

URM Pre-Submittal Conference:
Seismic Retrofit Questionnaire for use of Alternate Method

Projects that intend to use the Alternate Method to comply with the Seattle Existing Building Code (SEBC) seismic regulations for unreinforced masonry (URM) buildings may use this questionnaire to confirm eligibility. To ensure effective use of meeting time, it is recommended that this form be completed and sent to SDCI staff prior to the meeting. Include supporting documentation and calculations as necessary. The outcome of the conference will confirm whether the seismic retrofit qualifies for the Alternate Method. Successful completion of an Alternate Method retrofit makes a building eligible for a change of status in the URM Database to *retrofitted*. The Alternate Method may not be used for projects deemed a Substantial Alteration.

To qualify for the Alternate Method the building must comply, or be modified to comply, with these seven qualification criteria from SEBC Section A603:

(1) The building is no more than 6 stories above the seismic base of the structure.

Compliant Non-Compliant

(2) The building is not classified as Risk Category IV.

Compliant Non-Compliant

(3) The building does not have a Weak Story vertical irregularity as defined by ASCE 7-16 12.3.2.2.

Compliant Non-Compliant Unknown

If Non-Compliant or Unknown explain how it will be mitigated:

(4) The building has a mortar shear strength (v_{t0}) of 30 psi or more for all masonry classes, as determined by Section A604.2

Compliant Non-Compliant Unknown

If Non-Compliant or Unknown explain how it will be mitigated:

(5) The building has wood or plywood diaphragms at all levels above the base of the building.

Compliant Non-Compliant Unknown

If Non-Compliant or Unknown explain how it will be mitigated:

(6) The building does not have straight-sheathed floor or roof diaphragms.

Compliant Non-Compliant Unknown

If Non-Compliant or Unknown choose an exception below:

Exceptions:

- i. Straight-sheathed floor diaphragms with finished wood flooring with offset or perpendicular board edges.
- ii. Straight-sheathed floor or roof diaphragms without finished wood flooring with offset or perpendicular board edges where any of the following conditions are met:
 - (1) The building has crosswalls below the non-compliant level at a spacing that does not exceed 40 feet on center; or
 - (2) The diaphragm span is less than 24 feet and the diaphragm aspect ratio is less than 2-to-1.

If no exceptions apply, explain how the diaphragms will be mitigated:

(7) The building has or will be provided with a minimum of two lines of vertical elements of the lateral force-resisting system parallel to each axis located near or on the perimeter of the building.

Compliant Non-Compliant Unknown

Describe the building's current lateral force resisting system:

Are you adding any new lines of lateral force-resisting systems?

Yes - describe:

No

Where the existing lateral force-resisting system is a masonry wall all the following must be true:

- i. The piers shall have a height-to-width ratio that does not exceed 2 to 1.
 - Compliant Non-Compliant
- ii. The piers shall occupy not less than 40 percent of the wall's length.
 - Compliant Non-Compliant
- iii. The piers shall not be comprised of hollow clay block or hollow clay tile.
 - Compliant Non-Compliant

If any of the above are Non-Compliant indicate which exception below will be used to qualify:

Exception:

Qualification criteria item 7 for masonry walls does not apply if the applicant submits a report prepared by a licensed Structural Engineer that shows all walls comply with a maximum

demand/capacity ratio of 2.5 for in-plane forces. One of the following two methods shall be used to determine the demand/capacity ratio:

- i. ASCE 41 Chapter 16: Special Procedure for Unreinforced Masonry where seismic hazard is determined using Section A604.1 with $S_{xs} = S_{DS}$ and $S_{x1} = S_{D1}$; or
- ii. Chapter A1 of the Seattle Existing Building Code where seismic hazard is determined using Section A604.1.

- Which seismic hazard per SEBC Section 604.1 are you using?
 - 75% of ASCE 7-16
 - 75% of ASCE 7-22