

SEISMIC TESTING OF ANCHORS IN UNREINFORCED MASONRY STRUCTURES

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Project Proposal

- Research the pull-out strength of adhesive anchors used in the seismic retrofit of unreinforced masonry buildings so that future designs can be improved to withstand a higher seismic capacity. Collect data from different buildings with different retrofit connections and parapet restraints to summarize them into comprehensive qualitative and quantitative information that other engineers and non-engineers may understand.

Week's Progress

- Analyzed aftermath photos of buildings that were effected by the 2010/2011 Canterbury Earthquake Swarm
 - Organized the recorded information into a modified database that can be related to each building
 - Recorded important parameters, for each building, that could be used to later describe the performance of unreinforced masonry buildings to the Royal Commission
- Began to check for correct and safe dimensions of a frame that will be built for more anchor testing
 - Used timber and structural steel code books to calculate the moment capacity of rectangular hollow sections

Road Blocks:

- Needed to copy a huge amount of data onto my computer, but my laptop was not charging so we were unable to analyze the Christchurch photos on some days
- ▣ Needed to double up on our quota for a couple of days and catch up
- ▣ Included excel spreadsheets and thousands of photographs were needed to look over

Successes:

- Managed to get another copy of the photos and put some on my USB drive and the rest fit on my teammate's laptop

Goals

- Continue Analyzing photos in order to provide more information about the performance of unreinforced masonry buildings in the 2010/2011 Canterbury Earthquake Swarm
- Identify the different parameters for through bolts and adhesive anchors in the diaphragm-to-wall connections, and also in parapet restraints

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