



# THE 2005 SAGE VISTA LANE LANDSLIDE

## Cedar Hills, Utah County, Utah

by Ashley Elliott

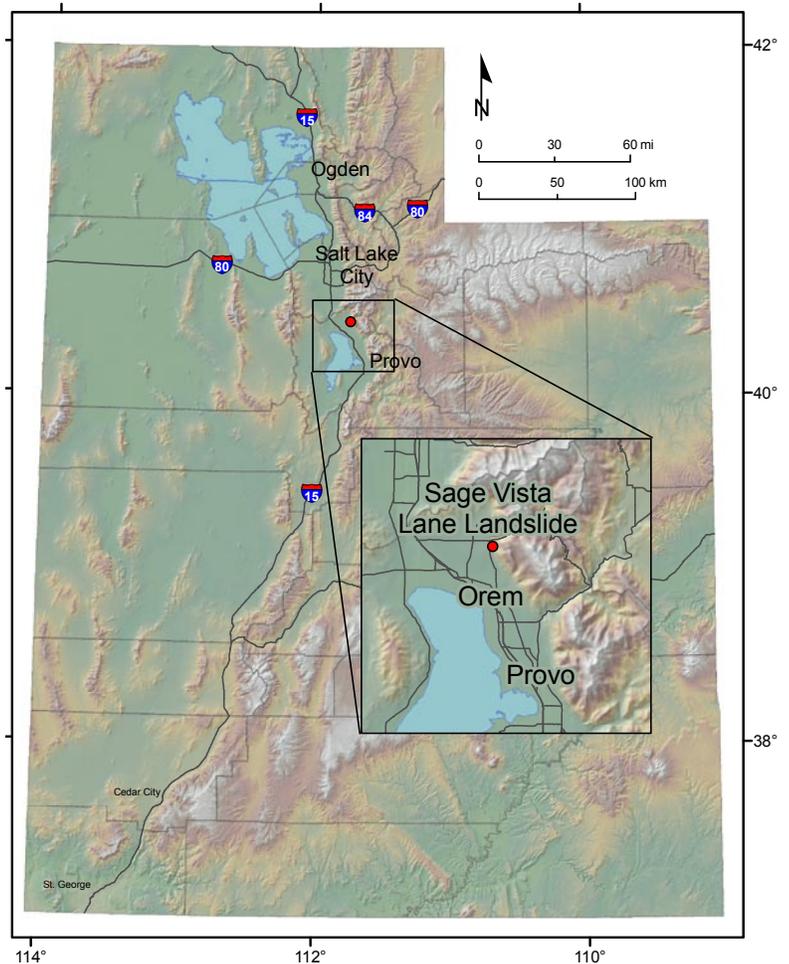
Homeowners in Cedar Hills first detected movement of the Sage Vista Lane landslide on April 28, 2005, and by the next day the landslide had moved against the lower back wall of a townhouse unit. In response, residents of the townhouses evacuated and the family in a duplex across the street moved out temporarily as a safety precaution. By mid-May, the landslide not only damaged and crushed vinyl fencing, air conditioners, and decks, but also caused enough structural damage to the townhouses that they were later condemned. Losses caused by the landslide were likely around \$1 million.



The landslide was a reactivation of a 1983 slide within a larger prehistoric landslide complex. The landslide is in the Mississippian-age Manning Canyon Shale, a rock unit commonly associated with landsliding in the foothills of eastern Utah County. The 2005 landslide is approximately 375 feet long and 150 feet wide at the toe where it is widest.

Reactivation of the landslide likely resulted from wetting of the slide mass, loading the head of the landslide, or re-

*Top: View of the landslide toe against the townhouses. Landslide movement damaged the townhouses, leading to their eventual demolition. Bottom: Location of the 2005 Sage Vista Lane landslide.*



removal of part of the toe (all of which decrease slope stability). Seepage observed on April 29 at the head of the landslide indicated elevated ground-water levels and increased wetting of the slide mass. Such wetting and elevated ground-water levels are commonly the result of above-normal precipitation over an extended period of time. Precipitation at the local National Weather Service station was 162 percent of normal between September 2004 and April 27, 2005. Also, infiltration from a cobble-lined but permeable drainage ditch near the landslide toe and excess irrigation water from a sprinkler system may have contributed to increased soil moisture and elevated ground-water levels in the lower part of the landslide.

Loading of the head of the landslide, caused by the natural accumulation of soil near the top of the historical 1983 landslide, may also have been a factor influencing the reactivation. A third possible contributing factor may have been the excavation of soil from the landslide toe where the townhouse unit was built.

In October 2006, the city of Cedar Hills demolished the townhouses. The foundation was left in place as a resisting force to help prevent further landslide movement and additional damage to the subdivision.



## ADDITIONAL INFORMATION

This fact sheet is available online at: [www.geology.utah.gov](http://www.geology.utah.gov)

For additional information see:  
**Landslides: What they are, why they occur:** <http://ugs.utah.gov/online/pdf/pi-74.pdf>

### **The Sage Vista Lane landslide, Cedar Hills, Utah (a technical report):**

<http://geology.utah.gov/online/techrpt/cedarhills0405.pdf>

**Homeowner's guide to recognizing and reducing landslide damage on their property:** [http://geology.utah.gov/online\\_html/pi/pi-58/index.htm](http://geology.utah.gov/online_html/pi/pi-58/index.htm)

*Photo on the top shows a view down the steep slope of the landslide on May 12, 2005. Photo on the bottom was taken on November 15, 2006, following demolition of the townhouses.*