



Job: PH-1851
 Member Type: Beam | Level: 1st Floor
 Mitek SAPPHERE™ Structure Version 8.2.0.246.Update9
 Designed by Single Member Design Engine

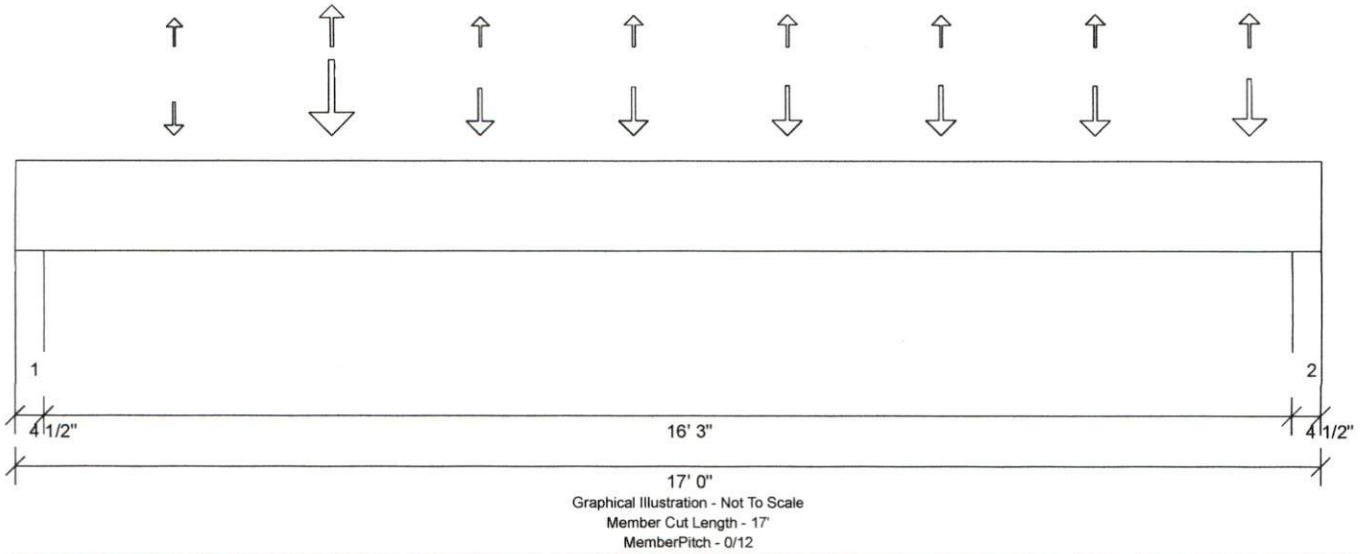
Lot Imp
 54 Stock Market Drive

Label: GDH-i85

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Member: 2 - 2.0 RigidLam LVL 1-3/4 x 14

Status: Design Passed



Design Information:

Building Code: IRC2015	Floor Dead Load: 10.0 lb/ft²	Roof Dead Load: 10.0 lb/ft²	Ground Snow Load: 20.0 lb/ft²
Design Methodology: ASD	Floor Live Load: 40.0 lb/ft²	Roof Live Load: 20.0 lb/ft²	
	Unbraced Length Top: 1'- 10 1/2"	Bottom: 16'- 3"	

Design Results:

	Location	Design	Control	Result	LDF	Load Combination
Critical Moment (Pos)	8'- 3/4"	10998.42 lb ft	36215.18 lb ft	Passed - 30%	1.25	D + Lr
Critical Moment (Neg)		0.00 lb ft	0.00 lb ft			
Critical Moment (Neg)		0.00 lb ft	0.00 lb ft			
Critical Shear	1'- 6 1/2"	2373.56 lb	11841.67 lb	Passed - 20%	1.25	D + Lr
Live Load Deflection	8'- 5 1/2"	0'- 3/16"	N/A (L/480)	Passed - L/999	-	Lr
Total Load Deflection	8'- 5 5/16"	0'- 5/16"	N/A (L/240)	Passed - L/567	-	D + Lr
Max. Reaction			Supported Mt Supporting Mt			
	0'- 3 1/2"	2393.51 lb	12796.88 lb 11418.75 lb	Passed - 21%	1.25	D + Lr
	0'- 3 1/2"	-248.74 lb	12796.88 lb -	Passed - 2%	1.60	0.6D + 0.6W
	16'- 8 1/2"	2808.40 lb	12796.88 lb 11418.75 lb	Passed - 25%	1.25	D + Lr
	16'- 8 1/2"	-251.50 lb	12796.88 lb -	Passed - 2%	1.60	0.6D + 0.6W

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'	17'	Self Weight	13 lb/ft	-	-	-
Point	2'- 3/4"	2'- 3/4"	J03A(c01)	112.00 lb	-	140.00 lb	97.00 lb
Point	4'- 1 1/2"	4'- 1 1/2"	A10A(c01)	444.00 lb	-	728.00/-209.00 lb	321.00 lb
Point	6'- 3/4"	6'- 3/4"	A09A(c01)	253.00 lb	-	274.00 lb	164.00 lb
Point	8'- 3/4"	8'- 3/4"	A08A(c01)	246.00 lb	-	314.00/-25.00 lb	171.00 lb
Point	10'- 3/4"	10'- 3/4"	A07A(c01)	238.00 lb	-	343.00/-48.00 lb	175.00 lb
Point	12'- 3/4"	12'- 3/4"	A06A(c01)	225.00 lb	-	363.00/-75.00 lb	170.00 lb
Point	14'- 3/4"	14'- 3/4"	A05A(c01)	208.00 lb	-	374.00/-98.00 lb	162.00 lb
Point	16'- 3/4"	16'- 3/4"	A04A(c01)	282.00 lb	-	438.00/-87.00 lb	212.00 lb

Support Information:

Support	Start	End	Source	Maximum Analysis Reactions			
				Dead	Floor Live	Roof Live	Snow
1	0'	0'- 4 1/2"	E4(i83)	1048.00 lb	-	1345.00/-233.00 lb	682.00 lb
2	16'- 7 1/2"	17'	E3(i48)	1179.00 lb	-	1629.00/-309.00 lb	790.00 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.