

NATIONAL INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCEGENERAL PURPOSES COMMITTEETREATMENT OF THE LARGE SPOIL HEAP ATTHE RUTHERFORD LABORATORY

Note by the Secretary

1. Of the large heap of spoil originally excavated for the Nimrod foundations in 1957 only part was needed for shielding over the magnet hall, and excavation for subsequent building work has added to it. The heap is still an eyesore, and as reported to the Committee last April (paper NI/GP/61/20) a consulting landscape architect was asked to prepare a plan for shaping the heap to harmonise with the countryside before it is covered with the topsoil which has been reserved for the purpose.

The amount of spoil is large, about 250,000 cubic yards, and the cost will inevitably be substantial: the cost of spreading the topsoil and seeding with grass is estimated to be approximately £9,000, irrespective of the amount of shaping of the mound. Also there are other aims besides making the heap aesthetically acceptable, namely to minimise the area denied to future building, and particularly to leave free those areas which might be wanted for future beams from Nimrod, and lastly to minimise the area to which access must be prevented because of radiation. As there must be a hill, it would be desirable to be able to walk on at least some of it.

2. Details are given below of the present situation and of successive schemes which have been prepared and considered. Scheme C is recommended as achieving the essential objects at the minimum cost.

(i) Present situation

Figure 1 shows the mound as it is at present. The total area occupied is about $9\frac{1}{2}$ acres. The boomerang-shaped mound beside the southern perimeter fence is the topsoil. The mound rises to 487 feet; the natural level under it is 420-430 feet. The level of the experimental area floor is 402 feet.

(ii) Complete removal

The cost of removing the spoil completely to a dump off the site, leaving the ground at natural level, is estimated to be approximately £140,000. Since the natural ground was a low hill this would not make the area completely ready for building on.

(iii) Scheme A (not illustrated)

This was the Consultant's original scheme in which aesthetic considerations were predominant. It involved considerable movement of the centre of gravity of the mound to the south, and was thought to be too costly and to occupy too much space. Further, it became necessary to alter the scheme in any case to accommodate additional spoil.

(iv) Scheme B (fig. 2)

This was developed by the Consultant to meet the points mentioned above in connection with Scheme A. The area of spoil was kept between two lines drawn from the middle of the experimental

area at an angle of about 45° . In addition, a ridge was left near the experimental area to shield the main mound from direct radiation.

On examination, this scheme was found to be costly, the approximate estimates being:-

Cost (including spreading topsoil and seeding)	£50,000
Area occupied by spoil	13 acres

(v) Scheme C (fig. 3)

Owing to the high estimated cost of Scheme B, the Consultant was asked to start afresh on the basis of the minimum movement of earth to produce an aesthetically acceptable result and with slopes not too steep for stability or for cutting the grass.

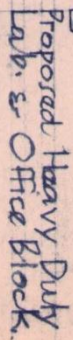
The resulting scheme is shown in figure 3. In this scheme the spoil has not been moved from the area S.E. of the experimental area as in Scheme B. Also, the northern slope of the hill is not shielded from the experimental areas, so access to it may have to be controlled.

The estimated cost including spreading topsoil and seeding is in the region of £20,000, plus 10 per cent fees. The area occupied by the spoil would be about 11 acres.

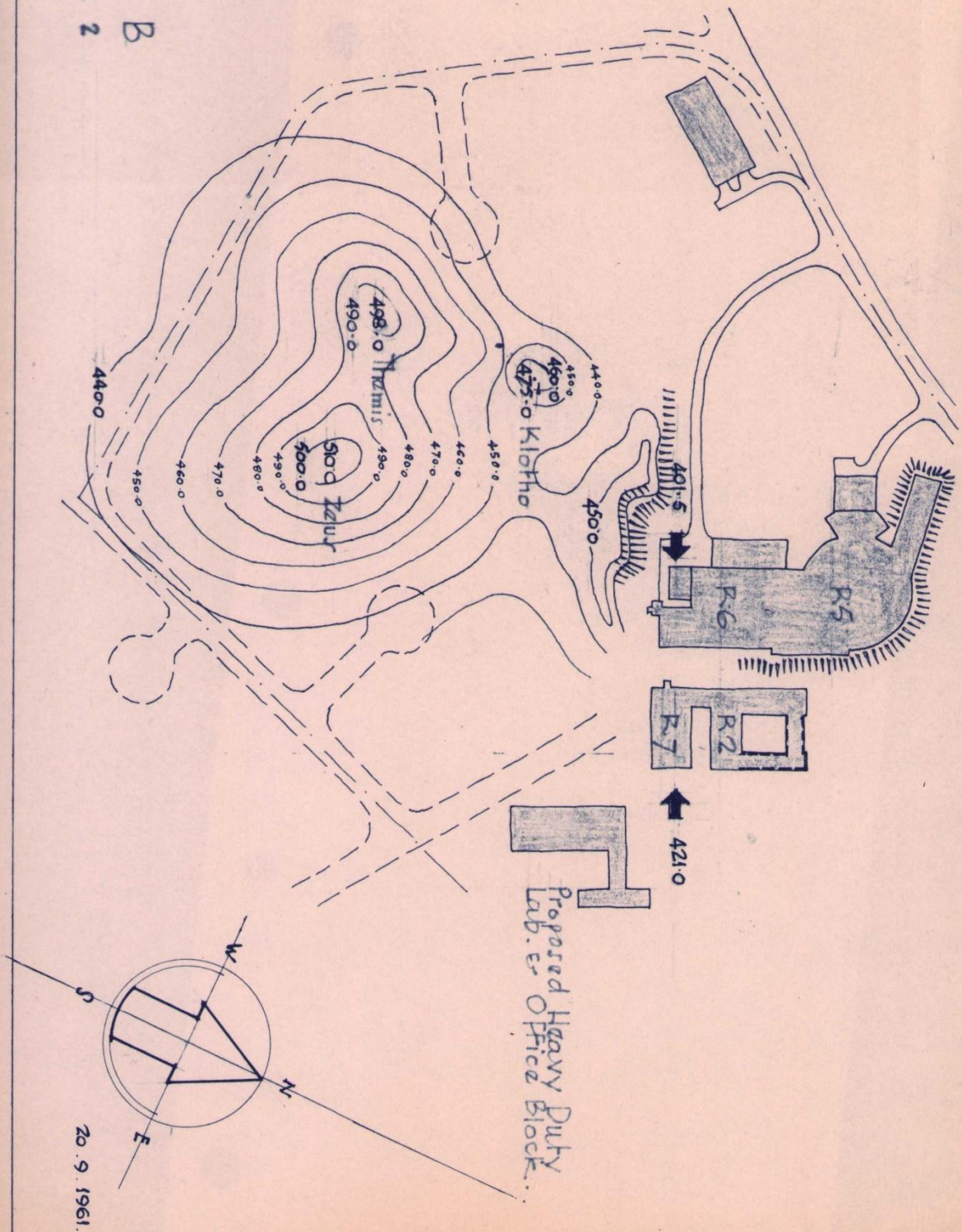
3. Further enquiries are at present being made to test the market. When a reliable cost estimate is available it is proposed to submit a brief paper to the Committee by correspondence, asking for approval. In the meantime it seemed desirable to submit the information now available in time for the proposal to be discussed at the meeting.

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SCHEME: B
FIGURE: 2



SCHEME: C

FIGURE: 3

