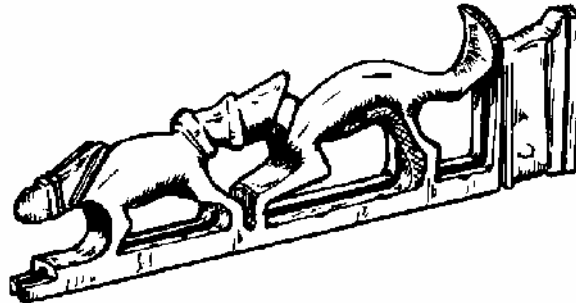


Amphill & District Archaeological



& Local History Society

**Geophysics carried out by the Society
in the gardens of Wrest Park Silsoe,
Bedfordshire.**

Kevan J. Fadden

Michael J. Turner

Geophysics and the ADALHS at Wrest Park

In 2001 The Society assisted The Council for Independent Archaeology in the development of a low cost TR/CIA resistivity meter aimed at local amateur societies. Resistance surveys in simple terms rely on the moisture content of the soil allowing an electric current to flow between probes pushed into the ground. The higher the moisture content the lower resistance to flow. The resistance value (ohms) is then plotted on a computer to give a picture. High readings (drier soil) show up in this survey as light, low readings (wet soil) dark. From this it follows that ditches which have been buried but still contain humus infill and remain moist can be readily seen (dark) as opposed to areas of stone or brick rubble that are quicker to dry out showing up light.

The meter was used on various sites in the Mid Bedfordshire area including the Castle site in Ampthill Park (ref.1). As a training exercise and confidence booster for society members it was decided to find a site which had already been partially excavated to compare the electronic results with known features. The area of the collapsed culvert in Wrest Park (ref.2) proved ideal as it contained a linear feature in stable geological conditions as opposed to the Ampthill Park site where the variation in soil resistance values were extreme. The resulting survey supported the conclusions made following the original partial excavation of the culvert and examination of the 18th Century drawings and suggested further features which matched some lines on the 1719 Lawrence garden drawing.

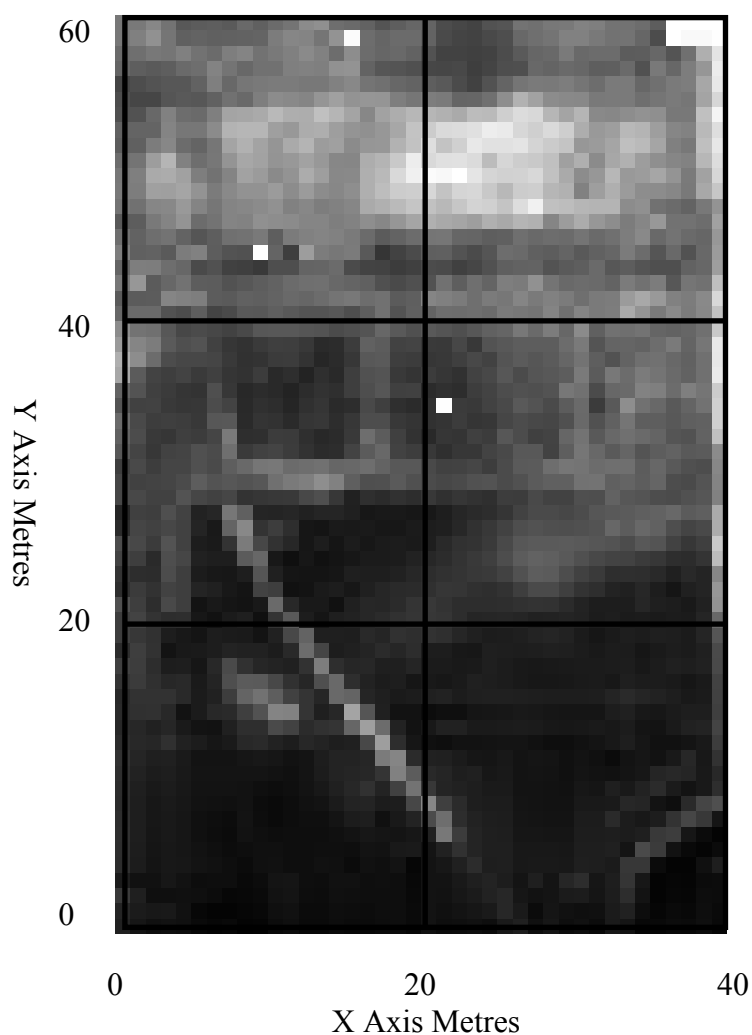


Fig. 1
Resistivity survey taken to gain experience of the equipment on a known site. i.e. The culvert between X6 Y28 & X22 Y6 confirmed the results from small test pits carried out in 1997. (ref.2) The features in the square X0 Y25, X0 Y60, X40 Y25, X40Y60, were unexpected and lead to further examination of the historical records.

Comparison between the Lawrence drawing 1719 and resistivity survey

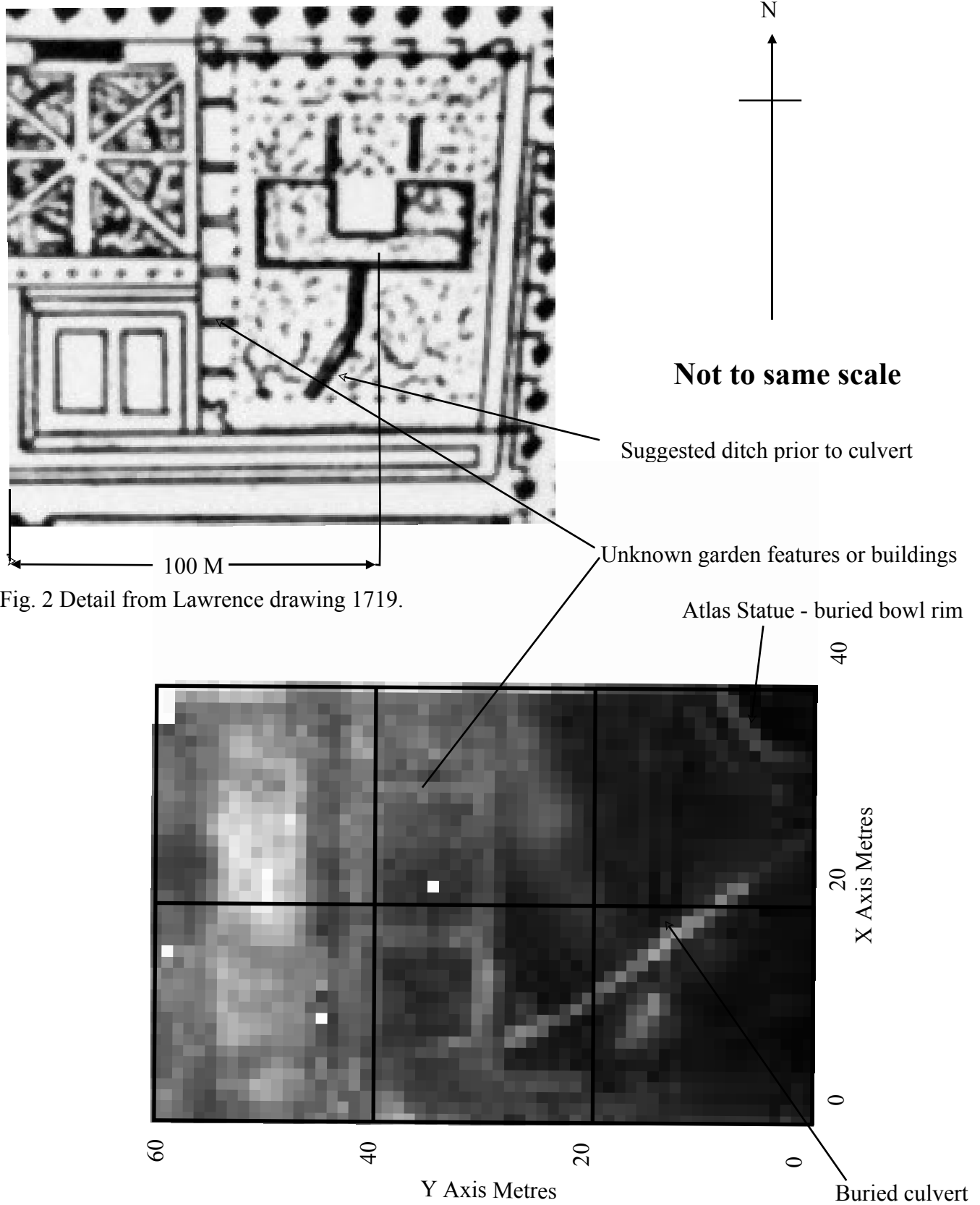
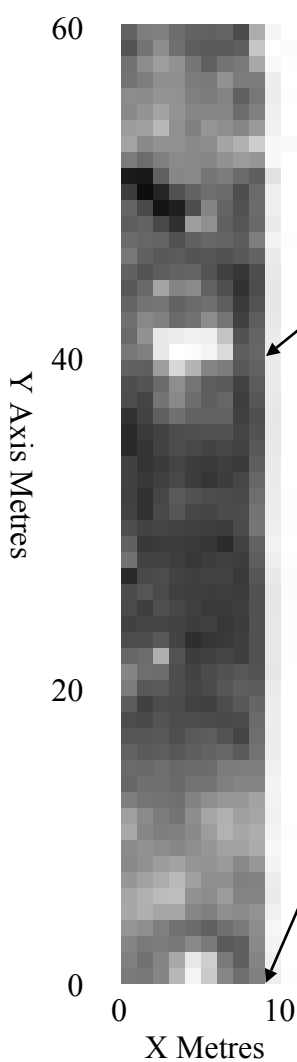


Fig. 2 Detail from Lawrence drawing 1719.

Fig. 3 Geophysical survey of buried culvert and surrounding area.



A small area was also examined where Diana's Temple was believed to have been sited and which has now completely disappeared. An excavation would be required to check the results but there are some suggested foundations visible on the survey, see below.

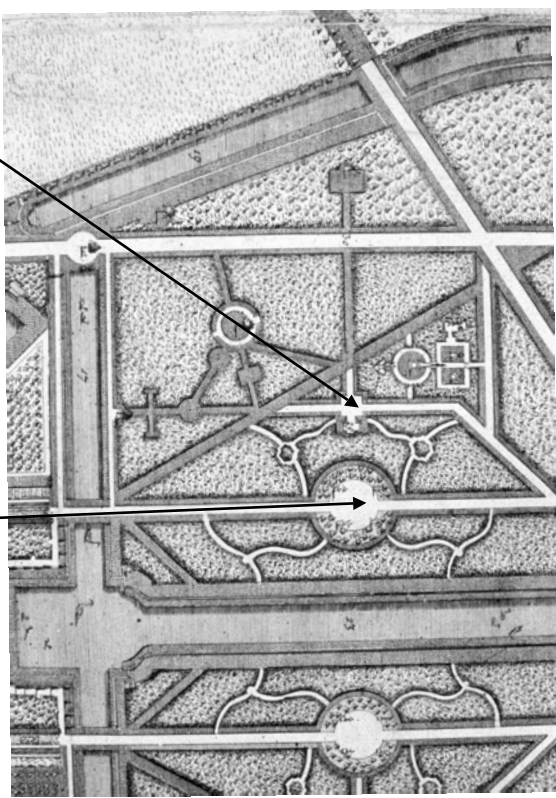


Fig.5 Detail from Rocque plan 1735

Fig. 4 Resistivity survey of area where Diana's Temple is believed to have stood. Only a 9 metre width survey was possible due to surrounding trees.

The Temple appears to be in the area X5, Y41, The high reading X5, Y1 indicates the Vase with its surrounding lower readings probably showing the associated earth disturbance. The higher readings in the area X0, Y5; X0, Y12; X9, Y5; X9, Y12 probably represent a gravelled area. If an excavation was contemplated, pseudo section scans might assist the interpretation.

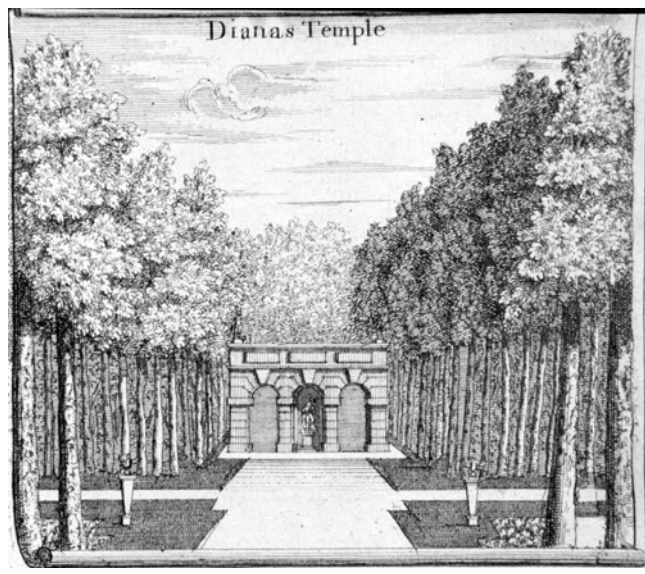


Fig. 6 Drawing of Diana's Temple from Rocque plans

In 2007 some additional equipment for the TR/CIA meter was produced allowing “pseudo-sections” to be taken through archaeological features to assess their depth and relative positions without extensive digging. It has the ability to show features one above the other without the use of very expensive ground radar. The culvert where the construction, size, depth, alignment and position were known was an obvious subject for an initial trial. As can be seen by comparing Fig. 7, Fig. 8 and photo. 1 The results were remarkably good.

A large scale resistance survey carried out over the site of the Old House at Wrest in an attempt to locate the moat is the subject of another paper (ref.3).

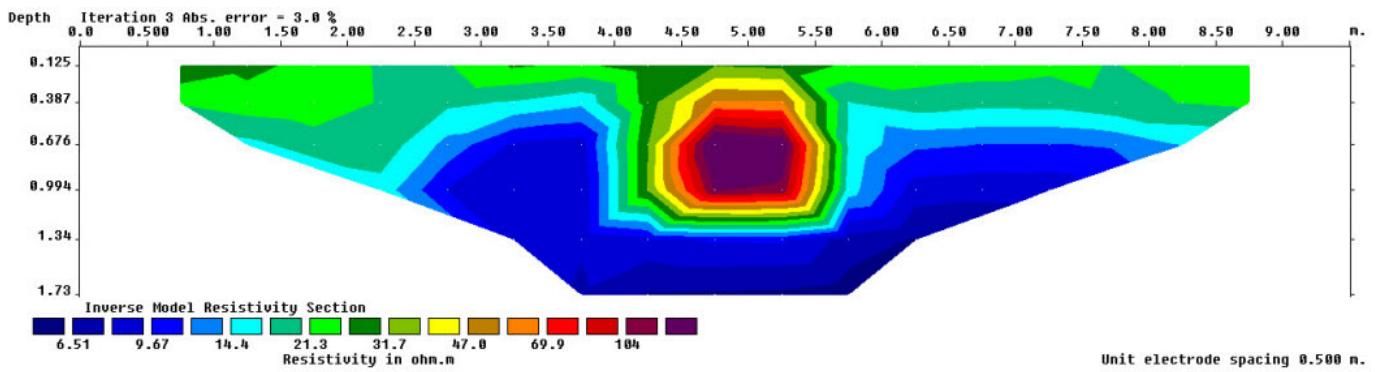


Fig. 7 Pseudo-section through brick culvert. The dimensions compare favourable with the sections drawn several years earlier. (below)

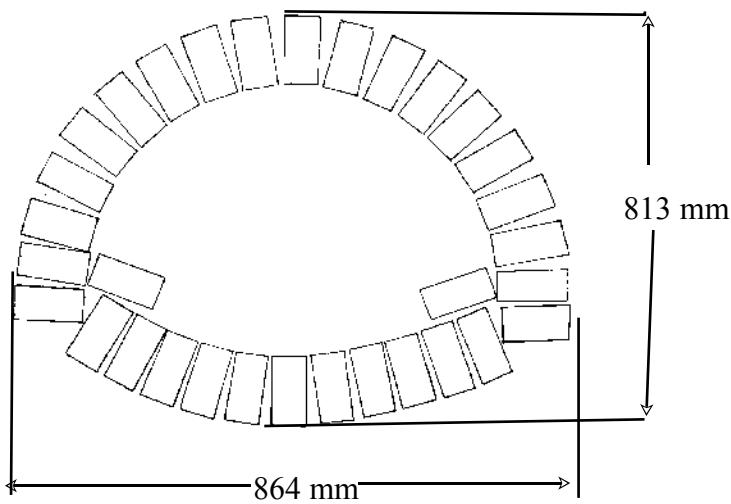


Fig. 8 Actual scaled section.

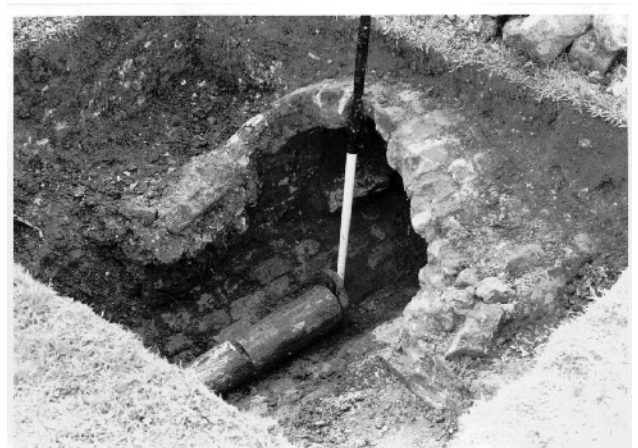


Photo. 1 Collapsed culvert.

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