ASSEMBLY BILL No. 2181

Introduced by Assembly Member Bloom

February 20, 2014

An act to amend Sections 19160, 19161, 19162, and 19163 of the Health and Safety Code, relating to building standards.

LEGISLATIVE COUNSEL'S DIGEST

AB 2181, as introduced, Bloom. Building standards: seismic retrofit.

Existing law authorizes a city, city and county, or county to establish, by ordinance, building seismic retrofit standards applicable to the seismic retrofit of any buildings identified, as specified, by the city, city and county, or county as being hazardous to life if an earthquake occurs. Existing law identifies specified types of buildings as potentially hazardous under these provisions, including certain unreinforced masonry buildings and specified woodframe, multiunit residential buildings constructed before January 1, 1978.

This bill would additionally authorize each city, city and county, or county to require that owners assess the earthquake hazard of soft story and older concrete buildings, and would include concrete residential buildings that were constructed prior to the adoption of local building codes that ensure ductility, as specified, as potentially hazardous if an earthquake occurs. The bill would authorize a city, city and county, or to employ seismic evaluation of older concrete residential buildings to address individual seismically hazardous buildings without regard to how the buildings came to the attention of its officials. The bill would require the seismic retrofit of a concrete residential building identified as potentially hazardous to comply with the recommendations of a

qualified expert, with nationally recognized research recommendations, or with a nationally recognized model cake, as specified.

Vote: majority. Appropriation: no. Fiscal committee: no. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. Section 19160 of the Health and Safety Code is amended to read:

19160. The Legislature finds and declares that:

(a) The harmful effects of future earthquakes can be reduced through sound retrofitting programs, also known as reconstruction programs.

~~(a)~~

(b) Because ~~of~~ the ~~generally acknowledged fact~~ *United States Geological Survey predicts a greater than 99 percent likelihood* that California will experience moderate to severe earthquakes ~~in the foreseeable future~~ *before 2038*, increased efforts to reduce earthquake hazards should be encouraged and supported.

~~(b)~~

(c) Tens of thousands of buildings subject to severe earthquake hazards continue to be a serious danger to the life and safety of hundreds of thousands of Californians who live and work in them in the event of an earthquake. *The buildings themselves are also at risk.*

~~(c)~~

(d) Improvement of safety to life is the primary goal of building reconstruction to reduce earthquake hazards.

(e) Because every dollar spent on mitigation saves several dollars in future postdisaster expenditures, a second major goal is to reduce public costs for disaster relief.

~~(d)~~

(f) In order to make ~~building~~ *the evaluation and* reconstruction *of buildings that are at high risk of seismic failure* economically feasible ~~for~~, and to ~~provide improvement of~~ *improve* the safety of life in~~, seismically hazardous~~ *these* buildings, building standards enacted by local government for building reconstruction may differ from building standards which govern new building construction.

(g) Because higher costs will discourage necessary reconstruction, the standards that govern new buildings should

not apply to reconstruction unless they are needed to achieve the desired increase in seismic capacity.

(h) "Older concrete residential buildings," also known as "nonductile concrete residential buildings" and "pre-1980 concrete residential buildings," are a subset of concrete buildings that may be unable to resist earthquake motion. They include lift-slab buildings with concrete lateral force resisting systems.

(i) These buildings were a prevalent construction type in highly seismic zones prior to the mid-1970s, are an important component of the state's housing stock, and are in jeopardy of being lost in the event of a major earthquake.

(j) The California Office of Emergency Services reports that concrete buildings, particularly older ones with high numbers of occupants, can collapse and kill hundreds, and are the fastest growing cause of earthquake losses around the world.

(k) During an earthquake, older concrete residential buildings may create dangerous conditions, as illustrated by the catastrophic damage or collapse of older concrete buildings in the earthquakes of San Fernando, Loma Prieta, and Northridge, California (1971, 1989, and 1994), Kobe, Japan (1995), Chi Chi, Taiwan (1999), Kocaeli, Duzce, and Bingol, Turkey (1999, 1999, and 2003), Sumatra (2005), Pakistan (2005), Sichuan, China (2008), Haiti (2010) and Christchurch, New Zealand (2011).

(l) California instituted building code changes in the mid-1970s to prevent these problems in future construction, but four decades later, the great majority of California's concrete buildings that were constructed before these changes have still not been evaluated or retrofitted.

(m) The assistance of the public is necessary in identifying older concrete buildings, because no accurate inventory of older concrete buildings exists, and none can be compiled by external appearances or an examination of public records.

(n) Once identified, older concrete buildings must be evaluated individually by a qualified architect or engineer to assess their seismic capacity and whether reconstruction is necessary.

(o) The failure of older concrete apartment buildings is likely to be the source of a disproportionate share of the public shelter population in areas of the state where they are occupied by the very poor, the very old, and the very young.

~~(e)~~

(p) "Soft story" residential buildings are a subset of multistory woodframe structures that may have inadequately braced lower stories that may not be able to resist earthquake motion.

~~(f)~~

(q) Soft story residential buildings are an important component of the state's housing stock and are in jeopardy of being lost in the event of a major earthquake.

~~(g)~~

(r) Soft story residential buildings were responsible for 7,700 of the 16,000 housing units rendered uninhabitable by the Loma Prieta earthquake and over 34,000 of the housing units rendered uninhabitable by the Northridge earthquake.

~~(h)~~

(s) During an earthquake, soft story residential buildings may create dangerous conditions as illustrated in the Northridge Meadows apartment failure that claimed the lives of 16 residents.

~~(i)~~

(t) The collapse of soft story residential buildings can ignite fires that threaten trapped occupants and neighboring buildings and complicates emergency response.

~~(j)~~

(u) The Association of Bay Area Governments (ABAG) estimates that soft story residential buildings will be responsible for 66 percent of the uninhabitable housing following an event on the Hayward fault.

~~(k)~~

(v) The failure of soft story residential buildings is estimated by ABAG to be the source of a disproportionate share of the public shelter population because they tend to be occupied by the very poor, the very old, and the very young.

~~(*l*)~~

(w) The Seismic Safety Commission has recommended that legislation be enacted to require state and local building code enforcement agencies to identify potentially hazardous buildings and to adopt mandatory mitigation programs that will significantly reduce unacceptable hazards in buildings by 2020.

~~(m)~~

(x) The current nationally recognized model ~~code~~ *codes* relating to the retrofit of existing buildings ~~is Appendix Chapter A4 of~~ *are* the International Existing Building Code *and the Seismic*

Evaluation and Retrofit of Existing Buildings by the American Society of Civil Engineers. However, it is not the intent of the Legislature, if other *research-based recommendations or* model codes relating to the retrofit of existing buildings are developed, to limit the California Building Standards Commission or a local government, pursuant to Section 19162, to adopting a particular *research-based recommendation or* model code. *Equally, the Legislature does not intend for local governments to delay needed evaluation and retrofitting programs in the hope that improved methods to evaluate and retrofit buildings may be developed. Rather, the Legislature finds that existing scientific knowledge permits immediate evaluations and retrofitting of older concrete buildings to significantly increase the safety of life in and reduce earthquake damage to seismically hazardous older concrete buildings.*

~~(n)~~

(y) Therefore, it is the intent of the Legislature to encourage cities and counties to address the seismic safety of *older concrete residential buildings and* soft story residential buildings~~ and encourage local governments to initiate efforts~~ *by encouraging and imitating programs to inform owners, residents, and the public about the dangers of these potentially hazardous buildings, mandate their evaluation at owner expense, and require retrofitting* to reduce the seismic risk in~~ vulnerable soft story residential buildings~~ *those that are unacceptably hazardous*.

SEC. 2. Section 19161 of the Health and Safety Code is amended to read:

19161. (a) Each city, city and county, or county, may assess the earthquake hazard in its jurisdiction *or require that owners assess the earthquake hazard of soft story and older concrete buildings,* and *thereby* identify buildings subject to its jurisdiction as being potentially hazardous to life in the event of an earthquake. Potentially hazardous buildings include*, but are not limited to, all of* the following:

(1) Unreinforced masonry buildings constructed prior to the adoption of local building codes requiring earthquake resistant design of buildings that are constructed of unreinforced masonry wall construction and exhibit any of the following characteristics:

(A) Exterior parapets or ornamentation that may fall.

(B) Exterior walls that are not anchored to the floors or roof.

(C) Lack of an effective system to resist seismic forces.

(2) Woodframe, multiunit residential buildings constructed before January 1, 1978, where the ground floor portion of the structure contains parking or other similar open floor space that causes soft, weak, or open-front wall lines, as provided in a nationally recognized model code relating to the retrofit of existing buildings or substantially equivalent standards.

(3) Concrete residential buildings, including lift-slab buildings with concrete lateral force resisting systems, that were constructed prior to the adoption of local building codes that ensure ductility.

(b) Structural evaluations made pursuant to this section shall be made by an architect as defined in Section 5500 of the Business and Professions Code, or a civil or structural engineer registered pursuant to Chapter 7 (commencing with Section 6700) of Division 3 of the Business and Professions Code, or staff of the enforcing agency, as described in Section 17960, supervised by an architect or civil or structural engineer authorized by this subdivision to make the structural evaluations.

SEC. 3. Section 19162 of the Health and Safety Code is amended to read:

19162. (a) Notwithstanding the provisions of Section 19100 or 19150 or any other provision of law, the governing body of any city, city and county, or county may, by ordinance, establish building seismic retrofit standards applicable to the seismic retrofit of any buildings identified pursuant to paragraph (1) of subdivision (a) of Section 19161 by the city, city and county, or county as being potentially hazardous to life in the event of an earthquake.

(b) (1) Notwithstanding the provisions of Section 19100, 19150, or any other provision of law, the governing body of any city, city and county, or county may, by ordinance, establish building seismic retrofit standards applicable to the seismic retrofit of any buildings identified pursuant to paragraph (2) of subdivision (a) of Section 19161 by the city, city and county, or county as being potentially hazardous to life in the event of an earthquake. Any standards established pursuant to this section shall apply until the effective date of building standards adopted by the California Building Standards Commission relating to the retrofit of existing buildings, if any, at which time the standards adopted by the commission as amended by the city, county, or city and county pursuant to Section 17958.5 shall apply.

(2) A local ordinance establishing building seismic retrofit standards applicable to soft story residential structures adopted before January 1, 2006, shall remain in full force and effect until the effective date of building standards adopted by the California Building Standards Commission relating to the retrofit of existing buildings unless the city, county, or city and county after January 1, 2006, adopts an ordinance pursuant to paragraph (1).

(c) Notwithstanding the provisions of Section 19100 or 19150 or any other provision of law, the governing body of any city, city and county, or county may do both of the following:

(1) Employ seismic evaluations of older concrete residential buildings, including lift-slab buildings with concrete lateral force resisting systems, to address individual seismically hazardous buildings, without regard to how these buildings came to the attention of its officials.

(2) Establish, by ordinance, building seismic retrofit standards applicable to the seismic retrofit of any of these buildings that are potentially hazardous to life in the event of an earthquake. Any standards established pursuant to this paragraph shall apply until the effective date of applicable building standards adopted by the California Building Standards Commission relating to the retrofit of existing buildings, if any, at which time the standards adopted by the commission as amended by the city, city and county or county pursuant to Section 17958.5 shall apply.

~~(c)~~

(d) Building seismic retrofit standards adopted pursuant to this section may be applied uniformly throughout the city, city and county, or county, or may be applied in specific areas designated by the city, city and county, or county, *or to specific buildings within the city, city and county, or county if those buildings are those described in paragraph (3) of subdivision (a) of Section 19161*.

~~(d)~~

(e) For purposes of this chapter, "seismic retrofit" means either structural strengthening or providing the means necessary to modify the seismic response that would otherwise be expected by an existing building during an earthquake, to significantly reduce hazards to life and safety while also providing for the substantial safe ingress and egress of the building occupants immediately after an earthquake.

SEC. 4. Section 19163 of the Health and Safety Code is amended to read:

19163. Any local ordinance adopted pursuant to Section 19162 shall require the following:

(a) Any seismic retrofit of any building identified pursuant to paragraph (1) of subdivision (a) of Section 19161 as being hazardous to life in the event of an earthquake shall provide for the reasonable adequacy of all of the following:

(1) Unreinforced masonry walls to resist normal and inplane seismic forces.

(2) The anchorage and stability of exterior parapets and ornamentation.

(3) The anchorage of unreinforced masonry walls to the floors and roof.

(4) Floor and roof diaphragms.

(5) The development of a complete bracing system to resist earthquake forces.

(b) Any seismic retrofit of any building identified pursuant to paragraph (2) of subdivision (a) of Section 19161 as potentially hazardous shall comply with a nationally recognized model code relating to the retrofit of existing buildings or substantially equivalent standards. If the city, county, or city and county adopts local amendments to those provisions, it shall determine that the amendments are consistent with Section 17958.5.

(c) Any seismic retrofit of any building identified pursuant to paragraph (3) of subdivision (a) of Section 19161 as potentially hazardous shall comply with the recommendations of a qualified expert under paragraph (b) of Section 19161 or with nationally recognized research recommendations, a nationally recognized model code relating to the retrofit of existing buildings, or substantially equivalent standards. If the city, city and county, or county adopts local amendments to those provisions, it shall determine that the amendments are consistent with Section 17958.5.

~~(c)~~

(d) Seismic retrofit of any building or portions of any building shall be designed to resist and withstand the seismic forces from any direction as set forth in the building seismic retrofit standards using the allowable working stresses adopted pursuant to this article.

~~(d)~~

(e) The governing board of any city, city and county, or county may establish, by ordinance, standards and procedures to fulfill the intent of paragraph (2) of subdivision (a) without regard to the remainder of the requirements specified above.

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