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Natural hazards and effect of climate change

Tahimana Subdivision, Stagecoach Road, Tasman

Introduction

Tahimana Ltd are proposing to create a 141 lot subdivision on an elevated, undulating 71-hectare block of land within the Moutere Hills above Ruby Bay, Tasman. The subdivision is to comprise residential allotments, larger lifestyle allotments and the associated roading and servicing infrastructure.

Development of the land will involve bulk earthworks to form the roading, building sites and wastewater application areas. The site is underlain by Moutere Gravel Formation, which is inherently stable and provides good material for cut-to-fill bulk earthworks.

Natural Hazards

The natural hazards that can potentially adversely affect large-scale land development projects are seismic shaking, land instability (erosion, falling debris, slips, subsidence) or flooding/coastal inundation.

The geotechnical assessment for the development notes there is no mapped faults passing beneath the site and seismic hazard present can be adequately addressed with development following the appropriate NZ Standards and design codes. The risk of liquefaction induced damage occurring on undulating Moutere Hills land is very low.

Land instability risks across the gently undulating land on Moutere Hills Gravel are minimal, and with the conservative earthworks design prepared, the risk of instability affecting the proposed development is low.

The development is located on elevated land clear of gully bases or stormwater flow paths. The civil design of the roading and building site locations will ensure that the risk of flooding is low. There is nil risk of coastal inundation.

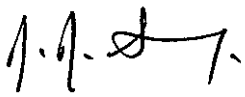
Climate Change Effects

Climatic warming will increase the exposure of the built environment to natural hazards by exacerbating existing hazards such as flooding and land instability. Increases in rainfall

intensity directly affects flooding frequency and severity. Changing patterns of rainfall can lead to increased risk of ground saturation and subsequent slope failures.

The proposed development is in the fortunate position of having limited exposure to natural hazards. Pre-development, the land has low risk of being adversely affected by land instability or flooding/inundation hazards. Following development and with appropriate design inputs on stormwater controls and earthworks, the vulnerability of the project to increased natural hazards due to climate change effects will remain low.

Prepared by:



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