Tsunami Hazard Classification

Tsunami inundation has the potential to compromise the safety of people and the viability of buildings. The magnitude of the impact will depend on the tsunami flow depth and speed, as well as the presence of debris.

Waikato Regional Council uses the following depth and speed criteria to determine the likely impact of tsunami and therefore the significance of the tsunami hazard:

Low hazard
An able-bodied person is able to manoeuvre through water flow. Light vehicles (cars and motorcycles) may be restricted by flow depth. Buildings may sustain superficial damage to buildings.

Medium hazard
Flow velocities have the potential to cause a person to become unstable on non-skid surfaces. International research suggests there is a danger of being knocked over when the combination of the flow depth (D) and flow speed (S) exceeds 0.5 (order of magnitude). Only heavy vehicles or specialist 4WD vehicles are likely to navigate through water. Buildings with structurally weak points, such as doors and windows, are likely to be damaged when the flow speed exceeds ~1.9 knots (1 m/s).

High hazard
Flow velocities have the potential to impede a person's ability to rescue themselves or others. When the flow depth exceeds 1.0 m (e.g., adult's waist depth), a person's ability to navigate through water flow becomes on foot and using a vehicle is restricted, therefore impeding the rescue of themselves and others. There is a significantly greater risk to life when the combination of the flow depth (D) and flow speed (S) exceeds 1.0. International research suggests that structural damage is likely when the flow speed exceeds ~4 knots (2 m/s).

The figure below summarises the tsunami hazard classification criteria.