Commercial Structural Design Information

The information in this handout only applies to structures not conforming to the prescriptive criteria set forth in the currently adopted International Building Code (IBC).

All commercial occupancies are required to be designed by a Washington State Professional Licensed Architect and/or Engineer.

Wind speeds are now coordinated with Risk Categories for structures, per 2015 IBC and ASCE 7-10 :

V_{ULT} = Ultimate design wind speed

Refer to IBC Section 1609 or ASCE 7-10 for detailed information.

Clark County Wind Speed per 2015 IBC:
V_{ULT} = 135 mph (3 second gust) for Risk Category II; use 155 mph for Risk Category III and IV
Exposure B, or higher as required per 1609.4

Soil: Type ML – 1,500 psf Bearing or geotechnical soils testing and the resulting soils report will be required.

Frost depth: 12"

Minimum roof snow load: 25 psf Minimum roof load – non reducible
Ground snow: 30psf
Drift calculations required per ASCE 7-10. Detail on plans.

All other loading shear, bearing, and lateral conditions shall be per the International Building Code, with Washington state amendments and Clark County Code.

Seismic
For Spectral Response Data, required information and claculations data may be found through this web site:

earthquake.usgs.gov/designmaps/us/application.php

The seismic map link will provide the necessary calculation data including SS, SMS, S1, SM1, SD1, SDS, and the MCE Response Spectrum.

Unless determined by Geotechnical Report, standard soil class definition is the default Site Class D – Stiff Soil.

The Risk Category for seismic design falls under I, II, or III. For essential structures, such as hospitals, the risk category is IV.

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