SECTION 1603
CONSTRUCTION DOCUMENTS

1603.1 General.

Construction documents shall show the size, section and relative locations of structural members with floor levels, column centers and offsets dimensioned. The design loads and other information pertinent to the structural design required by Sections 1603.1.1 through 1603.1.9 shall be indicated on the *construction documents*.

Exception: *Construction documents* for buildings constructed in accordance with the *conventional light-frame construction* provisions of Section 2308 shall indicate the following structural design information:

1. Floor and roof dead and live loads.
2. Ground snow load, p_g.
3. Basic design wind speed, V, miles per hour (mph) (km/hr) and allowable stress design wind speed, V_{asd}, as determined in accordance with Section 1609.3.1 and wind exposure.
4. *Seismic design category* and *site class*.
5. Flood design data, if located in *flood hazard areas* established in Section 1612.3.
6. Design load-bearing values of soils.
7. Rain load data.

1603.1.1 Floor live load.

The uniformly distributed, concentrated and impact floor *live load* used in the design shall be indicated for floor areas. Use of *live load* reduction in accordance with Section 1607.12 shall be indicated for each type of *live load* used in the design.

1603.1.2 Roof live load.

The *roof live load* used in the design shall be indicated for roof areas (Section 1607.14).

1603.1.3 Roof snow load data.

The ground snow *load*, p_g, shall be indicated. In areas where the ground snow *load*, p_g, exceeds 10 pounds per square foot (psf) (0.479 kN/m^2), the following additional information shall also be provided, regardless of whether snow *loads* govern the design of the roof:

1. Flat-roof snow *load*, p_f.
2. Snow exposure factor, C_e.
3. Snow *load* importance factor, I_s.
4. Thermal factor, C_t.
5. Slope factor(s), C_s.
6. Drift surcharge load(s), p_d, where the sum of p_d and p_f exceeds 20 psf (0.96 kN/m^2).
7. Width of snow drift(s), w.

1603.1.4 Wind and tornado design data.

The following information related to wind loads, and where required by Section 1609.5 tornado loads, shall be shown, regardless of whether wind loads govern the design of the lateral force-resisting system of the structure:

1. Basic wind speed, V (mph), tornado speed, V_T, and allowable stress design wind speed, V_{asd}, as determined in accordance with Section 1609.3.1.
2. *Risk category*.
3. Effective plan area, A_e for tornado design in accordance with Chapter 32 of ASCE 7.
4. Wind exposure. Applicable wind direction if more than one wind exposure is utilized.
5. Applicable internal pressure coefficients, and applicable tornado internal pressure coefficients.
6. Design wind pressures and their applicable zones with dimensions to be used for exterior component and cladding materials not specifically designed by the *registered design professional* responsible for the design of the structure, pounds per square foot (kN/m^2). Where design for tornado loads is required, the design pressures shown shall be the maximum of wind or tornado pressures.

1603.1.5 Earthquake design data.

The following information related to seismic *loads* shall be shown, regardless of whether seismic *loads* govern the design of the lateral force-resisting system of the structure:

1. *Risk category*.

2. Seismic importance factor, I_e.
3. Mapped spectral response acceleration parameters, S_S and S_1.
4. *Site class*.
5. Design spectral response acceleration parameters, S_{DS} and S_{D1}.
6. *Seismic design category*.
7. Basic seismic force-resisting system(s).
8. Design base shear(s).
9. Seismic response coefficient(s), *CS*.
10. Response modification coefficient(s), *R*.
11. Analysis procedure used.

1603.1.6 Geotechnical information.

The design load-bearing values of soils shall be shown on the *construction documents*.

1603.1.7 Flood design data.

For buildings located in whole or in part in *flood hazard areas* as established in Section 1612.3, the documentation pertaining to design, if required in Section 1612.4, shall be included and the following information, referenced to the datum on the community's *Flood Insurance Rate Map* (FIRM), shall be shown, regardless of whether *flood loads* govern the design of the building:

1. *Flood design* class assigned according to ASCE 24.
2. In *flood hazard areas* other than *coastal high hazard areas* or *coastal A zones*, the elevation of the proposed *lowest floor*, including the basement.
3. In *flood hazard areas* other than *coastal high hazard areas* or *coastal A zones*, the elevation to which any nonresidential building will be dry floodproofed.
4. In *coastal high hazard areas* and *coastal A zones*, the proposed elevation of the bottom of the lowest horizontal structural member of the *lowest floor*, including the basement.

1603.1.8 Special loads.

Special *loads* that are applicable to the design of the building, structure or portions thereof, including but not limited to the *loads* of machinery or equipment, and that are greater than specified floor and roof *loads* shall be specified by their descriptions and locations.

1603.1.8.1 Photovoltaic panel systems.

The *dead load* of rooftop-mounted *photovoltaic panel systems*, including rack support systems, shall be indicated on the *construction documents*.

1603.1.9 Roof rain load data.

Rain intensity, *i* (in/hr) (cm/hr), shall be shown regardless of whether rain *loads* govern the design.