City of Idaho Falls Building Department Geographic Design Criteria

Snow Loads

Based on the ASCE 7 and the University of Idaho Ground and Roof Snow Load Manual, the ground and roof snow load for Idaho Falls is:

**Idaho Falls**: Elevation 4710 feet

**Ground Snow Load**: \( P_g = 0.10 \times 4710 = 47.1 \, \text{PSF} \)

**Flat Roof Snow Load**: Where: \( C_e = 0.8 \) (Windy area with roof exposed on all sides with no shelter afforded by terrain, higher structures or trees).

\( C_t = 1.10 \) (Roof area above freezing)

\( I = 1.0 \) (Importance Factor)

\( P_g = 47.1 \, \text{PSF} \) (Ground Snow Load)

\( P_f = 0.7(C_e)(C_t)(I)(P_g) = 0.7(0.8)(1.10)(1.00)(47.1) = 29 \, \text{PSF} \)

*This is based on a thermal coefficient as a function of roof R value. Roofs that are not 'cold roofs' and are just above freezing and those buildings in occupancy category III & IV will achieve a higher snow load. Historically, the city has mandated a minimum 30 PSF roof snow load. If there are factors such as drifting, exposure factors due to site conditions or roof slope that determine a higher load by the structural engineer, that is the load the jurisdiction will go by.*

Frost Depth

Measured from top of finished grade to the bottom of the footing = 30-inches

Wind Speed

Ultimate wind speed \((V_{ult}) = 115 \, \text{MPH}\)

Nominal wind speed \((V_{asd}) = 90 \, \text{MPH}\)

Exposure \( C \)

Seismic Design Category

\( SDC = D^* \)

*Where soil properties are not known in Sufficient detail to determine site class, Site Class D shall be used unless geotechnical data determines otherwise.*