

Preserving Forest Grove

Newsletter of the Historic Landmarks Board

Experts advise that, any day, we can expect an 8.7 to 9.3 earthquake that would last for 5 minutes or more.

The Big One's Coming! So Now What? Protecting Historic Properties During Earthquakes in Forest Grove

by Jennifer Brent, Forest Grove Historic Landmarks Board Member

On June 25, a small 3.4 magnitude earthquake rumbled 17 miles west of Forest Grove. But the Spring Break Quake that rattled northwestern Oregon on March 25, 1993 with a 5.6 magnitude temblor almost destroyed the Forest Grove fire station, knocking a fire-fighter out of bed and causing the building to lean for a few days until it unexplainably righted itself. The quake also caused mortar to fall out of brick buildings around town including the News Times and Waltz Sheridan Crawford Buildings. Because of this quake, the Forest Grove School District decided to stop using the historic Central School for classes and reclassified the building for school offices only.

A quick internet search shows many earthquakes happening in the Pacific Northwest almost daily. These small quakes are caused by local earthquake factors, but the entire Pacific Northwest faces a much larger risk because our region is located in the Cascadia Subduction Zone.

Subduction zone earthquakes are caused when the earth's plates move. The Cascadia Subduction Zone is caused by the Juan de Fuca plate in the Pacific Ocean, located off the coast of Washington, Oregon, and northern California, slowly sliding into the North American plate, which is the land mass itself. Movement has been measured at 2.4 inches

per year, and eventually a major adjustment will occur to stabilize the imbalance caused by all that movement.

The Oregon Department of Geology website warns that the Pacific Northwest is one the most seismically active regions in the world and has a history of strong earthquakes. In past centuries, the Pacific Northwest has seen some extremely severe earthquakes, the most recent of which occurred in the Cascadia Subduction Zone in 1700. Geologists believe that that Big One was between 8.7 and 9.2 on the Richter Scale. What's more, in the past year alone, we have had more than 60 measurable quakes. Experts advise that, *any day*, we can expect an 8.7 to 9.3 magnitude earthquake that would last for 5 minutes or more. Keep in mind that the Great San Francisco Earthquake of 1906, which left nearly 3,000

people dead and destroyed 80 percent of San Francisco, was estimated at 7.8 and lasted 65 seconds.

When the next big Cascadia Subduction Zone quake occurs, and it *will*, we will probably not read about it for a few weeks because bridges will likely collapse, homes and other structures will be destroyed or rendered uninhabitable, and vital services such as water, power, and gas could be disrupted.



What if the Dr. W. R. Taylor House on 2212 A Street is not protected and insured in time for the next big earthquake?

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Police, fire, and health services will be overtaxed due to emergency needs, and damage to buildings and roads will occur. Therefore, it is more important than ever to prepare ahead of time for such a disaster. One very important way is to better prepare our homes to withstand earthquakes by strengthening their resistance to earthquake movement.

In Forest Grove, we have a high density of historic homes, which are particularly vulnerable to earthquake damage. If our treasured historic resources are damaged or destroyed, not only will people risk life and limb, our town will suffer a tremendous historic loss.

As we face risk of earthquake, we should consider and plan for preventing three primary types of damage to homes and other structures in Forest Grove:

- Sliding off the foundation;
- Overturning i.e., where the building actually lifts off the foundation;
- Failure of cripple walls (i.e., walls that connect the building to the foundation), which has two potential dangers. The first occurs when the cripple wall fails and lets the house drop. Often the cripple wall is merely supported by upright posts or boards, and as the house shakes, they simply all topple over. The second occurs when large openings, such as doors and windows, allow the house to collapse into the opening. This often occurs when homes are built over large garages or large windows, or when large basement areas are supported by pilings or posts that fail to stay attached to what they support.

There is good news, however. Contractors specializing in earthquake upgrades, otherwise known as *earthquake retrofits*, can install various types of tie downs to reduce or prevent all three types of damage and improve a home's resistance to earthquake movement. Contractors use these tie downs to bolt the house to its foundation and to bracket supporting pillars to the ground surface and the house above. In addition, they strengthen cripple walls by attaching 4-foot by 8-foot sheets of building material, such as plywood, to the supporting upright lumber.

In 1978, building codes began requiring provisions for earthquake safety. As a result, almost any house built before 1978 can be

improved to reduce earthquake risk. Even some houses built between 1978 and the end of the 1980s can be improved. Houses built from 1990 onward usually have earthquake resistive features that were installed during the original construction.

In Forest Grove, we have many wonderful historic homes worth protecting. We need to be aware that earthquakes are a fact of life in the Pacific Northwest, that we are due for another Big One, and we need to better prepare our historic buildings for that likelihood.

Renovation Grant Program Makes Earthquake Retrofitting Affordable

By George Cushing, Historic Landmarks Board Member

Forest Grove offers a significant concentration of historic buildings in a small geographic area, unlike many other towns in Oregon. The buildings in our three historic districts represent a variety of architectural styles, craftsmanship, and development patterns that helped shape our town and make it what it is today. This historic legacy is well worth protecting in the face of an earthquake.

With experts predicting an 8.0 magnitude or larger earthquake any day now, Tom Auran decided that 2007 was the year to seismically retrofit the Wilcox House he owns at 2036 16th Avenue. He thought "Hmm, where to start to bring the house into the 21st Century? At the bottom of course!"

Tom needed to assure the house was structurally sound; so he hired Steve Gemmel of Earthquake Tech to do the work. Knowing he would be building a lot of equity by improving his home over time, and that pioneers did not know they were building in an earthquake zone, Tom wanted assurance his house was tied to the foundation to meet modern building codes.

To help offset the cost of his earthquake retrofit project, Tom had the bright idea to apply for a Renovation Grant from the Historic Landmarks Board (HLB). The Board realized this was an important part of preserving historical buildings in our city; so they approved Tom's application.



Wilcox House at 2036 16th Avenue was seismically retrofitted by Earthquake Tech in 2007

At the contractor's recommendation, Tom had the house tied to the foundation, the cripple walls reinforced to brace sub-floor wall areas, and the basement jack posts augmented. Tom pointed out that the HLB grant process was straightforward and he recommends it to other residents who may be considering similar work. "Definitely do it!" recommended Tom. "The grant award made the decision to go forward much easier."

In 2014, owners of the Lucas House at 1637 Birch Street also went with seismic upgrades. They chose Eco-Tech as their contractor, and were very pleased with the results. They said tasks were completed on time and very professionally. Neither the possibility of future earthquakes, nor the HLB grant process rattled them. When asked if they would submit another grant request for their house, they responded with a resounding, "Yes!"

With help from a Renovation Grant, seismic retrofits for your home may be more affordable than you think. The typical cost for retrofitting a medium-sized one-level home is between \$4,000 and \$7,000. Larger homes as well as homes with basements and multiple levels can cost \$10,000 or more. Homes built prior to 1978 that have not been retrofitted are generally not insurable against damage caused by earthquake. Therefore, owners not only risk life and limb if they do not prepare their homes against earthquake, they also risk losing the entire value of their homes and their contents.

Recently, the Historic Landmarks Board met with Cornelius State Farm agent, Bunny Girt, to learn about the process for obtaining earthquake insurance. Bunny explained that after completing a seismic retrofit with a licensed contractor, homeowners take the retrofit certificate provided by their contractor to their insurance provider. The provider then writes an earthquake endorsement for the application. Bunny quoted the cost of earthquake insurance for wood construction at 53 cents per thousand dollars of value, and for masonry construction at \$1.07 per thousand, both with a 15 percent deductible.

For details on earthquake insurance, contact your agent. If you are interested in applying for a Renovation Grant, visit <http://www.forestgrove-or.gov/city-hall/grants.html> for an application form, or contact City of Forest Grove's Senior Planner, James Reitz, by email at jreitz@forestgrove-or.gov, by mail at PO Box 326, Forest Grove, OR 97116-0326, or in person at 1924 Council Street.



Lucas House at 1637 Birch Street was seismically retrofitted by Eco-Tech in 2014

A Note from Chairperson, Holly Tsur

On May 11, Forest Grove's City Council unanimously voted to incorporate the draft *Historic Design Guidelines and Standards* into Forest Grove's *Development Code and Design Guidelines Handbook*. With this exciting and decisive move, the Council set clear guidelines and standards for remodels and future developments. Together, these documents provide comprehensive direction to builders, remodelers, and property owners; and put in place a framework for responsibly developing properties for the future.

For me, the most amazing thing about the standards and guidelines is that they will benefit everyone in our community and those who come to visit it because of the way our historic landmarks allow people to see and touch history. We live amid such an amazing display of architectural history. And we have been privileged to help take such bold and important steps toward better preserving and protecting that architectural history.

This summer, the City Planning Department will share additional information about how the *Historic Design Guidelines and Standards* will affect property owners. All property owners and residents in our three historic districts and the outlier sites will receive a summary sheet outlining the new requirements. In the meantime, you can see the full design guidelines and standards at <http://www.forestgrove-or.gov/city-hall/citizen-boards-commissions/historic-landmarks-board.html>.

Additional Renovation Grant Funding Available

Starting July 1, 2015, the Historic Landmarks Board will have \$7,524 available through its Renovation Grant Program to restore historic homes in Forest Grove. Exterior and structural projects – such as painting, roofing, chimney repairs, porch restoration, window restoration, and seismic retrofitting – are eligible for up to \$1,000 of matching funding.

Visit <http://www.forestgrove-or.gov/city-hall/grants.html> for an application form, or contact City of Forest Grove Senior Planner, James Reitz, by email at jreitz@forestgrove-or.gov, by mail at PO Box 326, Forest Grove, OR 97116-0326, or in person at 1924 Council Street.

Community Enhancement Grant (CEP) Funds

The Historic Landmarks Board (HLB) now has CEP grant funding available for the 2015-16 year. If your house is on our local historic Register, or is a contributing building in one of the three historic districts, it may be eligible for restoration / rehabilitation grant funding. The HLB may have funds to help with your projects. If you are planning any exterior restoration work, have structural work to do such as foundation or porch repairs, even exterior painting or re-roofing, we'd love to help. We fund projects up to 50% of the cost of the job per grant, up to \$1,000 for many projects, and up to \$500 for painting and roofing. We can also help you find historically appropriate solutions to challenges you may have. For more information, contact James Reitz at **503-992-3233** or **jreitz@forestgrove-or.gov**.

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The Historic Landmarks Board has openings for new members. If you have interest in volunteering, please contact James Reitz at 503-992-3233 or jreitz@forestgrove-or.gov.

Preserving Forest Grove is a quarterly newsletter published by the Forest Grove Historic Landmarks Board to help fulfill its duty of public education regarding the preservation of cultural resources. If you would like to be on the mailing list, please call James Reitz at **503-992-3233** or **jreitz@forestgrove-or.gov**.

Historic Landmarks Board

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Chairperson's Note

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The activity that is the subject of this publication has been financed in part with federal funds from the National Park Service, U.S. Department of the Interior, as provided through the Oregon State Historic Preservation Office. However, the contents and opinions expressed herein do not necessarily reflect the views or policies of the Department of the Interior, nor does the mention of any trade names or commercial products constitute endorsement or recommendation by the U.S. Department of the Interior.