



## Tauranga City Council – Slope Mapping Purpose Statement

### Map Purpose

A "landslide" refers to the downward movement of rock, debris, or earth along a slope. Landslides are typically triggered by weather or earthquakes events or slope modification, and are influenced by local geological conditions and groundwater levels. However, factors such as improper land development, extreme weather events, and earthquakes can significantly increase these risks. While some slopes and cliffs may appear stable, they might be on the verge of failing. Even moderate slopes might be in slow, continuous motion, with movement so subtle that it goes unnoticed. Minor environmental changes can trigger landslides with serious consequences.

Landslide hazards can affect slopes, cliffs, excavations, or embankments, and potentially impact people, property, roads, and services. Landslide debris can travel beyond the initial point of failure and potentially destabilising nearby slopes, making them prone to future failures. Landslides can progress downhill, expand uphill, or spread sideways, turning them into threats to life and/or property. A landslide impacting one property could also originate from a neighbouring area.

To manage natural hazard risks, most local councils maintain planning maps that outline areas with varying levels of susceptibility to natural hazards, including landslides. These maps serve as a broad-scale tool, enabling planners to make area-wide decisions. They indicate where further analysis by a geo-professional is needed when land-use, subdivision, or building consents are sought, or when a plan change is considered. Council planners rely on these maps to determine if a detailed site-specific geotechnical assessment is necessary, ensuring comprehensive and relevant information is provided for individual projects.

Site-specific geotechnical assessments offer more precise data than planning maps due to the site topography, and scale of ground investigation and slope stability analysis undertaken. In addition, risks identified on the maps may have been mitigated by subsequent engineering measures, such as earthworks or retaining walls, which can only be determined accurately on a site-specific basis. If a site has undergone previous geotechnical assessments, like those conducted during subdivision processes, the age of these assessments will determine whether they take precedence over the planning maps. Furthermore, if a site has been developed with a geotechnical assessment, the most recent site-specific assessment takes priority over both subdivision reports and planning maps.

Without site-specific information, there are uncertainties that can hinder decision-making at a property-scale. These uncertainties include the frequency and the potential consequences of landslides due to limited or incomplete data, site ground- and groundwater conditions (key for landslide assessment) and topography as these can vary between properties. Producing maps at such a detailed property scale across a city to address these uncertainties is neither feasible nor cost-effective for councils.

Regularly updating planning maps to reflect every subdivision and site-specific assessment is neither practical nor necessary for councils. If an insurance company declines coverage or raises premiums based on these maps, it is advisable to consult an insurance broker or a local geo-professional for guidance. Insured individuals should challenge increased premiums by providing the insurance company with the relevant subdivision or site-specific report to demonstrate that the specific risks on their property have been addressed.



### Simple version

A landslide is the downward movement of rock, soil, or debris, often triggered by heavy rain, earthquakes, or slope modification. Local geology and groundwater levels affect stability, and even seemingly stable slopes may be slowly shifting or close to failure. Small environmental changes can trigger landslides sometimes leading to significant impacts.

Landslides can impact hillsides, cliffs, roads, and buildings. They may spread beyond the initial failure point, destabilising nearby areas. A landslide affecting one property could originate from a neighboring site.

To manage risks, councils use planning maps to identify hazard-prone areas. These maps help guide land-use decisions and determine when a site-specific geotechnical assessment is needed. Such assessments provide more accurate data on slope stability and may override general planning maps if risks have been mitigated through engineering solutions.

Since councils cannot update maps for every site change, some uncertainties remain. Detailed property-scale maps would be too costly and impractical. If insurance companies raise premiums based on these maps, homeowners should seek advice from a broker or geotechnical expert and provide reports proving that risks have been addressed.