UR1974-79

# Stability of land at Durham Road, Cooee.

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The stability of the land at the southern end of Durham Road, Cooee [DQ049576], was investigated at the request of P.T. Tanner of Coastal Real Estate, Burnie. It is proposed to develop a property on this land, partly for use as an industrial area and partly as a housing subdivision. The proposed industrial area is situated mainly on a flat, low-lying region while the proposed subdivision is located on higher land to the south. An access road to connect with Durham Road is also planned, and must be constructed over a steep scarp and onto a dissected plateau region behind it.

## RELIEF AND GEOLOGY

The flat area at the end of Durham Road forms part of a marine terrace and is underlain by silty sand. A steep slope to the south of this area is 30-45 m in height and the terrain further south slopes more gently, generally up hill towards Mooreville Road.

Much of the steeply sloping area consists of weathered basalt and basalt talus and the higher land is underlain by weathered basalt. Near the eastern and western boundaries of the land, the scarp is underlain by Precambrian slate and quartzite.

## STABILITY

The steep slope between the two Precambrian exposures is underlain by basalt talus and shows signs of old slips although there are no indications of recent movement. There are also occasional seepages in the area. This area was zoned in 1963 as an area where development was not recommended due to its potentially unstable nature. Parts of some of the blocks of the proposed industrial subdivision back on to the area where the old slips occur and should not be built on. With development, movement in these previously unstable areas could be reactivated.

A road which may become an arterial road and join up with Mooreville Road is planned to traverse the scarp near the eastern area of Precambrian rocks. The projected route is around the slope rather than a direct ascent. This section of the scarp is underlain by a chocolate coloured clay which may have been derived from the weathering of Tertiary basalt or possibly from the weathering of Precambrian dolerite. The latter is known to occur about 200-300 m to the east and may also occur in this area. Deep cuttings into the clay are planned and by extending the road around the slope, unstable conditions could develop. This may possibly be avoided to some extent by re-routing the proposed road directly up the slope but with both alternatives, the batter on the cuttings would have to be low.

## CONCLUSIONS AND RECOMMENDATIONS

The parts of the industrial subdivision which back on to the area where unstable conditions have prevailed in the past should not be developed. The proposed route of the road traverses an area underlain by clay on the steep slope. This area could probably be avoided by relocating the route further to the east but excavation could involve greater expenditure. If the road route remains as originally planned, it would be advisable to have two or three holes dug with a backhoe to about 4 m into the clay to examine its extent and strength at depth.

[2 December 1974]