3.0 Coastal Hazard Potential

Large areas of the Hawke's Bay shoreline do not have extensive data sets that can be used to evaluate coastal hazards. However, the result of the background data review and site inspections identified that there are significant coastal hazards along the entire Hawke's Bay coastline, both in terms of erosion and inundation risk.

The geological setting suggests that landslides, mud flows, earthquakes and tremors are an ongoing likelihood, with the resulting effects of both uplift and downdrop. Where large scale local slumping occurs within the seabed and river areas, there is a risk of local tsunami induced inundation.

Erosion of the soft shores occurs both as a result of erosion of the headland controls and reductions in sediment supply suitable for replacing natural losses from the coastal system. The reduction in supply is due to a range of factors, including the ongoing impact of the 1931 earthquake and the episodic nature of significant material discharge from cliff areas. Some of the earthquake impacts can be expected to reduce in time. However, where changes in river outlet position or discharge occur, effects could still be ongoing.

Therefore, ongoing retreat can be expected in many areas. However, the rate of ongoing erosion varies significantly along the coast. Potential climate change effects may also further exacerbate coastal erosion and inundation by changing local wave climates and increasing sea levels.

The high risk areas are typically those where existing urban settlements are in close proximity the shore. Of these, the southern Hawke Bay settlements between Clive and Clifton appear to have the most significant erosion and inundation risk due to high rates of ongoing shoreline erosion, apparently as

a result of a drop in ground levels at the time of the 1931 earthquake, reduced gravel sediment supply from the Tukituki River and possibly from reduced sand and gravel supply from Cape Kidnappers. The remaining settlement areas appear susceptible to large scale and possibly cyclical shoreline movement as well as low rates of long-term erosion.