

# CGS fault maps are in the works

**David Mark Simpson, Santa Monica Daily Press, 7-25-14**

It's a seismic year for Santa Monica.

In the 20th year since the destructive Northridge Earthquake, city officials announced they would assess buildings that might need seismic upgrades and now the California Geological Survey (CGS) is mapping the fault lines in the city by the sea.

The Alquist-Priolo Earthquake Fault Zones allow the state to regulate development built near faults. Santa Monica doesn't have one yet but it's in the works as of July 1.

City planners claim that even without the zones they are overly cautious about faults when approving new development.

These zones take time and money to identify and a lack of state funding slowed the process to a standstill earlier this year. Santa Monica was slated to get a zone of its own but, until Gov. Jerry Brown signed the budget earlier this month, there was no money for it.

The work starts in the office said Tim McCrink, a supervising engineering geologist with CGS. "We are going to be looking at any geographic maps and early publications that describe the faults and we're going to compile that stuff in the office," he said. "We're going to look at the aerial photography and we're going to take modern base maps and draw our impression of where that fault is. Then we'll go in the field and see if we can document what we're seeing with all that previous information."

Geologists have to track down aerial photographs from the 1920s and '30s. This allows them to see what the land looked like before it was scraped for the construction of new homes. They are looking for subtle breaks in the ground or notable slopes.

Particularly valuable are aerial photos that have stereo-overlap, McCrink said. When viewed with special glasses, it allows the geologists to see the ground in 3-D.

"That three dimensional view gives us better inclination of where the ground surface changes shape, which is an indication of what may have occurred," he said.

Then there's the stuff underground.

“We look for any kind of subsurface investigations that have occurred over the years, whether they be fault trenches or even geotechnical boreholes,” McCrink said, “things that we can use to try to understand the subsurface stratigraphy to see where there are breaks in that stratigraphy that would indicate the presence of the fault.”

Many of the details are visible to the trained eye, he said.

“Some parts of faults that we’re looking at have a pretty clear topographic signature,” he said. “You can see that today. Driving down the street you wouldn’t really notice that the building on your right is a little bit higher than the road, but it’s those kinds of things that we look for in the presence of a fault.”

Once established, any developer looking to build within a fault zone must contract a study of the plot to see if it rests directly on the trace of a fault. If it does, they can’t build.

McCrink does not have an estimate as to when the process might be completed but he told the Daily Press to check back early next year.