




Office of the City Manager

INFORMATION CALENDAR

December 18, 2007

To: Honorable Mayor and Members of the City Council  
From:  Phil Kamlarz, City Manager  
Submitted by: Dan Marks, Director, Planning and Development Department  
Subject: Status of Seismic Strengthening Work Qualifying For The Transfer Tax Reduction

INTRODUCTION

On February 1, 2007, the Building Official promulgated a set of guidelines for seismic strengthening of residential structures clarifying the scope of work required to qualify for the real estate transfer tax seismic reduction. Berkeley Municipal Code (BMC) Section 7.52.060.K.2. provides for a rebate of up to 0.05 % of the sales price (one-third of the 1.5% transfer tax). The purpose of the guidelines is to ensure that work to seismically strengthen buildings is effective and provides true value for the costs incurred by the owner and for the revenue foregone by the City of Berkeley.

The City Council received the draft Guidelines in a July, 2006 information report, and the Guidelines were subsequently reviewed by the Housing Advisory Commission and the Disaster Council prior to their implementation. In May 2007, the Council requested that staff return with an evaluation of how the Guidelines were working and possible enhancements to them. This report provides an update on our response to the questions raised by the Council.

Additionally, during the same time period, rules allowing monies to be held in escrow by title companies pending completion of the work were changed so that all monies are deposited with the City at time of sale

CURRENT SITUATION AND ITS EFFECTS

In February 2007, the Building Official issued Guidelines for Seismic Strengthening of residential structures that established minimum requirements for transfer tax reduction. The guidelines were needed because there are no adopted code standards for seismic strengthening of wood frame structures of less than five units. Assessments of seismic strengthening work, including a study by the Association of Bay Area Governments and a survey of homes in four cities along the Hayward fault, indicated that many seismic strengthening projects were not effective.

The guidelines include provision for use of Plan Set A, designed for use without individual engineering for one or two story houses with cripple walls of less than four

feet. Under the guidelines, standard foundations in compliance with conventional construction standards, securing of chimneys and stacks, removal of unreinforced masonry chimneys, and/or anchoring of water heaters is eligible without engineering; other seismic strengthening work must either comply with Plan Set A or be engineered to meet applicable standards.

“Plan Set A” provides construction details and instructions for bolting, shear wall installation, and connecting the floor to the cripple wall, and a plan grid for showing the foundation plan. The Plan Set applies to wood-frame structures with cripple walls of four feet or less and has been approved by relevant professional organizations. Projects that comply with the requirements of Plan Set A require no additional engineering analysis. However, few seismic strengthening projects in hill area locations can qualify to use Plan Set A; therefore the new Guidelines require engineering analysis for most projects in the Berkeley hills. Prior to the adoption of the Guidelines, this City, along with nearly all other California cities, essentially applied a “do-no-harm standard” in reviewing and approving such proposed work. Under the new Guidelines, more projects now need engineering analysis to ensure the effectiveness of proposed seismic strengthening improvements.

In May 2007, the City Council requested that staff return with the following information:

1. Hillside Ordinance: Evaluate implementing the Los Angeles Hillside building code.
2. Additional Details: Incorporate specific suggestions related to Plan Set A and develop a process for fully developing a library of additional details for Plan set A, including the formation of a group of engineers to review proposals
3. Rebate trends: Report on trends in the seismic rebate program

The Council asked that staff return in regard to item #1 in December 2007, item #2 in April 2008, and item #3 after June 2008. Staff is bringing back a response to item #1 in this report, and an update in regard to the other two issues.

Hillside Ordinance: At the time of the request, there was an implication that Los Angeles had adopted standards for hillside strengthening that did not require engineering analysis. That is not the case. Rather, it provides special standards for the design of seismic strengthening for existing hillside homes by a registered civil or structural engineer. The Building Official now allows the use of those standards subject to case-by-case determination of its applicability to a particular home.

Additional Details: Based on consultation with engineers who developed Plan Set A, the building official has expanded its applicability, allowing its prescriptive standards to be applied to some larger buildings and to those eligible portions of homes (e.g., split level) where the building itself is otherwise ineligible.

Additionally, staff has begun identifying appropriate engineers and developing a plan for a review panel. Staff noted in its response to the May, 2007 Council referral, that establishing any new standards would require a significant commitment of time by such a panel, and that some level of recompense to those professionals would be necessary. In addition, because no engineer has been willing to submit design details for approval, it is expected that the process would likely include hiring an engineer to design the details, provide supporting calculations, and recommend specific details. The cost for this process is estimated at \$25,000. That funding has not yet been made available. While staff is prepared to proceed, development of additional details is dependent on funding.

The first item of work for the review panel, when funded, would be to assess whether it is feasible for the City to develop additional details to supplement Plan Set A. The process for establishing such standards is usually a conservative, nationally consensus-driven method. If it were determined to be practical, the panel would then develop a process to do so.

Rebate Trends: Data maintained by the Finance Department shows a downward trend for payouts for seismic rebates from FY '04 to the current year, with \$1.5M in '04, \$1.4M in '05, and \$1.1M in '06. Because owners have one year from the recording of purchase (with an additional year extension for good cause) to complete seismic strengthening, data on the use of the rebate for sales in FY 07 will not be available until July 2008. Data for a full year under the new Guidelines will not be available until February 2009. Possible explanations for the decline in use are declining sales of number of homes (1,266 in FY '06 and 1,090 in FY '07) and the large number (estimated at over 50%) of homes previously receiving the rebate for seismic work.

To attempt to get a perspective on the impact of the changes to the program, staff identified all permit applications for seismic strengthening from February through September 2006 and 2007. There were 196 applications in 2006, and 195 in 2007. Of the applications in 2007, 128 applicants intended to use the rebate.

Other Actions: Staff has provided information on the new guidelines through contractor training, real estate meetings, personal contacts from clients, a brochure, and handouts at the Permit Service Center. Inspectors, plan checkers, and Permit Service Technicians have been trained. About 160 full size plans sets have been distributed for use by contractors and owners, and a new printer friendly version on letter size paper has recently been released. Staff also provides technical assistance to other jurisdictions, when requested, including ongoing assistance for Oakland's new program.

## BACKGROUND

In a September 13, 2005, off agenda memorandum, staff first notified council of the establishment of an advisory group to assist the building official in developing new guidelines for qualifying work for the transfer tax reduction. The Council Information report of July 11, 2006 (attached), provides the background up to that date on the

development of the guidelines. Staff presented a draft of the guidelines based on the recommendations of that committee to the City Council as part of that report.

In summary, staff established an Advisory Committee consisting of three members of the Disaster Council and a member of the Seismic Technical Advisory to consider guidelines for the rebate program in **2005**. Between February 2006 and the implementation of those Guidelines in February 2007, staff met with the HAC, held two meetings with the Disaster Council as well as meetings with contractors, outside engineers, the Board of Realtors, and inspectors and plan checkers to review them and obtain input.

#### POSSIBLE FUTURE ACTION

Establish the panel of engineers to first determine the practicality of the City itself further expanding Plans Set A, and if practical, determine a process to do so. Because no private engineer has been willing to professionally propose additional details, the process would likely include hiring an engineer to design the details, provide supporting calculations, and recommend specific details.

Additional informational materials and technical assistance could be developed and provided as suggested by the Commission.

#### FISCAL IMPACTS OF POSSIBLE FUTURE ACTION

Should the Council want staff to develop additional Plan Set A details, the approximate cost would be \$25,000 for engineering consultants.

Staff time is expected to be .25 FTE and would likely slow implementation and enforcement of the Unreinforced Masonry and Soft Story Building programs. Funding for this work could be made available from non-rebated transfer tax funds (General Fund revenue).

#### CONTACT PERSON

Joan MacQuarrie, Building Official, Planning and Development Department,  
510 981-7441

#### Attachments:

- 1: 5/8/07 Council Information Item: Guidelines For Seismic Strengthening Work Qualifying For The Transfer Tax Reduction
2. Guidelines for Transfer Tax Reduction for Qualifying Seismic Work



Planning Department  
Building and Safety Division

## New Guidelines for Transfer Tax Reductions For Qualifying Seismic Work Effective February 1, 2007

To be eligible for a reduction in the real estate transfer tax, building permits submitted for qualifying seismic strengthening work on or after February 1, 2007 will be required to comply with new technical guidelines and administrative procedures:

The work must "improve seismic safety" as defined in this guideline and Berkeley Municipal Code Section 7.52.060. Other regulations and procedures, not set forth in these guidelines, remain the same.

### New Application Information

1. A separate permit application and plans are required for qualifying seismic strengthening work.
2. Building permit applicants are required to state on the face of the permit application in the scope of work section "**seismic safety work for transfer tax reduction**".
3. Initially, "Plan Set A" submittals will be plan checked within 5 working days. More complex submittals will be plan checked within 15 working days. These turnaround times will be evaluated and adjusted as necessary once the program is underway.
4. Upon plan check approval, the front sheet of the plans will be stamped with the following statement: "Seismic strengthening work covered under this permit is eligible for the Transfer Tax Reduction provided in BMC 7.52.060 upon approval of final inspection".
5. Seismic work that facilitates future improvements or enlargement of existing spaces or upgrading other than seismic is not eligible for the transfer tax reduction.

### Scope

Seismic Strengthening Work shall consist of one or more of the following:

1. Repairing or replacing foundations – use prescriptive foundation requirements of CBC Chapter 18 (where applicable) or engineered plans
2. Securing of chimneys or stacks – engineered plans required
3. Removing of unreinforced masonry chimneys – plans required for replacement work
4. Anchoring of existing water heaters – per B&S handout
5. Cripple wall retrofit – use Plan Set A if applicable, or engineered plans
6. Other work demonstrated to the Building Official to increase substantially the capability of these structures to withstand damage in an earthquake – decided on a case-by-case basis.

**Standards to Improve Seismic Safety**

1. Seismic Strengthening Work shall comply with the following standards:  
Plan Set A when applicable (per chart on Plan Set), OR
2. Plans (and calculations) prepared by a California registered civil or structural engineer, and meeting one of the following standards:
  - a. 75% of the horizontal force levels as established by Chapter 16 of the current California Building Code; OR
  - b. 100% of the force levels established by Guidelines for Seismic Retrofit of Existing Buildings, 2001 Edition, published by ICBO; See BMC Section 19.28.240; OR
  - c. 100% of the force levels as established by Chapter 23 of the 1976 Uniform Building Code. OR
3. For buildings on the City's Inventory of Potentially Hazardous Unreinforced Masonry Buildings, corrective work required by BMC Chapter 19.38. OR
4. For buildings on the City's Inventory of Potentially Hazardous Soft-Story Buildings, corrective work required by BMC Chapter 19.39

**Inspections**

In order to qualify for the rebate of the transfer tax, contractors or homeowners are required to schedule inspections as follows:

1. For Plan Set A: Two inspections are required:
  - a) Rough Inspection, which includes verification of:
    - Foundation bolt installation
    - Installation of blocking and framing
  - b) Final Inspection, which includes verification of:
    - Plywood panel installation on cripple wall
    - Metal hardware installation
    - Smoke detectors (Must be installed in accordance with building code requirements)
2. For all other seismic work for transfer tax reduction:
  - a) Follow normal inspection procedures.
  - b) Final inspection including installation of smoke detectors (Must be installed in accordance with building code requirements).

Affidavits for smoke detectors are acceptable on a case-by-case basis as determined by the area inspector.

No work shall be covered or concrete placed, prior to inspection and approval.

**Notes:**

1. Qualifying buildings are any structures that are used exclusively for residential purposes, or any mixed-use structures that contain two or more dwelling units.
2. Seismic strengthening work not meeting these standards will not be eligible for the transfer tax reduction.
3. Procedures for obtaining tax reductions remain the same. Call the Finance Department at 981-7210 or on the web at [www.ci.berkeley.ca.us/LowIncome&Seismic/TransferTx&SeismicRefund](http://www.ci.berkeley.ca.us/LowIncome&Seismic/TransferTx&SeismicRefund)
4. For further information, call the Building and Safety Division at (510) 981-7440.

5. Copies of the Guidelines and Plan Set A are available on the web at [www.ci.berkeley.ca.us/buildingandsafety](http://www.ci.berkeley.ca.us/buildingandsafety)

Berkeley City Council  
District 5

CONSENT CALENDAR  
May 8, 2007

To: Honorable Mayor and  
Members of the City Council

From: Councilmember Laurie Capitelli

Subject: Recommendations by the Disaster and Fire Safety Commission Regarding  
Seismic Rebate Program and Plan Set A

RECOMMENDATION

Refer to the City Manager the recommendations made to the City Council by the Disaster and Fire Safety Commission in their memo of September 21, 2006, related to the City's seismic retrofit rebate program, and return to Council with: 1. Language that incorporates specific suggestions related to Plan Set A, including the formation of an ad hoc group of engineers/experts to review these and future proposals, by April 2008; 2. An evaluation and proposal for implementation of the Los Angeles hillside building code by December 2007; 3. A process for fully developing the library of "Additional Details" for Plan Set A; and 4. A report of trends in the seismic rebate program through June 2008, including an evaluation of the implementation of Plan Set A.

FINANCIAL IMPLICATIONS

Up to \$25,000 for professional engineering review of recommended additions to Plan Set A, which could be derived from the Transfer Tax revenue allocated for seismic retrofit rebates, but not used.

BACKGROUND

In an effort to improve the quality of residential seismic retrofit projects applied for under the seismic retrofit transfer tax rebate program, the City's Building and Safety Department has incorporated new, specific standards for such projects. Known as "Plan Set A," these guidelines provide an engineering standard that is applicable for many of Berkeley's residential buildings.

Retrofit projects that cannot utilize the "Plan Set A" standard are required to be professionally engineered. The subsequent increased cost of these projects—in some cases well beyond the allowable transfer tax rebate—could well act as a deterrent to proceeding with retrofit projects.

In a memo dated September 21, 2006 (see attached), the Disaster and Fire Safety Commission commented on Plan Set A, making several prescriptive recommendations in

order to make the program more flexible and hopefully, applicable to a wider variety of properties. Staff and professional engineers should review their specific suggestions with the intent of incorporating them into future iterations of Plan Set A. Fees for consultation by professional engineers should be no more than \$25,000. Staff should return to Council within one year for approval of recommendations.

Staff should establish the previously planned ad hoc group of engineers. This group can review these and future engineering details that could become part of a library of "Additional Details" available for future retrofit projects.

The D&FSC also forwarded general recommendations related to the overall seismic retrofit program. Related recommendations are:

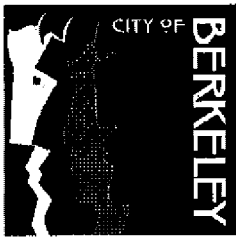
- Evaluation of the Los Angeles hillside building code, which was crafted and put into effect after the 1994 Northridge earthquake. Refer to staff and return to Council within nine months with a recommendation for adaptation and implementation.
- Develop an appropriate process for creation of the library of "additional details," available to the public, considering liability, copy right issues, and compensation.
- Report to Council after the program has been in effect for one year+ (June 2008). Include an evaluation of the Plan Set A program, and general trends in the residential seismic retrofit rebate program: number of projects applied for and completed under Plan Set A, number of projects applied for and completed requiring additional engineering, relative processing times for both types of projects, and an estimate of potentially available but "unused" transfer tax rebates.

#### CONTACT PERSON

Councilmember Laurie Capitelli, District 5 981-7150

#### ATTACHMENTS:

1. September 21, 2006 Memo to Mayor and City Council  
From the disaster and Fire Safety Commission  
'Support of Disaster & Fire Safety Commission for Plan Set A'



Disaster and Fire Safety Commission

September 21, 2006

To: Honorable Mayor and  
Members of the City Council

From: Disaster and Fire Safety Commission

Submitted by: Jesse Townley, Chair, Disaster and Fire Safety Commission

Subject: Support of Disaster & Fire Safety Commission for Plan Set A

On August 9, 2006, the Disaster and Fire Safety Commission (D&FSC) met with Berkeley Building Official Joan MacQuarrie, Assistant City Manager Arrietta Chakos, and other professionals from the Planning Department and the private sector. Our conversation was extremely positive, productive, and informative for all involved. This letter contains the recommendations from the D&FSC to the Planning Department and the City Manager's Office.

We are excited about moving forward by implementing Plan Set A on October 1, 2006. Plan Set A is part of the guidelines written to improve standards for seismic upgrading. These new guidelines should ensure that retrofits undertaken pursuant to this program are seismically effective and a good use of taxpayer and city monies, since the guidelines finally give the planning department authority to veto proposed retrofits for effectiveness. This change is a vital step forward in making the program work as intended, and will keep Berkeley where we want it to be: at the cutting edge of community earthquake preparedness.

The new guidelines make certain types of retrofit approvals easy: those for houses that match Plan Set A and those for which engineering studies have been done. There are also certain retrofitting actions that are automatically approved, such as the strapping of hot water heaters. However, much of the success of the program will depend upon the ability of the Planning Department staff to promptly and adequately evaluate applications for houses whose retrofit requirements do not merit the costly involvement of an engineer but which do not fit the narrow limits of Plan Set A. It is the D&FSC's understanding that such applications will be reviewed under the Alternate Details section of the Guidelines. Please ensure that the Department has the staffing and financial resources it needs to give attention to these applications as they come in so that the program can work as hoped.

The D&FSC is enthusiastic about the current iteration of the guidelines of Plan Set A. We recognize that this plan is a constantly evolving one. We are very pleased with the prescriptive approach as well as the flexibility of the Alternate Details element. We are also excited about the possibility of the City moving some or all of the suggestions below into operation, after

## Support of Disaster & Fire Safety Commission for Plan Set A

appropriate evaluation and review, in the next several months.

Suggestions that the City should consider for future iterations of Plan Set A include:

1. Adding different sized homes (especially smaller than 1200 square feet) to the Plan Set.
2. Specify "flush-cut" method as an approved alternate to the "nail-block" method. Consider adding "staple" and "reverse-cut" methods as well, along with the appropriate improvements in strength loads.
3. Accept as an equivalent to Plan Set A guidelines retrofit plans in which the base-shear formula is shown to be within Plan Set A's strength guidelines.
4. Re-examine (and hopefully upgrade) the strength capacity of specific bolts and Mud sill Plates within the Plan Set A guidelines. The strength capacity of Redwood versus Douglas Fir should also be re-examined.
5. Expand the cripple wall height allowable under Plan Set A above 4' high.

Actions the City should consider for future iterations of the overall seismic retrofit effort include:

1. Evaluation, adaptation, and implementation of the Los Angeles hillside building code, which was crafted and put into effect after the 1994 Northridge earthquake.
2. Having outside structural engineers on-call to evaluate submitted plans and Alternate Details will lessen the workload on already overworked Planning Department employees and expedite the retrofit approval process. Minor funding from the City may have a major impact on the program's overall effectiveness for this and the following two points.
3. At our August meeting, the Building Official expressed willingness to form ad hoc groups of engineers to examine new Alternate Details in order to expedite the approval process. Since this is such an important piece of the Plan's exciting flexibility, the City should add more funds to these efforts.
4. Examine question of who pays for the licensed design professional's evaluation of Alternate Details (see C.1.b in the Planning and Development Department's August 2006 document "Guidelines for Seismic Strengthening Work Qualifying for the Transfer Tax Reduction"). Since Alternate Details are to be used in perpetuity by other contractors and retrofit engineers for free, it is logical (and encourages innovative approaches) for the City to cover the cost and not a private entity. If the private entity (contractor, architect, whomever) passes the cost onto the homeowner, then the goal of cost-effectiveness is thwarted. Also, will there be issues of copyright, liability concerns, or proprietary concerns by private entities if a detail is first reviewed by a licensed professional who is not a city employee or city contractor?
5. Dedicate unused transfer tax payments at the end of each fiscal year to fund homeowner/public seismic education and/or to augment City funding for outside engineers to expedite evaluations of Alternate Details.

### Conclusion:

These standards, including these proposed future improvements, will go a long way towards ensuring that the City receives quality seismic retrofits in return for the transfer tax credit for homeowners. These retrofits will meet set standards, be cost-effective for homeowners, and result in much safer housing stock for the City of Berkeley.

