

URM Pre-Submittal Conference - Seismic Retrofit Questionnaire

For Unreinforced Masonry (URM) building projects that intend to comply with a future City of Seattle URM Building Retrofit Ordinance, the Draft URM Retrofit Technical Standard provides a pathway for a code-based seismic retrofit. Alternatively, for building owners who desire a lesser level of seismic retrofit, the Draft Technical Standard also contains an Alternate Method that is allowed only for buildings that meet certain qualification criteria.

If this pre-submittal conference is for a project that intends to use the Alternate Method, please come to the meeting with the following qualification criteria already verified. The outcome of the conference will be the confirmation of whether the seismic retrofit qualifies for the Alternate Method.

The seven qualification criteria can be found in Section 3 of [Director's Rule DR 6-2023](#) or Section 5 of the [Draft URM Retrofit Technical Standard](#). Please answer the following questions:

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

- (2) The building shall not be classified as Risk Category IV.
 - True
 - False

- (3) The building does not have a Weak Story vertical irregularity as defined by ASCE 7-16 as referenced by the SBC.
 - True
 - False
 - Unknown

- (4) The building has a mortar shear strength, v_{to} , as determined by Section 4.2, of 30 psi or more for all masonry classes.
 - True
 - False - explain how this will be mitigated: _____
 - Unknown

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

- (6) The building does not have straight-sheathed floor or roof diaphragms.
 - True
 - False (see exceptions below)
 - Unknown

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 False, indicate which Exception is met:

- i
- ii (1)
- ii (2)

If none of the Exceptions are met, describe how this 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.

Describe the building's current lateral force resisting system: _____

- True
- False - how do you intend to qualify? _____

Unknown

Where the lateral force resisting system is a masonry wall:

- i. The piers shall have a height-to-width ratio that does not exceed 2 to 1.
 - True (calculations shall be provided at or after the pre-submittal conference for review before approval of the meeting minutes)
 - False - how do you intend to qualify? _____

- ii. The piers shall occupy not less than 40 percent of the wall's length.
 - True (calculations shall be provided at or after the pre-submittal conference for review before approval of the meeting minutes)
 - False - how do you intend to qualify? _____

- iii. The piers shall not be comprised of hollow clay block or hollow clay tile.

True

False - how do you intend to qualify? _____

Lateral force resisting frames or walls added to provide a minimum of two lines of vertical elements of the lateral force resisting system shall comply with the seismic regulations for Substantial Alterations per the Seattle Existing Building Code.

Are you adding one or more new lateral force resisting systems?

Yes - provide description: _____

No

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 4.1 of DR 6-2023 with $S_{X5} = S_{D5}$ and $S_{X1} = S_{D1}$; or
- ii. Appendix A1 of the Seattle Existing Building Code where seismic hazard is determined using Section 4.1 of DR 6-2023.

Are you using this exception?

Yes (calculations shall be provided at or after the pre-submittal conference for review before approval of the meeting minutes)

- Which analysis method are you using?

ASCE 41 Chapter 16

Appendix A1 of the Seattle Existing Building Code

- Which seismic hazard per Section 4.1 of DR 6-2023 are you using?

75% of ASCE 7-16

75% of ASCE 7-22

- Is the maximum demand/capacity ratio ≤ 2.5 ?

Yes

No

No