



## *Background to Earthquake-prone Buildings Policy*

The Building Act 2004 resulted in additional requirements for strengthening buildings to help protect people from injury during an earthquake. The Act increased the scope and number of buildings that have to be checked to see if they are earthquake-prone and, where necessary, strengthened against earthquakes.

National design standards for buildings to resist earthquakes were introduced in New Zealand in 1935 following the Napier earthquake, although Wellington did have some basic requirements before this date. Significant improvements in required standards have been made since, with major changes in 1965, 1976 and 2004. A number of existing buildings now fall short of the standard required for new buildings.

The Building Act requires councils to adopt a policy regarding earthquake-prone buildings. Following public consultation, Wellington City Council adopted its Earthquake-prone Buildings Policy in May 2006. Following further public consultation, the Council adopted an amended policy in April 2009, which took effect from 1 July 2009.

## *Buildings affected*

The Building Act requires the Council's Earthquake-prone Buildings Policy to consider all types of buildings except those used wholly or mainly for residential purposes unless they are two or more storeys high and contain three or more household units. This means it won't apply to the majority of the city's houses but might affect apartments or flats.

An earthquake-prone building is defined in government regulations as a building with strength that is one-third or less than that required for a new building on that site. This level is currently set by the seismic loading standard (NZS 1170.5: 2004).

The Council has undertaken a Building Code comparison study and found that buildings constructed after 1976 are unlikely to be earthquake-prone and so has eliminated these from its assessments.

# *Earthquake-prone buildings*

## Priorities and timeframe

One of four priority levels will be assigned to a building. The level is determined by:

- a building's importance level, which reflects the number of people at risk from the building, its value to the community and whether it has a post-disaster function
- its age and condition, relative to the code to which it was built or previously strengthened
- critical structural weakness, such as an identified structural shortcoming, that renders it earthquake-prone.

**Table: Priority and time for strengthening or demolition**

IMPORTANCE LEVEL Based on AS/NZS 1170.0	BUILDING AGE AND CONDITION		
	Pre-1965 Before NZS1900 Chapter 8: 1965 Standard	Pre-1976 NZS1900 Chapter 8: 1965 Standard	From 1976 with critical structural weakness
1: Structures presenting a low degree of hazard to life and other property	Passive No timeframe	Passive No timeframe	Passive No timeframe
2: Normal structures and structures not in other importance levels	Moderate 15 years	Low 20 years	Low 20 years
3: Structures that as a whole may contain people in crowds or contents of high value to the community or pose risks to people in crowds	High 10 years	Moderate 15 years	Low 20 years
4: Structures with special post-disaster functions	High 10 years	High 10 years	High 10 years

**Note:** NZS 1900 Ch 8:1965 refers to "Basic design loads" which was the building design standard in use prior to 1976.

## Priorities and timeframe

The maximum timeframes for carrying out strengthening or demolition work on a building that has been assessed as earthquake-prone are:

- Passive No timeframe
- Low priority 20 years
- Moderate priority 15 years
- High priority 10 years

Buildings with a passive priority may still need to be earthquake-strengthened if they are to undergo a change of use or are on land being subdivided.

Owners of multiple earthquake-prone buildings may propose, – subject to Council agreement – a programme for strengthening their buildings that ensures no reduction in the net overall level of public safety across the portfolio. This will be achieved by offsetting extensions in timeframes for some earthquake-prone buildings against shortened timeframes for others.

Building owners may also propose, for the Council's acceptance, staged, partial or targeted strengthening plans.

## Common questions

### *Can I buy or sell an earthquake-prone building?*

Yes. The new owner will become responsible for the seismic strengthening so it is advisable that purchasers undertake independent investigations prior to purchasing a property that is likely to be earthquake-prone.

### *I need to find out whether a building is earthquake-prone before the Council does an IEP. What can I do?*

You can approach an engineer to undertake an independent IEP (at your own cost). This will give you a guide to the strength of the building. The Council maintains the right to review these findings.

### *I'm changing the use of my building. Does the Earthquake-prone Buildings Policy affect me?*

Possibly not, but other Building Act 2004 provisions trigger upgrades when a change of use occurs. An upgrade of aspects of the building, including its earthquake resistance, to comply "as nearly as is reasonably practicable" with the current Building Code may be required when the use changes.

### *If I am strengthening an earthquake-prone building, is there other work that has to be done too?*

The Building Act 2004 requires that buildings being altered may also have to comply with provisions for fire escape and access and facilities for people with disabilities. This may mean that when strengthening alterations are proposed, such additional upgrade work may also be required.

### *What is a household unit?*

It is occupied, or intended to be occupied, exclusively as the home or residence of not more than one household. See section 7 of the Building Act 2004 for further clarification.

### ***Does a heritage building have to be strengthened?***

Heritage buildings are covered by the earthquake-strengthening provisions of the Building Act 2004 in the same way as other buildings. The Council has a priority objective of maintaining the heritage values of the city's most outstanding buildings. Owners are encouraged to work with the Council's heritage experts to achieve a pragmatic outcome that preserves both public safety as well as the city's heritage.

### ***Can I get any financial assistance for strengthening a heritage building?***

The Council has a Heritage Incentive Fund which provides grants to owners of heritage buildings. Grants are to assist with repairs and maintenance. They can also be used to pay for a conservation plan, which will give guidance on the best way to strengthen a heritage building without compromising the heritage values.

### ***Can I dispute the classification of my building as earthquake-prone?***

You are entitled to produce your own engineer's report in order to challenge the result of an IEP. If an engineer has already done structural engineering design work on your building, it is likely that the same engineer should do an IEP review because of their existing familiarity with the building. The Council will review the initial IEP based on further information you supply. If you are still unhappy with the Council's decision, you can ask the Department of Building and Housing to make a determination on whether your building is earthquake-prone.

### ***Can I challenge the time limit given for completion of strengthening work?***

Yes. The Council has a hearings process in place to consider appeals against time limits.

## ***Level of strengthening***

The earthquake-prone provisions of the Building Act 2004 focus on the prevention of personal injury and the protection of other properties. The level of strengthening that the Council can enforce under the Act is to just more than one-third of the strength of a new building. However, if a building is to have strengthening work done, there are a number of good reasons to strengthen beyond this legal minimum. These include:

- providing a higher level of safety for occupants
- helping ensure businesses can continue to operate or set up again quickly in a building that has resisted a damaging earthquake
- helping ensure habitable accommodation in apartment buildings after an earthquake
- future-proofing in case more stringent building design or strengthening standards are required in the future
- preventing the loss of heritage features and values in heritage buildings
- possibly encouraging insurers to regard a building more favourably
- helping ensure that the building does not need to be extensively repaired or even demolished
- possibly enhancing the value of a building for sale, lease or as security for lenders.

Given the likely disruption and inconvenience of strengthening a building, the additional time and cost of strengthening to greater than the minimum legal requirement may be a worthwhile investment. The strengthening timeframes in the Council's policy allow for other work, such as maintenance, refurbishment and redecoration, to be planned and carried out at the same time. It makes sense to do the strengthening work at the same time as other building work because a significant portion of the cost of strengthening a building is reinstating the interior and redecorating. The additional work involved in strengthening to a higher standard may well be a small proportion of the total project costs.

It's important to understand that just because a building is not earthquake-prone, it does not mean it won't be damaged in an earthquake. It can be expected that after a strong earthquake, buildings that have kept the occupants safe from injury can still need extensive repair before being reoccupied and may even have to be demolished. The higher the level of strengthening, the better the chances you will be able to continue using the building and avoid expensive repairs.



## How Wellington City Council will identify earthquake-prone buildings

### STAGE 1

We've carried out a preliminary review of city files and identified approximately 3800 buildings requiring further assessment.

### STAGE 2

We use the Initial Evaluation Procedure (IEP) developed by the New Zealand Society for Earthquake Engineering to obtain a structural performance score for these identified buildings. The IEP assesses the strength of the building to resist earthquakes as a percentage of the strength that would be required of a new building designed for that site. Buildings with less than 34 percent of the strength required of a new building are defined by the law to be earthquake-prone.

This IEP is a preliminary assessment based on the age, construction materials, structural form, overall dimensions, the use of the building and the ground on which it is built, but does not involve detailed assessment of building components. It is carried out by appropriately qualified engineers who draw on many resources, including surveys of recent earthquake damage to buildings of similar construction to Wellington's building stock. The Council pays for these initial evaluations.

It may take until 2012 to assess all the city's potentially earthquake-prone buildings.

### STAGE 3

We write to owners of buildings with an IEP score of less than 34 advising that their building is **potentially** earthquake-prone.

Owners then have six months to consider this assessment and provide any additional information about factors that might affect the strength of the building. In providing this additional information, owners may wish to have an engineer carry out their own more comprehensive assessment of the structure. The IEP may frequently need to be supplemented by more

in-depth investigations that take particular account of details of a specific building rather than generic assumptions based on its general attributes. The owner and the Council will each pay their own costs associated with this stage.

### STAGE 4

If, after consideration of any further information provided in Stage 3, we are satisfied that the building is earthquake-prone, we will advise the owner of the classification and issue a written notice under section 124 of the Building Act 2004. The notice will require reduction or removal of the danger posed by the building, which could be by strengthening or demolition, within the time limits set out in this brochure.

Costs will be paid by the owner, although there may be limited Council assistance for heritage buildings. This information will be held in a Council database of earthquake-prone buildings that is available to the public.

If a building is not earthquake-prone, this is also noted. The earthquake-prone status will be included on future Land and Property Information Memoranda (LIMs and PIMs)

### STAGE 5

As building consents for structural strengthening are received and the strengthening work is completed, the database will be updated to show buildings that are no longer classed as earthquake-prone.

"Buildings with less than one-third of the strength of a new building have about 10 to 20 times the risk of serious damage or collapse when compared to a new building." ([www.dbh.govt.nz](http://www.dbh.govt.nz))

For further information or to get a copy of the policy, please visit: [www.Wellington.govt.nz](http://www.Wellington.govt.nz)

Or contact:

**Building Consents and Licensing Services**  
**Wellington City Council, Level 1, 101 Wakefield Street, Wellington**  
**Phone: 499 4444**