



**BOARD OF SUPERVISORS
AGENDA LETTER**

Agenda Number:

Clerk of the Board of Supervisors
105 E. Anapamu Street, Suite 407
Santa Barbara, CA 93101
(805) 568-2240

Department Name: Planning and Development
Department No.: 053
For Agenda Of: April 8, 2015
Placement: Departmental
Estimated Time: 15 minutes

Continued Item: No
If Yes, date from:
Vote Required: Majority

TO: Board of Supervisors
FROM: Department Dr. Glenn Russell, PhD, Director, (805) 568-2085
Director
Contact Info: Massoud Abolhoda, Building Official, (805) 568-3120
SUBJECT: A report on earthquake vulnerability of buildings in the County of Santa Barbara

County Counsel Concurrence

As to form: no

Other Concurrence: Select_Other

As to form: Select_Concurrence

Auditor-Controller Concurrence

As to form: Select_Concurrence

Recommended Actions:

That the Board of Supervisors:

1. Receive and file the attached report on Earthquake Vulnerability of Buildings in Santa Barbara County;
2. Direct staff to survey and identify buildings in the unincorporated areas of the County that are at considerable risk of major damage in the event of an earthquake; and
3. Direct staff to return with recommendations to address at-risk structures identified in the survey.
4. Receive a presentation from California Seismic Safety Commission officials on the Commission's work to assist local governments in reducing earthquake losses, increasing resiliency and enhancing recovery.
5. Determine that the above actions are exempt from the California Environmental Quality Act (CEQA) pursuant to State CEQA Guidelines Section 15262 and the Notice of Exemption, included as Attachment 2.

Summary Text:

There are several building types in Santa Barbara County that are at susceptible to major damage in the event of an earthquake. An effective Retrofit Program can mitigate many of these risks, save lives, and reduce the costs of reconstruction following a major earthquake. A thorough survey of the buildings in

Santa Barbara County is a necessary step in developing an effective retrofit program to address the following vulnerable building types/hazards:

1. Soft Story Buildings – These are usually tuck under parking apartment buildings where the parking is a collapse hazard following an earthquake;
2. Pre-1973 Concrete and Concrete Masonry Buildings with Flexible Floor or Roof – In the event of an earthquake, these buildings often experience partial or total collapse of walls and roofs;
3. Single Family Homes without Bracing in the Crawl Space – These buildings constitute the majority of earthquake-vulnerable buildings in the County and are relatively simple to retrofit;
4. Buildings with Brick and/or Stone Chimneys – These chimneys can separate from the building during an earthquake causing serious injury or death;
5. Wood Framed Buildings on Steep Slopes – These building types on hillsides can have discontinuities at the foundation which weaken the lateral resistance of these buildings;
6. Mobile Homes – Mobile homes installed atop pedestals can slide off causing damage and rupture nearby gas lines;
7. Non-Ductile Concrete Frames – These buildings typically lack proper reinforcement which can result in a brittle mode of failure during an earthquake causing catastrophic failure;
8. Modern Steel Frame Buildings – Connections in these buildings can develop major fractures that may result in building collapse following a large earthquake; and
9. Unreinforced Masonry Buildings (URMs) – These are late 1800's and early 1900's buildings where floors and roofs tend to separate from the walls in an earthquake, these buildings have either been demolished or retrofitted in accordance with a mandatory ordinance adopted in 1992.

An inventory of these building types is integral to developing an effective retrofit program in the County.

The California Seismic Safety Commission advises the Governor, Legislature, and state and local governments on ways to reduce earthquake risk. Established in 1975, Commission members are appointed for their experience and expertise. The Commission is tasked with:

- Managing California's Earthquake Hazards Reduction Program
- Reviewing seismic activities funded by the State
- Providing a consistent policy direction for earthquake-related programs for agencies at all government levels
- Proposing and reviewing earthquake-related legislation
- Conducting public hearings on seismic safety issues
- Recommending earthquake safety programs to governmental agencies and the private sector
- Investigating and evaluating earthquake damage and reconstruction efforts following damaging earthquakes

Commission members Richard McCarthy – Director California Seismic Safety Commission and Tim Strack – Chairman California Seismic Safety Commission will be attending the hearing on April 8, 2015 and making a presentation on the Commission's work. Supervisor Carbajal was approved by Governor Brown as a member of this Commission.

Background:

Santa Barbara County is located in one of the highest earthquake-prone zones in California. There are significant areas in the County which have the potential to produce large earthquakes. The southern portion of Santa Barbara County is within one of the highest seismic zones in California according to USGS maps and recent earthquakes. Researchers have identified several buried reverse faults in Santa Barbara capable of producing earthquakes of 6 to 6.5 magnitude. A 7.0 magnitude earthquake is possible if simultaneous ruptures occur along the Mission Ridge Fault (the largest of the Santa Barbara reverse faults). Such an occurrence could cause hundreds of millions of dollars in property damage and an unknown loss of lives.

Retrofit programs are considered an environmentally sustainable measure to preserve the built environment. Effective retrofitting of buildings can save lives and reduce the cost of reconstruction necessary after an earthquake. In 1992, Santa Barbara County enacted a retrofit program specifically to address Unreinforced Masonry Buildings (URMs). Records submitted to the California Seismic Safety Commission indicate that most, if not all, URM buildings in Santa Barbara County have either been retrofitted or demolished.

Staff believes that compiling an inventory of vulnerable buildings in the County is the first step in developing a comprehensive seismic program. Such an inventory can be used to assess both the economic cost and impact to human lives of a major earthquake if the buildings remain un-retrofitted. The information gathered can also be used to properly scope a retrofit program in the County.

Participation in voluntary retrofit programs may be increased through public information and incentives. Many jurisdictions including the County of Santa Barbara provide free standardized plan sets for strengthening residential cripple wall bracing and foundation sill plate anchorage. These documents reduce overall retrofit costs by eliminating the need for engineered plans for cripple walls less than four feet in height. Other incentives may include reduced permit or plan check fees. The City of Berkeley has a program where owners who voluntarily retrofit their buildings within one year of purchase can claim a dollar-for-dollar rebate of their property transfer tax up to one-half percent of the structure's sale price. In San Francisco, owners can obtain financing for retrofit costs equal to 15% of value of the property. Of course, these types of programs have a fiscal impact and funding for these costs would need to be identified prior to implementation.

N/A

Fiscal and Facilities Impacts:

Budgeted: yes

Preparation of this report required approximately 30 hours of staff time. Funding for this work is included in the Permitting budget program on page D-212 of the adopted 2014-15 Fiscal Year budget. The cost for performing a building survey and developing retrofit program recommendations would be absorbed in current budget allocations and are estimated at 160 hours of staff time.

Retrofit of buildings will preserve existing facilities and reduce reconstruction and recovery costs following an earthquake.

C:\Users\cdowndie\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\XUU566CY\April 8 BOS Board Letter.docx

Key Contract Risks:

N/a

Staffing Impacts:

Special Instructions:

N/a

Attachments:

Attachment 1: Earthquake Vulnerability of Buildings in Santa Barbara County

Attachment 2: CEQA Exemption

Authored by:

Massoud Abolhoda, Building Official

cc: