TR16-200-205

37. Possible cemetery sites, Clarence Municipality.

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PART 1. PRELIMINARY INVESTIGATION

At the request of the Southern Metropolitan Master Planning Authority a number of sites in the Clarence Municipality suitable for a lawn cemetery have been examined, bearing in mind the following criteria:

(1) The site should have ease of access and be near existing or projected main routes.

(2) The site should be as close as possible to the probable centre of the expanded metropolitan area, *i.e.* about 3 km east of the Tasman Bridge.

(3) Soils or easily excavable materials, on the site to be at least 2.75 m thick and stable under excavation.

(4) The water table should never be closer than 2.75 m to the surface.

(5) There must be a source of potable water nearby.

(6) The land should be available for public purposes developed or be classified as such.

The initial criterion applied to obtain the greatest number of potential site areas was soil thickness (3), coupled with availability (6). Due to the rugged, rocky nature of much of the municipality and the presence of residential developments on tracts of better land with thicker soils only seven possible site areas could be located. Each is discussed below in regard to the other conditions and future planning. Map references for sites 1 to 6 are to the 1:12,000 Southern Metropolitan Area map series. Grid coordinates for the north-west, north-east, south-west and south-east corners of the sites are given in order.

Site 1

Map 82-B3b: 5195572860, 5196072880, 5198072800, 5200072820. Area approx. 16 ha. This land is presently occupied by three houses and a market garden, and is a narrow strip with sandy soils adjacent to East Risdon Road. Conditions 5, 6, and probably 3 are satisfied. Some of this land will need to be acquired for the up-grading of the road.

Site 2

Map 82-B3d: 5224072520, 5227572530, 5227072460, 5230072450. Area approx. 20 ha. This land is at present undeveloped and unused and is situated west of Flagstaff Gully Road. It is well situated in relation to present and future access routes (1) and also fulfills conditions 2, 5, and 6. There is however some doubt as to whether there is a sufficient soil thickness over the whole area. It has the added advantage of being out of sight of present and future housing developments.

Site 3

Map 82-B4c: 5247072330, 5256072310, 5246072300, 5255072280. Area approx. 28 ha. The area adjacent to the Bellerive By-Pass at Mornington. Conditions 1, 2, 3, 5, and 6 are satisfied. However, this area is zoned for industrial use, and development has begun.

Site 4

Map 82-D2d: 5288071800, 5295071760, 5284071730, 5295071730. Area approx. 40 ha. Land enclosed by Rokeby Road and Ralphs Bay, Rokeby. Currently marked for industrial development. Conditions 1, 3, 5 and 6 are satisfied. The area zoned as industrial could be moved to the flat region immediately west of Lauderdale.

Site 5

Map 82-D2b: 53288072020, 5333072050, 5332071960, 5336071960. Area approx. 48 ha. This land, north of Roches Beach Road and south-west of Single Hill, satisfies conditions 3, 5 and 6. However, the access is not easy and it is a long way from the likely urban centre.

Site 6a, 6b

Map 82-B4b, 82-B4d: 5301572580, 5310072530, 5301072480, 5307072480. Area approx. 60 ha. Cilwen estate, adjacent to Cilwen Road off Acton Road, Cambridge. Satisfies conditions 1, 3, 5 and 6. The whole area is rural, offset from developments and view from the Tasman Highway. There is an alternative site in the same general area. Map 82-B4d: 5314072530, 5320072400, 5310072440, 5317072415. Area approx. 60 ha.

Site 7

Opposite Craigow on the Colebrook Road [EN3561]. Area approx. 40 ha, with a potential of much more. However this property, like Site 5 is not as accessible and, at the present time, has no good water supply (5).

SUMMARY

Sites 1, 2 and 3 are small, and although close to the urban centre are perhaps not as pleasantly surrounded as Sites 6 or 7. Site 3 appears to be feasible on zoning and economic grounds. Site 1 is too small and too close to a road which will soon be rebuilt. Site 4 is well situated but there is some doubt regarding its release for cemetery purposes. Sites 5 and 7 are easily accessible and Site 7 lacks a water supply. Groundwater in this region is of relatively poor quality and would probably be unacceptable (see Leaman, 1971).

This leaves Sites 2 and 6 as having the greatest potential. No detailed testing of conditions (3) and (4) has been undertaken; in regard to both conditions there is some doubt concerning Site 2. Condition (4) is perhaps the most critical of all and only Sites 1 and 2 appear doubtful, on present evidence.

All sites are reasonably well-drained and in the case of Sites 1 and possibly 2, 3 and 6a this may constitute a health problem due to erosion by streams cutting these properties.

RECOMMENDATIONS

As Sites 2 and 6 appear best a detailed examination of the water table and soil conditions should be undertaken.

In addition possible health hazards should be considered. Site 6b may be more acceptable from this point of view. Only water from Sites 1, 2 and 3 drains into residential areas.

CEMETERY SITE 5

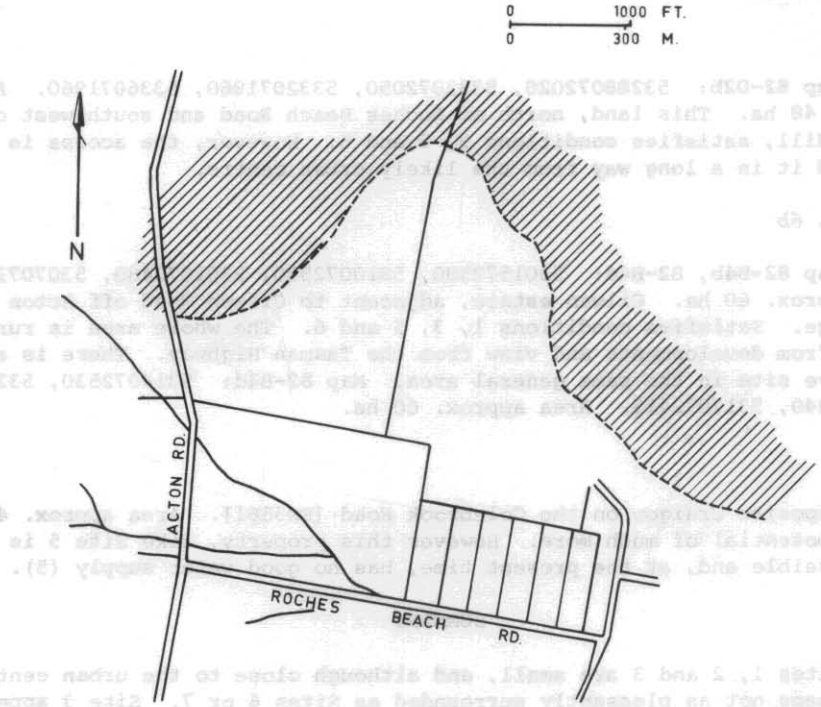

Figure 57.

PART 2. INVESTIGATIONS OF SELECTED SITES

SITE 5

Site 5 (fig. 57) is situated at Lauderdale and is bounded by Acton Road and Roches Beach Road. The geology of the area is straightforward and only two rock types occur. Sandstone occurs adjacent to Acton Road, but the remainder of the area is covered by a thick deposit of sandy clay with occasional beds of gravel near the streams in the south-west corner. Much of the clay and sand is derived from the weathering of the sandstone and associated rocks. Some of the clays are very stiff, but are not difficult to dig.

Regions where rock occurs at depths less than 2.75 m are indicated in the figure. At the time of testing (1, 2 September 1971), no water table was found at depths of less than 2.75 m.

SITE 6

Site 6A-6B (fig. 58) is the area bounded by Acton Road and the indicated boundary fences. Site 6B lies to the north and west of site 6B.

The geology of the area is essentially simple; only three rock types occur. Sandstone occurs at shallow depth between Acton Road in the east and Cilwen Road, while further west basalt occurs at shallow depth. The remainder of the area is composed of clay with occasional gravel beds and boulders. The boundary between the sandstone and clay has the form of a cliff. The clay is more than 50 m thick. Shallow holes across the area showed various soil types ranging from sandy loams to pure clays. Some of the clays are very stiff. In the region of Cilwen Road there is a significant boulder and gravel content. None of the materials are difficult to dig.

Throughout the clay area the water table is generally deeper than 2.75 m (3 June 1971) except for two areas - one in the orchard south of 'Lynrowan' homestead and the second near the small stream which crosses the area.

Site 6A, which lies west and south of 'Lynrowan' homestead is generally not as suitable as site 6B. Site 6A has more gravel, poorer soil and areas with a high water table.

SITE 7

This site lies to the east of the Colebrook Road, and occupies gently undulating farmland on the Craigow estate. The area examined in detail in this survey extends from Cross Rivulet in the south to the access road for the Pitt Water nagivation installation in the north and is bounded by the road to the west and a line of low hills to the east. A larger area than that outlined in Part 1 has been studied in order to increase the possible choice of land options (fig. 59).

The hills to the east of the site are composed of dolerite and sandstone which are frequently exposed. Sandstone underlies the remainder of the area at varying depths and the only other outcrops are along the road north of the entrances to 'Craigow'.

The principal material on the site is a firm clay with thin sandy horizons; gravel occurs in the south-east near Cross Rivulet. The overburden has a seismic velocity of less than 2,000 m/sec and therefore could be dug with a back hoe or shovel.

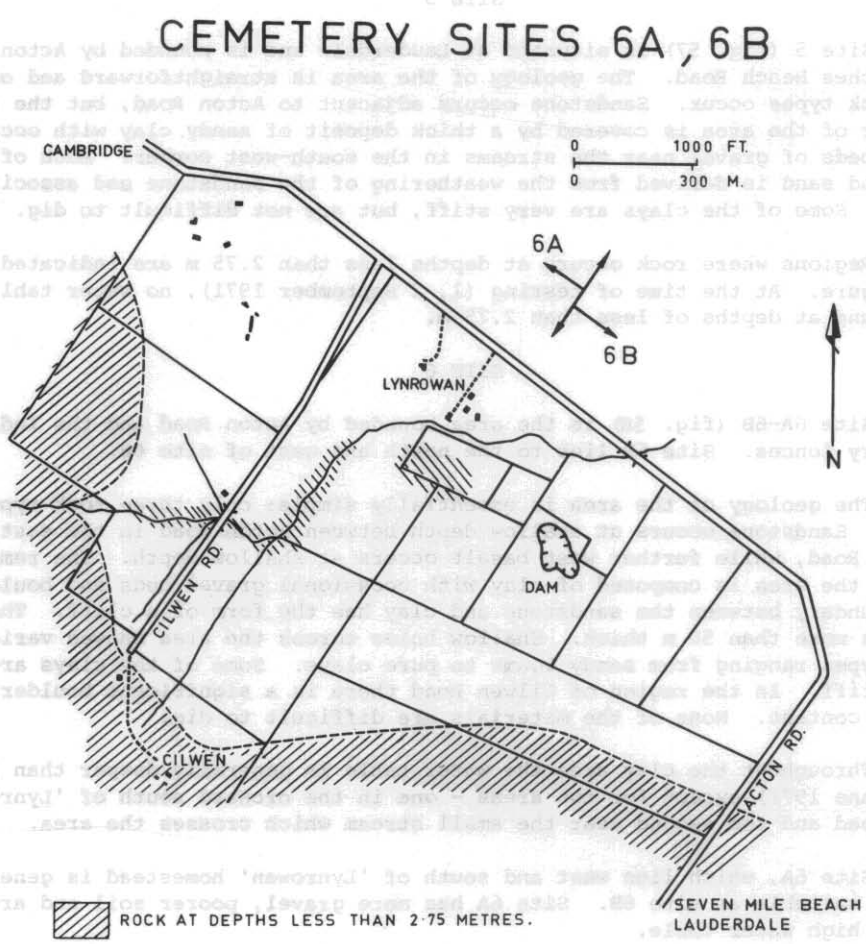
CEMETERY SITES 6A, 6B
CAMBRIDGE
0 1000 FT.
0 300 M.
6A
6B
N
LYNROWAN
CILWEN RD.
DAM
CILWEN
ACTON RD.
SEVEN MILE BEACH
LAUDERDALE
ROCK AT DEPTHS LESS THAN 2·75 METRES.
WATER TABLE AT LESS THAN 2·75 METRES (AS AT JUNE 3, 1971)
BUT MORE THAN 2·00 METRES.
5 cm

Figure 58.

A number of holes were dug to check on water table levels. In summary it may be stated that provided one avoids the distinct dips in the surface that accompany the minor streams and associated springs the depth to the water table (5 May 1971) is generally more than 2.75 m.

REFERENCE

LEAMAN, D.E. 1971. Geology and groundwater resources of the Coal River basin. *Undergr.Wat.Supply Pap.Tasm.* 7.

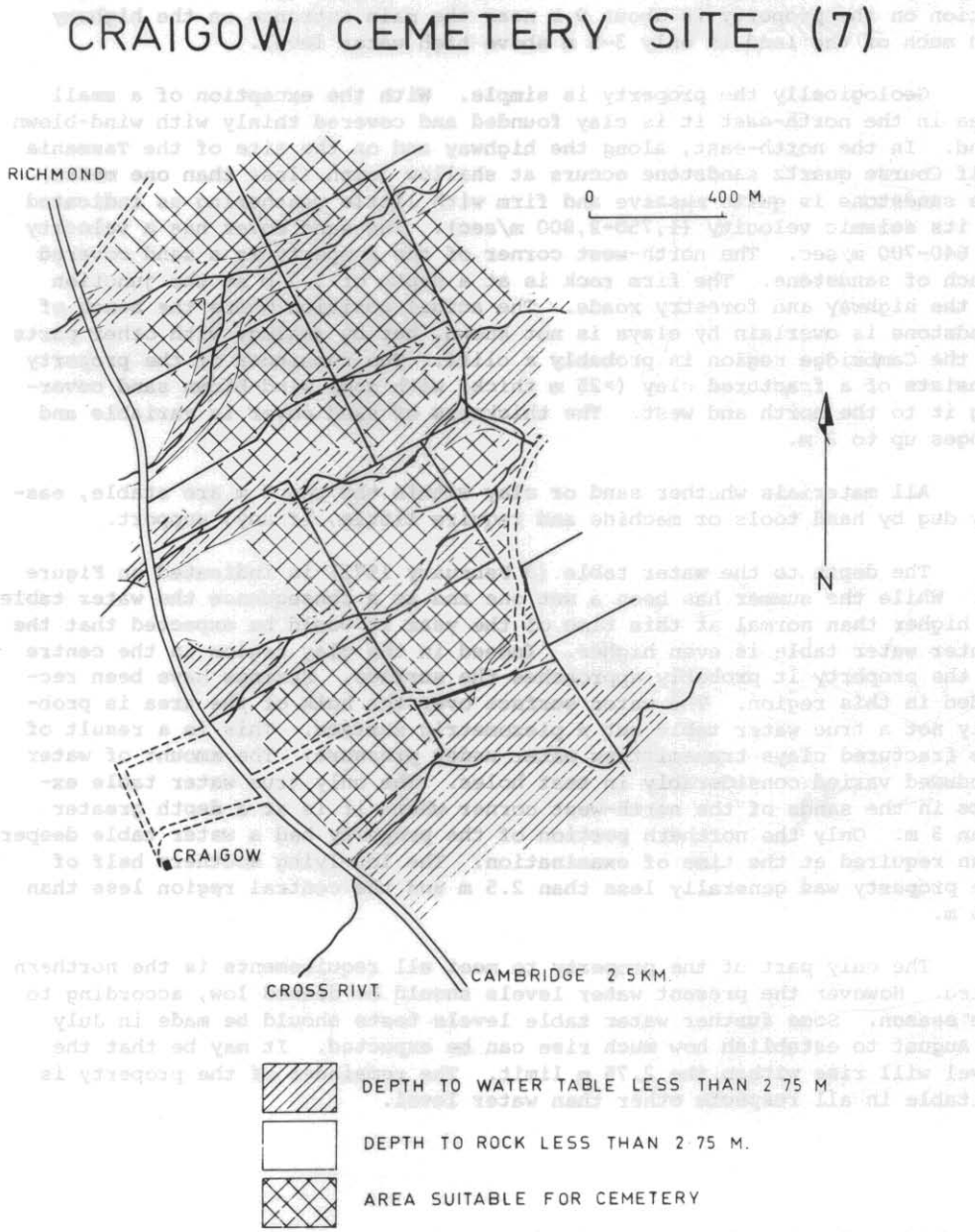

Figure 59.