

# Feltwell Quarry, Norfolk.

## An Archaeological Desk Top Assessment



Katie Anderson

CAMBRIDGE ARCHAEOLOGICAL UNIT  
UNIVERSITY OF CAMBRIDGE



**Feltwell Quarry, Feltwell, Norfolk**  
An Archaeological Desk Based Assessment

**Katie Anderson**  
Graphics by Jane Matthews and Bryan Crossan

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University of Cambridge

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## SUMMARY

*This archaeological desk based assessment was commissioned by Clover Planning on the behalf of Frimstone Limited to assess the potential impact of a 19 hectare extension to the existing Feltwell quarry (centred on TL 743 926). The site is located approximately 1km south of Methwold and 2km north east of Feltwell. Archival, aerial and cartographic sources show that the site is located in an area with known archaeology, in particular early prehistoric and medieval, and has a moderate probability of archaeological features surviving in-situ.*

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## **1. INTRODUCTION**

This archaeological desktop assessment was commissioned by Clover Planning on the behalf of Frimstone Limited to assess the potential impact of a 19 hectare extension to the existing quarry (TL 742 926). The site is located approximately 1km south of Methwold and 2km east of Feltwell.

The main objective of this report is to evaluate and assess the known and potential archaeology within the proposed development area (PDA), and a 1km zone surrounding it. This includes an examination of previously recorded archaeology together with an assessment of their significance and preservation. Finally, it will consider the potential impact that the proposed development may have on any archaeology. This report sets the findings in the context of the relevant national and local legislation.

## 2. RELEVANT POLICY

Archaeology is covered by both local and national policy. Nationally the primary policies affecting archaeology are **Planning Policy Guidance Notes 15 and 16 (PPG15, PPG16)**, introduced in 1994 and 1991. These have played a crucial role in prompting and guiding the development of local policy. In Feltwell, the relevant policies are the **Norfolk County Structure Plan**, the **Borough Council of Kings Lynn and West Norfolk Local Plan** and **Norfolk Minerals Local Plan**. The relevant sections of these policies are reproduced below.

### PPG15

#### Section 3.15

“Achieving a proper balance between the special interest of a listed building and proposals for alterations or extensions is demanding and should always be based on specialist expertise; but it is rarely impossible, if reasonable flexibility and imagination are shown by all parties involved. Thus, a better solution may be possible if a local planning authority is prepared to apply normal development control policies flexibly; or if an applicant is willing to exploit unorthodox spaces rather than set a standardized requirement; or if an architect can respect the structural limitations of a building and abandon conventional design solutions in favour of a more imaginative approach.”

### PPG16

#### Section 6

*“Archaeological remains should be seen as a finite and non-renewable resource, in many cases highly fragile and vulnerable to damage and destruction. Appropriate management is therefore essential to ensure that they survive in good condition. In particular care must be taken to ensure that archaeological remains are not needlessly or thoughtlessly destroyed. They can contain irreplaceable information about our past and the potential for an increase in future knowledge. They are part of our national identity and are valuable for their own sake and for their role in education, leisure and tourism.”*

#### Section 8

*“With the many demands of modern society, it is not always feasible to save all archaeological remains. The key question is where and how to strike the right balance. Where nationally important archaeological remains, whether scheduled or not, and their settings, are affected by proposed development there should be a presumption in favour of their physical preservation. Cases involving archaeological remains of lesser importance will not always be so clear cut and planning authorities will need to weigh the relative importance of archaeology*

*against other factors including the need for the proposed development. Regardless of the circumstances, taking decisions is much easier if any archaeological aspects of a development site can be considered early on in the planning and development control process.”*

## Section 30

*“In cases when planning authorities have decided that planning permission may be granted but wish to secure the provision of archaeological excavation and the subsequent recording of the remains, it is open to them to do so by the use of a negative condition i.e. a condition prohibiting the carrying out of development until such time as works or other action, e.g. an excavation, have been carried out by a third party. In such cases the following model is suggested:*

*“No development shall take place within the area indicated (this would be the area of archaeological interest) until the applicant has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Planning Authority.”*

*(Developers will wish to ensure that in drawing up a scheme, the timetable for the investigation is included within the details of the agreed scheme).”*

## **Norfolk County Council Structure Plan (adopted 1999)**

### 5.38 Policy ENV.13

*(i) Protecting all listed buildings, historic landscapes, sites of archaeological importance, whether scheduled or not, and their settings against demolition, and inappropriate alteration or development.*

*(iii) Ensuring that agreement is reached for appropriate evaluation, excavation and recording in advance of development on sites of archaeological importance, which do not merit physical preservation, and where it is not feasible to preserve them in situ.*

### 5.40

*It is essential to take account of the impact of development proposals both on the inherent character and composition of settlements, and on their setting in the wider historic landscape.*

### 5.43

*Where demolition or major alteration of an historic building or site of archaeological importance is unavoidable, local authorities will continue to ensure that adequate arrangements are made for its recording in line with PPGs 15 and 16.*

5.45

*Where development proposals affect archaeological remains, the developer will be required to carry out appropriate survey work and evaluation. In cases where preservation in situ is neither feasible nor merited, conditions or legal agreements will be used to secure satisfactory provision for excavation, recording and publication of the results. In some circumstances conditions will be imposed to ensure that archaeological watching briefs are held while work is in progress.*

**Borough Council of Kings Lynn and West Norfolk. Conserving Environmental Resources: 1998**

*Ancient monuments and sites of archaeological importance*

4.27

*A high priority is placed on preserving this archaeological heritage to enable future generations to gain an understanding of the historical development of the area. It is a finite resource and therefore it is necessary to protect the most important examples.*

Policy 4/9

*There will be a presumption in favour of the preservation of Scheduled Ancient Monuments and other nationally important monuments and their settings. Developments which would have an adverse effect on their site or setting will not be permitted.*

*Areas of archaeological interest*

Policy 4/10

*In considering applications affecting archaeological sites or features, the Council will have regard for the intrinsic importance of any remains and the desirability of their preservation. Proposals likely to affect such interests, or potential interests, should be supported by archaeological assessments. Applicants may be required to arrange for archaeological field evaluations before applications are determined.*

Policy 4/11

Where in situ preservation of archaeological remains affected by development is not practical or justified, planning permissions may require full excavation and recording of remains before or during the course of development, and the publication of results.

**Norfolk Minerals Local Plan (Adopted Version January 2004)**

Policy Min 7

*Applications for mineral extraction and associated development will be permitted only where they would not adversely affect scheduled monuments and other sites of national archaeological and historical significance and their settings.*

Policy Min 8

*Applications for mineral extraction and associated developments will only be permitted where they would not affect sites of archaeological interest unless satisfactory arrangements have been made for the prior excavation and the subsequent publication of the results.*

### 3. BASELINE CONDITIONS

This report encompasses a zone within 1km of the PDA. Appendix 1 lists the Gazetteer points, which are also shown on Figure 2. The gazetteer numbers are referenced in the text in bold e.g. **(1)**

#### Geology and Topography

The PDA is located on solid Lower Chalk geology, with a Pleistocene glacial drift to the west. The site falls just outside of the Wissy Embayment on the uplands of the eastern Fen Edge, which lies approximately 2km to the west of the site.

The site is situated on an area of upland, although there is variation in the topography of the PDA. The site has two slopes: one in the south-east corner heading in a easterly direction, the other in the western edge of the site heading west towards the Fen Edge. The site reaches a height of 30m OD, towards the western edge, before gradually dropping off towards the Fen Edge. There is a ridge of higher ground towards the south east corner of the site, although this is likely to be a result of the underlying geology of glacial drift rather than being evidence of past land use.

#### Historical Background

Feltwell quarry is located between the villages of Feltwell, approximately 2km to the south west, and Methwold, approximately 2km to the north. The earliest factor which may have affected the PDA was the building of The Devil's Dyke to the south and east of the site, by the Anglian king during the late 6th or early 7th centuries to protect the East Anglians from the Britons to the west. It may have later been used as a defensive barrier against a threat from the Anglian kingdom of Mercia. It is possible that the monument may have been built over an earlier prehistoric dyke on a similar alignment. During the Middle Ages the dyke was known as 'St Edmunds Dyke' because it marked the limit of the jurisdiction of the abbots of Bury St. Edmunds. There are also Middle Ages references to the 'Great Ditch'. During the 11th century siege of Ely by William the Conqueror, it is referred to as 'Reach Dyke'. Devil's Dyke or Ditch is a post-medieval name. (<http://www.devilsdykeproject.org.uk/histarch.html>).

For the purposes of this report a brief history of the two villages are considered in order to characterise the development of the area and highlight potential impacts and influences in the site

The origins of the village of Feltwell are currently unknown, and at present there remains no overall synthesis of the villages early history. Feltwell is recorded in the Domesday Book in 1086 (<http://www.feltwell.org/feltwell2/written/domesday.htm>), and it is suggested that it was given to the monastery of Ely by Ethelwald, Bishop of Winchester, between A.D. 963-984 (Armstrong's History of Norfolk 1781, cited at (<http://www.Feltwell.org/feltwell2/written/townfeltwell.htm>)). Following the Norman Conquest, ownership of Feltwell passed to Earl Warren, William De Warenne.

Methwold is recorded in the Domesday book and as with Feltwell it passed to Earl Warren sometime after 1070 AD. Most of the early history of the village is linked to the Methwold estate, which was noted as having an 'excellent location' and thus became the site of one of three fortified houses built on the edge of the Fens in 1070 (<http://www.btinternet.com/~methwold.homepag/PAGE3VILLAGEHISTORY>). In 1347 the Manor of Methwold passed to Thomas Earl of Lancaster and ultimately, by virtue of the Duchy of Lancaster, to the crown, although some land within the parish belongs to Christ's College, Cambridge. During the 14<sup>th</sup>-15<sup>th</sup> century AD St. Georges church was constructed. This became the nucleus of the village on the higher ground, which continued to expand.

The PDA itself falls within an area known as Methwold Warren between the villages of Feltwell and Methwold. As the name suggests, this area was used in the medieval and post-medieval rabbit trade, and was described as being 'substantial' in size (Bailey 1988: 6). Records from 1350-90 note that land at Methwold was used for rabbit warrens. Furthermore, there is also evidence that between 1413-15 two colonies near Methwold Warren were leased, separately for the purposes of being used as rabbit warrens (Bailey 1988: 6). By the 16th century these had grown in size, as demonstrated on a 16th century map which showed a warren of 607 hectares to the south east of the village of Methwold, on the site of Methwold Warren (Norfolk Record Office Record No. MC 556/1). It is stated that "Methwold became famous for its abundance and excellence of its rabbits which were sold as Muel Rabbits" ([www.btinternet.com/~methwold.homepag/PAGE3VILLAGEHISTORY.html](http://www.btinternet.com/~methwold.homepag/PAGE3VILLAGEHISTORY.html)).

During the mid 15th century it was a regular supplier to the London market (Bailey 1988:15), and it is believed that Charles I granted the village a charter for a market to be held every Tuesday.

As a result of the growing significance and wealth of Methwold Warren in the late medieval period, two buildings were constructed. The earliest was Warren Lodge, located just over 2km north of the PDA. This was built in the early 1400s by the Prior of Thetford and used to protect gamekeepers and hunting parties against armed poachers (<http://www.english-heritage.org.uk>). Subsequently, the building was used by the local 'warreners' who harvested rabbits here. The second building was located approximately 500m north east of the PDA and was formally known as The Rabbit House. The exact date of this building is unknown, but there are records dating it at least to the 17th century (Norfolk HER no.22008). The structure was a two-storey, fortified lodge occupied by the warrener. There is some debate over the description of this building, with some suggestion it was defensive in nature (<http://www.channel4.com/history/microsites/B/bigdig/diary/wednesday25.htm>). This may be a reflection of the value of rabbits at the time and indicated the threat posed by poachers. However, a description of the building held in the Norfolk HER describes the building somewhat differently. Here it is described as a 'medieval house with a 16th/17th century rear wing', with no mention of any defensive element. This building was knocked down and replaced by Warren House in 1890, which still stands today.

Cartographic and historical records suggest there were few changes to the PDA until the 19th century, although it is unclear when the land ceased to be used as a warren. There were, however, wider changes which may have effected the site. The later 19th

century saw developments in the road and railway systems which although the latter did not pass through either the villages or the PDA directly, would have had an impact on the surrounding area.

The most recent large-scale development in the wider landscape was the construction of RAF Methwold, shortly before the Second World War. This site operated as a satellite airfield to RAF Feltwell and was located 250m north-west of the western edge of the PDA. The airfield was used until April 1946, after which the airfield and its runways continued to be maintained for 12 years. The airfield was released for agricultural use in the 1960s, which saw much of the concrete runway broken up. Part of one of the runways is still used for poultry housing. However much of the north-west-south-east runway survives (<http://www.raf.mod.uk/bombercommand/s43.html>).

### **Past and Current Land Use**

As discussed above, Methwold Warren, the area which the site falls into, was famous for its rabbit warrens during the medieval and post-medieval period. This is likely to have had a significant impact on the site in two ways. There is a high probability for encountering remains of rabbit warrens and/or pillow mounds; low stone mounds covered with earth, often surrounded by a shallow ditch and used as artificial rabbit warrens. These are both defined as archaeological features and their occurrence within the PDA seems likely given the scale and longevity of this activity at the site. This may be further supported by the presence of what appear to be mounds on the 1884-85 1:25000 scale OS map and 1887-92 1:10650 scale OS map (Figs 3 & 4). If encountered, these extensive networks of warrens and/or pillow mounds may have had a detrimental affect on any earlier archaeological features on the site.

There is evidence on historical maps from 1887-1892 onwards (Figs 3-6) of gravel pits *c.* 250m to the north of the PDA, although there is no evidence of any on the site itself. These pits are probably the result of quarrying in the late Victorian period which also led to the development of a trackway across the site (Fig 4), and is still in use today.

One activity which is likely to have influenced/affected the preservation of potential archaeology was the planting of coniferous trees from the early 1940s onwards. This plantation was extensive and had covered the entire PDA by the early 1970s. Currently, the trees cover approximately one quarter of the site, with the remainder having been felled in the last few years. This is now an area of rough scrub land. The degree to which this may have affected any underlying archaeology is discussed below.

## 4. KNOWN ARCHAEOLOGY WITHIN THE STUDY ZONE

### Sources

- Norfolk Historical Environment Record (HER)
- Published and unpublished archaeological reports
- Aerial photographic evidence
- Ordnance Survey (OS) maps – 1884/85 first edition to present (see Table 1)

### Prehistoric (to AD 43)

Prehistoric finds represent the vast majority of known archaeology within the study zone, having been recovered from various contexts, although most constitute stray finds recovered during the second half of the 20th century. The earliest evidence comprised Palaeolithic flints, including a surface find of an axehead from the airfield (1), and 15 handaxes along with two flakes from a gravel pit in the quarry immediately to the south of the PDA (31).

A Neolithic presence in the area is indicated by a relatively large number of worked flints. Although some of the find spots fall outside of the study area, they are included as they form part of a cluster. The majority were located to the south of the PDA (2, 4-11, 15-19, 21, 29, 32, 33). The majority of finds from this area included two polished flint axeheads (4 & 6) and a group comprising 64 worked flints (5), although the context in which these tools were found is unclear. The relative proximity of these find spots suggests they may be part of an extensive flint scatter. There were also more isolated finds comprising a late Neolithic/early Bronze Age knife, with traces of cereal straw gloss, located to the east of the PDA (29), as well as a flint arrowhead recovered from the airfield (2).

Evidence for activity during the Bronze Age is indicated by a range of finds of both flint and copper alloy, as well as possible monuments. There are several records of Bronze Age tools recovered, such as flint arrowheads (10, 11). An early Bronze Age copper alloy flat axehead was recovered immediately to the north of the PDA (28), with a second one found beneath a Bronze Age barrow, along with a skeleton, flint knife and Neolithic flints (3). The distribution of these finds shows no apparent clusters of Bronze Age material; rather the evidence appears to be small, isolated scatters dispersed throughout the landscape. There is evidence of five Bronze Age monuments within the 1km zone, although none have been confirmed and/or excavated. These include three possible barrows noted on various maps. The first on a 1580 map just over 1km to the north east of the PDA (13), one on a 1607 map, approximately 500m to the south east of the PDA (14) and one on maps dated 1607 and 1699, located approximately 300m south west of the PDA (20). Two probable Bronze Age ring ditches are noted as cropmarks on aerial photographs, although falling just outside of the study zone (24 & 30). Other prehistoric flints were also recovered from the surrounding area (26 & 27).

More substantial prehistoric remains were excavated during a ‘strip map and sample’ carried out by the Cambridge Archaeological Unit in 2006 (Beadsmoore 2007), in a section of the quarry immediately to the south of the PDA at The Oakery (33). This revealed a series of discrete Late Neolithic/early Bronze Age pits with associated flint and pottery. There is no evidence of later prehistoric activity within the 1km zone.

### **Roman (c. AD 43-450)**

Evidence of Roman activity in the vicinity is limited to a single find of a spoon, which was found alongside prehistoric burnt flint and medieval pottery during a watching brief on a pipeline (26).

### **Saxon and Medieval (c. 450-1485)**

A silver penny of Richard II found approximately 100m to the north of the PDA (23), and some sherds of pottery recovered from a watching brief (26), are the only medieval finds in the locality of the PDA.

### **Post-Medieval (1485-1900)**

Several records exist for post-medieval activity in the area. A gibbet (a term applied to several different devices used in capital punishment), is marked on Faden’s 1797 map of Norfolk (REF), appears on the site of a possible Bronze Age barrow (14). The site of the Rabbit House (22), on the site of a present building (Warren House, which was built in the late 1800’s) appears on plan as a ‘‘medieval house like Warren Lodge, with 16th/17th century rear wing’’ (E. Rose 1985), although it is unclear when it was built. Warren House was investigated as part of Channel 4’s Time Team, Big Dig in 2003. Some of the finds recovered included a pre-Victorian roof tile, possibly part of the Rabbit House building. There were also finds of rabbits teeth and a dogs skull(<http://www.channel4.com/history/microsites/B/bigdig/diary/wednesday25.html>).

The Rabbit House formed part of the warren enclosure, which the PDA falls into. Although there are no HER details for the rabbit industry itself, there are other sources which point to the warren having been some 1500 acres in size (<http://www.btinternet.com/~methwold.homepag/PAGE3VILLAGEHISTORY>).

Denton Lodge, a late 18th century two storey house, approximately 300m south east of the PDA (34).

### **Modern (1900-Present)**

Modern archaeology in the area is dominated by the airfield, located immediately to the west of the PDA. It was built in 1939 as a satellite airfield for RAF Feltwell. The concrete runways, which were built in 1944. The airbase was closed in 1946, although there are still some associated buildings left standing (Smith 1994:173). Aerial photographs taken in 1946 show anti-glider ditches to the east of the airfield (12). Directly related to this was a anti-aircraft gun base (25), built in 1940 and described as being ‘rare’ (D Walker NLA 1996). Analysis of further aerial photographs taken in 1946, show no apparent impact of this airbase on the PDA itself (See Palmer below).

## 5. CARTOGRAPHIC AND PHOTOGRAPHIC EVIDENCE

The earliest cartographic evidence of the PDA is a map produced in 1580, commissioned by the Duchy of Lancaster (The National Archive Ref No. MPC 1/75). This map shows silhouettes of rabbits drawn on the warren. A later 1699 map produced by Thomas Cleer (Norfolk Record Office, Ref No. M/C 556/1) also shows rabbits drawn on Methwold Warren as well as showing it bounded to the east by the Devil's Ditch. Faden's 1797 map shows The Rabbit House, on the site of the later Warren House (22).

The Tithe map for the area, which was produced between 1836 and 1850, shows that the PDA (Methwold Warren) was part of the Rabbit House/Warren House enclosure, which continues as such until the mid 20th century. The 19th century Inclosure Map (REF) unfortunately does not cover the PDA, although the area of the current quarry immediately to the south is shown to have been enclosed. The 1952-53 1:10,560 scale OS map (Fig 6) is the first to show Warren House separated from Methwold Warren.

On the 1884-85 1:25,000 scale OS map there are apparent mounds in the north west corner of Methwold Warren and extending south around the periphery of the PDA (Fig 4 ). The 1887-1892 1:10,560 scale map shows a smaller group of mounds in the north-east corner, just extending into the PDA (Fig 5). However, these are not seen on any of the later maps, and although these features would have been obscured on any post- 1970s map due to the forest, had they survived, they may be expected to be visible on all of the maps that pre-date the forest.

Date	Description
1580	Duchy of Lancaster map of Methwold Warren (The National Archive Ref No. MPC 1/75)
1699	Map of Methwold Warren (Norfolk Record Office Ref No. MC 556/1)
1797	Faden's Map of Norfolk (Norfolk Record Office Ref No. MC 2056/43)
1813	Methwold inclosure map (Norfolk Records Office Ref No. BAN 73)
1836-1859	Tithe map of Feltwell
1884-85	1:25,000 scale OS map of Methwold Warren TL 69/79
1887-1892	1:10,560 scale OS map of Methwold Warren TL 69/79
1905	1:25,000 scale OS map of Methwold Warren, 1st revision TL 69/79
1906	1:10,560 scale OS map of Methwold Warren 1st revision TL 69/79
1952-53	1:10,560 scale OS map of Methwold Warren, 1st edition, 2nd revision TL 69/79
1974-76	1:25,000 Nation survey map of Methwold Warren Tl 69/79

Table 1: Ordnance Survey reference series

Beyond there, few changes to the PDA are recorded on maps. The 1884-85 1:25,000 scale OS map shows a gravel pit in the north-eastern corner of the Warren House enclosure (Fig 3 ) and in the 1887-1892 1:10,560 scale OS map there is a trackway along the eastern edge of the PDA leading from the south along the established track up to the quarry pit. This trackway is still in use today. By the mid 1900s another trackway had been created dissecting the PDA from south-west to north-east, creating one larger and one smaller area of land. This division had an impact on the subsequent development of both areas, with the larger eastern area becoming forest at an earlier date. In the 1946 aerial photograph of the site, the larger section is shown

to be under forest. It appears that the smaller, western section of the site was not planted until the early 1970s, as the OS maps from 1952-53, 1958 and 1965-68 (all 1:10,560 scale), all show that area to be open.

An aerial photographic assessment was carried out on behalf of the CAU by Air Photo Services, Cambridge, which comprised a series of photographs taken on 9th July 1946. Centred on the PDF at this date these had the best potential of showing, as cropmarks, any archaeological features. These photographs show no signs of archaeological features, either within the PDA, or even outside of this area which may have extended into the site (Palmer 2007). However, it should be noted that the larger eastern side of the area was at this point under forest, thus the potential for identifying archaeological features is greatly limited.

## 6. DISCUSSION AND STATEMENT OF POTENTIAL

There is a potential to encounter archaeological remains dating from the prehistoric through to the post-medieval period within the PDA.

Potentially the most significant of these will be prehistoric archaeology. As demonstrated above, numerous Neolithic and Bronze Age finds have been recovered from within 1km of the PDA, although there is little indication of whether these are stray finds or parts of more intensive scatters. What is clear from the HER data is that most of the records are for flint tools.

Evidence of more intensive activity, such as ditches and structures, are unlikely given the nature of prehistoric archaeology along the eastern Fen Edge. Settlements along this in the Beaker and Early Bronze Age periods are described as primarily comprising spreads of rubbish with few or no structural or subsoil features (Healy 1996: 179). A more likely possibility is for dispersed, isolated features, particularly on the area of higher ground on the western edge of the PDA, before the land drops off towards the Fen Edge. This interpretation is supported by the evidence from the evaluation at The Oakery, comprised primarily of isolated pits (Beadsmore 2007).

Barrows are distributed along the Fen Edge and along the Wissay Embayment. These monuments, although not frequent, appear to be confined to the areas of higher ground and the skirtland (Healy 1996: 30), in which the PDA may be included. However, there is no evidence from cropmarks and/or aerial photographs of barrows or ditches within the PDA, and subsequently there is little likelihood these will be encountered, although these cannot be entirely excluded.

There is currently no evidence for later prehistoric activity in or around the PDA. The evidence for Roman activity is minimal, with just one find within the study area. Although outside of this zone the evidence is greater, including a late Roman villa and bathhouse on the western side of Feltwell (National Monument No. 380605). Overall however, Roman activity within the PDA seems unlikely.

There is limited evidence of medieval activity, in the form of a single silver coin. However, within the wider environs, both the villages of Feltwell and Methwold were flourishing in the medieval period and it is during this time that the area including the PDA became part of a large rabbit warren. The rabbit warren dominates the post-medieval period, including its associated buildings, which lie outside of the PDA. The lack of finds associated with the warren is likely to be a result of a lack of archaeological investigation rather than suggesting such evidence is absent.

Only recently has the archaeology of rabbit warrens and warrening come to the fore (Williamson 2006 & 2007). Medieval/post-medieval rabbit warrens and pillow-mounds are classed as archaeological features, albeit not the most informative or significant. However, the potential should not be overlooked, especially in the case of this site, with its well documented history as part of a substantial and renowned warren. It is probable that such a site may be very useful in enabling a greater understanding of this industry.

The preservation of any archaeology is uncertain due to the later uses of the PDA. Principally, its function as a rabbit warren from the late medieval to post-medieval period, which is likely to have had an impact on any earlier archaeology, in one of two ways. The first and perhaps more likely outcome is that anything pre-dating the warrens will have been badly damaged and potentially dispersed from its original location. The second possibility is that the presence of any artificially produced rabbit warrens (pillow-mounds), may have protected any underlying archaeology from damage caused by burrowing, with the soil collected to construct the mounds 'sealing' the earlier archaeology. Alternatively, this process may have itself caused the destruction of any earlier archaeology on the site.

It is also unclear from documentary sources whether any warrens or pillow-mounds survive. The presence of mounds on the 1884/85 1:25,000 scale OS map, which are greatly reduced in number by the 1887-92 1:10,560 scale map and are then absent from all later maps suggests these features may not have survived. It is therefore possible these features were destroyed by agricultural activity.

The planting of the forest in the mid 20th century may have had a detrimental affect on any archaeology, although this would depend on the depth of the tree roots. It is common for trees to have relatively shallow, albeit widespread root systems, with 80-90% going no deeper than 60cm (<http://www.forestry.gov.uk/pdf/fcin078.pdf>). If this is found to be the case within the PDA, than there is a good chance of survival for any archaeology. An example of forested land, which did not adversely damage the underlying archaeology is Kilverstone, located north-east of Thetford, Norfolk (Garrow, Lucy and Gibson 2006).

## **7. CONCLUSION**

Historical, documentary and archaeological evidence relating to the PDA and from the wider environs, suggest there is a distinct possibility of archaeology, surviving or being encountered, with earlier prehistoric and/or post-medieval activity the most likely. The degree to which this may have survived is debatable, although the medieval warren is likely to have had a greater impact than the forest.

Mineral extraction will result in the loss/destruction/disturbance of any archaeology. Based on the results of the desk-based assessment and the excavation, the PDA is unlikely to contain anything which will require preservation in situ. A systematic field evaluation by trial trenching, targeting a maximum of 5% of the area, is the recommended method to formulate a full archaeological mitigation strategy for the development area. This evaluation could take place in phases, in advance of each phase of mineral extraction.

### **Acknowledgements**

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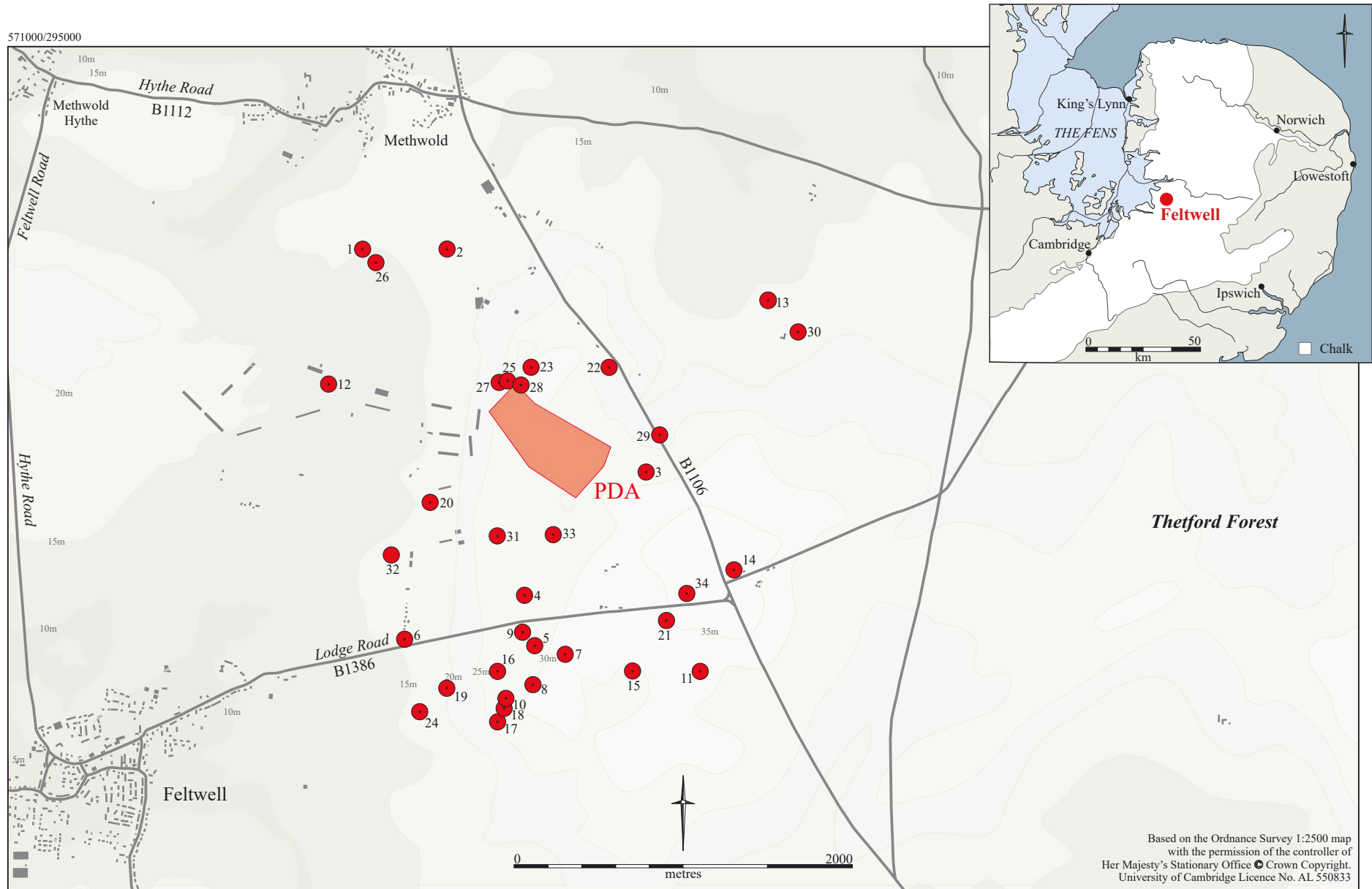


Figure 1. Location map

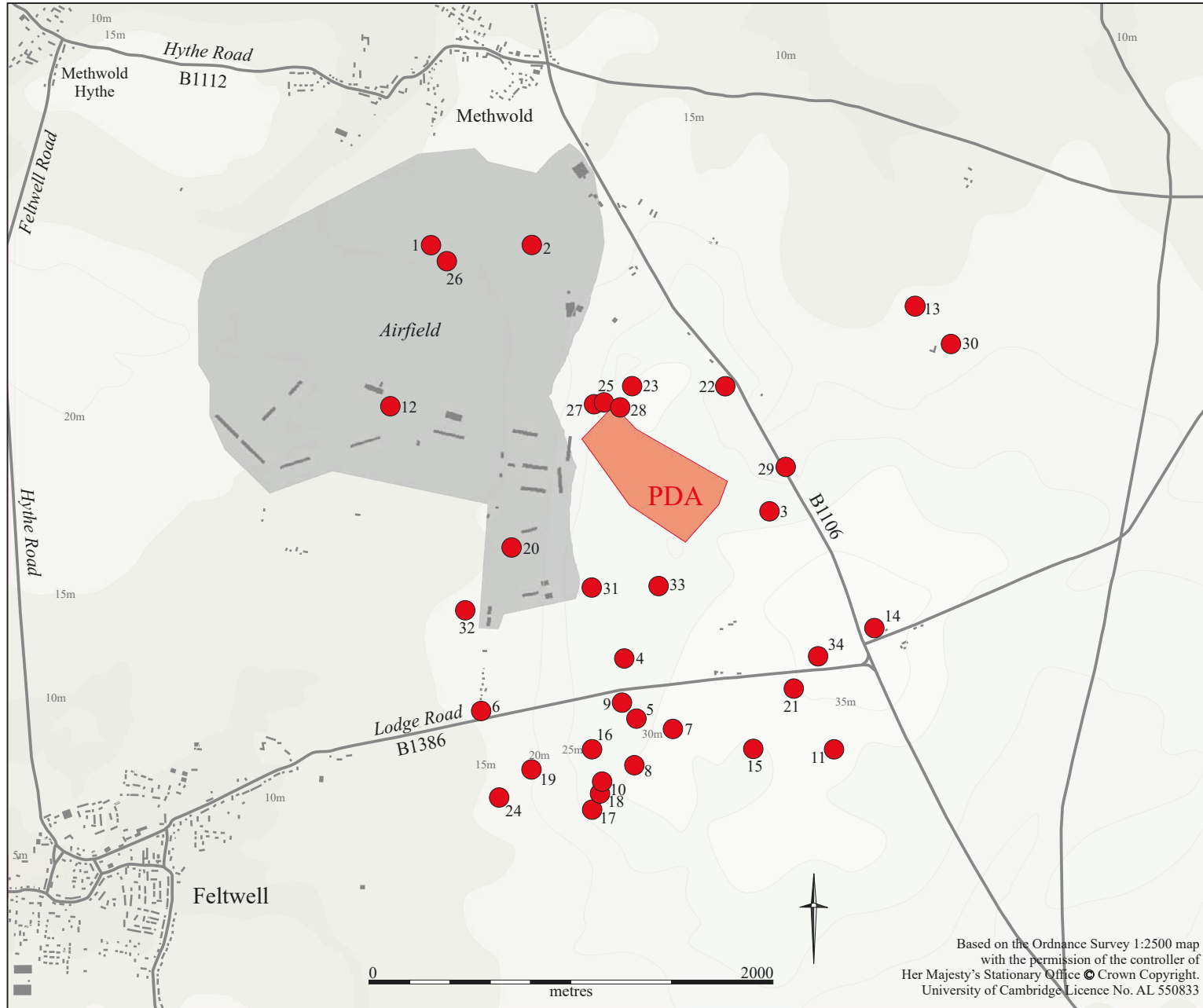


Figure 2. Gazetteer Plan

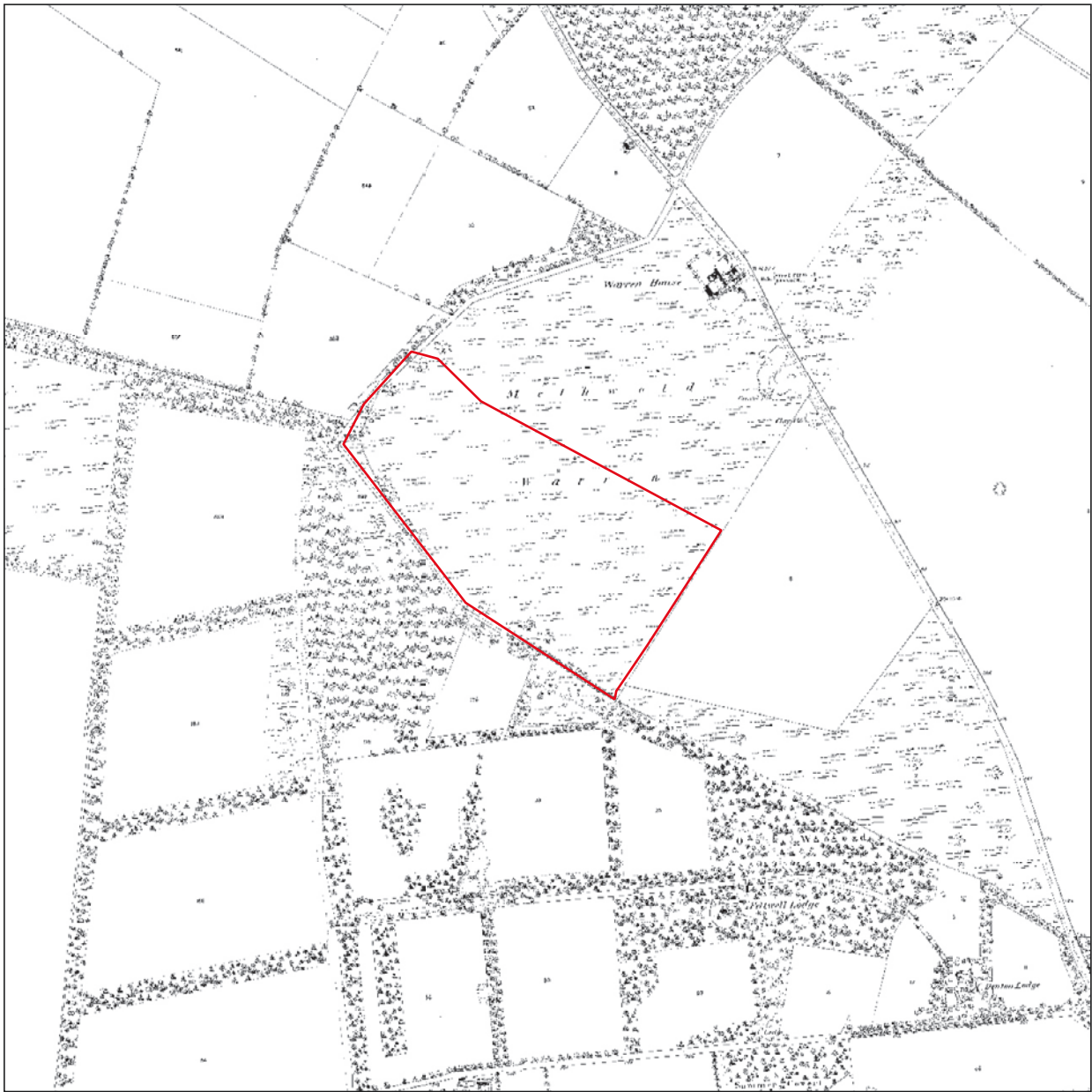


Figure 3. 1884-5 Ordnance Survey map

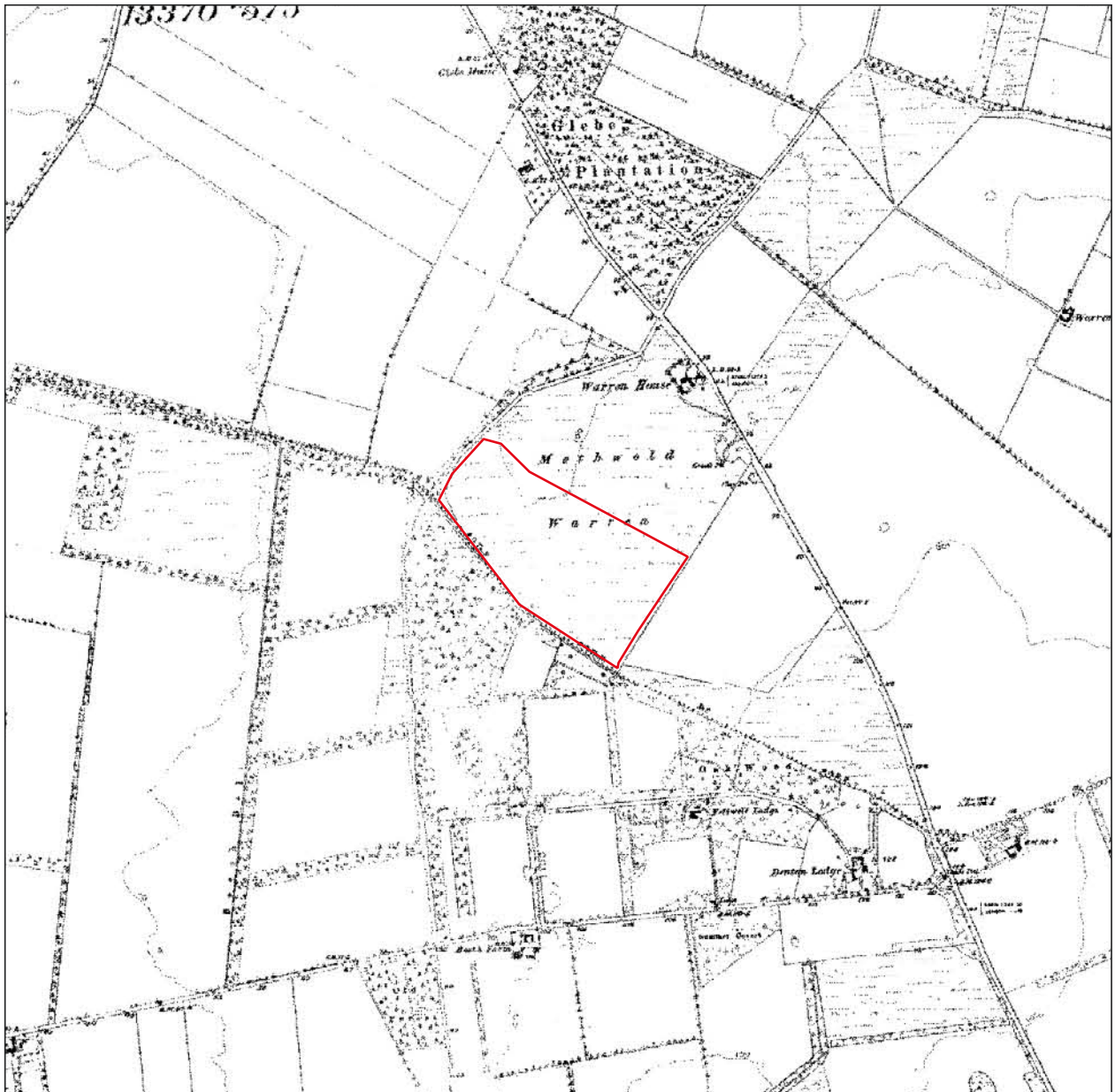


Figure 4. 1887 - 1892 Ordnance Survey map (1st Edition)

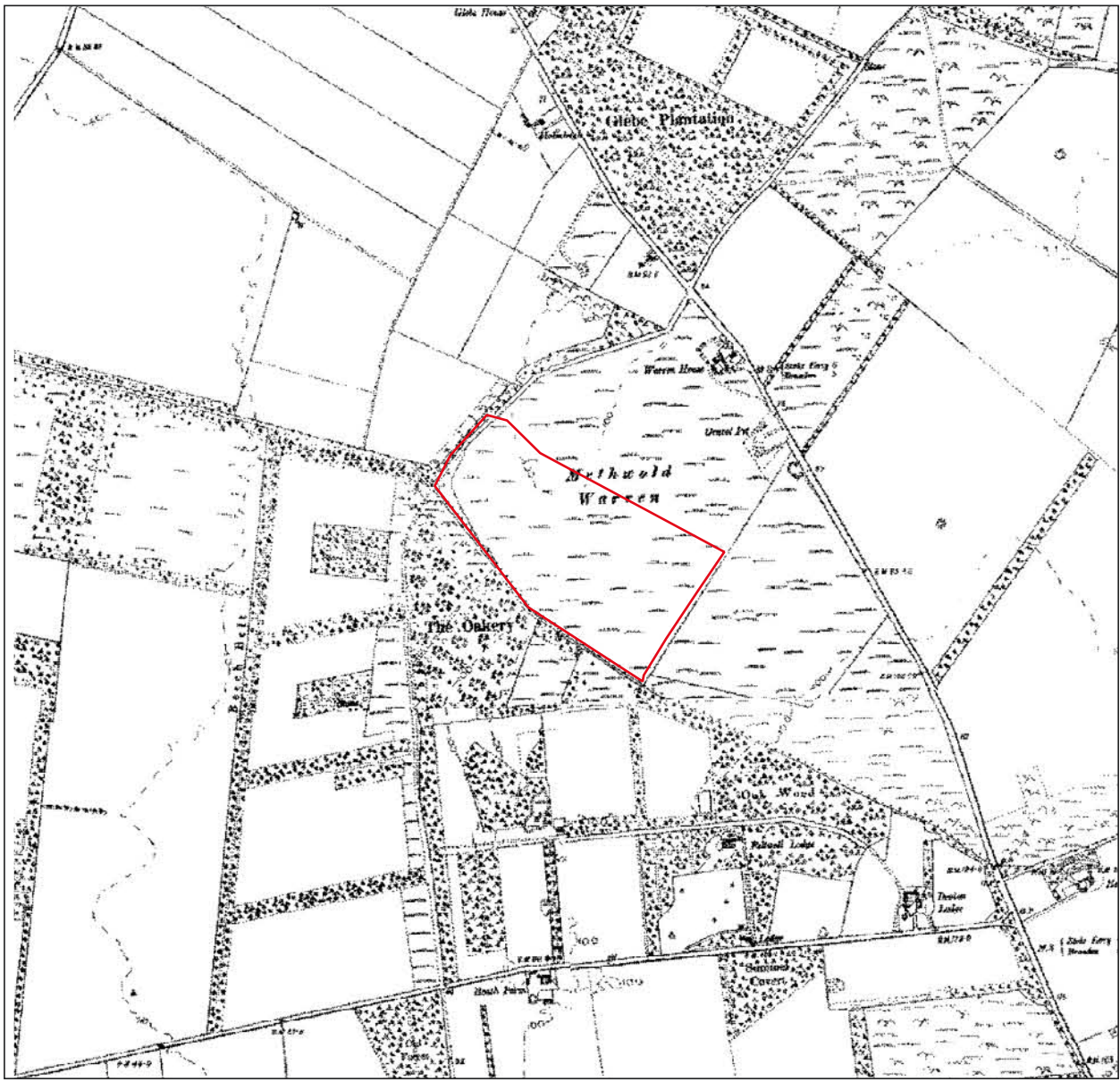
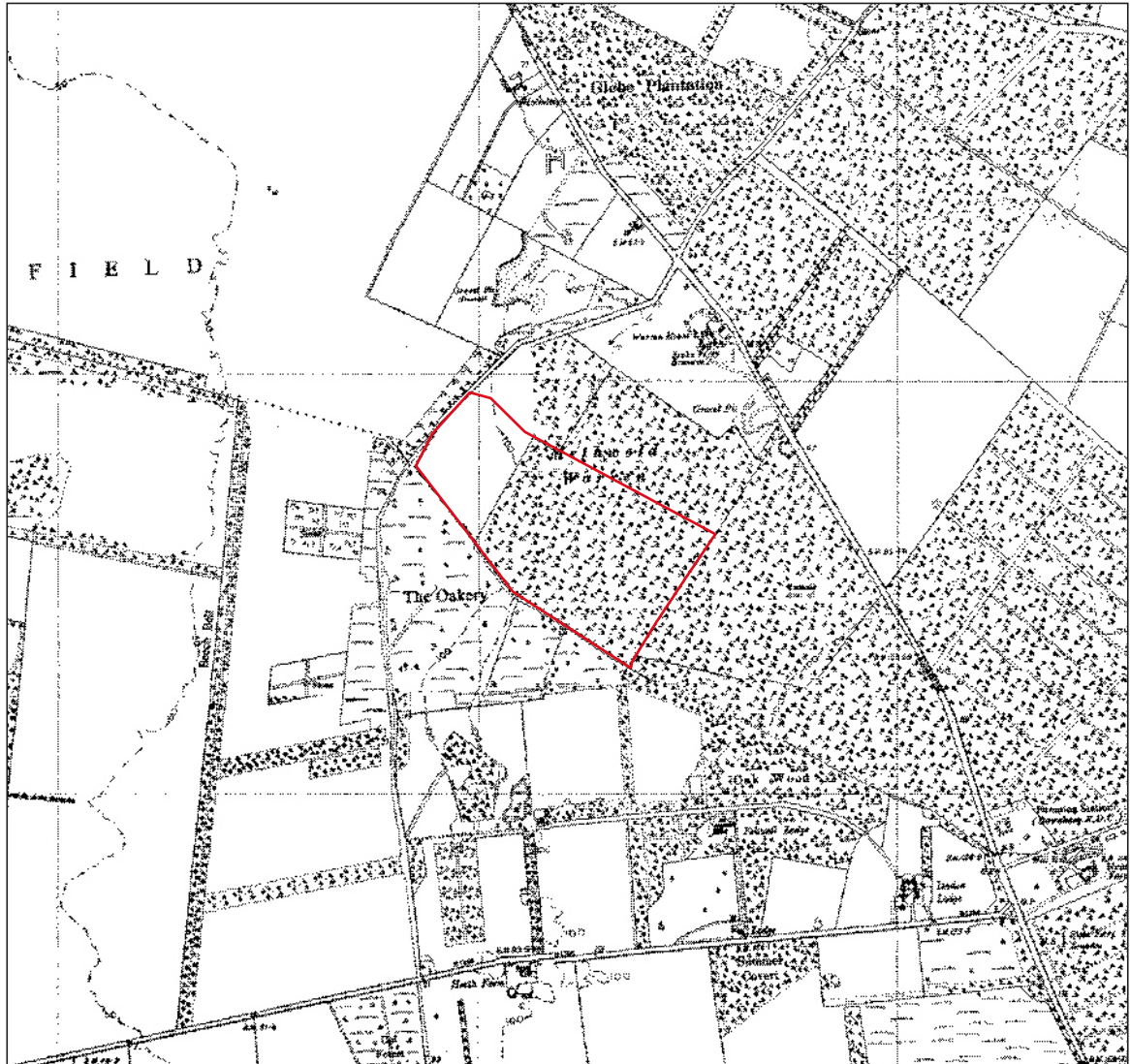


Figure 5. 1906 Ordnance Survey map (1st Edition Revised)



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Kilometres

Figure 6. 1952-55 Ordnance Survey map

## APPENDICES

### Appendix 1 Site and Finds Gazetteer

Gaz No.	HER No.	NGR	Period	Description
1	4845	TL 736 938	Prehistoric	Worked flint including a Palaeolithic axehead, not later than aurignacian
2	4846	TL 731 938	Prehistoric	Neolithic worked flints including an arrowhead
3	4885	TL 7478 9248	Prehistoric	Bronze Age socketed copper alloy axehead found beneath a Bronze Age barrow, before 1740. Three round barrows recorded between 1914-15, plus one to the north east recorded in 1992. A skeleton and flint knife and further late Neolithic flints
4	4896	TL 7406 9175	Prehistoric	Worked flints including a Mesolithic to Bronze Age perforated mace head, and arrow heads of the same date. Two Neolithic polished axeheads.
5	4900	TL 7412 9145	Prehistoric	Neolithic and Beaker worked flints, including three flint scrapers and two barbed and tanged arrowheads.
6	4906	TL 7335 9149	Prehistoric	Neolithic polished flint axehead, found in 1958
7	4908	TL 743 914	Prehistoric	Neolithic worked flints. 5 leaf arrowheads, 2 laurel leaves, 9 petit tranchet derivatives, 6 triangular arrowheads, 32 barbed and tanged arrowheads, 2 projectile heads, 3 piercers. 14 Plano convex knives, 1 disc knife.
8	4910	TL 7411 9122	Prehistoric	Neolithic transverse arrowhead, found in 1964
9	4911	TL 7405 9153	Prehistoric	Neolithic barbed and tanged arrowhead found in 1964
10	4917	TL 7395 9114	Prehistoric	Possible Beaker to Bronze Age barbed and tanged flint arrowhead discovered on the surface of a field
11	4934	TL 751 913	Prehistoric	Neolithic & Bronze Age flints; oblique petit tranchet derivative blade, scrapers, plano convex knife & part of polished axehead, recovered between 1958-1981
12	4937	TL 729 930	Modern	RAF Feltwell-WW2 airfield. Glider ditches recorded to the east of the airfield on a 1946 AP
13	11941	TL 755 935	Prehistoric	Possible Bronze Age barrow on 1580 map
14	13114	TL 753 919	Prehistoric	Possible Bronze Age barrow and post-medieval gibbet -the gibbet is marked on Faden's 1797 map of Norfolk, a 1607 map shows a mound marked as 'The High Doule'. This suggests the gibbet may have stood on a BA barrow
15	14593	TL 747 913	Prehistoric	Neolithic/Beaker worked flints, including an arrowhead, axehead and knives
16	14594	TL 739 913	Prehistoric	Neolithic worked flints (likely to be same scatter as 4908, 14601 and 14595)

17	14595	TL 739 910	Prehistoric	Neolithic worked flints (likely to be the same as 4908, 14601 and 14594)
18	14597	TL 7394 9108	Prehistoric	Neolithic flint discoidal knife recovered from the top of a chalk pit
19	14601	TL 736 912	Prehistoric	Neolithic worked flints (likely to be same scatter as 4908, 14594 and 14595)
20	15524	TL 735 923	Prehistoric	Possible Bronze Age barrow – a mound marked on 1607 & 1699 maps-referred to as 'Cokks Howe' or 'Cox Howe'
21	17538	TL 749 916	Prehistoric	Neolithic flint sickle
22	22008	TL 7456 9310	Post-medieval	Site of Rabbit House at Warren House. Rabbit House is depicted as tall buildings of two storeys with a high hipped roof on an old drawing.
23	25527	TL 741 931	Medieval	A silver penny of Richard II, made at York, found west of Warren House
24	28080	TL 7344 9106	Prehistoric	Possible Bronze Age ring ditch seen on AP
25	28807	TL 7396 9302	Modern	WW2 anti aircraft gun base. Octagonal base of 20mm light anti aircraft base, built 1940, rare.
26	29141	TL 7318 9372	Multi-period	Prehistoric burnt flint, medieval pottery, undated lead and a Roman spoon
27	29142	TL 7391 9301	Prehistoric	Prehistoric flint flake, recovered during a watching brief
28	31037	TL 74 93	Prehistoric	Early Bronze Age, copper alloy flat axehead, found in 1994. Measures 16cm in length with a blade width of 8.5cm
29	31660	TL 7486 9270	Prehistoric	Late Neolithic/early Bronze Age knife, with traces of cereal straw gloss. Found during fieldwalking
30	32252	TL 7568 9331	Prehistoric	Possible Bronze Age ring ditch seen as cropmarks on AP
31	32957	TL 739 921	Prehistoric	Palaeolithic flints comprising 15 handaxes and 2 flakes recovered from a gravel pit
32	35984	TL 7327 9199	Prehistoric	Neolithic leaf shaped arrowheads
33	45355	TL 74234 92111	Unknown	Archaeological excavation at The Oakery, Feltwell Lodge
34	46821	TL 75020 91766	Post-medieval	Denton Lodge, Lodge Road, late 18th century