

DEPARTMENT OF MINESSOUTH AUSTRALIA.REPORT ON DRAINAGE PROSPECTS, PT. SECT. 1124,HD. ADELAIDE, FOR ARCHITECT IN CHIEF.PROPOSED NEW PUBLIC SCHOOL, BELAIR.

This Section was inspected on 22nd July, 1954.

REQUIREMENTS. Adequate subsurface drainage for septic tank installation at the proposed new school. The number of students is anticipated to be 300—350.

LOCATION, TOPOGRAPHY ETC.

The school site is at the north east corner of the junction of Laffer Road, and the Main Road from Belair to Blackwood. It lies along the axis of a high and fairly steep-sided ridge, the natural surface sloping away quickly to the east and west flanks on either side of the section. There is a line of residences downslope on the Western side of the main north-south road, and surface drainage would not be desirable on that side.

The Community Hospital grounds adjoin to the South-east, but the central and northern parts of the eastern boundary fence front on pasture lands.

Rainfall is high.

GEOLOGY, HYDROLOGY.

The underlying rocks are slates, laminated schists and sandy phyllites of the Sturtian series, almost entirely concealed by several feet of soil. In several places, however, the rocks outcrop in small excavations or road cuttings.

They are of a generally fairly dense and impervious nature, but appear to be broadly and quite strongly folded, with a system of well developed joints. Moderate to steep dips are general throughout the whole area. Groundwater occurs at depth, but is not in use locally for any household purposes.

DRAINAGE POSSIBILITIES.

Shallow sub-surface drainage could probably be used for disposal of the septic tank effluent, but discharge into the soil on the upper slopes adjacent to the proposed septic tank site, may lead to complaints, as the effluent would undoubtedly work to the surface and run downhill. There is a dam downslope, used for irrigation purposes, and pollution of the water might result.

Despite the lithological character of the underlying rocks, the presence of the strongly developed joint system, noted above, probably means that the rock mass is reasonably permeable, and a drainage bore would therefore have a reasonable chance of success, if taken to sufficient depth.

CONCLUSIONS & RECOMMENDATIONS.

Subsurface disposal of effluent is believed to afford the best chance of success, and a bore to a depth of approx. 300 feet is recommended. Drainage capabilities should be carefully tested at the time of construction. Drilling in inclined slates and phyllites is fairly expensive, and the cost of such a bore is estimated at £750 for drilling, plus casing at approx. 10/-d. per foot. It would be advisable to case past soft strata encountered, at least in the upper 150-200 feet of the bore, but the casing should then be slotted at intervals to assist soakage.

On no account should ablutions water be discharged down the bore.

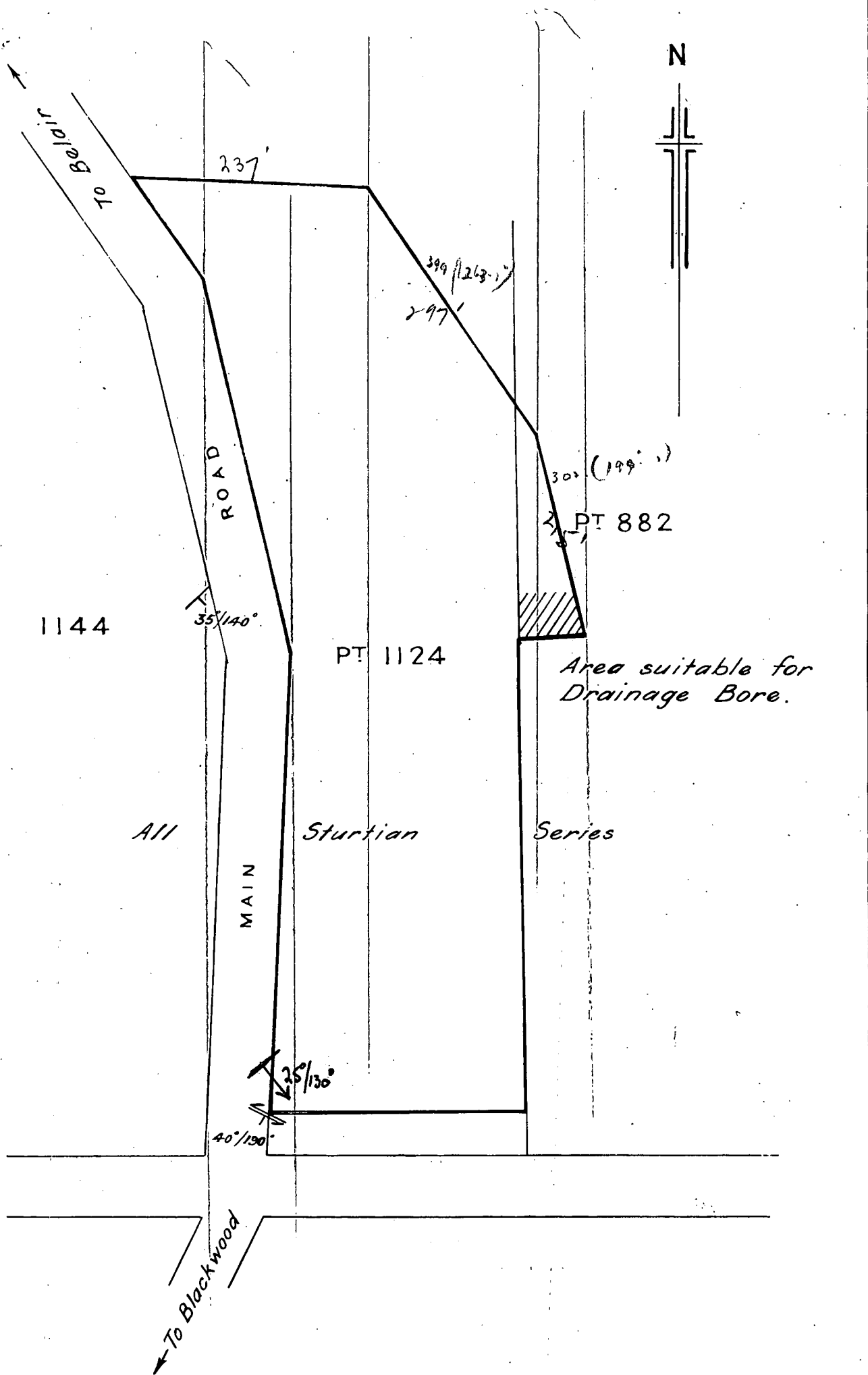
There is no danger of pollution affecting local groundwater supplies, as these are not in use for domestic purposes.

E.P.O. Dunsen
SENIOR GEOLOGIST.
HYDROLOGY.

29/7/54

EPO:D/JEA

28/8/54.



To accompany report by E. O Driscoll.

S.A. DEPARTMENT OF MINES

Approved	Passed	Dtn.	UNDERGROUND WATER SURVEY	D.M.	Scale 2 Chns. to 1 inch
	<i>MS</i>	Tec. <i>R.R.</i>	PROPOSED NEW BELAIR SCHOOL	Req.	S 933
Director	<i>CD</i>	Exd.	H ^o ADELAIDE PT SECS. 882. 1124		Ha 6
			DRAINAGE PLAN		Date 28.7.54