



## **STRUCTURAL PEER REVIEW**

### **General Information**

#### **Structural Peer Review:**

The purpose of the Structural Peer Review is to provide independent verification that the structural design of the Structure\* is in general conformance with the requirements of the Florida Building Code, and all related structural codes and technical standards. The Structure is defined as follows:

\* STRUCTURE. The structural frame and the load supporting parts of floors, roofs, walls, foundations, cladding, cladding framing, stairs, equipment supports, railings and other secondary structural items are included in this definition of "Structure".

#### **Structural Peer Review is required for:**

- 1) Buildings included in Structural Occupancy Category IV as defined in the Florida Building Code.
- 2) Buildings with aspect ratios of seven or greater.
- 3) Buildings greater than 500 feet in height or more than 1,000,000 square feet in gross floor area.
- 4) Buildings taller than seven stories where any element supports in aggregate more than 15 percent of the building area.
- 5) Buildings designed using nonlinear time history analysis, pushover analysis or progressive loading techniques.
- 6) Buildings where a Structural Peer Review is requested by the Building Official.

#### **Selection of the Reviewing Engineer:**

The Structural Peer Review shall be performed by a qualified independent structural engineer who has been retained by, or on behalf of, the Owner of the property. This Reviewing Engineer shall meet specific qualification requirements, including demonstrable experience in the structural design and/or peer review of structures similar in scope and complexity. Therefore, a meeting with the Building Official must be scheduled prior to commencement of the Structural Peer Review.

#### **Extent of the Structural Peer Review:**

Scope: The Reviewing Engineer shall review the plans and specifications submitted with the permit application for compliance with the structural and foundation design provisions of the Florida Building Code, and all related structural codes and technical standards. The Reviewing Engineer shall perform the following tasks as a minimum:

- 1) Confirm that the design loads conform to the applicable codes.



- 2) Confirm that other structural design criteria and design assumptions conform to the applicable codes and are in accordance with generally accepted engineering practice.
- 3) Review geotechnical and other engineering investigations that are related to the foundation and structural design and confirm that the design properly incorporates the results and recommendations of the investigations.
- 4) Confirm that the structure has a complete load path.
- 5) Perform independent calculations for a representative fraction of the systems, members and details to check their adequacy. The number of representative systems, members and details verified shall be sufficient to form a basis for the reviewer's conclusions.
- 6) Verify that performance-specified structural components (such as certain precast concrete elements) have been appropriately specified and coordinated with the Primary Building Structure.
- 7) Confirm that the structural integrity provisions of the applicable codes are being followed.
- 8) Review the structural and architectural plans for the building. Confirm that the structural plans are in general conformance with the architectural plans regarding loads and other conditions that may affect the structural design.
- 9) Confirm that major mechanical items are accommodated in the structural plans.
- 10) Confirm that all items defined in Structure are in accordance with FBC.
- 11) Attest to the general completeness of the structural plans and specifications.

Structural Calculations: The structural calculations prepared by the structural engineer of record shall be submitted to the Reviewing Engineer, upon the Reviewing Engineer's request, for reference only. The Reviewing Engineer shall not be obliged to review or check these calculations. If the design criteria and design assumptions are not shown on the drawings or in the computations, the structural engineer of record shall provide a statement of these criteria and assumptions for the reviewer.

**Structural Peer Review Report:**

General. The Reviewing Engineer shall submit a report to the department stating whether or not the structural design shown on the plans and specifications generally conforms to the structural and foundation requirements of the Florida Building Code.

Contents. The report shall demonstrate, at a minimum, compliance with items 1 through 11 of "Extent of the Structural Peer Review" above. In addition, the report shall also include the following:

- 1) The codes and standards used in the structural design of the project.
- 2) The structural design criteria, including loads and performance requirements.



- 3) The basis for design criteria that are not specified directly in applicable codes and standards. This should include reports by specialty consultants such as wind tunnel study reports and geotechnical reports. Generally, the report should confirm that existing conditions at the site have been investigated as appropriate and that the design of the proposed structure is in general conformance with these conditions.

Phased submission. If an application is submitted for a permit for the construction of foundations or any other part of a building before the construction documents for the whole building have been submitted, then the Structural Peer Review and report shall be phased. The Reviewing Engineer shall be provided with sufficient information upon which to make a Structural Peer Review for the phased submission.

**Responsibility:**

Structural engineer of record. The structural engineer of record shall retain sole responsibility for the structural design. The activities and reports of the Reviewing Engineer shall not relieve the structural engineer of record of this responsibility.

Reviewing Engineer. The Reviewing Engineer's report states his or her opinion regarding the design by the engineer of record. The standard of care to which the Reviewing Engineer shall be held in the performance of the Structural Peer Review and report is that the level of skill and care are consistent with Structural Peer Review services performed by professional engineers licensed in the State of Florida for similar types of projects.

*REFERENCE: 2008 New York Building Code, with amendments.*