

## Commercial and Non-Prescriptive Residential Structural Design Information

*The information in this handout only applies to structures not conforming to the prescriptive criteria set forth in the 2018 International Building Code.*

*All commercial occupancies will be required to be designed by a Washington State Professional Engineer.*

### Loading Requirements:

Wind Speed per 2018 IBC Criteria:

- I.  $V_{asd} = 105$  mph (3 second gust); applicable only to methods in exceptions I through 5,, section 1609.1.1.
2.  $V_{ult} = 135$  mph (3 second gust) for Risk Cat. II; use 125 mph for Risk Cat. I; use 140 mph for Risk Cat. III & IV.
3. Exposure B, or as required per 1609.4.

Soil: Type ML - 1500 psf Bearing or geo-tech required

Frost Depth: 12"

Minimum roof snow load: 25 psf

Minimum roof load: non reducible

Ground snow: 30 psf (drift calculations as required)

All other loading per the 2018 International Building Code and as adopted by Washington State and City of La Center Codes.

### Seismic Design:

Spectral response data can be found on this web site: [earthquake.usgs.gov/hazards/designmaps](http://earthquake.usgs.gov/hazards/designmaps)

Use values of two percent probability of exceedance. Otherwise, use the following design information based on specific zip codes within the county:

MCE Ground Motion - Conterminous 48 States

Zip Code - 98642

Central Latitude= 45.802723

Central Longitude= -122.709722

Period, MCE  $S_a$

(sec) ( $\frac{3}{4}g$ )

0.2, 0.882 MCE Value of  $S_s$ , Site Class B

1.0, 0.320 MCE Value of  $S_1$ , Site Class B

Spectral Parameters for Site Class D:

0.2, 1.01,  $S_a = F_a S_s$ ,  $F_a = 1.147$

1.0, 0.564,  $S_a = F_v S_1$ ,  $F_v = 1.761$