Residential Structural Design Information

This information applies **only to structures conforming to the prescriptive criteria** set forth in the 2015 International Residential Code. If the structure does not meet all of the IRC requirements, an engineered design conforming to the 2015 International Building Code must be prepared by a Washington State Professional Engineer.

Wind
Prescriptive Design: VULT = 135 mph, exposure B

Engineered Design (IRC and IBC Chapter 16):
Any structural elements designed outside of IRC prescriptive requirements are required to be designed using:

IBC ultimate design criteria for wind loading
V_{ult} = 135 MPH, 3 second gust for Risk Category II, or Risk Category for area as applicable
Basic Wind to Ultimate Wind conversion
$V_{asd} = V_{ult}\ 0.6\ \sqrt{\ }$

Soil
1,500 psf bearing

Frost depth
12”

Minimum roof snow load
25 psf – minimum roof load – non reducible
Ground snow: 30 psf – drift calculations as required

Design Temperatures
Winter: 22◦ F / Summer: 88◦ F
Battle Ground and Camas: Winter: 19◦ F / Summer: 91◦ F

Seismic Zone
D1

Roof Drainage
Per Uniform Plumbing Code (UPC) 1101.12
Roof drainage system shall be designed for 2” per hour rainfall

Flood Hazard
FEMA Maps of Local Area

All other loading is per the 2015 International Residential Code and as adopted by Washington State and Clark County Code. Check with homeowner’s association for specific design criteria.

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