

WESTLAND DISTRICT COUNCIL PLAN CHANGE 7:

Managing Fault Rupture Risk in Westland



Introduction

An earthquake event on the Alpine Fault will create a number of significant processes within the Westland District creating serious repercussions for residents and visitors to Westland. One such process, fault rupture, describes the predicted horizontal and vertical movement projected in an earthquake that ruptures the surface. Any building or structure affected by fault rupture is likely to suffer considerable damage. This in turn puts lives at risk.

The Westland District Council has recently received more accurate information at a scale that means it is now possible to map the areas subject to possible Alpine Fault rupture risk, and to review the Westland District Plan to update the rules relating to development around the Alpine Fault.

This Plan Change proceeds as part of Westland District Council's rolling review of the Westland District Plan. The Council is currently reviewing the natural hazards section of the Plan and there will be further plan changes relating to planning for hazard risk that will be notified in the future. This plan change proceeds with urgency in light of the recent reports received by Council.

The purpose of this Plan Change is:

To manage development within areas predicted to be subject to fault rupture risk to reduce the effect of this natural hazard and provide for the health and safety of the District's residents and visitors.

Explanation

The Institute of Geological and Nuclear Sciences (GNS) predict the probability of an Alpine Fault earthquake event, with fault rupture to the surface, occurring is 20% within the next 30 years. The Average Recurrence Interval of surface rupture of the Alpine Fault is 1 in 333 years. The predicted movement during such a fault rupture is predicted to be 8-9 metres horizontally to the north on the west (Australian plate), and 1-2 metres vertically on the east (Pacific plate) side. Land deformation will be greater on the vertical lift or "hanging wall" side of the fault rupture.

The Westland District Council has worked with the West Coast Regional Council to obtain professional reports in the location of the Alpine Fault within the West Coast Region, and also more specifically, the risk of fault rupture to Franz Josef/Waiau. GNS have suggested a “Fault Avoidance Zone” around the faultline. This area varies in width depending on the degree of certainty around the location of the Alpine Fault, and the behavior of the fault in that location. The Westland District Council has elected to call this zone the “Fault Rupture Avoidance Zone” to reflect that there are many other hazards posed by an Alpine Fault event. This plan change seeks to manage the effects of fault rupture only. The Fault Rupture Avoidance Zone will be placed into the existing planning maps, and a new planning map will be created for rural areas affected by the Fault Rupture Avoidance Zone.

Two new zones have been created and are proposed to be inserted into the Plan. The “General Fault Rupture Avoidance Zone” is located on either side of the Alpine Fault and varies in width between 20m and 200m. Any new building proposal will become non complying activities within the zone to prevent the increase in hazard risk. To reflect the variation in detail and accuracy of the fault line location, which in turn affects the width of the fault rupture avoidance zone, landowners are given the opportunity to provide additional technical reports to demonstrate a more precise location of the fault line and subsequent fault rupture risk area. In this situation, a new building will be a permitted activity if located outside the amended zone.

In the other new zone in Franz Josef/ Waiau, a specific study has been undertaken to accurately map the fault line location. There is therefore no further ability to obtain more accurate information. The rules within this area – the Franz Josef/Waiau Fault Rupture Avoidance Zone – are more restrictive.

Corresponding changes have also been made to the subdivision section to require careful assessment of any subdivision proposed in areas subject to fault rupture risk.

Council is requesting submissions on this proposed Plan Change. Please provide submissions in writing to Rebecca Beaumont, District Planner, Westland District Council, Private Bag 704, Hokitika 7842 or by email to rebecca.beaumont@westlanddc.govt.nz. Submissions close at 5pm, Monday September 24, 2012.