Homes Built on Slab Foundations Can Be Elevated Too

Texas couple elevates home built on slab foundation in unusual do-it-yourself home project

Peter is an engineer and so is his father, and they were aided in the project with family friends who were also engineers. So the McClouds had available to them engineering expertise not normally available in a do-it-yourself home project.

But their unusual story provides details on one method used to elevate homes built on slab foundations.

Hurricane Ike’s storm surge caused flooding a mile and a half inland in Shoreacres, resulting in widespread damage from flood waters that reached up to 17 feet.

The McClouds’ 2,600-square-foot home, which the couple bought three years before Hurricane Ike hit in September 2008 and was near completion of being remodeled when disaster struck, received 2 feet of water in the storm surge. But the couple never thought of moving from their home, even though city codes mandated that the home be elevated if it were to be repaired.

“I have a reputation for doing things on my own,” said Peter of the couple’s decision to elevate their home themselves rather than using a contractor. “We had received quotes from contractors, who were supposed to get back to us regarding the work and the engineer’s structural drawings. After a month, they still had nothing. Finally, we told them we’d pay for the engineer’s drawings, but we were going to do it ourselves.”

Jessica added, “When we decided to do it on our own, it was a weight off our minds.”

Shoreacres, Texas—Retrofitting a home to elevate it above base flood level is one of the most common approaches homeowners take to help protect their homes against flooding. But there’s a widely held false belief that homes with slab foundations cannot be elevated.

While it may be more costly to elevate a home built on a slab foundation compared to one built on pier-and-beam foundation, with the costs varying depending upon the method used, it may prove worth the investment in the event flooding occurs.

A Texas couple whose home had a slab foundation decided to elevate their house after Hurricane Ike caused a storm surge that flooded their home. Peter and Jessica McCloud of Shoreacres, a city located on Galveston Bay, took the unusual step of elevating their home themselves.

To Note:

Although the McClouds elevated their home themselves, they had available to them valuable engineering expertise from family and friends. FEMA recommends that home elevations be undertaken in consultation with experts that include local building code authorities, engineers and contractors.
In doing any type of home elevation, it’s important to obtain necessary permits and follow local building codes, and the couple was careful to do that.

After the bricks were removed, Peter disconnected the electrical wiring and, with the help of his father and engineering friends, placed the bracing system on the frame. Afterward, they removed the bolts connecting the frame to the slab. The final step was to actually raise the house.

A mathematical formula had been used to determine the number of jacks needed to lift the 70-ton house. The equation showed that 15 jacks were needed, but the McClouds decided to go well above that. To lift the house, 75 5-ton screw jacks were placed under the braces.

The next workday was an exciting one. “With 15 people and 75 jacks, we raised the house 1 foot in one day,” said Peter. “We were definitely safe using 75 jacks because then the weight wasn’t so heavy to lift in any one area. Also the jacks were oiled and moved easily.”

“When people came to volunteer, we gave them their turning bar,” said Jessica, “We told them to do three turns on a jack and make one pencil mark on the board by the one-year anniversary of Hurricane Ike’s landfall in Texas, Sept. 13, 2009.

For further mitigation information contact FEMA’s website at:

http://www.fema.gov/rebuild/smart_strong.shtm