

Proposed subdivision at Kintail Crescent, South Launceston

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Five test pits have been examined to aid in the stability assessment of a proposed subdivision at Kintail Crescent, South Launceston (513 300 mE, 5 410 780 mN). Brief descriptions of the pits are attached and a sketch plan (fig. 1) shows the approximate location.

The pits encountered mainly sand beds made up of quartz and clayey fragments in the upper part of the property. In the lower part of the property the pits encountered stiff clay (for most of Pit 2 and the lower section in Pit 4). A long excavation up to about two metres depth on the property directly below this one has mainly compacted sand with some clay beds exposed on the southern end. This suggests that the clay beds encountered in pits 2 and 4 are relatively thin. The compacted sand exposed in the excavation on the neighbouring property appears to have a shallow southwesterly dip or a component into the hill.

The sediments exposed in the pits and the excavation are of Tertiary age. Sediments of this age underlie much of Launceston and the Tamar Valley. The slope of the property is moderate in the northern part (up to about 10°) and the slope is relatively smooth. The southern part has steeper sections and in this area the slope is a little uneven.

No recent landslides are known on the property or the surrounding land. The slightly hummocky land on the southern part may be the result of old landslide movements or may be due to some other factor. Part of the land is in Class 4 on the landslide zone map of the Tamar Valley with a small part in Class 3.

The sandy nature of the material underlying the property and the stiff nature of the clay beds, taken together with the relatively shallow nature of the slope and lack of seepages coming into the pits, suggests that unstable conditions are unlikely provided some precautions are taken in development. The large size of the proposed lots is also an advantage in an area where stability may be a little questionable. The dip of the sediments partly into the slope is a favourable situation as far as stable conditions being maintained are concerned.

In developing the lots, care must be taken to ensure excellent drainage and any leakages should be corrected soon after they occur. Below-ground swimming pools are not recommended unless a specific investigation is undertaken. Excavations around the slope should be minimised and any that are greater in depth than about 0.75 m should be adequately supported by drained retaining structures. If further subdivision of the land is proposed in the future additional advice should be sought.

In summary, the property is not regarded as being particularly at risk from unstable conditions provided some precautions are taken when developing it. It is regarded as reasonably safe to develop if these precautions are taken.

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LOGS OF TEST PITS, KINTAIL CRESCENT, LAUNCESTON (Depths in metres)

Pit 1

- 0 - 0.2 Brown sandy silty soil, friable dry, roots.
- 0.2 - 0.4 Brown clay, sandy clay, hard, variable thickness, some roots.
- 0.4 - 1.5 Light brown and reddish mottled clayey sandstone, compact, friable.
- 1.5 - 2.2 Cream and brown clayey sand friable and dry, occasional roots to 2 m.

Pit 2

- 0 - 0.2 Grey brown silty soil, friable, roots.
- 0.2 - 0.5 Grey and brown mottled clayey sand, roots, dry.
- 0.5 - 1.4 Red brown plastic clay, hard > 4 kg/cm² to 1 m (hand penetrometer reading), 4 kg/cm² 1-1.4 m.
- 1.4 - 2.8 Light brown and grey mottled clay and silty clay, occasional then fine grained clayey sand layers. 3.5-4.5 kg/cm² (softest at top of section).

Pit 3

- 0 - 0.15 Grey-brown silty soil, roots friable and dry.
- 0.15 - 0.4 Grey clay, silty, dry and hard.
- 0.4 - 1.9 Light brown and reddish (with minor grey patches) mottled clayey sand, hard, occasional roots.
- 1.9 - 2.3 Grey and brown mottled clayey sand with small isolated zones of grey clay.

Pit 4

- 0 - 0.2 Brown and grey silty soil, dry and friable, roots.
- 0.2 - 0.4 Clay silt, roots.
- 0.4 - 0.6 Brown clay, hard and dense.
- 0.6 - 2.0 Grey and brown clayey sand, more reddish at top.
- 2.0 - 2.35 Grey plastic clay, fairly stiff. 3.5-4.5 kg/cm² (hand penetrometer reading).

Pit 5

- 0 - 0.1 Dark grey silty soil, roots, dry.
- 0.1 - 0.25 Grey clayey silt, friable dry roots.
- 0.25 - 0.5 Light brown blocky sandy clay, some roots, dry.
- 0.5 - 1.4 Light brown and grey mottled clayey sand.
- 1.4 - 2.3 Mainly red, some light brown mottled clayey sand, coarser grained near base.

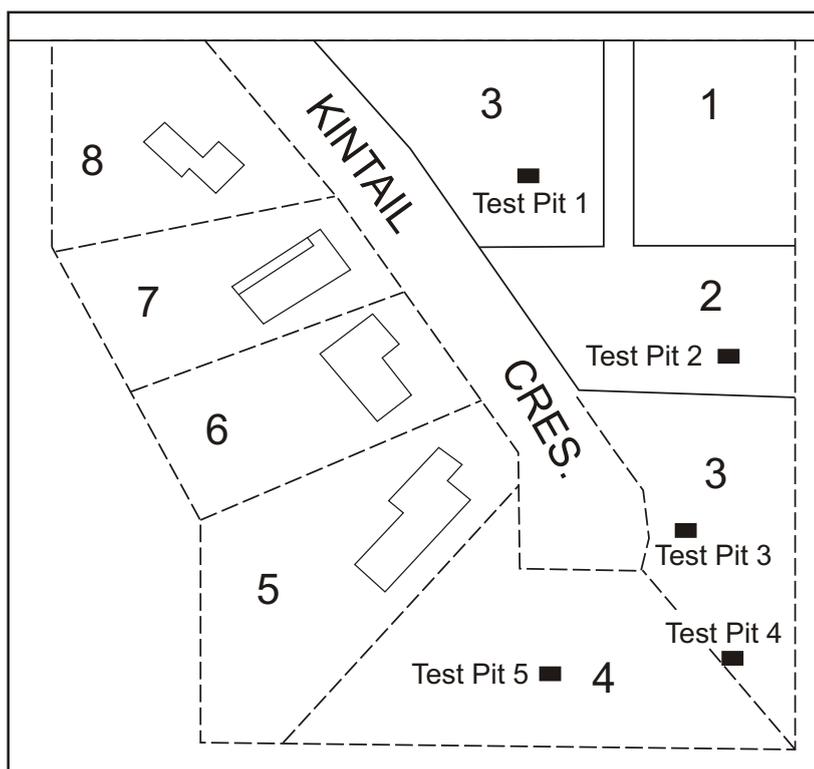


Figure 1
Approximate location of test pits