



Example – Chicago, IL

Design a 12 ft high wall for a building in Chicago, IL. The following gravity loads and parameters are given.

- Concentric Dead Load: 150 lb/ft
- Eccentric Dead Load: 600 lb/ft
- Live Load: 0 lb/ft (one-story building)
- Roof Live Load: 400 lb/ft
- Snow Load: 500 lb/ft
- eccentricity = 1.5 inches

The structure is assumed to be located in Seismic Design Category B. The ASCE 7-10 design wind speed is 115 mph (Risk Category II).

Assume that Type S mortar is used; f'_m is taken as 2930 psi.

Load combination (6), $0.9D + 1.0W$, controls the design. Required spacing of the reinforcement is:

- #3: 36 inches
- #4: 66 inches
- #5: 108 inches