

Triple 1-3/4" x 16" VERSA-LAM® 2.0 3100 SP
2nd Floor\Dropped Beams\DB1-3(i3172) (Dropped Beam)

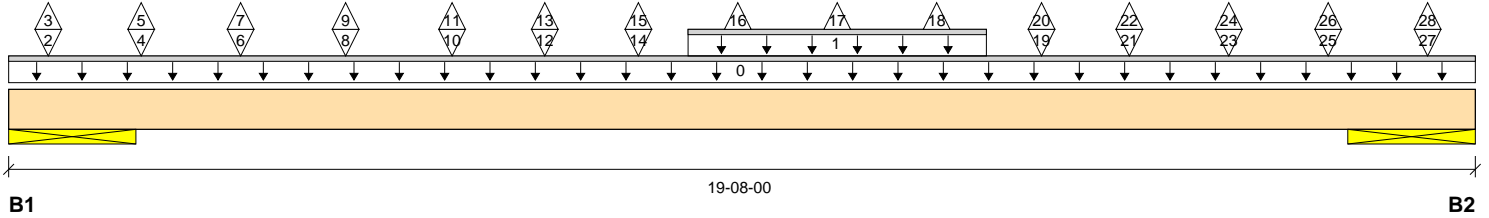
PASSED

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

Dry | 1 span | No cant.

January 6, 2021 15:52:09

File name: Greenville KLF054.mmdl
 Description: 2nd Floor\Dropped Beams\DB1-3(i3172)
 Specifier:
 Designer:
 Company:



Total Horizontal Product Length = 19-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 20-1/2"	4003 / 247	5932 / 0	3785 / 0		
B2, 20-1/2"	3809 / 237	6182 / 0	3937 / 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	19-08-00	Top		24				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	09-01-05	13-01-05	Top	393	623	427			n/a
2	FJ-1(i3168)	Conc. Pt. (lbs)	L	00-06-06	00-06-06	Top	493	494	297			n/a
3	FJ-1(i3168)	Conc. Pt. (lbs)	L	00-06-06	00-06-06	Top	-32					n/a
4	FJ-1(i3144)	Conc. Pt. (lbs)	L	01-09-05	01-09-05	Top	507	807	551			n/a
5	FJ-1(i3144)	Conc. Pt. (lbs)	L	01-09-05	01-09-05	Top	-32					n/a
6	FJ-1(i3122)	Conc. Pt. (lbs)	L	03-01-05	03-01-05	Top	524	835	570			n/a
7	FJ-1(i3122)	Conc. Pt. (lbs)	L	03-01-05	03-01-05	Top	-33					n/a
8	-	Conc. Pt. (lbs)	L	04-06-04	04-06-04	Top	625	901	600			n/a
9	-	Conc. Pt. (lbs)	L	04-06-04	04-06-04	Top	-37					n/a
10	-	Conc. Pt. (lbs)	L	05-11-06	05-11-06	Top	568	449	284			n/a
11	-	Conc. Pt. (lbs)	L	05-11-06	05-11-06	Top	-33					n/a
12	-	Conc. Pt. (lbs)	L	07-02-04	07-02-04	Top	535	839	569			n/a
13	-	Conc. Pt. (lbs)	L	07-02-04	07-02-04	Top	-30					n/a
14	FJ-1(i3176)	Conc. Pt. (lbs)	L	08-05-05	08-05-05	Top	495	781	538			n/a
15	FJ-1(i3176)	Conc. Pt. (lbs)	L	08-05-05	08-05-05	Top	-33					n/a
16	FJ-1(i3135)	Conc. Pt. (lbs)	L	09-09-05	09-09-05	Top	-33					n/a
17	FJ-1(i3139)	Conc. Pt. (lbs)	L	11-01-05	11-01-05	Top	-33					n/a
18	FJ-1(i3126)	Conc. Pt. (lbs)	L	12-05-05	12-05-05	Top	-33					n/a
19	-	Conc. Pt. (lbs)	L	13-10-03	13-10-03	Top	573	927	581			n/a
20	-	Conc. Pt. (lbs)	L	13-10-03	13-10-03	Top	-32					n/a
21	FJ-1(i3124)	Conc. Pt. (lbs)	L	15-00-05	15-00-05	Top	479	768	521			n/a
22	FJ-1(i3124)	Conc. Pt. (lbs)	L	15-00-05	15-00-05	Top	-32					n/a
23	FJ-1(i3123)	Conc. Pt. (lbs)	L	16-04-05	16-04-05	Top	524	839	570			n/a
24	FJ-1(i3123)	Conc. Pt. (lbs)	L	16-04-05	16-04-05	Top	-33					n/a
25	FJ-1(i3177)	Conc. Pt. (lbs)	L	17-08-05	17-08-05	Top	524	839	570			n/a
26	FJ-1(i3177)	Conc. Pt. (lbs)	L	17-08-05	17-08-05	Top	-33					n/a
27	FJ-1(i3153)	Conc. Pt. (lbs)	L	19-00-05	19-00-05	Top	387	553	356			n/a
28	FJ-1(i3153)	Conc. Pt. (lbs)	L	19-00-05	19-00-05	Top	-25					n/a

Controls Summary

Value	% Allowable	Duration	Case	Location	
Pos. Moment	41438 ft-lbs	65.6%	115%	8	09-09-05
End Shear	9072 lbs	49.4%	115%	8	16-07-08
Total Load Deflection	L/355 (0.554")	67.6%	n/a	8	09-09-06
Live Load Deflection	L/723 (0.272")	49.8%	n/a	25	09-09-06
Max Defl.	0.554"	36.9%	n/a	8	09-09-06

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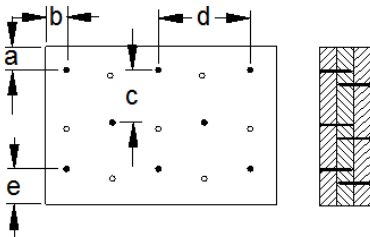
Controls Summary	Value	% Allowable	Duration	Case	Location
Span / Depth	12.3				
Conc. Load (B1)	1087 lbs	7.9%	100%		
Conc. Load (B2)	1110 lbs	8.1%	100%		

Bearing Supports	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 20-1/2" x 5-1/4"	11772 lbs	15.1%	14.6%	Unspecified
B2	Wall/Plate 20-1/2" x 5-1/4"	11991 lbs	15.3%	14.8%	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 (1.5") Maximum Total load deflection criteria.
 Design meets arbitrary (1") Maximum live load deflection criteria.
 Calculations assume unbraced length of Top: 01-02-08, Bottom: 01-02-08.
 BC CALC® analysis is based on IBC 2015.
 Unbalanced snow 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 = 6"
 b minimum = 3" d = 24"
 e minimum = 3"

Nailing applies to both sides of the member
 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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