

# Multifamily Seller/Servicer Guide

## Chapter 64SBL

### SBL Seismic Risk Assessment Requirements

#### 64SBL.1 General requirements (12/15/16)

This chapter sets forth the requirements, duties and responsibilities of the Seller/Servicer and the seismic risk consultant to evaluate seismic risk at the Property for Mortgages purchased under the SBL Purchase Product. For the purposes of this chapter, the seismic risk consultant will be referred to as the “Consultant”, and “Elevated Seismic Hazard Region” is as defined in Section 64SBL.2(a).

A Level 1 SRA is required for a Property that is located in an Elevated Seismic Hazard Region, as defined in Section 64SBL.2(a), and that exhibits any of the risk factors identified in Section 64SBL.2(c).

If a Level 1 SRA is required, then the Consultant must complete and submit Form 1102, Seismic Risk Assessment Summary, with each SRA.

If the Property is not located in an Elevated Seismic Hazard Region, an SRA is not required. If the Property is located in an Elevated Seismic Hazard Region, and the Seller/Servicer determines that the seismic risk factors in Section 64SBL.2(c) are not present at the Property, an SRA is not required.

References in this Chapter to ASTM Standard Guide E2026-16a and ASTM Standard Practice E2557-16a will include any successor ASTM Standard.

For the purposes of this Guide, the term Scenario Expected Loss-475 (SEL-475) is used instead of the older term Probable Maximum Loss (PML). The SEL-475 is defined as the SEL corresponding to the mean level loss resulting from the damage experienced due to a 475-year return period earthquake. See Section 64SBL.8 for additional information regarding the determination of the SEL-475.

#### 64SBL.2 Determining whether a Level 1 SRA is required

##### a. Use of the Elevated Seismic Hazard Region Map (06/30/16)

The Elevated Seismic Hazard Regions are highlighted on the Elevated Seismic Hazard Region Map. After examining the map, if the Seller/Servicer conclusively determines that the Property is not located in an Elevated Seismic Hazard Region no seismic risk documentation is required.

If the Seller/Servicer determines that the Property is located in an Elevated Seismic Hazard Region highlighted on the map, or if the Seller/Servicer is not sure whether the Property is located in an Elevated Seismic Hazard Region highlighted on the map, the Seller/Servicer

must make its determination as to whether the Property is located in an Elevated Seismic Hazard Region following the procedure set forth in Section 64SBL.2(b).

**b. Determining whether a Property is located in an Elevated Seismic Hazard Region (09/22/17)**

An “Elevated Seismic Hazard Region” is defined as a geographic location with a horizontal Peak Ground Acceleration (PGA) equal to or greater than 0.15g. For Properties located in the continental United States, the PGA must be calculated using the United States Geological Survey (USGS) website below:

<https://earthquake.usgs.gov/hazards/interactive/>

For any Property located in Hawaii, Alaska (limited to within 100 miles of the city of Anchorage or the Gulf of Alaska), or one of the U.S. territories, the Seller/Service must assume that the PGA is greater than 0.15g, and an SRA is required, pursuant to the presence of the risk factors noted in Section 64SBL.2(c). For areas of Alaska outside the delineated area, the Seller/Service can assume a PGA of less than 0.15g, and therefore an SRA is not required.

For areas that require a PGA calculation, the Seller/Service must enter or select the input values into the tool found on the USGS website as identified in the table below. An example of the use of the tool, using the address of the Freddie Mac Los Angeles office at 444 South Flower Street, can be found on FreddieMac.com at [http://www.freddiemac.com/multifamily/seller\\_service/uw/](http://www.freddiemac.com/multifamily/seller_service/uw/). This example includes instructions on saving the data in PDF format for submission to Freddie Mac.

Data Element	Input
Edition	Dynamic: Conterminous U.S. 2014 (v4.1.1, or latest release, v4.1.x)
Spectral Period	Peak ground acceleration
Location	Generate the latitude/longitude using the “choose location using a map” feature to enter an address
Time Horizon	10% in 50 years (475 years)
Site Class*	<ul style="list-style-type: none"> <li>259 m/s (site class D) for properties located in CA, NV, OR, WA</li> <li>760 (B/C boundary) for all other locations</li> </ul>

**\* The site class must be adjusted as indicated in the table above, unless the Consultant justifies an alternate soil classification value and provides documentation.**

If the PGA is less than 0.15g, an SRA is not required.

If the PGA is equal to or greater than 0.15g, then the Property is located in an Elevated Seismic Hazard Region and the Seller/Service must evaluate the Property for the risk

factors specified in Section 64SBL.2(c). If none of the risk factors listed above are present at the Property, no SRA is required.

If the PGA is equal to or greater than 0.15g, and any one of the risk factors listed in Section 64SBL.5(c) is present at the Property, or if the Seller/Serviceicer cannot conclusively determine that none of the risk factors are present at the Property, a Level 1 SRA is required. The Seller/Serviceicer must

- Obtain an SRA meeting the requirements of this Chapter 64SBL
- Upload the PDF obtained as output from the USGS website into DMS and submit the Level 1 SRA and the PDF to Freddie Mac in the applicable underwriting package as the required seismic risk documentation

**c. Risk factors for Properties located in an Elevated Seismic Hazard Region (10/12/17)**

If the Property is located in an Elevated Seismic Hazard Region, as part of the property inspection described in Section 8SBL.15, the Seller/Serviceicer must evaluate the Property for the following seismic risk factors:

- Any Property with residential units above ground floor commercial, retail or tuck-under parking that has either a construction date prior to 1980 as reported in the assessor's record, or a certificate of occupancy issued prior to 1980
- Any wood framed building built prior to 1950
- Any unreinforced masonry construction, regardless of retrofit
- Any Property required to undergo a seismic retrofit by any local or State authority

**64SBL.3 Specific Seller/Serviceicer duties and responsibilities (06/30/16)**

The Seller/Serviceicer's responsibilities are to

- Retain and direct the Consultant when a Level 1 SRA is required

The Seller/Serviceicer must review and verify the Consultant's credentials, licensing, certifications, memberships and affiliations. For new Consultants, the Seller must check at least three references from lenders who have retained or employed the Consultant to sufficiently evaluate the Consultant's capabilities and performance. The Seller must maintain a separate seismic risk consultant file for Freddie Mac's use that includes the Seller's ongoing evaluations of each Consultant's performance, as well as the Consultant's current resume, required references and current certificate(s) of liability insurance in accordance with the requirements of Section 11.5.

The Borrower must not retain or direct the Consultant, but the Borrower may be responsible for paying the costs of all SRA services.

- Provide information identified in Section 64SBL.6 to the Consultant

- Obtain a Level 1 SRA for the Property, when required, and review the SRA to
  - Ensure that it complies with Freddie Mac’s requirements
  - Verify that conclusive recommendations are provided for all identified issues
- Disclose to Freddie Mac any seismic risks identified in the SRA as well as any insurance required by Section 64SBL.14

#### **64SBL.4 Reserved (06/30/16)**

#### **64SBL.5 Level 1 SRA requirements (10/12/17)**

The Level 1 SRA must be performed as defined by the ASTM Standard Guide E2026-16a, ASTM Standard Practice E2557-16a and this Guide. The Consultant who prepares the Level 1 SRA must meet the qualifications and requirements stated in Section 64SBL.12. The Consultant must review pertinent information and records in accordance with Section 64SBL.6. Each Level 1 SRA must include information disclosed by an inspection of the Property’s structural components.

At initial submission of the full underwriting package to Freddie Mac, the site inspection supporting the Level 1 SRA must be dated within 30 days prior to the date of the Level 1 SRA. This inspection and the report documentation must meet the requirements of Sections 64SBL.7 through 64SBL.9. In addition, the Consultant must complete Form 1102, Seismic Risk Assessment Summary, as described in Section 64SBL.11 and include the form as part of the seismic risk documentation submitted in the underwriting package.

The Level 1 SRA must:

- Clearly state any limiting conditions and the intended purpose of the report
- Identify deviations from the Guide requirements, ASTM Standard Guide E2026-16a and ASTM Standard Practice E2557-16a
- Be dated within six months prior to the date on which the full underwriting package is delivered to Freddie Mac

Freddie Mac may require that the Level 1 SRA be updated if it is dated more than six months prior to the issuance date for the Letter of Commitment.

The Seller/Servicer must direct the Consultant to include the following language in the Level 1 SRA:

“This report is for the use and benefit of, and may be relied upon by

- a. the Seller/Servicer, Freddie Mac and any successors and assigns (“Lender”);
- b. independent auditors, accountants, attorneys and other professionals acting on behalf of Lender;

- c. governmental agencies having regulatory authority over Lender;
- d. designated persons pursuant to an order or legal process of any court or governmental agency;
- e. prospective purchasers of the Mortgage; and
- f. with respect to any debt (or portion thereof) and/or securities secured, directly or indirectly, by the Property which is the subject of this report, the following parties and their respective successors and assigns:
  - any placement agent or broker/dealer and any of their respective affiliates, agents and advisors;
  - any initial purchaser or subsequent holder of such debt and/or securities;
  - any Servicer or other agent acting on behalf of the holders of such debt and/or securities;
  - any indenture trustee;
  - any rating agency; and
  - any institutional provider from time to time of any liquidity facility or credit support for such financings.

In addition, this report, or a reference to this report, may be included or quoted in any offering circular, information circular, offering memorandum, registration statement, private placement memorandum, prospectus or sales brochure (in either electronic or hard copy format) in connection with a securitization or transaction involving such debt (or portion thereof) and/or securities.”

#### **64SBL.6 Data collection and records inquiry for the Level 1 SRA (06/30/16)**

The Consultant must review all available information that would reveal the characteristics and current condition of the site and structural systems at the Property, including any seismic damage assessments. The Consultant should review such documents for informational purposes only and is not required to comment on their procedures, protocol, conclusions, or recommendations unless in conflict with the Consultant’s findings. The Consultant should only utilize such information in formulating recommendations or conclusions if such documents appear reasonably accurate. The Seller/Servicer must ensure that all such information is provided to the Consultant before the Consultant inspects the Property.

The Level 1 SRA must identify the information the Consultant reviewed and the contacts that were consulted.

At a minimum the following must be reviewed (as applicable) and incorporated into the SRA report:

- **As-Built Construction Documents** – Review of as-built documentation may be limited to structural information such as the type of framing material, strength of concrete or steel, type of column-to-beam connections, composition of shear walls, quantity of reinforcing bars, symmetry of building configuration, transference of loads to the substructure, nature of the substructure, and nature of the soils.
- **Documents for Planned Construction** - Review of documentation for planned construction at the Property, such as seismic retrofit or renovation work, that will likely affect the performance and damageability of the Property during a seismic event.
- **Soils Reports** – Review of available geotechnical information and comment on the soil type, geotechnical features and the potential for soil liquefaction, ground fault rupture, and landslides.
- **Building Information** – Identification of the building type and any federal, State or local law, ordinance or code under which it was designed.
- **Active Earthquake Faults** – Identification of any active faults in the region that may affect the Property, and report on their maximum credible magnitude potential.
- **Secondary Earthquake Hazards** – Identification of secondary, site-specific hazards such as soil liquefaction, earthquake-induced landslides, and tsunamis or seiches.

#### **64SBL.7 Inspection requirements for the Level 1 SRA (06/30/16)**

The Consultant must perform a complete inspection of the exterior and interior of the Property's components and systems that are visible and accessible. This is generally a non-intrusive survey, but the Consultant must make a reasonable attempt at discovery. This inspection must document the building characteristics, any substantive inconsistencies between the field conditions and as-built documents, and any deficiencies in the structural systems. The Consultant must also document the sufficiency of non-structural bracing for secondary building systems, such as mechanical equipment and ceilings. The Consultant must provide photographic documentation that characterizes the Property's overall construction and configuration and that identifies specific vulnerabilities or signs of physical distress.

#### **64SBL.8 Seismic loss estimation requirements for the Level 1 SRA (12/15/16)**

Based on the records submitted, site observations, and empirical data available through peer-reviewable data systems, the Consultant must render an opinion, in conformance with the ASTM Standard Guide E2026-16a and ASTM Standard Practice E2557-16a, of both the Scenario Expected Loss (SEL) and Scenario Upper Loss (SUL) as a percentage of the current building replacement cost. The SEL and SUL must be determined using the 10 percent probability of exceedance in 50 years (a.k.a. 475-year return period earthquake). The SEL and SUL based on the 10 percent probability of exceedance in 50 years (475-year return period earthquake) will be referred to as the SEL-475 and SUL-475 within this Guide. The Consultant must include, as applicable, a general description of the anticipated damage to the structure and its expected life safety and building stability performance as a result of these scenario losses. The Consultant's method for calculating seismic loss estimates must be peer-reviewable, with all input, engineering assumptions and output documented in the report for third-party review.

For Properties where multiple building construction types are present (for example: buildings with tuck-under parking vs. buildings without tuck-under parking; garden-style buildings vs. high-rise buildings; linear buildings vs. L-shaped buildings), the Consultant must provide the SEL-475 for each building construction type.

For additional information on evaluating the SEL-475 to determine the need for earthquake insurance or a seismic retrofit, see Section 64SBL.14.

### 64SBL.9 Report content for the Level 1 SRA (12/15/16)

The Consultant must include the findings from the Consultant's records review, site observations, and interpretation of data in a written report containing the following elements:

- **Cover Page** – must include the Property's name and address, report date, the client's name, address, and phone number, and the Consultant's name, address and phone number.
- **Certification Memo** – must include the Property's name and location, report date, reliance language, confirmation that the report meets ASTM Standard Guide E2026-16a, ASTM Standard Practice E2557-16a and the Guide, identification of the field and office personnel responsible for the report, and the signature of the reviewer.
- **Executive Summary** – must include the following:
  - Salient information about the buildings at the Property, such as their location, use, size, age, construction type, and design style
  - Summary of the findings of the analysis, including the general condition of the Property
  - Any specific areas of concern
  - The SEL-475 and SUL-475 as a percentage damage ratio, and provide peak ground acceleration motions and the approximate Modified Mercalli scale intensity at the site
  - Recommendations for further action or investigation as appropriate. If the Property is not expected to meet life safety and building stability performance standards as a result of the scenario losses considered, then the Consultant must include conceptual retrofit techniques that would achieve these performance levels
- **Purpose & Scope** – must state the purpose of the engagement, including an outline of the scope of work, the methods used to conduct the survey, a statement describing any limitations or exceptions to the scope of work, and reasons for any deletions or additions to the scope of work.
- **Survey Approach** – must provide a short description of the methodology used to conduct the survey and arrive at the conclusions. Include the specific method used to arrive at the SEL-475 and SUL-475, the sources of the empirical data and proprietary systems, the level of documentation reviewed, the procedures used during the site observations, and the methods used to determine the building stability.

- **Site Characteristics** – must list and discuss the following:
  - Property location
  - Site and vicinity characteristics
  - Current use of the Property
  - Soil data source (e.g., geotechnical report, regional online data)
  - Soil type (engineering classification)
  - Liquefaction potential (classified Very Low, Low, Moderate, High, Very High)
  - Landslide potential (classified Very Low, Low, Moderate, High, Very High)
  - Ground fault rupture potential
  - Site map with aerial imagery, where available
- **Building Characterization** – must list and discuss the following:
  - Construction classification (e.g., wood-framed, concrete, steel, masonry)
  - Number of stories
  - Year designed
  - Year constructed
  - Year renovated/upgraded
  - Structural irregularities
  - Geometric irregularities
  - Mass irregularities
  - Structural system redundancy
  - Overall construction quality
- **Site Observations** – must list and discuss property specific issues observed during the inspection. This must include a detailed appendix, as described below
- **Seismic Characteristics of Area** – must list and discuss the following:
  - Most potentially damaging faults in the area of the Property (within a 50-mile radius)



- Maximum theoretical magnitude of an earthquake at that fault
- Approximate distance from the most potentially damaging fault
- Anticipated 475-year ground motion at the Property
- **Building Stability** – must be evaluated in accordance with ASTM Standard Guide E2026-16a, using the earthquake ground motion prescribed in the current edition of the International Building Code or other nationally applicable building code. Any stability concerns must be highlighted in Form 1102. Use of the 475-year ground motion used to calculate the SEL-475 is not appropriate for the building stability determination.
- **Site Seismicity and Scenario Loss** – must state the Consultant’s opinion in accordance with ASTM Standard Guide E2026-16a and ASTM Standard Practice E2557-16a of the SEL and the SUL as a percentage of the current building replacement cost as a result of this analysis.
- **Appendices** – must include the following, at a minimum:
  - Qualifications - Professional resumes for all participating qualified professionals, including the Field Assessor, Report Author, and Senior Assessor as applicable
  - Photographs - Photos specific to the seismic assessment that document the Property’s structural systems and identify seismic vulnerabilities and disrepair that relate to the calculation of the seismic loss estimates
  - Site Plan - must clearly label the Property, each building, and the location of specific seismic vulnerabilities as identified in the report
- **Form 1102, Seismic Risk Assessment Summary**– must be completed in its entirety

#### **64SBL.10 Acceptability of the Level 1 SRA (06/30/16)**

The Level 1 SRA must be acceptable to Freddie Mac. Upon Freddie Mac’s review of the completed SRA, Freddie Mac may impose additional requirements.

#### **64SBL.11 Form 1102, Seismic Risk Assessment Summary for a Level 1 SRA (09/30/20)**

The Consultant must complete and sign Form 1102. Below is a description of each section:

- **PGA Determination** – provide the PGA as determined using the formula found in Section 64SBL.2(b)
- **Deviations to the Field Assessor’s Qualifications** – if the Senior Assessor has determined that a Field Assessor who does not meet the minimum qualifications in Section 64SBL.12(a) is acceptable, provide a justification by the Senior Assessor
- **Building Stability** – summarize the details regarding any building stability concerns, along with any recommended follow-up

- **SEL-475**– for Properties with a single construction type, provide a single SEL-475. For Properties in which multiple building types are present, provide a brief description of each building type and its corresponding SEL-475, and, when prompted, identify if the building type in question has stability concerns.

## **64SBL.12 Level 1 SRA Consultant qualifications and requirements (06/30/16)**

Consultants who conduct the on-site inspections and complete the Level 1 SRA reports must meet the qualifications and requirements specified in this section.

Because Freddie Mac does not approve Consultants, the Seller/Servicer must not consider any representation that a Consultant is approved or qualified by Freddie Mac to perform Level 1 SRAs. The Seller/Servicer is responsible for selecting the Consultant and is solely accountable for the Consultant's performance. The Seller/Servicer must ensure that the consultant is qualified to perform the required work.

### **a. References and experience (12/15/16)**

The consulting company providing Level 1 SRA reports must meet the following minimum requirements:

- A staff of qualified professionals
- The ability to rapidly assess sites in all Elevated Seismic Hazard Regions of the United States
- A significant track record completing seismic reports for commercial real estate investors
- Experience working within the commercial mortgage securitization markets and rating agencies
- A well-developed production infrastructure and documented quality control procedures

The Consultant responsible for conducting the on-site inspection must meet the qualifications of either a Field Assessor or Senior Assessor, as defined in the ASTM Standard Guide E2026-16a Section 6.2.3, and as noted below.

The minimum qualifications for the Senior Assessor are:

- Licensed to practice civil or structural engineering
- 10 years of experience of general structural engineering of buildings
- Five years of experience of seismic design and analysis experience of buildings
- Three years of experience of seismic risk assessment of buildings

The minimum qualifications for a Field Assessor are:

- Licensed to practice civil or structural engineering
- Five years of experience of general structural engineering of buildings
- Three years of experience of seismic design and analysis experience of buildings
- Two years of experience of seismic risk assessment of buildings

In accordance with ASTM E2026-16a Section 6.2.3.4 the Senior Assessor will be responsible for determining the acceptable level of qualifications for the assessment and will be accountable for all elements of the Level 1 SRA. Pursuant to this Section, the Senior Assessor may determine that a Field Assessor who does not meet the minimum qualifications is acceptable. Freddie Mac will consider approval of a deviation of the Field Assessor qualifications under the following scenarios:

- Original construction and/or seismic retrofit structural drawings are provided for review by the Field Assessor and/or Senior Assessor prior to the assessment, or
- The building(s) were designed and constructed in accordance with a Benchmark Building Code, or subsequent edition, as defined by American Society of Civil Engineers (ASCE) national standard ASCE 41-13, Chapter 4, Table 4-6, or
- The buildings on the property are determined by the Senior Assessor to have sufficiently simple configuration and no irregularities (such as tuck-under parking) that would promote undesirable seismic behavior that may result in structural instability or elevated building damageability.

The Senior Assessor must provide clear and concise justification for any deviations from the Field Assessor qualifications in Form 1102 and in the Certification Memo of the Level 1 SRA per Section 64SBL.9.

A Level 1 SRA must be written by a Consultant that meets the qualifications of a Field Assessor or Senior Assessor and must be reviewed and signed by a Consultant meeting the qualifications of a Senior Assessor. The qualifications of all professionals must be attached to the report and are subject to review by the Seller/Service and Freddie Mac.

All Consultants with a professional engineering designation must have a valid and current license issued by one of the following States: Alaska, California, Washington, Oregon, Nevada, Utah, Hawaii, and Tennessee.

See Section 64SBL.3 for specific Seller/Service duties and responsibilities for retaining and directing a Consultant when a Level 1 SRA is required.

**b. Conflicts of interest/provision of related services (06/30/16)**

The Consultant may not be affiliated with the Borrower, the Seller/Service, a buyer or seller of the Property, or engaged in any business that might present a conflict of interest.

**c. Insurance (06/30/16)**

The Seller/Servicer must obtain from each Consultant an original certificate(s) of liability insurance that indicates that the Consultant is covered by insurance meeting the requirements of Section 11.5. The Seller/Servicer must retain the original certificate(s) of liability insurance in its files.

**d. Unacceptable Consultants (06/30/16)**

The Seller/Servicer must send written notification immediately to *Small Balance Loan Team* if the Seller/Servicer, for cause, discontinues the use of a Consultant who has completed Level 1 SRAs within the past 12 months for Mortgages purchased or credit enhanced by Freddie Mac.

In addition, Freddie Mac reserves the right to refuse to accept Level 1 SRAs completed by any Consultant. Freddie Mac will maintain, on FreddieMac.com, the [Multifamily Restricted Vendor List](#). If a Consultant appears on the Multifamily Restricted Vendor List, the Seller/Servicer may not use that Consultant to complete a Level 1 SRA for a Property until notified otherwise by Freddie Mac. The decision to place a third-party vendor on the Multifamily Restricted Vendor List is solely within Freddie Mac’s discretion.

The Multifamily Restricted Vendor List is made available to Seller/Servicers for the sole purpose of ensuring that unacceptable Consultants do not prepare reports for Freddie Mac and will constitute “Confidential Information” as defined in Section 2.8.

**64SBL.13 Representations and warranties (09/28/18)**

The Seller/Servicer is deemed to make the representations and warranties regarding the Consultant and Level 1 SRA set forth in Section 5.4.

**64SBL.14 Evaluation of the SRA results (09/30/20)**

Retrofit and seismic insurance requirements are based on the results from the SRA. The following table summarizes the requirements based on the report findings:

SEL-475	Building Stability Concern	
	No	Yes
≤ 20%	Insurance not required	Ineligible for purchase until seismic retrofit completed unless otherwise approved by Freddie Mac
> 20% and ≤ 40%	Insurance required, and seismic retrofit optional; if the retrofit results in a SEL-475 ≤ 20% at completion, then insurance will no longer be required	Ineligible for purchase until seismic retrofit completed unless otherwise approved by Freddie Mac
> 40%	The affected building(s) must have a seismic retrofit prior to the Mortgage being submitted to Freddie Mac for consideration	

If the Property will undergo seismic retrofit, the Borrower must establish a Repair Reserve of at least 125 percent of the estimated cost to make the required modifications, and the retrofit must be completed within 12 months after the Origination Date.

See Section 31.9(b)(3)(b) for information on requesting Freddie Mac approval to discontinue earthquake coverage after the Property undergoes seismic retrofit.

See Section 64SBL.8 for detailed information on determining the SEL to document in the SRA.