

Standard Plan Sets Will Reduce Home Seismic Retrofitting Costs in California

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Sacramento, Calif. – A joint project of the California Earthquake Authority (CEA) and the Federal Emergency Management Agency (FEMA) makes it easier and less expensive to protect certain types of homes from earthquakes. The two-volume publication titled Vulnerability-Based Seismic Assessment and Retrofit of One- and Two-Family Dwellings is intended to reduce the time needed for design and permitting of seismic retrofits and increase the number of homes that remain livable after an earthquake.

Contractors, architects, engineers and skilled homeowners who are planning to retrofit certain types of at-risk residential structures can order the free publication, consisting of a “prestandard” and several plan sets prepared by the Applied Technology Council, by calling (800) 480-2520 or download them at <https://www.fema.gov/media-library/assets/documents/175158>.

The first volume shows how to identify and retrofit several types of light-frame wood buildings that are vulnerable to shaking—houses with a crawlspace and cripple walls up to 7 feet tall, houses with a living space over a garage (“soft story” houses), hillside dwellings, and houses with brick masonry chimneys and fireplace surrounds—and choose the most efficient retrofitting strategy. The second volume provides plan sets that, when approved by local building officials, can be used to strengthen houses without the need for costly site-specific plans and design calculations.

“Our aim is to identify the best methods of assessing vulnerabilities commonly seen with these types of one- and two-family houses and establish ways of strengthening them that can be used as a template,” said CEA Chief Mitigation Officer Janiele Maffei. “Houses with these types of vulnerabilities don’t perform very well in damaging earthquakes, and, in some cases, even modern building codes don’t properly address them.”



“Together, these publications are a great resource for owners who want to improve the seismic resilience of their homes. Seismic retrofitting may mean the difference between a homeowner being able to live in their home after an earthquake or forced to evacuate their home and live outside their community,” said Michael Mahoney, Geophysicist for FEMA.

Seismic retrofitting of vulnerable structures is critical to reducing risk. It is important for protecting the lives and assets of building occupants. On the whole, communities with more retrofitted structures are more resilient and can recover from earthquakes more rapidly.

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About CEA

The California Earthquake Authority (CEA) is a not-for-profit, privately funded, publicly managed organization that provides residential earthquake insurance and encourages Californians to reduce their risk of earthquake loss. Learn more at EarthquakeAuthority.com.

About FEMA

FEMA’s mission is helping people before, during, and after disasters.

