



Memorandum

TO: SHARON ERICKSON
CITY AUDITOR

FROM: Kim Welsh

SUBJECT: SEE BELOW

DATE: September 6, 2017

Approved

D. D. S. L.

Date

9/12/17

**SUBJECT: UPDATED RESPONSE TO RESIDENTIAL HIGH-RISE DEVELOPMENT
AUDIT RECOMMENDATION #2, ITEMS B AND C**

In response to an inquiry at the Community and Economic Development Committee on Monday, August 28, 2017, this memo clarifies that the Building Division Guidelines describing when Structural Peer Review is required have been revised to include “Structures exceeding the maximum allowable height, or more than 240 feet in height, per the code.”

Structural Peer Review is a technical review of a project by peers qualified by their experience with complex structural engineering designs and analyses. The purpose of the review is to enhance the quality and structural safety of a complicated structural design system.

The original Structural Peer Review Guidelines released in January 2015 focused on “high-risk” buildings and included five criteria that would trigger a required Structural Peer Review. As a result of the Audit, on September 1 the Building Division added item number 1) below to the criteria for projects subject the requirement of a Structural Peer Review.

- 1) Structures exceeding the maximum allowable height, or more than 240 feet in height, per the code.
- 2) When dynamic lateral-force procedure is required for structures per the code.
- 3) Structures designed with a seismic isolation system.
- 4) Alternate designs not specifically prescribed in the code.
- 5) Performance design which is outside those prescribed in the code.
- 6) Any other complicated structure or components not defined above but identified by the Building Official to require structural peer review.

The complete Structural Peer Review Guidelines are attached to this Memo and can be accessed at <http://www.sanjoseca.gov/DocumentCenter/View/71405>.

ADMINISTRATION'S REVISED RESPONSE TO RECOMMENDATION #2

Recommendation #2: To provide consistent assurance of health and safety, the City's development services partners should define the circumstances under which:

- b) The Building Division would require peer review of geotechnical report findings on foundation design and soil conditions; or
- c) Structural and/or seismic peer review would be required for higher risk buildings.

Response Narrative: The Administration agrees with this recommendation.

- b & c) It is the current practice of the Building Division to request outside peer review for projects that deviate from or are beyond of the parameters described in the code. The Building Division recently updated the Structural Peer Review Guidelines to include high-rise structures.

/s/

KIM WALESH
Deputy City Manager
Director of Economic Development

For additional information, please contact Chu Chang, Acting Assistant Director/Chief Building Official, at (408) 535-7791.

Attachment: Building Division Structural Peer Review Guidelines

Building Division Guideline

Structural Peer Review Guidelines

Policy No: BDP-S001
Effective Date: January 1, 2015
Revised: September 1, 2017

Purpose

Structural peer review is a technical review of a project by peers qualified by their experience and application of complex structural engineering designs and analyses. This review is to enhance the quality and structural safety of a complicated structural design system.

Projects subject to the requirement of Structural Peer Review

- 1) Structures exceeding the maximum allowable height per ASCE 7-10 or more than 240 feet in height.
- 2) When dynamic lateral-force procedure is required for structures per ASCE 7-10.
- 3) Structures designed with a seismic isolation system.
- 4) Alternate designs not specifically prescribed in ASCE 7-10.
- 5) Performance design which is outside those prescribed in ASCE 7-10.
- 6) Any other complicated structure or components not defined above but identified by the Building Official to require structural peer review.

Qualifications to perform Structural Peer Review

- 1) The Peer Review Team (PRT) shall be independent of the design team and have no conflict of interest in review of the project.
- 2) The PRT shall have, or exceed, a level of technical experience comparable to that of the design engineer for the project.
- 3) The PRT shall be a registered Structural Engineer in the California.
- 4) The PRT shall be familiar with regional design and construction practices.

Scope of Peer Review

- 1) Loading & Configuration
 - a) Architectural/ functional constraints
 - b) Site topography, soils, and adjacent property constraints.
 - c) Environmental effects: wind, earthquake, and surface/ground water
- 2) Performance evaluation
 - a) Structural serviceability; deflection, lateral drift, and other deformations.
 - b) Vibration
 - c) Crack control
 - d) Foundation movement
 - e) Effects of deflection, lateral drift, and other deformations on non-structural elements.
 - f) Wind and seismic
- 3) Structural System
 - a) Structural materials and framing systems
 - b) Redundancy, ductility, and compatibility in relation to lateral forces
 - c) Member sizes and locations

- d) Foundation system and design
- e) Non-structural elements compatible with structural system
- f) Detailing of the structural system
- g) Constructability of structural elements and connections
- 4) Detailed Design
 - a) Methodology of structural calculations
 - b) Compute and mathematical modeling
 - c) Structural drawings and specifications, and testing and inspection requirements
 - d) Diaphragms, collectors, anchorage and ties

Procedures

- 1) When required, the owner/applicant shall provide the names and qualifications of at least three (3) qualified PRTs, the scope of work included in the review, and the proposed timeline schedule for the project, to the Building Official.
- 2) The Building Official will select one of the owner's/ applicant's proposed PRTs, and notify the owner/applicant who has been selected.
- 3) The owner/applicant is responsible for bearing the cost of the peer review. This payment is in addition to the plan check fees paid to the Building Division and payment arrangements are negotiated between the peer reviewer and the owner/applicant.
- 4) The PRT may proceed with the review at the schematic design phase.
- 5) As a minimum, written reports shall be shared with the Building Division plan check project manager at the following stages: Initial, In-Progress, and Final. The written reports shall cover all aspect of the scope of work as defined above.
- 6) The Building Division may call for meetings with the Engineer of Record, sub-consulting project engineers, the PRT and other technical experts, as required, to assist in resolving difficult code issues.