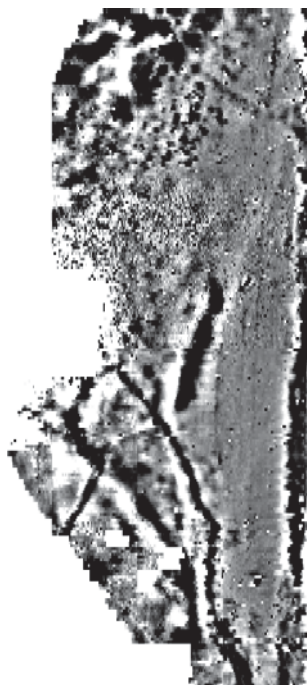




Northamptonshire Archaeology

Archaeological geophysical survey of land at
Stanford Road, Shefford, Bedfordshire April 2011



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Report 11/95

April 2011



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QUALITY CONTROL

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OASIS REPORT FORM

PROJECT DETAILS		
Project title	Archaeological geophysical survey of land at Stanford Road, Shefford, Bedfordshire April 2011	
Short description	Northamptonshire Archaeology was commissioned by Bloor Homes to conduct a detailed geophysical survey of a proposed development site at Stanford Road, Shefford, Bedfordshire. Survey has revealed an area of possible archaeological significance: four likely ditches and several pits were identified along with a former footpath. The survey also identified associated features from the former Shefford Mill that was located on the site. These include a former canal and palaeochannels.	
Project type	Geophysical Survey	
Site Status	None	
Previous work	Desk-Based Assessment (Walker 2007)	
Current land use	Agricultural: Arable	
Future work	Unknown	
Monument type and period	Medieval / post-medieval mill	
PROJECT LOCATION		
County	Bedfordshire	
Site address	Land at Stanford Road, Shefford	
Post code		
OS co-ordinates	TL 147 394	
Area	6.7ha	
Height aOD	c 33m aOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	NA	
Project Design originator	NA	
Director/Supervisor	Ian Fisher (NA)	
Project Manager	Adam Yates (NA)	
Sponsor or funding body	Bloor Homes	
PROJECT DATE		
Start date	07 April 2011	
End date	08 April 2011	
ARCHIVES	Location (Accession no.)	Contents
Physical	NA store	Site records
Paper		Client report PDF
Digital		Survey data
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report (NA report)	
Title	Archaeological geophysical survey of land at Stanford Road, Shefford, Bedfordshire April 2011	
Serial title & volume	11/95	
Author(s)	Ian Fisher	
Page numbers	4	
Date	12 April 2011	

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**ARCHAEOLOGICAL GEOPHYSICAL SURVEY OF LAND AT STANFORD ROAD,
SHEFFORD, BEDFORDSHIRE
APRIL 2011**

Abstract

Northamptonshire Archaeology was commissioned by Bloor Homes to conduct a detailed geophysical survey of a proposed development site at Stanford Road, Shefford, Bedfordshire. Survey has revealed an area of possible archaeological significance: four likely ditches and several pits were identified along with a former footpath. The survey also identified associated features from the former Shefford Mill that was located on the site. These include a former canal and palaeochannels.

1 INTRODUCTION

Northamptonshire Archaeology (NA) was commissioned by Bloor Homes to conduct a detailed geophysical survey of a proposed development site at Stanford Road, Shefford, Bedfordshire (centred on TL 147 394, Fig 1). Two fields, totalling 6.7ha, were investigated by detailed magnetometer survey to determine the possible archaeological impacts of the development.

2 TOPOGRAPHY AND GEOLOGY

The proposed development site comprises c 7.7ha of land located on the northern edge of Shefford, Bedfordshire (Fig 1). Two fields are to be surveyed; Field 1 (c 3.7ha) to the north of the river and Field 2 (c 3ha) to the south. A former reservoir (c 1ha) was not considered for survey due to previous land use.

Stanford Road forms the northern boundary of the site, whilst an overflow channel provides the southern boundary. The south-western part of the site is bounded by the confluence of the Rivers Flit and Hit, two tributaries of the River Ivel that in turn bisects the site and formed the mill race for the former mill to the east. The river flows north-east where it joins the River Great Ouse at Tempsford.

At the time of survey Field 1 had recently been ploughed and rolled whilst Field 2 was fallow. The former reservoir was overgrown with scrub and trees. The site gently slopes to the south and lies at c 33m above Ordnance Datum (aOD). The geology of the site consists of alluvium and Valley Gravels overlying Lower Greensand deposits (Walker 2007, 2).

3 ARCHAEOLOGICAL BACKGROUND

The archaeological background of the whole site and a surrounding 1 km radius area has been the subject of a desk-based assessment (Walker 2007). This revealed that archaeological artefacts have been found within the Shefford area.

Evidence for prehistoric activity in the area includes a flint scatter (HER 3508) and a Neolithic axe (HER 16009) found to the west and south of the proposed development site. To the west of the town at 77-81 Ampthill Road, Neolithic/Bronze age flint was found in association with residual late Bronze Age/early Iron Age pottery (Albion 2005). Aerial photographs have identified areas of cropmarks (HER 3525 and 15369) of possible prehistoric origin to the north-east of the proposed development site. In addition, earthworks of a possible Iron Age hillfort survive to the north of Shefford.

The western part of Shefford has yielded some important Roman finds. The extent of this settlement has yet to be determined. Shefford Lower and Middle Schools now occupy the site of a Roman cremation cemetery. Finds include high quality pottery, glass and coins. Later excavations identified a villa with a hypocaust (Simco 1984). Several Roman roads are listed in the area (HER 717, 5342 and 10480) although they are unproven. Excavations by NA at Shefford Lane School found a Roman ditch, possibly part of a large enclosure (Flavell 2010, Walker 2007b, Carlyle 2007).

Shefford Mill was demolished in the 1960s but has been associated with the proposed development site since the early sixteenth century. A mill may have been at this site since the eleventh century. Associated features include mill pond and the reservoir to feed the mill head.

On the Shefford Mills Sale Catalogue from 1869, a canal is evident on the southern boundary of the site (The Ivel Navigation). This can also be seen on the 1883 First edition Ordnance Survey Map and later 1901 and 1960 editions. A lock and later a weir are also recorded on these maps (Walker 2007).

4 METHODOLOGY

The survey was conducted with Bartington Grad 601-2, twin sensor array, vertical component fluxgate gradiometers (Bartington and Chapman 2003). These are standard instruments for archaeological survey and can resolve magnetic variations as slight as 0.1 nanoTesla (nT).

A tape measure and optical square were used to divide each field into 30m grid squares, which formed the basic units of survey. The grid was then located by means of a Leica System 1200 dGPS. The gradiometers were carried at a brisk but steady pace through each grid, collecting data along 1m spaced traverse lines. Measurements were automatically triggered every 0.25m along the traverses, giving a total of 3600 measurements per grid.

All fieldwork methods complied with the specification, and guidelines issued by English Heritage and by the Institute for Archaeologists (NA 2011; EH 2008; IfA forthcoming).

The survey data was processed using Geoplot 3.00v software. Striping, caused by slight mismatches in sensor balance, was removed using the 'Zero Mean Traverse' function and destaggering of the data was performed as necessary.

The processed data are presented in this report in the form of greyscale plots (scale +4nT to -4nT black ~ white) which have been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Figs 2 and 3). An interpretative plot has been produced and overlaid on the data in Figure 4.

5 SURVEY RESULTS

The overall results for each area are illustrated in Figure 2.

Field 1 (Figs 2 & 3)

Possible archaeological features were identified in the northern part of the field; four positive magnetic anomalies indicate the presence of buried ditches. The two linear positively magnetised anomalies are at right-angles, forming a T-shape with a small pit between them. Seven other pits were identified scattered about the central part of the field.

A curvilinear feature was identified extending east to west across the surveyed area. It is believed that this is the remnants of a path that can be seen on the 1883 First Edition Ordnance survey Map and later 1901 and 1960 editions.

The field is bisected by a pipeline aligned north-east to south-west. The negative curvilinear anomaly in the north of the field can be accredited to modern agriculture and indicates the edge of ploughing.

In the south-eastern corner of the field the ferrous feature may be backfill of the former reservoir.

Field 2 (Figs 2 & 3)

In the south-east corner of the field the survey detected a linear anomaly and two discrete positive magnetic anomalies. These may indicate a buried ditch and pits, but could be associated with the alluvial deposits to the north.

The course of the former canal has been identified as a positive anomaly along the southern edge of the field. Two parallel linear positive anomalies have been detected adjacent to the canal. These may reflect the remains of a bank associated with the former canal. Highly magnetic ferrous anomalies identified in the south-east corner possibly indicate the remains of a lock or weir.

Palaeochannels have been detected in the western part of the field whilst alluvial deposits have been identified on the east side. These are likely to be related to the River Ivel.

In the central part of the survey area magnetic noise may indicate buried demolition rubble of the former Shefford Mill.

6 CONCLUSION

Magnetometer survey of the proposed development site revealed an area of probable linear ditches and a group of pits in the northern part of Field 1. In contrast Field 2 detected features probably associated with the former Shefford Mill and River Ivel. This is to be expected as Field 2 and part of Field 1 are classified as flood plain.

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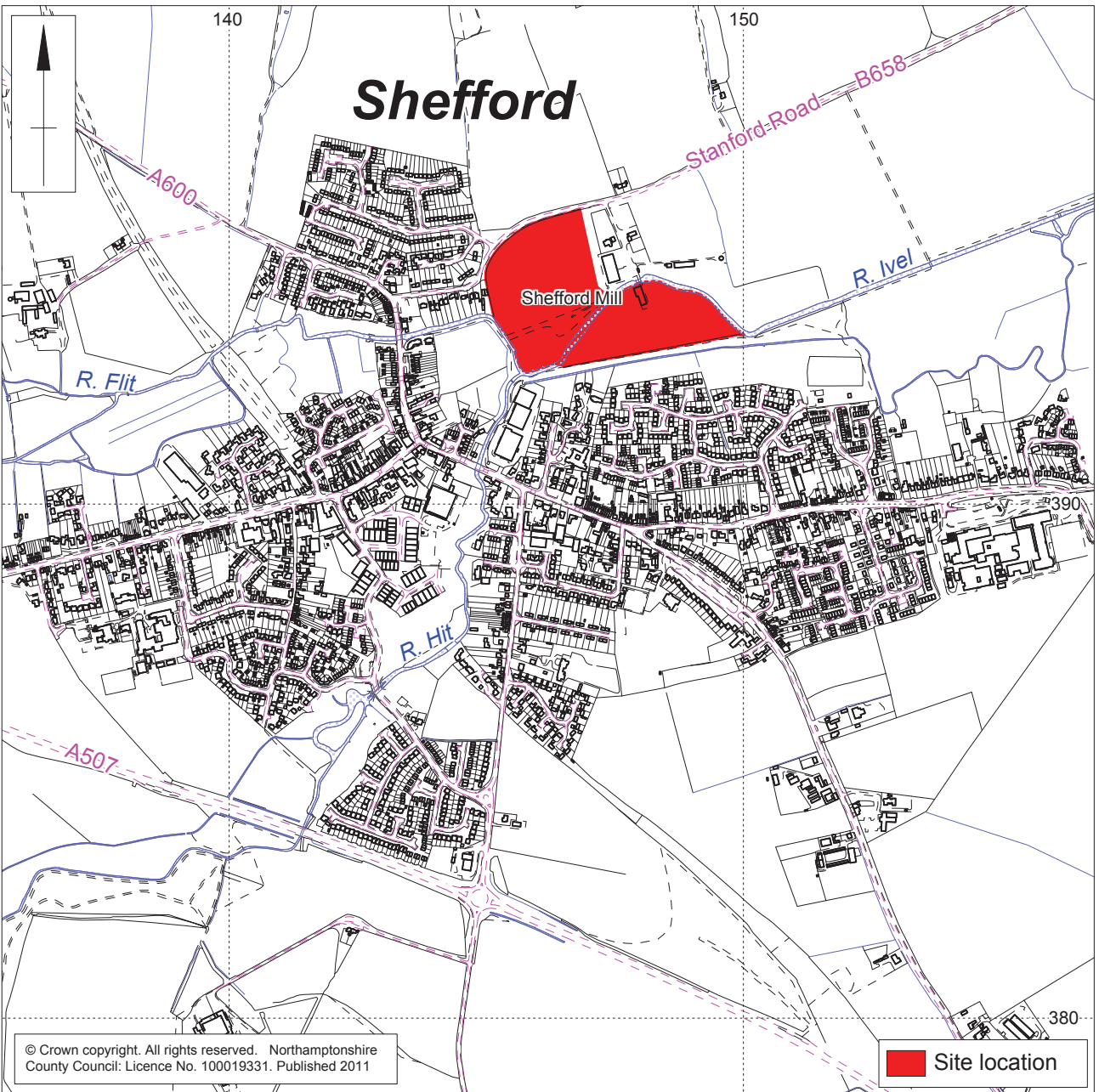
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Scale 1:12,500

Site location Fig 1



Shefford Mill Geophysical Survey Results Fig 2

Scale 1:2500 @ A4



Sheffield Mill Geophysical Survey Results Fig 2

Scale 1:2500 @ A4

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Sheffield Mill Geophysical Survey Results Fig 2

Scale 1:2500 @ A4

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Shefford Mill Geophysical Survey Interpretation Fig 3

Scale 1:2500 @ A4



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