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Public Comment

Commentary: Berkeley's Retrofit Mess

By Larry Guillot
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This is in response to the May 15 article by Judith Scherr, regarding earthquake retrofit standards in Berkeley. I am very happy the city is finally recognizing that a lack of standards has seriously compromised the safety of our community. However, I do not believe Ms. Scherr's article sufficiently explored the consequence of this fact.



I am a licensed general contractor, and as the owner of QuakePrepare, a firm that evaluates existing retrofit work, I have seen more than my share of retrofits in Berkeley. (I don't perform retrofit work for my clients because of conflict of interest concerns).

In April 2006, a team of building inspectors evaluated a large number of retrofits, and found that 69 percent of retrofits will not perform as intended. I actually believe this much too generous. I would say the number of improperly installed retrofits is closer to 90 percent. I base this on the fact that the inspection team did not dismantle any retrofit shear walls, and thus did not see behind the plywood. So their evaluations were not truly complete: this is where many retrofits fail the test.

Allowing contractors to do retrofit work without giving them a code to follow, without requiring they have any special licensing, and without competent review of their work by the Building Department, has cost all of us a great deal of our tax money. As of 2002, the city had helped finance 12,000 retrofits and spent 8 million dollars in tax money. By now this amount could exceed 12 million dollars.

Doing the simple math and using the 69 percent statistic in the study mentioned above, the city has spent at least \$8,280,000 dollars on ineffective retrofits. For that kind of money, I think we should have gotten something that works.

The city has failed to act responsibly by not spending your money wisely. Information on proper retrofit principles and techniques have been understood for a long time. Our Building Department seems to have completely ignored this. For example, tests done by the Structural Engineer's Association of Southern California in 1992 proved that old foundations perform just as well in earthquakes as new foundations. Nevertheless, the transfer tax program, under the Building Department's supervision, paid for all types of foundation work—regardless of whether it helped a home's earthquake resistance.

In addition to spending millions for ineffective retrofits, the city polices have greatly compromised our level of protection. Many people who now think that they are protected are actually living under a false sense of security. These badly retrofitted houses will need to be retrofitted all over again at higher cost. It is much more expensive to tear out a bad retrofit and replace it than it is to start from scratch.

Retrofit shear walls, which are a component in practically every Berkeley retrofit, are very sensitive to improper installation. Shear wall construction is so complex that the International Code Council published an entire book on the subject. The book can be seen at www.shearwalls.com In spite of this, the city has never required retrofit shear wall framing inspections. If they are not framed properly, they will not work.

We have no way of knowing if millions of dollars of retrofit shear walls were properly framed behind the plywood. From what I have seen first hand, I would say very few of them were properly framed.

The Building Department has also been very lax in the permit process: there is currently no way to



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know what has already been done to a house. A contractor with one of the largest retrofit firms in Berkeley told me that six years ago he forgot to put bolt inspection holes in the plywood. The inspector called him and told him she could not see the bolts and she would need to see them before she could sign off his permit. He told her he did not want to tear off the plywood so what should he do? She said, "Take the bolts off the plans!" and ever since then, just to stream-line the inspection process, none of the plans he has submitted to the building department have shown bolts on them, yet they were all approved as seismic retrofits!

The article further mentioned that "Plan Set A" is now the standard the city is has been using since February 1. The three largest retrofit companies in Berkeley have all stopped doing transfer tax retrofits because they claim Plan Set A does not apply to Berkeley's housing stock. I must agree with them. One contractor is even offering a free retrofit to anyone who can show him a cripple wall retrofit where Plan Set A can actually work!

I am also aware that city staff is now being asked to fix these problems and is being given \$25,000 to do so. I assume "city staff" means the Building Department. Why should we entrust \$25,000 to the same people who have mismanaged \$12,000,000? The Building Department got us into this mess in the first place, and I don't think they should be trusted to get us out.

Is this more Berkeley politics as usual, i.e., once you discover something does not work you just keep on doing it? Does this make sense to anyone?

I think common sense and public safety demand that we go back to the drawing board, admit that Plan Set A does not work, and spend whatever it takes to develop a standard that does work. I doubt \$25,000 is enough to do this, especially when managed by a Building Department that has already shown gross incompetence in this matter.

Compared to the millions of dollars already wasted, and the projected billions of dollars in property damage, ten times this amount would be a bargain. The transfer tax program was approved by popular vote in 1992 and good management and proper funding is what we all expect.

Larry Guillot is owner of QuakePrepare, an earthquake consulting, securing, and gas shut-off valve installation service.