



## **Shire Hall & Castle Mound Cambridge**

On 14 May 2006 Archaeology RheeSearch carried out magnetometry and resistivity surveys on the lawn area between Shire Hall and the Castle Mound in Cambridge. Members participating: Brian Bridgland, Pat Davies, Liz Livingstone, Bruce Milner, Ian Sanderson, Maureen Storey, Tony Storey. Site liaison: Sarah Poppy

**Site conditions:** Mainly level manicured lawn with a marked bank curving along the S edge which then continued rising towards Castle Mound. Two areas of flower bed and high vegetation were not recorded.

**Weather:** Mild with about 10mm rain during the previous week.

**Soil:** Not known

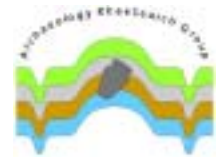
**Equipment:** Bartington 601 gradiometer; TRCIA 50cm twin probe resistivity meter. Because of the urban environment, the use of a magnetometer was considered as likely to be of limited value. This was borne out by the results.

**Area covered:** Four grids, each 20m × 20m, in a square pattern (40m × 40m) were surveyed using both resistivity and magnetometry.

**Location:** TL 446 593



*(On the ground grid location points – NW 16.73m from SW corner of Shire Hall 24.33m from front of E handrail plinth of Shire Hall steps; NE 15.83m from SE corner of Shire Hall and 23.16m from E step plinth.)*



**Purpose of survey:**

To locate evidence supporting parch marks noted on a 2004 photograph of the site supplied by S. Poppy



Photograph provided by S. Poppy

**Results:**

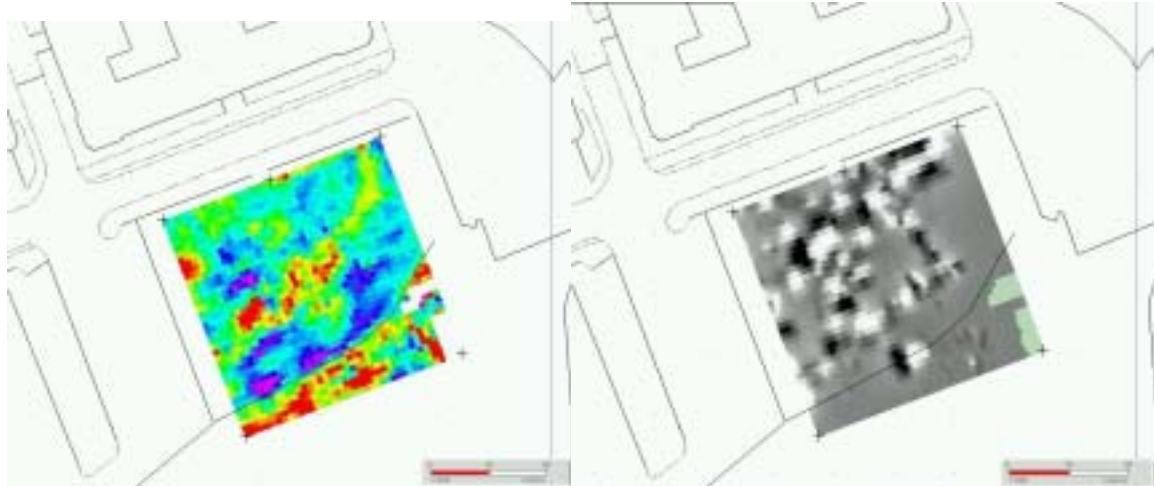
<p>Blue low, red high (white – no data)</p>	<p>Black low, white high (red – no data)</p>	<p>(green – no data)</p>
<p>Resistivity survey 40m × 40 m</p>	<p>Resistivity survey 40m × 40m</p>	<p>Magnetometer survey 40m × 40m</p>



Raw data are available as a separate appendix.

Magnetometry results showed a triphasic distribution of values suggesting interference from at least two external magnetic sources in addition to the natural magnetic field. The images are included for completeness, but their validity in representing sub-surface magnetic variation is open to doubt.

All subsequent images are oriented with north to the top of the page.



Magnetometry and resistivity results superimposed on location plan

### **Discussion:**

The resistivity results clearly show areas of high resistance occurring along the line of the parch marks. They do however lack the resolution of the parch marks in delineating the rectangular structures. The image below shows an overlay of the plan of the County Gaol in 1927, which would appear to account for the majority of both the parch marks and the central areas of high resistance recorded. The discrepancies between the parch marks and the resistivity results are probably due to the amount of low moisture retentive material such as building material or rubble, near to the surface. A small amount of this material close to the surface will produce a parch mark under certain conditions, but the resistivity result depends on the amount of this material to a depth of about 0.75m beneath the probes.

The major anomaly evident on the Gaol plan (ref. 1) lies in the room about 10m due east of the 'Laundry' where there is a marked low resistance area respecting but extending beyond the room plan to the NE. The plan labels this room as 'Female visiting boxes' and the rectangular structure running NW-SE to the front (S) side of the gaol as 'Entrance'. On the opposite side of the 'Entrance' the room is labelled as 'Male Visiting Boxes' which gave no particularly high or low results. This might suggest, if the 'Visiting Box' rooms were of similar construction and demolition, that the low resistance readings here reflect a much earlier feature of the site.

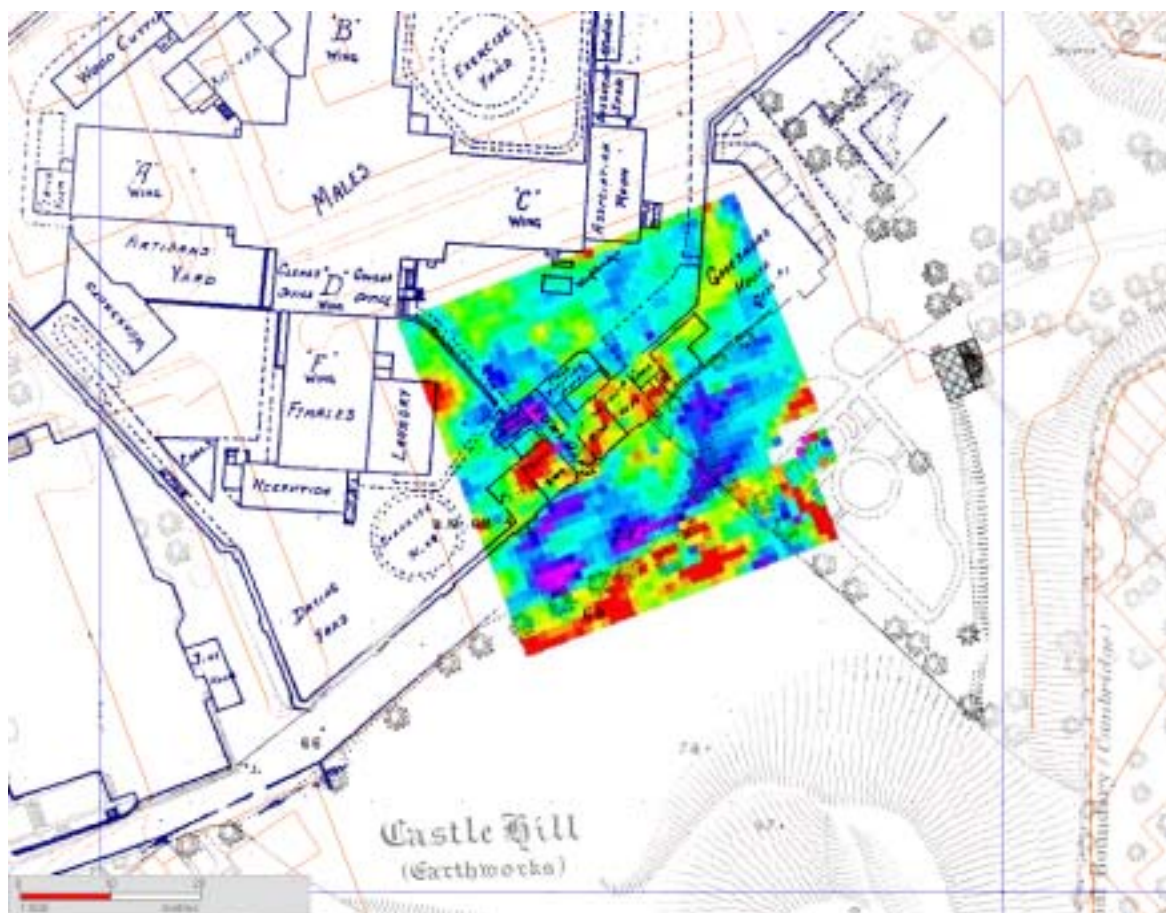
The band of low resistance readings (blue) running NE-SW just south of the gaol wall is interrupted by a circular area of medium resistance (green) which might represent the metalling of a turning circle for the gaol entrance with some indication that this continues to the south west along the access road with drainage to either side.



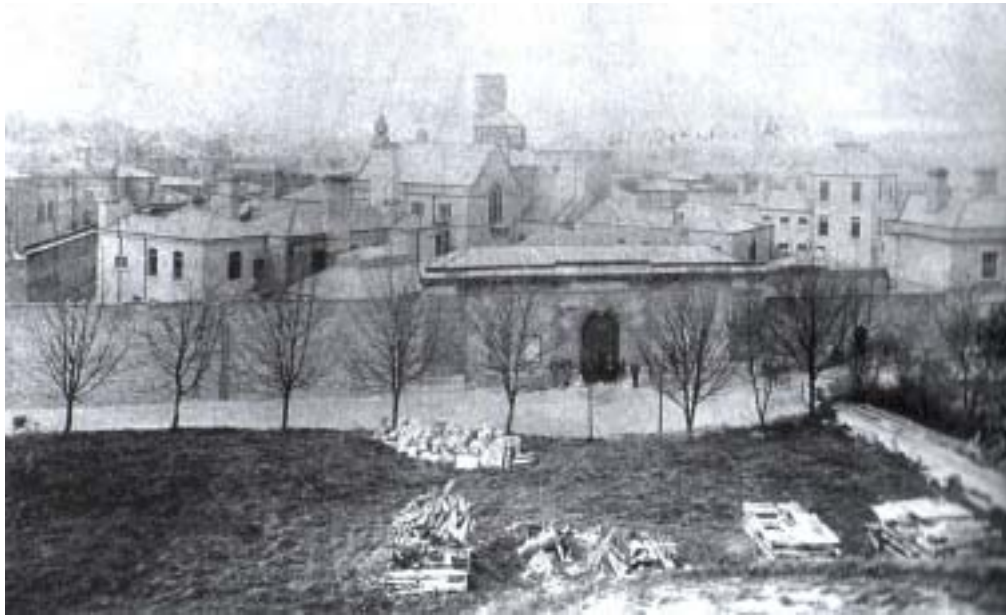
To the south of the access road are two areas of particularly low resistance (purple), these may be caused by the drainage of moisture from the mound to the south. However, there was a cover on the surface at this point which may indicate underground pipework that can contribute to a low resistance signal. The present bank, which marks the change from a level lawn to the start of the rise to Castle Hill, is clearly shown as the limit of low resistance (blue) although the 1886 line marked, can also be seen to be respected.

The southern edge of the survey area has some interesting areas of high resistance. One, to the east, probably represents metalling of a garden path.

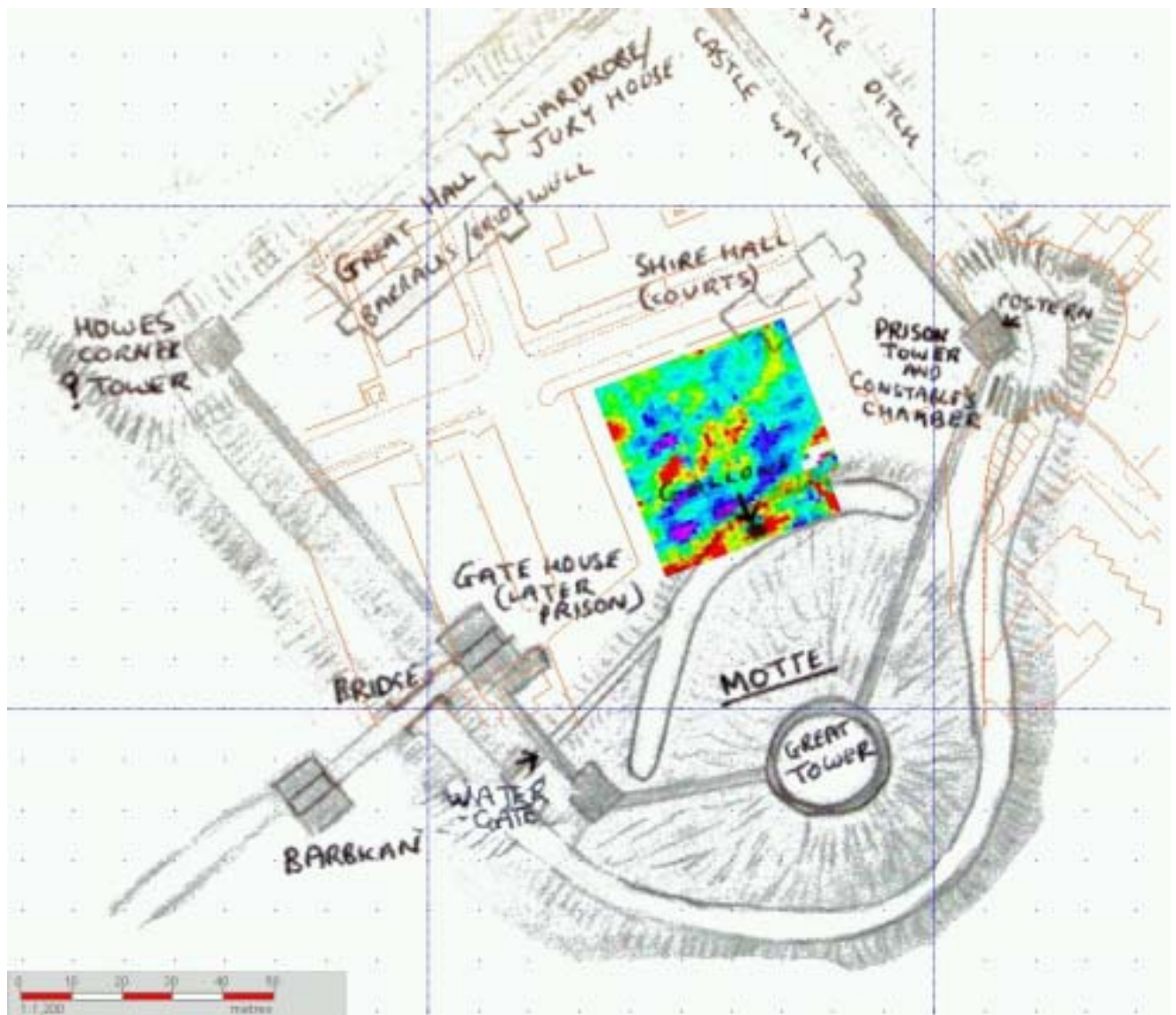
A plan of the castle between 1085 and 1643 (ref 2) compiled from unknown sources suggests that the original moat around the motte was not detected during this survey.



Resistivity results superimposed on the Ordnance Survey 1886 survey (grey) overlaid with 1927 internal plan of the County Gaol (blue). Modern structures are also included (orange)



County Gaol c1885  
(County Collection)



Resistivity results superimposed on a plan of Cambridge Castle from 1085 (ref 2),  
modern structures are shown in orange



## References:

Cambridge Records Office Pamphlet Collection, Gaol collection 1975, including:-

1. 1927 Plan by HH Dunn, County Architect, 1927 (just prior to the demolition of the gaol in 1930).
2. Cambridge Castle 1085-1643 (artist unknown).