

CIVL-558 Homework Assignment #4

You are the leader of an E.W.B. team responsible for the design of a 10-story office building in Managua, Nicaragua. The building will utilize a steel moment-resisting frame. You are responsible for determining the building's equivalent lateral forces corresponding to the damage threshold design response spectrum (DTSD) on the attached pdf. Also, determine the inter-story values for shear force versus elevation in the building. The building is 144-ft tall and has a plan dimension of 80-ft x 120-ft. Estimated dead load, including framing is 60-psf for all levels. Perform the analysis based upon the first two modes of response. The approximated modes are $T1 = 0.1N$ and $T2 = 0.05N$, where N is the number of stories. The mode shapes also on an attached pdf.