

Ppt Slides talked to at 8 April AGM

Earthquake Strengthening Project Timeline

February	2011	Christchurch earthquake
September	2012	initial engineering evaluation
?	2013	engineers report, 'bell tower 10 – 20% NBS'
March	2015	dinner and funding presentations
May	2015	project drawings
September	2016	roof investigations, design updated
September	2017	tender submitted
October	2017	tender rejected
December	2017	Seismic Review Committee formed
20 March	2018	HCC determine the church earthquake prone
26 March	2018	NZCEL analysis report, currently confidential

Extracts from the March 2015 EQS Brochure

'The church is the best vessel for growth. St Paul's is a place to come together to share, pray, gather in peace and silence as well as having a vibrant presence for all people in that Community.'

+Justin

Our church is a sacred Christian space in our parish for people to come and meet with God and be strengthened in faith.
a place that people know is Holy and is a sanctuary for them.

Rev Colin Datchler

Each of us has our own perceptions of how important our current church building is in our relationship with God and the wider Waiwhetu community. We all see things differently, which is healthy.

We need to acknowledge and work with our differing views to reach agreement on how we can proceed



Ways of Knowing

Why we have differing perceptions and expectations of this project.

The October 2017, rejected tender was based on the 2015 design and drawings, and would require over \$900,000.

We currently have somewhere between \$400,000 and \$500,000 available (some funds allocated for other purposes may be able to be transferred).

Given the mismatch in available funding a second opinion has been sought from another consultant New Zealand Consulting Engineers Limited (NZCEL).

NZCEL have developed a sophisticated computer model of the church and preliminary work done indicates the church may be stronger than the original analysis indicated.

Refinement of the model is needed and in due course Hutt CC will probably require the outputs to be peer reviewed.

IF the NZCEL improved outcome proves to be correct and is accepted by Hutt City Council (HCC) following peer review, it will need to be followed by a new upgrade design, tender pricing, acceptance and construction.

The process is time consuming but it may mean we have sufficient funds to get some work started later this year.

Currently we don't really know how big the **IF** is, but NZCEL are working on it, and we're encouraging them to keep at it.

In parallel with the above Hutt CC some 3 weeks ago undertook their own preliminary assessment and served an "earthquake prone" notice on the church building.

This notice is now affixed to the church entry and must remain there until either repairs are undertaken or a detailed analysis showing greater seismic strength is provided to Council and accepted by them. Before they accept such an analysis it is common that they have it peer reviewed.

We are hopeful that the more sophisticated analysis being undertaken by NZCEL will lead to a reduction in strengthening costs or possibly that Council could accept that the Church meets minimum acceptable standards as referred to in the enlarged paragraph on the next slide of the HCC notice.

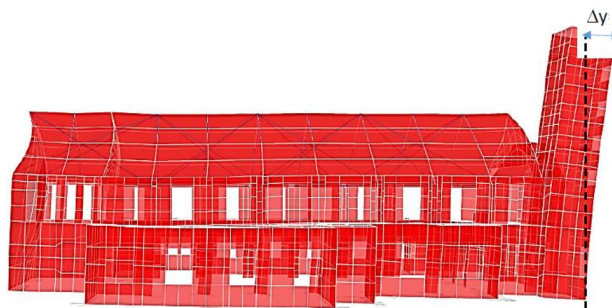
The building has been determined by Hutt City Council as earthquake prone.

The building is not a priority building (as defined in section 133AE of the Building Act 2004).

The owner of the building is required to carry out building work to ensure that the building is no longer earthquake prone (seismic work).
The owner is required to complete seismic work by: 20/03/2033.

The owner is not required to complete seismic work if Hutt City Council determines or is satisfied, in accordance with section 133AQ of the Building Act 2004, that the building is not earthquake prone.

The NZCEL computer model exerts earthquake forces on the building and models resulting stresses and deformations over a period of time.
Selected outputs from the preliminary model runs are shown on the following 3 slides. The model is currently being refined and final runs, with resulting conclusions, are yet to be undertaken.



Deformed Shape of The Structure

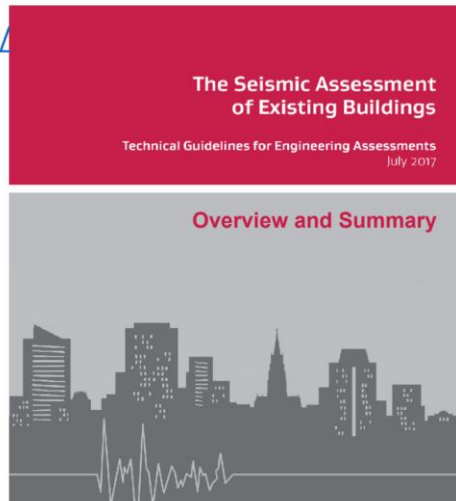
ETABS 2016 output

Google 'Etabs' for details of this software

(Two slides omitted here)

<http://www.eq-assess.org.nz/>

Our engineers must work to these Guidelines



Grading system for earthquake risk

Percentage of New Building Standard (%NBS)	Letter grade	Relative risk (approx)
>100	A+	< 1 time
80–100	A	1–2 times
67–80	B	2–5 times
33–67	C	5–10 times
20–33	D	10–25 times
<20	E	> 25 times

<- Nice to be here

33% is the minimum legally accepted standard to avoid compulsory upgrades.

<-HCC say we're here
as at 8 April 2018

2.7.1 Initial Evaluation Process

Section 3 of these Guidelines details an initial evaluation procedure (IEP) to be applied to buildings. The procedure is intended to be a coarse screening involving as few resources as reasonably possible to identify potentially high risk (or Earthquake Prone) buildings.

The results obtained in the IEP may be used to:

- ▶ identify buildings that warrant a detailed assessment of their structural performance
- ▶ provide a preliminary score for a comparative risk grading of buildings
- ▶ provide a means of determining priorities for improvement of structural performance.

The objective of the IEP is to identify, with an acceptable level of confidence, all high risk buildings. At the same time the process must not catch an unacceptable number of buildings that would, on detailed evaluation be outside the high risk category.

HCC has carried out this initial process and declared our church to be earthquake prone.

2.7.2 Detailed Assessment of Earthquake Performance

Where an initial evaluation indicates that the building is likely to be high risk (Earthquake Prone), it is desirable that a detailed assessment is carried out as set out in Section 4 of these Guidelines. This will provide a more specific and convincing evaluation on which a final decision can be made on whether or not the building is to be classified as high risk.

The building owner will generally be responsible for submitting the detailed assessment, at the request of the TA. The assessment must be carried out by an engineering consultant suitably experienced in earthquake design.

The initiating circumstances, time required for submission, and follow up requirements will depend on the implementation option selected, and is detailed in Section 2.8.

NZCEL are currently working through this Detailed Assessment