

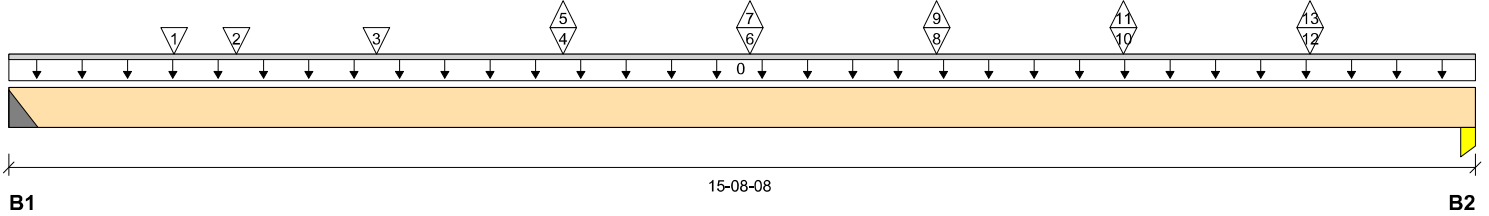
**Roof/Dropped Beams\BM1(i27) (Dropped Beam)**

BC CALC® Member Report  
 Build 7493  
 Job name:  
 Address:  
 City, State, Zip:  
 Customer:  
 Code reports: ESR-1040

Dry | 1 span | No cant.

June 30, 2020 08:02:38

File name: 2000492A.mmdl  
 Description: Roof/Dropped Beams\BM1(i27)  
 Specifier:  
 Designer:  
 Company:



Total Horizontal Product Length = 15-08-08

**Reaction Summary (Down / Uplift) (lbs)**

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 2"		358 / 0		271 / 625	711 / 135
B2, 2"		169 / 0		270 / 562	715 / 234

**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	15-08-08	Top		9				00-00-00
1	A2(c2)	Conc. Pt. (lbs)	L	01-09-04	01-09-04	Top		103			133	n/a
2	A2(c1)	Conc. Pt. (lbs)	L	02-05-04	02-05-04	Top		92			108	n/a
3	A1(c1)	Conc. Pt. (lbs)	L	03-11-04	03-11-04	Top		121			175	n/a
4	A(c5)	Conc. Pt. (lbs)	L	05-11-04	05-11-04	Top		12			202	n/a
5	A(c5)	Conc. Pt. (lbs)	L	05-11-04	05-11-04	Top					-94	n/a
6	A(c4)	Conc. Pt. (lbs)	L	07-11-04	07-11-04	Top		15			202	n/a
7	A(c4)	Conc. Pt. (lbs)	L	07-11-04	07-11-04	Top					-87	n/a
8	A(c3)	Conc. Pt. (lbs)	L	09-11-04	09-11-04	Top		8			202	n/a
9	A(c3)	Conc. Pt. (lbs)	L	09-11-04	09-11-04	Top					-9	n/a
10	A(c2)	Conc. Pt. (lbs)	L	11-11-04	11-11-04	Top		16			202	n/a
11	A(c2)	Conc. Pt. (lbs)	L	11-11-04	11-11-04	Top					-86	n/a
12	A(c1)	Conc. Pt. (lbs)	L	13-11-04	13-11-04	Top					202	n/a
13	A(c1)	Conc. Pt. (lbs)	L	13-11-04	13-11-04	Top					-93	n/a

**Controls Summary**

	Value	% Allowable	Duration	Case	Location
Pos. Moment	3912 ft-lbs	24.0%	125%	1	07-11-04
Neg. Moment	-961 ft-lbs	4.7%	160%	128	07-11-04
End Shear	1060 lbs	13.8%	125%	1	00-11-04
Total Load Deflection	L/505 (0.368")	47.5%	n/a	1	07-08-04
Live Load Deflection	L/657 (0.283")	54.8%	n/a	131	07-11-04
Total Neg. Defl.	L/999 (-0.046")	n/a	n/a	62	08-08-04
Max Defl.	0.368"	36.8%	n/a	1	07-08-04
Span / Depth	20.1				

**Bearing Supports**

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Hanger 2" x 3-1/2"	1069 lbs	n/a	20.4%	Hanger
B1	Uplift	161 lbs			
B2	Column 2" x 3-1/2"	883 lbs	17.4%	16.8%	Unspecified
B2	Uplift	259 lbs			

**Cautions**

Uplift of -259 lbs found at bearing B2.  
 Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

**Roof\Dropped Beams\BM1(i27) (Dropped Beam)**

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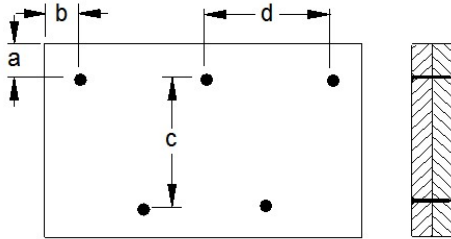
Code reports: ESR-1040

Company:

**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: 01-10-08, Bottom: 01-10-08.  
 Hanger Manufacturer: Unassigned  
 BC CALC® analysis is based on IBC 2012.  
 Wind loads determined from building geometry were used in selected product's verification.  
 Design based on Dry Service Condition.

**Connection Diagram: Full Length of Member**



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

Connectors are: 3-1/4 in. Pneumatic Gun 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.

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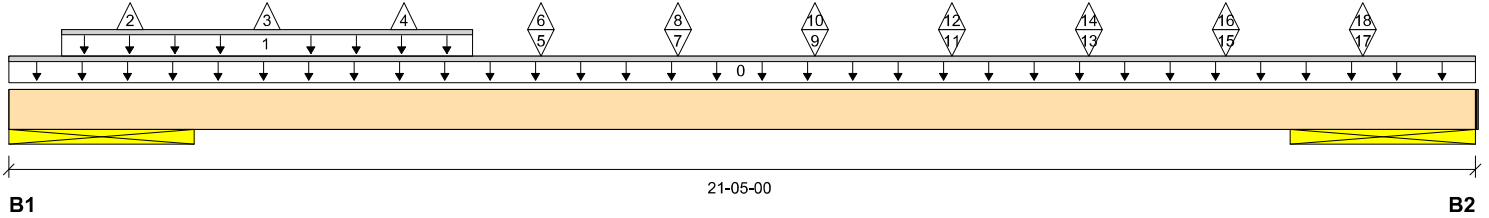
**Roof/Dropped Beams\GDH(i29) (Dropped Beam)**

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 Code reports: ESR-1040

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Total Horizontal Product Length = 21-05-00

**Reaction Summary (Down / Uplift) (lbs)**

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 32-1/2"		1689 / 0		876 / 1809	2110 / 115
B2, 32-1/2"		1646 / 0		836 / 1793	2011 / 127

**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	21-05-00	Top		12				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-09-04	06-09-04	Top		156			212	n/a
2	B(c10)	Conc. Pt. (lbs)	L	01-09-04	01-09-04	Top					-24	n/a
3	B(c9)	Conc. Pt. (lbs)	L	03-09-04	03-09-04	Top					-23	n/a
4	B(c8)	Conc. Pt. (lbs)	L	05-09-04	05-09-04	Top					-23	n/a
5	B(c7)	Conc. Pt. (lbs)	L	07-09-04	07-09-04	Top		307			424	n/a
6	B(c7)	Conc. Pt. (lbs)	L	07-09-04	07-09-04	Top					-36	n/a
7	B1(c6)	Conc. Pt. (lbs)	L	09-09-04	09-09-04	Top		321			424	n/a
8	B1(c6)	Conc. Pt. (lbs)	L	09-09-04	09-09-04	Top					-9	n/a
9	B1(c5)	Conc. Pt. (lbs)	L	11-09-04	11-09-04	Top		321			424	n/a
10	B1(c5)	Conc. Pt. (lbs)	L	11-09-04	11-09-04	Top					-10	n/a
11	B1(c4)	Conc. Pt. (lbs)	L	13-09-04	13-09-04	Top		307			424	n/a
12	B1(c4)	Conc. Pt. (lbs)	L	13-09-04	13-09-04	Top					-35	n/a
13	B1(c3)	Conc. Pt. (lbs)	L	15-09-04	15-09-04	Top		313			424	n/a
14	B1(c3)	Conc. Pt. (lbs)	L	15-09-04	15-09-04	Top					-24	n/a
15	B1(c2)	Conc. Pt. (lbs)	L	17-09-04	17-09-04	Top		313			424	n/a
16	B1(c2)	Conc. Pt. (lbs)	L	17-09-04	17-09-04	Top					-24	n/a
17	B1(c1)	Conc. Pt. (lbs)	L	19-09-04	19-09-04	Top		256			305	n/a
18	B1(c1)	Conc. Pt. (lbs)	L	19-09-04	19-09-04	Top					-34	n/a

**Controls Summary**

	Value	% Allowable	Duration	Case	Location
Pos. Moment	11624 ft-lbs	44.8%	125%	1	09-09-04
Neg. Moment	-204 ft-lbs	0.6%	160%	137	09-09-04
End Shear	2315 lbs	23.4%	125%	1	17-08-10
Total Load Deflection	L/350 (0.552")	68.5%	n/a	1	10-09-04
Live Load Deflection	L/632 (0.306")	57.0%	n/a	139	10-09-04
Max Defl.	0.552"	55.2%	n/a	1	10-09-04
Span / Depth	16.3				
Conc. Load (B1)	737 lbs	8.0%	100%		
Conc. Load (B2)	561 lbs	6.1%	100%		

**Bearing Supports**

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 32-1/2" x 3-1/2"	3800 lbs	7.9%	4.5%	Spruce-Pine-Fir
B2	Wall/Plate 32-1/2" x 3-1/2"	3657 lbs	7.6%	4.3%	Spruce-Pine-Fir
B2	Uplift	88 lbs			

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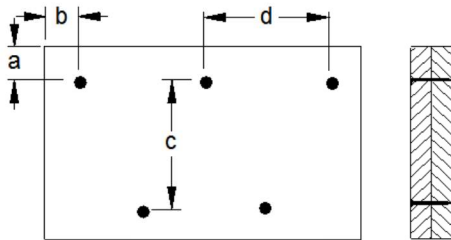
**Cautions**

Uplift of -88 lbs found at bearing B2.

**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: 01-10-08, Bottom: 01-10-08.  
 BC CALC® analysis is based on IBC 2012.  
 Wind loads determined from building geometry were used in selected product's verification.  
 Design based on Dry Service Condition.

**Connection Diagram: Full Length of Member**



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

Connectors are: 3-1/4 in. Pneumatic Gun Nails

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