

University of Waterloo Faculty of Engineering Annual Report

Elizabeth English has designed a foundation that can float a house. She wants to use it to help rebuild New Orleans.

Usually, houses in low-lying areas are raised to protect them from floods. But a house on stilts can be hard to live in, and stilts don't always work. "Even if you do put the house on eight-foot stilts, you might have a 10-foot flood, Elizabeth notes.

Elizabeth has degrees in both architecture and civil engineering. She brought these backgrounds together to design a foundation with a lightweight steel frame for strength and coated Styrofoam for buoyancy. "The foundation is designed to go under an existing house," says English. "It leaves the house looking the same. New Orleans has whole neighbourhoods of perfectly recoverable houses where this system could be used."

Her prototype house is already up and floating. "We've basically got it worked out," she says. "It just makes so much sense. Trying to fight floodwater is a losing battle. It's better to work with it and let the floodwater keep your house up."