

# ARCHAEOLOGICAL DESK BASED ASSESSMENT

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## Thorington Hall, Pinewood

### PIN 001



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SCCAS Report No. 2008/199

Oasis Ref. Suffolkc1-48989



## **HER information**

<b>Planning application no:</b>	B/02/01984/OUT
<b>Grid Reference:</b>	TM 1440 4157
<b>Curatorial Officer:</b>	Dr J Tipper
<b>Project Officer:</b>	James Rolfe
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## List of abbreviations used in the text

DBA	Desk Based Assessment
HER	Historic Environment Record
PAS	Portable Antiquities Scheme
PDA	Proposed Development Area
PPG 16	Planning Policy Guidance 16
SAM	Scheduled Ancient Monument
SCCAS	Suffolk County Council Archaeological Service
SCCAS/CT	Suffolk County Council Archaeological Service / Conservation Team
SSSI	Site of Special Scientific Interest

## Summary

This archaeological desk based assessment (DBA) has been undertaken as a result of a proposal for housing development on land to the south west of Bobbits Lane, Pinewood. This DBA includes an examination of the Suffolk Historic Environment Record (HER), the Suffolk Portable Antiquities Scheme (PAS) data, an aerial photographic survey, a historic map and documentary search and a site walkover.

The proposed development area (PDA) is located c.150m to the south west of the Belstead Brook. It is on the edge of the valley floor and the lower north slope of the valley side at c.4-10m above sea level.

There is one known archaeological site within the PDA, **WHR 023** the remains of a probable Bronze Age burial mound. The field named 'kiln field' identified in the documentary search indicates the potential for there to have been a kiln of some type within this area. The aerial photographic search located probable hand dug quarry pits and these could potentially be associated with the kiln. The aerial photographic survey also located a palaeo-channel running across the site from west to east.

The PDA is 250m to the west of Bobbits Hole (SSSI) where Ipswichian interglacial (c.135,000-70,000BC) lake bed deposits were found. There is the potential that these deposits could continue into the PDA, possibly indicated in the results from Test pits 1, 9 and 10.

In the spoil from Test pit 6 a Palaeolithic flint flake created during the manufacture of a hand-axe was recovered. The unworn condition of the flake indicates that it has not moved far from the original place in which it was deposited, suggesting that there could be further material of this date within the PDA.

The potential for further unknown preserved archaeological deposits possibly including palaeo-environmental material to be present within the PDA is thought to be moderate to high, due to the favourable topographic location of the PDA and its proximity to other known archaeological sites.

The development will have a severe negative impact upon the known and potential archaeological resource within the PDA. Serious damage and potentially total destruction could occur due to building footings, roads, service trenches, storm drains and terracing / earth moving.

Due to the high potential of the PDA and lack of any systematic archaeological work in this area, there is a case for a pre-determination condition to be placed on the planning application.

Evaluation would require a staged approach with the results of each stage informing the implementation of the next stage. Consultation with the County Council Planning Archaeologist would be required at each stage of the investigation to determine the need and scope for the next stage of archaeological works.

- The first stage of works would require the vegetation to be cleared to enable a geophysical survey of the PDA, this should clarify the exact position of the ring ditch (**WHR 023**) and examine the potential for any associated features to be

present. The use of fluxgate gradiometer would also pick up the remains of any kiln in the area.

- The PDA would need to be lightly tilled and weathered to enable systematic field walking and metal detecting surveys to be carried out. The results from this survey and the geophysical survey would inform the positions of targeted trial trenches.
- Targeted evaluation trenching of 5% of the PDA, would enable the identification, the assessment of extent, character, density and depth of the archaeological deposits present. Areas already identified for targeted evaluation trenching are the ring ditch (**WHR 023**) and the area around Test pit 6 where the Palaeolithic flint was found.
- Palaeo-environmental sampling and recording of the palaeo-channel identified in the aerial photographic survey would also need to be undertaken.
- At this stage boreholes could be taken to evaluate and identify possible Ipswichian lake bed deposits within the PDA (potentially in conjunction with the British Museum).
- All of these results taken as a whole will then enable decisions to be made on the mitigation strategy that is most appropriate, the preservation *in situ* of important archaeological deposits or the need for further archaeological work that could include full excavation of certain areas within the PDA.
- It is thought that a full scale excavation of the Bronze Age ring ditch **WHR 023** would be required or dependant on the results of the evaluation potentially its preservation *in situ*.

Consultation with the County Council Planning Archaeologist would be required at each stage of the investigation to determine the need and scope for the next stage of archaeological works which could include the preservation *in situ* of important archaeological deposits or full-scale excavation.



# 1. Introduction

## Project background

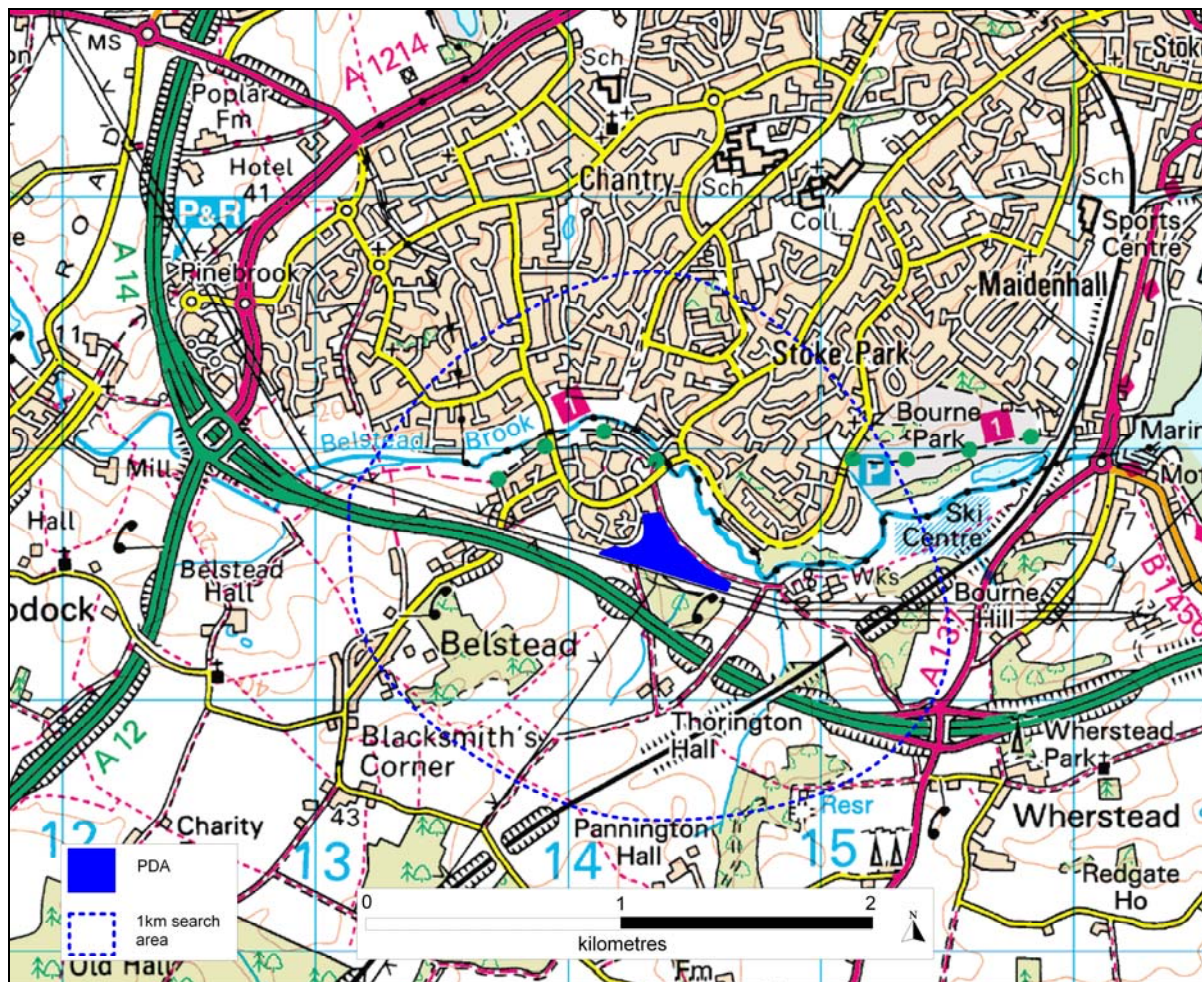
This archaeological DBA has been prepared by James Rolfe of Suffolk County Council Archaeological Service for Ipswich Borough Council.

This DBA is the first stage of a programme of archaeological works in relation to planning application B/02/01984/OUT for housing development, to access the archaeological potential of the PDA.

## Site description

The subject of this DBA covers an area of approximately 4.7ha centred at TM1440/4157, in the parish of Pinewood (Fig. 1).

The present land use is set aside.



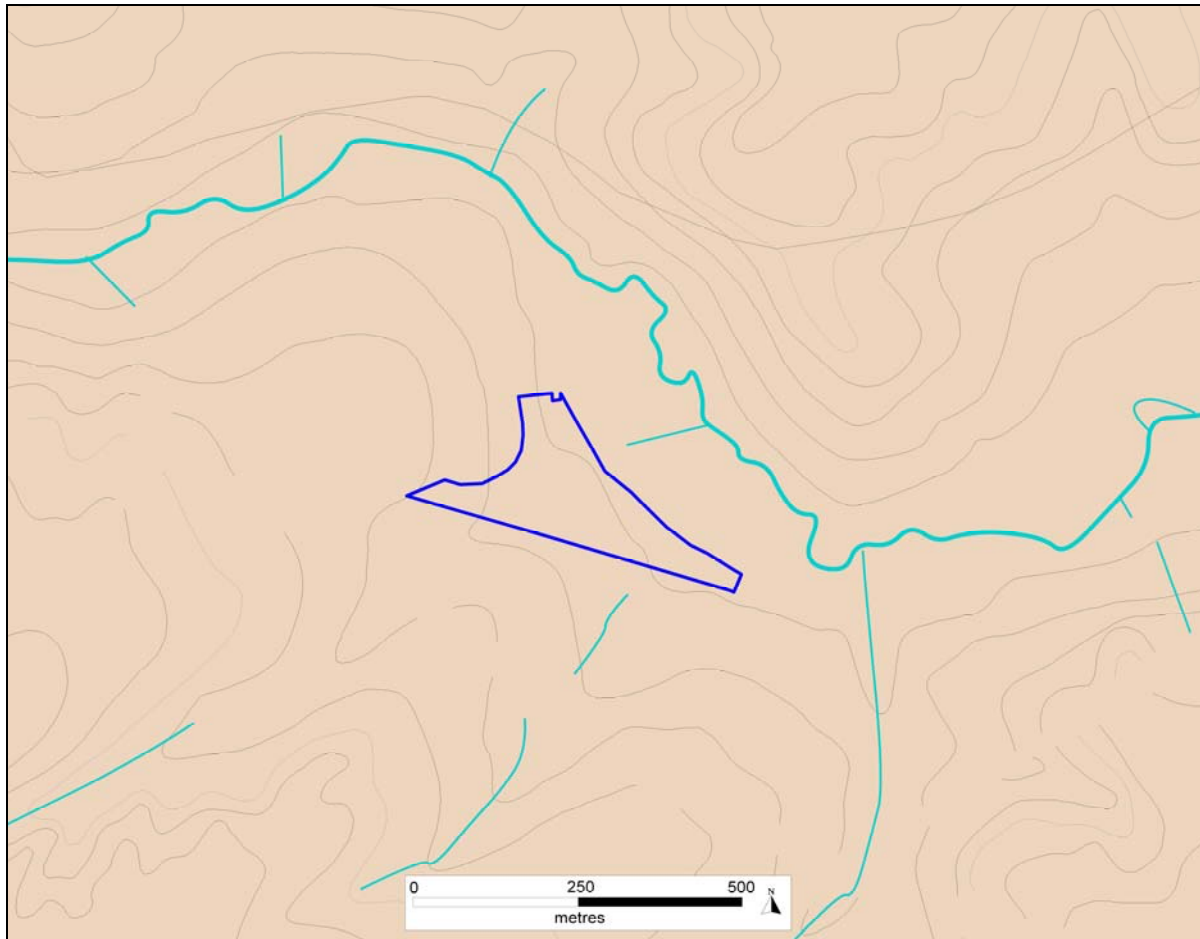
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Figure 1. Location of the PDA and 1km search area

## Topography and geology

The PDA is located c.150m to the south west of the Belstead Brook. It is on the edge of the valley floor and the lower north slope of the valley side at c.4-10m above sea level. The localised topography of the PDA is a gentle slope running down from the south west to the north east towards the Belstead Brook (Fig. 2).

The PDA is on deep well drained fine-coarse loam and sandy soils, with locally flinty patches over gravel on glaciofluvial drift (Ordnance Survey 1983) (Fig. 2).



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Figure 2. Topography and geology of the PDA and surrounding area

## Scope of this report

In order to set the PDA in its archaeological context a study area of a 1km radius from its centre was selected for examination (Fig. 1).

In accordance with PPG16, the Government's guidance on archaeology and planning, ([www.communities.gov.uk/publications/planningandbuilding/planningpolicyguidance9](http://www.communities.gov.uk/publications/planningandbuilding/planningpolicyguidance9)) and based on a SCCAS/CT specification, this assessment examines the available archaeological sources. These include the Suffolk HER, reports of any archaeological investigations, all readily available cartographic and documentary sources, an aerial photographic survey and a site walkover.

## Aims

To determine as far as reasonably practicable from the existing records, the previous landuse, the nature of the archaeological resource and the potential resource within the PDA.

## Methods

The methodology involved interrogating the following sources of data to meet the aims of this DBA.

- A search of the Suffolk HER for any records within 1km from the centre of the PDA. The results are described and mapped in the main body of the report, Section 2.
- An examination of the literature with reference to archaeological excavations within the study area.
- A search for listed buildings that may have a line of sight to the PDA.
- An assessment of all cartographic sources relevant to the PDA to identify historic landuse, the siting of old boundaries and earlier buildings, Section 2.
- The aerial photographic survey was commissioned and the archives held at Suffolk County Council HER the National Monuments Record Office at Swindon and the Cambridge University Collection of Aerial Photographs were examined. The results are summarised in the main report, Section 2, with the full details presented in Appendix 2.
- A historical documentary search was commissioned; the results have been summarised in Section 2, with the full report presented in Appendix 3.
- An examination of the metal detecting and fieldwalking survey data recorded on the Portable Antiquities Scheme (PAS) database.
- A site walkover was conducted on the 03/09/2008, for which notes and digital photographs were taken.

## Legislative frameworks

PPG 16 (November 1990) provides guidance for planning authorities, developers and others in the investigation of archaeological remains. This guidance advises developers to discuss their plans, preferably at a pre-planning stage, with the County Archaeological Planning Officer for any possible archaeological constraints on their development proposal. The planning guidance sets out to protect nationally and locally important monuments and their settings. Identified in this report is a potentially regionally important monument **WHR 023**, the remains of a possible Bronze Age burial mound. There will be a presumption in favour of preservation *in situ* of important remains. In certain circumstances field evaluation will be carried out to enable an informed decision to be made. On sites where there is no overriding

case for preservation *in situ* provision will be made for their recording and excavation prior to development.

The Ancient Monuments and Archaeological Areas Act of 1979 statutorily protects Scheduled Ancient Monuments (SAMs) and their settings as nationally important sites. There are no SAMs within 1 km of this PDA.

Listed buildings are protected under the Listed Buildings and Conservation Areas Act of 1990. This ensures that listed buildings are given statutory protection against unauthorised demolition, alteration and extension. Buildings are listed because they are of special architectural importance, due to their architectural design, decoration and craftsmanship; also because they are of historical interest. This includes buildings that illustrate important aspects of the nation's social, economic, cultural or military history or have a close association with nationally important persons or events. There are no listed buildings with a line of sight to the PDA.

A Site of Special Scientific Interest (SSSI) is an area that has been notified as being of special interest under the Wildlife and Countryside Act of 1981, due to its flora, fauna or geological or geomorphological features. There is one SSSI within 1km of this PDA, 'Bobbithole' **WHR 038** (Fig. 3) listed for its geological importance, (Appendix 4).

## 2. Results

### Suffolk HER search (Fig. 3)

The HER only represents the archaeological material that has been reported. It is not therefore, a complete reflection of the whole archaeological resource of this area. There has not been any systematic archaeological surveying of this area in the past.

It should be noted at this point that pre PPG 16 archaeological investigations were not routinely carried out on development projects. As very minimal archaeological observation was carried out during the construction of the housing development to the west of the PDA and this provides no real information to inform this report.

### All known archaeological sites within the PDA

There is one known archaeological site within the PDA, **WHR 023** a cropmark of a ring ditch c.15m in diameter. This is probably a ploughed out Bronze Age burial mound. The people who built this monument would also have lived and farmed in this area and evidence for this may also be present within the PDA. These sites were not only foci for activity in the Bronze Age, but also in later periods.

### All known archaeological sites within 1km of the PDA

#### Prehistoric (500,000BC-42AD)

The earliest entry in the HER within the search area is **WHR 038** (only 220m to the east of the PDA) the type site for the Ipswichian interglacial (135,000-75,000BP). This site is a geological SSSI where a continuous record of sedimentation, vegetational history and mollusca from the Wolstonian late glacial to the end of the Ipswichian interglacial has been recorded (Appendix 4). At present it is not known if these deposits are within an isolated hollow or are part of the old valley deposits of the Belstead Brook Valley (West 1956). In either case there is the possibility that these deposits continue into the PDA. These deposits are of at least national importance and potentially international importance.

At **IPS 179** a Neolithic (4,000-2,351BC) flint discoidal knife was found.

There are three entries listed under the Bronze Age, **IPS 078** is a bronze socketed axe, **WHR 002** is an inhumation burial accompanied with a beaker pot and **WHR 068** is a small scatter of flint flakes. There are a further five entries **WHR 007**, **WHR 008**, **WHR 022**, **WHR 028** and **WHR 048** that are all cropmarks of undated ring ditches, but are probably ploughed out Bronze Age burial mounds.

At **WHR 032** a moderately dense scatter of worked flints and burnt flints were found on cropmarks showing former field boundaries, but can only be dated to the later prehistoric period (4,000BC-42AD).

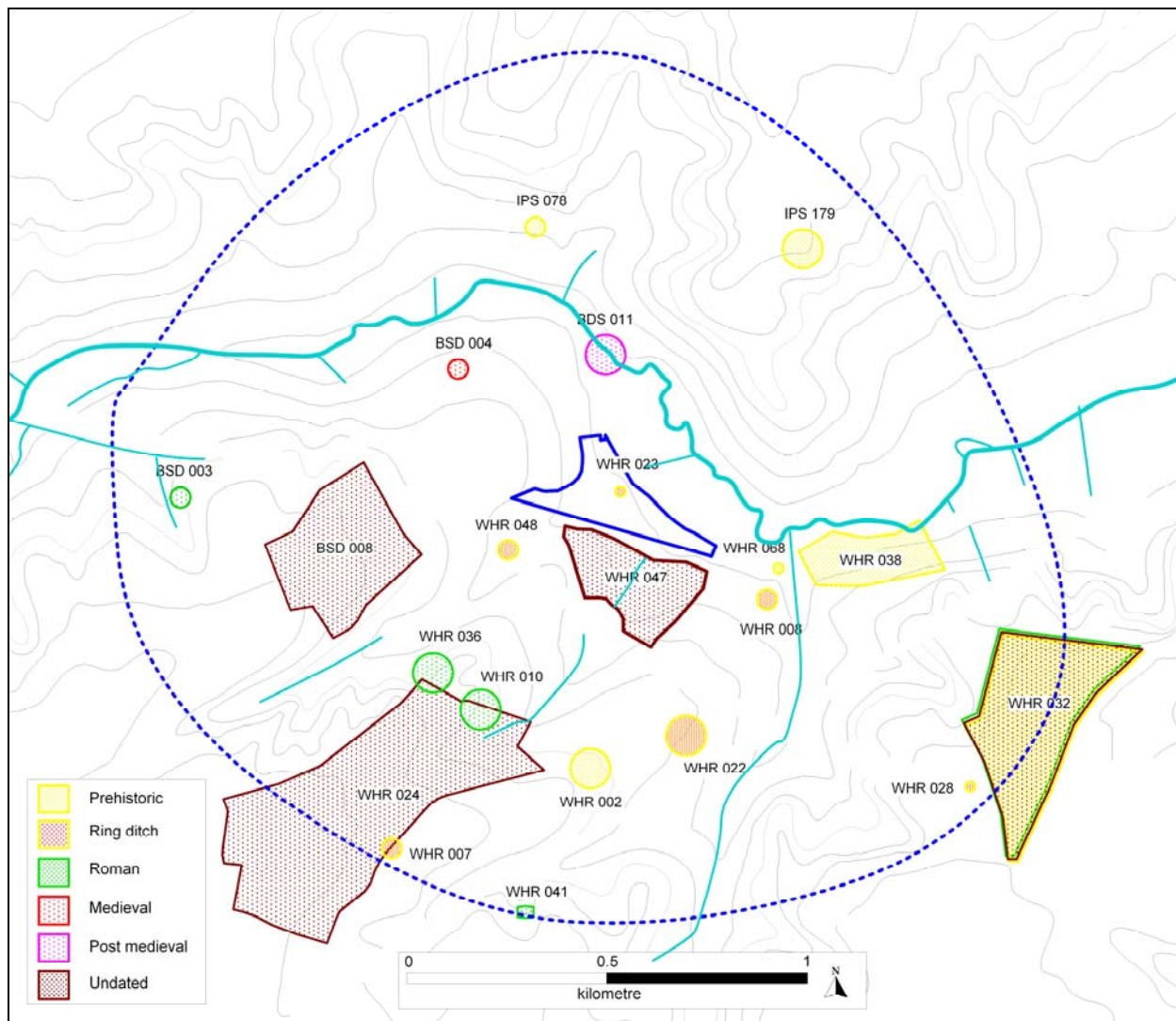


## Roman (43-409AD)

There are five Roman entries recorded in the HER within the search area. **WHR 010** is a dense scatter of pottery covering the top and south east facing slope of a hill. Close to **WHR 010** is **WHR 036**, a scatter of Roman coins found with a metal detector. Both of these entries are on the edge of an undated cropmark complex **WHR 024**. At **WHR 032** a small scatter of pottery was found on cropmarks showing former field boundaries. **WHR 041** is a small scatter of pottery sherds and **BSD 003** is a single Roman coin found in a garden.

## Medieval (1066-1539)

There is a single medieval entry recorded in the HER within the search area, **BSD 004**, a single bronze seal matrix of the Greyfriars of Ipswich.



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Figure 3. HER entries within the 1km search area

## Post medieval (1540-1900)

The single post-medieval entry recorded in the HER within the search area is **BSD 011**, a bridge over Belstead Brook shown on Hodkinson's map of 1783.

## Undated

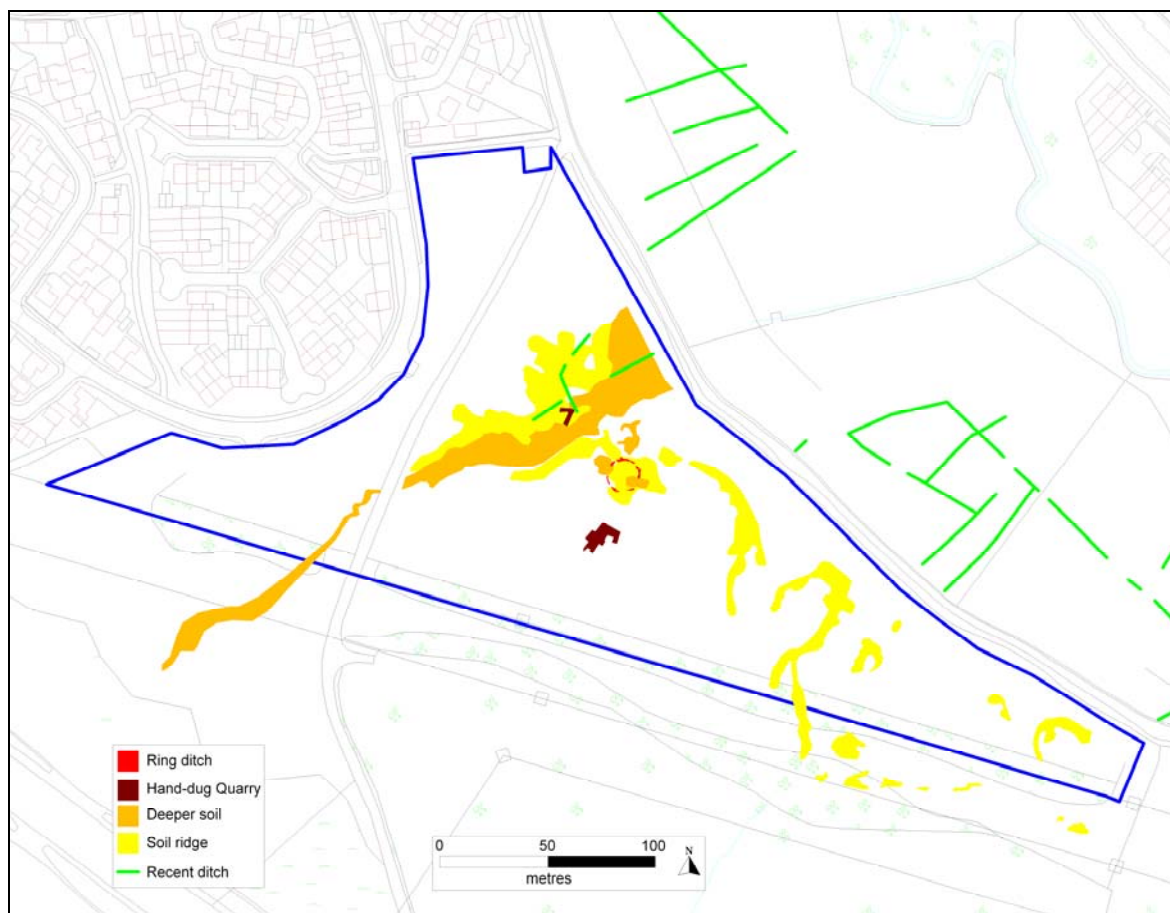
The four remaining entries recorded on the HER within the search area are, **WHR 047**, an ancient woodland adjacent to the southern edge of the PDA, **BSD 008**, a series of linear cropmarks possibly representing a track and fields, **WHR 024**, a complex rectilinear field system with trackways and **WHR 032**, a curvilinear feature possibly a trackway with one or two field boundaries nearby.

### Aerial photographic survey summary (Fig. 4)

The full aerial photographic report is reproduced in full in Appendix 2.

The only archaeological feature identified is a single ring ditch (**WHR 023**) located by a palaeochannel and on a small area of harder or higher soil.

More recent features include probable hand dug quarries of unknown date and some former field boundaries or drainage dykes.



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Figure 4. Aerial photographic survey

Natural features are the palaeochannel, probably once a tributary of the Belstead Brook and a series of harder or higher soil ridges. Palaeo-channels frequently provide important palaeo-environmental evidence about past climate and land-use. In this case the close proximity of the palaeo-channel to the ring ditch (**WHR 023**) has even greater potential to establish the land-use and local vegetation pattern at the time the ring ditch was constructed and used.

The PDA was in arable use between 1943 and 1995 but the most recent photos show it now to be pasture or set aside.

### Historic map search

The earliest available map is dated 1676 and was produced by Thomas Martin (Fig. 5). The PDA is mainly in a field called 'Kilne field', this name suggests that at some time before 1676 there used to be a kiln of some type in this field. The remainder of the PDA is in a field called 'Horse Croft'. The Tithe map is in very poor condition and the portion showing the PDA has been damaged to such an extent that it is unusable. The next map is the 1880's Ordnance Survey map (Fig. 6), a more accurate portrayal of the field layout. The only real difference with the previous map is the removal of a field boundary between 'Kiln Field' and 'Horse Croft'. There is no further change in the field pattern or the erection of buildings within the PDA visible on any later maps.



Figure 5. 1676 map (no scale)



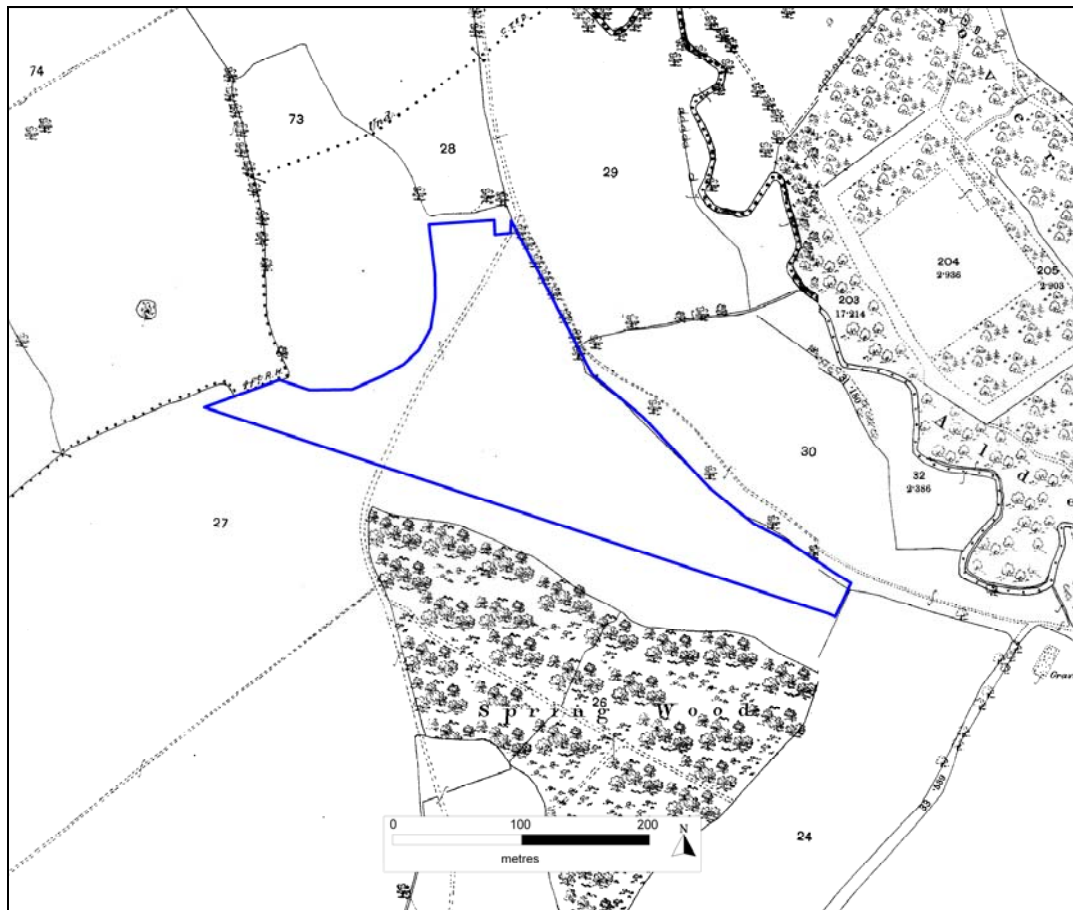


Figure 6. 1880's Ordnance Survey map

## Documentary study summary

This site was known as Kiln Field in 1676 and was then part of the farm and manor of Thorington Hall. According to the will of Sir Philip Parker, the tenant of the hall in 1664 was Thomas Sorrell, who is also named as the tenant on the 1676 map. It is possible that the woods now called Spring Woods had been recently felled before the sale of the farm in 1680. The names of two of the later tenants James Fisher and George Holmes appear in a lease of the tenancy dated 1810. The date from which the tenancy was to commence suggests that the farm had been tenanted before 1751. It is reasonable to suggest that the farm was tenanted throughout a period from the late sixteenth century through to the eventual sale of the Wherstead Hall estate. The field names given in the 1839 tithe apportionment are the same as those given on the 1676 map, though there had been a number of changes in the field boundaries. It appears to be unlikely that there is an earlier description of this farm that would include earlier field names.

Thorington Hall was a separate manor, though no manorial records in the form of court books or rolls have survived, if they ever existed. From the late thirteenth century this manor was held with that of Erwarton Hall. The lord may have lived at Erwarton or elsewhere and not at Wherstead.

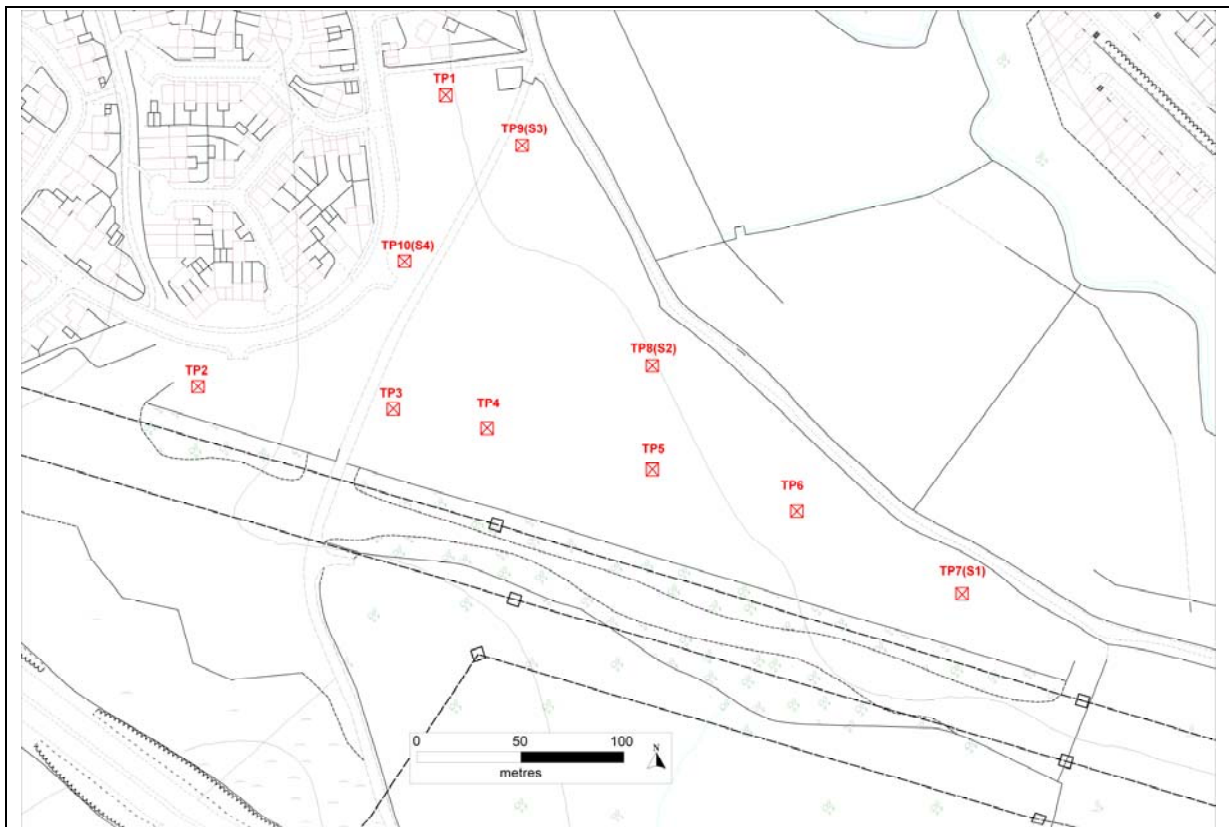
The earliest reference to Thorington is in the Domesday Survey of 1086 when the church was part of the manor. There are references to the Danvelers, the thirteenth century lords of this manor in a collection of medieval deeds held at the record office in Ipswich.

## Site walkover

A site walkover was carried out on 03/09/2008. The present land use of the PDA is set aside. The vegetation cover is waist high grasses, weeds, brambles and occasional saplings.

## Test pit results

On the 10th and 11th of September a series of ten test pits *c. 1.6-2.7x0.9m* were dug by Knight Environmental and observed by SCCAS field team. The main findings of the test pit results show that for the majority of the PDA there is a layer of reddish brown sand and gravel that was deposited at the end of the last Ice Age (test pit logs are reproduced in (Appendix 5). The minimum depth below the surface that this deposit was found was 0.4m. This gravel deposit was also identified 250m to the east of the PDA at Bobbits Hole where it overlies lake bed deposits lain down during the Ipswichian interglacial. In the spoil from test pit 6, from the gravel deposit a worked flint flake was recovered (front cover). It has been initially identified as a Lower or Middle Palaeolithic hand-axe manufacturing flake (Nicholas Ashton, pers comm). The unrolled condition of the flint flake indicates that it has not moved very far from where it was originally deposited. This suggests that there may be further evidence of Palaeolithic activity within the PDA. In Test pits 1, 9 and 10 silt and clay deposits were found below the main gravel deposit and these may relate to the Ipswichian lake deposits found at Bobbits Hole.



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Figure 7. Test pit locations

### 3. Assessment of impacts and effects

#### The archaeological potential of the PDA

There is the potential for the Ipswichian lake bed deposits identified at Bobbits hole **WHR 038** (SSSI) to continue into the north eastern part of the PDA potentially identified in Test pits 1, 9 and 10.

In the spoil of Test pit 6 a Palaeolithic worked flint flake was found. The condition of the worked flint flake indicates that it may be close to its original place of deposition and this suggests that there is the potential for further material from this period to be found within the PDA.

In roughly the centre of the PDA is a ring ditch (**WHR 023**), a circular ditch c.15m in diameter that probably represents a ploughed out Bronze Age burial mound. There is the potential for buried human skeletal remains to be present.

Due to the topographic location of the PDA overlooking the confluence of two water courses, the Belstead Brook and the palaeo-channel and its proximity to **WHR 023** there is a high potential for there to be further evidence of prehistoric activity relating to settlement, agriculture and ritual practices within the PDA. There is also the potential for archaeology from later periods to be present especially around **WHR 023**, as the Bronze Age burial mound could have been used as a focal point for later activities, such as in the Anglo-Saxon period when cemeteries were sometimes created in and around earlier burial mounds, as has been seen at other locations in Suffolk e.g. **ERL 114**, **FLN 008**, **RBY 001** and **RBY 003**.

On the earliest available map for this area the PDA is mainly on 'Kilne Field', this name suggests that there was probably a kiln of some type on this field before 1676. Further evidence suggesting a potential kiln within the PDA are the two features identified in the aerial photographic survey as being possible hand dug quarry pits, potentially for the material to be used in the kiln. It is possible that there could be the remains a kiln and also rubbish that could have been dumped in the quarry pits enabling identification and dating of the specific activity carried out here.

#### Potential of preserved archaeological remains within the PDA

Due to the location of the PDA on the edge of the floodplain there is the potential for palaeo-environmental remains to be encountered. These could include the potential Ipswichian lake bed deposits.

There has been no development previously within the PDA and the land use has been agricultural. Ploughing can damage archaeological material and this can be especially destructive if sub-soiling or deep ploughing techniques have been used.

The potential for any archaeological remains to be preserved within the PDA is moderate to high. However, evaluation by trial trenches would need to be carried out to fully assess the survival of the archaeological and palaeo-environmental deposits.

## **Assessment of the impact of the development on the archaeological resource**

The development will have a severe impact upon the known and potential archaeological resource. Serious damage and potentially total destruction could occur due to building footings, roads, service trenches, storm drains and terracing / earth moving.

## 4. Mitigation measures

### The PDA

Consultation with the County Council Planning Archaeologist should be at the earliest possible opportunity, as archaeological investigations can have considerable time and cost implications. This consultation will determine the program of archaeological works that will need to be carried out.

Due to the high potential of the PDA and lack of any systematic archaeological work in this area, there is a case for a pre-determination condition to be placed on the planning application.

Consultation with the County Council Planning Archaeologist will determine the program of archaeological works that will need to be carried out. It is suggested that this should be a staged program of works with each stage informing the implementation of the next stage of works.

- The first stage of works would require the vegetation to be cleared to enable a geophysical survey of the PDA this should clarify the exact position of the ring ditch (**WHR 023**) and examine the potential for any associated features to be present. The use of fluxgate gradiometer would also pick up the remains of any kiln in the area.
- The PDA would need to be lightly tilled and weathered to enable systematic field walking and metal detecting surveys to be carried out. The results from this survey and the geophysical survey would inform the positions of targeted trial trenches.
- Targeted evaluation trenching of 5% of the PDA, would enable the identification, the assessment of extent, character, density and depth of the archaeological deposits present. Areas already identified for targeted evaluation trenching are the ring ditch (**WHR 023**) and the area around Test pit 6 where the Palaeolithic flint was found.
- Palaeo-environmental sampling and recording of the palaeo-channel identified in the aerial photographic would also need to be undertaken.
- At this stage boreholes could be taken to evaluate and identify possible Ipswichian lake bed deposits within the PDA (potentially in conjunction with the British Museum).
- All of these results taken as a whole will then enable decisions to be made on the mitigation strategy that is most appropriate, the preservation *in situ* of important archaeological deposits or the need for further archaeological work that could include full excavation of certain areas within the PDA.
- It is thought that a full scale excavation of the Bronze Age ring ditch **WHR 023** would be required or dependant on the results of the evaluation potentially its preservation *in situ*.

Consultation with the County Council Planning Archaeologist would be required at each stage of the investigation to determine the need and scope for the next stage of archaeological works which could include the preservation *in situ* of important archaeological deposits or full-scale excavation

## **Archaeological evaluation**

Applicants for planning consent are reminded that national guidance recommends that potential archaeological sites are evaluated (fieldwalking and/or geophysical survey and/or trenching) prior to the determination of any application and that refusal of consent is an option to ensure that nationally important sites are preserved *in situ* (PPG16 paragraphs 8, 27 and 28).

Purchasers of land should be aware that, until an evaluation is undertaken, it is usually impossible to define the extent of archaeological work that may be required on a site and equally difficult to calculate the likely cost and time implications. Bearing this in mind developers are strongly advised to undertake archaeological evaluations at the earliest opportunity to clarify the likely archaeological work required and its cost.

## 5. Conclusions / Recommendations

Through an examination of the Suffolk HER, a documentary and map study, an aerial photographic survey, an examination of material recorded on the PAS and a site walkover, this DBA has set the PDA within its immediate archaeological landscape.

During the observation of the test pit excavation a Palaeolithic worked flint flake was found in the spoil from Test pit 6. The condition of the flake indicates that it could be from or close to its original context, which suggests that there is a high potential for further material of this date to be found within the PDA.

The PDA is close to Bobbits Hole SSSI, where Ipswichian interglacial lake bed deposits were found. There is the potential for these deposits to continue under the PDA.

There is one known archaeological site within the PDA, **WHR 023** the remains of a probable Bronze Age burial mound. The documentary and aerial photographic evidence also suggests that there was once a kiln within the PDA and the remains of this may still be present.

The potential for further unknown preserved archaeological deposits to be present within the PDA is thought to be high, due to the favourable topographic location of the PDA and its proximity to other known archaeological sites.

The development will have a severe negative impact upon the known and potential archaeological resource within the PDA. Serious damage and potentially total destruction could occur due to building footings, roads, service trenches and terracing / earth moving.

Due to the high potential of the PDA and lack of any systematic archaeological work in this area, there is a case for a pre-determination condition to be placed on the planning application.

Consultation with the County Council Planning Archaeologist should be at the earliest possible opportunity, as archaeological investigations can have considerable time and cost implications. This consultation will determine the actual program of archaeological works that will need to be carried out. A staged approach is recommended, with each stage informing the implementation of the next stage. These stages should include a geophysical survey, a field walking and metal detecting survey of the whole PDA, borehole assessment of the area potentially likely to contain Ipswichian lake bed deposits, environmental sampling of the palaeochannel and a program of targeted evaluation trenches (usually 5% of the PDA).

The results of the evaluation will inform the decisions of the Council Planning Archaeologist to determine the need and scope for the next stage of archaeological works which could include the preservation *in situ* of important archaeological deposits or full-scale excavation.

## 6. List of contributors and acknowledgements

This project was funded and commissioned by Ipswich Borough Council.

The desk based assessment was carried out by James Rolfe, of Suffolk County Council Archaeological Service (SCCAS), the test pit observation by Jez Meredith, the documentary study by Anthony M. Breen, a freelance local history researcher and the aerial photographic survey by Rog Palmer of Air Photo Services.

The project was managed by John Newman, Contracts Manager, of SCCAS, advice was given by Jess Tipper, SCCAS/CT and Nicholas Ashton of the British Museum.

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### Disclaimer

Any opinions expressed in this report about the need for further archaeological work are those of the Field Projects Team alone. Ultimately the need for further work will be determined by the Local Planning Authority and its Archaeological Advisors when a planning application is registered. Suffolk County Council's archaeological contracting services cannot accept responsibility for inconvenience caused to the clients should the Planning Authority take a different view to that expressed in the report.



# Appendix 1

## Brief and specification for desk-based assessment

### AREAS F1 AND F2, THORINGTON HALL, PINWOOD, IPSWICH, SUFFOLK

#### 1. Background

- 1.1 Planning permission for residential development at Areas F1 and F2, Thorington Hall, Pinewood, Ipswich (TM 143 415), has been granted by Babergh District Council conditional upon an acceptable programme of archaeological work being carried out (application B/02/01984/OUT).
- 1.2 The proposed application area measures c. 4.70ha., on the southern side of Belstead Brook. It is situated on glacio-fluvial drift deposits (deep loam) at c. 5 - 10.00m AOD, sloping down south to north.
- 1.3 This site is an area of high archaeological importance. There is at least one prehistoric burial mound visible as the crop-mark remains of a ring-ditch recorded in the County Historic Environment Record within the application area (WHR 023). There is a strong possibility that further archaeological deposits will be encountered given the landscape setting, within a valley, and size of the development site. There is also high potential for encountering preserved palaeo-environmental remains, such as peat deposits, on the edge of the floodplain. However, the area of this major development has not been subject to systematic archaeological survey. The proposed works will cause significant ground disturbance that has potential to damage any archaeological deposit that exists.
- 1.4 The Planning Authority has been advised that any consent should be conditional upon securing the implementation of a programme of archaeological works before development begins (PPG 16, paragraph 30 condition).
- 1.5 A desk-based assessment of the known and potential archaeology for the application area is required as the first part of a programme of archaeological work. Further information concerning the location, extent, survival and significance of the known archaeological remains on the site, which includes standing buildings, as well as the potential for further archaeological remains to survive, is required. This brief sets out the requirement for an initial stage of work comprising an archaeological desk-based assessment and walk-over survey.
- 1.6 This initial stage of assessment will lead to a further programme of works, likely to consist of a general programme of archaeological evaluation (trial-trenching and historic building recording). A further archaeological brief will be required for any subsequent stage of work from the desk-top assessment.

#### 2. Objectives

- 2.1 To collate and assess the existing information regarding archaeological and historical remains within and adjacent to the site shown in the accompanying plan. It is important that a sufficiently large area around the target area is

studied in order to give adequate context; in this instance an area with boundaries 250m beyond the parcel boundaries will be the minimum appropriate.

- 2.2 To identify any known archaeological sites, including existing buildings, which are of sufficient potential importance to require an outright constraint on development (i.e. those that will need preservation *in situ*).
- 2.3 To assess the potential for unrecorded archaeological sites within the application area.
- 2.4 To assess the likely impact of past land uses and the potential quality of preservation of below ground deposits, and where possible to model those deposits.
- 2.5 To assess the potential for the use of particular investigative techniques in order to aid the formulation of any mitigation strategy.
- 2.6 The results will inform the location and method of subsequent stages of evaluation.
- 2.7 An outline specification, which defines certain minimum criteria, is set out below. In accordance with the standards and guidance produced by the Institute of Field Archaeologists this brief should not be considered sufficient to enable the total execution of the project. A Written Scheme of Investigation (WSI) based upon this brief and the accompanying outline specification of minimum requirements, is an essential requirement. This must be submitted by the developers, or their agent, to the Conservation Team of the Archaeological Service of Suffolk County Council (Shire Hall, Bury St Edmunds IP33 2AR; telephone/fax: 01284 352443) for approval. The work must not commence until this office has approved both the archaeological contractor as suitable to undertake the work, and the PD/WSI as satisfactory. The PD/WSI will provide the basis for measurable standards.

### **3. Specification**

- 3.1 The assessment shall be undertaken by a professional team of field archaeologists. The archaeological contractor is expected to follow the Code of Conduct of the Institute of Field Archaeologists.
- 3.2 Collation and assessment of the County Historic Environment Record to identify known sites and to assess the potential of the application area.
- 3.2 Collation and assessment of all cartographic sources relevant to the site to identify historic landuse, the siting of old boundaries and any earlier buildings. Where possible copies should be included in the report.
- 3.3 Collation and assessment of historic documentation relevant to the site that would contribute to the archaeological investigation of the site.
- 3.4 Assess the historical significance of existing industrial buildings on the site.

- 3.5 Re-assessment of aerial photographic evidence and, where relevant, a replotting of archaeological and topographic information by a suitably qualified specialist with relevant experience at a scale of 1:2500. It should be possible to obtain residual errors of less than  $\pm 2\text{m}$ . Rectification of extant mapped features such as field boundaries and buildings shall be undertaken in order to give additional indication of accuracy of the transcription.
- 3.6 Examination of available geotechnical information to assess the condition and status of buried deposits and to identify local geological conditions. Relevant geotechnical data should be included as appendices to the report.
- 3.7 Ascertain whether there are other constraints on the site (e.g. SSSI, County Wildlife Site, AONB, etc).
- 3.8 A site visit to determine any constraints to archaeological survival.

#### **4. Report Requirements**

- 4.1 The report shall be submitted within a length of time (but not exceeding 1 month) from the end of fieldwork, to be agreed between the developer and archaeological contractor, with a copy supplied to the County Historic Environment Record. A full digital copy of the report will be supplied to Suffolk County Council Archaeological Service Conservation Team (SCCAS/CT).
- 4.2 Assemble, summarise and order the available evidence.
- 4.2 Synthesise the evidence and place it in its local and/or regional context.
- 4.3 The Report must include a discussion and an assessment of the archaeological evidence within the regional context. The conclusions must include a clear statement of the archaeological potential of the site, highlighting any research priorities, and the significance of that potential in the context of the Regional Research Framework (*East Anglian Archaeology*, Occasional Papers 3 & 8, 1997 and 2000).
- 4.4 Comment on the reliability of the evidence and give an opinion on the necessity and scope for further assessment including field evaluation.
- 4.5 A comprehensive list of all sources consulted (with specific references) should be included.
- 4.6 A copy of the report should be deposited with the County Historic Environment Record within six months.
- 4.7 At the start of work (immediately before fieldwork commences) an OASIS online record <http://ads.ahds.ac.uk/project/oasis/> must be initiated and key fields completed on Details, Location and Creators forms.
- 4.8 All parts of the OASIS online form must be completed for submission to the County Historic Environment Record. This should include an uploaded .pdf version of the entire report (a paper copy should also be included with the archive).

- 4.9 A digital copy of the air photographic evidence should be supplied with the report for inclusion in the County Historic Environment Record; AutoCAD files should be exported and saved into a format that can be imported into MapInfo (for example, as a Drawing Interchange File or .dxf) or already transferred to .TAB files and ArcView.
- 4.10 The IFA *Standard and Guidance for Archaeological Desk-Based Assessments* (1999) should be used for additional guidance in the execution of the project and in drawing up the report.
- 4.11 Publication of the results, at least to a summary level (i.e. round up of archaeology in the annual 'Archaeology in Suffolk' section of the *Proceedings of the Suffolk Institute for Archaeology*), shall be undertaken in the year following the archaeological field work. An allowance shall be made within the costs for full publication in an appropriate journal.
- 4.12 The involvement of SCCAS/CT shall be acknowledged in any report or publication generated by this project.

## 5. Monitoring

- 5.1 SCCAS/CT will be responsible for monitoring progress and standards throughout the project. This will include the fieldwork, post-excavation and publication stages.
- 5.2 Notification of the start of work shall be given to SCCAS/CT one week in advance of its commencement.
- 5.3 Any variations to the written scheme of investigation shall be agreed with SCCAS/CT prior to them being carried out.

## References

- Brown, N. and 2000 *Research and Archaeology: A Framework for the Eastern Counties 2: research agenda and strategy E. Anglian Archaeol. Occ.* Pap. 8
- Glazebrook, J. 1997 *Research and Archaeology: A Framework for the Eastern Counties 1: a resource assessment. E. Anglian Archaeol. Occ.* Pap. 3

Specification by: Dr Jess Tipper

Suffolk County Council Archaeological Service Conservation Team

**This brief and specification remains valid for six months from the above date. If work is not carried out in full within that time this document will lapse; the authority should be notified and a revised brief and specification may be issued.**

## **Appendix 2**

### **Aerial photographic survey**

**LAND SOUTH OF BOBBITS LANE, IPSWICH,  
AREA CENTRED TM144416,  
SUFFOLK:  
AERIAL PHOTOGRAPHIC ASSESSMENT**

Rog Palmer MA MIFA

#### **SUMMARY**

This assessment of aerial photographs examined a Development Area of some 4.7 hectares (centred TM144416) in order to identify and accurately map archaeological, recent and natural features.

The only archaeological feature identified is a single ring ditch that is located beside a palaeochannel and on a small area of harder or higher soil.

More recent features include probable hand-dug quarries and some former field boundaries or drainage dykes.

Natural features are the palaeochannel, probably once a tributary of the Belstead Brook, and a series of harder or higher soil ridges.

The Development Area was in arable use between 1943 and 1995 but the most recent photographs on Google Earth show it now to be pasture or set aside.

Original photo interpretation and mapping was at 1:2500 level.

#### **INTRODUCTION**

This assessment of aerial photographs was commissioned to examine a Development Area of some 4.7 hectares (centred TM144416) in order to identify and accurately map archaeological, recent and natural features and thus provide a guide for field evaluation. The level of interpretation and mapping was to be at 1:2500.

#### **ARCHAEOLOGICAL AND NATURAL FEATURES FROM AERIAL PHOTOGRAPHS**

In suitable cultivated soils, sub-surface features – including archaeological ditches, banks, pits, walls or foundations – may be recorded from the air in different ways in

different seasons. In spring and summer these may show through their effect on crops growing above them. Such indications tend to be at their most visible in ripening cereal crops, in June or July in this part of Britain, although their appearance cannot accurately be predicted and their absence cannot be taken to imply evidence of archaeological absence. In winter months, when the soil is bare or crop cover is thin (when viewed from above), features may show by virtue of their different soils. Upstanding remains, which may survive in unploughed grassland, are also best recorded in winter months when vegetation is sparse and the low angle of the sun helps pick out slight differences of height and slope.

Such effects are not confined only to archaeological features as any disturbance of soil and bedrock can produce its own range of shadow, crop and soil differences. Thus, in some places we can expect to see, for example, former watercourses and indications of past land boundaries, quarries and buried pipelines.

## PHOTO INTERPRETATION AND MAPPING

### ***Photographs examined***

The most immediately informative aerial photographs of archaeological subjects tend to be those resulting from observer-directed flights. This activity is usually undertaken by an experienced archaeological observer who will fly at seasons and times of day when optimum results are expected. Oblique photographs, taken using a hand-held camera, are the usual products of such investigation. Although oblique photographs are able to provide a very detailed view, they are biased in providing a record that is mainly of features noticed by the observer, understood, and thought to be of archaeological relevance. To be able to map accurately from these photographs it is necessary that they have been taken from a sufficient height to include surrounding control information.

The collection of military obliques held by English Heritage comprises some 70,000 prints taken in the 1940s, 50s and 60s. Subjects include anti-invasion defences and other military sites along with some post-war developments, rural and coastal sites.

Vertical photographs cover the whole of Britain and can provide scenes on a series of dates between (usually) 1946-7 and the present. Many of these vertical surveys were not flown at times of year that are best to record the archaeological features sought for this Assessment and may have been taken at inappropriate dates to record crop and soil responses that may be seen above sub-surface features. Vertical photographs are taken by a camera fixed inside an aircraft and with its exposures timed to take a series of overlapping views that can be examined stereoscopically. They are often of relatively small scale and their interpretation requires higher perceptive powers and a more cautious approach than that necessary for examination of obliques. Use of these small-scale images can also lead to errors of location and size when they are rectified or re-scaled to match a larger map scale.

Cover searches were obtained from the Cambridge University Collection of Aerial Photographs (CUCAP) and the National Monuments Record: Air Photographs (NMRAP), Swindon. Additional prints were loaned by Suffolk County Council. Photographs included those resulting from observer-directed flights and routine

vertical surveys. Images current on Google Earth and Flashearth at the time of this work (August 2008) were also examined.

Photographs consulted are listed in the Appendix to this report.

### ***Base maps***

Digital data from original survey at a scale of 1:2500 or greater were provided by the client as were extracts from old editions of the County Series maps.

## **Study area**

Photographs were examined in detail for an area extending about 100 metres beyond the assessment area.

### ***Photo interpretation and mapping***

All photographs were examined by eye and under slight (2x) magnification, viewing them as stereoscopic pairs when possible. Digital copies of the most informative were transformed to match the digital data using the specialist program AirPhoto (Scollar 2002). All digital photographs were enhanced using the default setting in AirPhoto before being examined on screen. Transformed files were set as background layers in AutoCAD Map, where features were overdrawn, making reference to the original prints, using standard conventions. Layers from this final drawing have been used to prepare the figure in this report and have been supplied to the client in digital form.

Images in Google Earth were initially viewed and selected from within AirPhoto which automatically geo-references saved files (Scollar and Palmer forthcoming). These were then examined but proved to be uninformative except to indicate current landuse so no further use was made of them.

## **Accuracy**

AirPhoto computes values for mismatches of control points on the photograph and map. Despite using some 'soft' control points such as stream bends and wood corners, all transformations prepared for this assessment were made with mean mismatches below  $\pm 1.50\text{m}$ . These mismatches can be less than the survey accuracy of the base maps themselves and users should be aware of the published figures for the accuracy of large scale maps and thus the need to relate these mismatches to the Expected Accuracy of the Ordnance Survey maps from which control information was taken.

## COMMENTARY

### ***Soils***

The Soil Survey of England and Wales (SSEW 1983) shows the area to lie on glaciofluvial drift (soil association 571x: Ludford), described as 'deep well drained fine loamy, coarse loamy and sandy soils, locally flinty and in places over gravel'. In general, vertical photographs of the land around the Study Area show few indications of sub-surface features. Some palaeochannels and soil differences are visible, but show as 'indications' rather than distinct features and the few local

observer-targeted obliques indicate that archaeological information has been visible only on high (or hard) patches of ground.

### ***Archaeological features***

The only archaeological feature identified is a ring ditch, or arcs of a ring ditch, that is located on one of the 'soil ridges' and was recorded on a single oblique photograph taken in July 1975 – one of the dry summers. The ring ditch, probably marking a bronze age burial, is adjacent to a palaeochannel that may remain from a contemporary stream. Small patches of deeper soil appear to spread over the ring ditch, although this 'stratigraphy' may be due to the near-identical tones on the photograph of the ring ditch and the deeper soil. It is expected that the ring ditch will continue in those areas of deeper soil.

At least one other ring ditch is in the vicinity of the Development Area and in a similar 'soil ridge' location, at TM14584101 (NMR photograph TM1441/4/66, 8 July 1986).

### ***Non-archaeological features***

Two small areas of probable hand-dug quarrying have been mapped. The word 'probable' is used because they may just be angularly-shaped natural deeper soil.

In the field north of the Development Area are many ditched field divisions or drainage dykes. These survived as earthworks until 1982 after which they appear to have been levelled by cultivation or grass management. Lengths of what may be similar ditches occur in the Development Area although their signal on the photographs is indistinct and the lines may have been caused by a tractor.

Two types of natural have been mapped: the deeper soil of a palaeochannel plus some adjacent 'blobs', and what are assumed to be ridges of slightly higher or harder soil. The palaeochannel cuts through the Development Area and probably was once a tributary of Belstead Brook to the north. It seems likely that the ring ditch was located with respect to the watercourse or natural hollow that it lays beside. Its location is also on a small area of higher or harder soil that may have been noticed as a topographical variation in the bronze age and the site chosen for that reason.

### ***Land use***

The Development Area was in arable use on photographs taken between 1943 and 1995. The current (August 2008) image on Google Earth shows it in pasture or set-aside. The field to the southwest was also in arable use while that on the north side was pasture containing extant ditched land divisions that remained visible until 1982 after which the management may have included light cultivation until the land reverted to pasture or set aside in the Google Earth image.



## REFERENCES

- Scollar, I., 2002. Making things look vertical, in Bewley, R.H. and Rączkowski, W., (ed). *Aerial archaeology: developing future practice*. NATO Science Series, Vol **337**, 166-172.
- Scollar, I. and Palmer, R., forthcoming. Using Google Earth Imagery. *AARGnews* **37**.
- SSEW, 1983. *Soils of England and Wales: sheet 4: Eastern England (1:250,000)*. Soil Survey of England and Wales, Harpenden.

## APPENDIX

### ***Aerial photographs examined***

*Source: Cambridge University Collection of Aerial Photographs (searched 31 July 2008)*

Oblique photograph

CCI 76                      1 June 1977

Vertical photographs

RC8-FK 1-5                13 June 1983                1:5000  
 RC8-FK 143-147        13 June 1983                1:5000

*Source: National Monuments Record: Air Photographs (cover search 30052)*

Specialist collection

<i>Photo reference</i>	<i>Film and frame number</i>	<i>Date</i>	<i>NGR</i>
TM 1341 / 1	SFU 11563 / 10	14 JUL 1977	TM 137415
TM 1441 / 1	SFU 11563 / 8	14 JUL 1977	TM 148414
TM 1441 / 2	RHF 11495 / 171 8	21 JUL 1977	TM 147413
TM 1441 / 3	SFU 11550 / 7	25 JUL 1975	TM 147414
TM 1441 / 4	NMR 3117 / 66	08 JUL 1986	TM 143411

### Military obliques

<i>Library and frame number</i>	<i>Photo reference</i>	<i>Original number</i>	<i>Date</i>	<i>NGR</i>
MSO 31367 / O-12403	TM 1441 / 5	1CU/12000	04 MAY 1943	TM 148418

## Vertical collection

<i>Sortie number</i>	<i>Library number</i>	<i>Camera position</i>	<i>First frame</i>	<i>Last frame</i>	<i>First frame (centre point)</i>	<i>Last frame (centre point)</i>	<i>Date</i>	<i>Scale 1:</i>
RAF/106G/UK/1635	423	FP	1336	1336	TM 144 411	TM 144 411	09 JUL 1946	10000
RAF/106G/UK/1635	423	RS	4032	4032	TM 143 410	TM 143 410	09 JUL 1946	10000
RAF/106G/UK/1707	459	RP	3323	3324	TM 151 413	TM 144 414	29 AUG 1946	10250
RAF/CPE/UK/1937	566	RP	3235	3236	TM 147 407	TM 142 407	18 JAN 1947	10000
RAF/CPE/UK/1937	566	RS	4264	4264	TM 147 410	TM 147 410	18 JAN 1947	10000
RAF/CPE/UK/2287	720	V	5039	5042	TM 139 420	TM 146 420	04 SEP 1947	4800
RAF/CPE/UK/2287	720	V	5096	5098	TM 140 414	TM 143 415	04 SEP 1947	4800
RAF/82/1088	1620	F21	83	84	TM 145 413	TM 139 413	17 FEB 1955	8500
RAF/58/5506	2112	F21	159	160	TM 137 412	TM 146 413	04 OCT 1962	11000
RAF/58/5506	2112	F22	114	115	TM 138 421	TM 147 420	04 OCT 1962	11000
RAF/543/1879	2113	F21	145	146	TM 147 409	TM 139 409	25 SEP 1962	10000
RAF/58/633	3344	Vp3	5029	5031	TM 150 414	TM 142 423	18 APR 1951	7900
RAF/58/699	3399	Vp1	5078	5079	TM 144 412	TM 140 416	31 MAY 1951	7900
MAL/65094	4164	V	15	16	TM 138 420	TM 149 420	03 NOV 1965	12000
MAL/73044	7038	V	171	172	TM 149 419	TM 141 424	22 AUG 1973	10000
MAL/73046	7040	V	45	46	TM 146 424	TM 154 419	31 AUG 1973	10560
RAF/106G/LA/22	8310	RS	4070	4071	TM 146 416	TM 143 413	06 JUL 1944	11000
RAF/106G/LA/23	8311	RP	3058	3059	TM 147 416	TM 145 422	06 JUL 1944	11000
RAF/HLA/694	8600	RP	3040	3041	TM 140 410	TM 146 412	26 MAR 1944	10750
OS/85226	12773	V	8612	8614	TM 143 410	TM 143 418	12 OCT 1985	2600
OS/82199	12984	V	5	6	TM 142 420	TM 151 420	02 SEP 1982	10000
OS/89045	13415	V	29	30	TM 145 420	TM 141 421	18 MAR 1989	5200
OS/95159	14843	V	23	23	TM 144 406	TM 144 406	19 JUN 1995	7700
OS/95159	14843	V	40	40	TM 144 419	TM 144 419	19 JUN 1995	7700
MAL/62531	21185	V	101159	101159	TM 144 416	TM 144 416	06 JUN 1962	11000
MAL/62514	21216	V	98126	98126	TM 145 413	TM 145 413	12 APR 1962	6500
MAL/62514	21216	V	98136	98136	TM 137 418	TM 137 418	12 APR 1962	6500
MAL/55162	21586	V	22972	22972	TM 145 416	TM 145 416	01 JUN 1955	12000

*Source: Suffolk County Council*

### Vertical photographs

HSL/71041/run 15: 1646 11 April 1971 1:12000  
 JAS/86014: 096 1 May 1986 1:10000  
 ADAS/96718: 138 24 September 1996 1:10000

### Oblique photograph

NMR/TM1440/2/242 7 July 1975

### **Most informative photographs**

NMR/TM1440/2/242  
 RAF/CPE/UK/1937: 4264  
 RAF/58/699: 5078  
 MAL/55162: 22972

## TERMS AND CONDITIONS

Air Photo Services have produced this assessment for their clients, Suffolk County Council, subject to the following conditions:

Air Photo Services will be answerable only for those transcriptions, plans, documentary records and written reports that it submits to the clients, and not for the accuracy of any edited or re-drawn versions of that material that may subsequently be produced by the clients or any other of their agents.

That transcriptions, documentation, and textual reports presented within this assessment report shall be explicitly identified as the work of Air Photo Services.

Air Photo Services has consulted only those aerial photographs specified. It cannot guarantee that further aerial photographs of archaeological significance do not exist in collections that were not examined.

Due to the nature of aerial photographic evidence, Air Photo Services cannot guarantee that there may not be further archaeological features found during ground survey which are not visible on aerial photographs or that apparently 'blank' areas will not contain masked archaeological evidence.

We suggest that if a period of 6 months or more elapses between compilation of this report and field evaluation new searches are made in appropriate photo libraries. Examination of any newly acquired photographs is recommended.

That the original working documents (being interpretation overlays, control information, and digital data files) will remain the property of Air Photo Services and be securely retained by it for a period of three years from the completion date of this assessment after which only the digital files may be retained.

It is requested that a copy of this report be lodged with the relevant Sites and Monuments Record within six months of the completion of the archaeological evaluation.

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## **Appendix 3**

### **Documentary study by A. M. Breen**

#### **Land at Bobbits Lane, Pinewood: Documentary Report**

##### **Introduction**

This site was in the former civil and ecclesiastical parish of Wherstead. Nearly all of the land in this parish was formerly part of the Wherstead Park estate. Wherstead Hall was the former property of the Harland family. In a simplified form the succession of the owners has been described. Admiral Sir Robert Harland acquired the lordships of various manors in Wherstead including that of Bourn Hall in 1780. It was his son also Sir Robert, who built or enlarged Wherstead Hall in 1792. He married Arethusa Vernon in 1801. In 1814 the estate was exchanged 'for that of Mr John Vernon at Nacton' and at the death of John Vernon in 1818 'Lady Harland took his estates, including Wherstead, for life'. At the same time Sir Robert Harland acquired, probably in the right of his wife, the lordships of the manor of Wherstead, Pannington Hall, Bourne Hall and Thorington Hall all situated in Wherstead. The Harlands returned to live in Wherstead in 1847 with Sir Robert dying the following year and Lady Harland in 1860, when under the terms of the will of John Vernon the estates passed to Revd Charles Vernon who died shortly afterwards. The estate then passed in trust to Charles Edmund Dashwood, an infant. He died in 1935 having sold much of the land the previous year. In 1948 the house and 16 acres of land became the head offices of the former 'Eastern Electricity' (Anon. 1969).

The property records of the Wherstead Hall estate have been deposited at the record office in Ipswich by a firm of solicitors based at Lincoln's Inn, London (ref. HB33). The collection has been re-catalogued. A printed version of the catalogue is not currently available at the record office in Ipswich and the relevant documents with their new references have been identified through the assistance of the archivist Louisa Clarke. This site was part of the lands attached to Thorington Hall, a separate manor. The manorial records of the various manors situated in both Wherstead and Belstead are in a separate collection (ref. HD 670). This collection includes an 'extent and rental of the manors of Wherstead Hall, Pannington Hall and Bourne Hall, all in Wherstead' dated 1700 (ref. HD670/16), however separate manorial court books, rentals, surveys or extents do not appear to have survived for the manor of Thorington, if they ever existed. Instead there is a valuable plan of this site dated 1676 (ref. X6/9). This has been copied in part for this report.

##### **Maps**

The Suffolk Archaeological Unit has supplied copies of the first three editions of the 1:2500 Ordnance Survey maps for this site. On the first edition of a sheet numbered LXXXII.2 surveyed in 1880, this site was part of a single field situated between Spring Wood to the south and a pathway leading to the southeast in the direction of Bobbits Hole to the north. On the second edition of this map published in 1904, the field numbered 31 was measured as 12.620 acres and on the third edition published in 1926 as 12.352 acres. On this third edition the former footpath is shown as a roadway.

The 1839 tithe map for Wherstead (ref. P461/285) is damaged and the area of this site is not shown in full. On this map the field is numbered 5 and was described in the apportionment (ref. FDA285/1A/1a) as 'Kiln Piece' measuring 9 acres 21 perches. It was part of a farm measuring 298 acres 24 perches, the property of 'Sir Robert Harland Bart and the trustees of Lady Harland' and in the occupation of the tenant George Sexton. George Sexton held the fields numbered on the map as 1, 3-5, 7-9, 11, 13-14, 17-31, 245, 249-250 and 284. These included 1 and 7 both described as 'Part of Horsecroft', 3 & 4 'First' and 'Second Marsh', 8 'Blackmore Land', 9 'Coopers' '27 Backhouse Field' and 28 'Broom Hill Field'. He lived at Thorington Hall numbered 25 in the apportionment.

Sir Robert Harland held in hand 'Spring Wood' numbered 6 and measured at 16 acres 39 perches together with other areas of wood and plantations in the parish.

There are three highway division plans indexed under Wherstead (ref. SCC 276/316, 324, & 325). All relate to areas close to Wherstead Park and the centre of the village. There are no sketch maps or plans relating to Wherstead in the Isaac Johnson collection (ref. HD11:475).

There is a beautifully drawn map of the Thorington Hall dated 1676 and described in the legend as 'A Mapp, Platt or Geographical Description of all the yards, gardens and lands in Wherstead now in the occupation of Thomas Sorrell in the county of Suffolk as they are distinguished by their severall names and contents being expressed therein made the Third day of June 1676 By Thomas Martin' (ref. X6/9). The orientation of this map is east-west and not the modern convention of north-south. This site 'Kilne Ffeild' is depicted on the left hand side of the map and was measured as 6 acres 1 rood and 8 perches. To the north the roadway is marked as 'The Way leading from Ipswich towards Wherstead'. To the east a cottage or house is shown on the map close to the position of 'Bobbits Hole' though this appears to be outside of and apart from this site. The adjoining field 'Broome Close' measured at 19 acres 3 roods and 34 perches has a further inscription in a later hand written over the southern end of the field 'This piece divided into two one part called Upper Oat Close' at the north end of the field there is the inscription 'Lower Oat Close'. The field to the west of Kiln Field is named on this map as 'Horse Croft' and measured at 12 acres 2 roods and 33 perches. These field names and others were still in use at the time of the 1839 tithe map. To the north beyond the way leading to Wherstead, three pieces of Marsh measured east west as 7 acres 1 rood 26 perches, 7 acres 2 roods 15 perches and 1 acre 1 rood 1 perch are shown as part of this estate. Instead of 'Spring Wood' shown on the tithe map and named in the apportionment and later Ordnance Survey maps, on this 1676 map the woods are called 'New Fell'd Wood' 19 acres 1 rood and 27 perches and 'Lower Stub'd Wood' 6 acres 3 roods and 18 perches, again there is further inscription in a later hand 'Now Called Upper Stub Wood'. To the east of New Fell'd Wood, 'Upper Stub'd Wood' has the further inscription in the same hand 'Now Lower Stub Wood' and at the southern end next to the site of Thorington Hall 'a field fenced of here called Back House Piece'. The later inscriptions appear elsewhere on the map, such as at the wood on the western edge of the estate 'Now Called Lodge Grove'. The name 'Thorington Hall' does not appear on this map. The map has long been deposited at the record office and is part of an artificial collection.

## Deeds

The bundle of deeds labelled as relating to the manor of Thorington are in amongst the property records for the Wherstead Hall estate (ref. HB33/1/6/5). Amongst the documents there is the 'Abstract of the title of Sir Robert Harland, bart his trustees to the Manor of Thorington Hall & lands' dated circa 1816. Bound with this abstract, there is an earlier document 'An Abstract of the title of Edward Vernon esqr to the Mannor of Thorington Hall &c in Com Suffolk'. The second abstract describes on 9 pages the title deeds from 2 May, 26 Eliz (1584) through to 13 February 1713 (that is 1714 according to the present calendar). The deeds described in the abstract are individually numbered and these numbers have been endorsed on the surviving deeds in the bundle. The abstract contains full details of the property and its owners and the deeds themselves have not been examined for this report.

In 1584 Sir Philip Parker leased 'All that the mannor & farm called Thorington Hall together with all the houses, lands, meadows, pastures, feedings, marshes, fences, grounds &c other profits to the said mannor & farm belonging & lying in the town & fields of Wherstead or elsewhere as parcel of the mannor or farme called Thorington Hall' to John Wright for 21 years. On 29 January 1606, Dame Katherine Parker, the widow of Sir Philip grant the manor and farm including 'perquisites of court & leets & all other the profits and advantages belonging to the said mannor' to Sir Calthorp Parker. The manor at the time was then formally described as 'one messuage, one toft, one garden, 100 acres of land, 10 acres of meadow, 30 acres of pasture, 30 acres of heath, 15 acres of marsh, 7 acres of alder, 30 acres of wood' lying in 'Whersted, Belsted parva & Ipswich'. In the will of another Sir Philip Parker dated 8 June 1664, the farm is described as 'in the occupation of Thomas Sorrell'. Sir Philip had ordered that the farm should be sold in payment of debts, though until the property had been sold the executors were allowed to 'fell & dispose of any timber or wood that are begrowing on the premises'. Sir Philip Parker 'late of Great Wenham' died in 1675.

In deeds dated 25 & 26 January 1680 (1681) Nathaniel Parker, the brother and executor of Sir Philip sold the property to Bezaleel Sherman 'of London, merchant' for the sum of £1122. In these deeds the lands are described in full with each field listed with its acreage. The fields included 'a field called Kiln Field 6 ½ acres', a 'closes or parcel of land called Horsecroft 13 acres', 'Parcels of land called the Marshes' 16 ½ acres. This strongly suggests that the 1676 map of the estate had been prepared in advance of this sale.

The property was then granted as part of a marriage settlement and in favour of an heir before being sold in May 1715 to Edward Vernon. Under the terms of the will of Edward Vernon dated 26 March 1757, the manor passed first to his nephew Francis Vernon who died a minor aged 8 and then to a Henry Vernon who also died a minor and then to John Vernon of Orwell Park who conveyed the manor 'in settlement on the marriage of his sister Miss Vernon with Sir Robert Harland'. Many of the deeds described in the abstract relate to loans raised on the property and it is highly likely that it was a tenanted farm throughout this period.

There is one lease relating to the tenancy. On 15 December 1810 Sir Robert Harland leased 'all that messuage or tenement and farm called Thorington Hall' to George Holmes for a term of twelve years from 10 October 1809. The farm and the lands 'were late in the tenure or occupation of James Fisher'. Holmes also leased

'All that wood called Highwood and all that wood called Spring Wood and all other wood grounds parcel of the said farm now in the possession of the said Sir Robert'. The lease includes a number of conditions as to the maintenance of the lands such as 'all shall yearly during the said term make on hundred and forty rods of hedging ditching and fencing in an husbandlike manner ... digging the ditches three spades deep and an ell wide and throwing one spade of earth upon the banks to nourish the quick and make a good fence' but omits any further description of the land (ref. HB 33/1/3/3/2/12).

There is an extent for the manors of Wherstead, Pannington and Bourne Hall dated 1700 (ref. HD 670/16) together with contemporary manorial records for each of these manors. As the manor of Thorington was a separate property and not then held as part of the same estate, it is unlikely that the extent will refer directly to the lands forming this manor. At present the extent is in the process of conservation and is not currently available for research.

### **Earlier Records**

According to Copinger's 'Manors of Suffolk' 'in the time of Edward I the manor was vested in Bartholomew Davilers who died in 1276 and from that time until the death of Sir Philip Parker, bart in 1696, the devolution of the manor is identical with that of Erwarton Hall'. This is mainly correct apart from the evidence of the abstract of title, that shows the manor and farm was sold in 1680 and separated from the 'perquisites of court & leets & all other the profits and advantages belonging to the said manor'. It is possible that the title to the lordship remained with the Parker family after 1680. Inquisitions held at the deaths of each of the lords of the manor enquiring into their real estate and other properties are likely to contain further references to Thorington Hall, these records now held at the National Archives in Kew. Few if any of these documents will contain specific references to this site.

There is a large collection of medieval deeds for Wherstead (ref. HD 210/82-164). A number of these documents contain references to Bartholomew Davelers. The lands described cannot at present be located as part of the manor of Thorington. The deeds include references to various areas of marsh, alder groves, heathland and to a mill and mill croft. There are a further three, undated medieval deeds in the Iveagh Collection (ref. HD 1538/420/1-3). The earliest of these, dating to the later twelfth century relates to 'land of Perecroft and adjoining marsh where mill stands'.

The manor has its origins in the Saxon period and was described in the Domesday Survey of 1086 under the lands of Robert son of Corbucion. Alwin, a free man had held Thorington (Torituna) of Stigand before 1066. The lands were measured as two carucates with 6 villagers and 2 slaves. At the time of the survey, there were 4 villagers and 5 small holders and 1 slave. There were 20 acres of meadow and a mill attached to this manor together with a church and 50 acres of land (DB 40:426a,b) (Rumble 1986). At some point in time this church was separated from this manor and granted to the priory of St Peter and St Paul in Ipswich.



## Conclusion

This site was known as Kiln Field in 1676 and was then part of the farm and manor of Thorington Hall. According to the will of Sir Philip Parker the tenant of the hall in 1664 was Thomas Sorrell who is also named as the tenant on the 1676 map. It is possible that the woods now called Spring Woods had been recently felled before the sale of the farm in 1680. The names of two of the later tenants James Fisher and George Holmes appear in a lease of the tenancy dated 1810. The date from which the tenancy was to commence suggests that the farm had been tenanted before 1751. It is reasonable to suggest that the farm was tenanted throughout a period from the late sixteenth century through to the eventual sale of the Wherstead Hall estate. The field names given in the 1839 tithe apportionment are the same as those given on the 1676 map, though there had been a number of changes in the field boundaries. It appears to be unlikely that there is an earlier description of this farm that would include earlier field names.

Thorington Hall was a separate manor, though no manorial records in the form of court books or rolls have survived, if they ever existed. From the late thirteenth century this manor was held with that of Erwarton Hall. The lord may have lived at Erwarton or elsewhere and not at Wherstead.

The earliest reference to Thorington is in the Domesday Survey of 1086 and when the church was part of the manor. There are references to the Danvelers, the thirteenth century lords of this manor in a collection of medieval deeds held at the record office in Ipswich.

**Anthony M Breen August 2008**

## References

### Maps

P 461/285 Tithe Map Wherstead 1839  
FDA285/1A/1a Tithe Apportionment 1839

SCC/ 276/316, 324, & 325 Quarter Sessions High Diversion Orders 1792 - 1811

X6/9 'A Mapp, Platt or Geographical Description of all the yards, gardens and lands in Wherstead now in the occupation of Thomas Sorrell in the county of Suffolk as they are destinguished by their severall names and contents being expressed therein made the Third day of June 1676 By Thomas Martin'

### Property Deeds

HB33/1/6/5 'Evidences of title ... of John Vernon of Orwell Park' Manor of Thorington Hall abstract of title and deeds 1584-1811

HB33/1/3/3/2/12 Counterpart lease from Sir Robert Harland of Wherstead Lodge to George Holmes of Wherstead, farmer 'Messuage and farm called Thorington Hall' 15 December 1810

### Published Sources

Anonymous 'Wherstead: People and Events associated with the Eastern Electricity's Head Office at Wherstead near Ipswich', Revised and printed at Eastern Electricity Headquarters, October 1969

Alex Rumble ed. 'Domesday Book: Suffolk', Phillimore & Co Ltd, Chichester 1986

William A Copinger 'The Manors of Suffolk Notes on Their History and Devolution': The Hundreds of Samford, Stow and Thedwastry' Vol. 6, Manchester 1910

## Appendix 4

### SSSI details

COUNTY: SUFFOLK

SITE NAME: BOBBITSHOLE, BELSTEAD

DISTRICT: BABERGH

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981

Local Planning Authority: BABERGH DISTRICT COUNCIL

National Grid Reference: TM 149413

Area: 1.8 (ha.) 4.4 (ac.)

Ordnance Survey Sheet 1:50,000: 169 1:

10,000: TM 14 SW

Date Notified (Under 1949 Act): -

Date of Last Revision: -

Date Notified (Under 1981 Act): 1987

Date of Last Revision: -

Other Information:

This is a new site.


Description and Reasons for Notification:









This geological site is the type locality for the Ipswichian (Last) Interglacial, where during the excavation of the sewage works, organic lacustrine deposits provided a continuous record of sedimentation, vegetational history, and non-marine mollusca from the Wolstonian late-glacial to the end of Ipswichian - Interglacial (subzone Ip IIb). A nationally important Pleistocene reference site.




# Appendix 5


## Test pit logs


 <b>KNIGHT</b> Environmental	<b>TRIAL PIT LOG</b>		<b>TP1</b>
	PROJECT : Thorington Hall		PROJECT REF : CA0251
	CLIENT : Savills		Sheet 1 of 1
CO-ORDINATES		ELEVATION (m)	Start Date : 10-09-08
Eastings :	Northings :		Date Backfilled :

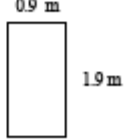
Depth	Type No	Test Result	Reduced Level	Depth (Thickness)	DESCRIPTION	Legend	Water	Instrument/Backfill
				(0.60)	Brown slightly sandy slightly gravelly clayey TOPSOIL covered by grass. Sand is fine. Gravel is of fine to medium subangular flint and occasional fine brick fragments. Occasional roots and root fragments. [MADE GROUND]			
0.60-0.60	D1			0.60 (0.20)	Grey silty slightly sandy CLAY with occasional fine brick fragments. [MADE GROUND]			
0.80-0.80	D2			0.80 (0.30)	Reddish brown SAND AND GRAVEL. Sand is medium. Gravel is of fine to medium subangular and subrounded flint.			
1.10-1.10	D3			1.10 (0.70)	Orange medium to coarse SAND. ... at 1.4mbgl becoming yellow			
1.60-1.60	D4			1.60 (0.20)	Brownish yellow SAND AND GRAVEL. Sand is medium. Gravel is of fine to medium subangular and subrounded flint.			
				1.80 (0.20)	Yellow slightly silty slightly sandy CLAY.			
2.20-2.20	D5			2.20 (0.70)	Yellow gravelly SAND. Sand is medium. Gravel is of fine to medium subangular and subrounded flint.			
				2.90 (0.70)	Yellow slightly silty slightly sandy CLAY.			
				3.00	Trial Pit completed.			

REMARKS	PIT DIMENSIONS & ORIENTATION			
				
STABILITY/SHORING AND SUPPORT				
SCALE 1:21.875	METHOD :	EXCAVATED BY :	LOGGED BY : AK	CHECKED BY :
Knight Environmental Ltd, , tel , fax <a href="http://www.knightenvironmental.co.uk">www.knightenvironmental.co.uk</a>				


KNIGHT TP LOG CA0251 LOGS.GPJ KNIGHT SEPT 08.GDT 10/08





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Eastings :	Northings :		Date Backfilled :

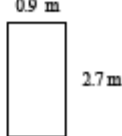
Depth	Type No	Test Result	Reduced Level	Depth (Thickness)	DESCRIPTION	Legend	Water	Instrument/Backfill
1.00-1.00	D1			(0.40)	Brown slightly sandy slightly gravelly clayey TOPSOIL covered by grass. Sand is fine. Gravel is of fine to medium subangular flint and occasional fine brick fragments. Occasional roots and root fragments. [MADE GROUND]			
				0.40	Yellow slightly silty fine to medium SAND. ... at 1.4m bgl becoming orange with occasional gravel of fine subangular flint.			
				(2.60)				
				3.00	Trial Pit completed.			

REMARKS	PIT DIMENSIONS & ORIENTATION	
		
STABILITY/SHORING AND SUPPORT		
SCALE 1:21.875	METHOD :	EXCAVATED BY :
		LOGGED BY : AK
		CHECKED BY :
Knight Environmental Ltd, tel, fax <a href="http://www.knightenvironmental.co.uk">www.knightenvironmental.co.uk</a>		


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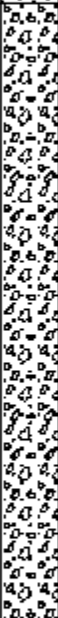

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Eastings :	Northings :		Date Backfilled :

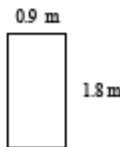
Depth	Type No	Test Result	Reduced Level	Depth (Thickness)	DESCRIPTION	Legend	Water	Instrument/Backfill
1.00-1.00	D1			(0.40)	Brown slightly sandy slightly gravelly clayey TOPSOIL covered by grass. Sand is fine. Gravel is of fine to medium subangular flint. Occasional roots and root fragments.			
				0.40	Reddish brown SAND AND GRAVEL. Sand is medium. Gravel is of fine to medium subangular and subrounded flint and occasional fine rounded chalk.			
1.70-1.70	D2			(1.30)				
				1.70	Soft to firm light grey mottled dark orange slightly silty slightly sandy CLAY.			
3.00-3.00	D3			(1.10)				
				2.80	Reddish brown SAND AND GRAVEL. Sand is coarse. Gravel is of fine to medium subangular and subrounded flint.			
				(0.20)				
				3.00	Trial Pit completed.			

REMARKS	PIT DIMENSIONS & ORIENTATION			
				
STABILITY/SHORING AND SUPPORT				
SCALE 1:21.875	METHOD :	EXCAVATED BY :	LOGGED BY : AK	CHECKED BY :
Knight Environmental Ltd, tel, fax <a href="http://www.knightenvironmental.co.uk">www.knightenvironmental.co.uk</a>				

KNIGHT.TP.LOG CA0251.LOGS.GPJ KNIGHT SEPT 08.GDT 10/09/08


 <b>KNIGHT</b> Environmental	<b>TRIAL PIT LOG</b>		<b>TP4</b>
	PROJECT : Thorington Hall		PROJECT REF : CA0251
	CLIENT : Savills		Sheet 1 of 1
CO-ORDINATES		ELEVATION (m)	Start Date : 10-09-08
Eastings :	Northings :		Date Backfilled :



Depth	Type No	Test Result	Reduced Level	Depth (Thickness)	DESCRIPTION	Legend	Water	Instrument/Backfill
1.00-1.00	D1			(0.40)	Brown slightly sandy slightly gravelly clayey TOPSOIL covered by grass. Sand is fine. Gravel is of fine to medium subangular flint. Occasional roots and root fragments.			
				0.40	Reddish brown SAND AND GRAVEL. Sand is medium. Gravel is of fine to medium subangular and subrounded flint and occasional fine rounded chalk. ... at 0.7mbgl becoming very gravelly.			
2.00-2.00	D2			(2.40)				
				2.80	Yellow slightly silty fine to medium SAND.			
				(0.20) 3.00				

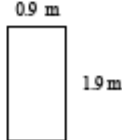
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		CHECKED BY :
Knight Environmental Ltd, tel, fax <a href="http://www.knightenvironmental.co.uk">www.knightenvironmental.co.uk</a>		

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
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Eastings :	Northings :		Date Backfilled :

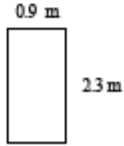
Depth	Type No	Test Result	Reduced Level	Depth (Thickness)	DESCRIPTION	Legend	Water	Instrument/Backfill
				(0.40)	Brown slightly sandy slightly gravelly clayey TOPSOIL covered by grass. Sand is fine. Gravel is of fine to medium subangular flint. Occasional roots and root fragments.			
1.00-1.00	D1			0.40	Reddish brown SAND AND GRAVEL. Sand is medium. Gravel is of fine to medium subangular and subrounded flint and occasional fine rounded chalk. ... at 2m bgl becoming yellow very gravelly.			
				(2.60)				
2.80-2.80	D2			3.00	Trial Pit completed.			

REMARKS	PIT DIMENSIONS & ORIENTATION	
		
STABILITY/SHORING AND SUPPORT		
SCALE 1:21.875	METHOD :	EXCAVATED BY :
		LOGGED BY : AK
		CHECKED BY :
Knight Environmental Ltd, tel, fax <a href="http://www.knightenvironmental.co.uk">www.knightenvironmental.co.uk</a>		


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


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CO-ORDINATES		ELEVATION (m)	Start Date : 10-09-08
Eastings :	Northings :		Date Backfilled :

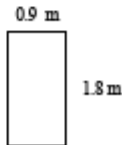
Depth	Type No	Test Result	Reduced Level	Depth (Thickness)	DESCRIPTION	Legend	Water	Instrument/Backfill
0.60-0.60	D1			(0.30) 0.30	Brown slightly sandy slightly gravelly clayey TOPSOIL covered by grass. Sand is fine. Gravel is of fine to medium subangular flint. Occasional roots and root fragments.			
				(0.30) 0.60	Brown slightly sandy slightly gravelly CLAY. Sand is fine. Gravel is of fine to medium subangular flint and fine rounded chalk. [MADE GROUND]			
				(1.50)	Reddish brown SAND and GRAVEL. Sand is medium. Gravel is of fine to medium subangular and subrounded flint and fine rounded chalk.			
1.80-1.80	D2			2.10				
2.10-2.10	D3			(0.30) 2.40	Soft yellowish easily crushed CHALK.			
					Trial Pit completed.			

REMARKS	PIT DIMENSIONS & ORIENTATION		
			
STABILITY/SHORING AND SUPPORT			
SCALE 1:21.875	METHOD :	EXCAVATED BY :	LOGGED BY : AK      CHECKED BY :
Knight Environmental Ltd, tel, fax <a href="http://www.knightenvironmental.co.uk">www.knightenvironmental.co.uk</a>			


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


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CO-ORDINATES		ELEVATION (m)	Start Date : 10-09-08
Eastings :	Northings :		Date Backfilled :

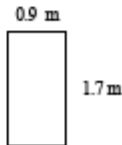
Depth	Type No	Test Result	Reduced Level	Depth (Thickness)	DESCRIPTION	Legend	Water	Instrument/Backfill
1.00-1.00	D1			(0.40)	Brown slightly sandy slightly gravelly clayey TOPSOIL covered by grass. Sand is fine. Gravel is of fine to medium subangular flint and occasional fine brick fragments. Occasional roots and root fragments. [MADE GROUND]			
				0.40	Soft light brown slightly silty slightly sandy CLAY.			
2.00-2.00	D2			(0.80)				
				1.20	Reddish brown SAND and GRAVEL. Sand is medium. Gravel is of fine to medium subangular and subrounded flint and fine rounded chalk.			
2.60-2.60	D3			(0.90)				
				2.10	Soft yellowish easily crushed CHALK.			
				(0.60)				
				2.70	Trial Pit completed.			

REMARKS	PIT DIMENSIONS & ORIENTATION	
		
STABILITY/SHORING AND SUPPORT		
SCALE 1:21.875	METHOD :	EXCAVATED BY :
		LOGGED BY : AK
		CHECKED BY :
Knight Environmental Ltd, tel, fax <a href="http://www.knightenvironmental.co.uk">www.knightenvironmental.co.uk</a>		


KNIGHT TP LOG CA0251 LOGS/GPJ/KNIGHT/SEPT 08/GOT/10/08






 <b>KNIGHT</b> Environmental	<b>TRIAL PIT LOG</b>		<b>TP8</b>
	PROJECT : Thorington Hall		PROJECT REF : CA0251
	CLIENT : Savills		Sheet 1 of 1
CO-ORDINATES		ELEVATION (m)	Start Date : 10-09-08
Eastings :	Northings :		Date Backfilled :

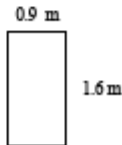
Depth	Type No	Test Result	Reduced Level	Depth (Thickness)	DESCRIPTION	Legend	Water	Instrument/Backfill
0.40-0.40	D1			(0.40)	Brown slightly sandy slightly gravelly clayey TOPSOIL covered by grass. Sand is fine. Gravel is of fine to medium subangular flint and occasional fine brick fragments. Occasional roots and root fragments. [MADE GROUND]			
				0.40	Reddish brown SAND and GRAVEL. Sand is medium. Gravel is of fine to medium subangular and subrounded flint and occasional fine rounded chalk.			
1.00-1.00	D2			0.60	Yellow slightly silty fine to medium SAND.			
				(1.30)				
1.90-1.90	D3			1.90	Soft yellowish easily crushed CHALK.			
				(0.70)				
2.90-2.90	D4			2.60	Trial Pit completed.			

REMARKS	PIT DIMENSIONS & ORIENTATION	
		
STABILITY/SHORING AND SUPPORT		
SCALE 1:21.875	METHOD :	EXCAVATED BY :
		LOGGED BY : AK
		CHECKED BY :
Knight Environmental Ltd, tel, fax <a href="http://www.knightenvironmental.co.uk">www.knightenvironmental.co.uk</a>		


KNIGHT TP LOG CA0251 LOGS/GPJ/KNIGHT/SEPT 08/GOT/10/08



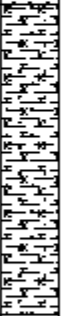
 <b>KNIGHT</b> Environmental	<b>TRIAL PIT LOG</b>		<b>TP9</b>
	PROJECT : Thorington Hall		PROJECT REF : CA0251
	CLIENT : Savills		Sheet 1 of 1
CO-ORDINATES		ELEVATION (m)	Start Date : 10-09-08
Eastings :	Northings :		Date Backfilled :

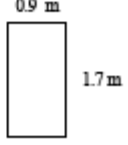
Depth	Type No	Test Result	Reduced Level	Depth (Thickness)	DESCRIPTION	Legend	Water	Instrument/Backfill	
1.00-1.00	D1			(0.40)	Brown slightly sandy slightly gravelly clayey TOPSOIL covered by grass. Sand is fine. Gravel is of fine to medium subangular flint and occasional fine brick fragments. Occasional roots and root fragments. [MADE GROUND]				
				0.40					
				(0.40)	Soft light brown slightly silty slightly sandy CLAY.				
				0.80					
2.20-2.20	D2			(1.00)	Reddish brown SAND and GRAVEL. Sand is medium. Gravel is of fine to medium subangular and subrounded flint and fine rounded chalk.				
				1.80					
2.20-2.20	D2			(0.40)	Light brown slightly sandy SILT.				
2.30-2.30	D3			(0.20)	Soft yellowish easily crushed CHALK.				
				2.40	Trial Pit completed.				

REMARKS	PIT DIMENSIONS & ORIENTATION	
		
STABILITY/SHORING AND SUPPORT		
SCALE 1:21.875	METHOD :	EXCAVATED BY :
		LOGGED BY : AK
		CHECKED BY :
Knight Environmental Ltd, tel, fax <a href="http://www.knightenvironmental.co.uk">www.knightenvironmental.co.uk</a>		

KNIGHT TP LOG CA0251 LOGS/GPJ/KNIGHT SEPT 08 GGT 10/09/08

 <b>KNIGHT</b> Environmental	<b>TRIAL PIT LOG</b>		<b>TP10</b>
	PROJECT : Thorington Hall		PROJECT REF : CA0251
	CLIENT : Savills		Sheet 1 of 1
CO-ORDINATES		ELEVATION (m)	Start Date : 10-09-08
Eastings :	Northings :		Date Backfilled :

Depth	Type No	Test Result	Reduced Level	Depth (Thickness)	DESCRIPTION	Legend	Water	Instrument/Backfill
0.40-0.40	D1			(0.40) 0.40	Brown slightly sandy slightly gravelly clayey TOPSOIL covered by grass. Sand is fine. Gravel is of fine to medium subangular flint and occasional fine brick fragments. Occasional roots and root fragments. [MADE GROUND]			
1.00-1.00	D2			(0.90) 1.30	Orangish brown gravelly SAND. Sand is medium. Gravel is of fine to medium subangular and subrounded flint.			
2.00-2.00	D3			(1.20) 2.50	Soft light brown and grey slightly salty slightly sandy CLAY.			
					Trial Pit completed.			

REMARKS	<b>PIT DIMENSIONS &amp; ORIENTATION</b> 			
STABILITY/SHORING AND SUPPORT				
SCALE 1:21.875	METHOD :	EXCAVATED BY :	LOGGED BY : AK	CHECKED BY :
Knight Environmental Ltd, tel, fax <a href="http://www.knightenvironmental.co.uk">www.knightenvironmental.co.uk</a>				

KNIGHT\_TP\_LOG\_CA0251.LOGSGPJ.KNIGHT SEPT 08.GDT 16:08