

Rept. Bk. No. 51/18
G.S. No. 1789
D.M. 817/60
HYD. 1003

DEPARTMENT OF MINES
SOUTH AUSTRALIA

REPORT ON DRAINAGE PROSPECTS
PARTS SECS. 78-81, HD. NOARLUNGA

- TOWN PLANNER -

This area was inspected on 5/8/60.

REQUIREMENTS:

An opinion on the possibility of successful disposal of domestic effluent has been sought.

LOCATION, TOPOGRAPHY:

Situated some nine miles south of Adelaide, the area covers part of the crest and flanks of a hill spur extending northwestward from Flagstaff Hill, its elevation reaching a maximum of about 600 feet above sea level, and extending downward to about the 200 feet level. The natural surface, which has been cleared of timber, is quite steep except along the rather narrow ridge crest.

GEOLOGY:

The underlying rocks are calcareous slates belonging to the Sturtian (Adelaide System) Series, strongly folded and having a general westerly dip of 40-50 degrees. They are exposed in several quarries and small road cuttings, as well as in surface outcrops, and lime derived from them has formed a thin hard blanket of calcareous travertine which immediately overlies a shallow weathered rock zone. This travertine, and the weathered zone below, can be regarded as practically impervious for drainage purposes. The soil cover is thin or almost entirely absent, and in the absence of sewers all domestic effluent and roof and pavement drainage will probably have to be disposed of by allowing it to flow downslope over the surface until it reaches the gully floors,

or by being run into bores or large pits dug down well into the jointed and unweathered rock. This will probably require pits to a depth of the order of twenty feet, and bores to perhaps 150-200 feet. Because of the difficulty of ensuring that domestic effluent is at all times free from grease and suspended solids, bores and pits elsewhere in such rocks have in the past not always continued to function successfully.

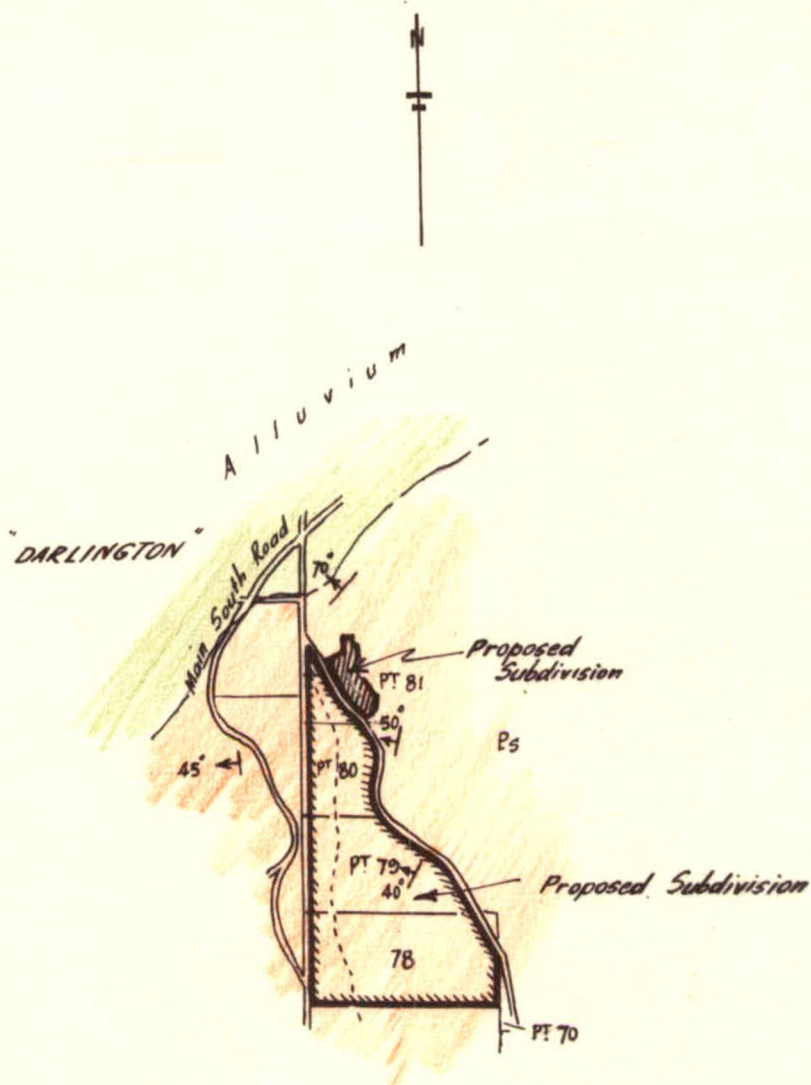
CONCLUSIONS:

Shallow subsurface drainage appears unlikely to be obtainable. Blocks on the ridge crests could dispose of their drainage downslope on the surface, and may be expected to cause waterlogging of the soil on the slopes by roof and pavement runoff and garden watering, even if their domestic effluent is itself disposed of in bores or deep pits.

Bores to a depth of 150-200 feet, or large pits to a depth of 20 feet or so, may take the domestic effluent for a start, but will become blocked and will cease to function if other than quite clear fluid is passed into them.

L. O. Biscoe
SENIOR GEOLOGIST
HYDROLOGY

MPD'D:AGK
9/8/60



H^O OF NOARLUNGA

Alluvium. Sandy clays & clays.

Sturtian. Ps. Calcareous slates.

$\nwarrow 45^{\circ}$ Dip of Strata.

To accompany report by E. P. O'Driscoll.

S.A. DEPARTMENT OF MINES

Approved	Passed	Drn.	SITE INVESTIGATIONS PROPOSED SUBDIVISIONS H^O NOARLUNGA (TOWN PLANNERS OFFICE)	D.M. 817/60 1731/59	Scale 40 Chns. to 1 in.
		Tcd. <i>WV</i>		Req.	5-2574
		Ckd.			Date 12-8-60
Director		Exd.			No 9.