

Long Beach considered fairly quake-safe

Kristopher Hanson, Long Beach Press Telegram, 3-6-11

LONG BEACH - Four years after seismic retrofitting of Long Beach's last remaining unreinforced masonry building was completed, civic engineers say structures across Long Beach remain relatively safe in the event of a big temblor.

Thursday marks the 78th anniversary of the magnitude 6.4 earthquake that rumbled through Long Beach on a late winter afternoon, destroying nearly every school in the city and leading to the nation's first seismic building codes.

Most important among those early efforts was the Field Act of 1933, passed one month after the quake, which mandated that schools be built to withstand moderate shaking and banned new construction of unreinforced masonry (brick) buildings.

Since then, the Field Act and its successors have created ever-stronger building codes, but several major structures across Long Beach, along with many homes and some industrial sites, remain vulnerable.

In the early 1990s, Long Beach identified 956 unreinforced masonry structures likely to collapse or suffer severe damage in a significant earthquake, and during the next 15 years, 371 were demolished, with the rest retrofitted to prevent collapse.

The last to undergo reinforcement was the Temple Lofts building at Locust Avenue and Eighth Street in 2007. The 81-year-old brick building formerly known as the York Rite Masonic Temple was fitted with crossbeams and other supporting infrastructure.

Much of the remaining danger exists among so-called "tilt-up" warehouses and industrial structures, so named because they typically incorporate a large, flat rooftop loosely attached to four tall walls.

These buildings are most popular on the industrial west side of Long Beach and in Carson and Compton.

When shaking starts, the roofs of these buildings can come crashing down, causing damage, injury or death.

Long Beach has taken an inventory of these buildings in recent years and worked to help reinforce them through seismic retrofits that include anchoring, crossbeam retrofit and other stabilizing measures.

Truong Huynh, Long Beach Superintendent of Building and Safety, recently helped oversee a revision of the city's building code manual to include the latest seismic engineering practices and science.

"The city's effort in collaboration with other cities and organizations...has resulted in more stringent codes than the minimums adopted by the state," said Roy Bronold, an Inspection Services Officer responsible for overseeing field inspections in Long Beach. "We've also adopted new guidelines for some of the more (vulnerable) buildings and placed them in the city's building codes, which took effect Jan. 1. We're continually improving what we're doing, studying the effect on buildings when there's a earthquake somewhere, updating our codes and remaining diligent."

What are termed soft-story apartment and office buildings are another lingering concern.

Characterized by ground-level carports topped by apartments or offices supported by thin steel beams, many of these structures were built in the 1960s and early '70s, before a string of major earthquakes revealed their tendency to collapse.

The danger of soft-story structures was illustrated most vividly during the 1994 Northridge quake, when most fatalities were attributed to collapses of this kind of building.

In January 2008, Long Beach's building code was updated to include new standards for the reinforcement of wood-frame, single-family homes and soft-story structures, officials said.

But those standards remain voluntary for most existing buildings.

As for public structures, several in Long Beach stick out.

City Hall, built in 1974, the Long Beach Courthouse, built in 1968, and Harbor Department Headquarters, built in 1959, are all targeted for demolition in coming years, due in no small part to earthquake concerns.

The Gerald Desmond Bridge, scheduled to be replaced beginning in early 2012, has also been deemed "seismically deficient" by the California Department of Transportation, or CALTRANS.

While the public buildings and bridge have been deemed safe for workers and the general public - meeting standards in place when the structures were completed - the city, state and federal government are working to generate funds to replace them all within a few years.

"We're doing outreach to business owners and architectural firms, but the resources are limited ... and many owners may not have resources to do retrofits right now, but we have the information and guidelines available," Bronold said.

The Long Beach Courthouse, for example, has been judged one of the state's worst in terms of seismic safety and overcrowding, and is scheduled to be replaced by 2013.

City Hall may take a few more years, given Long Beach's ongoing budget problems, but the port has set aside funds to construct a new headquarters, which it hopes to do by decade's end.

Local hospitals are also undergoing upgrades, largely spurred by a 1994 state law known as the Hospital Facilities Seismic Safety Act, written to prevent catastrophic shutdowns of major trauma and critical care centers in the aftermath of a quake.

In Long Beach, all major hospitals meet current safety standards mandated by the law, but St. Mary Medical Center, Long Beach Community Hospital and Long Beach Memorial Medical Center may require some renovations to meet more stringent goals by 2030, according to the California Office of Statewide Planning and Development.