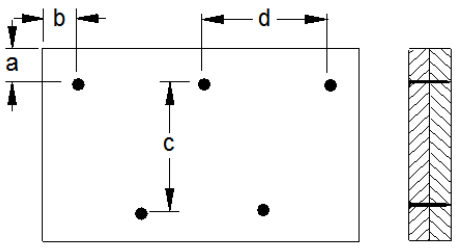
Bearing Supports

		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate	3-1/2" x 3-1/2"	1,727 lbs	16.1%	18.8%	Unspecified
B2	Wall/Plate	3-1/2" x 3-1/2"	1,727 lbs	17.6%	18.8%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum Total load deflection criteria.
Design meets arbitrary (0.75") Maximum live load deflection criteria.
Calculations assume unbraced length of Top: 15-08-08, Bottom: 15-08-08.
BC CALC® analysis is based on IBC 2009.
Design based on Dry Service Condition.
Member has no side loads.

Connection Diagram: Full Length of Member



Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

2nd Floor Layout\Dropped Beams\BM11-2(i2414)

BC CALC® Member Report — Dry | 1 span | No cant. — October 1, 2019 15:47:01
Build 7118

Job name:	CL 3034 B wCP	File name:	CL-3034B w CP.mmdl
Address:		Description:	2nd Floor Layout\Dropped Beams\BM11-2(i2414)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	Caviness Land Development

Connection Diagram: Full Length of Member

a minimum = 2" c = 7-7/8"
b minimum = 3" d = 24"

Member has no side loads.
Connectors are: 16d Sinker Nails

Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER® , AJS™, ALLJOIST® , BC RIM BOARD™, BCI® , BOISE GLULAM™, BC FloorValue® , VERSA-LAM®, VERSA-RIM PLUS® ,