



## CHAPTER 18

# NATURAL HAZARDS

*Te Mana Tipua o Tāwhirimātea raua  
ko Ruāumoko*

## 18 Natural Hazards

### 18.1 OBJECTIVES AND POLICIES

*Objective Haz1* *Manage the subdivision, use, development and protection of land so as to avoid or mitigate the adverse effects of natural hazards on the life and wellbeing of people, and significant environmental values.*

Policy 1 To avoid modification of natural features and processes for the purposes of natural hazard management unless research and community consultation justifies the need for modification by being the best practicable option.

Policy 2 To avoid or mitigate the adverse effects of building within high fire risk areas.

Policy 3 To avoid or mitigate the adverse effects of the subdivision, use or development of land which is, or is likely to be, subject to material damage by erosion, falling debris, subsidence, slippage or inundation from any source.

Policy 4 To avoid or mitigate the adverse effects of the subdivision, use or development of land that is likely to accelerate, worsen or result in material damage to that land, or other land, or structures, by erosion, falling debris, subsidence, slippage or inundation from any source.

Policy 5 To take into account the extent and nature of seismic hazards to avoid, remedy or mitigate adverse effects on activities in suspected earthquake risk areas.

Policy 6 To encourage the retention and enhancement of natural areas and landforms such as dunes and wetlands which play an important role in hazard mitigation.

Policy 7 To ensure that new structures (including associated stormwater disposal systems, septic tanks, sewer lines and water mains) shall not be sited, designed or constructed to have an adverse effect on the stability of the escarpment in Whakatāne or Ōhope.

Policy 8 To manage vegetation and earthworks on the escarpment in Whakatāne and Ōhope to assist in stabilising the slope.

Policy 9 To manage the margins of streams to reduce the risk of damage from flooding and debris flow hazards affecting townships.

Policy 10 To provide for the continued operation, maintenance and upgrading of existing lawfully established activities and of infrastructure that provides an essential service for people and communities.

Policy 11 To manage the avoidance or mitigation of natural hazards according to their level of risk.

Policy 12 To take into account the effects of climate change when identifying hazards and the locations where those hazards could adversely affect people and property.

Policy 13 To assess the natural hazard risk from Debris Flows on the Awatarariki fanhead at Matatā by undertaking a risk analysis using the methodology set out in Australian Geomechanics Society, Landslide Risk Management, Australian Geomechanics, Vol 42, No 1 March 2007.

Policy 14 Awatarariki Debris Flow Policy Area  
a. To reduce the level of natural hazard risk in the **Awatarariki High Risk Debris Flow Policy Area** from high to medium levels (and lower if reasonably practicable);

- b. To reduce the level of natural hazard risk in the **Awatarariki Medium Risk Debris Flow Policy Area** from medium to as low as reasonably practicable;
- c. To maintain the level of natural hazard risk in the **Awatarariki Low Risk Debris Flow Policy Area** to within the low natural hazard risk range.

*Objective Haz2*      *To protect natural and physical resources and provide for the economic wellbeing and safety of people and communities by:*

- a. avoiding the effects of coastal erosion on the use, subdivision and development of land in the Coastal Hazard Erosion Policy Area (CHEPA);*
- b. avoiding or mitigating the effects of coastal flooding on the use, subdivision and development of land in the Coastal Hazard Flood Policy Area (CHFPA); and*
- c. avoiding, remedying or mitigating the effects of land use, subdivision and development on the coastal environment.*

Policy 1      To avoid or mitigate subdivision, use or development in the **CHEPA** where it may aggravate instability or erosion of the coastal dune system, or fails to consider the effects of rising sea levels and inundation by the application of the following management regimes:

- a. avoidance of further buildings and structures within the **CHEPA**.
- b. **relocation** of existing buildings and structures landward of the **CHEPA**.
- c. avoidance of new subdivision and use in the Current Erosion Risk Zone (CERZ).
- d. mitigation of the effects of new subdivision or use on coastal erosion in the 2060 and 2100 Erosion Risk Zones (ERZs).

Policy 2      To retain and actively provide for the preservation, and where possible the enhancement, of natural areas and landforms, such as dunes and wetlands, which play an important role in hazard mitigation.

Policy 3      To ensure **dwelling**s and habitable buildings located in the **CHFPA** are erected at or above the minimum building floor level identified for the site.

Policy 4      To avoid, remedy or mitigate the effects of development on overland flowpaths and natural ponding areas in accordance with their identified purpose.

Policy 5      To ensure that access to property within the **CHFPA** is established and maintained in a manner that avoids remedies or mitigates adverse effects on the environment while providing for the safety of the residents within the area.

Policy 6      To ensure new buildings and other structures (including the foundation structures of buildings) within the **CHEPA** are able to be **practically moved** to a location landward of the **CHEPA** when threatened with exposure to coastal erosion.

Policy 7      To ensure that following demolition, **relocation** or removal of buildings and other structures from the **CHEPA**, the foredune is reinstated to maintain, or enhance, its natural buffering capacity.

Policy 8      To maintain or enhance the natural buffering effect of the foredune area by prohibiting new buildings and structures within the CERZ.

- Policy 9 To enable land use and development of land in the 2060 and 2100 ERZs only where the activity maintains or enhances the natural buffering effect of the foredune.
- Policy 10 To enable the establishment of new **dwelling**s in the 2060 ERZ and 2100 ERZ where an **Alternative Building Site** is provided and held within the same Certificate of Title as the newly established **dwelling**.
- Policy 11 To prohibit the creation of new **lots** located wholly within the CERZ unless such **lots** are created to vest in the **Council as reserve** or for the protection of the foredune area, or required as a **network utility lot**.
- Policy 12 To provide for the creation of new **lots** partially located within the Current, 2060 and/or 2100 ERZ only where an **Alternative Building Site** can be provided, unless such **lots** are created to vest in the **Council as reserve**, or required as a **network utility lot**, or where all buildings are removed from the **CHEPA**.
- Policy 13 To enable the establishment of “soft” protection works constructed or undertaken in accordance with a design prepared by a suitably qualified **professional experienced in coastal processes**.
- Policy 14 To avoid the establishment of “hard” protection works unless the structures are necessary to provide protection of existing infrastructure of national or regional importance, vehicular lifeline access and to protect stream banks.
- Policy 15 To enable **maintenance and upgrading of existing public roads, car-parks and related facilities**, located within the **CHEPA** provided that beach or dune **reinstatement** is undertaken at the completion of such works. Work undertaken shall have the least impact possible on the dune system and, wherever possible, enhance the buffering abilities of the foredune.
- Policy 16 To enable the **maintenance and minor upgrading of existing network utility services, including stormwater discharge structures**, located within the **CHEPA**, and to provide for the establishment of new **network utility services**, where the new services are required to be located within the **CHEPA** to fulfil their function and there is no alternative location, provided that beach or dune **reinstatement** is undertaken at the completion of such works. **Maintenance work, upgrading and new works** may include, work to reduce the structure’s impact on the dune system and, wherever possible, shall enhance the buffering abilities of the foredune.
- Policy 17 To provide for in the CHEPA and CHFPA the **maintenance, development, or enhancement of public reserves, urupā or reserves held in perpetuity for the community’s benefit, and works associated with any Operative Reserves Management Plan or approved Regional Coast care programmes**, subject to compliance with all other requirements of the District Plan.
- Any works undertaken shall, wherever possible, maintain or enhance;
- a. the natural buffering abilities of the dune system;
  - b. the provision of overland flowpaths and natural ponding areas;
  - c. the natural and existing character of the environment;
  - d. the purpose for which the reserve is set aside.
- Any works undertaken should maintain or enhance the purpose of the reserve and some change to the natural and/or existing character of the environment may be allowed.

**Advice Note:** Consent may also be required from the Bay of Plenty Regional Council.

## 18.2 RULES

The following standards and terms apply to permitted, controlled, and restricted discretionary activities and will be used as a guide for discretionary and non-complying activities.

### 18.2.1 Activity Status Table Coastal Erosion Risk Zones

Key

P = Permitted

D = Discretionary

C = Controlled

NC = Non-Complying

RD = Restricted Discretionary

Pr = Prohibited

Activity		CHEPA		
		CERZ	2060 ERZ	2100 ERZ
1.	Beach replenishment, planting and restoration works associated with approved regional Coastcare programmes.	P		
2.	Beach grooming and cleaning operations on any beach abutting an urbanised settlement area.	P		
3.	The management or removal of vegetation and fauna as required to promote/protect the natural buffering ability of the dune system, tree husbandry, and/or pest control operations.	P		
4.	The erection and/or placement of <b>Minor Structures or Works, as defined in Chapter 21 (Definitions)</b> , on private property.	P		
5.	The <b>maintenance, replacement</b> or minor alteration of existing structures and buildings contained in the envelope created by the external surfaces of the existing structure or building provided that the requirements of section 10 of the RMA are met.	P		
6.	The construction of decks that meet the definition of <b>“practicably moved”</b> that do not exceed a total of 30m <sup>2</sup> in area, per dwelling unit.	P		
7.	Informal recreation and leisure activities, including the movement of people and vehicles, unless otherwise restricted or prohibited by another provision in the District Plan.	P		
8.	Surf life-saving activities and associated temporary structures.	P		
9.	Temporary commercial services, commercial recreation or retail activities.	P		
10.	The erection of new, and the <b>minor upgrading and maintenance</b> of existing, network utilities and related structures in the road reserve. (This rule shall apply unless an alternative activity status is stipulated elsewhere in the District Plan. Standards and terms for the underlying zone shall also apply).	P		
11.	<b>Alterations or additions</b> to, or replacement of, any existing lawfully established building or structure after 29 October 2008, that; <ul style="list-style-type: none"> <li>a. proposes an additional floor area at <b>ground level</b> that does not in total exceed 20m<sup>2</sup> in area, or;</li> <li>b. proposes an additional floor area in total of 50m<sup>2</sup> including any upper floors and decks but not exceeding 20m<sup>2</sup> at <b>ground level</b>;</li> </ul> At any upper floor level no addition shall project further	RD	P	P

	seaward than the existing building or structure, unless cantilevered from the existing structure.			
12.	<b>Relocation</b> of a building to an approved <b>Alternative Building Site</b> in accordance with a plan approved in a subdivision consent.	P	P	P
13.	Demolition and/or removal of a building or structure.	RD	P	P
14.	Construction of a new <b>dwelling</b> , or an additional <b>dwelling</b> , other buildings or structures or <b>alterations</b> , <b>additions</b> or replacement of existing ones not protected by existing use rights where an <b>Alternative Building Site</b> can be provided, and construction is not otherwise provided by the following rules in the this table: Rules 4, 5, 6, 8, 10, 11, 20, 21, 22 23, 24, 25, 26 or 28.	Pr	RD	C
15.	Construction of a new <b>dwelling</b> , or an additional <b>dwelling</b> , other buildings or structures or <b>alterations</b> , <b>additions</b> or replacement of existing ones not protected by existing use rights where no <b>Alternative Building Site</b> can be provided, and construction is not otherwise provided by Rules 4, 5, 6, 8, 10, 11, 20, 21, 22 23, 24, 25, 26 or 28.	Pr	NC	D
16.	Two or more <b>dwellings</b> per title where both or all of those <b>dwellings</b> is located within or partly within the <b>CHEPA</b>	Pr	NC	NC
17.	The disposal of domestic stormwater and wastewater.	Pr	RD	RD
18.	Site vegetation clearance a. less than or equal to 60m <sup>2</sup> a. exceeding 60m <sup>2</sup> per 500m <sup>2</sup> site area, or part thereof, in any twelve-month period if not permitted by Rules 1 and 10 in this table.  For the purposes of this rule the term “site area” refers, in respect of public land, to that part of the site that is the subject of the works, and for private property to the area of the lot on which the proposed works are being undertaken.	P NC	P RD	P RD
19.	Excavation of, or movement of, sand, or soil; a. less than or equal to 10m <sup>3</sup> ; or b. exceeding 10m <sup>3</sup> but less than that set out in Rule 11.2.2 (Earthworks and Site Restoration) per 500m <sup>2</sup> site area in any twelve-month period if not permitted by Rules 1, 2 and 10 in this table.  For the purposes of this rule the term “site area” refers for public land, to that part of the site that is the subject of the works, and for private property to the area of the lot on which the proposed works are being undertaken.	P NC	P RD	P RD
20.	The construction and <b>maintenance</b> of public pedestrian and cycle tracks including, but not limited to, boardwalks and walkways (timber and non-timber materials, e.g. shell paths, etc.), interpretative and directional signs, fencing, pedestrian stiles, gates, bollards (and associated barriers), seating, picnic tables, barbecues, play equipment, garden and grassed areas and rubbish/recycling bins (or similar).	P	P	P

21.	The <b>maintenance</b> and replacement of existing public and <b>emergency service</b> buildings, facilities and structures including, but not limited to, boat ramps, toilets, surf life-saving and coastguard facilities, car-parks and access roads (that do not provide Vehicular Lifeline Access) that are; a. within the existing envelope; b. outside the existing envelope and is encapsulated by the external surfaces, or lease area of, or area occupied by, the facility or structure.	P	P	P
22.	The construction of new public and <b>emergency service</b> buildings, facilities and structures and any associated network utility services including, but not limited to, boat ramps, toilets, surf life-saving and coastguard facilities, car-parks and access roads (that do not provide Vehicular Lifeline Access).	RD	RD	RD
23.	<b>Soft protection works</b> for the purpose of protecting private or public land, unless otherwise provided in Rule 1 of this Table.	RD	RD	RD
24.	<b>Hard protection works</b> for the purpose of protecting private or public land.	NC	NC	NC
25.	<b>Hard protection works</b> for the purpose of protecting Vehicular Lifeline Access and stream banks.	RD	RD	RD
26.	The creation of new public roads that create Vehicular Lifeline Access.	NC	NC	NC
27.	Any other activity	NC	NC	NC
28.	The construction of new stormwater outfalls to the ocean or to the Ōhiwa Harbour.	D	RD	RD

**Advice Note 1:** Consent may also be required from the Bay of Plenty Regional Council.

**Advice Note 2:** Bylaws may also control access to and along some locations in the coastal environment.

## 18.2.2 Protection of Flood Control Stopbanks, Streams, Rivers and Public Drains

18.2.2.1 The activities listed in Rule 18.2.2.2 shall not occur;

- a. within 12m (horizontal line) of any stream, river or public drain (measured from the lip of the stream, river or public drain) where the stream, river or public drain is administered by the Bay of Plenty Regional Council;
- b. within 5m (horizontal line) or within the defined distance (whichever is greater) of any stream river or public drain (measured from the lip of the stream, river or public drain) where the stream, river or public drain is maintained by the Council;
- c. within 12m (horizontal line) of the landward toe of a stopbank administered by the Bay of Plenty Regional Council;
- d. within five metres (horizontal line) or within the defined distance<sup>1</sup> (whichever is greater) of the landward toe of a stopbank maintained by the Council;
- e. on a stopbank;
- f. on the berm between a stopbank and a river or drain; or

<sup>1</sup> Where the height of a stopbank, as measured from the landward toe, is greater than one metre, the distance shall be three times the height of the stopbank up to a maximum of 12m.

- g. within a 12m radius of a pump station maintained or administered by the **Council** or Bay of Plenty Regional Council under the Land Drainage Act 1908, the Soil Conservation and Rivers Control Act 1941, the Rangitāiki Land Drainage Act 1956 or Part XXIX of the Local Government Act 1974;

18.2.2.2 For the purposes of Rule 18.2.2.1, activities include only the activities listed in (a) to (d) below:

- a. the growing or allowing to grow of any shrub, hedge or tree or part thereof;
- b. the erection of any fence, **building** or other **structure**;
- c. the **construction** of any road or race for the **passage of stock or vehicles**; and
- d. the removal of soil (including but not limited to digging of a **drain**),

18.2.2.3 Rules 18.2.2.1 and 18.2.2.2 shall not apply if;

- a. such activities are undertaken under authority of the Soil Conservation and Rivers Control Act 1941, the Land Drainage Act 1908, the Rangitāiki Land Drainage Act 1956 or Part XXIX of the Local Government Act 1974; or
- b. the written consent of the **maintenance** or administering authority has been obtained and a copy has been lodged with the **Council**; or
- c. a fence referred to in 18.2.2.2(b) is a fence for the purpose of protecting a significant cultural heritage **feature**;
- d. the removal of soil referred to in 18.2.2.2(d) constitutes boring holes up to 1.5m **depth** for immediate placement of posts or piles, or driving posts or piles.

18.2.2.4 The removal of soil shall not occur;

- a. within 20m of the landward toe of any stopbank administered under the Soil Conservation and Rivers Control Act 1941;
- b. between 20m and 150m from the landward toes of the stopbanks of the Rangitāiki River, from the spillway at the upper end of the Rangitāiki Floodway to the mouth; and
- c. between 20m and 60m from the landward toes of the stopbanks of the Tarawera River;
  - i. on the true right of the river from the State Highway 30 bridge to the mouth; and
  - ii. on the true left of the river from 800m downstream of the Tumurau Lagoon outfall structure to the mouth.

18.2.2.5 The rules in 18.2.2.4 shall not apply in the following instances:

- a. if the removal of soil is undertaken by or under the direction of the **maintenance** or administering agency;
- b. boring holes up to 1.5m in **depth** for immediate placement of posts or piles, or driving posts or piles; and
- c. soil removal and backfilling necessary for the installation and/or maintenance of network utilities within roads; and
- d. for the purposes of 18.2.2.4(b) and (c);
  - i. the removal of soil to a **depth** of 300mm (cumulative **depth**);
  - ii. permanent removal of up to 100m<sup>3</sup> of soil to a maximum **depth** of 500mm, where within two



- weeks the excavation is filled by a concrete slab of at least equivalent mass to the soil removed;
- iii. temporary removal of up to 100m<sup>3</sup> of soil to a maximum **depth** of 1.5m, where within two weeks the soil is replaced and compacted;
- iv. driving posts or piles to any **depth**;
- v. **removal of posts, piles and similar in-ground structures** providing that the resulting hole is refilled and compacted;
- vi. the digging of a **drain**; and
- vii. well-drilling or resource investigations allowed by a resource consent or a rule in a regional plan.

18.2.2.6 All activities shall be planned, designed, constructed and maintained so as to;

- a. protect and to preserve existing natural drainage channels;
- b. ensure all drainage systems do not cause erosion or flooding outside the subdivision to any greater extent than would occur in the absence of subdivision and improvements;
- c. avoid flooding of land;
- d. leave all drainage channels in as natural a condition as possible; and
- e. provide for the crossing of watercourses by bridging or culverts so that natural stream **beds** will not be altered, thereby causing adverse environmental effects.

**Advice Note 1:** Any activity subject to the provisions in 18.2.2 Protection of Flood Control Stopbanks, Streams, Rivers and Public Drains and 18.2.3 Flooding may also be subject to approval by Bay of Plenty Regional Council under its Floodway and Drainage Bylaw 2008 and any subsequent revisions. The purpose of the Bylaw is to control and protect **drains, pumping stations, defences against water, river edge protection works and floodways** owned by or under the control of Bay of Plenty Regional Council. Review of the proposed activity by the Bay of Plenty Regional Council will be required.

**Advice Note 2:** Any activity that involves the construction of a new crossing over an element of the Bay of Plenty Regional Council drainage system requires the approval of Bay of Plenty Regional Council.

## 18.2.3 Flooding

18.2.3.1 Within the Rangitāiki Floodway (NHaz1); or the Te Rahu Ponding Basin (NHaz2); any activity is a Discretionary activity unless listed in 18.2.3.1 (a) to (g) below; (which shall be a Permitted Activity unless they obstruct the free flow of water):

- a. **pasture farming** which does not involve the planting of trees or other vegetation which will exceed 2m in height at maturity;
- b. activities (excluding buildings) on **public reserves** as provided for in a management plan under the Reserves Act 1977;
- c. management of reserves by the Department of Conservation, Whakatāne District Council, Bay of Plenty Regional Council or Eastern Fish and Game Council;
- d. public roads and associated infrastructure (including network utilities located within the road reserve); and
- e. **operation, maintenance and reinstatement** of infrastructure (including network utilities located within the road reserve);
- f. light weight two wire electric fences or **fences of similar design**, and

g. the removal of vegetation cover located at distances greater than 20m from a spillway structure.

18.2.3.2 All building platforms, other than those for detached and non-habitable Accessory Building must account for flooding and include stormwater system designed in accordance with NZS4404:2010 Land Development and Subdivision Infrastructure Section 4.3.5.2 or subsequent revision, provided that the minimum free board shall be measured to the building platform level, not the underside of the floor joists or underside of the floor slab.

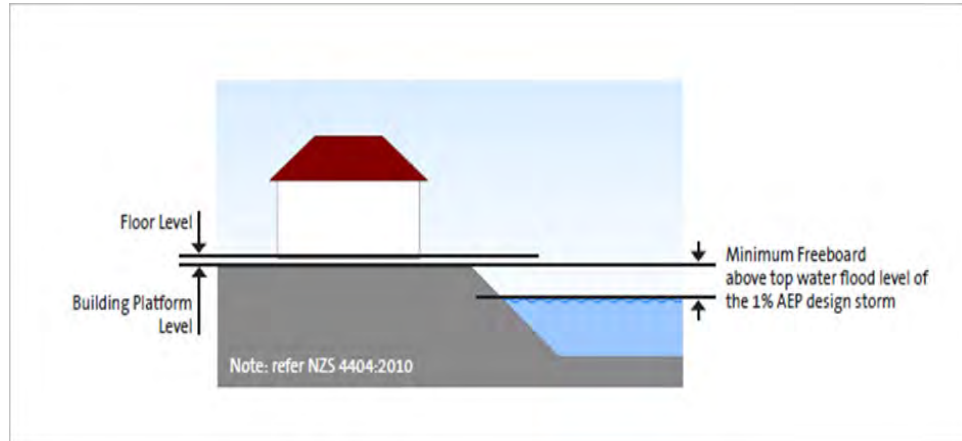


Figure 18.1 Freeboard illustration

**Advice Note:** Any activity subject to the provisions in 18.2.2 Protection of Flood Control Stopbanks, Streams, Rivers and Public Drains and 18.2.3 Flooding may also be subject to approval by Bay of Plenty Regional Council under its Floodway and Drainage Bylaw 2008 and any subsequent revisions. The purpose of the Bylaw is to control and protect drains, pumping stations, defences against water, river edge protection works and floodways owned by or under the control of Bay of Plenty Regional Council. Review of the proposed activity by the Bay of Plenty Regional Council will be required.

## 18.2.4 Overland Flowpaths

18.2.4.1 Any use and development including buildings and other structures shall not obstruct an overland flow path that is identified in the Planning Maps.

- a. all development proposals shall show, where relevant, overland flow paths on plans.
- b. this excludes non-habitable buildings and structures associated with network utilities where it is necessary that they be established in such areas.

## 18.2.5 Fire Hazard

18.2.5.1 Prior to the establishment of a production forest within the Whakatāne District Council Fire Authority Area, a forest owner shall provide a plan to the Council showing;

- a. the land area involved;
- b. the location of access roads;
- c. the location of fire breaks; and
- d. the location of the areas to be planted.

18.2.5.2 At the time of harvesting, the Council is to receive an updated plan showing any amendments to the location of access roads or fire breaks. No habitable building shall be erected closer than 30m to any production forest or **Significant Indigenous Biodiversity Sites** located in a high to extreme fire risk area

as shown in Appendix 18.7.3.

- 18.2.5.3 No **production forest** shall be planted within 30m of;
- a. any place of assembly; or
  - b. any dwelling; or
  - c. a property zones residential; or
  - d. a residential zone boundary; or
  - e. a boundary of a lot which is 5,000m<sup>2</sup> or less in area.

- 18.2.5.4 Rule 18.2.5.3 shall not apply to the replanting of a forest where existing use rights apply.

**Advice Note:** The New Zealand Fire Service recommends that water storage volumes and delivery systems be installed in accordance with the New Zealand Fire Service Firefighting Water Supplies Code of Practice: 2008. The Fire Service advises that often the best method to achieve compliance with this code of practice is through the installation of a home sprinkler system in accordance with Fire Systems for Houses NZS 4517: 2003, in each new dwelling. The qualified staff of the New Zealand Fire Service would be happy to assist.

## 18.2.6 Falling Debris and Debris Flows

- 18.2.6.1 On the Whakatāne and Ōhope escarpments, as shown on Planning Maps 107B, 110B, 111B, 117B 118B, 119B, 505B and 506B, within the area shown as NHaz4, and above or below the NHaz4 line to the point where the predominant slope is less than 35 degrees from horizontal the following activities are Discretionary activities unless specified as Permitted activities in c:

- a. the placement, construction, alteration or addition of a building or accessory building (including swimming pools) for a residential, community or **business activity**;
- b. the removal of vegetation; and.
- c. earthworks.

- 18.2.6.2 The following activities are Permitted activities in the areas described in 18.2.6.1;

- a. domestic gardening;
- b. management of Vegetation as defined in Chapter 21;
- c. earthworks that constitute the disturbance of the ground for domestic gardening;
- d. earthworks required for the establishment of a building platform after a building consent has been issued; and
- e. operation, maintenance and reinstatement of infrastructure.

**Advice Note:** Landslide and Debris Flow Risk Assessment at Whakatāne, Ōhope and Matatā (Planning Maps 101B, 107B, 110B, 111B, 114B, 117B, 118B, 119B and 502B, 505B and 506B)

Council is undertaking an assessment of landslide and debris flow risks in the vicinity of the escarpments at Whakatāne, Ōhope, and Matatā. This work is intended to provide the community with a better understanding of the nature and extent of these hazards and the risks they may present. Council has completed the debris flow risk assessment for the Awatarariki fanhead at Matatā and has included a Natural Hazard Policy Area on the Awatarariki fanhead.

It is likely that the District Plan maps and rules that control land use and subdivision in areas affected by landslide and debris flow hazards, in areas apart from the Awatarariki fanhead at Matatā, will need to be changed once the risk assessment has been completed. Any changes to the District Plan will be subject to a public submission process under the Resource Management Act. If you own land in close proximity to the escarpments at Whakatāne, Ōhope, and Matatā and are potentially affected by landslide and debris flow hazards, the Council will provide information to you on the risk assessment when this becomes available. If you are planning to purchase land or to undertake any development in the vicinity of the escarpments at Whakatāne, Ōhope, and Matatā you are advised to contact the Council at an early stage to obtain the latest information.

- 18.2.6.3 Within the area shown as **Awatarariki High Risk Debris Flow Policy Area** on Planning Map 101A Matatā the following activities are Permitted Activities;
- a. The construction of structures and the use of land for passive recreation, including the construction and maintenance of public pedestrian and cycle tracks, interpretative and directional signs, fencing, pedestrian stiles, gates, bollards and associated barriers, seating, landscaping, gardens and grassed areas and rubbish and/or recycling bins;
  - b. Activities operating in accordance with, or that are provided for in, an approved Reserve Management Plan under the Reserves Act 1977.
  - c. The erection of new, and the minor upgrading (including ancillary earthworks) and maintenance of existing, network utilities and related structures;
  - d. Demolition and/or removal of a building or structure;
  - e. The removal of network utilities;
  - f. Vegetation clearance;
  - g. The erection of fencing, signage, a viewing platform and other minor structures, associated with the development of a commemorative reserve on Lot 20 DP 306286; and
  - h. activities operating in accordance with section 18(2) of the Reserves Act 1977 on the Te Kaokaoroa Historic Reserve (Allotment 373 Town of Richmond)
- 18.2.6.4 Within the area shown as **Awatarariki High Risk Debris Flow Policy Area** on Planning Map 101A Matatā, the following activity is a Restricted Discretionary Activity;
- a. Earthworks  
In assessing an application for a Restricted Discretionary Activity for earthworks in the Awatarariki High Risk Debris Flow Policy Area the Council shall restrict its discretion to;
    - i. Whether the activity will avoid causing any increased risk to other activities, and any buildings and their occupants on any other site, from a debris flow; and
    - ii. Whether the activity will appropriately address the accidental discovery of koiwi or other taonga, including giving effect to any protocols agreed with tangata whenua.
- 18.2.6.5 Within the area shown as **Awatarariki High Risk Debris Flow Policy Area** on Planning Map 101A Matatā, any activity, other than those that are a Permitted Activity under Rule 18.2.6.3 or a Restricted Discretionary Activity under Rule 18.2.6.4, is a Prohibited Activity.
- 18.2.6.6 Within the area shown as **Awatarariki Medium Risk Debris Flow Policy Area** on Planning Map 101A Matatā, the following activities are Permitted Activities;
- a. Residential activities and associated buildings and structures within the existing building or structure envelope, including the footprint, as lawfully established before 31 December 2017;

- b. Demolition and/or removal of a building or structure; and
- c. The erection of new, and the minor upgrading (including ancillary earthworks) and maintenance of existing, network utilities and related structures.

18.2.6.7 Within the area shown as **Awatarariki Medium Risk Debris Flow Policy Area** on Planning Map 101A **Matatā**, all activities are a Restricted Discretionary Activity unless the activity is listed as a Permitted Activity by Rule 18.2.6.6, or a discretionary, non-complying or prohibited activity in Section 3.4.1 Activity Status Table.

## 18.2.7 Buildings, Structures and Activities in the CHEPA

18.2.7.1 All **dwelling**s, buildings and other structures, other than **minor structures and works**, within the **CHEPA** shall be designed or approved by a suitably qualified Chartered Professional Engineer.

18.2.7.2 Activities in the **CHEPA** shall ensure that the site is reinstated, maintained or enhanced so that the natural buffering ability of the dune system is not compromised.

**Advice Note:** The **Chartered Professional Engineer** shall be experienced in the analysis and design of structures and shall have experience in designing modular-type structures. The role of the **Chartered Professional Engineer** for section 18.2.7.1 includes confirming the suitability of the proposed structure's design, consistent with the requirements of the District Plan relating to easily relocatable structures from within the **CHEPA** if erosion occurs.

18.2.7.3 When the crest of the foredune, or top of any dune scarp or the top of the erosion scarp where there is no dune, recedes to within 20m of a building or activity, the location of buildings and activities in the **CHEPA** shall be reviewed by a suitably qualified person. Where required, the review shall assess the risk of erosion to the building or activity; and buildings and activities may be required to be removed, or relocated, as a consequence of the review undertaken.

**Advice Note:** Such a review will be applied as a condition of resource consent and will not apply to existing lawfully established buildings and Permitted activities.

18.2.7.4 The proposed **dwelling**, building, structure, addition or alteration (the works), provided for in the 2060 and 2100 ERZs under item 14 Activity Status Table 18.2.1, shall be able to be **practicably moved** to an **Alternative Building Site** located within the same title. A certificate from a **Chartered Professional Engineer** or house removal company shall be submitted detailing the means by which the proposed works can be **practicably relocated**.

18.2.7.5 The **Alternative Building Site** referred to in 18.2.7.4 shall be maintained in a form that will enable the **relocation** of the works to the **Alternative Building Site** at any time.

18.2.7.6 Reinstatement shall be provided to the extent that the natural shape of the foredune is maintained by reference to the existing natural shape of the dune in the vicinity of the **reinstatement works** and that, as a minimum, the volume of sand, or soil, between the 2100 ERZ boundary and the toe of the foredune per metre of frontage is not reduced to less than that existing before the **reinstatement works** commence. All excavated materials which comprise sand or soil material shall be respread within the **CHEPA** and be re-vegetated with plants suitable for the location. Revegetation planting shall be established within one month of the respreading of the sand or soil material. Revegetation within the CERZ should be native dune plants. Other excavation material (i.e. ash, topsoil, organic matter) may be removed from site.

## 18.2.8 Dwellings, Habitable Buildings and Activities in the CHFPA

18.2.8.1 Activities in the **CHFPA**, as shown on the Planning Maps, shall ensure that the site is developed, reinstated and maintained so that stormwater overland flowpaths, wave surge flows and natural ponding areas are not compromised and any change to ground contours does not cause adverse off-site effects.

18.2.8.2 All **dwelling**s and habitable buildings located within a **CHFPA**, as shown on the Planning Maps, shall have

a minimum floor level in accordance with the level identified in the Planning Maps.

**Advice Note:** The Council will, with its chosen management approach, establish a means of activity compliance through the compilation of WDC Coastal Hazard Building Guidelines. The guidelines will enable individual property owners to undertake certain aspects of works or development without the need for consultation with a **Chartered professional engineer experienced in coastal processes**. The guidelines will be compiled by an experienced **Chartered professional engineer experienced in coastal processes** and will provide property owners with advice on acceptable solutions when undertaking activities in the **CHEPA** and provide more appropriate environmental outcomes and reduce compliance costs for property owners affected by the **CHEPA**.

**Advice Note:** Abandonment does not meet the definition of **practicably moved**.

## 18.3 ASSESSMENT CRITERIA FOR CONTROLLED ACTIVITIES

### 18.3.1 Activity Status Table Coastal Erosion Risk Zones (see item 14)

18.3.1.1 Council shall exercise its control over;

- a. the ability for the works to be **relocated** and the means by which this is achieved;
- b. the extent to which the works are likely to affect, or be affected by, coastal hazards;
- c. the on-going provision of access to the site for the purpose of enabling **relocation** of the works;
- d. the provision of an **Alternative Building Site** to accommodate the works;
- e. the **reinstatement** of the **CHEPA**, the clearance of debris, repair and disconnection of services from the site of the **relocation**; and
- f. the need, amount and form of a bond to ensure any **reinstatement**, upgrading or repair work are completed in a timely manner.

## 18.4 ASSESSMENT CRITERIA FOR RESTRICTED DISCRETIONARY ACTIVITIES

### 18.4.1 Coastal Hazard Erosion Policy Areas

18.4.1.1 Council shall restrict its discretion to;

- a. whether the proposal is consistent with the objectives and policies relating to Natural Hazards (Section 18.1) of the plan;
- b. the extent to which proposed activities, buildings and structures will be able to be **relocated** or **demolished** with minimal disturbance to the foredune and the buffering ability of the dune systems;
- c. the extent to which the proposed activity is likely to;
  - i. **accelerate**, **worsen** or result in further damage to that land, other land, or structures or buildings caused either directly or indirectly by coastal erosion;
  - ii. be subject to damage from erosion;
  - iii. **compromise** the natural buffering ability of the foredune system; or
  - iv. **reduce** the risk of coastal erosion; and
- d. for subdivision, those matters identified in Rule 12.7 for controlled activity subdivisions;

- e. for land use activities, any matter subject to control or restricted discretion of the Council that would have applied to the activity if the **CHEPA** did not exist;
- f. the general requirements for development or subdivision of land;
- g. the on-going provision of access to the site for the purpose of enabling **relocation** of buildings or structures
- h. the provision of an **Alternative Building Site**, where applicable; any other matter to which the Council has restricted its discretion in the zone in which the activity occurs;
- i. the location of the 2060 and 2100 ERZ boundaries on the subject site/s;
- j. the **reinstatement** of the foredune proposed to be undertaken following completion of the proposed works, development or activity; and
- k. the importance of maintaining Vehicular Lifeline Access, including but not limited to, National and Primary (Regional) arterials/routes.

#### 18.4.2 **Awatarariki Medium Risk Debris Flow Policy Area**

18.4.2.1 Council shall restrict its discretion to;

- a. Whether the design and layout of the activity will reduce the risk to the activity, and any building and its occupants from a debris flow, to a level that is as low as reasonably practicable; and
- b. Whether the activity will avoid causing any increased risk to other activities, and any buildings and their occupants on any other site, from a debris flow.

An application for Restricted Discretionary Activity in the **Awatarariki Medium Risk Debris Flow Policy Area** shall not be notified, or served on affected persons.

### 18.5 **ASSESSMENT CRITERIA—DISCRETIONARY ACTIVITIES / NON-COMPLYING ACTIVITIES**

See Section 3.7.

### 18.6 **SAMPLE RESOURCE CONSENT CONDITIONS FOR ACTIVITIES IN THE CHEPA AND CHFPA**

1. Subdivision and land use consent shall, where applicable, include conditions that existing and new lots, or development, be provided with **Alternative Building Sites**. Where required, any **Alternative Building Site** may be provided outside of the **CHEPA** or contiguous to the subject site and in either case shall be held in the same certificate of title. The **Alternative Building Site** shall remain as vacant land until it is needed for the **relocation** of the building or structure.
2. Consent may include conditions and requirements that need to be satisfied on an on-going basis such as those requiring periodic review. Such conditions and requirements shall be registered on the certificate of title for the lot by way of a consent notice, or for land use consent, shall be registered by way of a covenant on the certificate of title.
3. A review of conditions under section 128 of the RMA. This review would be initiated where defined hazard risk circumstances occur on the site, particularly when the crest of the foredune, or the top of any dune scarp or the top of the erosion scarp where there is no dune, recedes to a point within 20m or less from the nearest part of the building or activity.

4.	The review will enable the actual risk to be considered at that time, and appropriate mitigation measures implemented through changed consent conditions, should this be necessary or appropriate including, but not limited to, conditions requiring the <b>relocation</b> of any building, structure or other works to the <b>Alternative Building Site</b> and/or further monitoring.
5.	Requiring the consent holder to monitor erosion and to report to the <b>Council</b> when the crest of the foredune, or the top of any dune scarp or the top of the erosion scarp where there is no dune, has receded to a point within 20m of the nearest part of the building or activity.
6.	Requiring the removal or <b>relocation</b> of the building to the <b>Alternative Building Site</b> as a result of the recommendations of a review conducted under 3 above.
7.	Requiring that access to the <b>Alternative Building Site</b> from existing or proposed <b>dwelling</b> s, buildings or structures, and manoeuvring appropriate to the nominated method of <b>relocation</b> on the <b>Alternative Building Site</b> , or removal, is provided, to ensure that buildings may be <b>practicably moved</b> .
8.	The general requirements for development or subdivision of land.
9.	Any other matter to which the <b>Council</b> has restricted its discretion in the zone in which the activity occurs.
10.	Requiring that, on demolition or <b>relocation</b> or abandonment of buildings or structures in the <b>CHEPA</b> , all materials used in constructing the building, including foundations, be removed from the <b>CHEPA</b> and that the site within the <b>CHEPA</b> be reinstated to the effect that the natural shape of the foredune is maintained by reference to the existing natural shape of the dune in the vicinity of the <b>reinstatement</b> works and that, as a minimum, the volume of sand, or soil, between the 2100 ERZ boundary and the toe of the foredune per metre of frontage is not reduced to less than that existing before the <b>reinstatement</b> works commence.

Table 1: Example conditions in relation to activities requiring resource consent within the CHEPA.

1.	A condition requiring the construction of all buildings and/or structures to a minimum floor level.
2.	A condition requiring the <b>maintenance</b> of overland flowpaths and natural ponding areas, on an on-going basis, in accordance with their defined purpose and optimal level of service.
3.	A condition requiring the construction and <b>maintenance</b> of access to a minimum standard and at a minimum <b>ground level</b> on an on-going basis while maintaining overland flowpaths and natural ponding areas.
4.	The general requirements for development or subdivision of land.
5.	Any other matter to which the <b>Council</b> has restricted its discretion in the zone in which the activity occurs.

Table 2: Example conditions in relation to activities requiring resource consent within the CHFPA

## 18.7 APPENDICES

### 18.7.1 Other Methods

The **Council** will compile Coastal Hazard Building Guidelines to enable property owners to undertake certain activities in the **CHEPA** without input from an engineer. This will help to reduce the cost of managing the effects of natural hazards.

Through its Earthquake-prone and Dangerous and Insanitary Buildings Policy, **Council** will identify earthquake prone buildings, facilitate negotiated solutions with building owners and seek the protection of heritage buildings and their contents.

**Council** will publicise the evacuation plans and will undertake community education.

In accordance with GNS Science Guidelines, the **Council** will monitor the number of buildings being purchased by **Council** and the level of community awareness and community acceptance of risk-based plan provisions.

The **Council** will place an advice note on every subdivision consent granted and, where the consent pertains to a site that has already been created through the subdivision process, but on which a permitted building has not yet been built, an advice note on every building consent granted. The advice note will read: "The New Zealand Fire Service recommends that water storage volumes and delivery systems be installed in accordance with the New Zealand Fire Service Firefighting Water Supplies Code of Practice: 2008. The Fire Service advises that often the best method to achieve compliance with this code of practice



is through the installation of a home sprinkler system in accordance with Fire Systems for houses NZS 4517: 2003, in **each new dwelling**. The qualified staff of the New Zealand Fire Service would be happy to assist and advise.

The Civil Defence Emergency Management Act 2002 and the Building Act 2004 work in conjunction with the Plan's rules to achieve the Plan's objectives and to implement the Plan's policies.

Flood risk will also be addressed by the Floodplain Management Strategies produced by the Bay of Plenty Regional Council.

Anyone planning to purchase land or undertake development in the **Awatarariki High Risk Debris Flow Policy Area** is advised to contact the Bay of Plenty Regional Council to determine if there are any regional rules that would affect their development, including in particular Rule NH R71 of the Regional Natural Resources Plan which prohibits residential activity on properties in the **Awatarariki High Risk Debris Flow Policy Area** that are listed in Table NH3.

The area shown as **Awatarariki Low Risk Debris Flow Policy Area** on Planning Map 101A Matatā has been assessed as having a low risk to life and property from debris flows from the Awatarariki catchment. While this is an acceptable level of risk, anyone planning to purchase land or undertake development in this area is advised to contact Council to obtain the latest information, and to then evaluate the risk. The debris flood in this area, resulting from a debris flow from the Awatarariki catchment, will be further assessed as part of future district wide susceptibility modelling of flooding. It is possible that the outcome of that assessment will result in controls being placed on land use and/or subdivision.

## 18.7.2 Main Fault Lines

Data source: QMap (1:250,000 Geological Map of New Zealand), GNS Rotorua Map Area, GNS Science.

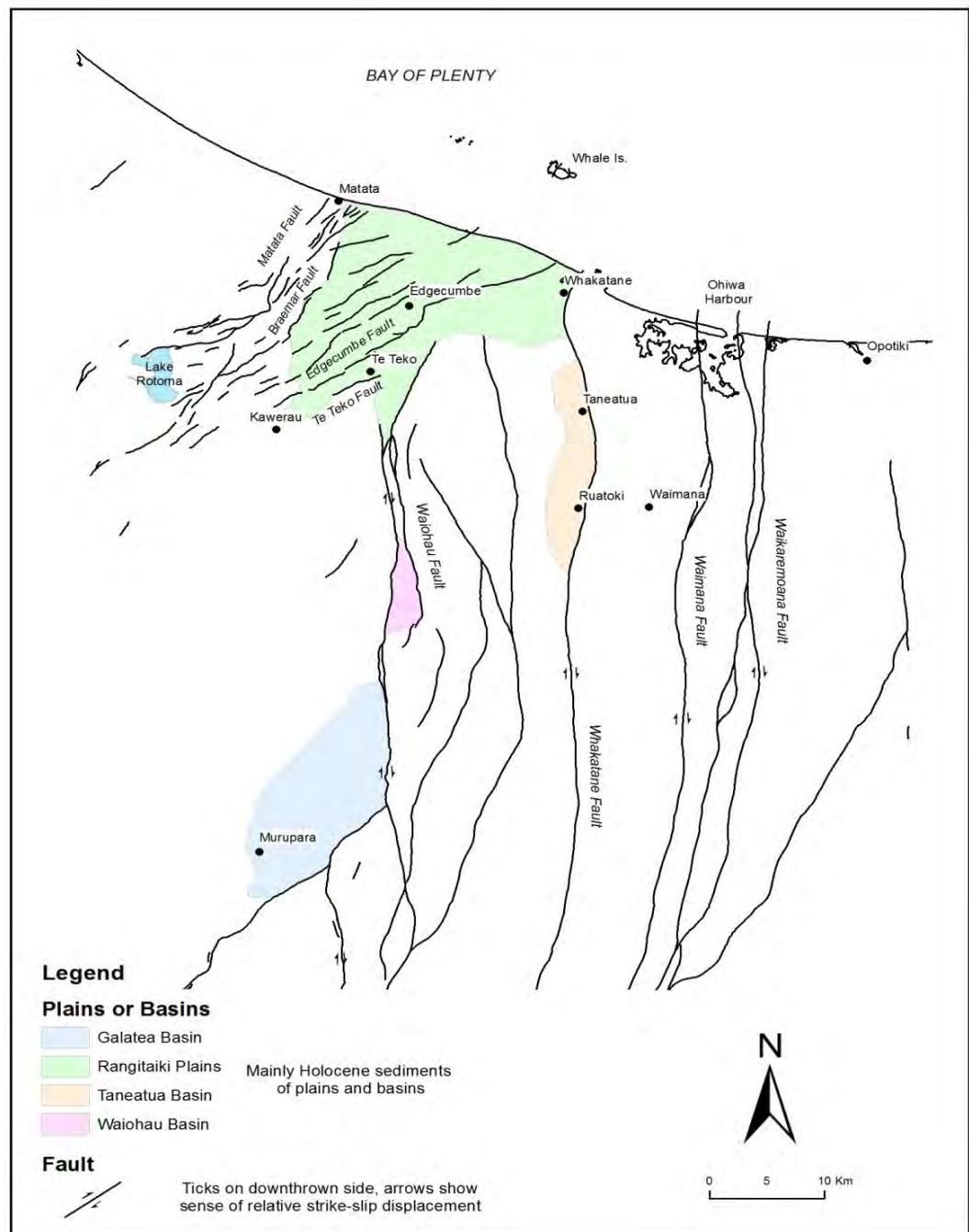


Figure 18.2 Main fault lines

18.7.3 Maps Showing Location of High to Extreme Fire Risk Areas

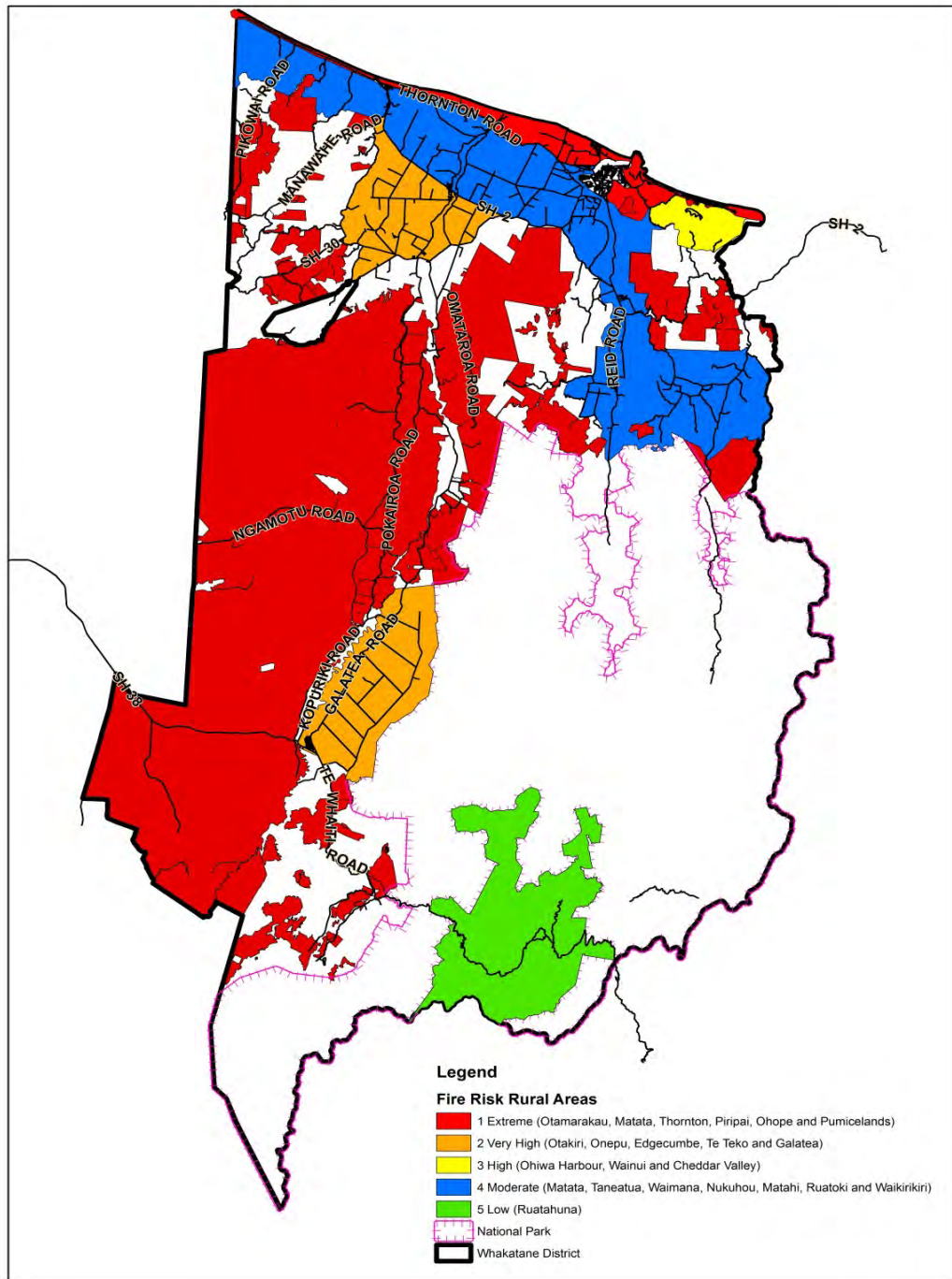


Figure 18.3 Location of high to extreme fire risk areas

## 18.7.4 Flammability of Native Plant Species

The following flammability classes are based on a series of surveys conducted by staff from Forest Research's rural fire research programme.

Experienced fire managers throughout New Zealand were asked to rank a list of native species in terms of flammability in the light of their observations at wildfires and prescribed burns under different fire danger conditions.

The final list of 42 species in five flammability classes is intended as a guide only. Genetic and environmental factors will affect the flammability of particular species, e.g. older plants carrying more dead material, drought conditions, or where a plant is situated.

Flammability class: Low	
Suitable for green breaks or defensible space, but when in the immediate vicinity of structures, leave at least 3 to 4m breaks between the crowns to reduce fuel continuity.	
<b>Low flammability species</b>	
<i>Fuchsia excorticata</i>	Kotukotuku
<i>Pseudopanax crassifolius</i>	Horoeka/Lancewood
<i>Pseudopanax arboreus</i>	Five finger
<i>Coprosma robusta</i>	Karamu
<i>Geniostoma ligustrifolium</i>	Hangehange
<i>Coprosma repens</i>	Taupata
<i>Corynocarpus laevigatus</i>	Karaka
<i>Griselinia littoralis</i>	Papauma/Broadleaf
<i>Griselinia lucida</i>	Puka
<i>Macropiper excelsum</i>	Kawakawa/Peppertree
<i>Solanum aviculare</i>	Poroporo
Flammability class: Low/moderate	
Not recommended for planting in green breaks. If planted in defensible space, remove elevated dead material and litter regularly, leave greater than 4m between tree crowns, and don't plant trees or shrubs in this category within 10m of structures.	
<b>Low/moderate flammability species</b>	
<i>Hebe salicifolia</i> and <i>H. stricta</i>	Koromiko
<i>Aristolelia serrata</i>	Mako-mako/Wineberry
<i>Coriaria arborea</i>	Tutu
<i>Myoporum laetum</i>	Ngaio
<i>Pittosporum crassifolium</i>	Karo
<i>Pittosporum eugenoides</i>	Tarata/Lemonwood
<i>Hoheria</i> spp.	Hoheria/Lacebark
<i>Knightia excelsa</i>	Rewarewa
<i>Nothofagus menziesii</i>	Tawhai/Silver beech
<i>Phyllocladus glaucus</i>	Toatoa
<i>Plagianthus regius</i>	Manatu/Ribbonwood
<i>Weinmannia racemosa</i>	Kamahi
<i>Carpodetus serratus</i>	Putaputaweta
<i>Coprosma grandifolia</i>	Raurekau/Kanono
Flammability class: Moderate	
Most of these species produce heavy accumulations of flammable litter and elevated dead material, and/or have flammable green foliage. Not recommended for green breaks or for planting in defensible space.	
<b>Moderate/high flammability species</b>	

<i>Podocarpus totara</i>	Tōtara
<i>Dodonaea viscosa</i>	Ake-ake
<i>Cyathea and Dicksonia</i> spp.	Tree ferns
<i>Cyathodes fasciculata</i>	Mingimingi
<b>Flammability class: High</b>	
Species burn readily at low/moderate forest fire danger conditions.	
<b>High flammability species</b>	
<i>Kunzea eriocoides</i>	Kānuka
<i>Leptospermum</i>	Mānuka

### 18.7.5 Rainfall Intensity

#### 2090 Projected Rainfall Depth Duration Frequency Estimates (mm) for Whakatāne, Ōhope and Coastlands

Return Period (Years)	Duration (Time in minutes/hours)										
	10m	20m	30m	1h	2h	3h	6h	12h	24h	48h	72h
2	13	17	22	31	41	48	63	80	104	127	147
5	18	24	30	43	55	65	85	110	141	173	200
10	20	29	35	50	64	76	101	130	166	206	236
20	23	33	41	58	74	87	116	149	192	239	269
50	27	39	48	68	86	102	134	174	225	280	311
100	30	42	53	75	95	112	148	192	249	308	342

Figure 18.4 Projected rainfall for Whakatāne and Ōhope