




Office of the City Manager

ACTION CALENDAR  
10/18/2005

To: Honorable Mayor and  
Members of the City Council

From:  Phil Kamlarz, City Manager

Submitted by: Dan Marks, Director, Planning and Development

Subject: Potentially Hazardous Soft, Weak, or Open Front Story Buildings

RECOMMENDATION

Adopt first reading of an Ordinance amending the Berkeley Municipal Code (BMC) to add Chapter 19.39, establishing an Inventory of Potentially Hazardous Soft, Weak, or Open Front Story Buildings and adopting Chapter A4 of the 2003 International Existing Building Code and Amendments.

SUMMARY

Following surveys and sidewalk assessments, City findings show that nearly 400 buildings with 5,000 residential units appear to have soft or weak ground stories because of large openings for store fronts or parking and inadequate support and connections. This condition is commonly called a soft story. Most of these buildings are wood framed but about a quarter have a concrete ground floor with wood frame above. Soft story building failures have caused the largest percentage of deaths and building collapses that have occurred in recent California earthquakes. The General Plan recognizes the threat to the community and calls for the development of a mitigation program for these buildings.

Without financial incentives for retrofit, staff developed a two-phase program to address the problem. Phase 1 is an individual soft story building assessment and identification program described below. Phase 2 will be a retrofit program to be developed based on information learned in Phase 1. The Disaster Council and the Rent Stabilization Board unanimously recommended adoption of the enclosed ordinance to enact the first phase, as did the Housing Advisory Commission following a public hearing on the proposal.

The recommended ordinance:

- Places the identified buildings on the “Inventory of Potentially Hazardous Buildings”;
- requires the owner to provide public and resident noticing and, within two years, to submit an engineering report analyzing the seismic adequacy of the building;
- adopts by reference Chapter A4 of the 2003 International Existing Building Code (“IEBC”), as published by the International Code Council, as the standards for the analysis;
- gives owners 180 days to appeal the designation of a building before they are subject to the requirements; and
- requires the building official to prepare user-friendly guidelines for all buildings and amendments to deal with buildings with non wood-framed ground stories.

The concept for Phase I was refined into the attached ordinance through a process of staff and seismic experts’ teamwork, including community outreach and input through letters, e-mail, telephone calls a community educational forum, and meeting with local property owner groups. Most significantly, ongoing consultations with the Disaster Council, Seismic Technical Advisory Group (STAG), the Rent Stabilization Board (RSB), and the Housing Advisory Commission (HAC) have guided the development of the ordinance.

The process, which has been documented to Council in several off agenda reports and copies of HAC reports, revealed extensive across-the-board agreement about the seriousness of the problem and the need to take action. The cost of any future required retrofit and, to a lesser extent, the cost of the engineering reports, has been the main concern of the involved parties.

To adopt building standards such as Chapter A4 not mandated by state law, the California Government Code has an unusual requirement for a public hearing after the first reading and before the second reading of an ordinance. Therefore, staff has noticed and scheduled a public hearing for Council’s next meeting on October 25, 2005, followed by action on the second reading.

#### FISCAL IMPACTS OF RECOMMENDATION

Funding for seismic mitigation program development and compliance from the Permit Service Fund is included in the Planning Department’s FY 2006 Adopted Budget, and includes two-thirds of a Senior Management Analyst position (\$90,000) and \$26,000 in non-personnel funds (833 – 8601-463-9960). A fee, currently set at \$554 per submittal, will pay for the City’s review of the required engineering reports.

Engineering expertise to develop the needed technical amendments and practical guidelines for the engineering standards is expected to cost the City a one-time expenditure of up to \$20,000. Funds and the authority for such code development services are provided for in the Building and Safety's existing contract for technical consulting services with the firm of Linhart Peterson and Powers (Permit Service Center Fund 833).

#### CURRENT SITUATION AND ITS EFFECTS

Through visual surveys, City staff and structural engineers have identified nearly 400 larger apartment buildings with 5 or more residential units in Berkeley as being potentially hazardous because of what is commonly called "soft story" construction. Based on a sidewalk assessment by engineers of 150 of the Berkeley buildings, more than 95% of these nearly 5,000 residential units may have to be vacated in a major earthquake. (See Attachment 2 for a description of the study and key findings.)

Technically referred to as a "Soft, Weak, or Open Front Story", large openings or inadequate support in the ground floors and inadequate connections to the second story of these buildings can create structural weaknesses subject to collapse in a significant earthquake, such as that expected in the Bay Area. The buildings typically have parking or store fronts on the ground floor. Most deaths and collapses in recent California earthquakes have been in this type of building. The identified buildings were constructed prior to the 1997 building code that first adequately addressed this type of construction.

As identified in the assessment project, most of the buildings are totally wood-framed. However, 71 buildings with 2,017 housing units have rigid diaphragms topping a ground floor constructed of concrete or concrete blocks. Rigid diaphragms are made of concrete, are the cap of the ground floor, and provide the base upon which the wood-framed upper floors rest.

While the soft story buildings are concentrated in a "U" around the university and in parts of South and West Berkeley, in the event of a significant earthquake, the stakeholders affected by this threat will cut across the entire community:

- Owners would lose income and face major repair costs;
- tenants and users of the buildings could suffer loss of housing, injuries and death;
- with about 17, 900 of its students living in Berkeley and many likely occupying the nearly five thousand units in soft story buildings, the University's academic program would be badly disrupted;
- other businesses and residents stand to be severely impacted by the collapse and damage to buildings and the displacement of their customers and neighbors; and
- the City government would lose substantial tax revenues and have to bear a costly recovery effort.

## BACKGROUND

The background is presented in four subsections: Ordinance Development Process, Cost Pass-through under Rent Control, Standards of Seismic Adequacy, and Requirements of Owners and Tenants.

### ORDINANCE DEVELOPMENT PROCESS

As documented in several Council updates and copies of HAC reports, the proposed ordinance is the culmination of extensive consultation as to how to address this serious public safety issue. It was developed through a process of staff and seismic experts' teamwork and of community outreach and education. Since staff first presented the findings of the sidewalk assessment, many meetings with the Disaster Council, Seismic Technical Advisory Group (STAG), the Rent Stabilization Board, and the Housing Advisory Commission (HAC) have guided its development.

Early on, these advisory groups agreed that a program for soft story buildings modeled on the Unreinforced Masonry (URM) Program was needed. Elements of that program include:

1. Placing identified buildings on the "Inventory of Potentially Hazardous Buildings";
2. providing an appeal for owners who believe their property is inappropriately included;
3. adopting technical standards that define the construction details of the buildings to be included and govern the required seismic engineering analysis and retrofit;
4. notifying owners of the inclusion of their building, right to appeal, and obligations.
5. requiring notification of residents and posting of warning signs;
6. requiring an assessment by a qualified design professional to provide a detailed evaluation of the structural ability of the building to resist earthquakes and either a plan to meet the adopted standards or a conclusion that the building does not pose a risk; and
7. requiring retrofit by deadlines and upon such "triggers" as resale.

The advisory groups were concerned that the costs to comply with such a program, particularly one with high technical standards, would be significant. Therefore, a ballot measure was developed by staff and presented to the voters in November 2002. It would have dedicated a portion of an increase in the property transfer tax to owners facing city mandated retrofit, but it failed to win a two-thirds majority approval of those voting.

With the City continuing to be unable to provide financial incentives, staff decided in 2004 to develop another approach. Staff presented the advisory groups with the concept of dividing the program into two phases, delaying a decision on retrofit but incorporating the other elements of the URM program. Requiring only the engineering report limits the financial impact on owners and tenants and will provide more information and time to develop a fair and effective mitigation program. The groups agreed with the proposal and asked for staff to educate the community and to develop an ordinance to implement Phase 1.

In 2005, public input was obtained through a community educational forum, letters, e-mail, telephone calls, and meeting with local property owner groups. The Disaster Council and the RSB unanimously endorsed Phase 1 in late spring of this year. The input process culminated in a public hearing held by the HAC in June and July, 2005, amendments in response to public and

commissioner comments, and the HAC's unanimous endorsement of the revised ordinance on September 1, 2005. The RSB unanimously endorsed the revised ordinance on September 8, 2005. Substantial outreach for the forum and hearing had included direct mail to the owners and residential tenants of the identified buildings and several published notices in two local newspapers.

The public input process revealed extensive across-the-board agreement about the seriousness of the problem and the need to take action. However, owners continue to be concerned about the costs they will incur for the reports and very concerned about the costs for the retrofit of the buildings and whether they will be able to pass on the costs to tenants. The engineering reports are expected to cost between \$2,000 and \$10,000. Tenants, too, expressed concerns that they may face unaffordable rent increases if costs are passed along. Owners were also concerned about the ordinance impacting their rental agreements.

#### COST PASS-THROUGH UNDER RENT CONTROL

The Rent Stabilization ordinance regulates the pass-through of costs to tenants of residential rental property and charges the Rent Stabilization Board with promoting rental housing safety. Therefore, staff has made several presentations to this independent elected board that has responsibility and authority for the law's implementation. The program has supported City staff's effort, and its executive director has participated on the staff team.

The current situation as to the pass through of cost is as follows:

- Current RSB regulations allow for the pass through to tenants of the cost of the engineering report only if it accompanies actual retrofit work, and the pass-through is then subject to a "fair return." analysis.
- As a result of vacancy decontrol, 70% of the soft story units are already at or above current market rates according to RSB statistics.
- Thus, many buildings are likely earning more than a "fair return" under the regulations and would not be allowed to pass on the costs.
- Also, the market may not bear additional increases to the vacancy-decontrolled units even if costs were allowed to be passed-through.

The RSB has provided staff and financial resources to help develop the mitigation program, has appointed a committee to work with staff in looking at the cost issues, but has not adopted any special regulations in response to the proposed program. The committee has, however, begun to work with staff to look at what options may be appropriate for dealing with the cost of the study and the future retrofit program.

The issue of whether owners will be mandated to perform the retrofits will not be reached until more information is available through Phase 1 as to which buildings and what type of work are involved. Two years is provided for filing the engineering reports so there is additional time to work out the pass-through and incentive issues as they relate to retrofit, the major cost item.

With the issue of pass-through of costs being under the control of an independent administration and a current lack of funds for assistance, staff has worked on developing a program to keep

costs to owners to the minimum possible. The major factor affecting the cost of the analysis of seismic weaknesses, as well as the retrofit, of any particular building is the engineering standard prescribed by the ordinance, as detailed in the next part of this report.

#### ENGINEERING STANDARDS FOR SEISMIC ADEQUACY

The chief provision of the ordinance, Section 19.39.070, requires within two years that:

*...the owner of each building on the Inventory shall submit an Initial Screening and a detailed seismic engineering evaluation report prepared by a qualified California licensed structural or civil engineer that: analyzes the structural ability of the building to resist the seismic effects of earthquakes and the extent to which the building meets the standards for structural seismic adequacy as set forth in Appendix Chapter 4 as modified by this ordinance, identifies any hazardous exterior design elements, describes the elements of work needed to remedy the identified weaknesses, and provides other relevant information as specified by the Building Official. This Chapter does not require the Retrofit of any building and does not require the submittal of plans of the type required with an application for a building permit...*

Staff originally chose to recommend the adoption of the IEBC Chapter A4 (Supporting Materials 1) as the standard because the International Code Council developed it precisely with the balance of safety and cost in mind. For existing buildings, Chapter A4 provides the most current and highly developed version of nationally recognized standards for the analysis of seismic weaknesses and the retrofit of soft, weak, or open front apartment buildings. They do not provide for 'immediate reoccupancy' but rather are designed to prevent a catastrophic collapse, similar to the standard set for URM retrofits. Damage may still occur, and owners can choose to retrofit to higher standards. Cost savings from the use of this Chapter result from standards set at less than the Uniform Building Code but still adequate for safety, a structural checklist to simplify the analysis, and prescriptive guidelines to minimize the need for custom design of solutions to the vulnerabilities. However, Chapter A4 does not apply to non-wood framed concrete ground floors, so, as explained below, some technical amendments are needed.

Following the public hearing, a new Subsection 19.39.030B was added to help further drive down the costs of the engineering report for all buildings while also addressing the need for additional standards for non-wood-framed ground floors:

*The Building Official shall provide guidelines delineating the standards for the use of Chapter A4, including amendments for buildings with concrete podia [i.e. concrete diaphragms] and non-wood-frame ground floors, and for filing the report required by this ordinance. The guidelines shall provide details for items required in the report, procedures to be followed, and a framework for both the assembly of the required information by the professional and for the evaluation of the report by the City.*

The City has called on its private plan check firm, Linhart Peterson and Powers Associates, for an expert structural engineer to develop these guidelines.

Although costs could be driven lower by the City hiring an engineer to do the individual reports for the owners, consultation with the City Attorney has confirmed that such an arrangement

would create a conflict in that the City would both prepare and review the reports. It would also place significant liability on the City for possible future claims. Instead, the guidelines will help keep costs down by simplifying the preparation of reports without causing a major liability issue. The guidelines will also serve as the basis for developing seminars to familiarize design professionals with the required work.

Guidance for owners, particularly on selecting a knowledgeable engineer, has also been a common request from owners and others commenting on the proposal. The seminars will also be used to compile a list of attending professionals that can be presented to owners along with the other information staff will design and present to educate owners on the ordinance. The list will facilitate owners selecting an appropriate engineer who has been oriented to the City's requirements but will avoid the liability issues associated with the City recommending particular professionals. This approach may also help to further the creation of a "niche market" in these services, with mitigation programs in the past having reportedly generated discounted prices as a result of firms competing with a focus on the opportunity of capturing a substantial portion of the new market. Review ensures that the reports meet City standards.

#### REQUIREMENTS FOR OWNERS AND TENANTS

The latest draft of the ordinance, included as Attachment 1, also has several other changes designed in response to owners' and others' concerns about its requirements and their possible effects. The primary concern is that an owner could get caught in a situation where a building is placed on the list and made subject to recording of the designation, notification of tenants, and posting of the building even though the building is not potentially hazardous.

The ordinance provides for a notice and order to the owner to start the implementation of the program. Under the prior draft, the owner was either to appeal to the Building Official within 60 days or to begin compliance by providing a notice to the tenants and posting a warning on the building. Based on public input, the period for appeal was significantly increased to 180 days to provide an owner enough time to obtain the necessary documentation or engineer's statement for any building that should not be designated potentially hazardous. The decision on appeal to the Building Official can then be appealed to the Housing Advisory Commission. The other provisions of the ordinance, including public and tenant notification and recording with the county of the building's designation as potentially hazardous, do not become effective until after the appeal period has run.

Additional provisions and recent changes in response to concerns and suggestions include:

- Providing that the HAC hearing must be heard within 60 days unless the HAC sets an alternative time for good cause as set forth in Subsection 19.39.050D.
- Although owners would not incur liability for following the ordinance regardless of provisions in their leases with tenants, we have also amended Section 19.39.060, which governs owners' obligations, to include a new subsection describing tenants obligations to cooperate.

- Based on the HAC recommendation to make clear that the notice and procedural protections of state law apply, the tenant cooperation subsection was modified to add the phrase “as permitted by California Civil Code 1954” to the requirement that tenants allow required inspections and work.
- To address a concern about the privacy of tenants’ names on proofs of service filed with the City, additional language was added to Section 19.39.060 A.3, as follows: “Any tenant’s name so provided shall be used by the City only for purposes of confirmation and shall be rendered illegible in the filed document.”
- Section 19.39.090 of the ordinance requires acceleration of compliance and filing the engineering report immediately under certain circumstances, such as the resale of the building or when the building will undergo a remodel, alteration, addition or structural repairs valued at more than \$75,000.
- Because of a concern that an improvement by a commercial tenant beyond the control of the owner would trigger the acceleration, “tenant improvements that the Building Official finds are not structural, will not hinder the required analysis, and are paid for by that tenant for that tenant’s use” was added as an exception to the acceleration clause in Section 19.39.090.

Staff plans to send out the first group of notices in January 2006. Notices for buildings with non-wood frame ground floors will go out later following the adoption process for the needed amendments to Chapter A4. Developing the amendments and their adoption by Council, including a public hearing before the HAC, will take about 6 months. This delay will help ease the start-up as well as spread out the submittal of reports needing review by the City. Staff will take an approach aimed at winning compliance in administering the ordinance. However, the ordinance also provides for the use of administrative citations if formal enforcement is needed.

#### RATIONALE FOR RECOMMENDATION

Action is needed to mitigate the potentially catastrophic threat to the community presented by nearly a fifth of the City’s rental housing stock being found to be of seismically vulnerable, soft story type construction.

The ordinance mandates engineering reports and delays the retrofit program because of the following:

- Costs to retrofit the structure will be substantial but are not clearly determinable at this time;
- the City lacks resources to provide financial assistance;
- an individual engineering analysis is needed to clearly determine which buildings are or are not potentially hazardous; and
- the engineering reports will provide valuable information on the elements of any retrofit needed and its cost.

Adoption of the IEBC Chapter A4 to provide the standards for analysis and retrofit supplies a nationally recognized standard that is designed to identify this type of vulnerability and afford protection from catastrophic collapse, but at a lower cost than meeting the current building code. A standard to provide for immediate occupancy of the premises following a major earthquake may be too expensive for owners to meet and may deter compliance.

The appeal period of 180 days provides a fair balance between the public's need to know and an owner's need for time to investigate. Six months from the date of the City's future notice is enough time to obtain the necessary documentation or engineer's statement for any building that should not be designated potentially hazardous. No recording of the designation or noticing of tenants or of the public would occur during this period, thus avoiding impacts from other parties. However, 180 days would still provide a reasonably timely notice of this important safety information to tenants, users of the building, and potential buyers and lenders. The ordinance also provides for hardship extensions in Section 19.39.090.

The recently adopted General Plan contains many policies addressing the issue, including making Berkeley a disaster resistant community as one of its major goals. The General Plan specifically calls for the adoption of a program like the URM ordinance to address soft story buildings. Identifying the buildings that may collapse in a serious earthquake and their individual seismic weaknesses at the least cost is a practical first step in mitigating the serious public safety issue presented by these buildings.

#### ALTERNATIVE ACTIONS CONSIDERED

On the one hand, adopting no program or a voluntary program, and, on the other, adopting a program that mandates retrofit or has an "immediate occupancy" standard were examined but rejected: The threat is too great to go with no program; voluntary programs for analysis and retrofit have not proven effective; more information and more time for developing incentives is desirable before determining a retrofit program; and a higher standard would limit the quantity and length of time of displacement and the cost of repairs after a quake, but the costs to meet that standard are perceived as being prohibitive without extensive subsidies.

#### CONTACT PERSON

Daniel Lambert, Project Manager, Planning and Development Department, 510 981-7406  
Joan MacQuarrie, Building Official, Planning and Development Department, 510 981-7441

#### Attachments:

- 1: Ordinance
- 2: Key Findings of Soft Story Assessment Project

#### Supporting Materials

- 1: 2003 International Existing Building Code Chapter A (On file in: the Office of the City Clerk the main public library reference desk, and the Planning Department Building and Safety Division)

ADDING CHAPTER 19.39 TO THE BERKELEY MUNICIPAL CODE ESTABLISHING AN INVENTORY OF POTENTIALLY HAZARDOUS BUILDINGS CONTAINING SOFT, WEAK, OR OPEN FRONT STORIES AND ADOPTING CHAPTER A4 OF THE INTERNATIONAL EXISTING BUILDING CODE WITH AMENDMENTS

BE IT ORDAINED by the City Council of the City of Berkeley as follows:

Section 1. That Chapter 19.39 is hereby added to the Berkeley Municipal Code to read as follows:

**Chapter 19.39**

**POTENTIALLY HAZARDOUS BUILDINGS CONTAINING SOFT, WEAK, OR OPEN FRONT STORIES**

**Sections:**

- 19.39.010 Title, findings, and purpose.**
- 19.39.020 Scope and applicability.**
- 19.39.030 Adoption of Chapter A4 of the 2003 International Existing Building Code, with certain amendments.**
- 19.39.040 Establishment of the Inventory of Potentially Hazardous Soft Story Buildings.**
- 19.39.050 Notice to owners and administration.**
- 19.39.060 Owner and tenant obligations.**
- 19.39.070 Analysis of structural seismic adequacy.**
- 19.39.080 Removal of building from the inventory.**
- 19.39.090 Compliance schedule for submittal of seismic analysis.**
- 19.39.100 Fifteen-year exemption for retrofitted buildings.**
- 19.39.110 Public nuisance.**
- 19.39.120 Remedies cumulative.**
- 19.39.130 Severability.**

**19.39.010 Title, findings, and purpose.**

- A. This chapter shall be known as the "Soft Story Ordinance."
- B. The Council finds as follows:
  - 1. A survey of Berkeley buildings in 1996 identified nearly 400 wood frame buildings with five or more units with a ground level containing large openings such as storefronts, garages, or tuck-under parking.
  - 2. The openings on the ground floor of such buildings can create a weak or soft, story.
  - 3. Buildings with soft, weak, or open front ground stories are recognized by engineers and other seismic safety experts as having the potential for sustaining serious damage including collapse in the event of strong earthquakes.
  - 4. Earthquakes in California and elsewhere have demonstrated such damage, injuring and killing people, displacing residents, and causing severe economic loss and disruption to communities.
  - 5. The City of Berkeley conducted an assessment project in 2001 that identified

approximately 5,000 residential units in buildings that may have such stories.

6. A sidewalk assessment was done of 150 identified buildings by professional engineers and found that 46% have severe or considerable vulnerability to damage in a major earthquake and that another 49% had moderate vulnerability.

7. Advances in the design of construction and retrofit of structures to better withstand seismic forces have occurred since such buildings were constructed and resulted in new requirements in current codes.

8. The establishment of an inventory and notification to owners and residents is a necessary first step in developing a mitigation program and will provide the basis for obtaining input from affected parties for such a program.

9. Although the general vulnerability of such buildings is known, determining the seismic adequacy of each of the structures and the appropriate elements of a retrofit to remedy vulnerabilities requires a detailed evaluation by an approved licensed engineering design professional.

10. Such an evaluation is also necessary for the City Council and staff to identify fully the risks to the City and its inhabitants and to determine the feasibility of programs to address the vulnerabilities.

11. Model codes have been developed for analyzing and retrofitting such structures to provide for risk reduction with less design effort, construction cost, and tenant disruption than the Uniform Building Code.

12. While these codes are not intended to provide structural performance equivalent to that provided by new construction built to the current Building Code, they identify and provide for improving the structure's more vulnerable portions and, if identified improvements are made, can be expected to substantially reduce the likelihood of excessive building drift or collapse and substantially lessen the loss of human life.

C. The purpose of this chapter is to protect the public health, safety and welfare, to alert the general public and the owners and residents of certain types of existing multi-unit residential buildings to the vulnerability of such buildings in strong earthquakes, to determine the specific seismic vulnerabilities and necessary improvements for each such building, to inform decision-making about needed mitigation measures, and to promote such efforts.

D. This chapter requires the establishment of an inventory of potentially hazardous buildings that contain a soft story on the ground floor and that have at least five residential units, provides for notification to the owners, residents and users of such buildings, adopts the International Existing Building Code, and requires owners to provide an analysis of their building's seismic adequacy.

### **19.39.020 Scope and applicability.**

A. The provisions of this chapter shall apply to all existing wood frame multi-unit residential buildings that contain five or more dwelling units, as defined in the City of Berkeley zoning ordinance, and that were designed under a building permit applied for before the adoption of the 1997 Uniform Building Code, where:

1. The Ground Floor, whether itself constructed of wood or other materials, of the wood frame structure contains parking or other similar open floor or basement space that causes Soft, Weak, or Open Front Wall Lines and there exists one or more levels above, or;

2. The walls of any story or basement of wood construction are laterally braced with Nonconforming Structural Materials as defined in this IEBC Chapter A4 and there exists two or more Levels above.

B. Buildings listed on national, state or local historical registers shall also comply with the provisions of this chapter. At the Building Official's discretion, modifications to the IEBC may be permitted when such modifications are consistent with the provisions of the State Historical Building Code.

**19.39.030 Adoption of Chapter A4 of the 2003 International Existing Building Code, with certain amendments.**

A. Chapter A4 of the 2003 International Existing Building Code (“IEBC”), as published by the International Code Council is hereby adopted and made a part of this chapter as though fully set forth herein, subject to modifications set forth in this chapter. For purposes of this chapter, the standards in the IEBC shall be used for the analysis of seismic weakness and to formulate the elements of work required to remedy any identified weaknesses; but the submittal of an application for a building permit or the actual retrofit of a building is not required. For the purposes of this chapter, the non-wood frame ground floor of a designated building shall also be analyzed.

B. The Building Official shall provide guidelines delineating the standards for the use of Chapter A4, including amendments for buildings with concrete podia and non-wood-frame ground floors, and for filing the report required by this chapter. The guidelines shall provide details for items required in the report, procedures to be followed, and a framework for both the assembly of the required information by the professional and for the evaluation of the report by the City.

C. Terms in capital case used in this chapter are as defined in Chapter A4 of the IEBC and FEMA 356, unless otherwise defined in this chapter.

**19.39.040 Establishment of the Inventory of Potentially Hazardous Soft Story Buildings.**

Multi-unit wood frame residential buildings with five or more residential units identified by a 1996 survey conducted by the City as containing a Soft, Weak, or Open Front Ground Floor shall be placed on the Inventory of Potentially Hazardous Soft Story Buildings. Such buildings are designated soft story buildings. The inventory shall be maintained and revised as necessary by the Building Official. A copy shall be available for inspection in the office of the Building Official and in the Office of the City Clerk.

**19.39.050 Notice to owners and administration.**

A. Contents of Notice and Order. When the Building Official determines that a building is within the scope of this chapter, the Building Official shall issue a notice and order as provided herein. The notice and order shall specify that the building has been determined by the Building Official to be within the scope of this chapter, placed on the inventory, and, therefore, is required to meet the seismic analysis and other provisions of this chapter unless removed on appeal. The notice and order shall specify the building type classification, if known, and shall set forth the owner's obligations under this chapter, the time limits for compliance, and appeal rights. The Building Official's determination shall be final at the end of 180 days unless a timely request for reconsideration is filed as provided below.

B. Service of Notice and Order. The notice and order shall be in writing and may be given either by personal delivery thereof to the owner or by deposit in the United States mail in a sealed envelope, postage prepaid, addressed to the owner of the property as shown on the last equalized assessment roll of the county, or as known to the Building Official, as well as to the following, if known: the holder of any mortgage or deed of trust or other lien or encumbrance of record; the owner or holder of any lease of record; and the holder of any other estate or legal interest of record in or to the building or the land on which it is located. The failure to serve any person required herein to receive service shall not invalidate any proceeding hereunder as to any person duly served or relieve any such person from any duty or obligation imposed by the provisions of this section.

C. Appeal to Building Official. Any person entitled to service of notice under the preceding subdivision may request the Building Official to reconsider a determination to include a building on the inventory by submitting information that the building's ground floor is not soft, weak, or

open as defined by the applicable standard, that the building has been substantially reconstructed in accordance with the 1997 or later Uniform Building Code, or that the building has been retrofitted in compliance with Article 11 of the current Berkeley Building Code or the IEBC. The request for reconsideration shall be filed within 180 days from the date of the service of such notice and order of the Building Official.

D. Appeal to Housing Advisory Commission. Any person entitled to service of notice under the preceding subdivision who disagrees with the decision of the Building Official on reconsideration pursuant to that subdivision may appeal within 30 days of the date of notice of the Building Official's decision on reconsideration to the Housing Advisory Commission (HAC) as provided for in BMC Chapter 19.44. For purposes of this chapter, the appeal shall be set for hearing at the next regular HAC meeting more than 20 days, but not more than 60 days, from the date of filing of the appeal, provided that the Commission may set the hearing at a different time for good cause.

E. Recordation. Once the Building Official's determination is final, the Building Official shall file with the Office of the County Recorder a certificate stating that the subject building is within the scope of this chapter, unless the property has been removed from the inventory. The certificate shall also state that the owner thereof has been ordered to conduct a structural analysis of the building in compliance with this chapter. When a building is removed from the inventory, the Building Official shall promptly file with the Office of the County Recorder a certificate so stating.

F. Costs of Additional Compliance Actions. In addition to any penalties authorized by the Berkeley Municipal Code, an owner who fails to comply with the provisions of this chapter may be charged reasonable fees, as adopted by City Council resolution, to compensate for staff time spent to bring the building into compliance.

### **19.39.060 Owner and tenant obligations.**

A. Obligation of Owners to Notify Tenants and Post Notice. Once the Building Official's determination is final, owners of buildings on this inventory shall do the following:

1. Within 30 days, notify each tenant in writing, using the form in Appendix A below, and notify each new tenant at a change of tenancy, that the building is included on the inventory.

2. Post in a conspicuous place within five feet of each main entrance of the building, and maintain until the building is removed from the inventory, a clearly visible warning sign not less than 8" by 10" the following statement, with the first two words printed in 50-point bold type and the remaining words in at least 30-point type:

“Earthquake Warning. This is a soft story building with a soft, weak, or open front ground floor. You may not be safe inside or near such buildings during an earthquake.”

3. Mail, within 30 days of service, a copy of each tenant notification form in compliance with this section and a completed proof of service addressed to: Building Mitigation Manager, Building and Safety Division, 2120 Milvia Street, Berkeley, CA 94704. Any tenant's name so provided shall be used by the City only for purposes of confirmation and shall be rendered illegible in the filed document.

B. Obligations of Tenants to Cooperate. Each tenant of a building on the inventory shall cooperate with the owner and the owner's agents, including but not limited to engineers, contractors, and inspectors, to accomplish the required analysis. In so doing, tenants shall allow reasonable access to the building and their unit or space as needed and as permitted by California Civil Code 1954.

**Appendix A**  
**Notice to Tenants re: Soft Story Building**

This is to notify you that the building at \_\_\_\_\_, Berkeley, California is on the City of Berkeley's Inventory of Potentially Hazardous Soft Story Buildings and may constitute a severe threat to life safety in the event of an earthquake of moderate to high magnitude.

This notice is required by Berkeley Municipal Code (BMC) Chapter 19.39. This chapter also requires that the building be analyzed by a civil or structural to determine its seismic vulnerability.

For purposes of the program, soft story buildings are those buildings constructed prior to 1997, containing at least five residential units and typically having tuck-under parking or a storefront on the first floor.

If you have any questions about the law, please contact \_\_\_\_\_ the project manager:

- by phone at \_\_\_\_\_,
- by e-mail at \_\_\_\_\_,
- by mail at \_\_\_\_\_.

For questions about this particular building, please contact:

\_\_\_\_\_  
(Name of owner or manager and how to contact)

\_\_\_\_\_  
(signature of owner)

\_\_\_\_\_  
(date)

\_\_\_\_\_  
(print name)

-----  
**Proof of service (Return signed copy to 2118 Milvia Street)**

On \_\_\_\_\_ I delivered the above notice by:

- Placing it in the mail of the United States Postal Service addressed as follows:

\_\_\_\_\_.

- Personally delivering it to:

\_\_\_\_\_ at \_\_\_\_\_.

\_\_\_\_\_  
(signature of server)

\_\_\_\_\_  
(date)

\_\_\_\_\_  
(print name)

**19.39.070 Analysis of structural seismic adequacy.**

Within two years of the date of service of the notice of inclusion on the inventory, the owner of each building on the inventory shall submit an Initial Screening and a detailed seismic engineering evaluation report prepared by a qualified California licensed structural or civil engineer that: analyzes the structural ability of the building to resist the seismic effects of earthquakes and the extent to which the building meets the standards for structural seismic adequacy as set forth in Chapter A4 of the 2003 IEBC as modified by this chapter, identifies any hazardous exterior design elements, describes the elements of work needed to remedy the identified weaknesses, and provides other relevant information as specified by the Building Official. This chapter does not require the retrofit of any building and does not require the submittal of plans of the type required with an application for a building permit. The seismic evaluation report review fee as set by City Council resolution shall apply. The purpose of the analysis is to investigate the structural systems of a building that resist forces imposed by earthquakes and to determine if any individual portion or combination of these systems is inadequate to prevent a collapse or partial collapse or other damage hazardous to life.

**19.39.080 Removal of building from the inventory.**

A building shall be removed from the inventory under the following circumstances:

- A. A determination by the Building Official that the building does not contain a Weak, Soft, or Open Front Story and meets the applicable standards;
- B. The satisfactory completion of a seismic retrofit and appropriate inspections bringing the Soft, Weak, or Open Front Story of the building up to the requirements of the applicable standards of Chapter A4 of the 2003 IEBC;
- C. A determination by the Building Official or a decision on appeal that the building is not a building with Soft, Weak, Or Open Front Stories; or
- D. Lawful demolition of the building.

**19.39.090 Compliance schedule for submittal of seismic analysis.**

A. Deadlines. All owners of potentially hazardous soft story buildings shall submit the required analysis of structural seismic adequacy in accordance with this chapter no later than two years from notice by the City of Berkeley.

B. Acceleration of Deadline. Notwithstanding subdivision A of this section, this deadline shall be accelerated, and the owner shall submit the required analysis of structural seismic adequacy, whenever any one or more of the following occurs:

- 1. The Building Official determines that the building or any major portion thereof will be reoccupied after being vacant for six months or longer.
- 2. The building will undergo a remodel, alteration, addition or structural repairs valued at more than \$75,000, except for repairs found by the Building Official to be required for routine maintenance or emergency purposes or tenant improvements that the Building Official finds are not structural, will not hinder the required analysis, and are paid for by that tenant for that tenant's use.
- 3. Title to the building is transferred in whole or part or the building is sold to a new owner or owners, except that changes in title due to inheritances or transfers between spouses or registered domestic partners shall not require compliance with this part.
- 4. Additional financing is obtained which is secured by a deed of trust or mortgage recorded on the title to the building. Financing secured solely to refinance existing debt against the property shall not be considered as additional financing for the purposes of this chapter.
- 5. The use of the building changes such that Section 502 of the Berkeley Building Code (BMC Chapter 19.28) applies.
- 6. The building is identified by the Building Official as an Unsafe Building as defined in

Section 203 of the Berkeley Building Code (BMC Chapter 19.28).

C. Extensions of Deadline. The City Manager or his/her designee may extend the deadline for the required analysis by up to six months, and prior to expiration of that extension may grant up to two additional extensions of up to six months each, if:

1. The owner submits to the City Manager a detailed written statement requesting the extension, explaining why it should be granted and clearly documenting the reasons therefore in accordance with the requirements of this part.

2. The owner agrees in writing to fully cooperate with the City in seeking all available financing, if the reason is lack of funds.

Extensions granted under this part shall not extend deadlines for correction of any other violations of any other ordinances.

D. Required Findings. In order to grant an extension, the City Manager must find that:

1. The building does not present an imminent threat to life safety of occupants or the public, based on a report from a California licensed structural or civil engineer;

2. The building owner has complied with the requirements of Sections 19.39.060 and 19.39.070.

3. The owner has demonstrated there are unique and exceptional circumstances that prevent compliance.

#### **19.39.100 Fifteen-year exemption for retrofitted buildings.**

Any building, or any portion of a building that is identified under this chapter as being a potentially hazardous Soft, Weak, or Open Front Story Building and is retrofitted in compliance with the applicable standards or the City of Berkeley Building Code shall not, within a period of 15 years, be identified as a potentially hazardous building because of a Soft, Weak, or Open Front Story pursuant to any local building standards adopted after the date of the building retrofit unless such building no longer meets the standards under which it was retrofitted.

#### **19.39.110 Public nuisance.**

Any building for which the owner fails to file the required analysis of structural seismic adequacy in compliance with Section 19.39.070 or fails to comply with Section 19.39.060 or fails to comply with any order of the Building Official is hereby declared to be a public nuisance and may be abated pursuant to the procedures set forth in BMC Chapter 1.24.

#### **19.39.120 Remedies cumulative.**

Remedies provided by this chapter are cumulative.

#### **19.39.130 Severability.**

If any section, subsection, sentence, clause or phrase of this chapter is for any reason held to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this chapter. The City Council hereby declares that it would have passed this chapter, and each section, subsection, sentence, clause and phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases had been declared invalid or unconstitutional.

Section 2. Copies of this Ordinance shall be posted for two days prior to adoption in the display case located near the walkway in front of Old City Hall, 2134 Martin Luther King Jr. Way. Within fifteen days of adoption, copies of this Ordinance shall be filed at each branch of the Berkeley Public Library and the title shall be published in a newspaper of general circulation.

## Key Findings of the Soft Story Assessment Project

Under the direction of the city's Seismic Technical Advisory Group, a team of staff, outside experts, and University of California students assessed soft story residential buildings in Berkeley with five or more residential units in 2001. Building on an initial 1996 survey that identified about 500 apparent soft story buildings, the team collected additional information from city data sources, categorized the buildings into four prototypes based on the size, shape, number of stories, number of units, and construction type.

A sample of 150 buildings was selected for a sidewalk visual assessment by teams of engineers and graduate engineering students associated with Earthquake Engineering Research, Inc. The performance assessment was meant to gather data to develop an understanding of the performance of the prototypes in an earthquake rather than any specific individual property. It serves as a general guideline; therefore a specific building could perform much better or worse than the prototype. The results for the 150 buildings were then extrapolated, based on the four prototypes, to the other 250 building not viewed by the engineers.

The assessment project's key findings regarding these buildings were as follows:

- 17% were found to have severe vulnerability with an additional 29% having considerable vulnerability, meaning that nearly half are expected to be red tagged, uninhabitable and likely to require extensive repair or total replacement.
- 49% were found to have moderate vulnerability and would be expected to be yellow-tagged and repairable but initially uninhabitable.
- All together, over 95% of the 5,000 soft story units may not be livable immediately following a large Hayward earthquake.
- 36% of the buildings sampled have residential units on the soft story ground floor, a particularly dangerous condition.
- 89 % need further attention, with 62% recommended for seismic retrofitting to meet life safety standards and an additional 27% recommended for further seismic evaluation.
- Units in 15% of the buildings recommended for retrofit might need to be vacated during the work.
- Only 2% of the buildings would be expected to lose parking spaces

as part of the recommended retrofit.