

EBB Contractor Retrofit Guide

Minimizing earthquake damage
one house at a time



**EARTHQUAKE
BRACE+BOLT®**
Powered by Cal OES & FEMA

www.EarthquakeBraceBolt.com

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Established by the California Residential Mitigation Program (CRMP)

CRMP is a joint powers authority created by the California Earthquake Authority and the Governor's Office of Emergency Services. CRMP was established to carry out mitigation programs to assist California homeowners who wish to seismically retrofit their houses. Our goal is to provide grants and other types of assistance and incentives for these mitigation efforts and EBB is the first of these programs.

Re: Benefits of the EBB Contractor Directory

Dear Contractor,

If you are a contractor listed on the EBB Directory, you are eligible to do EBB seismic retrofit work. EBB provides grants of up to \$3,000 toward a code-compliant seismic retrofit of a qualifying house.

The benefits of a listing on the Contractor Directory include:

- Only contractors listed on the Directory are eligible to complete an EBB retrofit.
- Your listing is searchable by homeowners looking for contractors near them.
- Free marketing materials are available to you and can be ordered at EBBTools.com.
- You have access to free program support.
- Your listing on the Directory is free and can include customer testimonials.



See the Step-by-Step Planner in this guide to help keep your homeowners on track.

To ensure your retrofit work is approved and prompt payment is received, please familiarize yourself with the materials in this packet, which are:

- Program Rules Highlights for EBB (complete Program Rules can be found at www.EarthquakeBraceBolt.com);
- House Retrofit Inspection Checklists for EBB to assist you in determining if a house qualifies;
- FEMA-Funded EBB Program PHOTO SAMPLES; and
- Sample Invoice that shows how information must be submitted to receive payment.



Licensed contractors educated in seismic retrofits through the FEMA training are the backbone of EBB's success. Together, we've retrofitted more than 16,000 houses and we have plans to provide grants to thousands more homeowners. Your work is helping to create more resilient communities, one job and one house at a time.



For more information about the EBB program, visit our website: EarthquakeBraceBolt.com. If you have any questions, please contact Customer Service at info@EarthquakeBraceBolt.com or at **(877) 232-4300**.

Thanks for being part of the Earthquake Brace + Bolt Team!

Sincerely,

Earthquake Brace + Bolt Team

Program Rules Highlights

For CRMP-funded and FEMA-funded EBB Programs

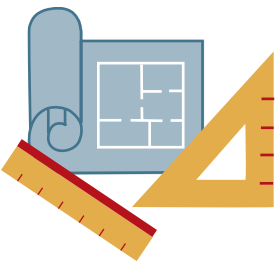
Contractor and Design Professional Version

The Earthquake Brace + Bolt Program (“EBB Program”, “EBB” or “Program”) was developed to help homeowners lessen the potential for damage to their houses during an earthquake. An earthquake or other natural disaster can occur at any time. Grants to assist qualified homeowners in securing structural home improvements are provided in an effort to reduce (but not eliminate) damage or collapse in the event of an earthquake.

Homeowners, Contractors and Design Professionals participating in the Earthquake Brace + Bolt programs are required to agree to and adhere to the full Program Rules and Terms of Use posted on the EarthquakeBraceBolt.com website.

These Program Rules include, but are not limited to:

- Contractor must be a California Licensed General Building Contractor (License Type A or B) and must be listed on the EBB Contractor Directory.
- The house must meet the structural requirements of a California Existing Building Code (CEBC), Chapter A3 (pages 125 –142) retrofit which is done completely in the crawl space around the perimeter of the foundation.



1. In order for a contractor to use a Standard Plan Set, the house may sit directly on the stem wall (i.e. no cripple walls) or have cripple walls 4-feet or less in height.
2. For houses with cripple walls greater than 4-feet but not taller than 7-feet in height, an engineered solution is required, or contractors may use FEMA P-1100, if allowed by the local building department.

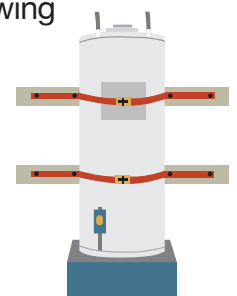
- The house must not have a completed Chapter A3 brace and bolt retrofit before being accepted into EBB.
- **The building permit must be received and dated after acceptance into EBB.**
- **The building permit must state the retrofit is in accordance with CEBC Chapter A3 or an accepted Standard Plan Set** (i.e., Standard Plan Set A or Los Angeles Standard Plan Number One). If the retrofit is an engineered solution, a signed, stamped letter from the engineer must be provided, and state the retrofit is in accordance with CEBC Chapter A3.



- No partial retrofits allowed. All existing vulnerabilities covered by CEBC Chapter A3, must be addressed.
- Type 2 Qualifying House may be constructed in part on concrete slab(s) on grade.
- In addition to the brace and bolt retrofit, the work must include bracing the water heater.*
- The homeowner must meet all program deadlines and submit the required documentation.
- If a retrofit bid is more than \$10,000 (all permits and fees included), the homeowner must get two bids from contractors on the EBB Directory.
- When submitting documentation for a FEMA-funded program, the following is required:
 - Plans/Drawings using Los Angeles Standard Plan Number One or Standard Plan A;
 - five (5) photos of the exterior of the house must be submitted with a date stamp before the retrofit begins;



- an additional five (5) date-stamped photos of the exterior of the house must be taken after the retrofit work is completed;
- three (3) photos taken in the basement or crawl space before the retrofit work begins, showing the cripple walls, if present, and the foundation must be submitted;
- after the retrofit is completed, three (3) photos of the crawl space from the same angle as the before pics, showing the completed work, must be provided;
- two (2) photos of the strapped water heater; and
- one (1) photo of the crawl space access point (including something for scale).



*Information about strapping and bracing your water heater can be found at EarthquakeCountry.org/step1/waterheater

Continued on next page



Scan the QR codes above using your smartphone to access important reference information.

Up to 10
WEEKS

- In the FEMA-funded program, pre-retrofit documents and photos will be forwarded to FEMA for review. After receiving approval from FEMA (up to ten (10) weeks after submission), EBB will inform the homeowner that their retrofit may begin and that they will have six (6) months from that day to complete the retrofit. **Retrofit construction work must not be started) before receiving approval from FEMA and EBB.** Commencement of retrofit work before receiving approval from EBB and FEMA will make the retrofit wholly ineligible for an EBB incentive payment.
- The house must successfully pass a final inspection by a local building inspector, confirming the retrofit was done in accordance with CEBC Chapter A3.
- Homeowner must use the house as their primary residence and be the owner of record of the house that will be retrofitted.

DISCLAIMER:

Neither CRMP nor EBB is liable or in any way responsible for the use of this information, nor do they endorse, warrant, guarantee, attest to or insure, any of the following:

- acts, errors or omissions of homeowners, public officials, contractors or design professionals;
- the content of any communications between homeowners, public officials, contractors and design professionals;
- the ability or experience of contractors or design professionals to provide services;
- the results of work performed, or not performed, by homeowners, public officials, contractors or design professionals;
- that a homeowner, public official, contractor or design professional will complete services, conduct any transaction, or perform with any specific standard of care; and
- any public official's involvement approving plans, close out of permits, completing inspections or other actions.

All parties are advised to educate oneself on the background, experience and reputation of contractors or design professionals before starting any project.

Read the full **CRMP-funded EBB Program Rules** and the **FEMA-funded EBB Program Rules** at EarthquakeBraceBolt.com.

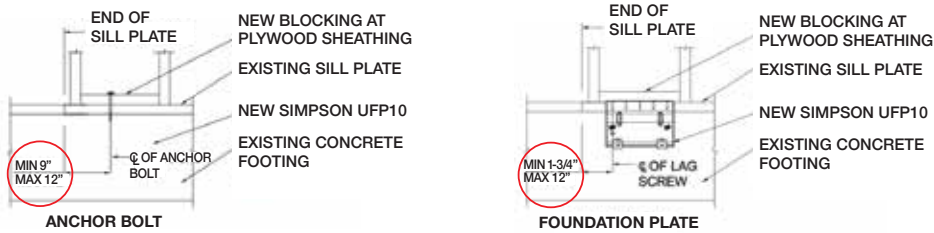


Scan the QR codes above using your smartphone to access important reference information.

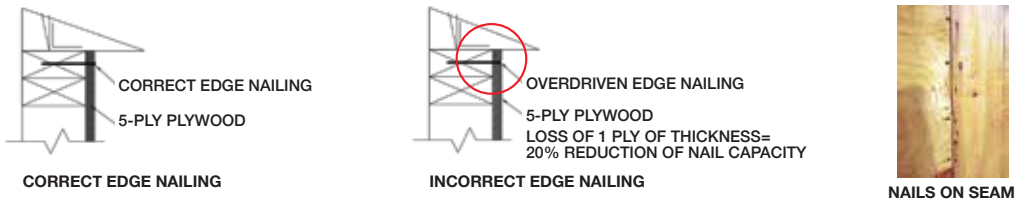
Six EBB Construction Mistakes to Avoid

(First and foremost: Do not start construction before approval by EBB)

#1 Bolt/Screw End Distance Exceed Max or Min



#2 Nails Overdriven or Misplaced



#3 Bolts and Nuts Improperly Installed



- Bolts should be straight and all nuts should be tightened as per manufacturer specifications.
- Bolts should be flush with the top of the nut.

#4 Use of Non-Approved Angles, Hold-downs, Clips and Foundation Plates



- No work is required at the interior of the crawlspace. Hold-downs are always located at the ends of shear walls.
- Vertical angles have no lateral capacity and are not required by Chapter A3 or the plan sets.

Note: the requirements for foundation plates include a minimum plate thickness, two 1/2" diameter anchors and three 1/4" diameter lag screws.

#5 Cripple Walls >4'-0" Must Be Designed by an Engineer or Using FEMA P-1100

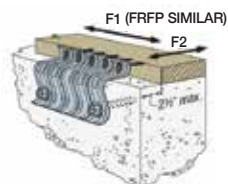


- Walls greater than 4'-0" require special attention as they may require hold-downs at each end. Chapter A3, Plan Set A and the LA Standard Plan Set all require an engineered design for walls > 4'. Check with the building department to see if they allow use of FEMA P-1100.

#6 Only Use Manufacturer Specified Concrete Anchors in Prescriptive Hardware



Mitek SRC requires PowerStud® anchors
TYPICAL SRC INSTALLATION
ON RECTANGULAR FOUNDATION



Simpson Strong-tie URFP requires SET-3G, AT-XP, or Titen HD
URFP INSTALLED ON A STRAIGHT FOUNDATION WITH 1/2" OFFSET MUDDSILL

- Prescriptive hardware such as the SRC or URFP must be installed per the manufacturer's requirements unless a registered design professional specifies the anchor.
- Check the manufacturer's requirements for approved concrete/masonry anchors.

Note: LA Standard Plan Set #1 requires all anchors have current LARR approval.

Required Photos Before and After Retrofit



All exterior house photos must:

- be date stamped
- be digital and clearly show front, back and sides
- show corners connecting side and back or side and front
- show from roof to ground and adjust, if possible, around bushes, trees etc. to show as much of house as possible

BEFORE AND AFTER CHECKLIST

Image	Description	Before ✓	After ✓
View 1	Front of house	<input type="checkbox"/>	<input type="checkbox"/>
View 2	Front of house and left side	<input type="checkbox"/>	<input type="checkbox"/>
View 3	Back of house and right side	<input type="checkbox"/>	<input type="checkbox"/>
View 4	Back of house and left side	<input type="checkbox"/>	<input type="checkbox"/>
View 5	Front of house and right side	<input type="checkbox"/>	<input type="checkbox"/>
Entrance to crawl space	Access to crawl space and include something (ruler, yard stick, etc.) for scale		<input type="checkbox"/>
Pre-Retrofit Crawl Space 1	Photo showing foundation, and cripple walls, if present.	<input type="checkbox"/>	
Pre-Retrofit Crawl Space 2	Photo of different section of foundation, and cripple walls, if present.	<input type="checkbox"/>	
Pre-Retrofit Crawl Space 3	Photo of a third view of foundation, and cripple walls, if present.	<input type="checkbox"/>	
Post-Retrofit Crawl Space 1	Photo taken from the same location as “Pre-Retrofit” photo 1		<input type="checkbox"/>
Post-Retrofit Crawl Space 2	Photo taken from the same location as “Pre-Retrofit” photo 2		<input type="checkbox"/>
Post-Retrofit Crawl Space 3	Photo taken from the same location as “Pre-Retrofit” photo 3		<input type="checkbox"/>
Water Heater 1*	Front of strapped water heater		<input type="checkbox"/>
Water Heater 2*	One side of strapped water heater		<input type="checkbox"/>

*Sample photos of water heater not provided. See EBB website



Check to make sure you’ve taken each photo.

APP Resources for Photos*

IPHONE

- PhotoMarks
- DateStamper
- Timestamp Camera

ANDROID

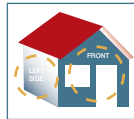
- Vignette—Photo Effects
- Auto Stamper

*EBB does not recommend, endorse or approve of any of these Apps. EBB provides this list as a convenience only. There are other Apps available.

Examples of Required Photos



VIEW #1
Front of house



VIEW #2
Front of house
and left side



VIEW #3
Back of house
and right side



VIEW #4
Back of house
and left side



VIEW #5
Front of house
and right side



ACCESS CRAWL SPACE
(show scale with something
such as a ruler)



**CRAWL SPACE
PRE-RETROFIT #1**



**CRAWL SPACE
PRE-RETROFIT #2**



**CRAWL SPACE
PRE-RETROFIT #3**



**CRAWL SPACE
POST-RETROFIT #1**



**CRAWL SPACE
POST-RETROFIT #2**



**CRAWL SPACE
POST-RETROFIT #3**

Free Marketing Materials for FEMA-trained Contractors and Support for Quick Processing

MY
Step-by-Step
HOME RETROFIT
PLANNER

EARTHQUAKE BRACE+BOLT
Powered by Cal OES & FEMA

My Step-by-Step Home Retrofit Planner

A suggested timeline for completing a retrofit and receiving payment.

Sample Invoice

Contractor Name: _____ Date: _____
 Company Name: _____ Invoice #: _____
 CA Contractor License #: _____ Date Work Performed: _____
 Business Address: _____ Start Date: _____
 Phone: _____ End Date: _____
 FAX: _____
 Email: _____
 Website: _____

To: _____ For: _____
 Homeowner: _____ Seismic Retrofit House at
 Mailing Address: _____ Physical Location of House
 Phone Number: _____

Salesperson	Job	Payment Terms	Due Date
Materials and Equipment			
Materials	Plywood or Oriented Strand Board Sheathing (Number of Sheets and per unit cost)		
	Lumber (2X studs, sills, and blocking)		
	Nails and fasteners		
	Hardware (framing clips and foundation anchors)		
	Anchor bolts (including nuts and washers)		
	Adhesive for Anchor bolts (if required)		
Equipment	Rented specifically for the project		
		Subtotal	
		Sales Tax	
		Total Materials and Equipment	
Permit and Service Expenses			
Permit Fee			
Labor	Hours, hourly rate and total		
Overhead and Profit			
		Subtotal Permit and Service Expenses	
		Subtotal Materials and Equipment	
		Total	

Note: Any work not related to seismic retrofit must be a separate line item(s).

Thank you for your business!

Sample Invoice

EARTHQUAKE BRACE+BOLT
Funds To Strengthen Your Foundation®

Esta casa se está reforzando.
EarthquakeBraceBolt.com

CEA UNIFORM TO REBUILD
Un programa ofrecido por la Autoridad de California y la Oficina de Servicios de Emergencia del Gobernador de California.

Cal OES
OFFICE OF EMERGENCY SERVICES

EARTHQUAKE BRACE+BOLT
Funds To Strengthen Your Foundation®

This home is being retrofitted.
EarthquakeBraceBolt.com

CEA UNIFORM TO REBUILD
A program offered by the California Authority and the California Governor's Office of Emergency Services.

Cal OES
OFFICE OF EMERGENCY SERVICES

EBB Yard Signs with H-Stake

Available in English and bilingual English/Spanish.

EBB yard sign to place on your client's property while the work is in progress.

We're Here to Answer Any Questions

Homeowner Resources

www.EarthquakeBraceBolt.com/Homeowner-Resources

Email

info@EarthquakeBraceBolt.com



Scan the QR code above using your smartphone camera to access additional homeowner resources.



Customer Service

(877) 232-4300



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**EARTHQUAKE
BRACE+BOLT®**
Powered by Cal OES & FEMA

801 K Street, Ste 1000
Sacramento, CA 95814

Contractors needed for immediate seismic retrofit work. Must be FEMA-trained at no cost to you.



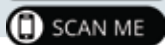
“ I thought it would be harder and take longer but the contractor I chose took care of everything and did it fast. ”

Mark Whitney

Seismic retrofit completed, Los Angeles

EBB Retrofit Stories

Hear what homeowners are saying about the EBB retrofit grants program.



Scan the QR code using your smartphone camera to access a video to hear what homeowners are saying about the program.



Marla Chung
Los Angeles