

Graphical Illustration - Not To Scale
 Member Cut Length - 16'
 MemberPitch - 0/12

Design Information:

Building Code:	IRC 2018	Floor Dead Load:	10.0 lb/ft ²	Roof Dead Load:	10.0 lb/ft ²	Ground Snow Load:	0.0 lb/ft ²
Design Methodology:	ASD	Floor Live Load:	40.0 lb/ft ²	Roof Live Load:	20.0 lb/ft ²		
		Unbraced Length Top:	1'- 4 11/16"	Bottom:	15'- 4"		

Design Results:

	Location	Design	Control	Result	LDF	Load Combination
Critical Moment (Pos)	12'- 10 1/8"	4353.04 lb ft	18623.32 lb ft	Passed - 23%	1.00	D + L
Critical Moment (Neg)	8'- 6 1/2"	-4542.98 lb ft	18623.32 lb ft	Passed - 24%	1.00	D + L
Critical Shear	9'- 5 1/4"	3687.85 lb	9226.88 lb	Passed - 40%	1.00	D + L
Live Load Deflection	12'- 1 9/16"	0'- 1/16"	0'- 3/4" (L/360)	Passed - L/999	-	L
Total Load Deflection	12'- 2 1/16"	0'- 1/16"	0'- 1" (L/240)	Passed - L/999	-	D + L
Max. Reaction			Supported Mt/ Supporting Mt/			
	0'- 1 1/2"	-833.57 lb	27562.50 lb -	Passed - 3%	1.00	D + L
	1'- 2 1/2"	3787.35 lb	27562.50 lb 26643.75 lb	Passed - 14%	1.00	D + L
	7'- 5 1/2"	3612.64 lb	27562.50 lb 26643.75 lb	Passed - 14%	1.00	D + L
	8'- 6 1/2"	5006.94 lb	27562.50 lb 26643.75 lb	Passed - 19%	1.00	D + L
	15'- 5"	3418.27 lb	31500.20 lb 30450.19 lb	Passed - 11%	1.00	D + L

Design Notes:

* Member design assumed proper ply to ply connection. Verify connection between plies according to code specification

Loading:

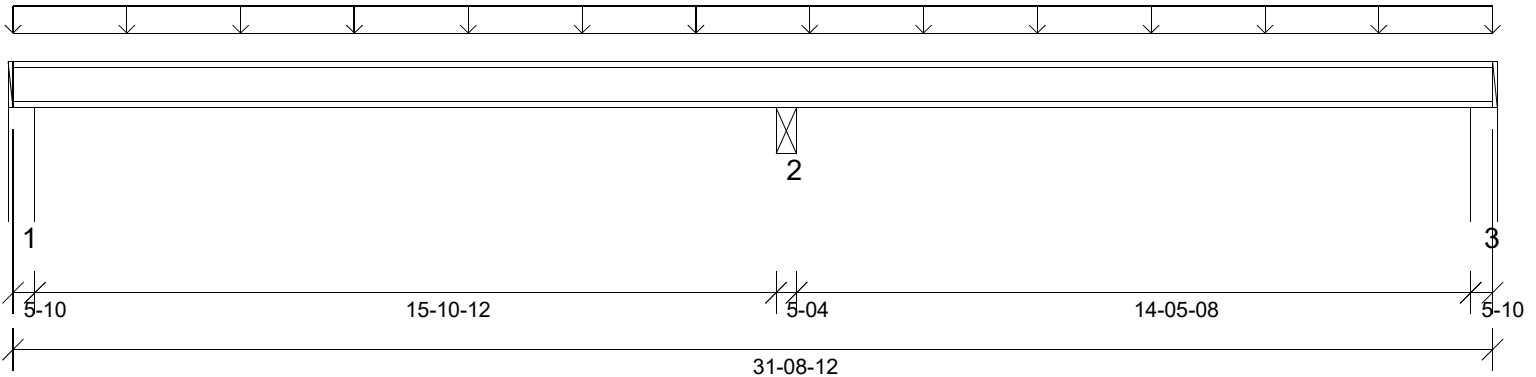
Type	Start	End	Source	Maximum Load Magnitudes			
				Dead	Floor Live	Roof Live	Snow
Self Weight	0'	16'	Self Weight	14 lb/ft	-	-	-
Point	1'- 7 11/16"	1'- 7 11/16"	J32(i938)	310.00 lb	1239.00 lb	-	-
Point	3'- 2 7/8"	3'- 2 7/8"	J32(i938)	310.00 lb	1239.00 lb	-	-
Point	4'- 10 1/8"	4'- 10 1/8"	J32(i938)	310.00 lb	1239.00 lb	-	-
Point	6'- 5 5/16"	6'- 5 5/16"	J32(i938)	310.00 lb	1239.00 lb	-	-
Point	8'- 1/2"	8'- 1/2"	J32(i938)	310.00 lb	1239.00 lb	-	-
Point	9'- 7 11/16"	9'- 7 11/16"	J32(i938)	310.00 lb	1239.00 lb	-	-
Point	11'- 2 7/8"	11'- 2 7/8"	J32(i938)	310.00 lb	1239.00 lb	-	-
Point	12'- 10 1/8"	12'- 10 1/8"	J32(i938)	310.00 lb	1239.00 lb	-	-
Point	14'- 5 5/16"	14'- 5 5/16"	J32(i935)	310.00 lb	1239.00 lb	-	-
Point	15'- 11 3/4"	15'- 11 3/4"	J32(i1172)	121.00 lb	485.00 lb	-	-

Support Information:

Support	Start	End	Source	Maximum Analysis Reactions			
				Dead	Floor Live	Roof Live	Snow
1	0'	1'- 4"	-	610.00 lb	2396.00/-26.00 lb	-	-
+++	0'- 1 1/2"	0'- 1 1/2"	W1(i44)	-	16.00 lb	-	-
+++	1'- 2 1/2"	1'- 2 1/2"	PBO9(i58)	610.00 lb	2380.00/-26.00 lb	-	-
2	7'- 4"	8'- 8"	PBO2(i50)	1850.00 lb	8207.00 lb	-	-
==>	7'- 5 1/2"	7'- 5 1/2"	PBO2(i50)	711.00 lb	3982.00 lb	-	-
==>	8'- 6 1/2"	8'- 6 1/2"	PBO2(i50)	1139.00 lb	4225.00 lb	-	-
3	15'- 4"	16'	PBO3(i51)	673.00 lb	2959.00/-167.00 lb	-	-

Errors, Warnings & Notes:

- * The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- * The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.
- * Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.



Graphical Illustration - Not To Scale
 Member Cut Length - 31'- 8 3/4"
 MemberPitch - 0/12

Design Information:

Building Code:	IRC 2018	Floor Dead Load:	10.0 lb/ft ²	Roof Dead Load:	10.0 lb/ft ²	Ground Snow Load:	0.0 lb/ft ²
Design Methodology:	ASD	Floor Live Load:	40.0 lb/ft ²	Roof Live Load:	20.0 lb/ft ²		
		Unbraced Length Top:	0'	Bottom:	15'- 10 3/4"		

Design Results:

	Location	Design	Control	Result	LDF	Load Combination
Critical Moment (Pos)	7'- 3 5/16"	1889.06 lb ft	3755.02 lb ft	Passed - 50%	1.00	D + L
Critical Moment (Neg)	16'- 7"	-2407.14 lb ft	3755.02 lb ft	Passed - 64%	1.00	D + L
Critical Shear	16'- 4 5/16"	778.06 lb	1485.00 lb	Passed - 52%	1.00	D + L
Live Load Deflection	8'- 3/16"	0'- 3/16"	0'- 3/4" (L/480)	Passed - L/999	-	L
Total Load Deflection	7'- 10 15/16"	0'- 1/4"	0'- 1" (L/240)	Passed - L/828	-	D + L
Max. Reaction			<u>Supported MtI</u> <u>Supporting MtI</u>			
	0'- 4 5/8"	589.39 lb	1160.00 lb 5976.56 lb	Passed - 51%	1.00	D + L
	16'- 7"	1548.88 lb	2561.90 lb 9843.75 lb	Passed - 60%	1.00	D + L
	31'- 4 1/8"	540.55 lb	1160.00 lb 5976.56 lb	Passed - 47%	1.00	D + L

Loading:

Type	Start	End	Source	Maximum Load Magnitudes			
				Dead	Floor Live	Roof Live	Snow
Uniform	0'	31'- 8 3/4"	FC2 Floor Material	16 lb/ft	64 lb/ft	-	-

Support Information:

Support	Start	End	Source	Maximum Analysis Reactions			
				Dead	Floor Live	Roof Live	Snow
1	0'	0'- 5 5/8"	W8(i48)	108.00 lb	482.00/-51.00 lb	-	-
2	16'- 4 3/8"	16'- 9 5/8"	DBM2(i1157)	310.00 lb	1239.00 lb	-	-
3	31'- 3 1/8"	31'- 8 3/4"	W2(i46)	93.00 lb	447.00/-74.00 lb	-	-

Errors, Warnings & Notes:

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- * Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- * A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.



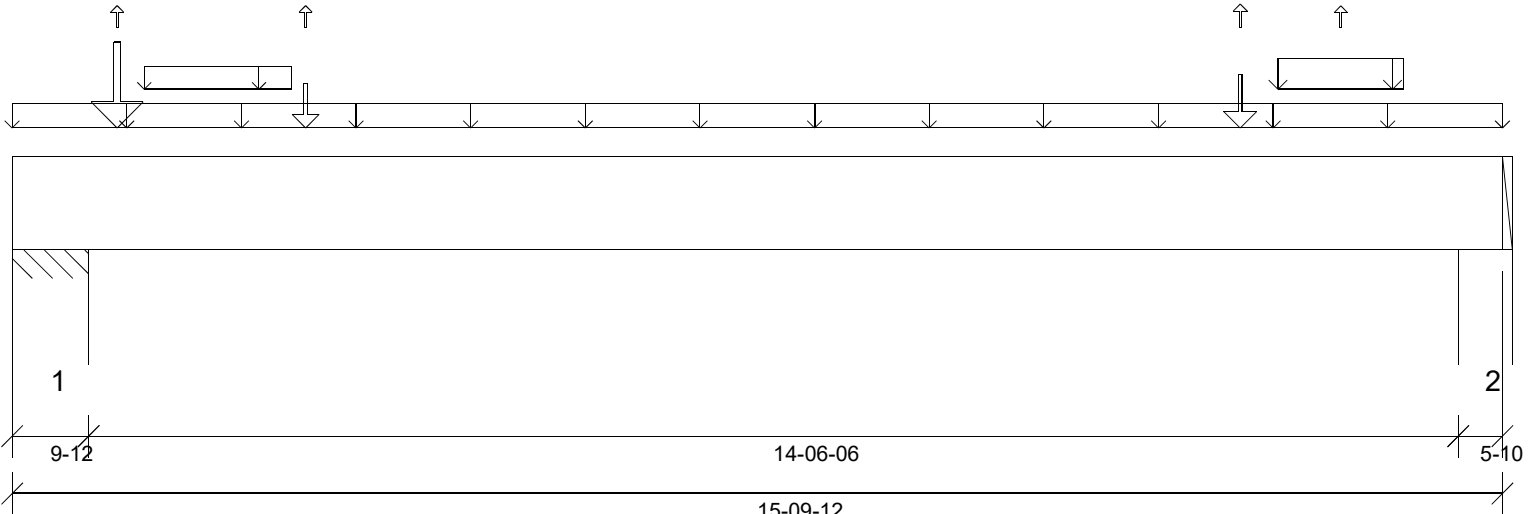
Job: Q2001104
 Member Type: Beam | Level: CRAWL
 MiTek SAPPHERE™ Structure Version 8.3.2.221.Update7
 Designed by Single Member Design Engine

Label: FBM1-i1243

Page: 3 of 4
 Date: 08/07/2020 09:33:16

Member: 2 - 1-3/4X11-7/8 LP-LVL 2900Fb-2.0E

Status: Design Passed



15-09-12
 Graphical Illustration - Not To Scale
 Member Cut Length - 15'- 9 3/4"
 MemberPitch - 0/12

Design Information:

Building Code: IRC 2018	Floor Dead Load: 10.0 lb/ft ²	Roof Dead Load: 10.0 lb/ft ²	Ground Snow Load: 0.0 lb/ft ²
Design Methodology: ASD	Floor Live Load: 40.0 lb/ft ²	Roof Live Load: 20.0 lb/ft ²	
	Unbraced Length Top: 0'	Bottom: 14'- 6 3/8"	

Design Results:

	Location	Design	Control	Result	LDF	Load Combination
Critical Moment (Pos)	8'- 1"	6194.14 lb ft	19899.97 lb ft	Passed - 31%	1.00	D + L
Critical Moment (Neg)	0'- 8 3/4"	-13.79 lb ft	19899.97 lb ft	Passed - 0%	1.00	D + L
Critical Shear	1'- 9 5/8"	2886.56 lb	7896.87 lb	Passed - 37%	1.00	D + L
Live Load Deflection	8'- 15/16"	0'- 3/16"	0'- 3/4" (L/360)	Passed - L/826	-	L
Total Load Deflection	8'- 3/4"	0'- 5/16"	0'- 1" (L/240)	Passed - L/609	-	D + L
Max. Reaction			Supported Mt Supporting Mt			
	0'- 8 3/4"	5606.96 lb	25593.62 lb 14503.05 lb	Passed - 39%	1.00	D + L
	15'- 5 1/8"	2484.08 lb	14765.63 lb 8367.19 lb	Passed - 30%	1.00	D + L

Design Notes:

* Member design assumed proper ply to ply connection. Verify connection between plies according to code specification

Loading:

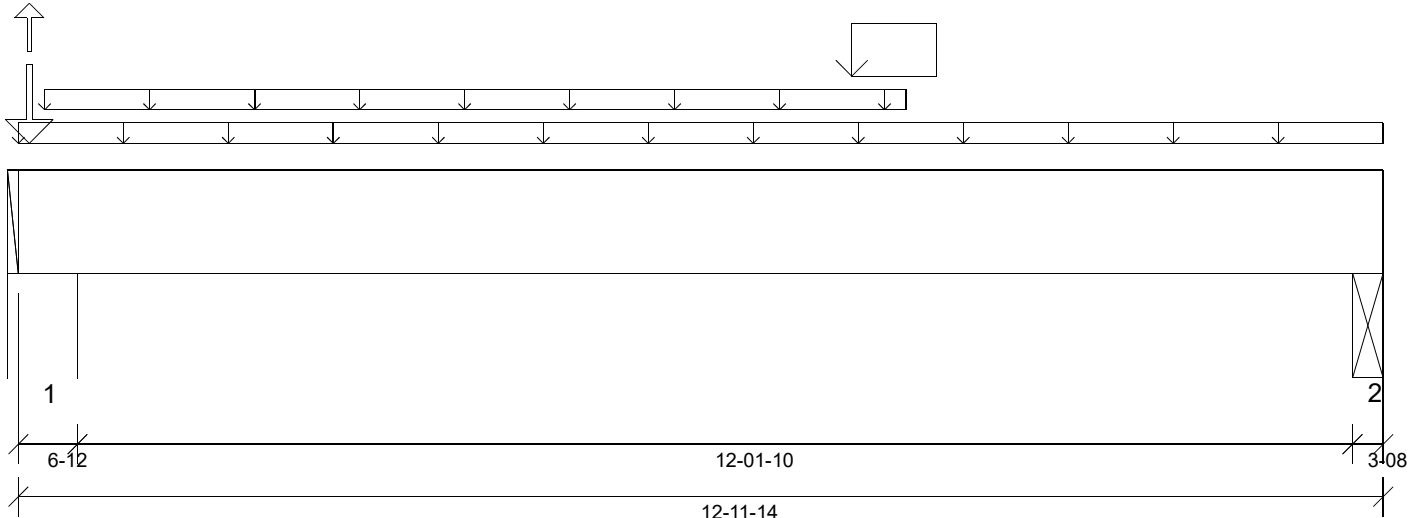
Type	Start	End	Source	Maximum Load Magnitudes			
				Dead	Floor Live	Roof Live	Snow
Self Weight	0'	15'- 9 3/4"	Self Weight	12 lb/ft	-	-	-
Uniform	0'	15'- 9 3/4"	FC2 Floor Material	8 lb/ft	32 lb/ft	-	-
Uniform	1'- 4 13/16"	2'- 11 1/2"	15(i364)	5 lb/ft	18 lb/ft	-	-
Uniform	13'- 5 3/16"	14'- 9 3/16"	10(i34)	22 lb/ft	106 lb/ft	-	-
Point	1'- 1 3/8"	1'- 1 3/8"	15(i364)	912.00 lb	2856.00 lb	2.00/-23.00 lb	-
Point	3'- 1 3/8"	3'- 1 3/8"	15(i364)	343.00 lb	1041.00/-31.00 lb	-	-
Point	13'- 3/8"	13'- 3/8"	10(i34)	425.00 lb	1483.00/-127.00 lb	-	-
Point	14'- 1 3/16"	14'- 1 3/16"	10(i34)	-	-23.00 lb	-	-

Support Information:

Support	Start	End	Source	Maximum Analysis Reactions			
				Dead	Floor Live	Roof Live	Snow
1	0'	0'- 9 3/4"	-	1396.00 lb	4136.00/-49.00 lb	2.00/-22.00 lb	-
+++	0'- 3 1/8"	0'- 3 1/8"	16(i502)	895.00 lb	2651.00/-31.00 lb	1.00/-14.00 lb	-
+++	0'- 8"	0'- 8"	DBM1(i1227)	501.00 lb	1485.00/-18.00 lb	1.00/-8.00 lb	-
2	15'- 4 1/8"	15'- 9 3/4"	W2(i46)	636.00 lb	1923.00/-132.00 lb	-1.00 lb	-

Errors, Warnings & Notes:

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- * Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.



Graphical Illustration - Not To Scale
 Member Cut Length - 12'- 11 7/8"
 MemberPitch - 0/12

Design Information:

Building Code:	IRC 2018	Floor Dead Load:	10.0 lb/ft ²	Roof Dead Load:	10.0 lb/ft ²	Ground Snow Load:	0.0 lb/ft ²
Design Methodology:	ASD	Floor Live Load:	40.0 lb/ft ²	Roof Live Load:	20.0 lb/ft ²		
		Unbraced Length Top:	0'	Bottom:	12'- 1 5/8"		

Design Results:

	Location	Design	Control	Result	LDF	Load Combination
Critical Moment (Pos)	8'- 1 3/4"	4715.51 lb ft	19899.97 lb ft	Passed - 24%	1.00	D + L
Critical Moment (Neg)	0'- 5 3/4"	-970.07 lb ft	22884.96 lb ft	Passed - 4%	1.15	D + Lr
Critical Shear	11'- 8 1/2"	1143.31 lb	7896.87 lb	Passed - 14%	1.00	D + L
Live Load Deflection	6'- 11 1/8"	0'- 1/16"	0'- 3/4" (L/360)	Passed - L/999	-	L
Total Load Deflection	6'- 11 13/16"	0'- 1/8"	0'- 1" (L/240)	Passed - L/999	-	D + L
Max. Reaction			Supported Mt Supporting Mt			
	0'- 5 3/4"	3174.36 lb	17718.54 lb 10040.51 lb	Passed - 32%	1.15	D + 0.75(L + Lr)
	0'- 5 3/4"	-64.89 lb	24651.89 lb -	Passed - 1%	1.60	0.6D + 0.6W
	12'- 9 3/8"	1209.79 lb	9187.42 lb 9187.42 lb	Passed - 13%	1.00	D + L

Design Notes:

* Member design assumed proper ply to ply connection. Verify connection between plies according to code specification

Loading:

Type	Start	End	Source	Maximum Load Magnitudes			
				Dead	Floor Live	Roof Live	Snow
Self Weight	0'	12'- 11 7/8"	Self Weight	12 lb/ft	-	-	-
Uniform	-0'	12'- 11 7/8"	FC2 Floor Material	8 lb/ft	32 lb/ft	-	-
Uniform	0'- 3"	8'- 5 7/16"	17(i879)	11 lb/ft	28 lb/ft	-	-
Uniform	7'- 11 3/16"	8'- 8 15/16"	17(i879)	368 lb/ft	1207 lb/ft	-	-
Point	0'- 1 1/4"	0'- 1 1/4"	2(i12)	1285.00 lb	2.00 lb	1295.00/-109.00 lb	-

Support Information:

Support	Start	End	Source	Maximum Analysis Reactions			
				Dead	Floor Live	Roof Live	Snow
1	0'	0'- 6 3/4"	W6(i41)	1638.00 lb	725.00 lb	1345.00/-113.00 lb	-
2	12'- 8 3/8"	12'- 11 7/8"	DBM1(i1227)	298.00 lb	905.00 lb	4.00/-50.00 lb	-

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