NH - Natural Hazards

A *natural hazard* is the result of natural processes that shape, form, and alter the environment and potentially conflict with human activities. The Wairarapa is susceptible to a range of *natural hazards*, and in some areas these can pose significant risks. When *natural hazards* occur, they can result in damage to property and *buildings*, and lead to loss of human life or risk to human safety.

The District Plan contains provisions relating to the following hazards, as they present the greatest risk to people, property, and infrastructure, and their effects can be managed through appropriate land use planning:

- Flooding;
- Fault rupture;
- Liquefaction;
- Coastal inundation (including tsunami); and
- Coastal erosion.

The coastal hazard provisions (coastal inundation and erosion) are addressed in the Coastal Environment chapter of the District Plan. The Natural Hazards chapter addresses the other hazards identified above.

Flooding, coastal erosion, and sea level rise are influenced by climate change. It is predicted that rainfall events will become more intense, drought will increase, storm events will become more common, and sea levels that have already risen 0.2m over the past 100 years, exacerbated by regional tectonic subsidence, will continue to rise over the next 100 years. The flood hazard mapping also incorporates current climate change predictions.

Liquefaction and other hazards (such as wildfires and ground shaking from earthquakes) are primarily managed by other statutory instruments, including the Building Act 2004, Civil Defence Emergency Management Act 2002, and the Local Government Act 2002.

Risk-based approach

Both chapters take a risk-based approach to *natural hazards.*

Risk is a product of both the likelihood and the consequences from a *natural hazard.* A risk-based approach to *natural hazards* balances allowing for people and communities to use their property and undertake activities, while also ensuring that their lives or significant assets are not harmed or lost as a result of a *natural hazard* event.

Natural hazards have been categorised according to the potential risk to people and property in a hazard event. Table NH-1 below sets out the hazard categories, and the types of mapped *natural hazards* that fall within each category.

Table NH-1: Hazard risk categories

Hazard category	Hazard type
High *Hazard Area*	Flood Hazard – River Corridors Fault Hazard • Well-defined and well-defined extended FAZs with recurrence interval class I (RI ≤2,000 years) and class II (RI >2,000 - ≤3,500 years) • Distributed and uncertain - constrained FAZs with recurrence interval class I (RI ≤2,000 years)
M*oderate Hazard Area*	Flood Hazard – Overland Flow Path Fault Hazard • Well-defined and well-defined extended FAZs with recurrence interval class III (RI 3,500 – 5,000 years), class IV (RI >5,000 - ≤10,000 years), and class V (RI >10,000 - ≤20,000 years) • Distributed and uncertain - constrained FAZs with recurrence interval class II (RI >2,000 - ≤3,500 years) and III (RI 3,500 – 5,000 years) • Uncertain – poorly constrained FAZs with recurrence interval class I (RI ≤2,000 years) and class II (RI >2,000 - ≤3,500 years)
Low *Hazard Area*	Flood Hazard – Ponding Possible Liquefaction-Prone Area Fault Hazard • Distributed and uncertain – constrained FAZs with recurrence interval class IV (RI >5,000 - ≤10,000 years) and class V (RI >10,000 - ≤20,000 years) • Uncertain – poorly constrained FAZs with recurrence interval class III (RI 3,500 – 5,000 years), class IV (RI >5,000 - ≤10,000 years) and class V (RI >10,000 - ≤20,000 years) • All FAZs with recurrence interval class VI (RI >20,000 - ≤125,000 years)

Flood hazard areas are categorised as comprehensive flood hazard modelling and mapping has been undertaken for these areas. In other areas, more broad-scale flood hazard modelling and mapping has been undertaken which has not been categorised – flood mapping in these areas is called Flood Vulnerability Area recognising the broad-scale nature of this modelling and mapping.

To assist with determining the consequences associated with *natural hazards, buildings* and activities have been categorised according to the potential consequences to life and property as a result of those activities occurring within a *natural hazard* area.

Hazard sensitive activities comprise the following:

- *Community facilities;*
- *Marae;*
- *Healthcare facilities;*
- *Emergency service facilities;*

- *Educational facilities;*
- *Entertainment activities;*
- *Retirement villages; and*
- *Residential activities* and *residential units*.

Potentially hazard sensitive activities comprise the following:

- *Buildings* associated with *primary production;*
- *Commercial activities;*
- *Industrial activities; and*
- *Rural industry activities.*

Less hazard sensitive activities comprise the following:

- *Accessory buildings* and structures used for non-habitable purposes;
- *Infrastructure;*
- Parks facilities;
- Parks furniture;
- Buildings and structures associated with *temporary activities*; and
- Activities not defined as hazard sensitive activities or potentially hazard sensitive activities.

There may be a number of rules that apply to an activity, building, structure, or site. Resource consent may therefore be required under rules in this chapter as well as other chapters. Unless specifically stated in a rule, resource consent is required under each relevant rule. The steps to determine the status of an activity are set out in the General Approach section in the How the Plan Works chapter.

The provisions in this chapter do not apply to telecommunication network utility structures and activities.

Objectives

NH-O1	**Risk from natural hazards**
The risk and consequences from *natural hazards* on people, property, *infrastructure,* and the environment are not increased.	
NH-O2	**Natural measures**
Natural defences, nature-based solutions, and hazard mitigation measures are used to reduce the susceptibility of people, communities, property, and *infrastructure* to damage from *natural hazards.*	

Policies

NH-P1	Identification of *natural hazards*
Identify and map areas affected by *natural hazards* and take a risk-based approach to the management of subdivision, use, and development based on: 1. the sensitivity of the activities to the impacts of *natural hazards;* and 2. the hazard posed to people's lives and wellbeing, and property, by considering the likelihood and consequences of differing *natural hazard* events.	
NH-P2	**Activities in High *Hazard Areas***
Avoid locating *hazard sensitive activities* and *potentially hazard sensitive activities* within High *Hazard Areas* unless; 1. the activity has an operational need or functional need to locate within the High *Hazard Area*, or 2. the activity is appropriate under NH-P7.	
NH-P3	**Activities in Moderate *Hazard Areas***
Only allow *hazard sensitive activities* and *potentially hazard sensitive activities* within Moderate *Hazard Areas* where: 1. the activity incorporates mitigation measures that demonstrate that risk to people's lives and wellbeing is low, and any damage to *buildings* is minimised; 2. people can safely evacuate the property during a *natural hazard* event; and 3. the risk to adjacent properties, infrastructure, activities, and people is not increased as a result of the activity proceeding.	
NH-P4	**Activities in Low *Hazard Areas***
Provide for *hazard sensitive activities* and *potentially hazard sensitive activities* within Low *Hazard Areas* where: 1. the activity incorporates mitigation measures that demonstrate that risk to people's lives and wellbeing is low, and any damage to *buildings* is minimised, and 2. the risk to adjacent properties, infrastructure, activities, and people is not increased as a result of the activity proceeding.	
NH-P5	***Less hazard sensitive activities* in all *hazard areas***
Allow *less hazard sensitive activities* within all *hazard areas* where: 1. they do not impede flood pathways; 2. the activity incorporates mitigation measures that demonstrate that risk to people's lives and wellbeing is low, and any damage to *buildings* is minimised; and	

3. the risk to other properties, infrastructure, activities, and people is not increased as a result of the activity proceeding.	
NH-P6	***Buildings* in Flood Hazard - Overland Flow Path and Ponding areas**
Discourage new *buildings* and extensive areas of impervious surfaces in Flood Hazard - Overland Flow Path and Ponding areas unless: 1. there is no increase in stormwater discharge, flood flow or level on adjoining sites, or roads; 2. risk to people's safety will be low; 3. the activity incorporates mitigation measures so that the risk of damage to *buildings* and *structures* is not increased; and 4. people can safely evacuate the property during a *natural hazard* event.	
NH-P7	**Buildings and structures in Fault Hazard Areas**
For new buildings and structures that contain hazard sensitive activities or potentially hazard sensitive activities and are located within Fault Hazard Areas as shown on the District Planning maps: 1. Allow buildings and structures to locate within Fault Hazard Areas where it can be demonstrated that the risk from ground deformation from fault rupture can be avoided or mitigated to prevent loss of life and damage to buildings. 2. Avoid buildings and structures locating within the Fault Hazard Areas where the risk to life from ground deformation from fault rupture cannot be avoided or mitigated via distance from the fault, building engineering solutions, or other means.	
NH-P8	***Infrastructure* in hazard areas**
Enable the operation, maintenance, and upgrading of existing infrastructure, and allow new *infrastructure* to be established in *hazard areas* where new infrastructure: 1. has an *operational need* or *functional need* for the location; 2. will be designed to maintain its integrity and function during and after a *natural hazard* event, particularly as it relates to lifeline infrastructure, or it will be able to be immediately re-instated after a *natural hazard* event, and 3. does not increase the risk to properties, activities, and people.	
NH-P9	***Earthworks* in flood hazard areas**
Provide for *earthworks* in flood *hazard areas* where: 1. they do not impede flood pathways; and 2. the risk to other properties, infrastructure, activities, and people is not increased as a result of the activity proceeding.	

NH-P10	***Natural hazard* mitigation works**
Enable *natural hazard* mitigation or stream and river management works provided: 1. Works are undertaken by a public authority or their nominated contractors or agents within *hazard areas* where these will significantly decrease the existing risk to people's safety and wellbeing, property, and *infrastructure;* 2. The use of soft-engineering or nature-based solutions is considered where appropriate.	
NH-P11	**Precautionary approach**
Ensure a precautionary approach is taken in relation to planning for and adapting to the effects of *natural hazards* caused by climate change and sea level rise on both the natural environment and existing and future development.	
NH-P12	**Activities in flood vulnerability areas**
Only allow *hazard sensitive activities* and *potentially hazard sensitive activities* within flood vulnerability areas where: 1. the activity incorporates mitigation measures that demonstrate that risk to people's lives and wellbeing is low, and any damage to *buildings* is minimised; 2. people can safely evacuate the property during a *natural hazard* event; and 3. the risk to adjacent properties, activities, and people is not increased as a result of the activity proceeding.	
NH-P13	**Buildings in flood vulnerability areas**
Discourage new *buildings* in flood vulnerability areas unless: 1. there is no increase in flood flow or level on adjoining sites or roads; 2. risk to people's safety will be low; 3. the activity incorporates mitigation measures so that the risk of damage to *buildings* and *structures* is not increased; and 4. people can safely evacuate the property during a *natural hazard* event.	

Rules

NH-R1		**Flood mitigation or stream or river management works undertaken by a public authority or their nominated agent within any of the flood hazard areas**
	All zones	1. Activity status: **Permitted**

NH-R2		***Less hazard sensitive activities* within all *hazard areas***
	All zones	1. Activity status: **Permitted** Where: a. The activity is located in a Low Hazard Area.
	All zones	2. Activity status: **Restricted discretionary** Where: a. The activity is located in a Moderate or High Hazard Area. Matters of discretion: 1. The matters in Policy NH-P5 and NH-P8.

NH-R3		**Any *potentially hazard sensitive activity* and associated *buildings* within Moderate *Hazard Areas* and Low *Hazard Areas***
	All zones	1. Activity status: **Permitted** Where: a. The activity or *building* is located within the Possible Liquefaction-Prone Area, or. b. The building is located within a flood hazard overlay and does not have a footprint greater than 10m^2, or c. The activity is not located in a Fault Hazard Area.
	All zones	2. Activity status: **Restricted discretionary** Where: a. The building is located within a flood hazard overlay and has: i. a footprint greater than 10m^2; and ii. a finished floor level above the 1% AEP level. b. The activity is located within a low to moderate Fault Hazard Area.

		Matters of discretion: 1. For activities in the Moderate *Hazard Area*, the matters in Policy NH-P3. 2. For activities in the Low *Hazard Area*, the matters in Policy NH-P4. 3. For activities in a Fault Hazard Area: a. The proximity to any identified fault as demonstrated with supporting geotechnical evidence; and b. Engineering measures incorporated into the building or structure to prevent loss of life from anticipated effects of a fault rupture; and c. The matters in policy NH-P7.
	All zones	3. Activity status: **Discretionary** Where: a. Compliance is not achieved with NH-R3(2).

NH-R4		**Additions to buildings within all hazard areas**
	All zones	1. Activity status: **Permitted** Where: a. The *building addition* is located within a Low Hazard Area; b. The *additions* do not increase the gross floor area of a hazard sensitive activity or potentially hazard sensitive activity by more than 20m²; c. Any *building additions* located in the identified ponding area of the flood hazard overlay have a *finished floor level* above the 1% *AEP* level; d. The additions are not located within a Moderate Hazard Area; e. The additions are not located within a High Hazard Area.
	All zones	2. Activity status: **Restricted discretionary** Where: a. Compliance is not achieved with NH-R4(1)(a), (b), (c) or (d). Matters of discretion: 1. For additions in the Moderate *Hazard Area*, the matters in Policy NH-P3. 2. For additions in the Low *Hazard Area*, the matters in Policy NH-P4.

		3. For additions in Fault Hazard Areas, the matters in Policy NH-P7.
	All zones	3. Activity status: **Discretionary** Where: a. The additions are located in a High Hazard Area.

NH-R5	**Earthworks within flood hazard areas**
All zones	1. Activity status: **Permitted** Where: a. The *earthworks* are not located in a river corridor or overland flow path.
All zones	2. Activity status: **Restricted discretionary** Where: a. Compliance is not achieved with NH-R5(1). Matters of discretion: 1. The matters in Policy NH-P9.

NH-R6	**Any new *potentially hazard sensitive activity or hazard sensitive activity and* associated *buildings* within *flood vulnerability areas***
All zones	1. Activity status: **Restricted discretionary** Where: a. A supporting flood hazard assessment has been undertaken to determine the nature and scale of the flood hazard on the property; b. The risk of flooding to people, property and surrounding properties is not increased. Matters of discretion: 1. For buildings, measures to avoid, remedy, or mitigate flooding effects on the building. 2. For buildings and activities, the matters in Policy NH-P12 and NH-P13. Note: Determining the flood hazard level applicable to a property and appropriate mitigation measures shall be determined in consultation

		the relevant District Council, Greater Wellington Regional Council, and/or Wellington Water as required.
	All zones	1. Activity status: **Discretionary** Where: a. The requirements of Rule NH-R6 (1)(a), (b), or (c) are not met.

NH-R7	**Any *hazard sensitive activity* and associated *buildings* within Moderate *Hazard Areas and* Low *Hazard Areas***
All zones	1. Activity status: **Permitted** Where: a. The hazard sensitive activity is a residential activity and is located within a Possible Liquefaction-Prone Area.
All zones	2. Activity status: **Restricted discretionary** Where: a. The hazard sensitive activity is not a residential activity and is located within a Possible Liquefaction–Prone Area, or b. The hazard sensitive activity is located in a low Fault Hazard Area, or Flood Hazard – Ponding area. Matters of discretion: 1. The matters set out in NH-P4, NH-P6, NH-P7, NH-P8 and NH-P11.
All zones	3. Activity status: **Discretionary** Where: a. The hazard sensitive activity is located within a Moderate Hazard Area.

NH-R8	**Any *hazard sensitive activity* or *potentially hazard sensitive activity* and associated *buildings* within High *Hazard Areas***
All zones	1. Activity status: **Discretionary** Where: a. The activity is a potentially hazard sensitive activity, or b. The activity is a hazard sensitive activity located in the High Fault Hazard Area, where:

		i. A technical report by a suitably qualified professional is provided demonstrating that the activity is at least 20m away from the identified fault trace.
	All zones	2. Activity status: **Non-complying** Where: a. Compliance with NH-R8(1)(b) is not met, or b. The activity is located within the Flood Hazard – River Corridor.