

## Analysis of the Regional Policy Statement on Natural Hazards for Proposed Debris Flow Hazard Management on the Awatarariki Fanhead.

### Objective

Objective		Applicability
Objective 31	Avoidance or mitigation of natural hazards by managing risk for people's safety and the protection of property and lifeline utilities	The proposed debris flow hazard management on the Awatarariki fanhead will avoid or mitigate natural hazards by managing risk for people's safety and the protection of property. Risk is managed through the adoption of prohibited activity status rules in both the Regional and District Plans. Road and rail corridors are exempted as lifeline utilities with functional needs to remain at this location.

### Policies

Policy		Policy Type*	Applicability	Methods
Policy NH 1B: Taking a risk management approach	Take a risk management approach to control the use, development and protection of land to avoid or mitigate natural hazards by assessing the level of risk according to the likelihood of natural hazards occurring and their potential consequences.	Specific Directive	A risk management approach to control the use, development and protection of land to avoid or mitigate natural hazards has been taken for the Awatarariki Fanhead.  The approach focuses on the presence and level of the risk rather than the presence and likelihood of the hazard.	3
Policy NH 2B: Classifying risk	Classify risk according to the following three-category risk management framework as detailed in Appendix L:  1 High natural hazard risk being a level of risk beyond what should be tolerated.  2 Medium natural hazard risk being a level of risk that exceeds the Low level but does not meet the criteria for High risk.	Specific Directive	A three-tier risk framework consistent with the policy has been applied to the Awatarariki Fanhead following the RPS direction.	3

Policy		Policy Type*	Applicability	Methods
	3 Low natural hazard risk being the level of risk generally acceptable.			
Policy NH 3B: Natural hazard risk outcomes	<p>By the application of Policies NH 4B and NH 12A, achieve the following natural hazard risk outcomes at the natural hazard zone scale*:</p> <p>(a) In natural hazard zones subject to High natural hazard risk reduce the level of risk from natural hazards to Medium levels (and lower if reasonably practicable); and</p> <p>(b) In natural hazard zones subject to Medium natural hazard risk reduce the level of risk from natural hazards to be as low as reasonably practicable; and</p> <p>(c) In natural hazard zones subject to Low natural hazard risk maintain the level of risk within the Low natural hazard risk range.</p> <p>*The risk outcome specific to new development sites is set out in Policy NH4B.</p>	Specific Directive	<p>In the areas identified as being subject to high risk from debris flow hazards, a voluntary retreat land purchase programme has been implemented and plan rules are proposed to move existing residential development out of harm's way and to prevent any inappropriate future development.</p> <p>The level of risk to life and property is such that reduction of the risk needs to occur as quickly as possible. However, for practical reasons of cost and process, this has taken several years to achieve.</p> <p>In the areas identified as being subject to medium risk from debris flow hazards, plan rules are proposed to reduce risk by controlling re-development and ensuring risk is reduced to as low a level as is reasonably practicable.</p> <p>In the areas identified as being subject to low risk from debris flow hazards information and monitoring will be used to maintain the level of risk.</p>	3, 18, 23B, 73, and 74
Policy NH 4B: Managing natural hazard risk on land subject to urban development	<p>Require a Low natural hazard risk to be achieved on development sites after completion of the development (without increasing risk outside of the development site) by controlling the form, density and design of:</p> <p>(a) Greenfield development;</p>	Specific Directive	<p>In the areas identified as having medium and low risk, new and/or additional buildings or reconstruction of or addition to existing buildings and subdivision may occur over time.</p> <p>In the areas identified as being subject to medium risk from debris flow hazards, plan rules are proposed to reduce risk by controlling re-</p>	3, 18 and 23A

Policy	Policy Type*	Applicability	Methods	
	<p>(b) Any urban activity within the existing urban area that involves the construction of new and/or additional buildings or reconstruction of or addition to existing buildings (including any subdivision associated with such activities); and</p> <p>(c) Rural lifestyle activities;</p> <p>except that a Low level of risk is not required to be achieved on the development site after completion of the development where the development site is located within a natural hazard zone of Low natural hazard risk and that natural hazard zone will maintain a Low level of natural hazard risk after completion of the development.</p>		<p>development and ensuring risk is reduced to as low a level as is reasonably practicable.</p> <p>In the areas identified as being subject to low risk from debris flow hazards information and monitoring will be used to maintain the low level of risk.</p>	
<p>Policy NH 5B: Avoiding increasing and encouraging reducing natural hazard risk in the coastal environment</p>	<p>Despite Policies NH 3B, NH 4B and NH 12A, ensure that on any land within the coastal environment that is potentially affected by coastal erosion or coastal inundation over at least the next 100 years:</p> <p>(a) no land use change or redevelopment occurs that would increase the risk from that coastal hazard; and</p> <p>(b) land use change or redevelopment that reduces the risk from that coastal hazard is encouraged.</p>	<p>Specific Directive</p>	<p>While the Awatarariki Fanhead is in the coastal environment, the debris flow hazard is not a coastal hazard.</p>	<p>3, 18, 23B and 23C</p>
<p>Policy NH 6B: Exemptions from the natural hazard risk</p>	<p>Policies NH 3B, NH 4B, NH 5B and NH 12A do not apply to the establishment, operation, maintenance and upgrading of activities that have more than low natural hazard risk or which are located in high and medium risk natural hazard zones if the activity:</p>	<p>Specific Directive</p>	<p>The road and rail corridors that pass across the Awatarariki fanhead are exempt from Policies NH 3B, NH 4B, NH 5B and NH 12A as they are lifeline utilities that have functional needs for their current location as there is no practicable alternative location available.</p>	<p>3</p>

Policy	Policy Type*	Applicability	Methods
management approach	<p>(a) Has a significant social, economic, environmental or cultural benefit to the community it services, or is a lifeline utility; and</p> <p>(b) Has a functional need for the location.</p> <p>In the circumstances described in (a) and (b) above, risk management measures (including industry standards, guidelines or procedures) must be applied to reduce risk to life and property to be as low as reasonably practicable. Infrastructure should be located away from coastal hazard risk where practicable.</p>		
Policy NH 7A: Identifying areas susceptible to natural hazards	<p>Identify natural hazards and the locations where those natural hazards could affect people, property and lifeline utilities by mapping hazard susceptibility areas for the following natural hazards:</p> <p>(a) Volcanic activity</p> <ul style="list-style-type: none"> <li>(i) pyroclastic and lava flow;</li> <li>(ii) landslip, debris flow and lahar;</li> <li>(iii) ash fall;</li> <li>(iv) geothermal hazard; and</li> <li>(v) caldera unrest.</li> </ul> <p>(b) Earthquake</p> <ul style="list-style-type: none"> <li>(i) liquefaction and lateral spreading;</li> <li>(ii) fault rupture;</li> <li>(iii) landslide and rock fall; and</li> <li>(iv) tsunami<sup>6</sup>.</li> </ul>	Broad Directive	The spatial extent of debris flow hazards and the locations where those hazards could affect people, property and lifeline utilities have been identified and mapped. These maps form the basis of the proposed plan changes.
			1A, 2A and 23A

Policy	Policy Type*	Applicability	Methods	
<p>(c) Coastal/marine processes  (i) coastal erosion; and  (ii) coastal inundation.</p> <p>(d) Extreme rainfall  (i) landslip and debris flow/flood; and  (ii) flooding.</p> <p>Hazard susceptibility mapping may be undertaken in stages allowing for prioritisation of effort taking into account demand for land use change or intensification.</p> <p><sup>6</sup> For the avoidance of doubt the potential inundation effect of tsunami from any source (whether seismic or submarine landslide) should be mapped in accordance with Policy NH7A</p>				
<p>Policy NH 8A:  Assessment of natural hazard risk at the time of plan development</p>	<p>Assess natural hazard risk by:</p> <p>(a) Defining natural hazard zones within hazard susceptibility areas; and</p> <p>(b) Determining the level of natural hazard risk within each natural hazard zone by undertaking a risk analysis using the methodology set out in Appendix L; and</p> <p>(c) Classifying natural hazard risk within each natural hazard zone as either High, Medium or Low natural hazard risk using the methodology set out in Appendix L.</p>	<p>Broad Directive</p>	<p>Natural hazard zones have been defined within hazard susceptibility areas.</p> <p>The level of natural hazard risk within each natural hazard zone has been determined by undertaking a risk analysis in accordance with Appendix L.</p> <p>Appendix L allows use of a default methodology in the RPS or use of a recognised risk assessment methodology included in a regional, city or district plan or recognised in the consideration of a resource consent application. This may include risk assessment methodologies incorporated in Regulations or industry codes of practice. In this case, the assessment of risk has been undertaken using the Australian Geomechanics Society, 2007.</p>	<p>1A, 2A and 23A</p>

Policy	Policy Type*	Applicability	Methods
		<p data-bbox="1234 236 1859 300">Landslide Risk Management, Australian Geomechanics.</p> <p data-bbox="1234 344 1859 443">This is a recognised risk assessment methodology (RRAM) in the RPS Natural Hazard Risk Assessment User Guide<sup>1</sup>.</p> <p data-bbox="1234 488 1859 587">This methodology is proposed to become part of the regional and district plan policy framework through a Schedule 1 Plan Change process.</p> <p data-bbox="1234 632 1859 730">Natural hazard risk has been classified using this methodology as either High, Medium or Low within the natural hazard zone.</p>	

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<sup>1</sup> 4.3 Risk methodologies deemed to comply Natural Hazard Risk Assessment User Guide Regional Policy Statement for the Bay of Plenty (Undated)

Policy	Policy Type*	Applicability	Methods	
<p>Policy NH 12A: Managing natural hazard risk through regional, city and district plans</p>	<p>Promote the natural hazard risk outcomes set out in Policy NH 3B by:</p> <p>(a) Providing for plans to take into account natural hazard risk reduction measures including, where practicable, to existing land use activities, and, where necessary,</p> <p>(b) Controlling the location, scale and density of the subdivision, use, development and protection of land and land use change in city, district and regional plans.</p> <p>(c) Ensuring that regional, city and district plan provisions provide a high degree of certainty for the establishing and maintaining of essential risk reduction works and other measures.</p>	<p>Broad Directive</p>	<p>Plan changes are proposed that consider natural hazard risk reduction measures including existing land use activities.</p> <p>This will occur through control of residential activity in high risk and medium risk areas under both the regional plan and district plan.</p> <p>This includes prohibition of existing residential activities in high risk areas and targeted risk reduction for redevelopment in medium risk areas. Certainty is provided in the high risk area through provisions that recognise there are no practical mitigation measures that can be applied in the high risk area, other than retreat. In the medium risk areas, a restricted discretionary activity status will provide appropriate certainty to enable risk reduction measures to be applied appropriately, whilst ensuring risk to other properties is not increased.</p> <p>The language of Policy NH12A is less directive than the preceding policies (i.e. promoting). Policy NH 12A is an “output” focussed ‘broad directive’ policy that should be read in the context of the preceding “outcome” focussed ‘specific directive’ policies, principally Policy NH 3B: Natural hazard risk outcomes.</p>	<p>1A, 2A, 18 and 23</p>
<p>Policy NH 13C: Allocation of responsibility</p>	<p>Require the natural hazard identification and risk assessment approach described in Policies NH 1B, NH 2B and NH 7A to NH 10B above to be given effect to by:</p>	<p>Broad Directive</p>	<p>The district council has undertaken area-based natural hazard susceptibility mapping in accordance with Policy NH 7A for debris flows; and natural</p>	<p>23A</p>

Policy	Policy Type*	Applicability	Methods	
<p>for natural hazard identification and risk assessment</p>	<p>(a) Regional council undertaking area-based natural hazard susceptibility mapping in accordance with Policy NH 7A for:</p> <ul style="list-style-type: none"> <li>(i) Hazards related to volcanic activity;</li> <li>(ii) Hazards related to earthquakes;</li> <li>(iii) Tsunami;</li> <li>(iv) Coastal erosion and coastal inundation; and</li> <li>(v) Flooding from natural water courses outside urban areas with reticulated stormwater networks.</li> </ul> <p>(b) Regional council undertaking area-based natural hazard risk analysis and evaluation in accordance with Policy NH 8A for:</p> <ul style="list-style-type: none"> <li>(i) Hazards related to volcanic activity;</li> <li>(ii) Liquefaction; and</li> <li>(iii) Tsunami.</li> </ul> <p>(c) City and district councils undertaking area-based:</p> <ul style="list-style-type: none"> <li>(i) Natural hazard susceptibility mapping in accordance with Policy NH 7A for those hazards listed in Policy NH 7A that are not listed in (a) above; and</li> <li>(ii) Natural hazard risk analysis and evaluation in accordance with Policy NH 8A for those hazards listed in Policy NH 7A that are not listed in (b) above.</li> </ul>		<p>hazard risk analysis and evaluation in accordance with Policy NH 8A for debris flow hazards.</p>	



Policy	Policy Type*	Applicability	Methods												
<p>Policy NH 14C: Allocation of responsibility for land use control for natural hazards</p> <p>The Bay of Plenty Regional Council, city and district councils shall be responsible for specifying objectives, policies and methods, including any rules, for the purpose of the control of the use of land for the avoidance or mitigation of natural hazards as set out in the table below.</p> <table border="1" data-bbox="414 483 1001 1086"> <thead> <tr> <th data-bbox="414 483 499 683"></th> <th data-bbox="499 483 665 683">Responsibility for developing objectives and policies</th> <th data-bbox="665 483 831 683">Responsibility for developing any rules</th> <th data-bbox="831 483 1001 683">Responsibility for developing methods other than rules</th> </tr> </thead> <tbody> <tr> <td data-bbox="414 683 499 946">Land except land in the coastal marine area</td> <td data-bbox="499 683 665 946">City and district councils and Bay of Plenty Regional Council</td> <td data-bbox="665 683 831 946">City and district councils*</td> <td data-bbox="831 683 1001 946">City and district councils and Bay of Plenty Regional Council</td> </tr> <tr> <td data-bbox="414 946 499 1086">Land in the coastal marine area</td> <td data-bbox="499 946 665 1086">Bay of Plenty Regional Council</td> <td data-bbox="665 946 831 1086">Bay of Plenty Regional Council</td> <td data-bbox="831 946 1001 1086">Bay of Plenty Regional Council</td> </tr> </tbody> </table> <p>* Under section 30(1)(c)(iv) of the Act, the Regional Council has the function to control land use for the avoidance or mitigation of natural hazards. The Act allows the Regional Council to exercise that function in such a way as to override any existing use rights available under section 10(1) of the Act. The allocation of responsibilities under this policy</p>		Responsibility for developing objectives and policies	Responsibility for developing any rules	Responsibility for developing methods other than rules	Land except land in the coastal marine area	City and district councils and Bay of Plenty Regional Council	City and district councils*	City and district councils and Bay of Plenty Regional Council	Land in the coastal marine area	Bay of Plenty Regional Council	Bay of Plenty Regional Council	Bay of Plenty Regional Council	<p>Allocation of responsibilities</p>	<p>The District Council has proposed new District Plan objectives and policies and rules, and other methods to manage risks.</p> <p>The District Council requested that the Regional Council exercise its function to control land use for the avoidance or mitigation of natural hazards and do so in such a way as to override existing use rights under section 10(1).</p> <p>The District Council has proposed new objectives, policies and rules in the Regional Plan for the area on the Awatarariki Fanhead of high risk to life and property, assisting in the enabling of retreat of susceptible activities from this area.</p> <p>The BOPRC decided to “accept” the request for a plan change</p>	<p>Methods 23A, 23B and 24A</p>
	Responsibility for developing objectives and policies	Responsibility for developing any rules	Responsibility for developing methods other than rules												
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Policy		Policy Type*	Applicability	Methods
	does not remove the right of the Regional Council to exercise its functions and powers in that regard. Should it choose to do so, any such provisions will be subject to a plan or plan change process under Schedule 1 to the Act.			

*Policy Type	Description <sup>2</sup>
Broad directive	The broad directive policies must be given effect to by regional, city and district plans. These policies direct the broad matters that shall be included in the policies, rules and/or other methods of regional and district plans. These policies are necessary to achieve the objectives. Their broad nature means each council will need to work with their communities, iwi authorities, and other affected stakeholders, to find the most appropriate way to give effect to the Statement.
Specific Directive	The specific directive policies are policies that: <ol style="list-style-type: none"> <li>1 Provide direction for the assessment and consideration of resource consent applications;</li> <li>2 Must be included in the policies, rules and/or other methods of regional and district plans; and</li> <li>3 Must have particular regard to, where relevant, when considering notices of requirement (for designations or heritage orders) and any submissions received.</li> </ol>
Allocation of responsibilities policies	

### Methods

Method		Method Type**	Applicability
Method 1A: City and district plan implementation (phased)	If a city or district plan does not currently give effect to these policies, then the city or district council must amend the plan to give effect to them as part of the next review of the city or district plan, or as part of any change to the city or district plan that provides opportunity for land use change or intensification.	Directive	Plan change 1 proposes a land use change that will result in retreat from a high risk hazard.

<sup>2</sup> From 5.3 Methods Principal reasons for objectives, policies and methods

Method		Method Type**	Applicability
Method 2A: Regional plan implementation (phased)	If a regional plan does not currently give effect to these policies, then the regional council must amend a relevant plan to give effect to them as part of the next review of the relevant regional plan, or as part of any change to the regional plan that provides opportunity for land use change or intensification.	Directive	Plan change 17 proposes a land use change that will result in retreat from a high risk hazard.
Method 3: Resource consents, notices of requirement and when changing, varying, reviewing or replacing plans	Given effect to when preparing, changing, varying or reviewing a regional plan or a district plan, and had regard to when considering a resource consent or notice of requirement.	Directive	The Plan Changes give effect to the risk reduction policy required in a high risk area.  Appropriate resource consent considerations apply to new development in the medium risk area.
Method 18: Structure plans for land use changes	Prepare structure plans for all large-scale land use changes to ensure: Coordinated development through the integrated provision of infrastructure; and Integrated management of related environmental effects...	Directive	Method 18 is a spatial planning requirement that generally applies to areas subject to urban growth pressure.  While this is not directly applicable to this case, spatial planning considerations have been given to the most appropriate long term use of the land within the wider coastal open space network.
Method 23A: Review hazard and risk information	Review and update natural hazard and risk information held by local authorities whenever relevant research is released and, in any case, at the time of plan review or relevant plan change.	Directive	All hazard and risk information that supports the plan changes has applied industry best practice, applying the best and most up to date information available.
Method 23B: Investigate and apply measures to reduce natural hazard risk	Investigate options for addressing existing use or development subject to high or medium risk and apply the most appropriate non-regulatory and/or regulatory risk-reduction measures.	Directive	Options for addressing existing use and development subject to high and medium risk have been thoroughly investigated.  The most appropriate non-regulatory and/or regulatory risk-reduction measures have been identified and evaluated.

Method		Method Type**	Applicability
Method 23C: Natural defences against natural hazards	Assess opportunities for the protection, restoration or enhancement of natural defences which assist in reducing natural hazard risk.	Directive	Catchment management has been fully considered as a potential natural defence against natural hazards. Large scale and destructive debris flows are a naturally occurring phenomenon at this location and modification of the hazard is not practicable.
Method 73: Provide information and guidance on natural hazards	Support industry-led environmental accords, guidelines and codes of practice where such codes represent industry best practice and would lead to the achievement of objectives in this Policy Statement.	Guiding	The assessment of risk has been undertaken using the Australian Geomechanics Society, 2007. Landslide Risk Management, Australian Geomechanics. This represents represent industry best practice.
Method 74: Collaborate to establish natural hazard risk	To guide local authority decision-making and raise awareness and understanding of natural hazards within the community, gather and disseminate information about the following hazards (including relevant climate change effects) and their associated risks: ... (d) Extreme rainfall (i) landslip and debris flow/flood; and (ii) flooding.	Guiding	BOPRC has collaborated in the development of the managed retreat programme through technical inputs on a range of factors including provision of climate adjusted rainfall information.

**Method Type	Description <sup>3</sup>
Directive	Implement the policies that direct what shall or should be included in the district plans and regional plans, and the matters to be considered when making decisions on resource management consent applications, notices of requirement, plan changes, variations or replacements to district or regional plans. Contain defined actions to implement specific directive policies
Guiding	Specific information (including guidance) and programmes that will be prepared.

<sup>3</sup> 5.3 Methods Principal reasons for objectives, policies and methods

	<p>Actions that will be promoted by Bay of Plenty Regional Council in coordination with other organisations to manage resources in an integrated way.</p> <p>Attend to gaps in information that need to be addressed, as a priority, to promote the sustainable management of natural and physical resources.</p> <p>Support and assistance is necessary to implement the policies.</p>
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