

TR14-64-65

## 12. Examination of proposed subdivision, Burnie

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A subdivision is planned S of View Road on the E side of Stoney Creek (renamed Shorewell Creek). The land was classified as an area of doubtful stability in a survey of stability of land around Burnie in 1963 (Jennings, 1964). The Municipal Engineer, Mr Rapiere, requested advice on planned steepening of slopes in cuttings and its effect on stability of the surrounding land and the desirability of drainage to help ensure stability.

The proposed subdivision is underlain by Tertiary basalt and probably has a bed of quartz grit interbedded with it, as evidenced by grit fragments in the soil just S of View Road. The basalt, as in other parts of the Burnie area, is deeply weathered. West of Shorewell Creek there is a ridge of Precambrian quartzite and slate. The land slopes steeply in some parts of the subdivision.

One large old slip and several breaks in topography which were regarded as probable old slips were mapped in the proposed subdivision during the 1963 survey. The subsequent removal of old buildings near View Road has indicated that the break in topography nearest that street is almost definitely an old slip. In fact there has been a relatively recent movement on the southern end of it. The heel of this slip can be traced for some distance although the vertical displacement is only about 6 inches. Some drainage comes out of the subdivision in the form of springs in two main zones just above the level of Shorewell Creek.

The recent re-examination of the area therefore indicates that the stability of the area has deteriorated somewhat since the last inspection and it is extremely doubtful whether building should be permitted. The proposed subdivision envisages a drainage scheme and extensive road building activities. Drainage may well improve the stability in the long term but earthworks of any kind are

likely to have a detrimental effect. As the most recent movement appears to have taken place on a slope of little more than  $10^\circ$  it must be appreciated that steepening the existing slopes to any extent is fraught with danger. A series of cut-off drains up-slope of the existing slip scars together with longitudinal drains, would help to improve the stability of the area, guard against further movement and protect the areas down-slope of the proposed subdivision. However it must be seriously questioned as to whether high-density housing development should be permitted in this area. If the council decide to allow this development advice should be sought from a soil mechanics consultant who would best decide on the slopes which could be safely tolerated in such an area.

#### REFERENCES

- JENNINGS, I. B. 1964. Landslides in the Burnie district. *Tech. Rep. Dep. Mines Tasm.* 8: 107-112.
- MATTHEWS, W. L. 1964. The geology of the Burnie area. *Tech. Rep. Dep. Mines Tasm.* 8: 103-107.