



Historic Home Retrofit

Full Mitigation Best Practice Story

Kitsap County, Washington

Poulsbo, WA - In late 1998, Doris Chapot purchased a two-story Cape Cod-style home built in 1902. For years it served as the First Lutheran Church parsonage. In 1940, the parsonage was moved to its present location. It was set on posts and concrete pier blocks, but nothing more was done to ensure its safety from earthquake damage.



At the time of purchase, a building inspector suggested that Chapot have an earthquake retrofit done to ensure positive connections among beams, posts, and pier blocks. Forty piers were braced with a gusset system that included a two-foot, triangle-shaped plywood tying the posts to the concrete pier. All of the posts around the perimeter were tied together in the front and the back with 2-foot by 6-foot posts, and nails were strategically placed. Because pier blocks were different shapes, bendable metal connections were used for attaching the posts.

The retrofit project was completed on February 26, 2001. On February 28, a large 6.8 magnitude earthquake, with the epicenter located in the Nisqually Basin in western Washington State, caused an estimated \$2 billion in damages. Movement was felt as far north as Vancouver, British Columbia, and as far west as Salt Lake City, Utah. Chapot was on the second floor during the earthquake. "I've been through many earthquakes during my lifetime and the house rode beautifully." After further inspection of the house, no damage was detected. "Not one thing in the house fell or broke! It feels so good to be safe!"

Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region X**

State: **Washington**

County: **Kitsap County**

City/Community: **Poulsbo**

Key Activity/Project Information

Sector: **Private**

Hazard Type: **Earthquake**

Activity/Project Type: **Retrofitting, Structural**

Structure Type: **Wood Frame**

Activity/Project Start Date: **02/2001**

Activity/Project End Date: **02/2001**

Funding Source: **Private funds**

Funding Recipient: **Business/Industry**

Funding Recipient Name: **Homeowner**

Activity/Project Economic Analysis

Cost: **\$3,312.00 (Actual)**

Non FEMA Cost:

Activity/Project Disaster Information

Mitigation Resulted From Federal
Disaster? **No**

Value Tested By Disaster? **Yes**

Tested By Federal Disaster #: **No Federal Disaster specified**

Year First Tested: **2001**

Repetitive Loss Property? **Unknown**

Reference URLs

Reference URL 1: <http://neic.usgs.gov/>

Reference URL 2: <http://emd.wa.gov/>

Main Points

- The 1902 home was moved and set on posts and concrete pier blocks, but nothing was done to ensure its safety from earthquake damage.
- An earthquake retrofit was done to ensure positive connections among beams, posts, and pier blocks of the home.
- An inspection following a 6.8 magnitude earthquake detected no damage to the house.



Extensive retrofitting of this historic home protected it from damages during the Nisqually earthquake.