

1. Purpose

The purpose of this practice note is to ensure that there is a consistent approach regarding the consenting of building work on land subject to natural hazards in a manner that:

- manages Council's risks,
- ensures that future property owners are advised of the natural hazards affecting the property,
- development is not unnecessarily restrained; and
- the health and safety of building residents, subject to one or more natural hazards, is not unduly compromised.

2. Legislative requirements

The building consent authority (BCA) i.e. Council is responsible for registering notices against properties, which are subject to one or more natural hazards.

This power is contained under:

- s.73 of the Building Act 2004, or under previous legislation s.36 of the Building Act 1991; and
- s.641A of the Local Government Act 1974.

Such notices can be removed by Council, if a specialist report is accepted by Council, which demonstrates that the natural hazard is no longer present.

When a property owner exercises his or her rights to build on land subject to a natural hazard, Council is protected against civil liability under section 392 of the Building Act 2004, when it grants a building consent pursuant to section 72.

In order to ensure that Council's civil liability is protected, Council officers need to follow the requirements of the Building Act 2004 and make sure that the effects of a section 73 notice on the title of a property are clearly understood by the owner or owners of the land on which the building is to be built.

3. What buildings are affected by this legislation?

All new buildings and major alterations are affected by sections 71-74 of the Building Act; the nature of the alterations (i.e. whether they are minor or not), is assessed on a case-by-case basis.

The following factors guide staff and are considered major alterations:

- an increase of more than 20m² to the floor area of the building,
- the alteration affects more than 30% of the existing floor area of the building; or
- an addition which forms part of an alteration which increases the affect of the natural hazard on the existing building.

4. What is a natural hazard in terms of the Building Act and what properties or applications do these sections of the Act apply to?

Section 71(3) of the Building Act 2004 defines a natural hazard as land subject to:

- Erosion (including coastal erosion, bank erosion, and sheet erosion).
- Falling debris (including soil, rock, snow and ice).
- Subsidence.
- Inundation (including flooding, overland flow, storm surge, tidal effects and ponding).
- Slippage.

The definition of a natural hazard is not restrained by the requirements of the Building Code. Hence, the accepted practice of using the 1% probability of the occurrence (i.e. 1 in 100 years) of a natural hazard is the the appropriate methodology to determine if the land is subject to a natural hazard.

Similarly, the fact that the Building Code only requires the floor level of a residential building to be above a flood level, equivalent to a storm event with a 2% (1 in 50 year) probability occurring in any given year, does not mean that commercial or properties other than residential properties, are not subject to the provisions of sections 71 to 74 of the Building Act 2004.

This section of the Building Act applies to all buildings regardless of use (i.e. residential and commercial).

5. What are the design requirements for building work that protects the land and buildings in terms of section 71(2)?

Building work that meets the requirements in section 71(2) can be processed as normal without the imposition of a section 73 notice. The requirements in this section apply where the Council is satisfied that adequate provision has been or will be made to:

71(2)(a) Protect the land, building work or other property referred to in that subsection from the natural hazard or hazards; or

71(2) (b) Restore any damage to that land or other property as a result of the building work.

The building work required by section 72(2), that protects the proposed building site to make it free from a natural hazard which might otherwise exist on the land or restore any damage, should meet the following requirements:

(a) The protection works should be designed to have a life span of 100 years, in order to meet the standard definition of a natural hazard and to ensure the protection of the proposed building works for the expected > 50 years life of the proposed building work.

(b) In the event that such protective structures have maintenance requirements to ensure the structural integrity for such work for the next 100 years, an encumbrance or a covenant should be registered against the property title setting out the structures maintenance requirements.

1.1 The design of structures to protect the land from a hazard shall require design and durability assessments from a suitably qualified person (e.g. a chartered professional engineer) experienced in hazard mitigation work. Expertise required would, for example, involve experience in flood protection, geotechnical¹ assessment and coastal protection.

Building consents for building work, such as a bund to protect against flooding or barrier pile wall to protect against land instability will not result in a section 73 notice against the land.

6. In what circumstances is a hazard not considered to be a natural hazard in terms of the Building Act?

General

Hazards, such as tsunamis or earthquakes, are not regarded as natural hazards under the Building Act. These are however, considered natural hazards under the Resource Management Act 1991. Generally, the Building Act deals with design requirements and associated shorter time frames.

1 For geotechnical assessments the author must be a PEngGeol (Professional Engineering Geologist) or a CPEng with competence in geotechnical engineering

Tsunamis are too infrequent and are difficult to design against while the Building Code has clear earthquake design requirements; hence these are not regarded as natural hazards under the Building Act 2004.

Land instability

Care needs to be taken with development on sites with slopes greater than 1:3, on land known to have instability issues or on developments outside of an approved geotechnical building platform. In these instances, a geotechnical assessment is required for the building consent application. This geotechnical report will determine the best course of action in relation to sections 71 and 72 of the Building Act. (For further guidance, refer to the Development and Engineering Design Code of Practice.)

7. When does building work comply with section 71(2) even though a natural hazard affects the site?

In the case of rivers or streams where the width of the stream floods flow is clearly confined to the stream bed (incorporating the land adjacent to the river or stream at normal flood flow levels). In this case, a storm event will flood the areas of land within the wider bed of the river or stream, but the building and the land intimately connected with the building are unaffected by the flood flow. If however, the bank of the river is prone to erosion, which has the potential of removing part of the area of land intimately connected with the dwelling, then consideration needs to be given to a section 73 notice.

Overland flow paths

Overland flows are defined as a natural hazard in term of the Building Act. Some of these overland flows have the potential to be a major flooding event. However where overland design flows are clearly identified and confined to a specific part of the land which is protected by an easement on the title of the land, a subsequent section 73 notice is not deemed to be necessary. These overland flows are often design features as part of a stormwater network.

Easement for overland flow paths is a desirable option as Council is able to impose a condition that the land so identified must be kept clear to allow the overland flow to pass uninterrupted by structures. Such an easement can be, depending on the circumstances, regarded as a means to protect the land and building work in terms of section 71(2) of the Building Act 2004.

Hazard protection / building line restrictions

A section 73 condition is not required in the following situations:

- Where the District Plan; subdivision consent ; or land use consent has identified a building line restriction

A building line restriction identified by way of a consent notice, covenant (or similar means of identifying safe building sites), provides protection to the land and building work, in terms of section 71(2) of the Building Act 2004.

For example, a building line restriction may prevent building work taking place on a particular part of the site because of flooding or land instability. If the building work takes place beyond that building line, the building consent for building work would not require a section 73 condition as part of the building consent.

Expansive clay soils

Due to their reactive nature, expansive clay soils are a natural hazard. However, design techniques can overcome the potential hazard with deeper foundations and the balance of the site is safe from any consequential failures. Hence, the building consent is issued pursuant to section 71(2) of the Building Act.

8. How can building work take place on land subject to one or more natural hazards?

Section 71(1) of the Building Act requires the Council to refuse a building consent for building work or major alterations to a building, if the land is subject to one or more natural hazards, or if the building work will accelerate or worsen the adverse effects because of the natural hazard on that land or other property.

However, the Council must issue a building consent if the applicant can satisfy the Council as to the requirements in section 71(2).

Building work may take place if:

- a. the natural hazard is sufficiently remote from the building work,
- b. the overland flow, or other natural hazard the land is subject to, is deemed to be not a natural hazard, such as in the case of a constructed or designed overland flow path,
- c. the alterations to the building is not a major alteration,
- d. the land, building work and other property are able to be protected or damage to building work restored, in accordance with section 71(2) of the Building Act.

Section 72 of the Building Act states that, despite section 71, the Council must issue a building consent for building work on land subject to a natural hazard if:-

- a. The building work to which an application for a building consent relates will not accelerate, worsen or result in a natural hazard on the land on which the building work is to be carried out or any other property;
- b. The land is subject or is likely to be subject to one or more natural hazards; and
- c. It is reasonable to grant a waiver or modification of the Building Code in respect of the natural hazard concerned.

Note: If there is no waiver or modification required to be considered by the Building Code, item c, above can be regarded as having been satisfied.

Where the Council issues a building consent under section 72, it must impose a condition on the building consent and register a certificate under section 73 of the Building Act, when the building consent is issued.

These actions must occur every time a building consent is issued, irrespective of any notices previously registered against the property, under the Building Act or any other legislation.

Note:

The owner(s) of the land, which is subject to the natural hazards, takes and accepts the risk that the natural hazard affecting the site may under certain circumstances affect the proposed building. The section 73 notice protects Council from any associated liability as set out in section 392 of the Building Act. Without such a notice associated with each building consent, Council will not obtain the protection provided under section 392 of the Building Act.

In this circumstance, registration of any notices on the certificate of title may affect the owner's ability to obtain appropriate insurance cover.

9. When is the building work sufficiently remote from the natural hazard; and/or what is the area of land that would need to be protected against the natural hazard to avoid a section 73 notice on land title?

The provisions of sections 71 and 72 primarily relate to the land which is subject to a natural hazard. Hence, the primary consideration is whether the land is subject to flooding or instability or any other natural hazard rather than the building itself.

Case law indicates that "the land" is to be interpreted as meaning "*the land intimately connected with the building*" 1.

In *Auckland CC v Logan 2*, the meaning of "the Land" in section 36(1)(a) of the Building Act 1991 was discussed as follows:

"When the statute refers, as it does, to 'the land on which the building work is to take place', is it referring to the area contiguous to the building or to the land in general? Plainly, the circumstances may vary greatly. The 'land' may be a 1000-acre property, on which a new house is to be built. The house may be far away from any potential inundation. Or, as here, the site may be a smallish suburban one, which is earmarked for higher density use, and it is difficult to disassociate the building from the entire parcel of land."

Council takes the view that if the natural hazard comes within 10 metres of the proposed building work, the natural hazard will need to be assessed and it will need to determine what distance around the proposed building will need to be protected from the natural hazard to avoid a section 73 notice on the title of the land. The 10-metre distance is a trigger for Council to turn its mind to the issue of the actual distance required to protect the land intimately connected with the building. This aspect is considered on a case-by-case basis.

All applications for building consent, which is subject to one or more hazards, are to be accompanied by an expert report (may not always be required). The report should include an assessment of the impact or effect of the natural hazard on both the land and the proposed building.

The protected area of land could vary between 4 and 10m outside the perimeter of the building; dependent upon:

- the risk,
- the nature of the natural hazard affecting the building site; and
- the building work, which is proposed to be carried out to protect the land on which the building work is proposed to be located.

Note: associated site works may also require protection.

The Earthquake Commission (EQC) takes the view that they will not compensate owners for land within eight metres of the perimeter of the building work. In deciding the appropriate distance, it is a question of determining the effect of the natural hazard on the property and determining after the hazard event, if there has been a significant loss to the value of the property.

Council can be guided by the Court of Appeal in Logan where it stated the following;

- *We should add that in determining whether the statutory risk threshold under subs (1)(a) and subs (2)(b) [now sections 71(1)(a) and 72(b)] has been reached, and what will be adequate provision to protect the land under subs (1) [now s71(2)], given, too, that adequate provision for protection does not require the elimination of any possibility in all conceivable circumstances of inundation or other relevant hazard, a territorial authority can be expected to take a common sense approach.*
- *Whether the risk is at the level and frequency to justify the expense and other implications of making adequate provision to protect the land and, if not, to require a warning notice, which is a blot on a title and may have significant insurance implications, will always require a sensible assessment involving consideration of fact and degree.*

The decision making process relating to sections 71 and 72

It is not for the Council to advise or make decisions on behalf of the landowner. Staff should advise landowners to take independent legal and technical advice. It is the Council's role to make common sense judgements, as suggested by the Court of Appeal, based on the information provided by the owner and the information available.

10. Statement from owner that they understand and acknowledge the nature of the hazards and the legal ramifications of a notice registered on the title under s.73 of the Building Act 2004.

Clearly, the implications arising from natural hazards are not straightforward and there is a need for an owner / building consent applicant, to make an informed decision. This is particularly important where the building consent applicant is an agent acting on behalf of an owner.

Given the potential imbalance of knowledge in respect to this issue, the Courts may take the view that Council has a duty of care to ensure that an owner understands and acknowledges the nature of the hazards and any legal ramifications arising from a notice registered on the certificate of title under the Building Act.

For this reason Council encourages a statement from the owner that he or she has consulted with expert engineers and legal advisers and that understands the nature of the natural hazard and the legal ramifications of a notice registered on the title under s.73 of the Building Act 2004.

AC2141 Acknowledgement of Risks from Owner(s) should be used to obtain agreement.

11. When is the freeboard component relevant to the flood level?

Freeboard is the component of the flood level that makes allowance for wave action. Wave action is determined by the sites exposure to wind or as a result of vehicles travelling along a road.

Determinations by the Ministry of Business Innovation and Employment require the physical environment to be taken into account. Hence, in an area where wave action is minimised or adjacent structures protect the building work against wave action, the freeboard may be reduced from the standard amount provided for in the flood level determination.

However, freeboard is only relevant to residential buildings and the determination of the height of the floor level. Freeboard is not relevant in determining if the land is prone to flooding and affected by a natural hazard.

Hence, whether the land is subject to a flooding hazard is determined by the flood level without the freeboard component. If the land is not prone to a flooding event, after the freeboard component is taken away from the flood level calculation, then the land is not subject to a natural hazard and therefore, sections 71 to 73 of the Building Act do not apply.

12. What are Councils obligations under section 72 of the Building Act?

Section 72 of the Act states that a building consent authority (i.e. Council) must issue the building consent, if subsections a, b and c are satisfied:

- a) The building work to which an application for a building consent relates will not accelerate, worsen or result in a natural hazard on the land on which the building work is to be carried out or any other property;
- b) The land is subject or is likely to be subject to 1 or more natural hazards; and
- c) It is reasonable to grant a waiver or modification of the Building Code in respect of the natural hazard concerned.

Thus, a building consent on land subject to 1 or more natural hazards (erosion, flooding, inundation or subsidence, etc) must proceed subject to a section 73 notice on the title if the above requirements are met.

Subsection (C) requires that Council determines whether it is reasonable to grant a waiver or modification of the Building Code.

- The presumption is that the hazard will not injure or take a person's life. Given that there is little or no historical evidence of injury or death associated with natural hazards occurring this tends to be a low threshold
- Whilst not always necessary, the reasonableness is enhanced if the building structure is able to resist damage when it is subject to a hazard event
- In a number of instances there will not be a waiver or modification of the building code to grant. In these circumstances this prerequisite is met.

When determining whether it is reasonable to grant a waiver or modification of the Building Code, it is necessary to consider the risk to the public and / or the building occupants as well as the potential need to make the building more resistant to the effects of the natural hazard, if such an event was to occur.

For example, with careful consideration the building design could be made more robust or resilient to the natural hazard. Examples of how this could be done are set out in Table 1. The risk to people can be assessed on the factors in Table 2, in conjunction with Table 3.

Table 1

Natural Hazard:	Design consideration:
Flooding/inundation.	Damage resistant building materials or building above a known flood level.
Wave run up zone on the foreshore.	Deeper foundations to resist scour and other protective work.
Erosion.	The ability to remove the building or to allow a building with a life to match the erosion time frame.

Table 2

		Risk to people (Refer Table 3 for clarification.)	
Natural hazard;	High	Medium	Low
Erosion			✓
Falling debris	✓		
Subsidence(large scale)		✓	
Subsidence(small scale)			✓
Inundation (sudden)	✓		
Inundation (gradual)			✓
Slippage (large scale)	✓	✓	
Slippage (small scale)			✓

Table 3

Hazard for which building consents are able to be granted under Section 72 and subject to a notice under Section 73.

Hazard	Example	Notes	Waiver/Modification
Coastal erosion	Land on the foreshore subject to erosion.	This is usually a gradual process, which will allow people to evacuate safely.	The relevant waiver or modification is related to the land stability requirements in Clause B1 of the Building Code.
Bank or sheet erosion	Land with instability or sloping land.	Subject to the scale of the potential failure being moderate to minor. The failure being of such magnitude that people would survive such an event without risk to life or injury.	The relevant waiver or modification is related to the land stability requirements in Clause B1 of the Building Code.
Subsidence or slippage	Land with instability of such a scale that is likely to cause damage to building.	Subject to the scale of the potential failure being moderate to minor. The failure is of such a magnitude that people would survive an event without risk of life or injury.	The relevant waiver or modification is related to the land stability requirements in Clause B1 of the Building Code.

Hazard	Example	Notes	Waiver/Modification
Inundation, flooding, overland flow, storm surge, tidal effects and ponding.	Flooding of land on where building work is proposed.	In general, as long as the flooding process is gradual, people are able to leave or be evacuated safely. This is dependent on the ability to contact people. Dwellings in remote locations could be more of a problem.	Waivers are only able to be considered for habitable floor space which has a 2% probability of being flooded within a 50 year period, as provided for in E1 of the Building Code.