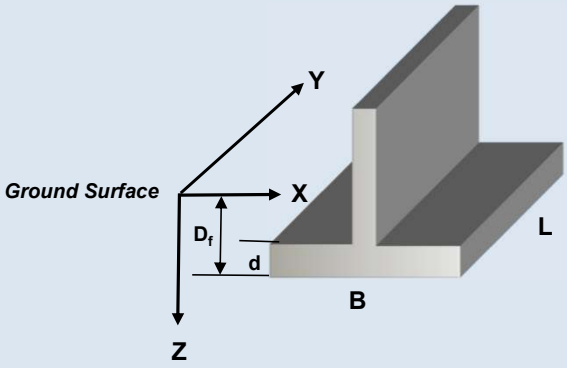
ANALYSIS OF DYNAMIC STIFFNESS PARAMETERS OF A RIGID SPREAD FOOTING

PROJECT INFORMATION	
Project Name	
Project No.	
Project Location	
Analyzed By	
Reviewed By	

INPUT PARAMETERS	
Analysis Description	
Effective Dynamic Shear Modulus of Soil, G_{eff}	4,500.00 ksf
Poisson's Ratio of Soil, ν	0.30
Footing Width, B	14.00 feet
Footing Length, L	20.00 feet
Footing Thickness, d	1.00 feet
Footing Embedment Depth, D_f	2.00 feet



COMPUTED STIFFNESS PARAMETERS	
Horizontal Translation Along X-axis, K_x	2.73E+05 kips/ft
Horizontal Translation Along Y-axis, K_y	2.87E+05 kips/ft
Vertical Translation Along Z-axis, K_z	2.81E+05 kips/ft
Rocking Rotation About X-axis, K_{xx}	2.21E+07 kip-ft/rad
Rocking Rotation About Y-axis, K_{yy}	2.72E+07 kip-ft/rad
Torsional Rotation About Z-axis, K_{zz}	3.10E+07 kip-ft/rad

REFERENCE:

American Society of Civil Engineers, Structural Engineering Institute (ASCE/SEI), 2013, "Seismic Evaluation and Retrofit of Existing Buildings", ASCE 41-13 Standard, Figure 8-2, p.133.