



*County of Gloucester
Codes Compliance – Building Department
Building Three
P. O. Box 604
Gloucester, Virginia 23061*

January 3, 2006


Re: Basic Design Criteria USBC R301

To: Designers, Builder/Contractors, Design Professionals, Citizens, Applicants & County Staff.

Buildings and structures, and parts thereof, shall be constructed to safely support all loads, including dead loads, live loads, flood loads, snow loads, wind loads and seismic loads as prescribed by the Virginia Uniform Statewide Building Code (USBC) Table R301.2 (1).

The un-adjusted basic design criteria values are as follows:

- **Ground Snow Load** – 20 psf
- **Wind Speed** – 100 mph. 3 sec. Gust
- **Weathering** – Moderate
- **Frost Line Depth** – 16 inches
- **Termite** – Moderate-Heavy
- **Decay** – Slight-Moderate
- **Winter Design Temp.** – 17
- **Flood Hazards** – Yes

Paul F. Koll 
Building Official

**TABLE R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA**

GROUND SNOW LOAD	WIND DESIGN				SEISMIC DESIGN CATEGORY ¹	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP ⁶	ICE BARRIER UNDERLAYMENT REQUIRED ⁷	FLOOD HAZARDS ⁹	AIR FREEZING INDEX ¹	MEAN ANNUAL TEMP ¹
	Speed ^d (mph)	Topographic effects ^k	Special wind region ¹	Wind-borne debris zone ^m		Weathering ^a	Frost line depth ^b	Termite ^c					
20 PSF	100	No	No	No	A	MODERATE	16"	MOD-Heavy	17°	YES	YES	1500 ^{hr}	55

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

- a. Weathering may require a higher strength concrete or *grade* of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index, "negligible," "moderate" or "severe" for concrete as determined from Figure R301.2(3). The *grade* of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.
- b. The frost line depth may require deeper footings than indicated in Figure R403.1(1). The *jurisdiction* shall fill in the frost line depth column with the minimum depth of footing below finish *grade*.
- c. The *jurisdiction* shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.
- d. The *jurisdiction* shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)A]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
- e. The outdoor design dry-bulb temperature shall be selected from the columns of 97¹/₂-percent values for winter from Appendix D of the *International Plumbing Code*. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the *building official*.
- f. The *jurisdiction* shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.
- g. The *jurisdiction* shall fill in this part of the table with (a) the date of the *jurisdiction's* entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of the currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having *jurisdiction*, as amended.
- h. In accordance with Sections R905.1.2, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the *jurisdiction* shall fill in this part of the table with "YES." Otherwise, the *jurisdiction* shall fill in this part of the table with "NO."
- i. The *jurisdiction* shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)."
- j. The *jurisdiction* shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)."
- k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the *jurisdiction* shall fill in this part of the table with "YES." Otherwise, the *jurisdiction* shall indicate "NO" in this part of the table.
- l. In accordance with Figure R301.2(4)A, where there is local historical data documenting unusual wind conditions, the *jurisdiction* shall fill in this part of the table with "YES" and identify any specific requirements. Otherwise, the *jurisdiction* shall indicate "NO" in this part of the table.
- m. In accordance with Section R301.2.1.2.1, the *jurisdiction* shall indicate the wind-borne debris wind zone(s). Otherwise, the *jurisdiction* shall indicate "NO" in this part of the table.