

# Archaeological Field Unit

An Archaeological Desk-Based Assessment of Land between Felixstowe Road and Main Road, Martlesham, Suffolk (TM 247 463)

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August 2005

**Cambridgeshire County Council** 

Report No. 817

Commissioned by J.S. Bloor (Sudbury) Ltd

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#### **SUMMARY**

This report presents the results of research resulting from a thorough examination of the archaeological data held by the Suffolk County Sites and Monuments Record (SMR), cartographic materials and secondary historical records such as Suffolk County Council's Parish Histories and the Victoria County Histories (held by Ipswich Record Office) and the aerial photographs (held by the National Monuments Record and Suffolk County Council). These examinations were supplemented by a field visit undertaken by the author in the company of Rog Palmer of Air Photo Services.

Results of the study indicate the continued survival of a World War II pill-box or battle headquarters within the site and the remains of the mill adjacent to Mill Farmhouse. The latter has been partially excavated by the Suffolk Mills Study Group.

Although the SMR indicates that archaeological finds have been recovered from within and around the subject site in the past, there is as yet no conclusive evidence for the presence and survival of prehistoric, Roman and Saxon remains. Recent archaeological work has called into question earlier interpretations. Nonetheless cartographic evidence for barrows on the edge of the site and SMR records for tesserae being found within it, suggest that additional remains from these periods should be expected. The absence of recent confirmation of Roman remains at locations close to the site may result from inadequate methodology, particularly with regards to projects occurring pre-PPG16 (DOE 1990), or from the small scale and restricted spatial spread of the Roman activities, or the mis-reporting of locational information.

The record of tesserae implies the presence of a major Roman building in the vicinity. The possibility that a prehistoric or Early Saxon burial ground extends into the site, however putative, is highly significant as it implies the possibility of important remains including burials.

As a result of the current research a scheme of fieldwork involving geophysical survey, fieldwalking and evaluation trenching is recommended. Given the current unknown location, condition and potential significance of any surviving archaeological features and deposits, which may include human remains, the Local Planning Authority is likely to expect this work to be undertaken pre-determination.

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# An Archaeological Desk-Based Assessment of Land between Felixstowe Road and Main Road, Martlesham, Suffolk (TM 247 463)

#### 1 INTRODUCTION

The Archaeological Field Unit of Cambridgeshire County Council was commissioned by Boyer Planning on behalf of J.S. Bloor (Sudbury) Ltd to undertake an archaeological desk-based research in order to provide information relevant to the Local Development Framework.

The research focuses on the collection of archaeological information available from the Suffolk County Council (SMR, Archaeological Services, Archaeological Field Projects Team and Ipswich Record Office), the National Monument Record and from the site itself. These sources have been used to describe the known archaeological resource in and around the site and to clarify the issues of presence and survival. Recommendations are provided of methodologies that might be employed to resolve any outstanding issues regarding the presence, condition, extent, nature, quality and value of any surviving archaeological remains.

The assessment process seeks to fulfil the requirements of PPG16 (DoE 1990). Through the commissioning of the desk-based assessment the client recognises that archaeology is a material consideration in the planning process and wishes to provide the information required to allow the Planning Authority and their advisors to make an informed decision. By undertaking this examination the client recognises that, where appropriate, there is the opportunity to develop a scheme of sympathetic development.

#### 2 METHODOLOGY

The desk-based research was completed in accordance with the *Standard and Guidance for Archaeological Desk-based Assessment* adopted by the Institute of Field Archaeologists (2001).

The desk-based research involved examination of existing regionally accessible archives. No intrusive fieldwork or geophysical survey was undertaken.

#### This examination included:

• data collection from the Suffolk County Council's Sites and Monuments Record on the 29th June 2005. This was undertaken in order to provide a background to recent archaeological findings in the area:

- an interview with Suffolk Archaeological Unit's Teams Project Manager, John Newman, who provided valuable information on the work undertaken by the Field Team in this area since the mid 1980s;
- access to the historic mapping and secondary historic sources, gained through the Ipswich Record Office on the 4th July 2005;
- access to geological and modern topographical mapping, gained through the Local Studies section of the Cambridge City Library;
- a site visit undertaken on the 4th July 2005 in order to identify any distinguishing features of the site *i.e.* condition, archaeology not identified through the SMR search, verifying features identified during the course of the preliminary aerial photographic survey.

#### 3 TOPOGRAPHY AND GEOLOGY

The site lies at NGR TM 246 463, between Felixstowe Road and Main Road, Martlesham (Fig. 1). A Tesco store bounds the property to the south and modern housing estates lie to the north at Crown Close and north of Main Road. To the east lies Spratt's Plantation and to the west is heathland containing the sites of tumuli marked on the Ordnance Survey mapping. The former site of the RAF Martlesham Heath Aerodrome lies further to the west, outside the limits of the site. The A12 follows a route between Felixstowe, Woodbridge and Saxmundham and lies to the west of the site (OS 1:50,000 sheet 169 2002, revised 2001).

Woodbridge lies about 1km to the north, with Ipswich 5km to the west. The Anglo-Saxon ship burials of Sutton Hoo lie across the River Deben about 4.5km to the north-west of the site.

The land lies at about 33m OD and grades steeply down to Martlesham Creek to the north-west (c.1km away) and more gradually down to River Deben at over 2.5km distant. The local environment is substantially heathland: Martlesham, Waldringham, Brightwell and Foxhall heaths lie in close proximity to the site.

The British Geological Survey 1 inch to 1 mile mapping (Sheet 207, 1950) shows the geology of the site and Martlesham Heath as composed of the Tertiary Red Crag overlain by Quaternary glacial sands and gravels. In some areas lie traces of Boulder Clay either surviving as the remnants of wider expanses or as a result of differential deposition. Terrace sands and gravels

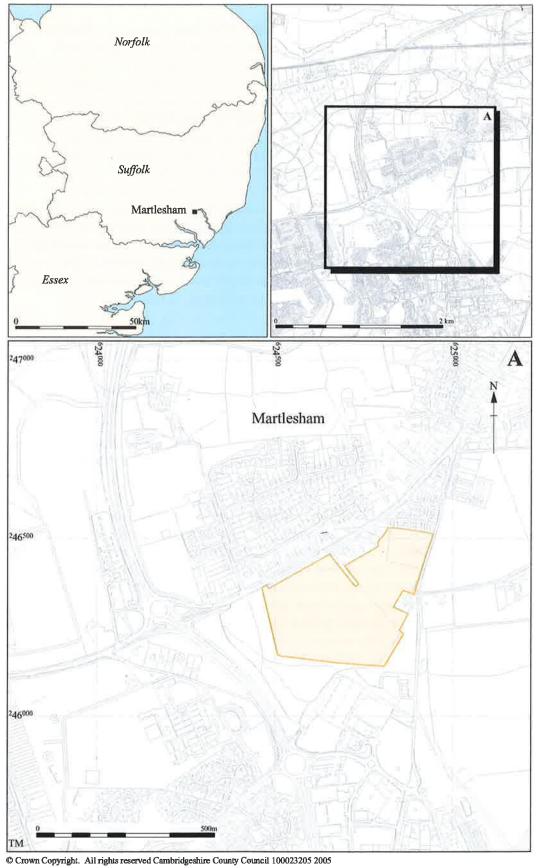


Figure 1 Location and extent of the site

and alluvium lie along Martlesham Creek and along the narrow channels that lead off the heathlands, i.e. adjacent to Howe's Farm and Kesgrave Hall.

# 4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

# 4.1 Sites and Monuments Record (SMR)

Research focussed on the subject site and extended to cover a surrounding area of up to 1.5km in order to define the local archaeological resource, particularly remains of prehistoric date likely to be present on the heathland. A summary of the archaeological sites known to occur within the 1.5km search area appears in Appendix 1. Locations for all SMR entries and archaeological interventions discussed below are shown on Fig. 2.

# 4.1.1 The Subject Site

The SMR has two entries lying within the subject site. Roman gilded tesserae were discovered in 1929 (SMR SF11033) within the perimeter of the site, suggesting the proximity of a Roman Villa. Excavations were subsequently undertaken by Ipswich Museum: a small exploratory trench dug in 2003 recovered a possible Roman tile and further tesserae while investigation at the site of the adjacent Mill failed to reveal any traces of Roman occupation.

Martlesham Mill (SMR SF11032), a post-medieval structure, lies within the subject site and is shown on the Ordnance Survey 1<sup>st</sup> edition of 1838. The mound demarcating the site of the mill is also shown on the 1832 Tithe map (IRO P461/169). In 1990 it was reported to the SMR that the base of the windmill still survived, although this was not definitively confirmed by excavation. Where access was afforded to the site of the former mill, an excavation by the Suffolk Mills Group in 1991 (G on Fig. 2) revealed part of the track of a tail-pole windmill, along with finds suggestive of a tower mill. The excavations confirmed that part of the site was disturbed by the construction of greenhouses in the late 1940s (Suffolk Mills Group 2002).

The finds recovered during excavations in 2003 (SMR SF11033) appear to date entirely to the 19th and 20th centuries and include a number of objects relating the RAF occupation of Martlesham airfield. A 20th-century pillbox or battle headquarters on the subject site is not yet included in the county SMR (see below).

#### 4.1.2 Adjacent to the Subject Site

Prehistoric finds and monuments have been recorded adjacent to the site, The area is particularly rich in surviving barrows which occur in isolation, as small dispersed groups or as closely packed groups.

The barrow group lying closest to the subject site is located to the south-west on Martlesham Heath and consists of eight Bronze Age round barrows and bowl barrows: four of the barrows are Scheduled Ancient Monuments (SMR: SF3611, SF3612, SF3613, SF3617). They are known to have differing states of survival with three ploughed, three overgrown, one levelled for a lawn and the other maintained in a garden. One barrow (SMR SF3617) lies about 250m south-west of the site and was described as 30m in diameter and 2.6m high in 1977. Others (SMR SF3613, SF3614) were described as approximately 20m in diameter and between 0.70 and 1.2m in height at the same time. In 1974, four of the barrow sites were excavated (SMR: SF3610, SF3611, SF3616 and SF3618). One of the barrows (SMR SF3616) was confimed as having been 'destroyed in 1917 during the construction of the aerodrome'. Only a small pit 0.6m in diameter and 0.4m deep, containing Beaker pottery, was found and a scatter of pottery sherds and flint tools, including a microlith point. The site has now been completely destroyed and lies beneath the Felixstowe New Road. Another barrow (SMR SF3611) was also investigated in 1974. An old excavation in the centre of the mound was cleared out and proved to be of Second World War date. A few fragments of Bronze Age, Roman and Saxon pottery and a few flint flakes were found. The mound was approximately 25m in diameter and 1.84m high. Two of the other barrows in this group were also excavated in 1974: One, (SMR SF3610) was associated with Beaker pottery and flint implements and the other (SMR SF3618) was shown to have a ringditch 12.5m in diameter and 1.1m deep. Further evaluation work was carried out in the vicinity of these two barrows in 1995 (SMR SF16212). investigations revealed post-holes and other undated features. Finds include beaker pottery, and flints. One small area had intact archaeological deposits associated with Late Bronze Age or Early Iron Age pottery. Another (SMR SF3612) has a ditch of 3m wide and 0.15m deep and was described as 'mutilated' in 1962.

Other ring ditches have been identified on aerial photographs (SMR XS 19570).

At Dobb's Corner on the parish boundary between Foxhall and Brightwell lie a group of barrows of Bronze Age and Anglo-Saxon date. One of the probable Bronze Age barrows (SMR SF3742) was excavated in 1919 by the Ipswich and District Field Club. No burials were found with it, but an area of burning was discovered in the mound towards the centre. A beaker sherd decorated with cord impressions and stab marks and cinerary urn sherds were recovered. The other barrows excavated at that time were all thought to be Anglo-Saxon in date (see below). The unexcavated barrows (SMR: SF3743, SF3455 and SF3456) remain untouched, two are overlapping possible bowl barrows and are Scheduled Ancient Monuments, they were 10 and 12m diameter in 1977 and 1m and 0.81m in height. The other does not appear to be

circular and is dubious as a barrow. None are dated and may be Bronze Age or Anglo-Saxon in date.

Evidence for Roman occupation of the heathland lies on the margins of the subject site. The SMR indicates that a Roman up-draught kiln was found in 1952 (SMR SF3607). The relevant site lies on the northern side of Main Road and has since been built over. A number of other Roman finds have also been found in the vicinity of the site, particularly around the former gardens of St Mary's House. Here Roman pottery was found in 1934, along with a bronze jar and a buff bottle (SMR SF3608). The grid reference for these finds was notably amended to reflect the position as marked on Suffolk Archaeological Unit's plan produced in the 1970s; this may have relevance to the interpretation of these 'earlier' Roman finds and those more recently by the Suffolk Field Project Team. A Roman glass bead was found to the south-west of the site (SMR SF3619). The only excavated Roman feature in the vicinity encountered in recent years is a pit (SMR SF19632), sited 500m to the north of the subject site. Roman pottery has also been found in Spratt's Plantation (SMR SF3609).

The Anglo-Saxon finds closest to the subject site are three bowl barrows which were recorded by the Ordnance Survey in 1935: these had been lost by 1954 (SMR SF3615). Further to the south, several of the Dobb's corner group of barrows are thought to be Anglo-Saxon in date. Excavation in 1919 by the Ipswich and District Field Club demonstrated that two of these were likely to be Anglo-Saxon barrows. Finds from one of the barrows (SMR SF3745) included a bronze bowl containing cremated bones, a bone comb with iron rivets, two ornamental bone discs, a fragment of ivory bracelet and two glass beads. The third possible barrow (SMR SF3746) was a cup-shaped depression found to consist principally of a hearth.

To the south and east of the subject site lies the Martlesham Heath Aerodrome (SMR SF22020). This was Suffolk's oldest airfield being 'made' in January 1917 with the last RAF flights from the airfield occurring in 1962/63 (Cuthbert 2004; King 2005). Cuthbert notes that both runways had been dismantled. The C type hanger remains in use and the control tower is used as a museum. A number of other features including dispersal points, the barracks, some mess buildings and the sewage disposal building currently survive. Many others have been demolished and built over. The North Camp originally lay closest to the subject site: this has been demolished and now lies beneath Tesco's superstore (Cuthbert 2004, 72-73).

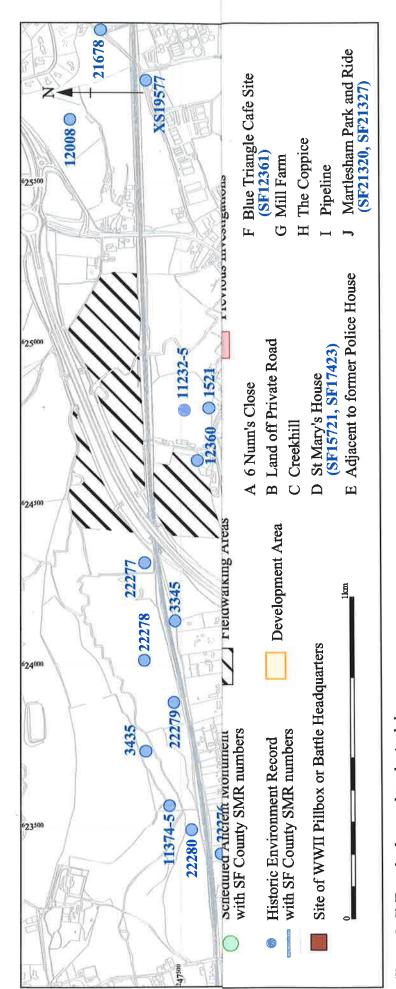


Figure 2 SMR and other archaeological data

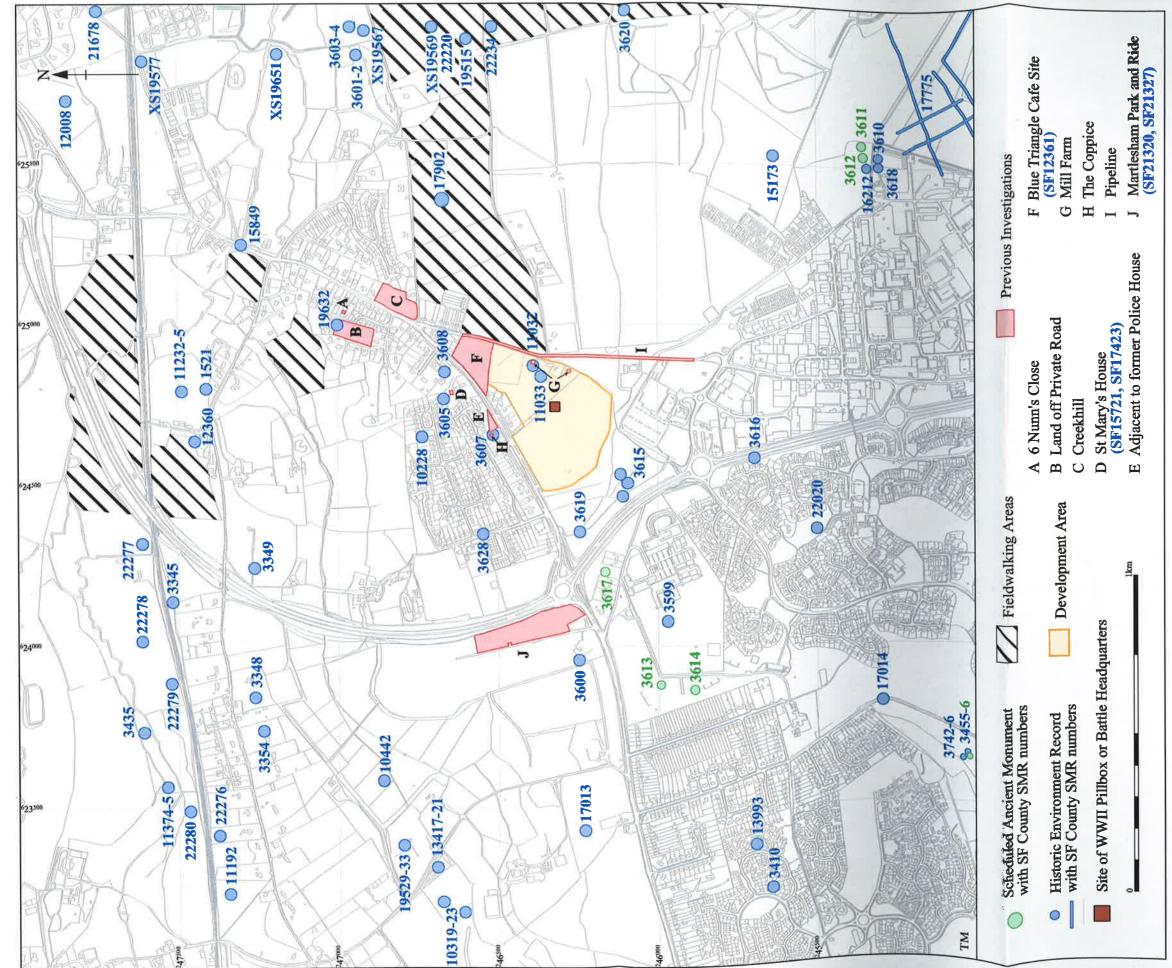


Figure 2 SMR and other archaeological data

#### 4.1.3 Further afield

The following observations and known sites occur at a greater distance to the subject site. They indicate the wide variety of activity occurring on the heathlands and adjacent areas which potentially influenced land use at the subject site; they may also indicate the types of structures that might be anticipated at the subject site.

Within the parish of Martlesham are a number of prehistoric finds spots to the north-north-east of the site (around TM 250 470) and Roman finds (near to TM 250 473) which include pottery and coins. Cropmarks of field systems and enclosures of prehistoric and unknown dates lie over 300m to the west of the site.

In the parish of Little Bealing, to the north-west of the site, is evidence of occupation extending from the Mesolithic to the modern day indicated by scatters of stone tools and pottery. Excavations have occurred at Sinks Pit (TM 233 467) and Firecrest Nursery (TM 232 467). Some of the major finds from the parish include Mesolithic microliths, Neolithic arrowheads, a Bronze Age palstave and a Saxon buckle.

In addition to the numerous barrow sites on the heathlands, the parish of Foxhall to the south-west of the subject site has also yielded a large number of prehistoric flint artefacts. Other barrows are present in Kesgrave, along with prehistoric stone artefacts. Cropmarks of field systems lie at TM 234 457 (SMR SF13993). Dobbs Grave (SMR SF17114), a shepherd or gypsy's grave of post-medieval date is located in the same area. In Woodbridge parish to the north-east and on the edge of the survey area Neolithic stone tools have been found, alongside spreads of medieval pottery.

A number of pieces of archaeological work have occurred within the study area surrounding the subject site. The land immediately to the east has been fieldwalked (see Fig. 2), while the area immediately to the north of the site, between Main Road and Felixstowe Road, was monitored during the course of building works in 1986. Six prehistoric flint flakes and two sherds of Roman pottery were found (F on Fig. 2). In 1993 a watching brief was undertaken during the course of a residential development south of Creek Hill (C) where three sherds of medieval coarse ware were found. In 1996 a watching brief was undertaken at the Old Mill House, where only modern remains were encountered. Although sited close to the Roman kiln site excavated in 1952 an archaeological evaluation adjacent to the former Police House (E) failed to provide evidence for Roman activity in the area. A watching brief was also undertaken during a residential development at TM 2500 4700 at Crown Point (B) where a feature containing two small sherds of Roman pottery, burnt stone and clay was found. In 2001 work at Nunn's Close (A) adjacent to the above site failed to provide any further evidence for Roman occupation. At the Coppice on Main Road a modern well was found in 2001 (H) and a small piece of work at St Mary's House in 2002 (D) failed to find any artefactual or other archaeological evidence for prehistoric or Roman activity in the area. The closest archaeological remains to the subject site recovered by excavation since the 1952 discoveries are those found during work on the Martlesham Park and Ride in 2003 (J). These included pits of Bronze Age date and boundary ditches which may also be of the same period: a single ditch contained Roman pottery.

# 4.2 Suffolk Field Project Team

The Suffolk Field Project Team has undertaken the majority of the work around the site and holds the archives detailing the extent and results of these works. John Newman provided further details of the fieldwalking which occurred east of Felixstowe Road (I). Here the only finds were a few prehistoric flakes and three medieval pot sherds. An adjacent project involving the cutting of a trench for a pipe running along the course of the Felixstowe Road failed to recover any finds, although access was limited to a small number of areas.

# 4.3 Ipswich Record Office

#### 4.3.1 Secondary Sources

The background to Martlesham is provided by a Parish Survey (Suffolk County Council 1990). The document describes the meaning of Martlesham as *Marten*, meadow/enclosure. The parish is described as covering an area of 2,628 acres, with 3 acres of inland water ways, 21 acres of tidal water and 137 acres of foreshore in 1912.

The survey notes that local soils are mixed, some deeply drained sandy soils, often ferruginous, some very acidic, and all prone to wind and water erosion. Others are stoneless calcareous/non calcareous clay and lie on the flatlands where there is some risk of flooding.

The Domesday Survey (1086) notes the presence of 18 acres meadow, 1 mill, wood for 16 pigs, 5 cobs, 20 cattle, 27 pigs, 218 sheep and 12 beehives. By 1500-1640 the area was a sheep-corn region with sheep mainly used as fertilising agents and bred for meat. Barley was the main cash crop. By 1804 the area is identified as a carrot growing area and by 1818 rotation (usually turnip, barley, clover, wheat or turnips) in preparation for corn or grass was recorded. By 1937 the main crops were wheat, barley and turnips and there were large quantities of heathland. In 1969 barley and sugar beat were grown with some rye on poorer soils.

By the late 20th century, Martlesham had become a large, well-spaced development along the Ipswich Road, with the church and hall lying separately to the east. The survey lists the number of inhabitated houses and population numbers, benefices, manorial holders and occupations of the

villagers which demonstrate the dominance of agricultural professions well into the mid-19th century.

The only volume of the Victoria County History for Suffolk describes Suffolk as a land where 'the gently undulating contours .... provide no heights as were chosen for the sites of hill fortresses by primitive people, and consequently no such strongholds are found in the county': in addition 'the plough may be ascribed the destructive influence that has spared so few of those unrecorded landmarks' (Page 1911, 583).

# 4.3.2 Historical Mapping

A plan of an estate lying in Martlesham belonging to Francis Brooke. Johnson: 1767. Ref HD80/1/1

The subject site is shown on this plan as lying between Wickham Road and Bing Road. Text written within the relevant fields is undecipherable, although the area immediately to the north is listed as 'the gravel pit, now called Parson's Hole'. No buildings are shown on the subject site: it is possible, however, that the map does not extend as far as the mill.

Copy of the Tithe map, P461/169 (1832) and Apportionment FDA16A1/1a/(1838)

The Tithe map of 1832 shows the site of the mill mound. A tree belt is indicated extending up the Felixstowe Road and marking the northern boundary to the field. In the north-east corner, probably outside of the subject site itself, lies a property with a single dwelling (number not decipherable). Fields 233 and 235 within the site are listed as the Mill and Mill House and 231 as the Shoulder of Mutton. Field 237 which forms the southern field to the site is listed as Great Gallowfield.

Ordnance Survey 2<sup>nd</sup> Edition Sheet LXXVI.7 1879/80, 1902 version, printed 1904 and 1925, printed 1927

The 2<sup>nd</sup> Edition OS map shows the site as agricultural land with heathland to the south and south-east. Three 'Saxon' barrows are marked on this heathland. No mill earthworks are shown on the map. The complex of buildings around Mill Cottages expands between the 1902 and 1925 versions of this map. Gravel workings to the south of Mill Farmhouse are first recorded on the 1925 map.

# 4.4 Aerial Photographic Survey

An assessment of aerial photographs was undertaken by Rog Palmer of Air Photo Services, Cambridge (Appendix 2). The examination area covered some 11ha (centred on TM 247 463) in order to identify and accurately map archaeological, recent and natural features.

No archaeological features were identified within the site although a small scatter of possible pits and ditches was mapped to the north-east. A World War II concrete structure, probably a battle headquarters or pill-box is evident, while the site on the north side of the larger (southern) field and is now overshadowed by trees. A small pipe and other disturbance were identified within the larger field.

#### 4.5 Site Visit

A single visit was made to the subject site as part of the present study. The site consists of two main areas: north and north-east of Mill Farmhouse and south of the Farmhouse. Visibility in the area to the north was extremely poor at the time of the visit due to the growth of brambles, hawthorn and various saplings. The site of the former Mill was not visible.

The field to the south of Mill Farmhouse was also overgrown, largely with annual weeds following the recent cessation of arable agriculture here. Within the field is a large mound, previously been identified on vertical aerial photographs. The site visit confirmed that the mound is likely to be too large to be the remains of a barrow. The other significant feature is the World War II concrete and brick construction (see Appendix 2) recorded as sited at approximately TM 2475 4633.

#### 5 DISCUSSION

Archaeological and historical data collected as part of this desk-based research points to a dichotomy between the SMR and the results of the field analysis. The surrounding area provides ample evidence for prehistoric and Anglo-Saxon activity, although none has yet been identified at the subject site. The postulated location of the Roman villa at or in the vicinity of the subject site has not yet been confirmed. This investigation does, however, confirm the existence of two of later monuments within the subject site, these being the mill (for which there is good cartographic and archaeological evidence) and the extant World War III structure.

# 5.1 Prehistoric and Anglo-Saxon Remains

The siting of prehistoric and Saxon burial mounds across the surrounding heathland implies the potential for similar remains on the subject site. In particular, the proximity of the cluster of barrows to the south (SMR MRM 016) suggests that this potential is very high.

Barrow excavations in the parish have identified stone tools, Beaker pottery and post-holes suggestive of structures, and burials of Bronze Age and Saxon

date associated with these monuments. Barrow cemeteries on the heathland can either occur as linear cemeteries, as at Welham's Plantation and Heathfield Farm, or clusters of varying size. It might be reasonable to expect a larger-sized grouping than presently known and every attempt should be made to clarify this issue. It should be noted that barrows and ring ditches are usually accompanied by human remains. It is likely that any barrow remains present at the subject site are likely to have been significantly reduced by agricultural activity and therefore, given the high quality of survival elsewhere on the heath, are unlikely to require preservation *in situ*. The Planning Authority's archaeological advisor will clearly require further information before taking any such decision.

Fieldwalking in areas adjacent to the subject site and excavations at the Martlesham Park and Ride have demonstrated that there are remains of prehistoric (particularly Bronze Age) field systems and other activity areas, including settlement, on the heathland. Such sites might also be expected at the subject site or in its immediate environs.

#### 5.2 Roman Villa?

A number of significant Roman sites have been found adjacent to the subject site, with scattered finds from the site itself. The results of finds collections and rescue excavations have suggested that the site of a major Roman settlement (including a villa, industrial features and presumably an agricultural complex of buildings and field systems) may lie within and adjacent to the subject site. While results from recent fieldwork in the area have questioned this interpretation (J. Newman pers. comm.), much of the fieldwork occurred as watching briefs. Evaluative work adjacent to the former Police House (Fig. 2, E) lay adjacent to the supposed Roman kiln, although no Roman finds were made; as indicated above this may result from erroneous locational data.

This report has been unable confirm or refute the presence of the putative villa site. Encountering a Roman villa during the course of any build would have serious implications in terms of costs and scheduling and the site therefore requires further assessment which should involve intrusive field investigations. The presumed location of the villa is documented in Suffolk County Council's archives and further investigations should initially focus on this area. The supposed location of the villa is not dissimilar to the site of the 'mound' identified on aerial photographs (see below). It is possible that the villa was sited on this area of slightly higher ground or possibly buried beneath this mound. Alternatively, given that quarrying occurred adjacent to this area during or immediately prior to the discoveries in 1929, it is possible that the quarry marks the location of the villa; this area is densely overgrown and no dense cropmarks commonly associated with villas and Roman farmsteads would be visible in such conditions.

Ipswich Museum undertook excavations following the 1929 discoveries and suggested that the site had been destroyed by plough damage. If this is the

case and the villa is identified as lying within the development site it is unlikely to be of a significant quality to warrant preservation *in situ*. The Planning Authority's archaeological advisor would require further information about the site before taking such a decision.

#### 5.3 The Post-Medieval Mill

The mill site is significant in terms of understanding the development and transformation of mills and construction techniques in Suffolk for which excavations suggest there is suitable evidence for at this site. Excavations in 2001, however, suggest a high degree of disturbance as a result of modern developments in the area. On the basis of current information preservation in situ is probably unwarranted although further evaluative fieldwork and consultation with the Suffolk Mills Group and Suffolk County Council Heritage Service is recommended. If preservation in situ is not warranted, excavation is likely to be required.

# 5.4 The Modern Pill-Box/Battle Headquarters

The pill-box is likely to be a remnant of the defences to the Martlesham Heath Aerodrome. Its significance lies in its probable association with the aerodrome which dominated the local landscape for much of the 20th century. Advice will need to be sought from the Suffolk County Council Heritage Service on the significance of the pill-box both in terms of its condition as an isolated monument now divorced from the major components of its associated landscape, and also in terms of what remains of Suffolk's World War II monument resource. If at all feasible, being dependent on housing densities and health and safety issues, retention is advised providing a suitable conservation strategy can be defined and the monument and its immediate landscape enhanced. If preservation in situ is not warranted an appropriate level of building recording is likely to be required.

#### 5.5 Other Possible Features

Cartographic evidence points further areas of archaeological potential at the subject site, each of which requires evaluation. The southern field is known at the Great Gallowfield and could potentially contain medieval or post-medieval structures or burials. The Tithe map also shows a building to the north-east of the site which may have extended in to the subject area.

While other remains may be present, it appears likely that medieval remains will relate to agricultural activity.

#### 5.6 The Mound

The large mound identified on aerial photographs is likely to be of little significance and may represent the spoil heaps resulting from quarrying evidenced at TM 249 462: it may, however, mask the presence of Roman features.

#### 6 CONCLUSIONS

A thorough examination of the archaeological data held by the SMR, cartographic materials held by Ipswich Record Office and aerial photographs held by the National Monuments Record and Suffolk County Council has been undertaken. The results indicate the survival of a World War II pill-box or battle headquarters and the remains of the mill adjacent to Mill Farmhouse.

There is no conclusive evidence for the presence and survival of prehistoric, Roman and Saxon remains, although these can be expected within the subject site. The types of remains indicated by the SMR (*i.e.* burial monuments, human remains and a Roman villa) are sensitive and significant, meaning that it is of paramount importance to identify their presence and location.

A scheme of fieldwork involving geophysical survey, fieldwalking and evaluation trenching is therefore recommended. Given the current unknown position, condition and potential significance of these remains, the Local Planning Authority is likely to expect this work to be undertaken predetermination.

#### 7 RECOMMENDATIONS

#### 7.1 Additional information

This assessment has identified a number of points where additional information is required to formulate a strategy for an archaeologically sympathetic development, namely:

- identification of prehistoric and other activities preserved within the site;
- clarification of the extent of burial monuments lying on the southwestern edge of the site;
- a specific location for the site of the putative Roman villa and any associated structures and field systems. Subsequent feasibility study of preservation *in situ*, if warranted;
- an assessment of the survival and importance of the mill site;

- identification of any gallows structures and human remains in the Great Gallowsfield;
- verification that the building and property marked on the tithe map does not extend in to the subject site;
- a county-based decision on the importance of the World War II structure relative to the local landscape and Suffolk generally.

# 7.2 Methodologies

Specific information regarding the site is required in order to address the issues raised above. The proposed methods can be used in combination to define the specific location and extent of the archaeology within the site. Archaeological work should also aim to address issues of the quality of any surviving resource with regards to its survival and in relations to the county's overall monument resource, and should address any research potential in order to justify the level of recording that may be required.

It is suggested that geophysical survey (resistivity and/or magnetometer survey) should be undertaken in order to map the extent of any features surviving on this part of the heathlands. The specific methodologies and scope of this part of the project should be formulated on the recommendations of specialists. The condition of the site is such that currently only the land to the south of Mill Farmhouse will be suitable for such a survey.

Prehistoric activity sites, for example flint scatters, although disturbed by ploughing may survive and retain a high degree of integrity and research value even though contained within the plough soil (English Heritage 2000). Such sites might be accidentally removed by evaluation trenches prior to their identification and before an appropriate record can be made. Given the occurrence of such sites elsewhere on the heathlands it is suggested that the southern area is ploughed and fieldwalked in advance of any evaluation trenching.

Both geophysical survey and fieldwalking should provide additional information to permit targeted evaluation trenching. It would normally be expected that a 5% sample would be adequate for investigating the presence of later prehistoric and Roman archaeology, with a higher percentage for earlier prehistoric archaeology (Hey and Lacey 2001). By the use of the above survey techniques investigation of the site could probably be accurately completed with a sample trenching strategy of 5%. The evaluation stage can be greatly enhanced by contracting field archaeologists to monitor any intrusive reconnaissance and advance groundworks that the construction programme may require. Any further mitigation strategy (such as excavation) would depend upon the results of the evaluation.

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# **BIBLIOGRAPHY**

Cuthbert, M.J.,	2004	The survival of airfields in the landscape of East Suffolk (unpublished BA dissertation 2004, King Alfred's College)
Department of the Environment,	1990	Planning Policy Guidance 16: Archaeology and Planning (London: HMSO)
Institute of Field Archaeologists,	2001	Standard and Guidance for Archaeological Desk-based Assessment (Reading: IFA)
King, H.,	2005	'Martlesham Heath Aviation Society and Control Tower Museum'. Available: <a href="http://mhas.org.uk/history/shorthistory.htm">http://mhas.org.uk/history/shorthistory.htm</a> . Accessed July 2005
Suffolk Mills Group,	2002	'The Lost Mills of Martlesham', Suffolk Mills Group Newsletter 84
Suffolk County Council,	1990	Suffolk Parish History (available through Suffolk County Council)
Page, W., (ed),	1911	Victoria County History, The County of Suffolk Vol. I. (London: University of London)
English Heritage,	2000	Managing lithic scatters. Archaeological guidance for planning authorities and developers (London: English Heritage)
Hey G and Lacey M.,	2001	Evaluation of archaeological decision-making processes and sampling strategies. Planarch (Canterbury: Kent County Council)

# APPENDIX 1: SUMMARY OF ARCHAEOLOGICAL REMAINS WITHIN 1.5KM OF THE SITE

(based on Suffolk County Council Sites and Monuments Record)

SMR Number	Site Name/Parish Reference	Period	Summary Description
SF3599	Martlesham Airfield MRM 001	Bronze Age	Round Barrow (site of). TM 2407 4596
SF3600	MRM 002	Bronze Age	Beaker sherds, flakes and arrowheads, TM23954625
SF3601	Sluice Wood MRM 003	Iron Age	Coarse red gritty sherds, and wheel turned bead rim grey ware fragments, found in wood on North side of road to Martlesham Church. TM258469
SF3602	Sluice Wood MRM 003	Roman	Sherds, coarse grey ware, found in Sluice Wood, in bank. TM258469
SF3603	Sluice Wood MRM 004	Iron Age	Sherds, also Roman TM259469
SF3604	Sluice Wood MRM 004	Roman	Roman coarse ware. TM259469
SF3605	St Mary's House (garden) MRM 005	Iron Age	Rim sherd, finger tipping on shoulder, found in garden of St Mary's. TM247466
SF3606	MRM 006	Roman	See SF3604 - Rom.an. TM259469
SF3607	St Mary's House MRM 007	Roman	Small circular updraught type kiln. TM24654652
SF3608	St Mary's House (garden) MRM 008	Roman	Bronze vase (similar one from Woodbridge 1886, CRN 03579) and buff bottle found in garden of St Mary's. TM248466
SF3609	Spratts Plantation (SE) MRM 010	Roman	Two sherds of rim, found in SE corner on edge of wood. TM256453
SF3610	Post Office Research Centre (NE corner) MRM 011	Bronze Age	Round Barrow - site of (Martlesham Heath Barrow Number 2). TM25514530
SF3611	Eight Round Barrows on Martlesham Heath; Spratt's Plantation MRM 012	Bronze Age	Round Barrow (Martlesham Heath Barrow Number 4). SAM 21268 TM25574535
SF3612	Eight Round Barrows on Martlesham Heath; Spratt's Plantation MRM 013	Unknown	Round Barrow (remains of). SAM 21268 TM25504534.
SF3613	Eight Round Barrows on Martlesham Heath MRM 014	Unknown	Round Barrow. SAM 21266. TM23874598
SF3614	Eight Round Barrows on Martlesham Heath MRM 015	Unknown	Round Barrow. TM23864587
SF3615	MRM 016	Saxon	Three Round Barrows (sites of). TM24534610
SF3616	Martlesham Heath Barrow Number 1 MRM 017	Bronze Age	Site of round barrow. TM24584570
SF3617	Round Barrow in Portal	Unknown	Round barrow in Portal Avenue. SAM

SMR Number	Site Name/Parish Reference	Period	Summary Description
(uniber	Avenue MRM 018		21259. TM24224616
SF3618	Martlesham Heath Barrow Number 3 MRM 019	Bronze Age	Ring ditch, recognised from aerial photographs held by the Post Office Research Centr and subsequently excavated. TM25464529
SF3619	MRM 020	Roman	Blue glass bead with white trail decoration, found in a mole hill. TM243462
SF3620	MRM 021	Roman	Roman pottery, some C1, in black patch 4 feet in diameter. TM26054605
SF3628	MRM 027	Neolithic	Axe / adze. TM24354652
SF315	OS Field 1368 MRM 028	Roman	Scatter of pottery, more in N of area. TM25154770
SF316	OS Field 1368 MRM 028	Saxon	Fragment of a bronze cruciform brooch, approximately AD 500, found with metal detector at TM 2512 4773, and a probable human phlange found within 20m of this.
SF317	OS Field 1368 MRM 028	Medieval	Scatter of pottery, most concentrated alongside lane on N edge of area. TM25154770
SF12008	MRM 029	Roman	Sestertius of Hadrian (AD 117-138) found metal detecting. TM257478
SF11032	Martlesham Mill; Mill Farm MRM 038	PMed	'Martlesham Mill' shown on 1st edition OS map, c. 1838. TM24884639
SF11033	Mill Farm MRM 039	Roman	Roman gilded glass cubes reported as being found at Mill Farm. Further finds from 2003. TM24824637
SF11232	MRM 040	Roman	Small bronze Colchester derivative type brooch with three coil spring. TM24854743
SF11233	MRM 040	Saxon	Silver spherical decorated pin head, missing shaft. TM24744754
SF11234	MRM 040	Medieval	TM 2482 4742, bronze crudely decorated strap end & backing `fork'. TM 2484 4742, bronze gilded strap end and gilded strap fastener.
SF11235	MRM 040	Unknown	Finds include bronze `annular brooch' or buckle fragment (listed as ?EAS ?C6) from TM 2473 4744 and `diamond shaped pin head/ terminal' or PMed ?drawer
SF12360	MRM 043	Medieval	Medieval pottery scatter. TM24644744
SF15173	MRM 047	Unknown	Cropmark of ring ditch, c. 25m in diameter. TM25534563
SF15849	Martlesham Bridge MRM 052	PMed	Bridge over River Fynn shown on Saxton's 1575, Speed's 1610, Bowen's 1755 and Hodskinson's 1783 maps. TM25254730
SF16212	Martlesham Heath Airfield MRM 053	Bronze Age	Area of assessment (including barrow & ring ditch sites MRM 011 & 019).  TM255453
SF17902	Mill Lane; Sandy Lane MRM 059	Unknown	Cropmarks of field boundaries and ?trackway .TM253466
SF17775	MRM 063	Unknown	Series of Undated field boundaries on AP

SMR Number	Site Name/Parish Reference	Period	Summary Description
			plus two wide parallel lines at E end of Martlesham Heath airfield (military?). TM256451
SF19632	MRM 066	Roman	Roman pit found during watching brief. TM250470
SF19515	MRM 067	Saxon	Cruciform brooch fragment. TM259466
SF14260	MRM 068	Medieval	Pottery scatter . TM261467
SF19742	MRM 068	Saxon	Stray find: sleeve clasp. TM261467
SF21320	Martlesham Park and Ride MRM 075	Bronze Age	Trenched evaluation revealed pits containing BA beaker and numerous ditches possibly part of a contemporary(?) field system. TM240464
SF21327	Martlesham Park and Ride MRM 075	Roman	Trenched evaluation revealed pits containing BA beaker & numerous ditches, one containing Roman pottery. TM240464
SF22020	Martlesham Heath Airfield. MRM 083	Modern	First and Second World War airfield, NE of Ipswich. TM243455
XS19567	MRM 084	Unknown	Probable field systems and enclosures of unknown date, Marltesham parish. TM259468
XS19568	MRM 085	Modern	Possible World War II trench or air raid shelter near Martlesham Hall. TM261468
XS19569	MRM 086	Prehistoric	Prehistoric sub-circular enclosure, Martlesham parish. TM259462
XS19570	MRM 087	Bronze Age	Probable Bronze Age Round Barrow, Martlesham parish. TM261463
XS19573	MRM 090	Post- Medieval	Possible Post Medieval field boundary, Martlesham parish. TM261461
SF22220	'F 507' MRM 092	Unknown	SE Suffolk survey produced scatters of burnt flint, lithics, roman, M-L Saxon and Medieval pottery. TM259467
SF22234	'F 501' MRM 105	Prehistoric	SE Suffolk survey, 1 body sherd flint gritted ware. TM259465
SF10228	Field adjoining St Marys House MRM Misc	Unknown	Negative trial hole excavations by Maynard in 1934. TM247467
SF12361	Blue Triangle Cafe site MRM Misc	Roman	Watching brief on site revealed much modern disturbance - foundations of a dozen houses scattered all over the site examined but very little earlier material - 2 sherds Roman. TM24854655
SF1521	MRM Misc	Roman	Sestertius, worn, probably Hadrian (AD 117-138). TM24814743
SF1522	MRM Misc	Roman	Follis of Constantine I (AD 306-317). TM25194737
SF17423	MRM Misc	Unknown	Excavation by G Maynard. TM247467
SF20723	MRM Misc	Modern	Carvel built vessel - RX 35. Badly decayed - decking gone, hull broken. TM260470
SF20724	Martlesham MRM Misc	Unknown	Various posts associated with old river

SMR Number	Site Name/Parish Reference	Period	Summary Description
Number	Reference		walls and sluice at head of Martlesham Creek. Much modern build up of concrete, brick rubble etc on wall running E from sluice. TM258472
SF22239	Gallow Field (1840) MRM Misc	Modern	Possible area of gallows site, based on field name on tithe map 1840.
SF22244	'Kiln farm' 1840 MRM Misc	Post- Medieval	Possible area of kiln based on field name on 1840 tithe map. TM259476
SF3630	MRM Misc	Mesolithic	Partly perforated pebble macehead. TM250472
SF3631	MRM Misc	Mesolithic	Flint flake point with fine edge trimming. TM2446
SF3636	Beacon Hill MRM Misc	Neolithic	Leaf shaped arrowhead from Beacon Hill, TM2447
SF3638	MRM Misc	Neolithic	Grey flint axe found NW of Martlesham airfield, near junction of A12 and road to Felixstowe. TM250467
SF3641	MRM Misc	Neolithic	'Arrow' point ' TM2646.
SF9529	Martlesham Hall (near)	Medieval	Bronze seal matrix, tinned, facetted cone shape. TM260467
	MRM Misc		
SF3345	BEL 001	Bronze Age	'A considerable quantity of brass axes were found by labourers removing an old bank NW of Beaconhill Farm, Little Bealings, in 1829. TM24134751
SF3348	BEL 004	Neolithic	Saddle quern, upper and lower stones. TM238472
SF3349	Dunnetts Hill Plantation BEL 005	Bronze Age	Fragments of four LBA urns found in drive of a house (S1). TM242472
SF3354	'Finntoft' BEL 009	Roman	Roman pottery sherds from back garden of 'Finntoft', Little Bealings. TM237472
SF3435	BEL 017	Saxon	Bronze strap end, decorated. TM23714759
SF10319	BEL 018	Mesolithic	Straight-backed flint microlith with a bluish-white patination found on the subsoil surface in an area stripped of topsoil for a gravel quarry extension (S1).  TM23294666
SF10320	BEL 018	Neolithic	A watching brief on the topsoil stripping for an extension to a gravel quarry revealed traces of settlement. TM23294666
SF10321	BEL 018	Bronze Age	A watching brief on the topsoil stripping for an extension to a gravel quarry revealed traces of settlement. TM23294666
SF10322	BEL 018	Iron Age	A watching brief on the topsoil stripping for an extension to a gravel quarry revealed traces of settlement. TM23294666
SF10323	BEL 018	Roman	A watching brief on the topsoil stripping for an extension to a gravel quarry revealed traces of settlement. TM23294666

SMR Number	Site Name/Parish Reference	Period	Summary Description
SF10442	BEL 019	Bronze Age	Bronze palstave, 'Shield-Pattern' type, found with a metal detector (S1). TM23604686
SF11192	BEL 020	Neolithic	Finely worked leaf-shaped flint arrowhead (S1). TM232473
SF11374	BEL 021	Saxon	TM 2357 4753: Oval bronze buckle with protruding animal head on one side and complete iron pin.
SF11375	BEL 021	Medieval	Area around TM 2357 4753: 8 sherds C13/C14 Medieval coarseware (80g) found metal detecting by D Cummings (S1).
SF13417	Sinks Pit BEL 022	Mesolithic	1992: excavation of area NE of 1987 Sinks Pit excavations - BEL 018. TM233467
SF13418	Sinks Pit BEL 022	Neolithic	1992: excavation of area NE of 1987 Sinks Pit excavations - BEL 018. TM233467
SF13419	Sinks Pit BEL 022	Bronze Age	1992: excavation of area NE of 1987 Sinks Pit excavations - BEL 018. TM233467
SF13420	Sinks Pit BEL 022	Iron Age	1992: excavation of area NE of 1987 Sinks Pit excavations - BEL 018. TM233467
SF13421	Sinks Pit BEL 022	Roman	1992: excavation of area NE of 1987 Sinks Pit excavations - BEL 018. TM233467
SF19529	Firecrest Nursery, Little Bealings. BEL 024	Bronze Age	2 phases of Evaluation, multi-period evidence. TM232467
SF19530	Firecrest Nursery, Little Bealings BEL 024	Neolithic	2 phases of Evaluation, multi-period evidence. TM232467
SF19531	Firecrest Nursery, Little Bealings. BEL 024	Iron Age	2 Phases of Evaluation, multi-period evidence. TM232467
SF19532	Firecrest Nursery, Little Bealings BEL 024	Saxon	2 Phases of Evaluation, multi-period evidence. TM232467
SF19533	Firecrest Nursery, Little Bealings. BEL 024	Unknown	2 Phases of Evaluation, multi-period evidence. TM232467
SF22276	'F 471 BEL 034	Medieval	SE Suffolk survey small medieval pottery scatter, see (S1) for details. TM234474
SF22277	'F 567' BEL 035	Medieval	SE Suffolk survey, scatter of 17 sherds of medieval pottery, for details see (S1). TM243476
SF22278	'F 568' BEL 036	Medieval	SE Suffolk survey, scatter of 15 medieval pottery sherds, for details see (S1). TM240476
SF22279	'F 568' BEL 037	Medieval	SE Suffolk survey, scatter of 28 Medieval sherds, for details see (S1). TM238475
SF22280	'F 568' BEL 038	Saxon	SE Suffolk survey, scatter of 1 thetford ware sherd, 19 medieval sherds, for details

SMR	Site Name/Parish Reference	Period	Summary Description
Number	Reference		see (S1) TM235474
SF3739	Eight Round Barrows on Martlesham Heath; Brightwell Heath BGL 009	Unknown	Bowl Barrow in Birch Grove, Martlesham Heath. SAM 21269
SF3742	Dobb's Corner BGL 014	Bronze Age	Round Barrow (site of) (one of a group - see FXL 015, 016; BGL 015-018) 1919: Excavated by members of Ipswich & District Field Club.
SF3743	Round Barrows SW of Dobb's Corner BGL 015	Unknown	Round Barrow (one of a group - see BGL 014, 016-018 and FXL 015-016). SAM 21264
SF3744	BGL 016	Unknown	Barrow (site of) - one of group.
SF3745	BGL 017	Saxon	Barrow (site of) - one of group.
SF3746	BGL 018	Unknown	Cup-shaped depression found to consist principally of a hearth - near group of barrows.
SF3455	Dobb's Corner to a hollow way on the line of the Foxhall/Brightwell parish	Unknown	Tumulus? - marked as such on OS map, but on ground appears to be more L or U-shaped, with its long side adjacent
SF3456	FXL 015  Round barrows SW of Dobb's Corner FXL 016	Unknown	1919: Circa 40 feet diameter, covered with Scotch firs. SAM 21267
SF12470	FXL Misc	Prehistoric	June 1991: 1 flake and a few burnt flints (no particular concentration), all discarded.
SF3410	Nursery Field KSG 006	Bronze Age	Flint arrowhead, barbed and tanged, found on Grange Farm.
SF13993	KSG 010	Unknown	AP of cropmarks of two phases of field boundaries, or possibly enclosures.
SF17013	Kesgrave Hall carriageway KSG 012	Unknown	'Tumuli.
SF17014	Dobbs Corner; Dobbs Grave KSG 013	Post- Medieval	Dobbs Grave.
SF21678	Notcutts Glasshouse WBG 031	Medieval	Monitoring of soil stripping failed to identify archaeological features. 25 potters sherds were recovered, mostly med or later
XS19577	WBG 032	Modern	World War II road block, Sandy Lane, Woodbridge
XS19651	WBG 038	Post- Medieval	A Post Medieval sea bank around Martlesham Creek, Woodbridge and Martlesham

#### APPENDIX 2: AERIAL PHOTOGRAPHIC ASSESSMENT

by Rog Palmer

#### 1 INTRODUCTION

This assessment of aerial photographs was commissioned to examine an area of some 11ha (centred TM 247 463) 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.

#### 2 ARCHAEOLOGICAL AND NATURAL FEATURES

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 ripe 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.

Grass sometimes shows sub-surface features through the withering of the plants above them. This may occur towards the end of very dry summers and usually indicates the presence of buried walls or foundations. Such dry summers occurred in Britain in 1949, 1959, 1975, 1976, 1984, 1989 and 1990 (Bewley 1994, 25) and more recently in 1995 and 1996. This does not imply that every grass field will reveal its buried remains on these dates as local variations in weather and field management will affect parching. However, it does provide a list of years in which photographs taken from, say, mid July to the end of August may prove informative.

Such effects are not confined only to archaeological features. Disturbance of soil and bedrock can produce its own range of shadow, crop and soil differences and it is hoped that a photo interpreter, especially one familiar with local soils, is able to distinguish archaeological from other features. There may, however, remain some features of unknown origin that cannot be classified without specialist knowledge or input from field investigation.

#### 3 PHOTO INTERPRETATION AND MAPPING

#### 3.1 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.

Vertical photographs cover the whole of Britain and can provide scenes on a series of dates between (usually) 1946-7 and the present. Unfortunately these vertical surveys were not necessarily 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 adjusted 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 and the National Monuments Record: Air Photographs, Swindon. Photographs included those resulting from observer-directed flights and routine vertical surveys. Additional vertical photographs were examined at Suffolk County Council.

Photographs consulted are listed in the project archive.

#### 3.2 Base maps

Digital data from original survey at a scale of 1:2500 were provided by the client.

#### 3.3 Study area

Photographs were examined in detail for an area extending one modern field 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. One interpretation, made at 1:2500 level, was marked on an overlay to an individual print following procedures described by Palmer and Cox (1993). The resulting overlay was then scanned and transformed to match the digital base map using Irwin Scollar's AirPhoto program (Scollar 2002). The transformed file was set as a background layer in AutoCAD Map, where features were overdrawn using standard conventions. Layers from this final drawing have been used to prepare the reduced-scale figure in this report and have been supplied to the client in digital form.

Vehicles and areas of 'disturbance' noted on the 1992 photographs have been sketch located.

#### 3.4 Accuracy

AirPhoto computes values for mismatches of control points on the photograph and map. For the single transformation prepared for this assessment the mean mismatches were less than ±1.50m. 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 (OS 2005).

#### 4 COMMENTARY

#### 4.1 Soils

The Soil Survey of England and Wales (SSEW 1983) shows the area to comprise Glaciofluvial drift (soil association 551g: NEWPORT 4). Cereal crops on this soil may react to different subsoil depths and so indicate the presence of buried archaeological features.

#### 4.2 Archaeological features

No archaeological features were identified within the Development Area. Oblique photographs showed possible archaeological pits and ditches in a field north-east of the Development Area although there is no clear indication that these may extend into the Area.

Features mapped as 'Recent field boundaries' are slightly curving and may relate to medieval fields, although no obvious ridge and furrow was identified on the aerial photographs.

#### 4.3 Second World War Feature

A square concrete building was noted during the field visit (with Stephen Kemp, 4 July 2005) and later identified on aerial photographs. On early photographs it lay clear of trees and adjacent boundaries but by 1966 was hidden below tree canopies. The structure appears similar to that identified as a Battle Headquarters (Brown *et al* 1995, 122-3) and, as such, would have been related to the defence of Martlesham airfield to the south. Due to the 'soft' boundaries in this area, only the approximate position and size of the building is shown on the accompanying map.

#### 4.4 Non-archaeological features

Photographs dated 1946 and 1948 suggested there may be a small pipe within the area and close to its south-west corner. The line on the map shows its approximate position and length.

In 1992 an irregular row of vehicles – possibly including caravans, lorries and cars – was recorded by the field boundary on the south side of the concrete building. On the same date several small areas of unidentified 'disturbance' were noted along the south side of the same field. Crops in this field had recently been harvested and the vehicles and 'disturbance' all may be related to that with the 'disturbance' possibly being spilt bales. These temporary features are noted here because they may have left some ground effect.

Land within the Development Area includes a number of undulations that reflect the subsurface geology. At times, and under cultivation, the high areas showed with a light tone on air photographs and they may be of different 'bedrock' or just have a thinner cover of topsoil.

#### 4.5 Land use

The large (southern) field has been in arable use on all dates of photography.

The northern area was in arable use during and after the War but was later converted to pasture. This occurred on two different dates: the larger rectangular (southern) field became pasture in the 1980s, the smaller field (northern) was first seen in pasture in 1962. On all dates there was a triangle of permanent pasture in the extreme north-east corner of the Development Area.

#### **BIBLIOGRAPHY**

Bewley, R. H.,	1994	Prehistoric Settlements. Batsford/English Heritage, London
Brown, I., et al,	1995	20th Century Defences in Britain: an introductory guide. CBA, York
OS	2005	http://www.ordnancesurvey.gov.uk/productpages/landline/positional -background.htm
Palmer, R. and Cox, C.,	1993	Uses of aerial photography in archaeological evaluations. IFA Technical Paper 12
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
SSEW	1983	Soils of England and Wales: sheet 4: Eastern England (1:250,000). Soil Survey of England and Wales, Harpenden



