Project: Hopscotch Classic in-law .v45 - 47 Harrimon Rd

Location: check Multi-Span Floor Beam [2015 International Building Code(2015 NDS)] (2) 1.75 IN x 11.875 IN x 17.75 FT (12.5 + 5.2) 1.9E Microllam - iLevel Trus Joist Section Adequate By: 9.0% Controlling Factor: Moment

StruCalc 9.0

StruCalc Version 10.0.1.6

4/19/2021 10:57:39 AM

| CAUTIONS | | | |
|---|---|--|--|
| * Laminations are to be fully connected to provide uniform transfer of loads to a | II members | | |
| DEFLECTIONS Center Right Live Load 0.24 IN L/635 -0.03 IN L/2033 Dead Load 0.12 in -0.01 in Total Load 0.35 IN L/425 -0.04 IN L/1502 Live Load Deflection Criteria: L/360 Total Load Deflection Criteria: L/240 | LOADING DIAGRAM | | |
| REACTIONS A B C Live Load 3522 lb 8804 lb 1663 lb Dead Load 1799 lb 4569 lb -67 lb Total Load 5321 lb 13373 lb 1596 lb Uplift (1.5 F.S) 0 lb 0 lb -1859 lb Bearing Length 2.03 in 5.09 in 0.61 in | | | |
| BEAM DATA Center Right Span Length 12.5 ft 5.25 ft Unbraced Length-Top 0 ft 0 ft Unbraced Length-Bottom 12.5 ft 5.25 ft | A 12.5 ft B 5.25 ft C | | |
| Notch Depth 0.00 | FLOOR LOADING Center Right | | |
| MATERIAL PROPERTIES 1.9E Microllam - iLevel Trus Joist Bending Stress: Fb = 2600 psi Fb = 2600 psi Fb' = 2441 psi Out = 201, 201, 201, 201, 201, 201, 201, 201, | Floor Live LoadFLL =40psf40psfFloor Dead LoadFDL =20psf20psfFloor Tributary Width Side OneTW1 =8.6ft8.6ftFloor Tributary Width Side TwoTW2 =8.5ft8.5ftWall LoadWALL =0plf0plf | | |
| Cd=1.00 Cl=0.94 CF=1.00 Shear Stress: Fv = 285 psi Fv' = 285 psi Cd=1.00 | BEAM LOADING Center Right Reduced Floor Live Load 40 psf 40 psf | | |
| Modulus of Elasticity:E =1900 ksiE' =1900 ksiComp. \perp to Grain:Fc - \perp =750 psiFc - \perp =750 psi | Total Live Load684plf684plfTotal Dead Load342plf342plfBeam Self Weight13plf13plf | | |
| Controlling Moment:-15349 ft-lbOver right support of span 2 (Center Span)Created by combining all dead loads and live loads on span(s) 2, 3 | Total Load 1039 plf 1039 plf | | |
| Controlling Shear: -6813 lb | | | |

Controlling Shear:

At a distance d from right support of span 2 (Center Span) Created by combining all dead loads and live loads on span(s) 2, 3

| Comparisons with required sections: | <u>Req'd</u> | Provided |
|-------------------------------------|--------------|-----------------|
| Section Modulus: | 75.47 in3 | 82.26 in3 |
| Area (Shear): | 35.86 in2 | 41.56 in2 |
| Moment of Inertia (deflection): | 276.94 in4 | 488.41 in4 |
| Moment: | -15349 ft-lb | 16731 ft-lb |
| Shear: | -6813 lb | 7897 lb |