

Examination of a planned subdivision, Mrs. L. Scott, Penguin.

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The Town and Country Planning Commission has requested advice on the stability of a property owned by Mrs L. Scott of Penguin. The property is planned for subdivision and most of it is located in an area classed (Matthews, 1965) as being of doubtful stability if proper precautions are not taken. The remainder of the subdivision is in an area recommended for restricted development. The land is situated in Cann Street.

TOPOGRAPHY AND GEOLOGY

Most of the proposed subdivision is on land sloping seawards at 6-7° and located between a marine terrace and a steeper slope up to a basalt plateau to the south. The steeper slope is over a vertical distance of approximately 100 feet.

Precambrian, Cambrian and Ordovician rocks form the basement in the Penguin area, and in the vicinity of Mrs Scott's land they occupy areas along the foreshore and the lower country. Overlying the basement rocks are interbedded Tertiary sediments and basalt. The lower of these Tertiary sediments consist of boulder beds in some areas with sand and clay elsewhere. The other Tertiary sedimentary beds higher in the sequence are composed of quartz, sand, grit and clay. The basalt is generally deeply weathered.

DISCUSSION OF STABILITY

The proposed subdivision is largely underlain by the lower Tertiary sediments and also with some material that has moved downhill from the steeper sloping ground. There is an apparent absence of large boulders in the Tertiary beds in this particular area, but boulders occur just to the west. Similar material has slipped in the Preservation Bay area, but the slopes where slips have occurred at Preservation Bay are steeper than those on Mrs Scott's land.

Slips have occurred in the last 30 years on the steep slope up to the basalt plateau and further slips in this area could affect part of the proposed subdivision. A number of seepages occur up the side of the slope on both sides of Cann Street. A probable large, old slip cuts the northern part of the basalt plateau and if movement on this was to occur again, a large area would be affected. Movement might occur on this slip if large quantities of material were removed from the toe areas, near the base of the steep slopes.

CONCLUSION

Slips are not expected to develop on the proposed subdivision provided the land is well drained and seepage and surface water from the steeper land is prevented from entering the area. Cuts should be kept to a minimum. Slips have occurred on the steep slopes behind Mrs Scott's land and future slips of similar size could affect part of the subdivision. The blocks most likely to be affected by such slips are Blocks 6, 7, 8 and 9.

REFERENCE

MATTHEWS, W.L. 1965. Geology of the Penguin area. *Tech.Rep.Dep.Mines Tasm.* 9:96-101.

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