



March 7, 2011

Howard Cook
737 Page St.
Berkeley, CA 94710

Dear Mr. and Mrs.

This proposal is based on a discussion with our engineer Thor Matteson, www.shearwalls.com.

The garage door opening is a serious weakness because there is nothing under the floor above the garage door opening to restrain it from movement. This is addressed by installing a steel moment column. I showed you a picture of one while I was there. Moment columns do not affect parking or any other aspect of the usefulness of the garage and you will not notice it from the outside.

I would be very happy to come back, answer any questions, and explain my approach. I have always found this helpful for clients to understand the protection they will be afforded by their retrofit.

If you have not already done so, I suggest you look at the PBS/NewsHour 8 minute video [Dangers of the Hayward Fault](#) which can be seen on our website home page at bayarearetrofit.com under the credit card icons.

This video discusses the local geology and has an informative section on homes similar to yours.

I spoke with Mr. Matteson and he told me the engineering fees for this project would be \$1,250 dollars. He will provide you with a separate contract for his services and is not part of the construction charge.

If you wish to proceed, please fill out the Terms and Signature page, write in the dollar amount of the contract, sign and date it. You can then mail it to the above address or fax it.

If you have any questions, please do not hesitate to call.

Sincerely,

Howard Cook
Office: 510-548-1111
Fax: 510-704-4448

Professional Affiliations

Consultant to The Structural Engineer's Association's Existing Buildings Committee on residential wood-frame retrofit procedures.

Member: Earthquake Engineering Research Institute.

Lecturer on Retrofit Principles and Practice for the American Society of Home Inspectors

Residential Earthquake Damage Inspector for the Federal Emergency Management Agency. On call since 1989.

Course Instructor: "*Principles and Practice of Earthquake Retrofitting*" for the Association of Bay Area Governments

Contributor: Wood-Framed Shear Wall Construction: An Illustrated Guide. Matteson, Thor, Structural Engineer. Illinois: The International Code Council, 2010.

Featured Contractor: "*The Hayward Fault. Predictable Peril*". KQED, Channel 9. October 2008

Co-Author: Wendy, Allen P.E. Anchorage Systems Engineer for Simpson StrongTie and Howard Cook, "*Retrofit Mud sill Anchorage Systems*" Unpublished, 2007

Author: "*Seismic Retrofit for Cripple Walls*", The Journal of Light Construction. 15 April, 2006

Featured Contractor: "*The Coming Bay Area Earthquake*" _ PBS, The NewsHour with Jim Lehrer, April, 2006

Co-Author: Bay Area's Retrofit Guidelines: Standard Plan A, Residential Seismic Strengthening Plan, San Francisco Bay Area: The International Code Council, 2005.

Mayoral Appointee to the Berkeley Disaster Commission 2005 and 2006 as an advisor on Berkeley's Earthquake Retrofit programs.

Five time graduate of the course "Earthquake Retrofit for Wood-Frame Homes" presented by the Association of Bay Area Governments, starting with the first course in 1995.



Bay Area Retrofit
www.bayarearetrofit.com

510-548-1111

Workers' Comp. #2246
Contractors Lic. #558462
Bond #6334450

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Submitted to:

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My examination of your home showed a need for the following modifications:

FINDING: This home has living area above a garage. The floor above the garage door opening has nothing under it to prevent the floor from swaying back and forth and possibly even collapsing.

RECOMMENDATON: Where shown on the enclosed drawing, install a 500 hundred pound 12 inch by 8 inch by 3/16 inch steel column which will be embedded in concrete at its base and attached to the floor at the top.

FINDING: The new foundation will require excavation work. We will need to dig out a trench approximately 2 feet deep and 2 feet wide extending from one side of the garage to the other at the moment column location.

RECOMMENDATON: _ Cut out 2 foot wide section of concrete floor in basement and dig out dirt and put in landfill.

FINDING: Rebar will need to be installed in the trenche in order to reinforce the concrete at the base of the steel column . .

RECOMMENDATON: _ Install rebar as specified by a structural engineer.

FINDING: Fill the trenches with minimum 3000 psi concrete (This means the concrete can resist 3,000 pounds of force per square inch).

RECOMMENDATON: _ Fill trenches with concrete as shown in the attached drawing.

The Building Department

Draw plans and submit to building department for review.

**Total Contract Price: 0000.00
Plus price of permit paid to city, usually \$500 to \$800**

Garage Door Openings Represent a Serious Structural Weakness



Embedding a very rigid large steel beam into concrete and attaching it to the floor above the garage door opening addresses this weakness. These are known as moment columns

