



Crawl\Dropped Beams\DB1-2(i8771) (Dropped Beam)

BC Design Engine Member Report

Dry | 3 spans | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: Crawl\Dropped Beams\DB1-2(i8771)

City, State, Zip:

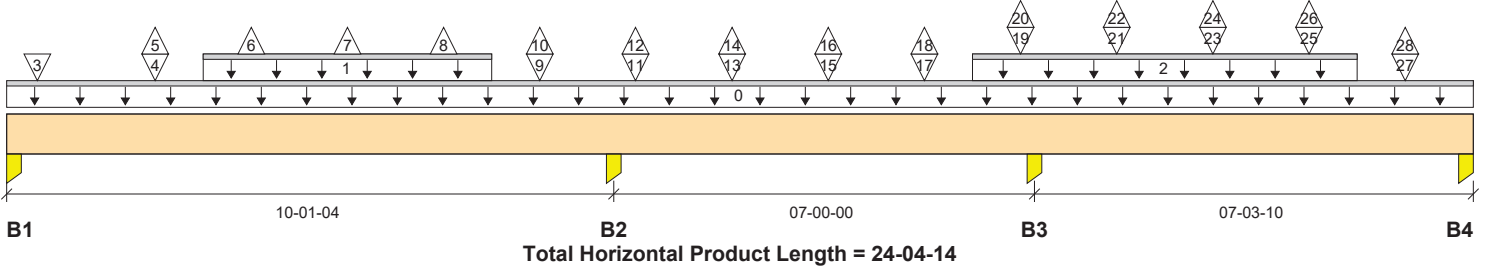
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 16"	3028 / 269	2598 / 0	173 / 0		426 / 5
B2, 16"	3435 / 1580	2164 / 0	0 / 0		1220 / 1
B3, 16"	2216 / 1252	1285 / 0	0 / 0		0 / 5
B4, 8"	857 / 392	412 / 0	0 / 0		0 / 0

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Roof Live	Tributary
							100%	90%	115%	160%	125%	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	24-04-14	Top		9				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	03-03-04	08-00-14	Top	272	102				n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	16-00-14	22-05-10	Top	273	69				n/a
3	FB1-2(i8334)	Conc. Pt. (lbs)	L	00-06-02	00-06-02	Top	2122	2200	173		423	n/a
4	-	Conc. Pt. (lbs)	L	02-05-10	02-05-10	Top	490	168				n/a
5	-	Conc. Pt. (lbs)	L	02-05-10	02-05-10	Top	-32				-6	n/a
6	-	Conc. Pt. (lbs)	L	04-00-14	04-00-14	Top	-224					n/a
7	-	Conc. Pt. (lbs)	L	05-08-01	05-08-01	Top	-206					n/a
8	-	Conc. Pt. (lbs)	L	07-03-04	07-03-04	Top	-206					n/a
9	-	Conc. Pt. (lbs)	L	08-10-07	08-10-07	Top	504	302			114	n/a
10	-	Conc. Pt. (lbs)	L	08-10-07	08-10-07	Top	-205					n/a
11	-	Conc. Pt. (lbs)	L	10-05-09	10-05-09	Top	1108	1075			1104	n/a
12	-	Conc. Pt. (lbs)	L	10-05-09	10-05-09	Top	-512					n/a
13	-	Conc. Pt. (lbs)	L	12-00-14	12-00-14	Top	436	106				n/a
14	-	Conc. Pt. (lbs)	L	12-00-14	12-00-14	Top	-206					n/a
15	-	Conc. Pt. (lbs)	L	13-08-01	13-08-01	Top	436	109				n/a
16	-	Conc. Pt. (lbs)	L	13-08-01	13-08-01	Top	-206					n/a
17	-	Conc. Pt. (lbs)	L	15-03-04	15-03-04	Top	435	419				n/a
18	-	Conc. Pt. (lbs)	L	15-03-04	15-03-04	Top	-206					n/a
19	-	Conc. Pt. (lbs)	L	16-10-07	16-10-07	Top		68				n/a
20	-	Conc. Pt. (lbs)	L	16-10-07	16-10-07	Top	-206					n/a
21	-	Conc. Pt. (lbs)	L	18-05-10	18-05-10	Top		110				n/a
22	-	Conc. Pt. (lbs)	L	18-05-10	18-05-10	Top	-206					n/a
23	-	Conc. Pt. (lbs)	L	20-00-14	20-00-14	Top		251				n/a
24	-	Conc. Pt. (lbs)	L	20-00-14	20-00-14	Top	-206					n/a
25	-	Conc. Pt. (lbs)	L	21-08-01	21-08-01	Top		66				n/a
26	-	Conc. Pt. (lbs)	L	21-08-01	21-08-01	Top	-206					n/a
27	-	Conc. Pt. (lbs)	L	23-03-04	23-03-04	Top	424	193				n/a
28	-	Conc. Pt. (lbs)	L	23-03-04	23-03-04	Top	-209					n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	2502 ft-lbs	19.2%	100%	3	04-00-13
Neg. Moment	-2509 ft-lbs	57.1%	100%	1	09-05-04



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Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: Crawl\Dropped Beams\DB1-2(i8771)

City, State, Zip:

Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:

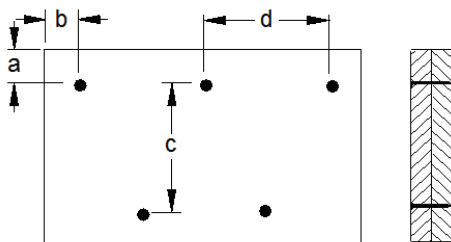
Controls Summary	Value	% Allowable	Duration	Case	Location
End Shear	1310 lbs	21.3%	100%	3	02-01-04
Cont. Shear	1950 lbs	31.7%	100%	5	08-08-00
Total Load Deflection	L/999 (0.069")	n/a	n/a	3	05-02-01
Live Load Deflection	L/999 (0.058")	n/a	n/a	32	05-04-07
Total Neg. Defl.	L/999 (-0.023")	n/a	n/a	3	13-02-10
Max Defl.	0.069"	n/a	n/a	3	05-02-01
Span / Depth	11.5				
Conc. Load (B1)	4322 lbs	47.0%	100%		
Conc. Load (B2)	2807 lbs	30.6%	100%		
Conc. Load (B3)	615 lbs	6.7%	100%		

Bearing Supports	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column 16" x 3-1/2"	5651 lbs	13.9%	13.5%	Unspecified
B2	Column 16" x 3-1/2"	5554 lbs	13.7%	13.2%	Unspecified
B3	Column 16" x 3-1/2"	3453 lbs	8.5%	8.2%	Unspecified
B4	Column 8" x 3-1/2"	1331 lbs	6.6%	6.3%	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 (1.5") Maximum Total load deflection criteria.
- Design meets arbitrary (1") Maximum live load deflection criteria.
- Design based on Dry Service Condition.
- BC CALC® analysis is based on IBC 2018.
- Calculations assume unbraced length of Top: 01-09-05, Bottom: 24-04-14.

Connection Diagram: Full Length of Member



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

Calculated Side Load = 0.0 lb/ft
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.

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



Crawl\Dropped Beams\DB2-2(i8699) (Dropped Beam)

BC Design Engine Member Report

Dry | 4 spans | No cant.

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Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: Crawl\Dropped Beams\DB2-2(i8699)

City, State, Zip:

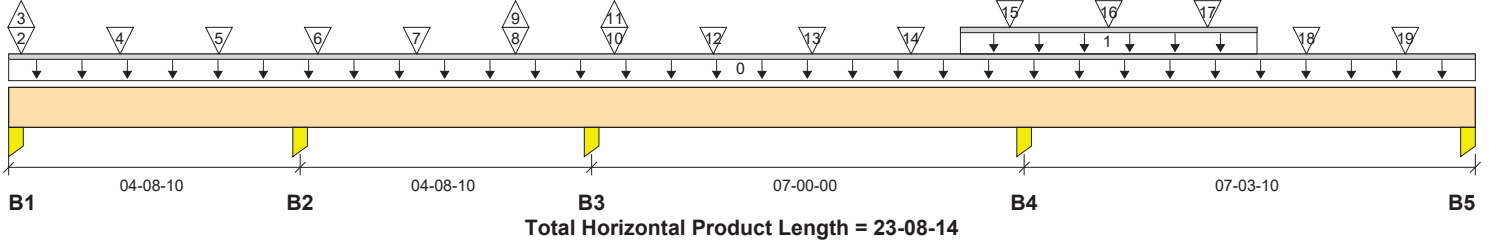
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 8"	1230 / 35	1021 / 0	0 / 3		94 / 27
B2, 16"	2925 / 0	1426 / 0	268 / 0		21 / 0
B3, 16"	3211 / 0	2003 / 0	58 / 0		0 / 18
B4, 16"	3995 / 0	2003 / 0	0 / 1		0 / 0
B5, 8"	1506 / 54	575 / 0	0 / 0		0 / 0

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Roof Live	Tributary
							100%	90%	115%	160%	125%	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	23-08-14	Top		9				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	15-04-14	20-02-07	Top	489					n/a
2	3(i8741)	Conc. Pt. (lbs)	L	00-02-07	00-02-07	Top	596	683			66	n/a
3	3(i8741)	Conc. Pt. (lbs)	L	00-02-07	00-02-07	Top					-27	n/a
4	1(i8710)	Conc. Pt. (lbs)	L	01-09-10	01-09-10	Top	861	475			48	n/a
5	1(i8719)	Conc. Pt. (lbs)	L	03-04-14	03-04-14	Top	842	440				n/a
6	1(i8743)	Conc. Pt. (lbs)	L	05-00-01	05-00-01	Top	941	430	157			n/a
7	1(i8841)	Conc. Pt. (lbs)	L	06-07-04	06-07-04	Top	948	430	165			n/a
8	1(i8839)	Conc. Pt. (lbs)	L	08-02-07	08-02-07	Top	817	702				n/a
9	1(i8839)	Conc. Pt. (lbs)	L	08-02-07	08-02-07	Top					-2	n/a
10	2-2(i8830)	Conc. Pt. (lbs)	L	09-09-10	09-09-10	Top	827	330				n/a
11	2-2(i8830)	Conc. Pt. (lbs)	L	09-09-10	09-09-10	Top					-15	n/a
12	1(i8739)	Conc. Pt. (lbs)	L	11-04-14	11-04-14	Top	818	626				n/a
13	1(i8762)	Conc. Pt. (lbs)	L	13-00-01	13-00-01	Top	766	534				n/a
14	1(i8822)	Conc. Pt. (lbs)	L	14-07-04	14-07-04	Top	848	518				n/a
15	1(i8756)	Conc. Pt. (lbs)	L	16-02-07	16-02-07	Top		424				n/a
16	1(i8807)	Conc. Pt. (lbs)	L	17-09-10	17-09-10	Top		291				n/a
17	1(i8849)	Conc. Pt. (lbs)	L	19-04-14	19-04-14	Top		274				n/a
18	1(i8728)	Conc. Pt. (lbs)	L	21-00-01	21-00-01	Top	785	295				n/a
19	1(i8749)	Conc. Pt. (lbs)	L	22-07-04	22-07-04	Top	859	354				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	2327 ft-lbs	17.7%	100%	3	21-00-01
Neg. Moment	-2282 ft-lbs	51.3%	100%	1	17-01-04
End Shear	1528 lbs	24.8%	100%	3	22-03-10
Cont. Shear	2399 lbs	39.0%	100%	6	17-10-08
Total Load Deflection	L/999 (0.037")	n/a	n/a	3	20-04-04
Live Load Deflection	L/999 (0.031")	n/a	n/a	34	20-03-01
Max Defl.	0.037"	n/a	n/a	3	20-04-04
Span / Depth	8.7				
Conc. Load (B2)	1371 lbs	14.9%	100%		
Conc. Load (B3)	1157 lbs	12.6%	100%		
Conc. Load (B4)	1198 lbs	13.0%	100%		



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Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

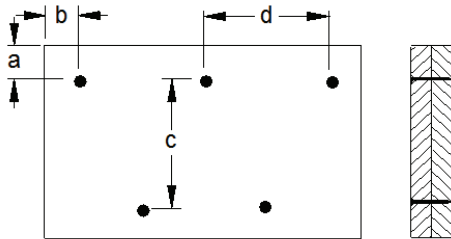
Company:

Bearing Supports	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column 8" x 3-1/2"	2221 lbs	10.9%	10.6%	Unspecified
B2	Column 16" x 3-1/2"	4262 lbs	10.5%	10.1%	Unspecified
B3	Column 16" x 3-1/2"	5116 lbs	12.6%	12.2%	Unspecified
B4	Column 16" x 3-1/2"	5887 lbs	14.5%	14.0%	Unspecified
B5	Column 8" x 3-1/2"	2020 lbs	9.9%	9.6%	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 (1.5") Maximum Total load deflection criteria.
- Design meets arbitrary (1") Maximum live load deflection criteria.
- Design based on Dry Service Condition.
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- Calculations assume unbraced length of Top: 01-05-07, Bottom: 23-08-14.

Connection Diagram: Full Length of Member



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

Calculated Side Load = 0.0 lb/ft
Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

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Crawl\Dropped Beams\DB2-2(i8845) (Dropped Beam)

BC Design Engine Member Report

Dry | 4 spans | No cant.

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Build 8548

Job name: MENDENHALL

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Address:

Description: Crawl\Dropped Beams\DB2-2(i8845)

City, State, Zip:

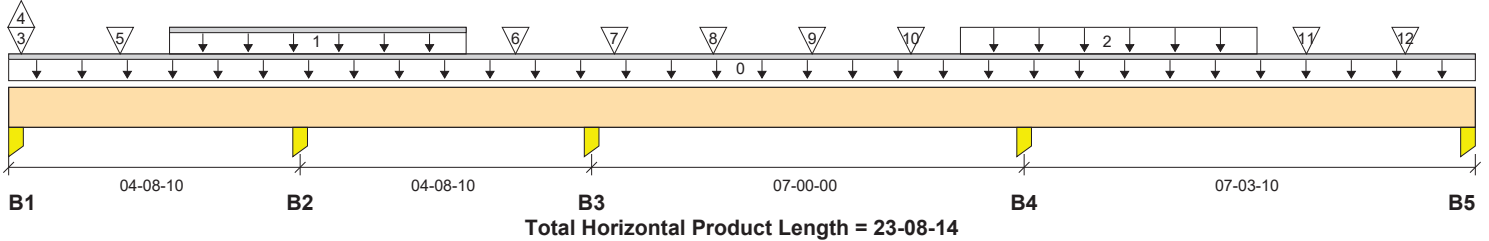
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 8"	880 / 48	928 / 0			778 / 0
B2, 16"	2861 / 150	1349 / 0			156 / 0
B3, 16"	4099 / 334	2612 / 0			61 / 9
B4, 16"	4414 / 48	2002 / 0			3 / 0
B5, 8"	1674 / 54	676 / 0			0 / 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	23-08-14	Top		9				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	02-07-04	07-04-14	Top	539	248				n/a
2	Smoothed Load	Trapezoidal (lb/ft)	L	15-04-14		Top	554	179				n/a
					20-02-07		554	279				
3	3(i8741)	Conc. Pt. (lbs)	L	00-02-07	00-02-07	Top	211	526			564	n/a
4	3(i8741)	Conc. Pt. (lbs)	L	00-02-07	00-02-07	Top	-13					n/a
5	1(i8710)	Conc. Pt. (lbs)	L	01-09-10	01-09-10	Top	918	590			356	n/a
6	1(i8839)	Conc. Pt. (lbs)	L	08-02-07	08-02-07	Top	965	480				n/a
7	2-2(i8830)	Conc. Pt. (lbs)	L	09-09-10	09-09-10	Top	1536	1188			54	n/a
8	1(i8739)	Conc. Pt. (lbs)	L	11-04-14	11-04-14	Top	866	564				n/a
9	1(i8762)	Conc. Pt. (lbs)	L	13-00-01	13-00-01	Top	861	521				n/a
10	1(i8822)	Conc. Pt. (lbs)	L	14-07-04	14-07-04	Top	872	430				n/a
11	1(i8728)	Conc. Pt. (lbs)	L	21-00-01	21-00-01	Top	890	340				n/a
12	1(i8749)	Conc. Pt. (lbs)	L	22-07-04	22-07-04	Top	935	389				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	2720 ft-lbs	20.7%	100%	4	21-00-01
Neg. Moment	-2635 ft-lbs	60.4%	100%	7	17-01-04
End Shear	1752 lbs	28.5%	100%	4	22-03-10
Cont. Shear	2818 lbs	45.8%	100%	7	17-10-08
Total Load Deflection	L/999 (0.044")	n/a	n/a	4	20-03-10
Live Load Deflection	L/999 (0.035")	n/a	n/a	29	20-02-07
Total Neg. Defl.	L/999 (-0.001")	n/a	n/a	4	15-09-04
Max Defl.	0.044"	n/a	n/a	4	20-03-10
Span / Depth	8.7				
Conc. Load (B2)	1260 lbs	13.7%	100%		
Conc. Load (B3)	2754 lbs	30.0%	100%		
Conc. Load (B4)	1187 lbs	12.9%	100%		

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column 8" x 3-1/2"	2143 lbs	10.6%	10.2%	Unspecified
B2	Column 16" x 3-1/2"	4116 lbs	10.1%	9.8%	Unspecified



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Address:

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Specifier:

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Designer: JOE DAVIS

Code reports: ESR-1040

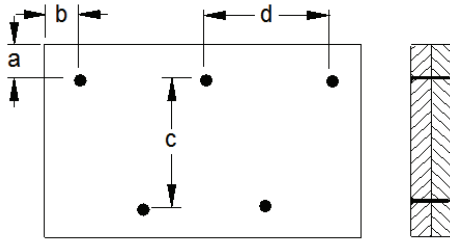
Company:

Bearing Supports		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B3	Column	16" x 3-1/2"	6635 lbs	16.3%	15.8%	Unspecified
B4	Column	16" x 3-1/2"	6305 lbs	15.5%	15.0%	Unspecified
B5	Column	8" x 3-1/2"	2288 lbs	11.3%	10.9%	Unspecified

Notes

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- Design meets Code minimum (L/360) Live load deflection criteria.
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- Design meets arbitrary (1") Maximum live load deflection criteria.
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Connection Diagram: Full Length of Member



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

Calculated Side Load = 0.0 lb/ft
Connectors are: 3-1/4 in. Pneumatic Gun Nails

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Crawl\Dropped Beams\DB3-2(i8435) (Dropped Beam)

BC Design Engine Member Report

Dry | 3 spans | No cant.

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Build 8548

Job name: MENDENHALL

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Address:

Description: Crawl\Dropped Beams\DB3-2(i8435)

City, State, Zip:

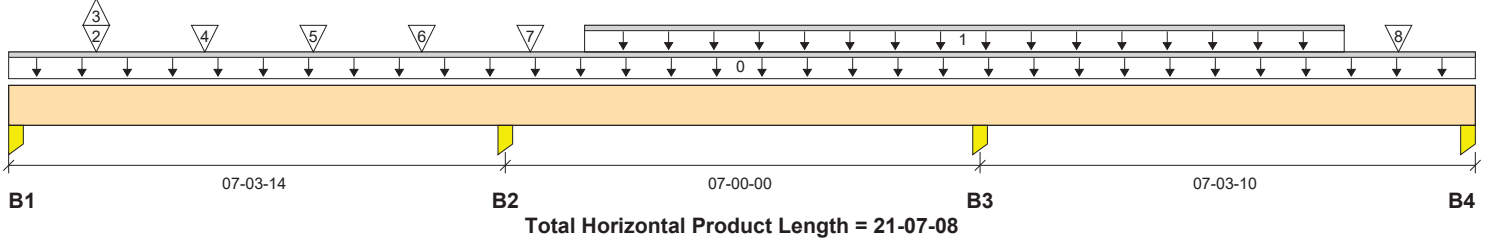
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 8"	1426 / 52	586 / 0			0 / 0
B2, 16"	5377 / 206	3005 / 0			92 / 0
B3, 16"	3929 / 209	1003 / 0			0 / 0
B4, 8"	1445 / 49	382 / 0			0 / 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	21-07-08	Top		9				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	08-05-14	19-08-05	Top	491	123				n/a
2	5(i8331)	Conc. Pt. (lbs)	L	01-03-08	01-03-08	Top	852	367				n/a
3	5(i8331)	Conc. Pt. (lbs)	L	01-03-08	01-03-08	Top	-5					n/a
4	5(i8340)	Conc. Pt. (lbs)	L	02-10-11	02-10-11	Top	785	313				n/a
5	5(i8336)	Conc. Pt. (lbs)	L	04-05-14	04-05-14	Top	785	313				n/a
6	5(i8345)	Conc. Pt. (lbs)	L	06-01-02	06-01-02	Top	785	354				n/a
7	6-2(i8335)	Conc. Pt. (lbs)	L	07-08-05	07-08-05	Top	2180	1842			92	n/a
8	5(i8337)	Conc. Pt. (lbs)	L	20-05-14	20-05-14	Top	783	213				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	2467 ft-lbs	18.8%	100%	3	02-10-11
Neg. Moment	-2315 ft-lbs	47.9%	100%	5	06-07-14
End Shear	1703 lbs	27.7%	100%	3	01-05-04
Cont. Shear	2391 lbs	38.9%	100%	5	05-10-10
Total Load Deflection	L/999 (0.039")	n/a	n/a	3	03-04-02
Live Load Deflection	L/999 (0.033")	n/a	n/a	20	03-05-14
Total Neg. Defl.	L/999 (-0.006")	n/a	n/a	3	13-00-00
Max Defl.	0.039"	n/a	n/a	3	03-04-02
Span / Depth	8.7				
Conc. Load (B2)	4022 lbs	43.8%	100%		
Conc. Load (B3)	981 lbs	10.7%	100%		

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column 8" x 3-1/2"	1947 lbs	9.6%	9.3%	Unspecified
B2	Column 16" x 3-1/2"	8276 lbs	20.4%	19.7%	Unspecified
B3	Column 16" x 3-1/2"	4834 lbs	11.9%	11.5%	Unspecified
B4	Column 8" x 3-1/2"	1804 lbs	8.9%	8.6%	Unspecified



Crawl/Dropped Beams/DB3-2(i8435) (Dropped Beam)

BC Design Engine Member Report

Dry | 3 spans | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: Crawl/Dropped Beams/DB3-2(i8435)

City, State, Zip:

Specifier:

Customer: MABUS

Designer: JOE DAVIS

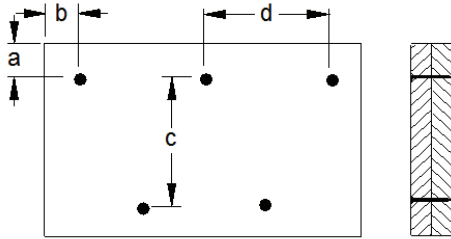
Code reports: ESR-1040

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 (1.5") Maximum Total load deflection criteria.
- Design meets arbitrary (1") Maximum live load deflection criteria.
- Design based on Dry Service Condition.
- BC CALC® analysis is based on IBC 2018.
- Calculations assume unbraced length of Top: 01-05-07, Bottom: 21-07-08.

Connection Diagram: Full Length of Member



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

Calculated Side Load = 0.0 lb/ft
Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

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Crawl\Dropped Beams\DB3-2(i8708) (Dropped Beam)

BC Design Engine Member Report

Dry | 3 spans | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: Crawl\Dropped Beams\DB3-2(i8708)

City, State, Zip:

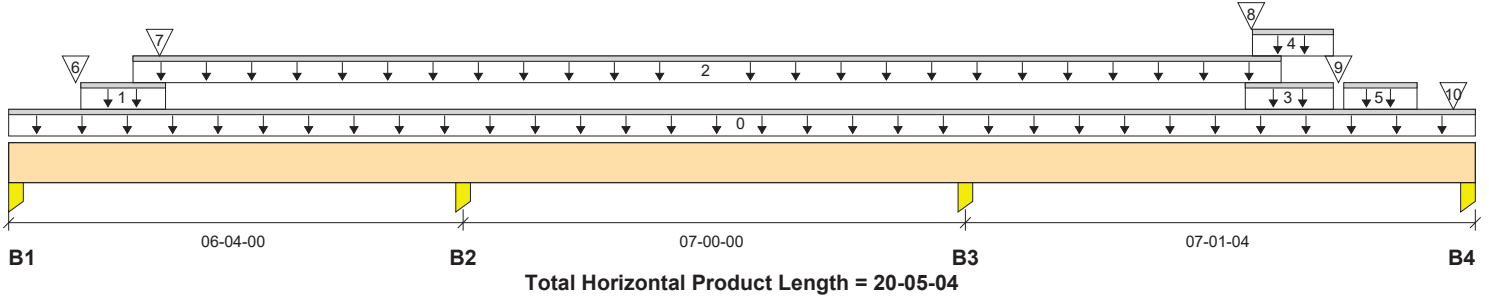
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 8"	1530 / 58	833 / 0	161 / 0		162 / 0
B2, 16"	2241 / 0	673 / 0	85 / 0		95 / 37
B3, 16"	2316 / 0	844 / 0	115 / 0		272 / 13
B4, 16"	1880 / 57	1470 / 0	154 / 0		431 / 0

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Roof Live	Tributary
							100%	90%	115%	160%	125%	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	20-05-04	Top		9				00-00-00
1	Bk1(i8385)	Unf. Lin. (lb/ft)	L	01-00-01	02-02-04	Top		73				n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-08-13	17-08-13	Top	246	48				n/a
3	Bk1(i8414)	Unf. Lin. (lb/ft)	L	17-02-13	18-05-09	Top		73				n/a
4	Bk1(i8414)	Unf. Lin. (lb/ft)	L	17-04-00	18-05-09	Top	113	56				n/a
5	Bk1(i8419)	Unf. Lin. (lb/ft)	L	18-07-04	19-07-08	Top	124	135				n/a
6	3(i8697)	Conc. Pt. (lbs)	L	00-11-03	00-11-03	Top	497	216				n/a
7	Bk1(i8385)	Conc. Pt. (lbs)	L	02-01-04	02-01-04	Top	1072	726	240		245	n/a
8	Bk1(i8414)	Conc. Pt. (lbs)	L	17-03-13	17-03-13	Top	990	860	260		557	n/a
9	3(i8751)	Conc. Pt. (lbs)	L	18-06-06	18-06-06	Top	414	172				n/a
10	3(i8741)	Conc. Pt. (lbs)	L	20-01-10	20-01-10	Top	406	483			107	n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	2830 ft-lbs	21.5%	100%	2	17-03-13
Neg. Moment	-1578 ft-lbs	28.2%	100%	5	14-00-00
End Shear	1730 lbs	28.1%	100%	2	18-04-00
Cont. Shear	1616 lbs	26.3%	100%	5	14-09-04
Total Load Deflection	L/999 (0.032")	n/a	n/a	2	16-11-03
Live Load Deflection	L/999 (0.02")	n/a	n/a	33	16-11-03
Total Neg. Defl.	L/999 (-0.012")	n/a	n/a	2	09-11-03
Max Defl.	0.032"	n/a	n/a	2	16-11-03
Span / Depth	7.6				
Dist. Load (B4)	282.3 lb/ft	0.9%	100%		
Conc. Load (B2)	470 lbs	5.1%	100%		
Conc. Load (B3)	470 lbs	5.1%	100%		
Conc. Load (B4)	900 lbs	9.8%	100%		

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column 8" x 3-1/2"	2396 lbs	11.8%	11.4%	Unspecified
B2	Column 16" x 3-1/2"	2850 lbs	7.0%	6.8%	Unspecified
B3	Column 16" x 3-1/2"	3081 lbs	7.6%	7.3%	Unspecified



Crawl\Dropped Beams\DB3-2(i8708) (Dropped Beam)

BC Design Engine Member Report

Dry | 3 spans | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: Crawl\Dropped Beams\DB3-2(i8708)

City, State, Zip:

Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

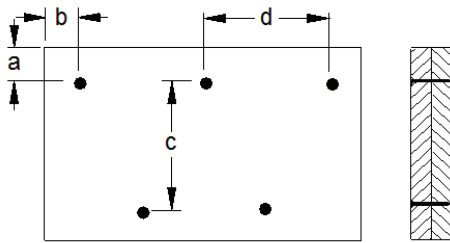
Company:

Bearing Supports	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B4 Column	16" x 3-1/2"	3382 lbs	8.3%	8.1%	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 (1.5") Maximum Total load deflection criteria.
- Design meets arbitrary (1") Maximum live load deflection criteria.
- Design based on Dry Service Condition.
- BC CALC® analysis is based on IBC 2018.
- Calculations assume unbraced length of Top: 01-05-07, Bottom: 20-05-04.

Connection Diagram: Full Length of Member



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

Calculated Side Load = 0.0 lb/ft
Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

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Crawl\Dropped Beams\DB4-2(i8733) (Dropped Beam)

BC Design Engine Member Report

Dry | 3 spans | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: Crawl\Dropped Beams\DB4-2(i8733)

City, State, Zip:

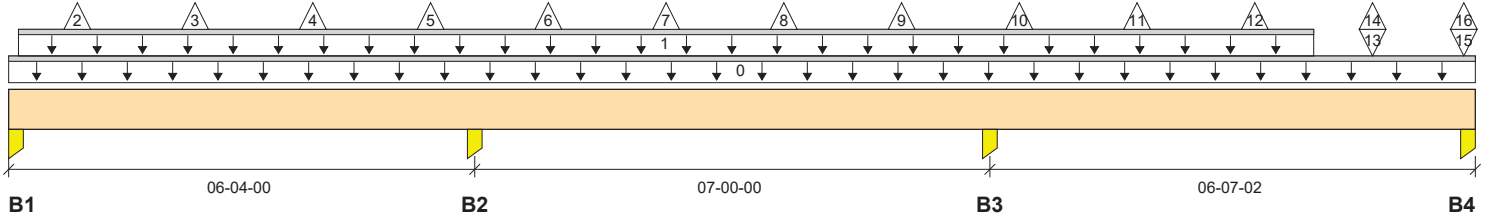
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 19-11-02

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 8"	1145 / 117	292 / 0	0 / 0		0 / 0
B2, 16"	2942 / 156	756 / 0	0 / 0		0 / 0
B3, 16"	3052 / 146	795 / 0	0 / 0		0 / 0
B4, 8"	1835 / 117	1169 / 0	84 / 0		131 / 1

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	19-11-02	Top		9				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-01-10	17-08-13	Top	402	99				n\la
2	3(i8697)	Conc. Pt. (lbs)	L	00-11-03	00-11-03	Top	-13					n\la
3	3(i8798)	Conc. Pt. (lbs)	L	02-06-06	02-06-06	Top	-13					n\la
4	3(i8835)	Conc. Pt. (lbs)	L	04-01-10	04-01-10	Top	-13					n\la
5	3(i8815)	Conc. Pt. (lbs)	L	05-08-13	05-08-13	Top	-13					n\la
6	3(i8810)	Conc. Pt. (lbs)	L	07-04-00	07-04-00	Top	-13					n\la
7	3(i8785)	Conc. Pt. (lbs)	L	08-11-03	08-11-03	Top	-13					n\la
8	3(i8742)	Conc. Pt. (lbs)	L	10-06-06	10-06-06	Top	-13					n\la
9	3(i8763)	Conc. Pt. (lbs)	L	12-01-10	12-01-10	Top	-13					n\la
10	3(i8812)	Conc. Pt. (lbs)	L	13-08-13	13-08-13	Top	-13					n\la
11	3(i8784)	Conc. Pt. (lbs)	L	15-04-00	15-04-00	Top	-13					n\la
12	4-2(i8696)	Conc. Pt. (lbs)	L	16-11-03	16-11-03	Top	-13					n\la
13	-	Conc. Pt. (lbs)	L	18-06-06	18-06-06	Top	587	173				n\la
14	-	Conc. Pt. (lbs)	L	18-06-06	18-06-06	Top	-13					n\la
15	FB1-2(i8334)	Conc. Pt. (lbs)	L	19-09-04	19-09-04	Top	944	914	84		131	n\la
16	FB1-2(i8334)	Conc. Pt. (lbs)	L	19-09-04	19-09-04	Top	-9				-1	n\la

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	1428 ft-lbs	10.9%	100%	3	16-11-03
Neg. Moment	-1235 ft-lbs	24.6%	100%	6	14-00-00
End Shear	1068 lbs	17.4%	100%	3	18-05-14
Cont. Shear	1368 lbs	22.2%	100%	6	11-10-12
Total Load Deflection	L/999 (0.019")	n\la	n\la	3	16-11-03
Live Load Deflection	L/999 (0.017")	n\la	n\la	30	16-11-03
Total Neg. Defl.	L/999 (-0.001")	n\la	n\la	4	05-08-00
Max Defl.	0.019"	n\la	n\la	3	16-11-03
Span / Depth	9.1				
Conc. Load (B2)	801 lbs	8.7%	100%		
Conc. Load (B3)	801 lbs	8.7%	100%		

Bearing Supports

Bearing	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column 8" x 3-1/2"	1412 lbs	7.0%	6.7%	Unspecified



Crawl/Dropped Beams/DB4-2(i8733) (Dropped Beam)

BC Design Engine Member Report

Dry | 3 spans | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: Crawl/Dropped Beams/DB4-2(i8733)

City, State, Zip:

Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

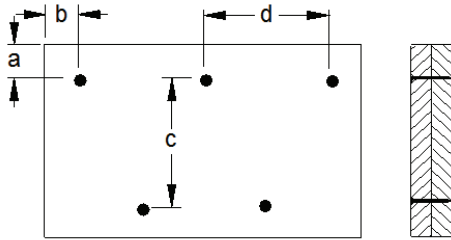
Company:

Bearing Supports	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B2	Column 16" x 3-1/2"	3607 lbs	8.9%	8.6%	Unspecified
B3	Column 16" x 3-1/2"	3766 lbs	9.3%	9.0%	Unspecified
B4	Column 8" x 3-1/2"	2980 lbs	14.7%	14.2%	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.
- Design based on Dry Service Condition.
- BC CALC® analysis is based on IBC 2018.
- Calculations assume unbraced length of Top: 01-06-05, Bottom: 19-11-02.

Connection Diagram: Full Length of Member



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

Calculated Side Load = 0.0 lb/ft
Connectors are: 3-1/4 in. Pneumatic Gun Nails

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Crawl\Dropped Beams\DB4-2(i8760) (Dropped Beam)

BC Design Engine Member Report

Dry | 3 spans | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: Crawl\Dropped Beams\DB4-2(i8760)

City, State, Zip:

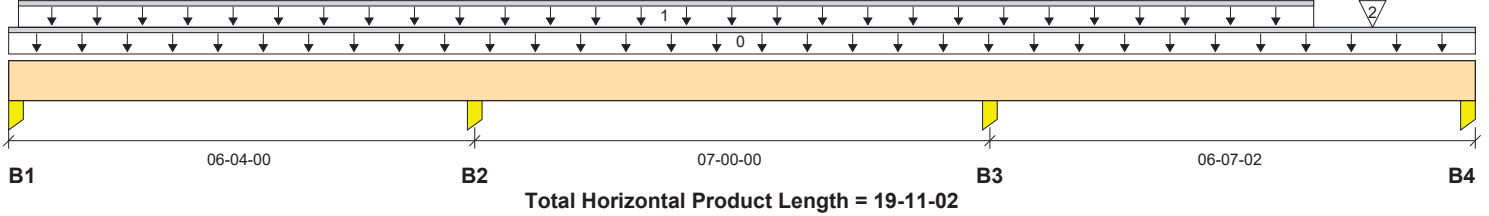
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 8"	917 / 76	228 / 0			
B2, 16"	2356 / 0	590 / 0			
B3, 16"	2454 / 0	642 / 0			
B4, 8"	750 / 72	288 / 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	19-11-02	Top		9				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-01-10	17-08-13	Top	322	75				n/a
2	3(i8751)	Conc. Pt. (lbs)	L	18-06-06	18-06-06	Top	515	241				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	1186 ft-lbs	9.0%	100%	2	16-11-03
Neg. Moment	-1018 ft-lbs	20.4%	100%	5	14-00-00
End Shear	965 lbs	15.7%	100%	2	18-05-14
Cont. Shear	1087 lbs	17.7%	100%	5	11-10-12
Total Load Deflection	L/999 (0.016")	n/a	n/a	2	16-11-03
Live Load Deflection	L/999 (0.014")	n/a	n/a	7	16-11-03
Total Neg. Defl.	L/999 (-0.001")	n/a	n/a	3	05-08-00
Max Defl.	0.016"	n/a	n/a	2	16-11-03
Span / Depth	9.1				
Conc. Load (B2)	635 lbs	6.9%	100%		
Conc. Load (B3)	635 lbs	6.9%	100%		

Bearing Supports

Bearing	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column 8" x 3-1/2"	1122 lbs	5.5%	5.3%	Unspecified
B2	Column 16" x 3-1/2"	2866 lbs	7.1%	6.8%	Unspecified
B3	Column 16" x 3-1/2"	3027 lbs	7.5%	7.2%	Unspecified
B4	Column 8" x 3-1/2"	1019 lbs	5.0%	4.9%	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.
- Design based on Dry Service Condition.
- BC CALC® analysis is based on IBC 2018.
- Calculations assume unbraced length of Top: 01-05-07, Bottom: 19-11-02.



BC Design Engine Member Report

Dry | 3 spans | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: Crawl\Dropped Beams\DB4-2(i8760)

City, State, Zip:

Specifier:

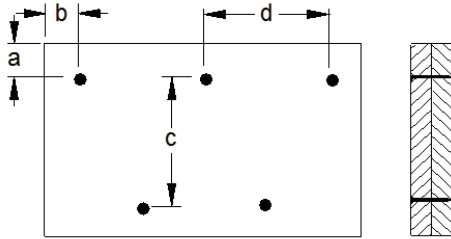
Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:

Connection Diagram: Full Length of Member



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

Calculated Side Load = 0.0 lb/ft
Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

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Crawl\Flush Beams\FB1-2(i8334) (Flush Beam)

BC Design Engine Member Report

Dry | 2 spans | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: Crawl\Flush Beams\FB1-2(i8334)

City, State, Zip:

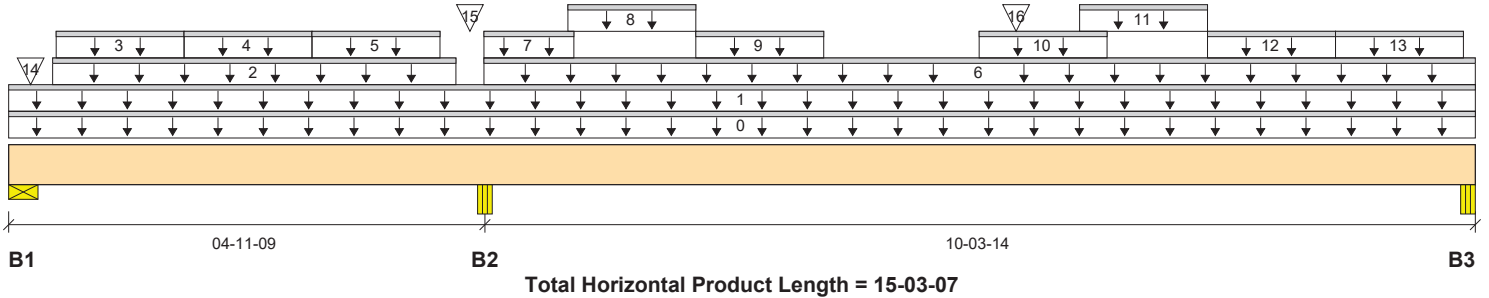
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 5-1/2"	297 / 482	0 / 126	0 / 51		9 / 85
B2, 3-1/2"	2059 / 0	2144 / 0	167 / 0		411 / 0
B3, 1-3/4"	963 / 8	933 / 0	86 / 0		134 / 1

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	15-03-07	Top		12				00-00-00
1	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	15-03-07	Top	64	16				n\la
2	2(i13)	Unf. Lin. (lb/ft)	L	00-05-08	04-07-15	Top		73				n\la
3	2(i13)	Unf. Lin. (lb/ft)	L	00-05-15	01-09-15	Top	46	23				n\la
4	2(i13)	Unf. Lin. (lb/ft)	L	01-09-15	03-01-15	Top	50	25				n\la
5	2(i13)	Unf. Lin. (lb/ft)	L	03-01-15	04-05-15	Top	50	42			34	n\la
6	20(i6063)	Unf. Lin. (lb/ft)	L	04-11-07	15-03-07	Top		73				n\la
7	20(i6063)	Unf. Lin. (lb/ft)	L	04-11-07	05-10-11	Top	75	101			129	n\la
8	20(i6063)	Unf. Lin. (lb/ft)	L	05-09-15	07-01-15	Top	50	25				n\la
9	20(i6063)	Unf. Lin. (lb/ft)	L	07-01-15	08-05-15	Top	38					n\la
10	20(i6063)	Unf. Lin. (lb/ft)	L	10-01-06	11-05-06	Top	80	40				n\la
11	20(i6063)	Unf. Lin. (lb/ft)	L	11-01-15	12-05-15	Top	44	23				n\la
12	20(i6063)	Unf. Lin. (lb/ft)	L	12-05-15	13-09-15	Top	50	25				n\la
13	20(i6063)	Unf. Lin. (lb/ft)	L	13-09-15	15-01-15	Top	42	21				n\la
14	E6(i5)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top	35	47				n\la
15	19(i6052)	Conc. Pt. (lbs)	L	04-09-11	04-09-11	Top		85				n\la
16	20(i6063)	Conc. Pt. (lbs)	L	10-06-00	10-06-00	Top	1131	889	201		310	n\la

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	6174 ft-lbs	29.0%	100%	3	10-06-00
Neg. Moment	-4448 ft-lbs	33.3%	100%	1	04-11-09
End Shear	1627 lbs	20.6%	100%	3	14-01-13
Cont. Shear	2414 lbs	30.6%	100%	1	06-01-03
Total Load Deflection	L/999 (0.106")	n\la	n\la	3	10-06-00
Live Load Deflection	L/999 (0.056")	n\la	n\la	16	10-06-00
Total Neg. Defl.	L/999 (-0.008")	n\la	n\la	3	03-01-03
Max Defl.	0.106"	n\la	n\la	3	10-06-00
Span / Depth	10.3				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	172 lbs	2.1%	1.2%	Unspecified



Crawl\Flush Beams\FB1-2(i8334) (Flush Beam)

BC Design Engine Member Report

Dry | 2 spans | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: Crawl\Flush Beams\FB1-2(i8334)

City, State, Zip:

Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:

Bearing Supports	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Uplift	608 lbs			
B2	Beam	3-1/2" x 3-1/2"	45.7%	45.7%	Unspecified
B3	Beam	1-3/4" x 3-1/2"	41.3%	41.3%	Unspecified

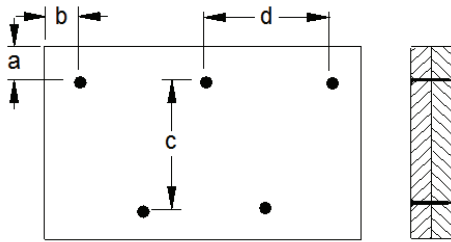
Cautions

Uplift of -608 lbs found at bearing B1.

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.
 Design based on Dry Service Condition.
 BC CALC® analysis is based on IBC 2018.
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 10-00-06.
 Bearing length at bearing(s) B1 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.

Connection Diagram: Full Length of Member



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

Calculated Side Load = 0.0 lb/ft
 Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

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2nd Floor\Dropped Beams\DB1-3(i8731) (Dropped Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Dropped Beams\DB1-3(i8731)

City, State, Zip:

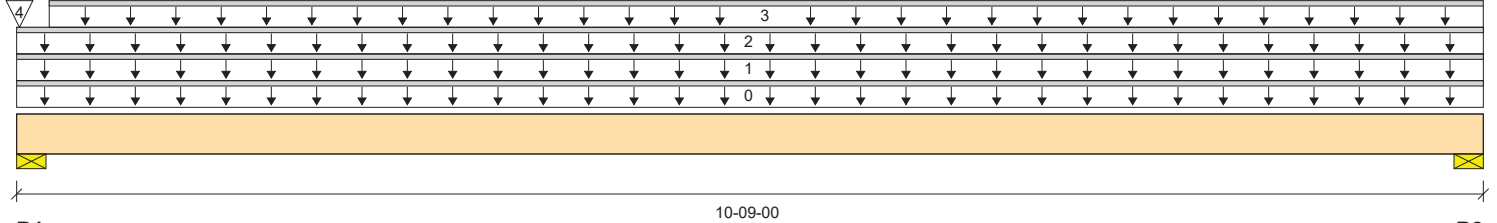
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 10-09-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 4-1/2"	1626 / 0	1702 / 0	181 / 0		538 / 0
B2, 4-1/2"	48 / 0	662 / 0			537 / 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	10-09-00	Top		14				00-00-00
1	User Load	Unf. Lin. (lb/ft)	L	00-00-00	10-09-00	Top		100			100	n/a
2	Rim1(i8736)	Unf. Lin. (lb/ft)	L	00-00-00	10-09-00	Top		3				n/a
3	2(i8801)	Unf. Lin. (lb/ft)	L	00-02-14	10-09-00	Top	8	6				n/a
4	FB3-3(i8720)	Conc. Pt. (lbs)	L	00-00-04	00-00-04	Top	1579	1041	181			n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	2860 ft-lbs	19.3%	125%	2	05-04-08
End Shear	944 lbs	8.2%	125%	2	01-01-12
Total Load Deflection	L/999 (0.079")	n/a	n/a	2	05-04-08
Live Load Deflection	L/999 (0.035")	n/a	n/a	7	05-04-08
Max Defl.	0.079"	n/a	n/a	2	05-04-08
Span / Depth	13.1				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 4-1/2" x 5-1/4"	3329 lbs	19.4%	18.8%	Unspecified
B2	Wall/Plate 4-1/2" x 5-1/4"	1199 lbs	7.0%	6.8%	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.
- Design based on Dry Service Condition.
- BC CALC® analysis is based on IBC 2018.
- Calculations assume unbraced length of Top: 10-06-15, Bottom: 10-09-00.



2nd Floor\Dropped Beams\DB1-3(i8731) (Dropped Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Dropped Beams\DB1-3(i8731)

City, State, Zip:

Specifier:

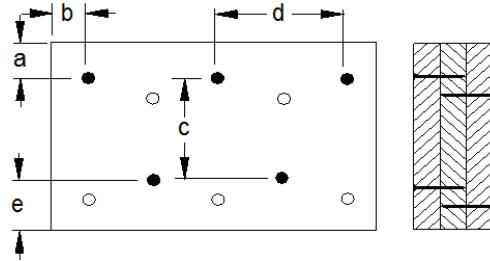
Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

c = 4-1/4"

b minimum = 3"

d = 24"

e minimum = 3"

Calculated Side Load = 0.0 lb/ft

Nailing applies to both sides of the member

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

Disclosure

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2nd Floor\Dropped Beams\DB1-3(i8831) (Dropped Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Dropped Beams\DB1-3(i8831)

City, State, Zip:

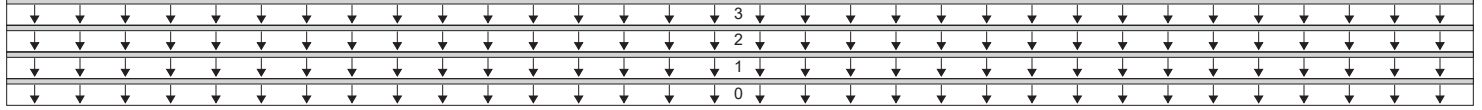
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



B1 10-09-00 B2
Total Horizontal Product Length = 10-09-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 4-1/2"	48 / 0	662 / 0			538 / 0
B2, 4-1/2"	48 / 0	662 / 0			537 / 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	10-09-00	Top	14					00-00-00
1	User Load	Unf. Lin. (lb/ft)	L	00-00-00	10-09-00	Top		100			100	n/a
2	2(i8796)	Unf. Lin. (lb/ft)	L	00-00-00	10-09-00	Top	8	6				n/a
3	Rim1(i8736)	Unf. Lin. (lb/ft)	L	00-00-00	10-09-00	Top	1	3				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	2860 ft-lbs	19.6%	125%	2	05-04-08
End Shear	944 lbs	8.2%	125%	2	01-01-12
Total Load Deflection	L/999 (0.079")	n/a	n/a	2	05-04-08
Live Load Deflection	L/999 (0.035")	n/a	n/a	5	05-04-08
Max Defl.	0.079"	n/a	n/a	2	05-04-08
Span / Depth	13.1				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 4-1/2" x 5-1/4"	1200 lbs	7.0%	6.8%	Unspecified
B2	Wall/Plate 4-1/2" x 5-1/4"	1199 lbs	7.0%	6.8%	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.
- Design based on Dry Service Condition.
- BC CALC® analysis is based on IBC 2018.
- Calculations assume unbraced length of Top: 10-09-00, Bottom: 10-09-00.



2nd Floor\Dropped Beams\DB1-3(i8831) (Dropped Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Dropped Beams\DB1-3(i8831)

City, State, Zip:

Specifier:

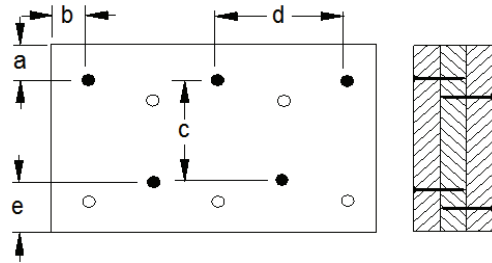
Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:

Connection Diagram: Full Length of Member



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

Calculated Side Load = 0.0 lb/ft
Nailing applies to both sides of the member
Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

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2nd Floor\Dropped Beams\DB2-2(i8675) (Dropped Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Dropped Beams\DB2-2(i8675)

City, State, Zip:

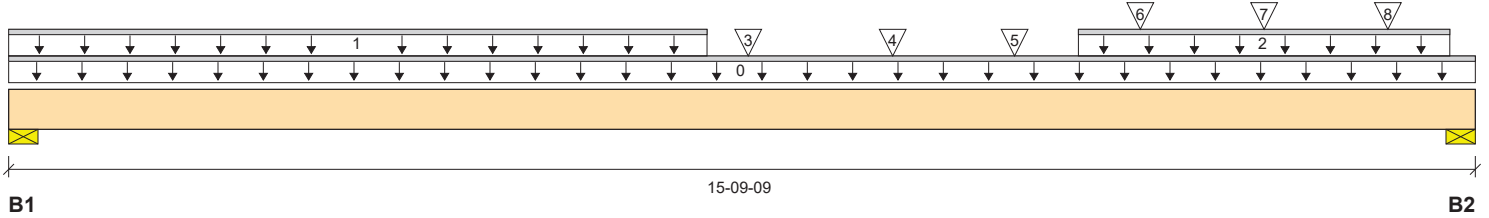
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 15-09-09

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 4-1/2"	1075 / 0	725 / 0	250 / 0		245 / 0
B2, 4-1/2"	987 / 0	861 / 0	250 / 0		557 / 0

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	100%	90%	115%	160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	15-09-09	Top		14				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	07-06-04	Top	121	60				n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	11-06-04	15-06-04	Top	50	25				n/a
3	-	Conc. Pt. (lbs)	L	07-11-09	07-11-09	Top	401	75	500			n/a
4	-	Conc. Pt. (lbs)	L	09-06-04	09-06-04	Top	143	71				n/a
5	-	Conc. Pt. (lbs)	L	10-10-00	10-10-00	Top	151	537			802	n/a
6	2(i7656)	Conc. Pt. (lbs)	L	12-02-04	12-02-04	Top	92	46				n/a
7	2(i8202)	Conc. Pt. (lbs)	L	13-06-04	13-06-04	Top	84	42				n/a
8	2(i8206)	Conc. Pt. (lbs)	L	14-10-04	14-10-04	Top	84	42				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	7325 ft-lbs	25.7%	100%	1	08-02-04
End Shear	1711 lbs	18.4%	100%	1	14-03-01
Total Load Deflection	L/886 (0.206")	27.1%	n/a	4	08-02-04
Live Load Deflection	L/999 (0.121")	n/a	n/a	9	08-02-04
Max Defl.	0.206"	13.7%	n/a	4	08-02-04
Span / Depth	13.0				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 4-1/2" x 3-1/2"	1799 lbs	15.8%	15.2%	Unspecified
B2	Wall/Plate 4-1/2" x 3-1/2"	2020 lbs	17.7%	17.1%	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 (1.5") Maximum Total load deflection criteria.
- Design meets arbitrary (1") Maximum live load deflection criteria.
- Design based on Dry Service Condition.
- BC CALC® analysis is based on IBC 2018.
- Calculations assume unbraced length of Top: 01-03-04, Bottom: 15-09-09.



BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Dropped Beams\DB2-2(i8675)

City, State, Zip:

Specifier:

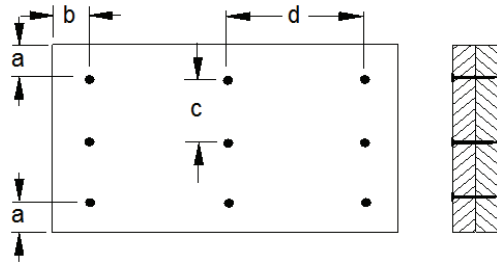
Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:

Connection Diagram: Full Length of Member



a minimum = 2" c = 5"
b minimum = 3" d = 24"

Calculated Side Load = 0.0 lb/ft
Connectors are: 3-1/4 in. Pneumatic Gun Nails

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2nd Floor\Flush Beams\FB1-3(i9421) (Flush Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Flush Beams\FB1-3(i9421)

City, State, Zip:

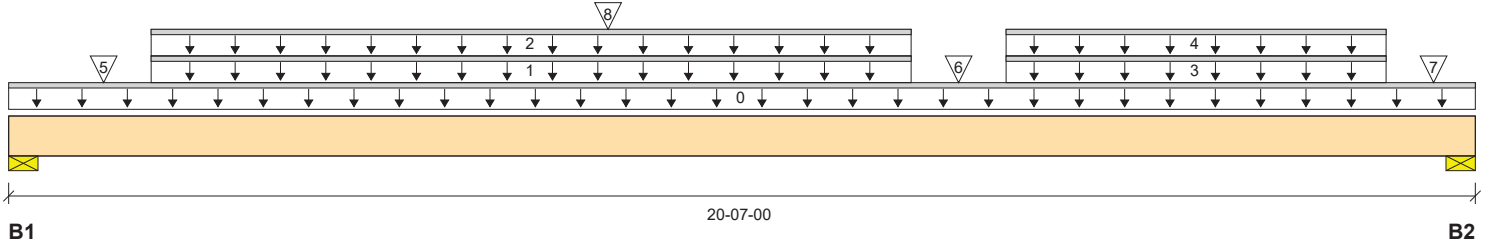
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 20-07-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 5-1/2"	1146 / 0	727 / 0	193 / 0		40 / 0
B2, 3-1/2"	1131 / 0	778 / 0	129 / 0		74 / 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	20-07-00	Top	18					00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	02-00-00	12-08-00	Top	53	26				n\la
2	Smoothed Load	Unf. Lin. (lb/ft)	L	02-00-00	12-08-00	Top	52	26				n\la
3	Smoothed Load	Unf. Lin. (lb/ft)	L	14-00-00	19-04-00	Top	53	26				n\la
4	Smoothed Load	Unf. Lin. (lb/ft)	L	14-00-00	19-04-00	Top	52	26				n\la
5	-	Conc. Pt. (lbs)	L	01-04-00	01-04-00	Top	124	62				n\la
6	-	Conc. Pt. (lbs)	L	13-04-00	13-04-00	Top	139	196			114	n\la
7	-	Conc. Pt. (lbs)	L	20-00-00	20-00-00	Top	97	48				n\la
8	User Load	Conc. Pt. (lbs)	L	08-04-15	08-04-15	Top	249		322			n\la

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	10096 ft-lbs	31.6%	100%	1	10-08-00
End Shear	1826 lbs	15.4%	100%	1	01-05-06
Total Load Deflection	L/493 (0.486")	48.7%	n\la	1	10-04-00
Live Load Deflection	L/809 (0.296")	44.5%	n\la	6	10-04-00
Max Defl.	0.486"	32.4%	n\la	1	10-04-00
Span / Depth	20.2				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 5-1/2" x 5-1/4"	1873 lbs	15.3%	8.7%	Unspecified
B2	Wall/Plate 3-1/2" x 5-1/4"	1909 lbs	24.4%	13.9%	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.
- Design based on Dry Service Condition.
- BC CALC® analysis is based on IBC 2018.
- Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-02-08.



2nd Floor\Flush Beams\FB1-3(i9421) (Flush Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Flush Beams\FB1-3(i9421)

City, State, Zip:

Specifier:

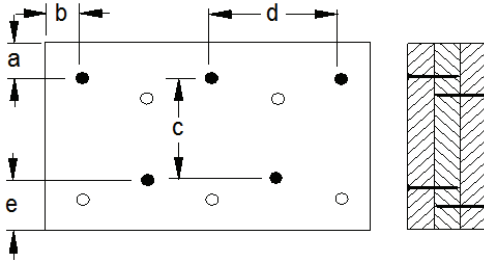
Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

c = 6-7/8"

b minimum = 3"

d = 24"

e minimum = 3"

Calculated Side Load = 166.5 lb/ft

Nailing applies to both sides of the member

Connectors are: 16d Common Nails

Disclosure

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2nd Floor\Flush Beams\FB2-2(i8704) (Flush Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Flush Beams\FB2-2(i8704)

City, State, Zip:

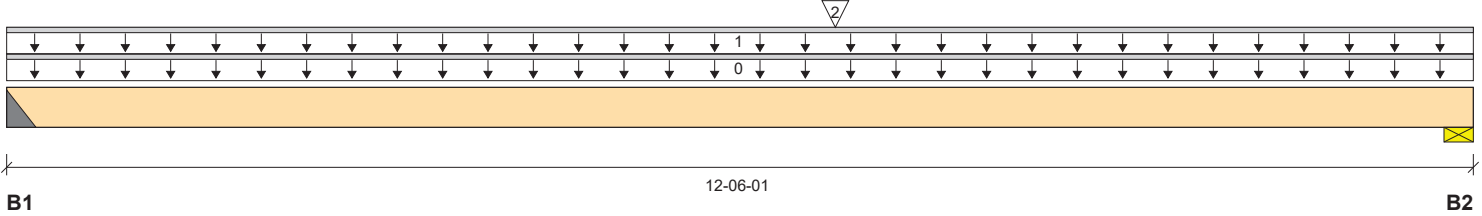
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 12-06-01

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 2"	186 / 0	114 / 0	135 / 0		
B2, 5-1/2"	230 / 0	120 / 0	187 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	100%	90%	115%	160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	12-06-01	Top		12				00-00-00
1	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	12-06-01	Top	13	7				n/a
2	User Load	Conc. Pt. (lbs)	L	07-00-12	07-00-12	Top	249		322			n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	1756 ft-lbs	7.2%	115%	3	07-00-12
End Shear	390 lbs	4.3%	115%	3	11-00-11
Total Load Deflection	L/999 (0.043")	n/a	n/a	3	06-06-02
Live Load Deflection	L/999 (0.033")	n/a	n/a	6	06-06-02
Max Defl.	0.043"	n/a	n/a	3	06-06-02
Span / Depth	12.1				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Hanger 2" x 3-1/2"	355 lbs	n/a	6.8%	Hanger
B2	Wall/Plate 5-1/2" x 3-1/2"	432 lbs	5.3%	3.0%	Unspecified

Cautions

Hanger model Hanger was not found.Hanger has not been analyzed for adequate capacity.

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.
- Design based on Dry Service Condition.
- BC CALC® analysis is based on IBC 2018.
- Calculations assume unbraced length of Top: 00-00-00, Bottom: 12-00-09.



2nd Floor\Flush Beams\FB2-2(i8704) (Flush Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Flush Beams\FB2-2(i8704)

City, State, Zip:

Specifier:

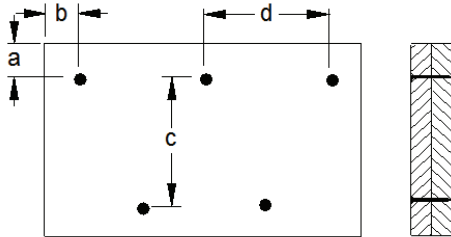
Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:

Connection Diagram: Full Length of Member



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

Calculated Side Load = 0.0 lb/ft
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.

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



2nd Floor\Flush Beams\FB2-2(i8712) (Flush Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Flush Beams\FB2-2(i8712)

City, State, Zip:

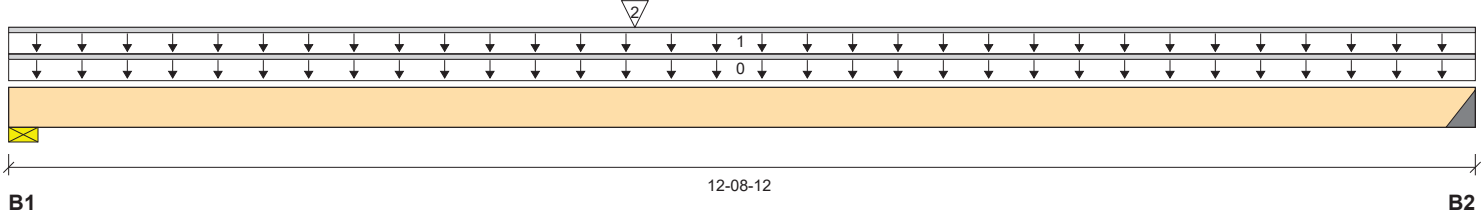
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 12-08-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 4"	231 / 0	121 / 0	187 / 0		
B2, 2"	188 / 0	117 / 0	135 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	100%	90%	115%	160%	Roof Live	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	12-08-12	Top		12				00-00-00
1	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	12-08-12	Top	13	7				n/a
2	User Load	Conc. Pt. (lbs)	L	05-05-04	05-05-04	Top	249		322			n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	1820 ft-lbs	7.4%	115%	3	05-05-04
End Shear	396 lbs	4.4%	115%	3	01-03-14
Total Load Deflection	L/999 (0.046")	n/a	n/a	3	06-01-05
Live Load Deflection	L/999 (0.036")	n/a	n/a	6	06-00-02
Max Defl.	0.046"	n/a	n/a	3	06-01-05
Span / Depth	12.5				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 4" x 3-1/2"	434 lbs	7.3%	4.1%	Unspecified
B2	Hanger 2" x 3-1/2"	359 lbs	n/a	6.8%	Hanger

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.
- Design based on Dry Service Condition.
- BC CALC® analysis is based on IBC 2018.
- Calculations assume unbraced length of Top: 00-00-00, Bottom: 12-04-12.



2nd Floor\Flush Beams\FB2-2(i8712) (Flush Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Flush Beams\FB2-2(i8712)

City, State, Zip:

Specifier:

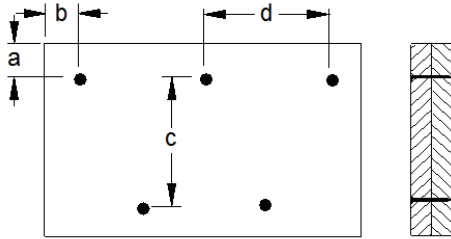
Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:

Connection Diagram: Full Length of Member



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

Calculated Side Load = 0.0 lb/ft
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.

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



2nd Floor\Flush Beams\FB3-3(i8720) (Flush Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Flush Beams\FB3-3(i8720)

City, State, Zip:

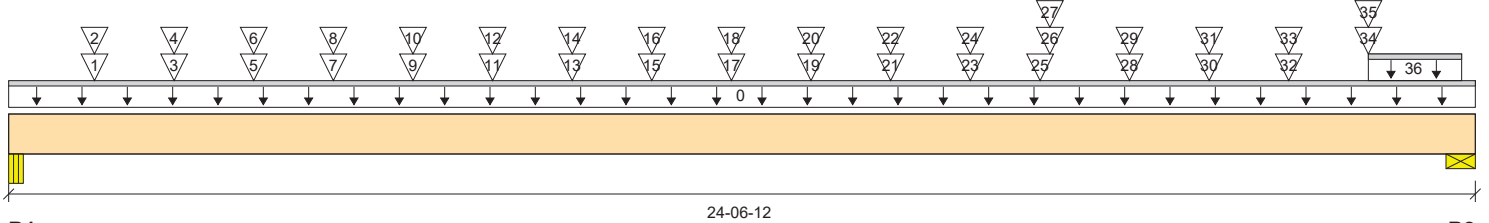
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 24-06-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 2-1/16"	1586 / 0	1044 / 0	184 / 0		
B2, 5-1/2"	1632 / 0	1025 / 0	254 / 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	24-06-12	Top		21				00-00-00
1	2(i8718)	Conc. Pt. (lbs)	L	01-05-04	01-05-04	Back	87	44				n/a
2	2(i8824)	Conc. Pt. (lbs)	L	01-05-04	01-05-04	Front	84	42				n/a
3	2(i8730)	Conc. Pt. (lbs)	L	02-09-04	02-09-04	Back	87	44				n/a
4	2(i8768)	Conc. Pt. (lbs)	L	02-09-04	02-09-04	Front	84	42				n/a
5	2(i8747)	Conc. Pt. (lbs)	L	04-01-04	04-01-04	Front	84	42				n/a
6	2(i8821)	Conc. Pt. (lbs)	L	04-01-04	04-01-04	Back	87	44				n/a
7	2(i8693)	Conc. Pt. (lbs)	L	05-05-04	05-05-04	Back	87	44				n/a
8	2(i8726)	Conc. Pt. (lbs)	L	05-05-04	05-05-04	Front	84	42				n/a
9	2(i8748)	Conc. Pt. (lbs)	L	06-09-04	06-09-04	Back	87	44				n/a
10	FB2-2(i8704)	Conc. Pt. (lbs)	L	06-09-04	06-09-04	Front	188	115	134			n/a
11	2(i8723)	Conc. Pt. (lbs)	L	08-01-04	08-01-04	Back	87	44				n/a
12	2(i8773)	Conc. Pt. (lbs)	L	08-01-04	08-01-04	Front	84	42				n/a
13	2(i8837)	Conc. Pt. (lbs)	L	09-05-04	09-05-04	Back	87	44				n/a
14	2(i8848)	Conc. Pt. (lbs)	L	09-05-04	09-05-04	Front	84	42				n/a
15	2(i8695)	Conc. Pt. (lbs)	L	10-09-04	10-09-04	Front	84	42				n/a
16	2(i8846)	Conc. Pt. (lbs)	L	10-09-04	10-09-04	Back	87	44				n/a
17	2(i8778)	Conc. Pt. (lbs)	L	12-01-04	12-01-04	Back	87	44				n/a
18	2(i8819)	Conc. Pt. (lbs)	L	12-01-04	12-01-04	Front	84	42				n/a
19	2(i8805)	Conc. Pt. (lbs)	L	13-05-04	13-05-04	Back	87	44				n/a
20	2(i8844)	Conc. Pt. (lbs)	L	13-05-04	13-05-04	Front	84	42				n/a
21	2(i8692)	Conc. Pt. (lbs)	L	14-09-04	14-09-04	Front	84	42				n/a
22	2(i8716)	Conc. Pt. (lbs)	L	14-09-04	14-09-04	Back	87	44				n/a
23	2(i8717)	Conc. Pt. (lbs)	L	16-01-04	16-01-04	Back	87	44				n/a
24	2(i8793)	Conc. Pt. (lbs)	L	16-01-04	16-01-04	Front	84	42				n/a
25	User Load	Conc. Pt. (lbs)	L	17-03-05	17-03-05	Top	182		304			n/a
26	2(i8754)	Conc. Pt. (lbs)	L	17-05-04	17-05-04	Back	87	44				n/a
27	2(i8788)	Conc. Pt. (lbs)	L	17-05-04	17-05-04	Front	84	42				n/a
28	2(i8817)	Conc. Pt. (lbs)	L	18-09-04	18-09-04	Back	87	44				n/a
29	2(i8847)	Conc. Pt. (lbs)	L	18-09-04	18-09-04	Front	84	42				n/a
30	2(i8740)	Conc. Pt. (lbs)	L	20-01-04	20-01-04	Front	84	42				n/a
31	2(i8774)	Conc. Pt. (lbs)	L	20-01-04	20-01-04	Back	87	44				n/a
32	2(i8765)	Conc. Pt. (lbs)	L	21-05-04	21-05-04	Front	84	42				n/a
33	2(i8800)	Conc. Pt. (lbs)	L	21-05-04	21-05-04	Back	87	44				n/a
34	2(i8702)	Conc. Pt. (lbs)	L	22-09-04	22-09-04	Front	87	43				n/a



2nd Floor\Flush Beams\FB3-3(i8720) (Flush Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Flush Beams\FB3-3(i8720)

City, State, Zip:

Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Roof Live	Tributary
							100%	90%	115%	160%	125%	
35	2(i8761)	Conc. Pt. (lbs)	L	22-09-04	22-09-04	Back	88	44				n/a
36	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	22-09-04	24-04-00	Top	13	7				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	16712 ft-lbs	38.4%	100%	1	12-01-04
End Shear	2602 lbs	18.6%	100%	1	01-04-01
Total Load Deflection	L/402 (0.718")	59.7%	n/a	1	12-01-05
Live Load Deflection	L/654 (0.441")	55.0%	n/a	4	12-01-05
Max Defl.	0.718"	47.9%	n/a	1	12-01-05
Span / Depth	20.6				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Beam 2-1/16" x 5-1/4"	2630 lbs	32.7%	32.7%	Unspecified
B2	Wall/Plate 5-1/2" x 5-1/4"	2657 lbs	21.7%	12.3%	Unspecified

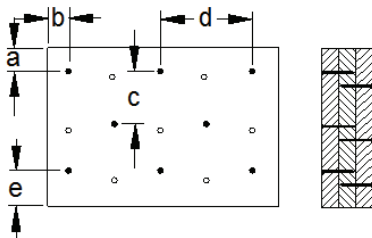
Cautions

Concentrated side load(s) 1,2 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.

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.
- Design based on Dry Service Condition.
- BC CALC® analysis is based on IBC 2018.
- Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-03-04.
- Bearing length at bearing(s) B1 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.
- One or more plies are not properly supported at bearing(s) B1. Verify with structural engineer or EWP manufacturer if this condition is acceptable.

Connection Diagram: Full Length of Member



a minimum = 2"

c = 4-1/2"

b minimum = 3"

d = 24"

e minimum = 3"



Triple 1-3/4" x 14" VERSA-LAM® LVL 2.1E 3100 SP

PASSED

2nd Floor\Flush Beams\FB3-3(i8720) (Flush Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Flush Beams\FB3-3(i8720)

City, State, Zip:

Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:

Connection Diagram: Full Length of Member

Calculated Side Load = 214.5 lb/ft

Nailing applies to both sides of the member

Connectors are: 16d Box Nails

Disclosure

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



2nd Floor\Flush Beams\FB3-3(i8802) (Flush Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Flush Beams\FB3-3(i8802)

City, State, Zip:

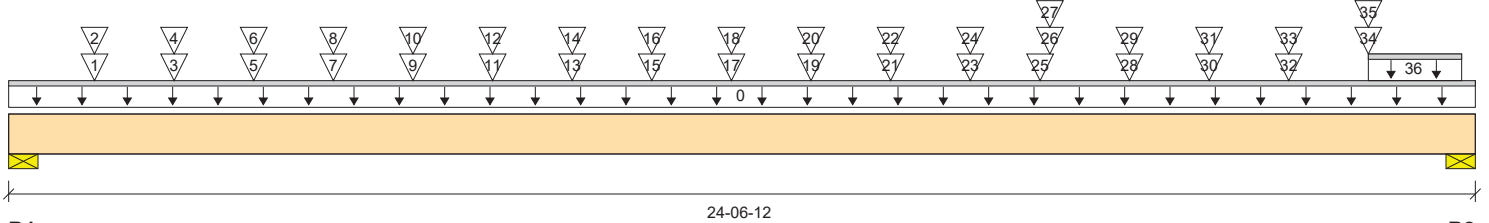
Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 24-06-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 4"	1613 / 0	1062 / 0	185 / 0		
B2, 5-1/2"	1634 / 0	1026 / 0	253 / 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	24-06-12	Top		21				00-00-00
1	2(i8713)	Conc. Pt. (lbs)	L	01-05-04	01-05-04	Back	86	43				n/a
2	2(i8718)	Conc. Pt. (lbs)	L	01-05-04	01-05-04	Front	87	44				n/a
3	2(i8707)	Conc. Pt. (lbs)	L	02-09-04	02-09-04	Back	86	43				n/a
4	2(i8730)	Conc. Pt. (lbs)	L	02-09-04	02-09-04	Front	87	44				n/a
5	2(i8821)	Conc. Pt. (lbs)	L	04-01-04	04-01-04	Front	87	44				n/a
6	2(i8826)	Conc. Pt. (lbs)	L	04-01-04	04-01-04	Back	86	43				n/a
7	2(i8693)	Conc. Pt. (lbs)	L	05-05-04	05-05-04	Front	87	44				n/a
8	2(i8753)	Conc. Pt. (lbs)	L	05-05-04	05-05-04	Back	86	43				n/a
9	2(i8748)	Conc. Pt. (lbs)	L	06-09-04	06-09-04	Front	87	44				n/a
10	FB2-2(i8712)	Conc. Pt. (lbs)	L	06-09-04	06-09-04	Back	190	118	134			n/a
11	2(i8723)	Conc. Pt. (lbs)	L	08-01-04	08-01-04	Front	87	44				n/a
12	2(i8775)	Conc. Pt. (lbs)	L	08-01-04	08-01-04	Back	86	43				n/a
13	2(i8685)	Conc. Pt. (lbs)	L	09-05-04	09-05-04	Back	86	43				n/a
14	2(i8837)	Conc. Pt. (lbs)	L	09-05-04	09-05-04	Front	87	44				n/a
15	2(i8797)	Conc. Pt. (lbs)	L	10-09-04	10-09-04	Back	86	43				n/a
16	2(i8846)	Conc. Pt. (lbs)	L	10-09-04	10-09-04	Front	87	44				n/a
17	2(i8711)	Conc. Pt. (lbs)	L	12-01-04	12-01-04	Back	86	43				n/a
18	2(i8778)	Conc. Pt. (lbs)	L	12-01-04	12-01-04	Front	87	44				n/a
19	2(i8805)	Conc. Pt. (lbs)	L	13-05-04	13-05-04	Front	87	44				n/a
20	2(i8832)	Conc. Pt. (lbs)	L	13-05-04	13-05-04	Back	86	43				n/a
21	2(i8716)	Conc. Pt. (lbs)	L	14-09-04	14-09-04	Front	87	44				n/a
22	2(i8791)	Conc. Pt. (lbs)	L	14-09-04	14-09-04	Back	86	43				n/a
23	2(i8717)	Conc. Pt. (lbs)	L	16-01-04	16-01-04	Front	87	44				n/a
24	2(i8746)	Conc. Pt. (lbs)	L	16-01-04	16-01-04	Back	86	43				n/a
25	User Load	Conc. Pt. (lbs)	L	17-03-05	17-03-05	Top	182		304			n/a
26	2(i8689)	Conc. Pt. (lbs)	L	17-05-04	17-05-04	Back	86	43				n/a
27	2(i8754)	Conc. Pt. (lbs)	L	17-05-04	17-05-04	Front	87	44				n/a
28	2(i8770)	Conc. Pt. (lbs)	L	18-09-04	18-09-04	Back	86	43				n/a
29	2(i8817)	Conc. Pt. (lbs)	L	18-09-04	18-09-04	Front	87	44				n/a
30	2(i8758)	Conc. Pt. (lbs)	L	20-01-04	20-01-04	Back	86	43				n/a
31	2(i8774)	Conc. Pt. (lbs)	L	20-01-04	20-01-04	Front	87	44				n/a
32	2(i8786)	Conc. Pt. (lbs)	L	21-05-04	21-05-04	Back	86	43				n/a
33	2(i8800)	Conc. Pt. (lbs)	L	21-05-04	21-05-04	Front	87	44				n/a
34	2(i8724)	Conc. Pt. (lbs)	L	22-09-04	22-09-04	Back	85	43				n/a



2nd Floor\Flush Beams\FB3-3(i8802) (Flush Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

April 1, 2024 15:48:02

Build 8548

Job name: MENDENHALL

File name: 3769419_Mendenhall_Rev 1.mmdl

Address:

Description: 2nd Floor\Flush Beams\FB3-3(i8802)

City, State, Zip:

Specifier:

Customer: MABUS

Designer: JOE DAVIS

Code reports: ESR-1040

Company:

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Roof Live	Tributary
							100%	90%	115%	160%	125%	
35	2(i8761)	Conc. Pt. (lbs)	L	22-09-04	22-09-04	Front	92	46				n/a
36	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	22-09-04	24-04-00	Top	11	5				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	16662 ft-lbs	38.3%	100%	1	12-01-04
End Shear	2629 lbs	18.8%	100%	1	01-06-00
Total Load Deflection	L/406 (0.707")	59.1%	n/a	1	12-01-04
Live Load Deflection	L/660 (0.435")	54.6%	n/a	4	12-01-04
Max Defl.	0.707"	47.1%	n/a	1	12-01-04
Span / Depth	20.5				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 4" x 5-1/4"	2675 lbs	30.0%	17.0%	Unspecified
B2	Wall/Plate 5-1/2" x 5-1/4"	2660 lbs	21.7%	12.3%	Unspecified

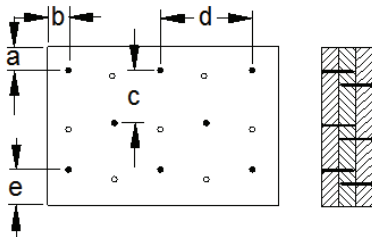
Cautions

Concentrated side load(s) 1,2 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.

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.
- Design based on Dry Service Condition.
- BC CALC® analysis is based on IBC 2018.
- Calculation based on user input of unbraced length of Top: 00-00-00 and Bottom: 00-00-00.

Connection Diagram: Full Length of Member



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

Calculated Side Load = 218.5 lb/ft
Nailing applies to both sides of the member
Connectors are: 16d Box Nails

Disclosure

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



BMI (Roof Flush Beam)

Dry | 2 spans | No cant.

April 1, 2024 15:46:18

BC CALC® Member Report

Build 16959

Job name: Mendenhall - HipBeams

File name:

Address:

Description:

City, State, Zip:

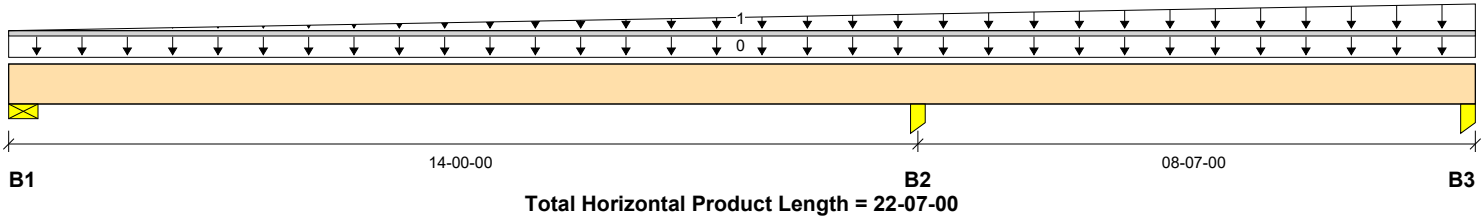
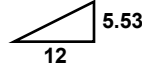
Specifier:

Customer: Mabus

Designer: Joe Davis

Code reports: ESR-1040

Company: BFS



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"		57 / 0	50 / 0		
B2, 3-1/2"		249 / 0	322 / 0		
B3, 3-1/2"		91 / 0	152 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	100%	90%	115%	160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	22-07-00	Top	5					00-00-00
1		Trapezoidal (lb/ft)	L	00-00-00	22-07-00	Front	0	0	0			n/a
							22	45				

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	828 ft-lbs	10.0%	125%	2	06-03-07
Neg. Moment	-671 ft-lbs	8.1%	125%	2	14-00-00
End Shear	285 lbs	7.4%	125%	1	00-03-08
Cont. Shear	362 lbs	9.4%	125%	3	13-10-04
Total Load Deflection	L/999 (0.114")	n/a	n/a	2	06-06-12
Live Load Deflection	L/999 (0.088")	n/a	n/a	14	06-06-12
Total Neg. Defl.	L/999 (-0.012")	n/a	n/a	2	16-08-04
Max Defl.	0.114"	n/a	n/a	2	06-06-12
Span / Depth	17.9				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-1/2" x 1-3/4"	294 lbs	n/a	6.4%	Unspecified
B2	Column 3-1/2" x 1-3/4"	570 lbs	n/a	12.4%	Unspecified
B3	Column 3-1/2" x 1-3/4"	243 lbs	n/a	5.3%	Unspecified

Slope and Cut Length

	Slope	Fascia Depth	Horiz. Length	Product Length
Plumb Cut with Hanger to dbl. top plate	5.53/12	10-3/16"	22-07-00	25-02-10

Notes

Design meets Code minimum (L/180) Total load deflection criteria.
 Design meets Code minimum (L/240) Live load deflection criteria.
 Design meets arbitrary (1") Maximum Total load deflection criteria.
 Design based on Dry Service Condition.
 BC CALC® analysis is based on IBC 2009.
 Calculations assume member is fully braced.

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