

**LAND TO THE EAST OF WHELFORD ROAD,
KEMPSFORD, GLOUCESTERSHIRE**

**Written Scheme of Investigation for Archaeological
Geophysical Survey 2017**

Survey commissioned by:

**Oxford Archaeology Ltd
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Land to the East of Whelford Road, Kempford

Written Scheme of Investigation for Archaeological Geophysical Survey

Summary

This note describes the procedures to be used for a geophysical survey which is to form part of an archaeological field evaluation of a proposed residential development site at Kempford, Gloucestershire. The survey will test for evidence of archaeological features or remains which may be present at the site.

The survey has been commissioned from Bartlett Clark Consultancy, Specialists in Archaeogeophysics of Oxford by Oxford Archaeology (OA). OA will undertake and coordinate the field evaluation on behalf of West Waddy ADP. Fieldwork for the survey will require one day, to be undertaken as soon as possible, with a report to follow shortly after completion.

The Site

The location and condition of the site is described, and nearby archaeological findings are reviewed, in the Archaeological Desk-Based Assessment previously prepared by Oxford Archaeology [1]. The following notes are reproduced or summarised from the DBA.

Topography and geology

The site is located in the middle of the village of Kempford. It is bounded on its eastern, southern and western sides by residential developments, and by arable farmland to the north. The site is flat, lying at c.77m, and is currently used for arable purposes. It is about 2.3ha in area, and is located to the east of Whelford Road and North of The Knoll, Kempford. The site is centred on NGR 415899 197007 and lies within the Cotswold district of Gloucestershire.

The bedrock deposit underlying the site is a mudstone deposit of the Oxford Clay Formation. The superficial deposits are part of the Summertown-Radley Second gravel terrace, laid down in the Quaternary Period (BGS 2017). Soils both on a Jurassic bedrock of this kind, and on river terrace gravels, should provide favourable conditions for a magnetometer survey, and clearly defined archaeological findings have previously been detected in surveys at comparable locations.

Archaeological background

Cropmarks which are likely to represent two double-ditched trackways, a possible enclosure and possible pits have been recorded on the site. These are part of a larger complex of

cropmarks extending to the north. The site is within a known Romano-British archaeological landscape comprising enclosures, field systems and settlements, and it is probable that at least some of the features within the site relate to activity of this period. The site is therefore considered to have a high potential to contain archaeological remains dating to the Romano-British period, as well as a high potential to contain antecedent Iron Age activity. The site is also located immediately adjacent to areas of probable medieval and certain post medieval settlement, and as such has a moderate potential to contain remains of these periods.

Three buildings dating to the early-mid 20th century were located in the south-east part of the site. These structures have since been demolished. Ground works associated with the construction and demolition of these building would have caused disturbance to any archaeological remains in the immediate vicinity of the former buildings. The entirety of the site has also been repeatedly ploughed in modern times. Plough damage would adversely impact any shallow archaeological remains present, but any more substantial or deeply buried archaeological features should still be detectable by means of a magnetometer survey.

Survey Objectives

The usual purpose in undertaking an archaeological geophysical survey is to test for evidence of archaeological sites or remains, and to provide information which may inform further stages of the archaeological evaluation, and the subsequent planning process.

A geophysical survey is usually able to identify the extent and character of any archaeological remains capable of producing a magnetic response. The magnetometer will detect cut features such as ditches and pits when they are silted with an increased depth of topsoil, which usually responds more strongly than the underlying natural subsoil. Fired materials, including baked clay structures such as kilns or hearths are also likely to produce a localised enhancement of the magnetic field strength, and the survey therefore responds preferentially to the presence of ancient settlement or industrial remains. The survey is also strongly affected by ferrous and other debris of recent origin.

Survey methodology

The procedure to be used for the investigation is magnetometer surveying. A full area survey will meet the recommendations for an investigation of this kind as set out in the revised English Heritage geophysical guidelines document (*Geophysical Survey in Archaeological Field Evaluation, English Heritage, 2008*). The magnetometer survey will be done using Bartington Grad 601 fluxgate magnetometers with digital data recording. Readings will be plotted at 0.25m intervals along transects 1m apart.

The survey grid

The survey will be located by reference to a temporary site grid set out (to c. 10cm accuracy) using a Trimble GPS system (with Omnistar or VRS differential correction). This will also locate the survey directly on the OS national grid.

Report preparation

The fieldwork will be followed by the preparation of a report, which will include a detailed discussion of the results of the survey supported by reference to the annotated site plans.

The magnetometer results will be presented as graphical (xy) charts, together with grey scale plots (so that the detected magnetic anomalies can be examined in profile and plan respectively). We accompany the data plots with interpretative plans, usually based on a combination of contoured outlines and schematic markings representing potential archaeological features, and any other relevant findings. Any identifiable modern services or other non-archaeological findings will also be indicated on the plans.

We prefer to assemble the final survey plans using AutoCAD. This allows the survey plots to be fully geo-referenced, and OS coordinates of detected features to be read from digital copies of the plans. Copies of the survey plans and report will also be distributed in PDF format.

A note on previous experience

The Bartlett-Clark Consultancy was established by A. Bartlett in 1991 jointly with the late Dr A.J. Clark FSA, who for 19 years was head of the Geophysics Section at the Department of the Environment Ancient Monuments Laboratory, and was the author of 'Seeing Beneath the Soil' (Batsford, 1990). A. Bartlett has a BSc in physics and an MPhil in computational techniques for geophysical data processing. We also have an experienced fieldwork team.

We have carried out and reported on geophysical surveys of archaeological sites of all kinds throughout Britain and occasionally abroad, and have carried out major geophysical investigations for clients including Oxford Archaeology, English Heritage, Headland Archaeology Ltd, Network Archaeology Ltd, RSK Environment Ltd, CgMs Consulting Ltd, Phoenix Consulting Archaeology Ltd, Murphy Pipelines Ltd, Nacap Daniel, Cambridge Archaeological Unit, URS, National Grid, and other County Councils, archaeological units and consultancies. We have undertaken numerous magnetometer surveys of large individual sites, or extended linear road and pipeline schemes.

Reporting procedures and archive preparation

We will submit our results and report to Oxford Archaeology for inclusion, together with results from other phases of the evaluation, in an overall project archive, to be deposited according to the requirements of the curator. Initial data plots can be supplied following the fieldwork, with a full report to follow.

Insurance

Insurance held by Bartlett Clark Consultancy includes public liability insurance cover (for £2M), employers liability (£ 10M), and professional indemnity (£ 2M).

Health & Safety

Conditions at this site should not present any unusual risks or hazards. A risk assessment document will be submitted to Oxford Archaeology if required.

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Reference

[1] *Land to the East of Whelford Road, Kempford: Archaeological Desk-Based Assessment*. Report by Alex Davies, Oxford Archaeology; 25 May 2017.

Site location plan showing proposed survey area (from OA DBA figure 1).
Area outlined in red = c. 2.3 ha; not to scale.

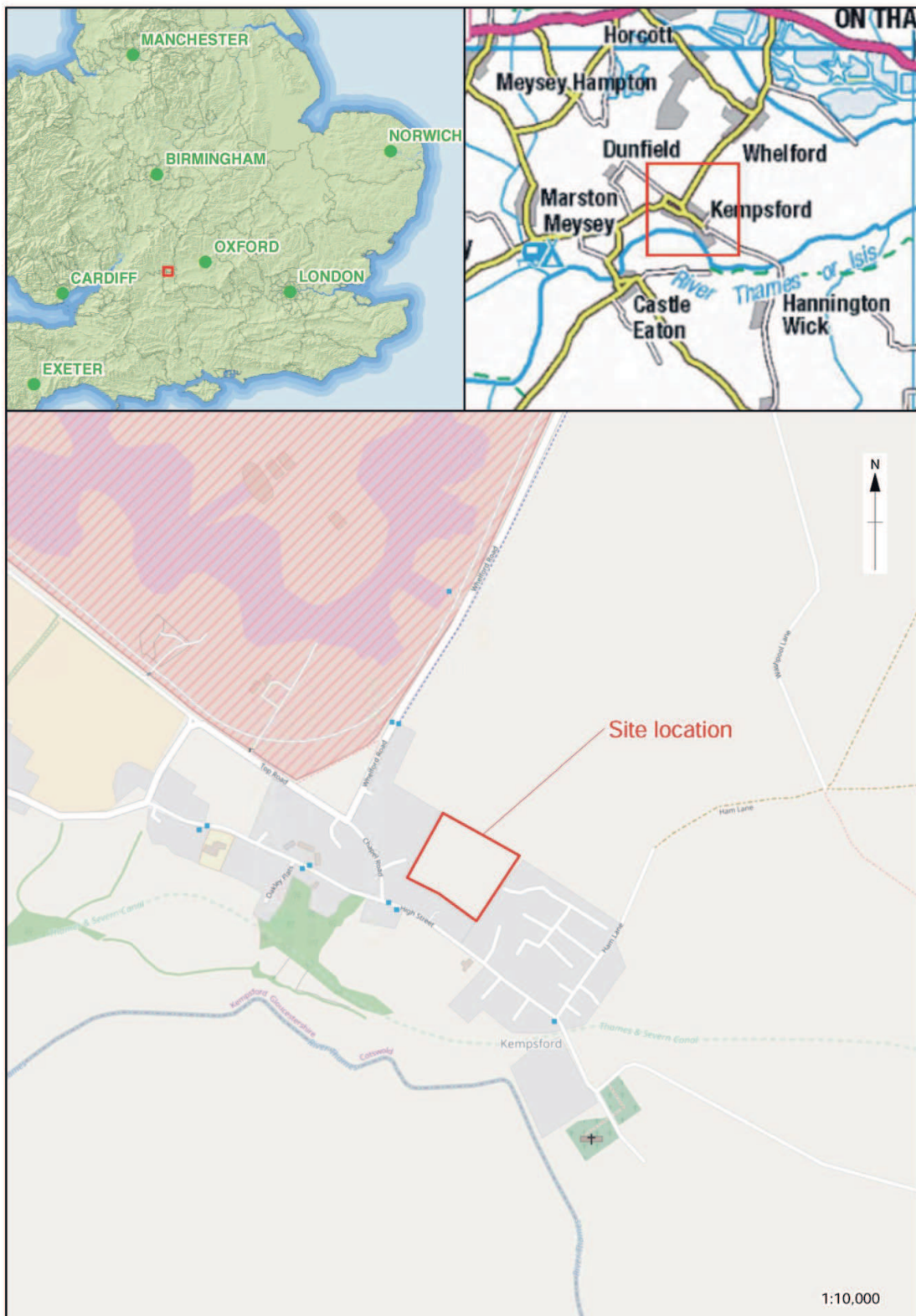


Figure 1: Site location

