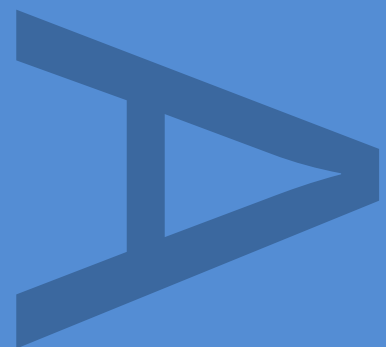


**Land at Lanwades Park,  
Kentford, Suffolk:  
An Archaeological Trial Trench  
Evaluation**

**February 2015**



**PRE-CONSTRUCT ARCHAEOLOGY  
R11982**

## **Land at Lanwades Park, Kentford, Suffolk: An Archaeological Trial Trench Evaluation**

**Local Planning Authority:** Forest Heath District Council

**Planning Reference:** n/a

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**Site Code:** ESF22732

**Report No.** R11982

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**February 2015**

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## ABSTRACT

*This report describes the results of an archaeological trial trench evaluation carried out by Pre-Construct Archaeology on land at Lanwades Park, Kentford, Suffolk, CB8 7UU (NGR TL 699 664) between the 2nd and the 4th February 2015. The archaeological work was commissioned by CgMs Consulting. The aim of the work was to characterise the archaeological potential of the proposed development area.*

*The evaluation identified no archaeological features, but a number of geological features were discovered. These geological features consisted of large irregular circular hollows and a number of smaller linear hollows. Apart from a single residual struck flint, none of these contained any finds. These features are likely to be geological frost cracks which had silted up gradually over time, and were subsequently sealed by the subsoil. A geophysical survey (Schofield, 2014) identified a number of anomalies, which correlated neatly with the silt hollows identified in the trenches.*

## **1 INTRODUCTION**

- 1.1 An archaeological trial trench evaluation was undertaken by Pre-Construct Archaeology Ltd (PCA) on land at Lanwades Park, Kentford, Suffolk, CB8 7UU (centred on Ordnance Survey National Grid Reference (NGR TL 699 664) from the 2nd to the 4th February 2015 (Figure 1).
- 1.2 The archaeological work was commissioned by CgMs Consulting.
- 1.3 The evaluation was carried out in accordance with a Written Scheme of Investigation (WSI) prepared by Taleyna Fletcher of PCA (Fletcher 2015).
- 1.4 The aim of the evaluation was to determine the location, date, extent, character, condition and quality of any archaeological remains on the site, to assess the significance of any such remains in a local, regional, or national context, as appropriate, and to assess the potential impact of the development proposals on the site's archaeology.
- 1.5 A total of twelve archaeological trial trenches were excavated and recorded.
- 1.6 This report describes the results of the evaluation and aims to inform the design of an appropriate archaeological mitigation strategy. The site archive will be deposited at Suffolk HER.

## **2 GEOLOGY AND TOPOGRAPHY**

### **2.1 Geology**

2.1.1 Bedrock geology is described as Holywell Nodular and New Pit Chalk Formation formed approximately 89 to 100 million years ago in the Cretaceous Period when the local environment was dominated by warm chalk seas (BGS, 2014).

2.1.2 No superficial deposits had been recorded at this location at the time of writing (BGS, 2015)

### **2.2 Topography**

2.2.1 The site is located to the south of Bury Road and to the west of Jeddah Way in Kentford, Suffolk, in one field given over to pasture. It lies at a height of between 30–35m AOD, bordered to the north, east and west by field boundaries and to the south by the Animal Health Trust. The site comprises an area of approximately 1.9ha, located in the west of Kentford 1.7km south of Kennett, and 0.7km south of the A14.

### **3 ARCHAEOLOGICAL BACKGROUND**

#### **3.1 Geophysical Survey**

3.1.1 A geophysical survey of the site was commissioned by Pre-Construct Archaeology in 2014 (Schofield 2014 Appendix 4). A summary of the results are as follows

3.1.2 Isolated dipolar ('iron spike') were particularly numerous throughout the dataset and record the presence of modern ferrous cultural debris introduced into the topsoil, rather than resulting from the presence of buried archaeological artefacts. These responses seemed to be fairly evenly spaced throughout the field with no apparent concentration, potentially related to ferrous material associated with equinery.

3.1.3 Two areas of magnetic disturbance were recorded during the survey; the first is located in the south-western corner and may delineate a service pipe or be caused by a ferrous water trough or the iron fence and gate in the corner of the field. The second surrounds an extant foul water brick-built pumping station also close to the south-western corner of the field.

3.1.4 Two negative linear trends were recorded running from the north-eastern corner of the brick-built pumping station to the north-eastern corner of the field. It is likely that these are foul water service pipe runs associated with the pumping station.

3.1.5 Two weak positive linear trends were recorded in the dataset, orientated north-west to south-east on a parallel course with the existing field boundaries. A weak negative linear trend on a similar alignment but further to the west was also recorded, all of these anomalies are indicative of relic agricultural boundaries or possibly furrows that are also delineated by extant cropmarks and earthworks in the field.

3.1.6 One area of magnetic enhancement was the most intriguing of the anomalies recorded in the dataset. It comprised a roughly circular or potentially curvi-linear shape in plan of possible archaeological origin (see Figure 1), although a modern derivation could not be ruled out. This feature

was therefore considered worthy of further targeted investigation

### **3.2 Palaeolithic and Mesolithic**

3.2.1 A single abraded 'coup-de-poing' style hand axe (CHER 07681) of Palaeolithic date was discovered 500m north-east of the site. This was recovered from a pit adjoining Kennett Station, c. 0.10km north of the Bury St Edmunds Road.

3.2.2 Four Mesolithic tranchet axeheads (KTD Misc) were discovered 1.2km to the east of the site in the eastern part of Kentford village.

### **3.3 Neolithic and Bronze Age**

3.3.1 A number of Neolithic axeheads have been recovered from the area. One Neolithic polished stone axehead (CHER 07487) was found 1.3km to the west of the site in Chippenham. Another Neolithic stone axehead (MSF 14641) was discovered 0.5km to the south of the site.

3.3.2 A number of Bronze Age ring ditches have been identified in the area. Two ring ditches were located 1.2km south-east of the site on the south side of the old A45. Of these one was 24m in diameter with two associated graves (KTD 003), the second ring ditch measured 29m in diameter and also had two graves associated with it (KTD 004).

3.3.3 Another Bronze Age ring ditch was identified on Aerial Photographs (CHER 09063) 1.2km north-west of the site.

### **3.4 Medieval**

3.4.1 Probable Medieval settlement has been identified 500m to the south of the site (KTD 007, KTD 017). This consists of probable house plots and gardens, identified on historic maps and from the locations of listed buildings.

3.4.2 St. Mary's church and associated churchyard is situated 500m to the south of the site (KTD 011). The church is comprised of a chancel, nave, south porch, and a western tower. Evidence for wall paintings are extensive, but faint, throughout the nave.



## **4 METHODOLOGY**

### **4.1 Excavation and Sampling**

- 4.1.1 The Written Scheme of Investigation for the evaluation proposed the excavation of 12 trial trenches, distributed across the site but avoiding standing buildings (Figure 2). Trenches 2, 4, and 6 were aligned to target specific areas of interest identified in the geophysical survey (Schofield 2014 Appendix 4)
- 4.1.2 Ground reduction was carried out under archaeological supervision using a 20-ton mechanical excavator fitted with a 1.8m-wide toothless ditching bucket. Topsoil and subsoil deposits were removed in spits down to the level of the undisturbed natural geological deposits where potential archaeological features could be observed and recorded. Exposed surfaces were cleaned by trowel and hoe as appropriate and all further excavation was undertaken manually using hand tools.
- 4.1.3 Metal-detecting was carried out during the topsoil and subsoil stripping and throughout the excavation process. Archaeological spoilheaps were scanned by metal-detector as they were encountered/ created.
- 4.1.4 Field excavation techniques and recording methods are detailed in the PCA Fieldwork Induction Manual (Operations Manual I) by Joanna Taylor and Gary Brown (2009).

### **4.2 Recording Methodology**

- 4.2.1 The limits of excavations, heights above Ordnance Datum (m OD) and the locations of archaeological features and interventions were recorded using a Leica 1200 GPS rover unit with RTK differential correction, giving three-dimensional accuracy of 20mm or better.
- 4.2.2 Manual section drawings of trench deposits, and geological deposits were drawn at an appropriate scale (1:20, 1:50).
- 4.2.3 Deposits or the removal of deposits judged by the excavating archaeologist to constitute individual events were each assigned a unique record number

(context numbers) and recorded on individual pre-printed forms (Taylor and Brown 2009). Archaeological processes recognised by the deposition of material are signified in this report by round brackets (thus), while events constituting the removal of deposits are referred to here as 'cuts' and signified by square brackets [thus]. The record numbers assigned to cuts and deposits are entirely arbitrary and in no way reflect the chronological order in which events took place. All features and deposits recorded during the evaluation are listed in Appendix 2.

- 4.2.4 High-resolution digital photographs were taken at all stages of the evaluation process. Digital Photographs were taken of all archaeological features and deposits.

## 5 ARCHAEOLOGICAL SEQUENCE

### 5.1 Introduction

5.1.1 The trenches are described below in numerical order, with technical data tabulated. Features and deposits are described from west to east or south to north depending on the alignment of the trench.

5.1.2 The evaluation identified a number of geological deposits, including four large circular geological hollows (Trenches 2-6) and numerous smaller linear hollows (Trenches 2, 3, 4, and 10).

### 5.2 Trench 1

5.2.1 Trench 1 no archaeological features.

TRENCH 1	Figure 2	Plate -	
Trench Alignment: NW-SE	Length: 30.0m	Level of Natural (m OD): 32.2m	
Deposit	Context No.	Average Depth (m)	
		SE End	NW End
Topsoil	(003)	0.32m	0.24m
Subsoil	(002)	0.3m	0.26m
Natural	(001)	0.86m+	0.72m+
<b>Summary</b>			
Trench 1 was located close to the south-western boundary of the site.			
The trench contained no archaeological features.			

### 5.3 Trench 2

5.3.1 The trench (Plate 1; Fig 2) contained numerous linear silt hollows as well as part of a large circular hollow, which is also identified in Trench 4.

5.3.2 Silt hollow [4] (Plate 2; Fig 4) was located at the western end of Trench 2 and was 11.2m wide and 0.45m deep. It had a gradual concave profile and a single fill of mid yellowish-grey clayey silt sand (005). The feature contained no datable artefacts and is likely to be geological.

5.3.3 Slots were excavated in two of the linear silt hollows in this trench to confirm

that they were geological in nature (Plate 2; Fig 4). These both consisted of mixed deposits of natural sands, silts and clays.

<b>TRENCH 2</b>	<b>Figures 2, 4</b>		<b>Plate 1</b>	
Trench Alignment: NW-SE	Length: 50.0m	Level of Natural (m OD): 33.2m		
<b>Deposit</b>	<b>Context No.</b>	<b>Average Depth (m)</b>		
		<b>NW End</b>	<b>SE End</b>	
Topsoil	(003)	0.22m	0.26m	
Subsoil	(002)	0.41m	0.30m	
Silt Hollow	(005)	0.45m	N/A	
Natural	(001)	1.08m+	0.56m+	
<b>Summary</b>				
<p>Trench 2 was located in the south-east of the site.</p> <p>There were no archaeological features in the trench.</p> <p>There were a number of linear silt hollows, and part of a large circular hollow [004]. These were clearly geological in nature.</p>				

## 5.4 Trench 3

5.4.1 The trench contained a no archaeological features.

5.4.2 Silt hollow [006] (Plate 3; Fig 4) was identified in the centre of the trench. It was 17.1m in width and reached a maximum depth of 1.74m, with gradually sloping sides and a concave base. It contained a single deposit of mid to dark orange brown silt sand (007). A single undiagnostic flint flake was recovered from this deposit, but it is still of solid geological origins.

<b>TRENCH 3</b>	<b>Figures 2, 4</b>		<b>Plate 3</b>	
Trench Alignment: NE-SW	Length: 50.0m	Level of Natural (m OD): 32.7m		
<b>Deposit</b>	<b>Context No.</b>	<b>Average Depth (m)</b>		
		<b>SW End</b>	<b>NE End</b>	
Topsoil	(003)	0.29m	0.20m	
Subsoil	(002)	0.33m	0.48m	
Silt Hollow	(007)	N/A	0.68m+	
Natural	(001)	0.62m+	1.7m+	
<b>Summary</b>				
<p>Trench 1 was located towards the south-eastern corner of the site.</p>				

The trench contained no archaeological features.  
 A silt hollow, geological in nature, was identified in the centre of the trench.

## 5.5 Trench 4

5.5.1 Trench 4 contained an anomaly, identified in a detailed magnetometer survey undertaken in May 2014 (Schofield, 2014).

5.5.2 This survey recorded a roughly circular or potentially curvi-linear anomaly (Schofield, 2014), which was originally thought to be archaeological in origin. However this anomaly correlated with a large circular silt hollow [004], which is geological.

5.5.3 Silt hollow [004] (Plate 4; Fig 4) measured 22.5m wide and 1.2m deep. Excavation ceased at 1.2m due to health and safety concerns. It was roughly circular in plan with gradually-sloping rounded sides and a concave base. It contained a single fill of mid yellowish-grey clayey silt sand (005). No finds were present, and it is likely that this feature is of geological origins. This hollow is present also in the western end of Trench 2.

TRENCH 4	Figures 2, 4	Plate 4	
Trench Alignment: NE-SW	Length: 50m	Level of Natural (m OD): 32.5m	
Deposit	Context No.	Average Depth (m)	
		SW End	NE End
Topsoil	(003)	0.22m	0.3m
Subsoil	(002)	0.32m	0.1m
Silt Hollow	(005)	0.4m	N/A
Natural	(001)	1.2m+	0.42m+
<b>Summary</b>			
Trench 4 was located centrally in the southern part of the site.			
There were no archaeological features in the trench.			
This trench contained an anomaly identified in a geophysical survey (Schofield, 2014) which correlated to a large circular silt hollow. No artefacts were recovered.			

## 5.6 Trench 5

5.6.1 The trench contained no archaeological features.

5.6.2 A large silt hollow [012] (Plate 5; Fig 4) was identified in the south-western end of the trench, this was 14.5m in width and 0.4m in depth. It consisted of a single fill of mid to dark orange brown silt sand (011). No artefacts were present in this deposit.

<b>TRENCH 5</b>	<b>Figures 2, 4</b>		<b>Plate 5</b>	
Trench Alignment: NE-SW	Length: 50m	Level of Natural (m OD): 33.4m		
<b>Deposit</b>	<b>Context No.</b>	<b>Average Depth (m)</b>		
		<b>SW End</b>	<b>NE End</b>	
Topsoil	(003)	0.3m	0.32m	
Subsoil	(002)	0.4m	0.3m	
Silt Hollow	(011)	0.4m	N/A	
Natural	(001)	1.1m+	0.7m+	
<b>Summary</b>				
Trench 5 was located centrally in the southern part of the site.				
There were no archaeological features in the trench.				
This trench contained a large circular silt hollow. No artefacts were recovered from this deposit.				

## 5.7 Trench 6

5.7.1 Trench 6 contained no archaeological features, however some geological features were present.

5.7.2 Six small circular hollows were present in the south-western end of the Trench 6 (Plate 6). These all contained a deposit of orange brown clay sand, indistinguishable from the subsoil. It is likely that these small hollows are solution hollows, which are associated and grouped around a tree hollow.

5.7.3 A silt hollow [013] (Plate 7; Fig 4) measured in 14.9m wide, continuing in both directions beyond the limit of excavation, and was over 2.2m in depth. It had a gradual sloping profile and an irregular flattish base. It contained a single fill (014) consisting of a pale grey brown silt sand. No finds were recovered from the feature. This deposit is likely to be geological in nature.

<b>TRENCH 6</b>	<b>Figures 2, 4</b>		<b>Plate 7</b>	
Trench Alignment: NE-SW	Length: 50m	Level of Natural (m OD): 32.6m		

Deposit	Context No.	Average Depth (m)	
		SW End	NE End
Topsoil	(003)	0.32m	0.36m
Subsoil	(002)	0.28m	0.34m
Silt Hollow	(014)	N/A	0.36m
Natural	(001)	0.6m+	1.2m+
<b>Summary</b>			
<p>Trench 6 was located centrally within the site.</p> <p>There were no archaeological features in the trench.</p> <p>One large geological silt hollow was present, containing no datable artefacts.</p>			

## 5.8 Trench 7

5.8.1 The trench contained no archaeological features.

TRENCH 7	Figures 2		Plate -	
Trench Alignment: NE-SW	Length: 30.0m	Level of Natural (m OD): 32.6m		
Deposit	Context No.	Average Depth (m)		
		SW End	NE End	
Topsoil	(003)	0.22m	0.28m	
Subsoil	(002)	0.m32	0.42m	
Natural	(001)	0.58m+	0.70m+	
<b>Summary</b>				
<p>Trench 7 was located close to the north-western boundary of the site.</p> <p>The trench contained no archaeological features.</p>				

## 5.9 Trench 8

5.9.1 This trench contained no archaeological features.

TRENCH 8	Figure 2		Plates -	
Trench Alignment: NW-SE	Length: 50m	Level of Natural (m OD): 32.65m		
Deposit	Context No.	Average Depth (m)		
		SE End	NW End	
Topsoil	(003)	0.4m	0.24m	
Subsoil	(002)	0.38m	0.3m	
Natural	(001)	0.82m+	0.56m+	

**Summary**

Trench 8 was located in the north-western part of the site.  
 No archaeology was present in the trench.

**5.10 Trench 9**

5.10.1 The trench contained no archaeological features.

<b>TRENCH 9</b>	<b>Figures 2</b>		<b>Plate -</b>	
Trench Alignment: NW-SE	Length: 30.0m	Level of Natural (m OD): 31.6m		
<b>Deposit</b>	<b>Context No.</b>	<b>Average Depth (m)</b>		
		<b>NW End</b>	<b>SE End</b>	
Topsoil	(003)	0.1m	0.24m	
Subsoil	(002)	0.61m	0.37m	
Natural	(001)	0.71m+	0.61m+	
<b>Summary</b>				
Trench 9 was located centrally in the eastern part of the site. The trench contained no archaeological features.				

**5.11 Trench 10**

5.11.1 The trench contained no archaeology, but did contain geological features.

5.11.2 A linear silt hollow [008] (Plate 9; Fig 4) was present in the centre of the trench. It measured 3.0m in length, 1.1m wide and 0.26m deep. The hollow was aligned west-south-west to east-north-east and had straight sides sloping down to a V-shaped base. This feature is geological in nature.

<b>TRENCH 10</b>	<b>Figures 2, 4</b>		<b>Plate 8</b>	
Trench Alignment: NE-SW	Length: 50m	Level of Natural (m OD): 31.6m		
<b>Deposit</b>	<b>Context No.</b>	<b>Average Depth (m)</b>		
		<b>SW End</b>	<b>NE End</b>	
Topsoil	(003)	0.27m	0.21m	
Subsoil	(002)	0.23m	0.53m	
Natural	(001)	0.5m+	0.74m+	
<b>Summary</b>				



Trench 10 was located in the north-eastern corner of the site.  
 The trench contained no features of archaeological importance.

## 5.12 Trench 11

5.12.1 Trench 11 contained no archaeology.

TRENCH 11	Figures 2	Plate -	
Trench Alignment: NW-SE	Length: 30m	Level of Natural (m OD): 32.24m	
Deposit	Context No.	Average Depth (m)	
		SE End	NW End
Topsoil	(003)	0.24m	0.24m
Subsoil	(002)	0.36m	0.34m
Natural	(001)	0.72m+	0.56m+
<b>Summary</b>			
Trench 1 was located centrally within the northern part of the site. The trench contained no archaeological features.			

## 5.13 Trench 12

5.13.1 The trench contained no archaeological features.

TRENCH 12	Figures 2	Plate -	
Trench Alignment: NE-SW	Length: 30m	Level of Natural (m OD): 32.1m	
Deposit	Context No.	Average Depth (m)	
		SW End	NE End
Topsoil	(003)	0.3m	0.34m
Subsoil	(002)	0.14m	0.36m
Natural	(001)	0.44m+	0.68m+
<b>Summary</b>			
Trench 1 was located close to the north-eastern boundary of the site. The trench contained no archaeological features.			

## **6 DISCUSSION & CONCLUSIONS**

- 6.1.1 No archaeological features were identified in any of the excavated trenches, but a number of geological features were present in Trenches 2, 3, 4, 5, and 6.
- 6.1.2 These geological features consisted of four large circular hollows, present in Trenches 2, 3, 4, 5, and 6 in the southern part of the site. These hollows are likely to have been formed through glacial action, with the natural being altered through the process of freeze-thaw weathering. This would have caused large voids in the natural geology which then silted up over time forming these large silt hollows.
- 6.1.3 The deposits in the hollows were extremely sterile with very few inclusions present throughout. A single undiagnostic struck flint present in hollow [006] comprised the only find.
- 6.1.4 A geophysical survey (Schofield, 2014 Appendix 4) identified two anomalies in Trenches 2 and 4 and one in Trench 6. The two anomalies were initially thought to have been of possible archaeological origin. Upon excavation of the trenches both of these anomalies were revealed to be large silt hollows, [004] in Trenches 2, and 4 and [013] in Trench 6.
- 6.1.5 The Trenches 2, 4 and 10 identified a number of smaller linear silt hollows. These hollows, as with the larger circular hollows, are likely associated with glacial action. They are likely to be water run-off channels, conceivably related to the retreat of glaciers, which have eroded channels into the natural geology. This is evidenced by the irregular nature of their shape in plan, where water has pooled and eroded the natural geology in an irregular fashion. These channels then silted up over time in the same way as the larger circular hollows.
- 6.1.6 A series of solution hollows or drip hollows were present in the south-western end of Trench 6. These were gathered around a sub-circular tree throw, and so are likely to be solution hollows formed from precipitation running off the branches and foliage.

6.1.7 The site was in use as farm land as shown in an 1817 Ordinance Survey map of the area. At this point the site is incorporated as part of Town End Farm. It is likely it was pastoral farming as this would explain the dearth in both archaeological features and artefacts.

6.1.8 By 1885 the site becomes part of Landwade Stud Farm, shown on the 1884 Ordinance Survey map (Sheet XXXVI.SE). The land use again appears to be given over to pastoral farming, which would have low impact on the archaeological record.

## **6.2 Conclusions**

6.2.1 The trial trench evaluation has identified no archaeological features. Numerous geological features were prevalent throughout the southern part of the site, in Trenches 2, 3, 4, 5, and 6.

6.2.2 The distinct lack of features and artefacts suggests that the site is located outside settlement and agricultural areas. It is likely that the site was given over to pasture in the medieval period.

6.2.3 The site was used as farmland from 1817 and continued to be used in this fashion until the present day. This would have minimal impact on the archaeological record, leaving scarce evidence for features or artefacts.

## **7 ACKNOWLEDGEMENTS**

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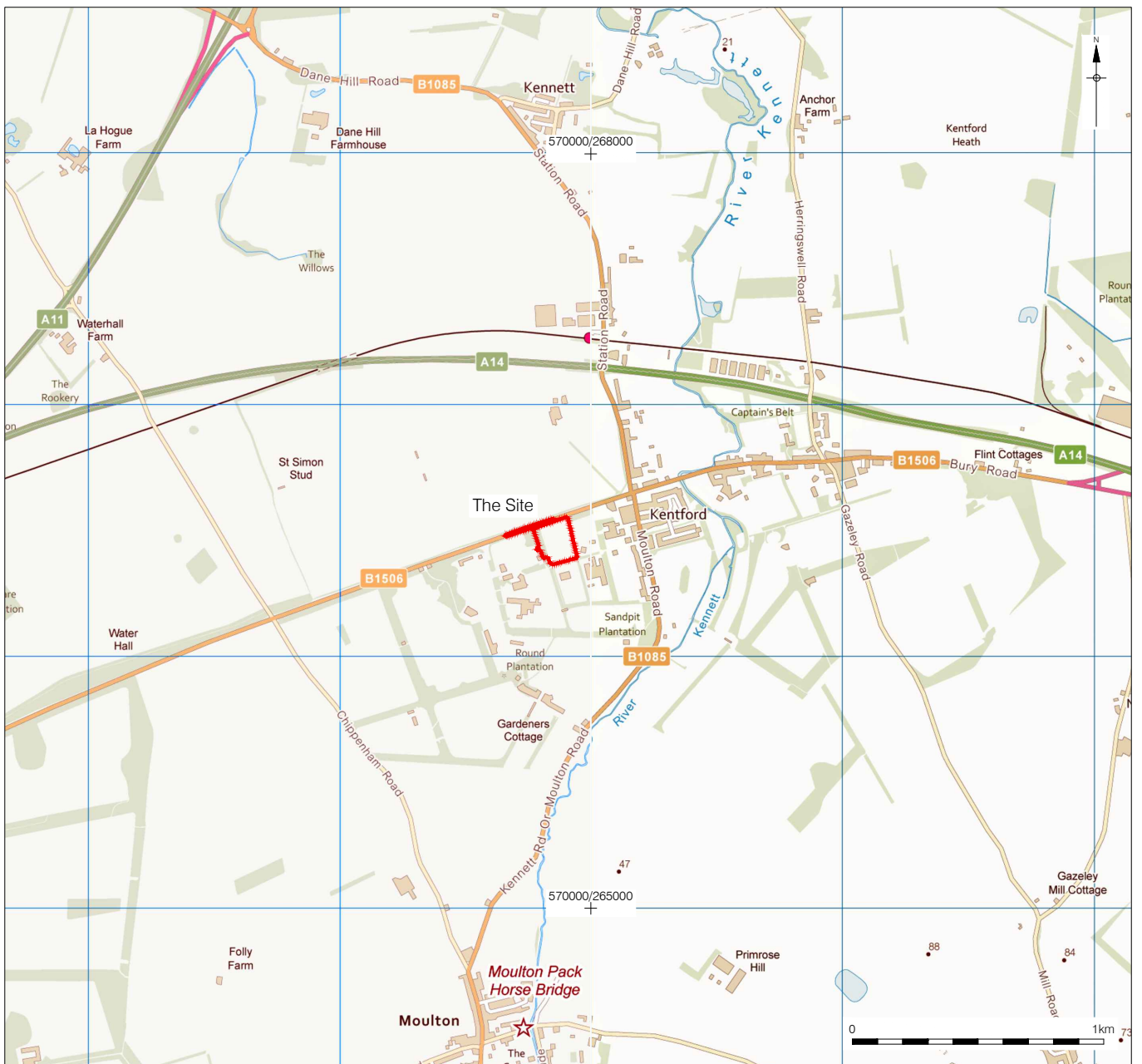
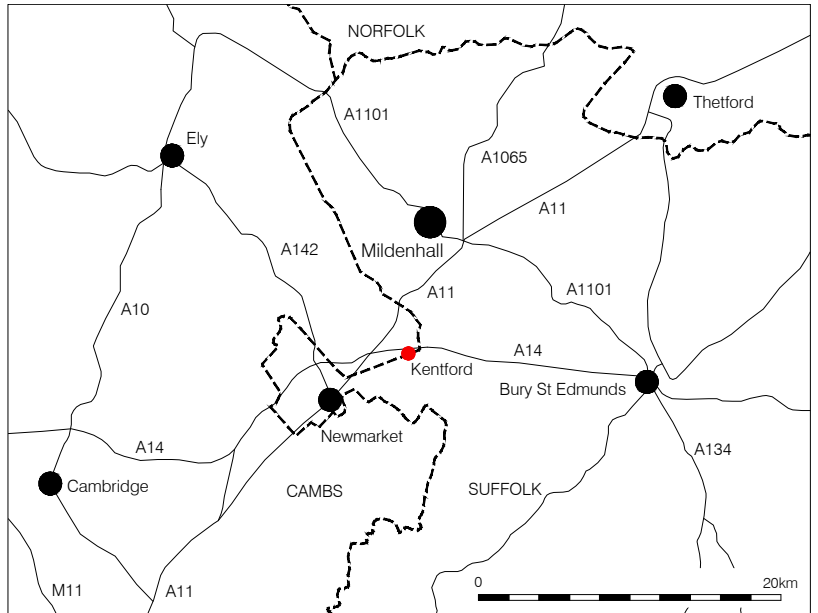
Schofield, T. 2014. Land at Lanwades Park, Kentford, Suffolk: Detailed Magnetometer Survey. Britannia Archaeology Ltd. Report No. 1058

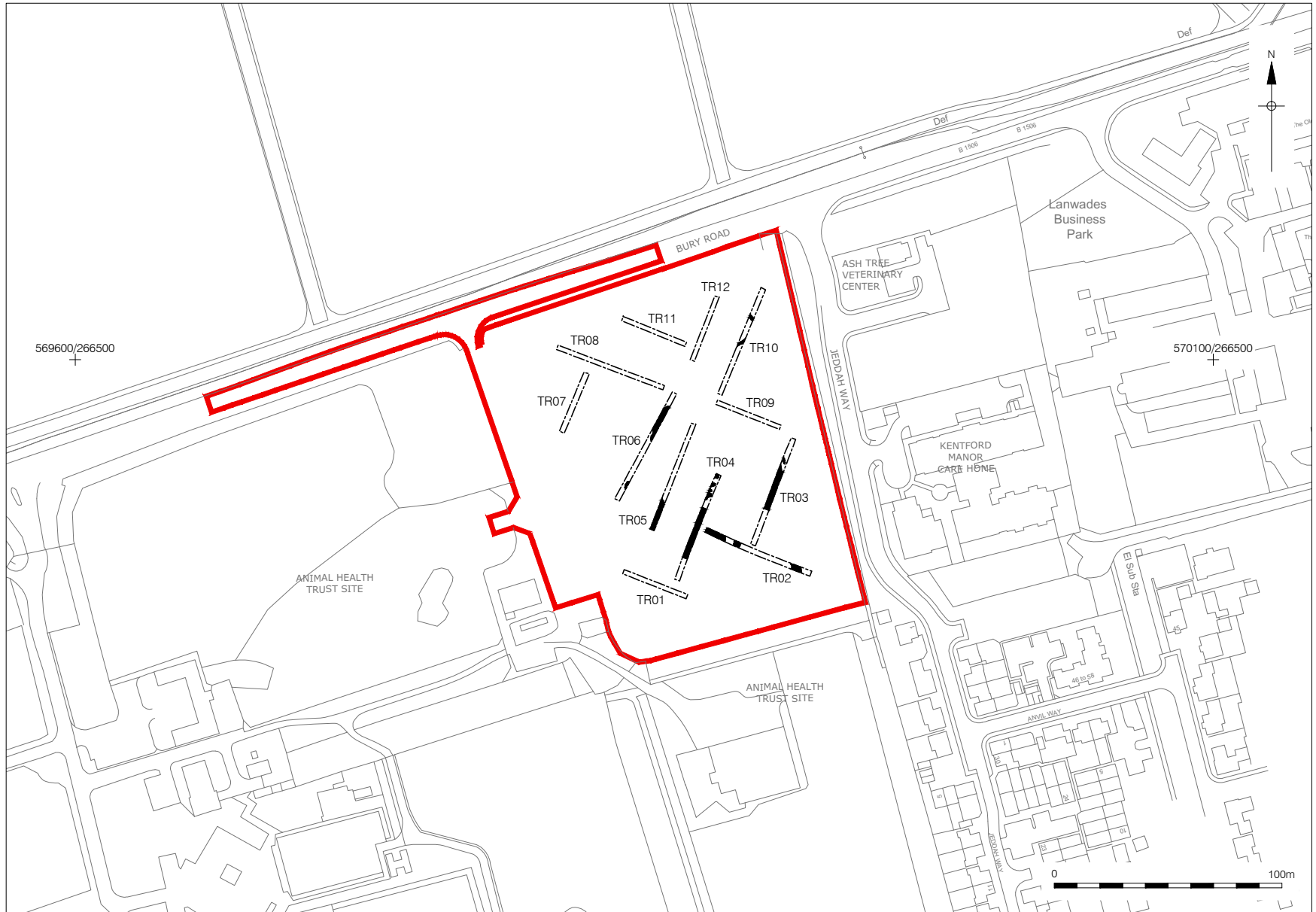
### **8.2 Websites**

1) <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> Date accessed 05/02/15

2) <http://www.oldmapsonline.org/> Date accessed 06/02/15

3) <http://www.heritagegateway.org.uk/Gateway> Date accessed 06/02/15





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06/02/2015 AMB

Figure 2  
Detailed Site Location  
1:2,500 at A4



Figure 3  
Trench Locations  
superimposed onto magnetometer survey  
1:1000 at A4



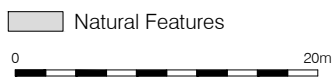
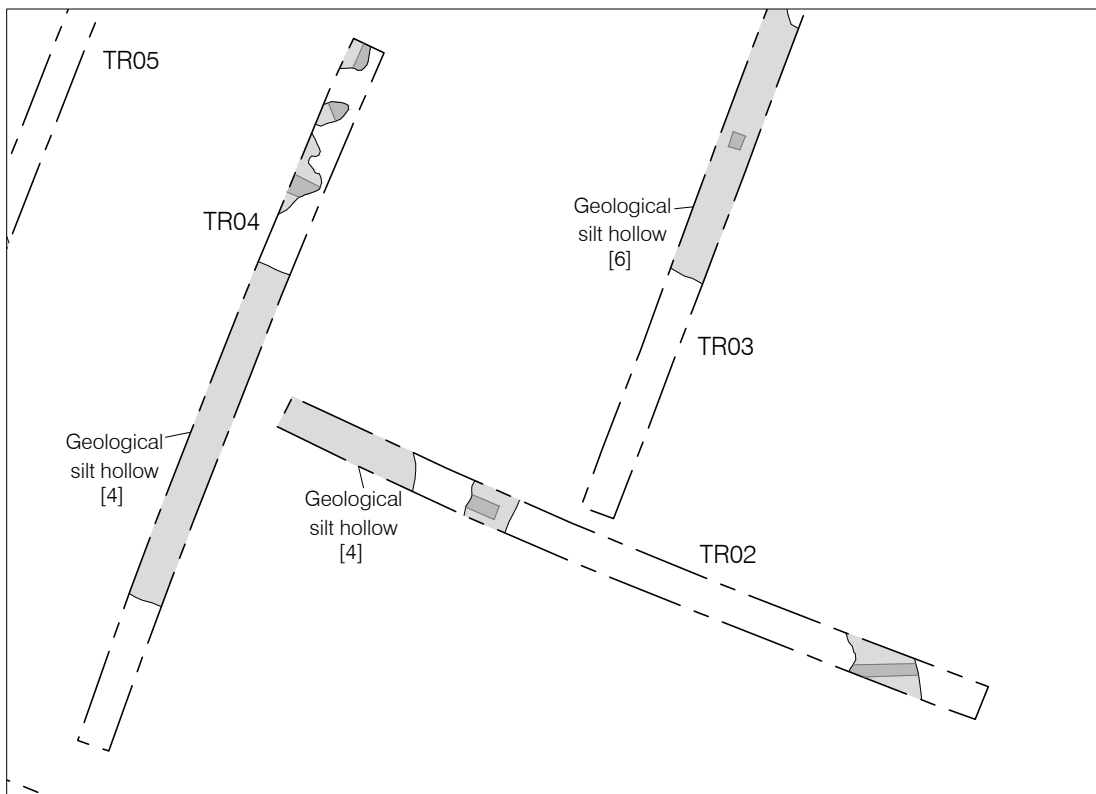
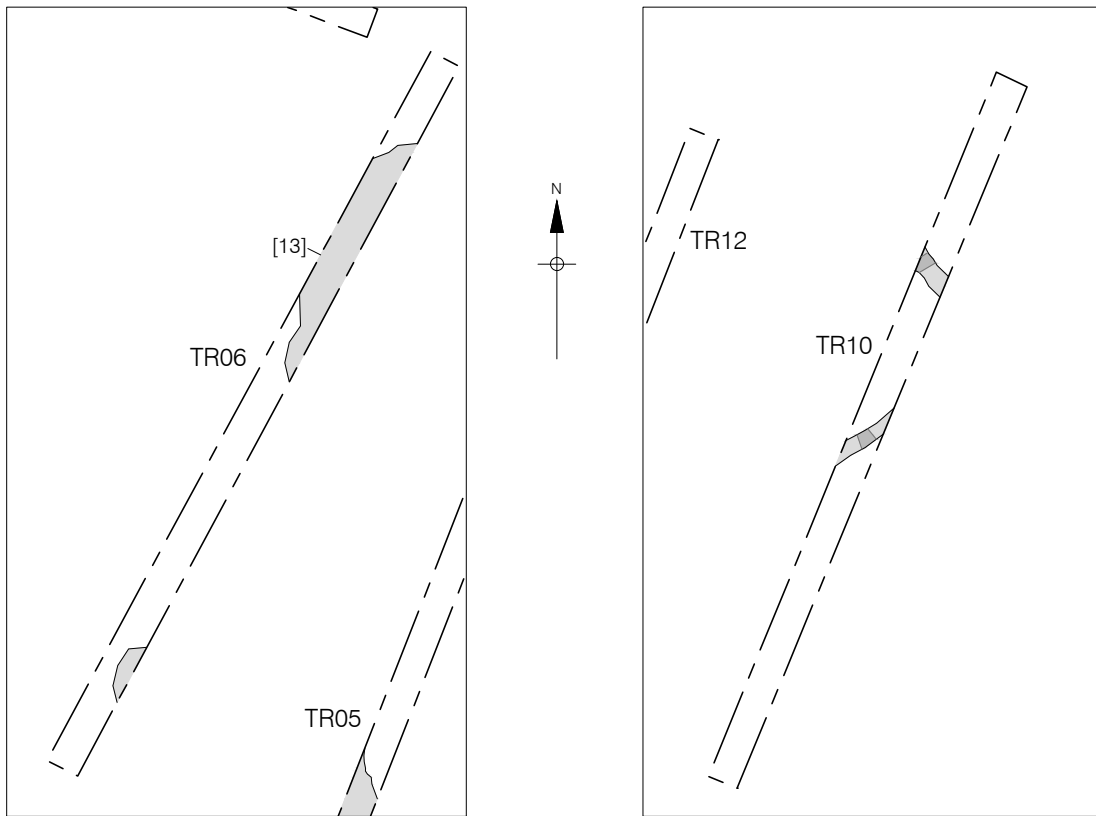


Figure 4  
 Detailed Plans of Trenches 2, 4, 6 and 10  
 1:500 at A4

**9 APPENDIX 1: PLATES**



Plate 1: Trench 2, view north-west



Plate 2: Trench 2, view north-west showing silt hollows



Plate 3: Trench 3, view north-east showing hollow [006]



Plate 4: Trench 4, view south-west with natural features



Plate 5: Trench 5, view north-east showing hollow [012]



Plate 6: Trench 6, view south-east showing solution hollows



Plate 7: Trench 6, view south-west showing silt hollow [013]



Plate 8: Trench 10, view north-east



Plate 9: Trench 10, view north-east showing feature [008]

## 10 APPENDIX 2: CONTEXT INDEX

Context	Cut	Type	Category	Interpretation	Trench Number
001	-	Layer	Natural	Geology	1-12
002	-	Layer	Subsoil	Overburden	1-12
003	-	Layer	Topsoil	Overburden	1-12
004	004	Cut	Natural	Silt Hollow	2, 4
005	004	Fill	Natural	Silting of [004]	2, 4
006	006	Cut	Natural	Silt Hollow	3
007	006	Fill	Natural	Silting of [006]	3
008	008	Cut	Natural	Silt Hollow	10
009	008	Layer	Natural	Silting of [008]	10
010	Void	Void	Void	Void	Void
011	012	Fill	Natural	Silting of [012]	5
012	012	Cut	Natural	Silt Hollow	5
013	013	Cut	Natural	Silting of [013]	6
014	013	Fill	Natural	Silt Hollow	6

## 11 APPENDIX 3: OASIS FORM

OASIS ID: preconst1-200093

### Project details

Project name Lanwades Park, Kentford, Suffolk: Evaluation

Short description This report describes the results of an archaeological trial trench of the project evaluation carried out by Pre-Construct Archaeology on land at Lanwades Park, Kentford, Suffolk, CB8 7UU (NGR TL 699 664) between the 2nd and the 4th February 2015. The archaeological work was commissioned by CgMs Consulting. The aim of the work was to characterise the archaeological potential of the proposed development area. The evaluation identified no archaeological features, but a number of geological features were discovered. These geological features consisted of large irregular circular hollows and a number of smaller linear hollows. Apart from a single residual struck flint, these contained no finds. These features are likely to be geological frost cracks which had silted up gradually over time, and were sealed by the subsoil. A geophysical survey (Schofield, 2014) identified a number of anomalies, with these anomalies correlating neatly with the silt hollows that were identified in the trenches.

Project dates Start: 26-01-2015 End: 04-02-2015

Previous/future work Not known / Not known

Any associated project reference codes ESF22732 - Sitecode

Type of project Field evaluation

Site status None

Current Land use Vacant Land 2 - Vacant land not previously developed

Monument type SILT HOLLOW Uncertain

Monument type SILT HOLLOW Uncertain

Monument type SILT HOLLOW Uncertain



Monument type SILT HOLLOW Uncertain

Significant Finds NONE None

Methods & ""Sample Trenches""  
techniques

Position in the Pre-application  
planning process

---

#### Project location

Country England

Site location SUFFOLK FOREST HEATH KENTFORD Lanwades Park, Kentford,  
Suffolk

Postcode CB8 7UU

Study area 1.90 Hectares

Site coordinates TL 698 664 52.2690591853 0.488781194076 52 16 08 N 000 29 19 E  
Point

Height OD / Depth Min: 31.15m Max: 33.90m

---

#### Project creators

Name of Pre-Construct Archaeology Limited  
Organisation

Project Taleyna Fletcher  
director/manager

Project supervisor Matthew Jones

Type of Developer  
sponsor/funding  
body

---

#### Project archives

Physical Archive No  
Exists?

Digital Archive Suffolk County Council  
recipient

Digital Archive ID ESF22732

Digital Contents "none"

Digital Media "Images raster / digital photography","Survey","Text","Database"  
available

Paper Archive Suffolk County Council  
recipient

Paper Archive ID ESF22732

Paper Contents "Worked stone/lithics"

Paper Media "Context sheet","Drawing","Photograph","Report","Section","Survey  
available","Unpublished Text"

---

Project  
bibliography 1

Grey literature (unpublished document/manuscript)

Publication type

Title Land at Lanwades Park, Kentford, Suffolk: An Archaeological Trial  
Trench Evaluation

Author(s)/Editor(s) Jones, M.

Other bibliographic R11982  
details

Date 2015

Issuer or publisher Pre-Construct Archaeology Ltd.

Place of issue or Pampisford  
publication

Description A4 bound report with figures and plates.

URL [www.oasis.ac.uk](http://www.oasis.ac.uk)

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Entered by Matt Jones (mjones@pre-construct.com)

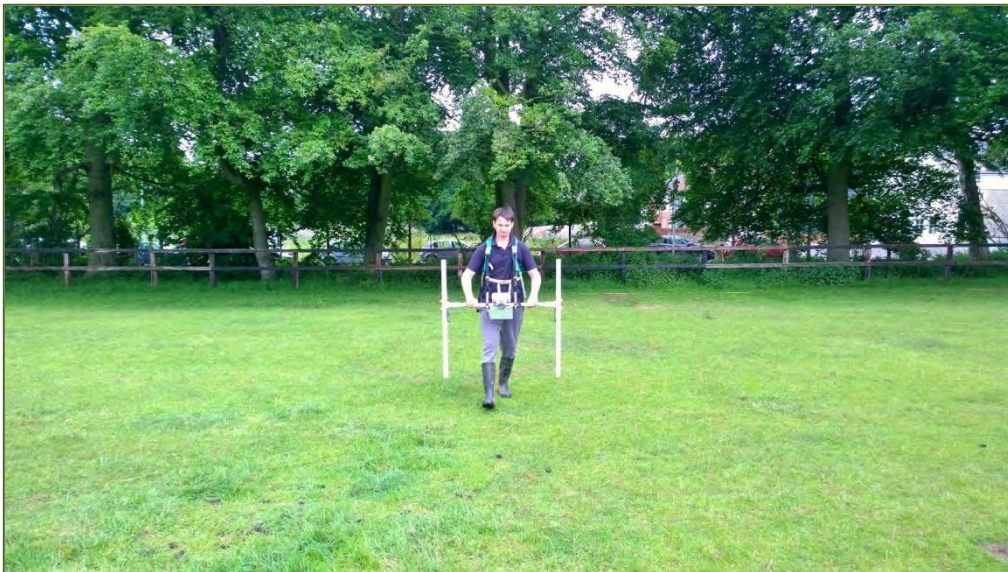
Entered on 9 February 2015



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# **LAND AT LANWADES PARK, KENTFORD, SUFFOLK**

## **DETAILED MAGNETOMETER SURVEY**





## LAND AT LANWADES PARK, KENTFORD, SUFFOLK

### DETAILED MAGNETOMETER SURVEY

Prepared for:  
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Pre-Construct Archaeology  
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Registered in England and Wales: 7874460

May 2014

<b>Site Code</b>	MUN 052	<b>NGR</b>	TL 6986 6645
<b>Planning Ref.</b>	-	<b>OASIS</b>	preconst1-180338
<b>Approved By</b>	Matt Adams	<b>DATE</b>	May 2014



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**The results and interpretation of the report cannot be considered an absolute representation of the archaeological or any other remains. In the case of geophysical surveys the data collected, and subsequent interpretation is a representation of anomalies recorded by the survey instrument. Britannia Archaeology Ltd will not be held liable for any errors of fact supplied by a third party, or guarantee the proper maintenance of the survey stations.**



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## **ABSTRACT**

*Detailed fluxgate gradiometer survey was undertaken by Britannia Archaeology Ltd in one field (c.2.50 hectares) on the 22<sup>nd</sup> May 2014. Despite the sites potential for encountering anomalies of possible prehistoric origin, only a single are of magnetic enhancement may be of an archaeological derivation.*

*Isolated dipolar responses were most numerous throughout the dataset and have probably been caused by the presence of modern ferrous cultural debris introduced into the topsoil through loss. Two areas of magnetic disturbance were recorded in the dataset, located in the south-western corner of the field and surrounding the extant brick foul water pumping station.*

*Two negative linear trends recorded running from the north-eastern corner of the pumping station to the north-eastern corner of the field are likely to delineate the location of non-ferrous service pipe runs.*

*Two weak positive and one weak negative linear trend all orientated north-west to south-east have been recorded running the length of the field, they are indicative of agricultural strip fields or relic field boundaries.*

*One area of magnetic enhancement that is circular or curvilinear is potentially of an archaeological origin, however a modern derivation cannot be ruled out.*

*Further targeted trial trenching to ground- test the hypotheses given in this report would be prudent.*





## 1.0 INTRODUCTION

On the 22<sup>nd</sup> May 2014 Britannia Archaeology Ltd (BA) undertook a detailed fluxgate gradiometer survey over c.2.5 hectares on one field laid to pasture in advance of a proposed new housing development and associated groundwork's at Lanwades Park, Kentford, Suffolk (TL 6986 6645).

The survey was commissioned by Mark Hinman of Pre-Construct Archaeology in response to a design brief issued by Suffolk County Council Archaeology Service/Conservation Team (SCCAS/CT), (Tipper. J, dated 11/04/2013).

## 2.0 SITE DESCRIPTION

The site is located to the south of Bury Road and to the west of Jeddah Way in Kentford, Suffolk, in one field given over to pasture. It lies at a height of between 30 – 35m AOD, bordered to the north, east and west by field boundaries and to the south by the Animal Health Trust site.

Bedrock geology is described as Holywell Nodular and New Pit Chalk Formation formed approximately 89 to 100 million years ago in the Cretaceous Period when the local environment was dominated by warm chalk seas (BGS, 2014).

At the time of writing no superficial deposits had been recorded at this location (BGS 2014).

## 3.0 PLANNING POLICIES

### 3.1 *National Planning Policy Framework (NPPF, DCLG March 2012)*

The NPPF recognises that 'heritage assets' are an irreplaceable resource and planning authorities should conserve them in a manner appropriate to their significance when considering development. It requires developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. The key areas for consideration are:

- The significance of the heritage asset and its setting in relation to the proposed development;
- The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance;
- Significance (of the heritage asset) can be harmed or lost through alteration or destruction, or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification;



- Local planning authorities should not permit loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred;
- Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.

### 3.2 *Forest Heath Local Plan, (Policy 8.20, 1995)*

Forest Heath's local plan development plan was adopted in 1995 and has undergone some revision since. A Core Strategy was released in 2010 and an updated assessment of their Heritage Policy is pending. The Council's position on heritage assets is summarised as follows:

- The District Council will seek provision to be made for the evaluation of archaeological sites of unknown importance and areas of high potential prior to the determination of development proposals. Where nationally or locally important sites, whether scheduled or not, and their settings, are effected by proposed development, there will be a presumption in favour of their preservation. On sites where there is no overriding case for preservation, development will not normally be permitted unless agreement has been reached to provide either for their preservation or for their recording and, where desirable, their excavation prior to development.

## **4.0 ARCHAEOLOGICAL BACKGROUND**

The large size of the proposed development has not been the subject of any previous systematic archaeological investigation and recording work. However the area is known to be topographically favourable for early occupation from all periods and overlooks the valley of the River Kennett.

## **5.0 PROJECT AIMS**

A non-intrusive field survey by geophysical prospection was undertaken to determine the extent and significance of any surviving subsurface anomalies, to be followed by a subsequent trial trench evaluation. The aims and objectives (Brief, Section 3) are laid out as follows:

3.1 A geophysical survey is required of the development area to enable the archaeological resource, both in quality and extent, to be accurately quantified.

3.2 A systematic fluxgate gradiometer survey is to be undertaken across the proposed development site, 3.60 ha. in area.



3.3 A scale plan showing the proposed location of the geophysical survey should be included in the WSI and the detailed trench design must be approved by SCCAS/CT before fieldwork begins.

The trial trench evaluation phase of site work is to be undertaken by Pre-Construct Archaeology who will prepare a Written Scheme and trench design informed by the results of the geophysical survey.

## **6.0 METHODOLOGY**

### **6.1 Instrument Type Justification**

Britannia Archaeology Ltd employed a Bartington Dual Grad 601-2 fluxgate gradiometer to undertake the survey, because of its high sensitivity and rapid ground coverage. The surveyors noted that the background magnetic susceptibility was relatively low, and therefore it was relatively simple to locate a suitable zero station.

### **6.2 Instrument Calibration**

One hour was allowed in the morning for the magnetometers sensors to settle before the start of the first grid. The instrument was zeroed after every three to five grids to minimise the effect of sensor drift. An area with a relatively low magnetic reading was chosen to calibrate the instrument; this same point was used to zero the sensors throughout the survey providing a common zero point. The survey was undertaken in overcast conditions interspersed with occasional rain and long periods of sunshine which caused a degree of sensor drift, and the characteristic parallel traverse 'striping' that is prevalent throughout the raw dataset (Figure 2).

### **6.3 Sampling Interval and Grid Size**

The sampling interval was set at 0.25m along 1m traverse intervals, providing 4 readings a metre, the magnetometer survey was undertaken on 20 x 20m grids.

### **6.4 Survey Grid Location**

The survey grid was set out to the Ordnance Survey OSGB36 datum to an accuracy of  $\pm 0.1\text{m}$  employing a Leica Viva Glonass Smart Rover GS08 real time kinetic (RTK) survey system. Data were converted to the National Grid Transformation OSTN02 and the instrument was regularly tested using stations with known ETRS89 coordinates. The grids were positioned on a north-west to south-east alignment (Figure 1).

### **6.5 Data Capture**

Instrument readings were recorded on an internal data logger that were downloaded to a laptop at lunchtime and then also at the end of the day. The grid order was recorded on a BA pro-forma to aid in the creation of the data composites. Data were filed in job specific folders. These data composites were checked for quality on site by BA, allowing



grids to be re-surveyed if necessary, (grids 34 – 39 were re-surveyed becoming grids 52 – 57 due to a zeroing error). The data were backed up onto an external storage device in the office and finally a remote server at the end of the day. A five metre exclusion zone was left between the boundaries and the survey area to reduce the amount of field boundary magnetic disturbance, which slightly reduced the area available.

## 6.6 Data Presentation and Processing

Data are presented in both raw and processed data plots in greyscale format (Figures 2 and 3). An XY trace plot of the processed data has also been included (Figure 4).

The raw data is presented with no processing, and was clipped to produce a uniform greyscale plot, processed data schedules are also displayed below.

### *Raw Data:*

**Data Clipping:** 1.00 standard deviation.  
**Display Clipping:** +/- 3 standard deviations.

### *Processed Data:*

**De-spike:** X diameter = 3, Y diameter = 3, Threshold = 1, centre value=mean, replace with = mean;  
**De-stripe:** Median Traverse: All;  
**Data Clipping:** 1.00 standard deviation;  
**Display Clipping:** +/- 3 standard deviations.

An interpretation plan characterising the anomalies recorded can be found at Figure 5, drawing together the evidence collated from both greyscale and XY trace plots (Figures 2, 3 and 4). All figures are tied into the National Grid and printed at an appropriate scale.

## 6.7 Software

Raw data were downloaded using DW Consulting's Archeosurveyor v2.0 and will be stored in this format as raw data. The software used to process the data and produce the composites was also DW Consulting's Archeosurveyor v2.0. Datasets were exported into AutoCAD and placed onto the local survey grid. Interpretation plots were then produced using AutoCAD.

## 6.8 Grid Restoration

Britannia Archaeology Ltd positioned no reference stations within the field however the grids can be relocated using the geo-referenced stations presented in Figure 1; these coordinates can also enable the accurate targeting of the geophysical anomalies.



## 7.0 RESULTS & DISCUSSION

Isolated dipolar ('iron spike') were particularly numerous throughout the dataset and record the presence of modern ferrous cultural debris introduced into the topsoil, rather than resulting from the presence of buried archaeological artefacts. These responses (yellow hatched circles) seem to be fairly evenly spaced throughout the field with no apparent concentration, potentially related to ferrous material associated with equinery.

Two areas of magnetic disturbance (yellow hatching) were recorded during the survey, the first is located in the south-western corner and may delineate a service pipe or be caused by a ferrous water trough or the iron fence and gate in the corner of the field. The second surrounds an extant foul water brick-built pumping station also close to the south-western corner of the field.

Two negative linear trends (blue lines) have been recorded running from the north-eastern corner of the brick-built pumping station to the north-eastern corner of the field. It is likely that these are foul water service pipe runs associated with the pumping station. These pipes are also likely to be present on the western side of the pumping station, 'dummy' readings were inputted here because of the magnetic nature of the structure. The pipes are non-ferrous in nature, possibly back-filled in reverse stratigraphic sequence with the less magnetically susceptible superficial geology as the upper fill and the topsoil in the base. Alternatively it may have been backfilled with hogging or gravel. Caution should be exercised when excavating below ground level over these anomalies and also on the western side of the pumping station.

Two weak positive linear trends (green lines) were recorded in the dataset, orientated north-west to south-east on a parallel course with the existing field boundaries. A weak negative linear trend (cyan line) on a similar alignment but further to the west was also recorded, all of these anomalies are indicative of relic agricultural boundaries or possibly furrows that are also delineated by extant cropmarks and earthworks in the field.

One area of magnetic enhancement (magenta hatching) is perhaps the most intriguing of the anomalies recorded in the dataset. It is roughly circular or potentially curvi-linear in plan and is of possible archaeological origin, however a modern derivation cannot be ruled out.

## 8.0 CONCLUSION

The underlying superficial geology has a relatively low background magnetic susceptibility, providing for good clarity between anomalies and the average background reading. Despite the potential for recording anomalies of a potential archaeological origin, only one area of magnetic enhancement of potential archaeological origin was recorded that is worthy of further targeted investigation. It would be prudent to further evaluate the anomalies indicative of agricultural ditches, to ground-test the hypotheses given in this report. Areas devoid of anomalies could also be further investigated to test whether features containing leached-out and non-humic fills (and therefore undetectable by gradiometer) are present.



## **9.0 PROJECT ARCHIVE AND DEPOSITION**

A full archive will be prepared for all work undertaken in accordance with guidance from the *Selection, Retention and Dispersion of Archaeological Collections*, Archaeological Society for Museum Archaeologists, 1993. Arrangements will be made for the archive to be deposited with the relevant museum/HER Office.

## **10.0 ACKNOWLEDGEMENTS**

Britannia Archaeology Ltd would like to thank Mr Mark Hinman of Pre-Construct Archaeology for commissioning the project, and to Dr Jess Tipper of Suffolk County Council Archaeological Service/Conservation Team for his advice throughout.



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## APPENDIX 1 METADATA SHEETS

### Raw Data

Filename	Ken 1 Raw.xcp
<b>Description</b>	
Instrument Type	Grad 601-2 (Gradiometer)
Units	nT
Surveyed by	MB/TPS on 5/22/2014
Assembled by	TPS on 5/22/2014
Direction of 1st Traverse	90 deg
Collection Method	ZigZag
Sensors	2 @ 1.00 m spacing.
Dummy Value	32702.00
<b>Dimensions</b>	
Composite Size (readings)	480 x 180
Survey Size (meters)	120.00m x 180.00 m
Grid Size	20.00 m x 20.00 m
X Interval	0.25 m
Y Interval	1.00 m
<b>Stats</b>	
Max	5.70
Min	-5.57
Std Dev	1.82
Mean	0.11
Median	0.14
Composite Area	2.16 ha
Surveyed Area	1.59 ha
<b>Program</b>	
Name	ArcheoSurveyor
Version	2.5.16.0

### Processed Data

Filename	Ken 1 Pro.xcp
<b>Description</b>	
Instrument Type	Grad 601-2 (Gradiometer)
Units	nT
Surveyed by	MB/TPS on 5/22/2014
Assembled by	TPS on 5/22/2014
Direction of 1st Traverse	90 deg
Collection Method	ZigZag
Sensors	2 @ 1.00 m spacing.
Dummy Value	32702.00
<b>Dimensions</b>	
Composite Size (readings)	480 x 180
Survey Size (meters)	120.00m x 180.00 m
Grid Size	20.00 m x 20.00 m
X Interval	0.25 m
Y Interval	1.00 m
<b>Stats</b>	
Max	5.37
Min	-5.14
Std Dev	1.42
Mean	0.06
Median	0.00
Composite Area	2.16 ha
Surveyed Area	1.59 ha
<b>Program</b>	
Name	ArcheoSurveyor
Version	2.5.16.0





<b>Source Grids: 51</b>			
1	Col:0	Row:0	grids\52.xgd
2	Col:0	Row:1	grids\53.xgd
3	Col:0	Row:2	grids\54.xgd
4	Col:0	Row:3	grids\01.xgd
5	Col:0	Row:4	grids\02.xgd
6	Col:0	Row:5	grids\03.xgd
7	Col:0	Row:6	grids\04.xgd
8	Col:0	Row:7	grids\05.xgd
9	Col:1	Row:0	grids\55.xgd
10	Col:1	Row:1	grids\56.xgd
11	Col:1	Row:2	grids\57.xgd
12	Col:1	Row:3	grids\06.xgd
13	Col:1	Row:4	grids\07.xgd
14	Col:1	Row:5	grids\08.xgd
15	Col:1	Row:6	grids\09.xgd
16	Col:1	Row:7	grids\10.xgd
17	Col:1	Row:8	grids\11.xgd
18	Col:2	Row:0	grids\40.xgd
19	Col:2	Row:1	grids\41.xgd
20	Col:2	Row:2	grids\42.xgd
21	Col:2	Row:3	grids\12.xgd
22	Col:2	Row:4	grids\13.xgd
23	Col:2	Row:5	grids\14.xgd
24	Col:2	Row:6	grids\15.xgd
25	Col:2	Row:7	grids\16.xgd
26	Col:2	Row:8	grids\17.xgd
27	Col:3	Row:0	grids\43.xgd
28	Col:3	Row:1	grids\44.xgd
29	Col:3	Row:2	grids\45.xgd
30	Col:3	Row:3	grids\18.xgd
31	Col:3	Row:4	grids\19.xgd
32	Col:3	Row:5	grids\20.xgd
33	Col:3	Row:6	grids\21.xgd
34	Col:3	Row:7	grids\22.xgd
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37	Col:4	Row:1	grids\47.xgd
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39	Col:4	Row:3	grids\24.xgd
40	Col:4	Row:4	grids\25.xgd
41	Col:4	Row:5	grids\26.xgd
42	Col:4	Row:6	grids\27.xgd
43	Col:4	Row:7	grids\28.xgd
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45	Col:5	Row:1	grids\50.xgd
46	Col:5	Row:2	grids\51.xgd
47	Col:5	Row:3	grids\29.xgd
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49	Col:5	Row:5	grids\31.xgd
50	Col:5	Row:6	grids\32.xgd
51	Col:5	Row:7	grids\33.xgd



## **APPENDIX 2 – TECHNICAL DETAILS**

### **Magnetometer Survey**

The magnetometer differs from the 'active' magnetic susceptibility meter by being a 'passive' instrument. Rather than injecting a signal into the ground it detects slight variations in the Earth's magnetic field caused by cultural and natural disturbance (Clark).

Thermoremanent magnetism is produced when a material containing iron oxides is strongly heated. Clay for example has a high iron oxide content that in a natural state is weakly magnetic, when heated these weakly magnetic compounds become highly magnetic oxides that a magnetometer can detect.

The demagnetisation of iron oxides occurs above a temperature known as the Curie point; for example haematite has a Curie point of 675 Celsius and magnetite 565C. At the time of cooling the iron oxides become permanently re-magnetised with their magnetic properties re-aligned in the direction of the Earth's magnetic field (Gaffney and Gater). The direction of the Earth's magnetic field shifts over time and these subtle alignment differences can be recorded. Kilns, hearths, baked clay and ovens can reach Curie point temperatures, and are the strongest responses apart from large iron objects that can be detected. Other cultural anomalies that can be prospected include occupation areas, pits, ditches, furnaces, sunken feature buildings, ridge and furrow field systems and ritual activity (David, 2011). Commonly recorded anomalies include modern ferrous service pipes, field drainage pipes, removed field boundaries, perimeter fences and field boundaries.

### **Fluxgate Gradiometers**

Fluxgate gradiometers are sensitive instruments that utilise two sensors placed in a vertical plane, spaced 1 metre apart. The sensor above reads the Earth's magnetic (background) response while the sensor below records the local magnetic field. Both sensors are carefully adjusted to read zero before survey commences at a 'zeroing' point, selected for its relatively 'quiet' magnetic background reading. When differences in the magnetic field strength occur between the two sensors a positive or negative reading is logged. Positive anomalies have a positive magnetic value and conversely negative anomalies have a negative magnetic value relative to the site's magnetic background. Examples of positive magnetic anomalies include hearths, kilns, baked clay, areas of burning, ferrous material, ditches, sunken feature buildings, furrows, ferrous service pipes, perimeter fences and field boundaries. Negative magnetic anomalies include earthwork embankments, plastic water pipes and geological features.

The instruments are usually held approximately 0.30m to 0.50m above the ground surface and can detect to a depth of between 1-2metres. Best practice dictates that the optimal direction of traverse in Britain is east to west.



## **Magnetic Anomalies**

### **Linear trends**

Linear trends can be both positive and negative magnetic responses. If they are broad, relatively weak or negative in nature they may be of agricultural or geological origin, for example periglacial channels, land drains or ploughing furrows. If the responses are strong positive trends they are more likely to be of archaeological origin. Archaeological settlement ditches tend to be rich in highly magnetic iron oxides that accumulate in them via anthropogenic activity and humic backfills. Conversely surviving banks will be negative in nature, the material is derived from subsoil deposits that is less likely to be positively magnetic. Curvilinear trends can also be recorded and are indicative of archaeological structures such as drip-gullies.

### **Discrete anomalies**

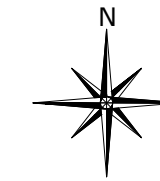
Discrete anomalies appear as increased positive responses present within a localised area. They are caused by a general increase in the amount of magnetic iron oxides present within the humic back-fill of for example a rubbish pit.

### **'Iron spike' anomalies**

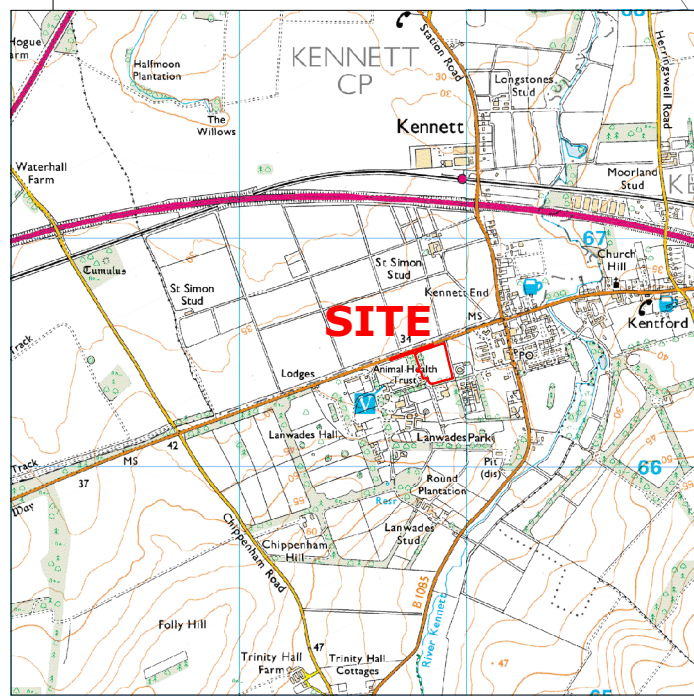
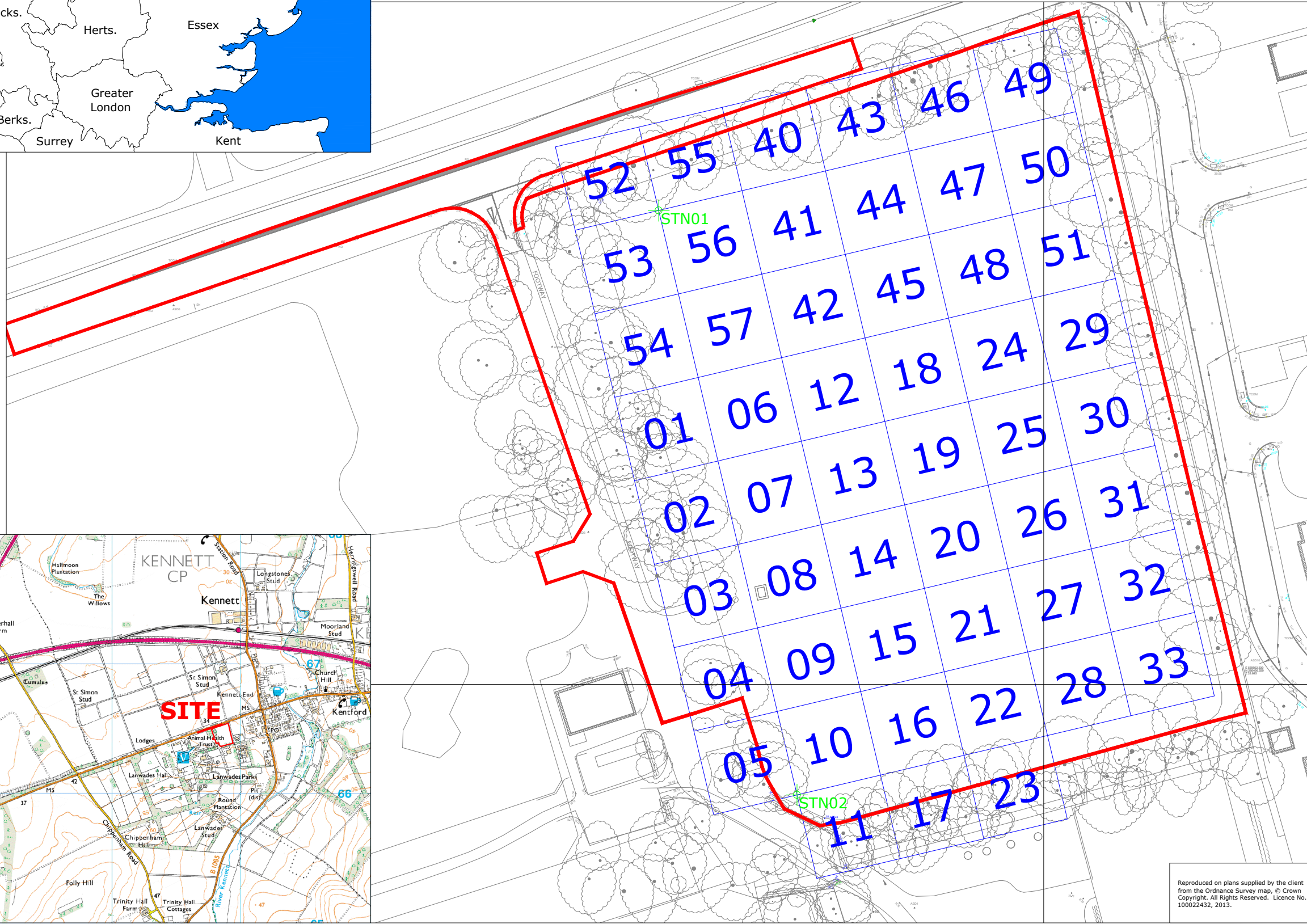
These strong isolated dipolar responses are usually caused by ferrous material present in the topsoil horizon. They can have an archaeological origin but are usually introduced into the topsoil during manuring.


### **Areas of magnetic disturbance**


An area of magnetic disturbance is usually associated with material that has been fired. For example areas of burning, demolition (brick) rubble or slag waste spreads. They can also be caused by ferrous material, e.g. close proximity to barbwire or metal fences and field boundaries, buried services, pylons and modern rubbish deposits.



STATION	EASTING	NORTHING
01	569810.201	266510.471
02	569842.487	266374.245



 Survey Grid Location

 Site Boundary

NGR: TL 6986 6645      REPORT NUMBER: 1058

PROJECT:  
LAND AT LANWADES PARK,  
KENTFORD, SUFFOLK

CLIENT: 


DESCRIPTION:  
SITE, SURVEY GRID &  
REFERENCING INFORMATION PLAN

**BRITANNIA ARCHAEOLOGY LTD**



115 OSPREY DRIVE, STOWMARKET, SUFFOLK  
IP14 5UX

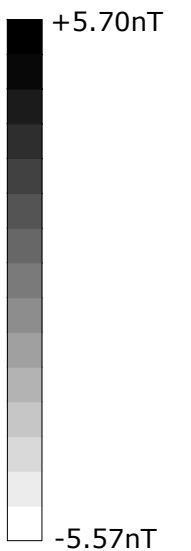
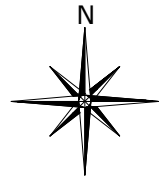
T: 01449 763034  
E: info@britannia-archaeology.com  
W: www.britannia-archaeology.com

SCALE: 1:1000 

PLOT: A3	APPROVED: MCA	VERSION: 01
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DATE: MAY 2014	AUTHOR: TPS	FIGURE: 01
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 Site Boundary

NGR: TL 6986 6645      REPORT NUMBER: 1058

PROJECT:  
LAND AT LANWADES PARK,  
KENTFORD, SUFFOLK

CLIENT:  


DESCRIPTION:  
RAW MAGNETOMETER  
GREYSCALE PLOT

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W: www.britannia-archaeology.com

SCALE: 1:1000      0      50m



PLOT: A3      APPROVED: MCA      VERSION: 01

DATE: MAY 2014      AUTHOR: TPS      FIGURE: 02

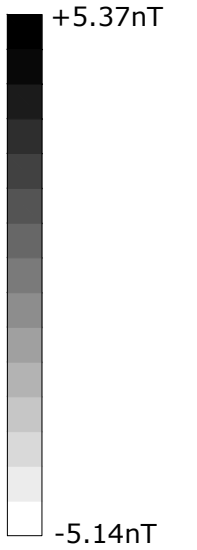
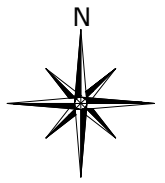
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56990

26640



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Site Boundary

NGR: TL 6986 6645

REPORT NUMBER: 1058

PROJECT:  
LAND AT LANWADES PARK,  
KENTFORD, SUFFOLK

CLIENT:

DESCRIPTION:  
PROCESSED MAGNETOMETER  
GREYSCALE PLOT

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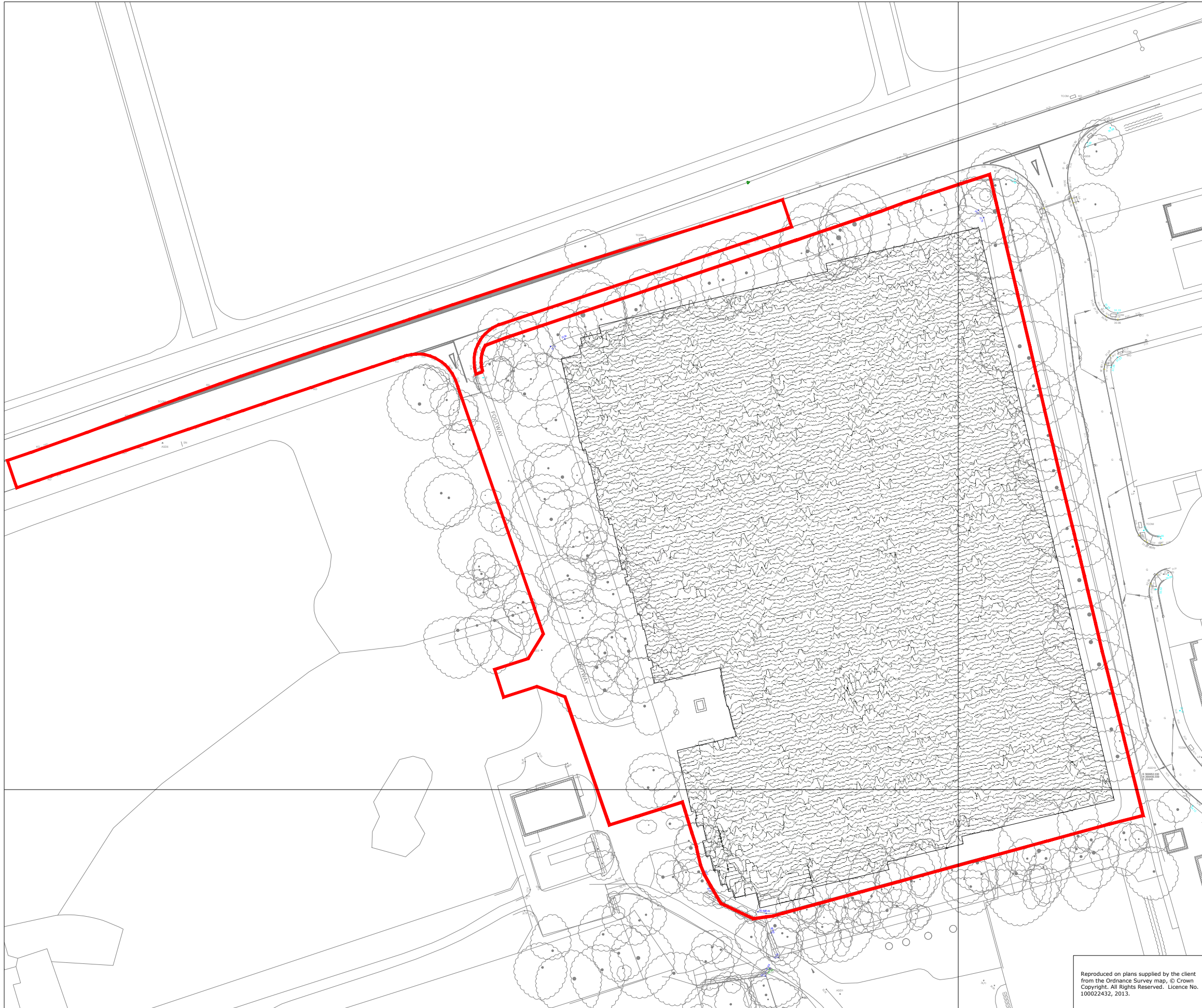
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PLOT: A3	APPROVED: MCA	VERSION: 01
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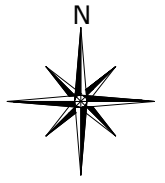
DATE: MAY 2014	AUTHOR: TPS	FIGURE: 03
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56990

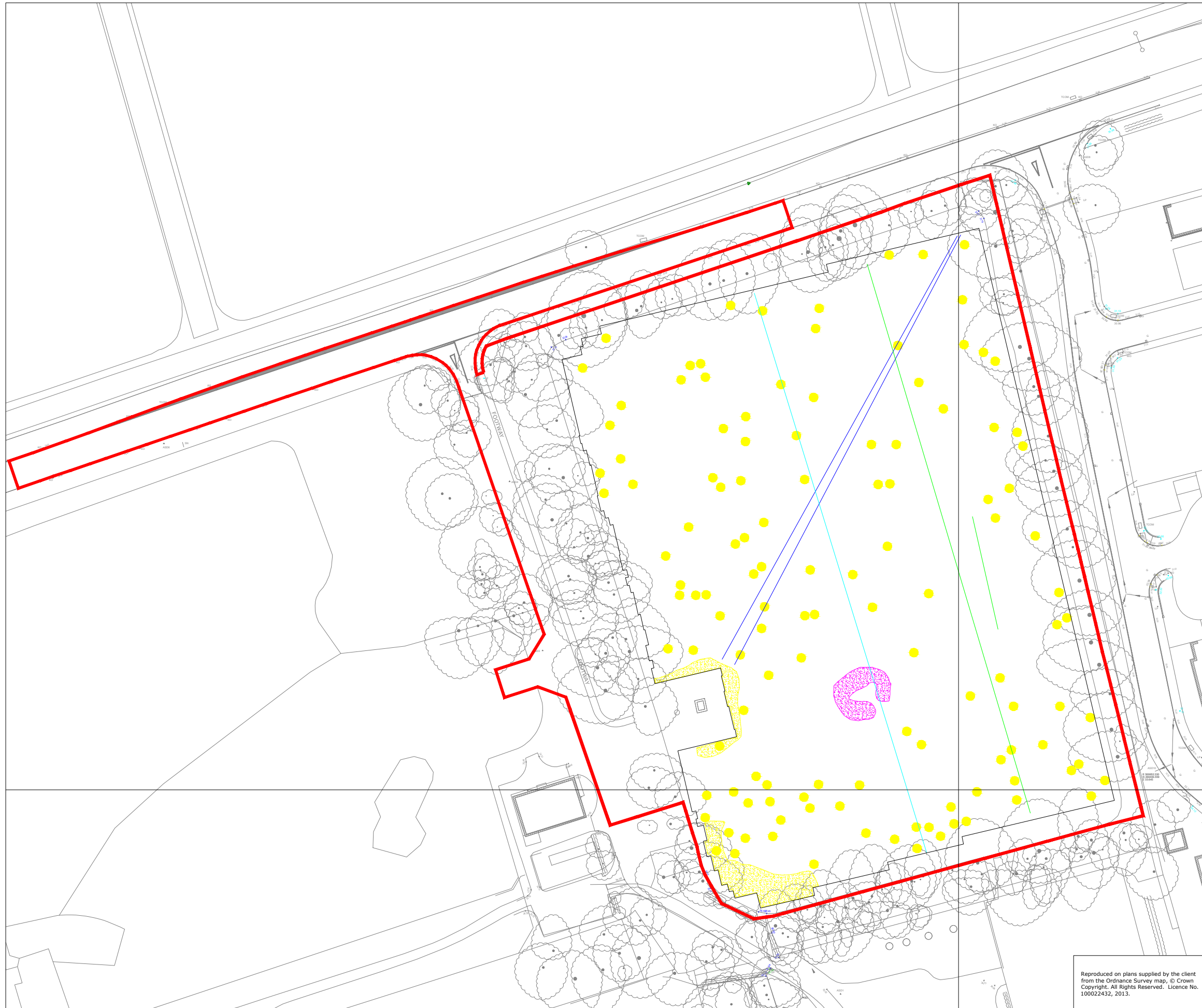
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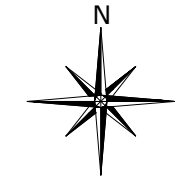
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41nT/cm	Scale Interval	
	Site Boundary	
NGR:	TL 6986 6645	REPORT NUMBER: 1058
PROJECT:	LAND AT LANWADES PARK, KENTFORD, SUFFOLK	
CLIENT:		
DESCRIPTION:	PROCESSED MAGNETOMETER XY TRACE PLOT	
<b>BRITANNIA ARCHAEOLOGY LTD</b>  115 OSPREY DRIVE, STOWMARKET, SUFFOLK IP14 5UX T: 01449 763034 E: info@britannia-archaeology.com W: www.britannia-archaeology.com		
SCALE:	0 50m	
1:1000		
PLOT:	APPROVED:	VERSION:
A3	MCA	01
DATE:	AUTHOR:	FIGURE:
MAY 2014	TPS	04



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	Area of Magnetic Enhancement, Archaeology?
	Weak Negative Linear Trend Agricultural.
	Weak Positive Linear Trend, Agricultural.
	Negative Linear Trend, Service Trench Run
	Area of Magnetic Disturbance
	Isolated Dipolar Response
	Site Boundary

NGR: TL 6986 6645	REPORT NUMBER: 1058
----------------------	------------------------

PROJECT:  
**LAND AT LANWADES PARK,  
KENTFORD, SUFFOLK**

CLIENT:

DESCRIPTION:  
**INTERPRETATION PLOT OF  
MAGNETOMETER DATA**

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SCALE: 1:1000	
------------------	--

PLOT: A3	APPROVED: MCA	VERSION: 01
DATE: MAY 2014	AUTHOR: TPS	FIGURE: 05



**Written Scheme of Investigation for a Trenched Archaeological Evaluation of land at Lanwades Park, Kentford, Suffolk**

**Local Planning Authority:** Forest Heath District Council

**Planning Reference:** TBC

**HER/Event Code** MUN 052 / ESF22732

**Central National Grid Reference:** NGR TL 699 664

**Written and researched by:** Taleyna Fletcher, Project Manager  
Pre-Construct Archaeology Ltd

**Project Manager:** Mark Hinman, Regional Manager  
Pre-Construct Archaeology Ltd

**Commissioning Client:** CgMs Consulting

**Contractor:** Pre-Construct Archaeology Ltd  
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January 2015**

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## **1 INTRODUCTION**

### **1.1 General Background**

- 1.1.1 Pre-Construct Archaeology (PCA) has been commissioned by CgMs Consulting Ltd to undertake a programme of trenched archaeological evaluation on land at Lanwades Park, Kentford Suffolk, CB8 7UA (centred on Ordnance Survey National Grid Reference (OS NGR) TL 569868 266449) prior to proposed redevelopment.
- 1.1.2 The project will be managed and directed by Mark Hinman, Regional Manager of PCA Central.
- 1.1.3 This document comprises a Written Scheme of Investigation (WSI) for an archaeological trial trench evaluation and conforms to the Suffolk County Council Archaeological Service Conservation Team (SCCAS/CT) Requirements for Archaeological Evaluation (2012, Vers. 1.1).

### **1.2 Archaeological Background**

- 1.2.1 The large size of the proposed development has not been the subject of any previous systematic archaeological investigation and recording work. However the area is known to be topographically favourable for early occupation from all periods and overlooks the valley of the River Kennett.
- 1.2.2 Prior to any further investigation on the site, a full search of the Suffolk Historic Environment Record will be undertaken. The results of this search will be presented within the evaluation report and the significance of any nearby sites, finds or monuments will be fully considered and discussed.

### **1.3 Previous Investigation**

- 1.3.1 A geophysical survey of the site was commissioned by Pre-Construct Archaeology in 2014 (Schofield 2014), see Appendix 2. A summary of the results are as follows:
- Isolated dipolar ('iron spike') were particularly numerous throughout the dataset and record the presence of modern ferrous cultural debris introduced into the topsoil, rather than resulting from the

presence of buried archaeological artefacts. These responses seemed to be fairly evenly spaced throughout the field with no apparent concentration, potentially related to ferrous material associated with equinery.

- Two areas of magnetic disturbance were recorded during the survey, the first is located in the south-western corner and may delineate a service pipe or be caused by a ferrous water trough or the iron fence and gate in the corner of the field. The second surrounds an extant foul water brick-built pumping station also close to the south-western corner of the field.
- Two negative linear trends were recorded running from the northeastern corner of the brick-built pumping station to the north-eastern corner of the field. It is likely that these are foul water service pipe runs associated with the pumping station
- Two weak positive linear trends were recorded in the dataset, orientated north-west to south-east on a parallel course with the existing field boundaries. A weak negative linear trend on a similar alignment but further to the west was also recorded, all of these anomalies are indicative of relic agricultural boundaries or possibly furrows that are also delineated by extant cropmarks and earthworks in the field.
- One area of magnetic enhancement is perhaps the most intriguing of the anomalies recorded in the dataset. It is roughly circular or potentially curvi-linear in plan and is of possible archaeological origin (see Figure 1), however a modern derivation cannot be ruled out. This feature is therefore considered worthy of further targeted investigation.

## **2 GEOLOGY AND TOPOGRAPHY**

### **2.1 Geology**

2.1.1 Bedrock geology is described as Holywell Nodular and New Pit Chalk Formation formed approximately 89 to 100 million years ago in the Cretaceous Period when the local environment was dominated by warm chalk seas (BGS, 2014).

2.1.2 At the time of writing no superficial deposits had been recorded at this location (BGS 2015).

### **2.2 Topography**

2.2.1 The site is located to the south of Bury Road and to the west of Jeddah Way in Kentford, Suffolk, in one field given over to pasture. It lies at a height of between 30 – 35m AOD, bordered to the north, east and west by field boundaries and to the south by the Animal Health Trust site.

### **3 AIMS AND OBJECTIVES**

#### **3.1 Broad Aims**

3.1.1 The main objective of the evaluation is to identify the archaeological potential of the site by trial trenching.

3.1.2 The specific aims of the evaluation are to identify the location, extent, date, character and state of preservation of any archaeological remains on the site which are likely to be threatened by the proposed development, and to identify the significance of any such remains in a local, regional and national context, as appropriate, with reference to the East Anglian regional research agendas:

Research and Archaeology: A Framework for the Eastern Counties: 1. Resource Assessment (Glazebrook 1997)

Research and Archaeology: A Framework for the Eastern Counties: 2. Research Agenda and Strategy (Brown and Glazebrook 2000)

Regional Research Framework for the Eastern Region (Medlycott and Brown 2008)

Research and Archaeology Revisited: A Revised Framework for the East of England (Medlycott 2011)

## **4 METHODOLOGY**

### **4.1 Site set up**

4.1.1 Prior to commencement of fieldwork, the County HER will be contacted in order to obtain a HER number for the work. This number will be unique to the project/site and will be clearly marked on all documentation relating to the work.

4.1.2 At the start of work (immediately before fieldwork commences) an OASIS online record will be initiated and key fields completed on Details, Location and Creators forms. This number will be provided to the County HER in order to obtain the HER number.

### **4.2 Machining and Site Planning**

4.2.1 The total area of the site comprises 2.1 hectares, however, due to constraints around the boundary of the site from large trees, only approximately 1.5 hectares is accessible for trenching. The evaluation will comprise the excavation of seven 50m long trenches and five 30m trenches totalling 500m, providing a 5% sample of the site (Figure 1). The trenches will be positioned across the site to provide a sample of the entire area. Two trenches will also be located over the potentially curvilinear features identified in the geophysical survey (Figure 2).

4.2.2 Trial trenches will be 1.8m wide and excavated using a mechanical excavator fitted with a toothless ditching bucket to remove any overlying topsoil, subsoil and recent made ground deposits, down to the archaeological horizon or geological horizon, whichever is encountered first.

4.2.3 Exposed archaeological features and deposits will be cleaned as necessary to define them using hand tools.

4.2.4 Metal-detecting will be carried out of any stripped deposits throughout the monitoring process and all archaeological features and spoil heaps will be surveyed by metal-detector as they are encountered.

4.2.5 Limits of all excavation areas, pre-excavation and post-excavation plans of archaeological features and heights above Ordnance Datum (m OD) will be recorded using a Leica 1200 Global Positioning System (GPS) rover unit with RTK differential correction, giving three-dimensional accuracy of 20mm or better.

### **4.3 Recording and Sampling**

4.3.1 Field excavation techniques and recording methods are detailed in the PCA Fieldwork Induction Manual (Operations Manual I) by Joanna Taylor and Gary Brown (2009).

4.3.2 All features will be investigated and recorded in order to properly understand the date and nature of the archaeological remains on the site and to recover sufficient finds assemblages to assess the chronological development and socio-economic character of the site over time.

4.3.3 Drawn records will be in the form of survey plans, drawn plans and section drawings of all archaeological features at an appropriate scale (1:10, 1:20, 1:50) while all individual deposits and cuts will be recorded as written records on PCA pro-forma context sheets.

4.3.4 Linear features will be investigated by means of slots excavated across their width and measuring at least 1m in length, positioned to avoid areas of intercutting/ disturbance in order to provide uncontaminated finds assemblages. If stratigraphic relationships between features are not visible in plan, slots will also be positioned to determine inter-feature relationships.

4.3.5 Discrete features such as pits and postholes will be at least 50% excavated and when considered appropriate 100% excavated.

4.3.6 Significant features such as structural remains (e.g. eaves drip gullies, sunken feature buildings and beam slots), industrial features (kilns, ovens, domestic hearths, metalworking furnaces) and burials (cremation and inhumation) will be recorded in plan and 100% excavated and sampled in an appropriate manner. In some cases, it may be appropriate to leave



structural remains unexcavated pending open area excavation, or to allow them to be preserved in-situ. Decisions will be made in conjunction with the SCCAS Planning Archaeologist regarding the appropriate amount of excavation of structural remains during the evaluation.

4.3.7 High-resolution digital photographs will be taken at all stages of the monitoring process. Digital Photographs will be taken of all archaeological features and deposits and black and white film photographs will be taken when considered appropriate by the excavator and supervisor.

4.3.8 Artefacts and ecofacts will be collected by hand and retained, receiving appropriate care prior to removal from site (IfA 2001; Walker 1990; Watkinson 1981).

4.3.9 A metal detector will be used during excavation in order to enhance finds recovery.

4.3.10 Bulk samples, 40 litres in volume when possible, will be taken by the excavator and in consultation with the project's environmental specialist where practicable, in order to recover micro- and macro-botanical environmental remains. The broad aim of such sampling is to recover evidence relating to the past environment and agricultural economy of the site, and how these changed over time under both natural and anthropogenic influence.

4.3.11 Environmental sampling will make reference to the following guideline documents:

- English Heritage, 2011, Environmental Archaeology: A Guide to the Theory and Practice of Methods from Sampling and Recovery to Post-excavation (second edition).

- Association for Environmental Archaeology, 1995, Environmental archaeology and archaeological evaluations. Recommendations concerning the environmental archaeology component of archaeological evaluations in England. Working Papers of the Association for Environmental Archaeology

2, 8 ff. York: Association for Environmental Archaeology;

- Dobney, K., Hall, A., Kenward, H. and Milles, A., 1992, A working classification of sample types for environmental archaeology. *Circaea* 9.1 (1992 for 1991), pg. 24-26;
- Murphy, P.L. and Wiltshire, P.E.J., 1994, A guide to sampling archaeological deposits for environmental analysis.

#### **4.4 Treasure**

- 4.4.1 All finds defined as Treasure will be removed to a safe place and reported to the local coroner according to the procedures outlined in the Treasure Act 1996 (as amended by the Treasure Designation Order 2002 No. 2666). Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the finds from theft.

#### **4.5 Human Remains**

- 4.5.1 If human remains are encountered, SCCAS/CT and the client will be informed. No further excavation will take place until removal becomes necessary, and will only be carried out in accordance with all appropriate Environmental Health regulations and only after a Ministry of Justice license has been obtained. Excavation may be required where the remains are under imminent threat or dating/preservation information is required for costing purposes. Due to the wide range of variables, costs of excavation, removal and analysis of human remains are not included in any statement of costs accompanying or associated with this specification.

## **5 ACCESS AND SAFETY**

- 5.1.1 Access to the site will be arranged by the client. The client will secure safe access to the site for archaeological personnel and provide suitable welfare provision. The client will also ensure that all deep excavations are adequately shored, conforming to current health and safety regulations and that the archaeological investigations are enabled through the provision and operation of adequate water extraction/ pumping equipment where necessary.
- 5.1.2 Any costs incurred to secure access, or incurred as a result of withholding of access, will not be PCA's responsibility. The costs of any delays as a result of withheld access will be passed on to the client in addition to the project costs already specified.
- 5.1.3 All relevant health and safety legislation, regulations and codes of practice will be respected. The Health and Safety policies will be those of Pre-Construct Archaeology Ltd. and in accordance with all statutory regulations. A Health & Safety Risk Assessment for the site will be produced and made available to all staff.
- 5.1.4 There is a duty of care for the client to provide all information reasonably obtainable on contamination and the location of live services before site works commence.

## **6 TIMETABLE AND STAFFING**

### **6.1 Timetable**

6.1.1 The duration of the evaluation will be 5 days with provision for one PCA Supervisor and up to two additional Site Assistants.

6.1.2 Working days are based on a 5-day working week, Monday to Friday.

### **6.2 Staffing and Support**

6.2.1 The project will be managed and led by Mark Hinman, Regional Manager of PCA Central, who will ensure that all staff are familiarised with the site, the archaeological background of the area and the ground conditions to maximise the effectiveness of the monitoring programme.

6.2.2 Key team members will include Mark Hinman, Regional Manager of PCA Central, and a PCA Supervisor. Additional Site Assistants will be drawn from a pool of qualified and experienced staff if required.

6.2.3 The following staff will form the project team:

1x Project Manager

1x Supervisor

2x Site Assistant

1x Survey Supervisor

1x Finds Supervisor

1x Finds Assistant

1x Illustrator for post-excavation work.

6.2.4 Specialists will be employed for consultation and analysis during post-excavation work as necessary. Specialists will be approached to carry out analysis as required from the list in Appendix 1.

## **7 REPORTING**

- 7.1 Post-excavation tasks and report writing will take approximately 4 weeks following the end of fieldwork. Specialists will be employed for consultation and analysis as necessary
- 7.2 PCA will provide the client with a copy or copies of the report (following completion). PCA will provide one digital copy and one paper copy of the report to SCCAS/CT.
- 7.3 If substantial remains are recorded during the project, it may be necessary to undertake a full programme of analysis and publication in accordance with the guidelines contained in English Heritage's Management of Archaeological Projects 2 and MoRPHE (Management of Research Projects in the Historic Environment).
- 7.4 Further to its acceptance the contractor will supply an additional copy for inclusion into the Suffolk Historic Environment Record (SHER). PCA will also submit copies of the project report to the National Monuments Record, if required. Contingency will be made for the publication of results. The minimum requirement will be for an appropriate note to be made available in the 'Archaeology in Suffolk' section of the *Proceedings of the Suffolk Institute of Archaeology and History*. This summary should be included in the project report, or submitted to SCCAS/CT by the end of the calendar year in which the work takes place, whichever is the sooner.

## **8 OWNERSHIP OF FINDS, STORAGE AND CURATION OF ARCHIVE**

- 8.1 All artefactual material recovered will be held in storage by PCA Central and ownership of all such archaeological finds will be given over to the relevant authority to facilitate future study and ensure proper preservation of all artefacts. In the unlikely event that artefacts of significant monetary value are discovered, and if they are not subject to treasure act legislation separate ownership arrangements may be negotiated.
- 8.2 The project archive shall be compiled in accordance with the guidelines contained in Guidelines for the Preparation of Excavation Archives for Long term Storage (UKIC, 1990), and Standards in the Museum Care of Archaeological Collections (Museum and Galleries Commission, 1992).
- 8.3 A copy of the report will accompany the archive when it is deposited with the SCCAS/CT archaeological stores.
- 8.4 The Suffolk Historic Environment Record is registered with the Online Access to Index of Archaeological Investigations (OASIS) project. PCA will provide appropriate details relating to this project by completing the OASIS form at <http://ads.ahds.ac.uk/project/oasis>, in accordance with the guidelines provided by English Heritage and the Archaeology Data Service.

## **9 FUTHER CONSIDERATIONS**

### **9.1 Insurance**

9.1.1 Pre-Construct Archaeology Ltd is covered by Public and Employer's Liability Insurance. Professional Indemnity £5,000,000 RSA (Saturn) P8531NAECE/1026, Public & Products Liability £10,000,000 Aviva & Towergate Underwriting, 24765101CHC/000133, EOL001198/0104, Employers Liability £10,000,000 Aviva 24765101CHC/000133.

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Figure 1  
Proposed Trench Location  
1:1000 at A4



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Figure 2  
Proposed Trench Location  
superimposed onto magnetometer survey  
1:1000 at A4

## **APPENDIX 1: FINDS, ENVIROMENTAL AND OTHER SPECIALIST SERVICES**

**Prehistoric Pottery:** Sarah Percival, Louise Rayner, Jon Cotton, Mike Seager Thomas

**Roman Pottery:** Katie Anderson, Jo Mills (samian), Gwladys Monteil (samian), Joanna Bird (decorated samian), Margaret Darling (North), Brenda Dickinson (samian stamps), Kay Hartley (mortaria), David Williams (amphora)

**Post-Roman Pottery:** Chris Jarrett (in house), Berni Seddon (in house), Luke Barber (Sussex)

**Clay Tobacco Pipe:** Chris Jarrett (in house)

**CBM:** Berni Seddon (in house), Kevin Hayward (in house) ,Su Pringle, Ian Betts

**Stone & Petrological Analysis:** Kevin Hayward (in house), Mark Samuel (moulded stone)

**Glass:** John Shepherd, Medieval and Post-medieval Glass, Hugh Wilmott, Medieval Window Glass, Jill Channer

**Coins:** James Gerrard (in house), Nina Crummy, Mike Hammerson

**Inscriptions & Graffiti:** Roger Tomlin

**Animal Bone:** Kevin Rielly (in house), Philip Armitage, Robin Bendrey

**Lithics (inc Palaeolithic):** Barry Bishop

**Osteology:** Aileen Tierney

**Timber:** Damian Goodburn, Nigel Nayling (Wales),

**Leather:** Quita Mould

**Small Finds:** Nina Crummy (prehistoric- post Roman) Marit Gaimster (post Roman) (in house), James Gerrard (Roman)(in house), Hilary Major (Roman), Ian Riddler (esp worked bone)

**Metal slag:** Lynne Keys, David Starley

**Textiles:** Penelope Walton Rogers

**Conservation:** Karen Barker, Stefanie White (Colchester Museums), Emma Hogarth (Colchester Museums)

**Dendrochronology:** Ian Tyers

**Archaeomagnetic dating:** Mark Noel

**Environmental:** Val Fryer, QUEST, University of Reading

**Documentary Research:** Guy Thompson (in house), Chris Phillpotts, Frederick

Hamond (NI), Gillian Draper, Jeremy Haslam, Roger Leech

**Industrial Archaeology:** David Cranstone

**Finds Illustration:** Cate Davies (in house), Helen Davies (in house), Mark Roughley (in house)

LAND AT LANWADES PARK,  
KENTFORD, SUFFOLK

AN ARCHAEOLOGICAL TRIAL TRENCH  
EVALUATION

Quality Control

Pre-Construct Archaeology Ltd	
Project Number	K3851
Report Number	R11982

	Name & Title	Signature	Date
Text Prepared by:	Matthew Jones		February 2015
Graphics Prepared by:	Adela Murray-Brown		February 2015
Graphics Checked by:	Josephine Brown	<i>Josephine Brown</i>	February 2015
Project Manager Sign-off:	Taleyna Fletcher		February 2015

Revision No.	Date	Checked	Approved

Pre-Construct Archaeology Limited  
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