

IS YOUR HOUSE CREEPING ON A REACTIVATED LANDSLIDE?

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More people are building homes on ancient landslides as land is becoming scarce. If one of these slides reactivates, it can destroy many of the homes on it. The buildup of pore water pressure leads to reactivation and can be slow in the early stages. Houses, because they are rigid structures, show stress in the early stages of creep on the landslide and are excellent indicators that the slide has begun to move. For a project of 130 homes in the Haussler Road area of Kelso, Washington we developed 17 characteristics to be monitored that indicate landslide reactivation through stress on the house or lot. In the homes we have recent propagation of wall cracks, nails popping out of the walls, bulging walls, separation of the internal and external chimneys from walls, creaking and popping noises in the house, light switches coming out of the wall, doors and windows hard to open and shut, twisted ceiling and floor beams, cracks in concrete floors, and water seeping into the basement. On the lot there are changes in the surface water drainage, bulges in retaining walls, scarps developing, pistol butt trees, and broken water and sewer lines. Stability is defined by number of characteristics: stable (0), slight movement (1-5), moderate movement (6-10), and considerable movement (11+). Areas of moderate to considerable movement should be mitigated through dewatering, and slight movement areas need to be monitored. Communities need to instruct homeowners about these characteristics and alert everyone of the possibility of landslide reactivation. If detected early enough, proper mitigation measures can be installed to possibly stop the movement and save the homes.

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