

Archaeological Field Unit

**Abbey Fields, Thorney, Peterborough:  
Archaeological Site & Desk-Based Survey  
and Conservation Restoration Plan  
– Interim Report**

Stephen Macaulay

2004

**Cambridgeshire County Council**

Report No. 776

Commissioned by Mr Michael Sly & DEFRA

**Abbey Fields, Thorney, Peterborough:  
Archaeological Site and Desk-Based Survey  
and Conservation Restoration Plan  
– Interim Report**

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## SUMMARY

*Between April 2003 and July 2004 the Archaeological Field Unit of Cambridgeshire County Council undertook a range of archaeological surveys and studies at Abbey Fields, Thorney, Peterborough on behalf of Mr M Sly. These included a desk-based study, an aerial photographic assessment, and an earthworks survey, ecological survey and conditions survey. The purpose of the project was to inform a restoration management plan in preparation of a Countryside Stewardship Application.*

*The document is the Interim Report as requested by the Brief supplied by DEFRA.*

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## LIST OF ABBREVIATIONS

AFU	Archaeological Field Unit
BRO	Bedford Record Office
CRO	Cambridge Record Office
CUCAP	Cambridge University Committee for Aerial Photographs format
HRO	Huntingdon Record Office
LB	Listed Building
NMR	National Monuments Record
NVRC	Nene Valley Research Committee
OD	Ordnance Datum
OS	Ordnance Survey
PCCAS	Peterborough City Council Archaeological Services
ULAS	University of Leicester Archaeological Services
VCH	Victoria County History

**Abbey Fields, Thorney, Peterborough: Archaeological Site and Desk-Based  
Survey and Conservation Restoration Plan – Interim Report  
(TF 280 040)**

**1 INTRODUCTION**

The Archaeological Field Unit of Cambridgeshire County Council was commissioned by Mr M Sly to carry out an archaeological site and desk-based survey and conservation restoration plan at Abbey Fields, Thorney, Peterborough, the site of Thorney Abbey. The site consists of 18.3 ha of pasture and arable land, sited near the crossroads in the centre of Thorney village. The project was grant aided by DEFRA.

**1.1 Circumstances of the project**

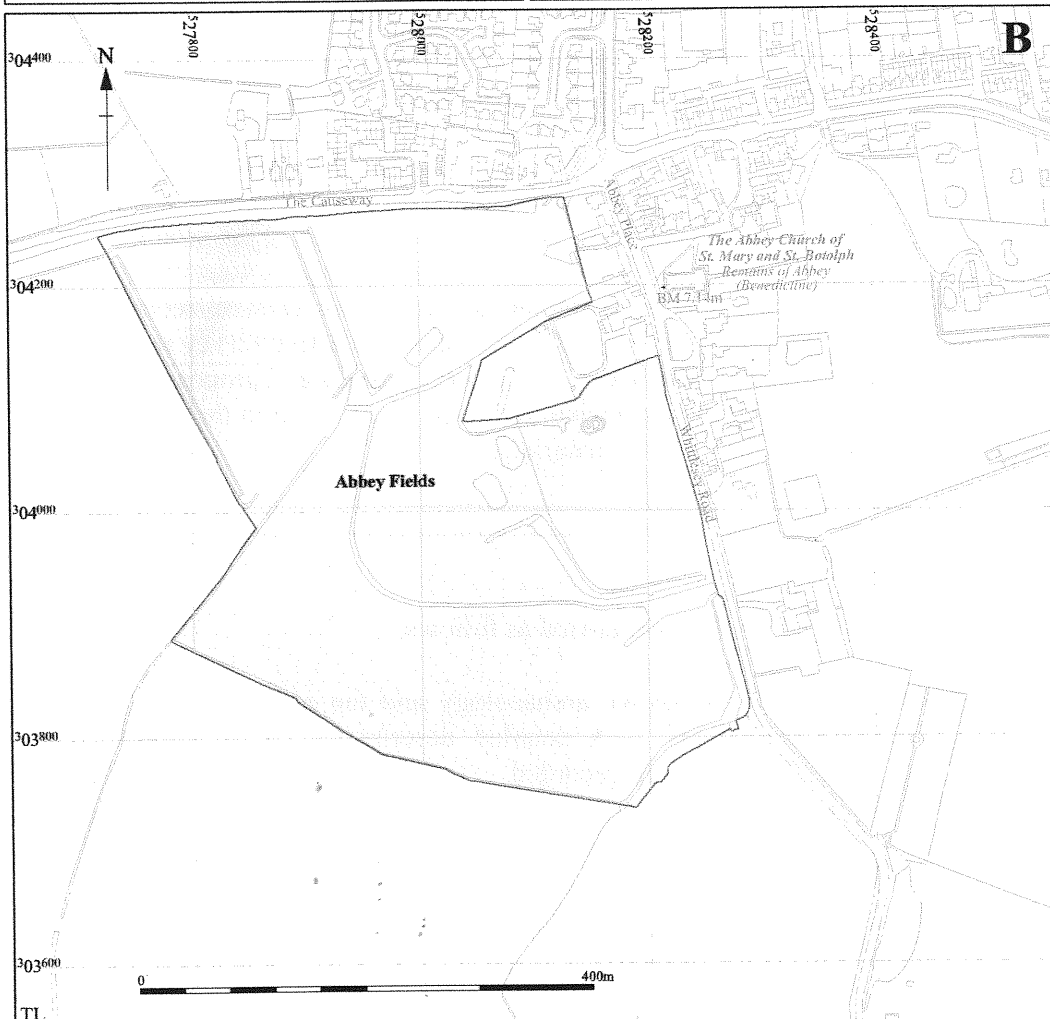
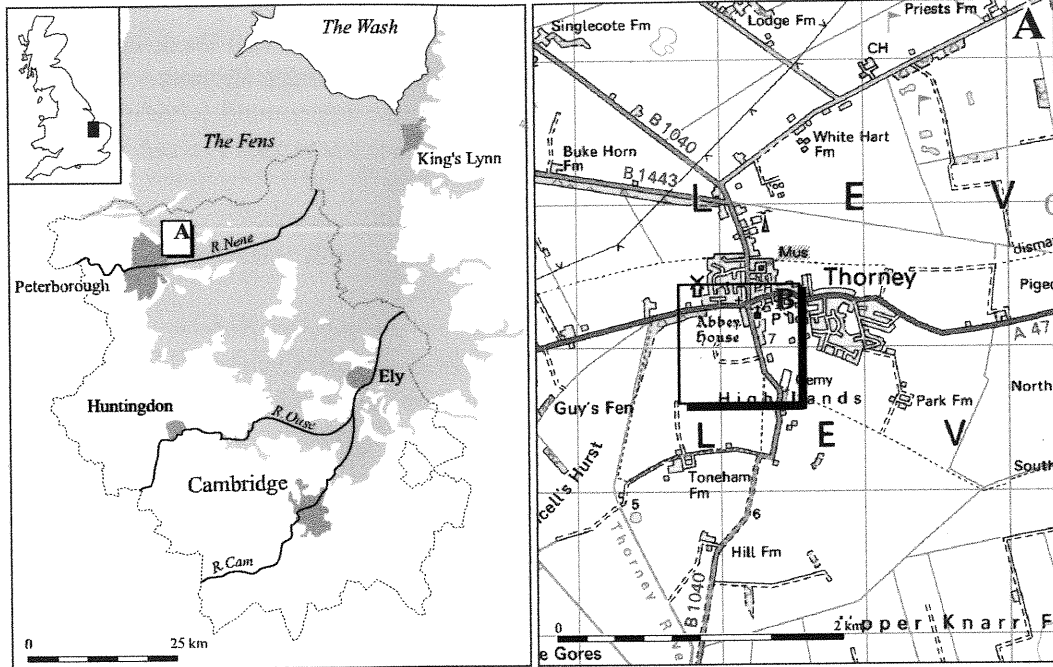
The project has taken place as a result of Abbey Fields being considered for a grant under DEFRA's Countryside Stewardship Scheme (CSS). This offers payments for conserving, repairing and, where appropriate, restoring landscapes of historic and archaeological value. The scheme also takes into account wildlife issues and opportunities for people to enjoy a landscape. Abbey Fields has the potential to fulfil all the objectives of the scheme.

This report contains both a study and review of the existing records of the archaeology and history of Abbey Fields and a conditions survey report which will form the basis of practical conservation management proposals, aimed to protect the surviving archaeological resource, and to help in the production of interpretation and educational materials.

**1.2 Aims and Objectives**

The project aims can be summarised as follows.

- To define both the known archaeology and the archaeological potential within Abbey Fields, with detailed descriptions of all archaeological features, finds or deposits recorded.
- To assess the threats to archaeological deposits and monuments and to identify suitable measures to avoid or reduce such threats.
- To provide a series of management recommendations for Abbey Fields to ensure the continued preservation of archaeological remains, and to enhance their appreciation and enjoyment by visitors.



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**Figure 1** Location of Investigation Area (green)

### 1.3 Methodology

To meet the aims and objectives outlined above the project was designed using several strategies. A desk-based assessment was undertaken, the results of which can be found in Section 2. An aerial photographic survey, earthwork survey, and ecology survey were also carried out. These are summarised below and the full reports can be found as appendices 3, 4 and 5 respectively. In addition a geophysical survey was conducted, which is also summarised below.

A further consideration is trial trenching or excavation, which could test the date, character and state of preservation of potentially significant features identified in this report.

## 2 DESK- BASED ARCHAEOLOGICAL ASSESSMENT

### *SUMMARY*

*The parish of Thorney belongs to Peterborough District. The modern village is located approximately 11km to the north-east of Peterborough and centres at the junction between the B1040 (Whittlesey-Crowland) and the A47 or the Causeway (Peterborough-Wisbech). It lies on a gravel peninsula which rises to 5.5m OD above the surrounding fen. In relation to the village, the study area known as Abbey Fields is located opposite the parish church, at TF 281 040.*

*Evidence from aerial photographs would suggest that occupation at Abbey Fields might have begun as early as the Iron Age/Romano-British period (Palmer 2003).*

*During the medieval period the study area was probably part of the estate of Thorney Abbey that originally extended south of the A47 (the Causeway) and across the B1040 (Whittlesey Road). The internal organisation of the manorial site remains uncertain. According to the standard Benedictine monastic plan, the abbey probably stretched along the eastern side of the B1040, with the Cloister and Chapter House being located to the south of the church. The location of the remaining monastic and service buildings is however unknown.*

*Medieval sources refer to a granary and a bakery. Halsey's map of 1731 depicts Abbey Fields as having been divided into closes, including Brewhouse Close. An earlier map by Hare (1652) depicts a small building immediately to the south of the post-medieval Abbey House. Whether this small building represented a brewery originally associated with the abbey is uncertain. Further features on Hare's map include two ponds to the east of the brewery.*



*Reference to a royal chase in 1545 might suggest that part of the Thorney estate was converted into a park just before, or immediately after, the Dissolution. By 1731 (Halsey's Map) the former 'park' had been divided into closes defined by substantial boundary ditches, including Hay Park close, immediately to the south of Brewhouse Close.*

*On Utting's Map of 1853 the boundaries of the former Brewhouse Close were maintained, the old close being unaltered except for the presence of three, possibly four, very large oval and rectangular ponds. A major canal was cut from the Thorney River to accommodate what look like a series of boathouses. By the time of the OS First Edition (c. 1890), the canal had been back-filled and most buildings demolished.*

*The site underwent little transformation during the first half of the twentieth century. In 1968 Abbey Fields was converted into a live animal park that was finally closed in 1978 and dismantled.*

*Some of the ponds are still preserved today, together with relicts of the boundary (presently known as The Water) that originally defined the southern and western sides of Brewhouse.*

## **2.1 INTRODUCTION**

### **2.1.1 Location**

The parish of Thorney belongs to Peterborough District and covers an area of some 8813 ha defined by artificial drains and canals. The parish contains arable land and pasture. The principal crops are cereals and market garden produce, including potatoes and sugar beet.

Historically, Thorney formed the northwestern corner of the Isle of Ely in the old county of Cambridgeshire. Boundary alterations took place throughout the medieval period. In 1933 the parish acquired 1593 ha from Whittlesey (Pugh 1967, 219).

The modern village lies approximately 11km to the northeast of Peterborough and centres at the junction between the B1040 (Whittlesey-Crowland) and the A47 or the Causeway (Peterborough-Wisbech). The Peterborough-Wisbech Road was turnpiked between 1792 and 1810.

In relation to the village, the study area known as Abbey Fields is located opposite the parish church, at TF 281 040. It comprises an irregular area of some 18 ha used as pasture. The site is flanked by the B1040 on the eastern side, and by the A47 (Causeway) on the northern side.

### **2.1.2 Geology**

Thorney lies on a gravel peninsula that rises to 5.5m OD above the surrounding fen.

The exposed pre-Flandrian soils are mainly Fen Gravels with some Till (Boulder Clay) overlain by Flandrian peat deposits (Horton 1989, BGS Sheet 158). The raised peninsula on which the village sits is capped by March Gravels (Hall 1987, 48).

## **2.2 HISTORICAL AND ARCHAEOLOGICAL SOURCES**

### **2.2.1 Historical Sources**

#### **Primary Sources**

Historical sources for Thorney Abbey include the Anglo-Saxon Chronicle (with particular reference to the period 656-1154), the Domesday Book (1086), the Thorney Annals (961-1421), the 'Red Book of Thorney (fourteenth century m.s. in the CUL) and the Chronicle of Hugh Candidus.

A survey of 1574 (NRO) probably commissioned by the Duke of Bedford describes the manor of Thorney, including the remains of the abbey.

Original documentary archive research was not undertaken as part of this study. For the present report reference was made to secondary sources and, in particular, to the study by R. B. Pugh 1967 (VCH, Cambridgeshire, Vol. VI).

Records and census information for the parish are held at Cambridge Record Office (CRO), Huntingdon Record Office (HRO) and Wisbech Library.

### **Secondary Sources**

General outlines of the history of the county and accounts of individual parishes based on documentary sources can be found in the VCH of Cambridgeshire, 10 volumes.

There are also regional studies that concentrate on specific research topics, e.g. Fenland surveys (Hall 1987; Hall & Coles J. 1994), place-names (Reaney 1943), history of the religious houses in Cambridgeshire (Haigh 1988), architecture (Pevsner 1968), history of Cambridgeshire (Taylor 1977; Kirby & Oosthuizen (eds.) 2000), and the medieval fenland (Darby 1974, *Id.* 1983).

Accounts of the history of the abbey include the monographic studies by the reverends W. D. Sweetings (1868) and R. H. Warner (1879).

#### **2.2.2 The SMR (see Fig 2)**

All relevant SMR entries are listed in Appendix 1.

Peterborough SMR database contains no finds of a reliable provenance from the subject area. The four entries for the site include SMR 03008, a Bronze Age axe, which probably corresponds with record SMR 05249 referring to a similar artefact found on the north-eastern edge of the village, an Iron Age coin (SMR 03003) and Roman pottery (SMR 07837) of generic provenance. Near the Causeway, i.e. the northern boundary of the site, is a square feature known from cartographic evidence and probably representing the site of a small pond (SMR 08430).

Immediately outside the study area is the post-medieval Abbey House (SMR 03034) and associated features (barn SMR 08019, gate SMR 08018, and gate pier SMR 050725). The walls of the manor house project into Abbey Fields.

#### **2.2.3 Cartographic Evidence (see Figs 4-7)**

Early cartographic evidence for Abbey Fields includes a series of post-medieval estate maps of the Manor of Thorney, as well as a series of survey maps of the North Level of the Bedford Level dating to the middle of the eighteenth century.

One of the earliest estate maps is represented by the description of Thorney Manor by Benjamin Hare (1652, copy 1710) that shows outbuildings and ponds possibly associated with the original abbey. A later map of 1731 by John Halsey depicts the closes within the former abbey estate. The names of the closes are reminiscent of a deer park that was probably created immediately before or after the Dissolution (below). Among the latest maps is that of the town of Thorney by Fred Utting of Wisbech (1853), which depicts the area as being occupied by a series of large ponds.

There is no record of Enclosure.

Later maps include editions of the Ordnance Survey from the end of the nineteenth century onwards.

All consulted maps are held at the HRO, CRO, BRO and in Wisbech Library.

#### **2.2.4 Archaeological Excavations and Surveys**

There is no record of archaeological excavations conducted within the study area.

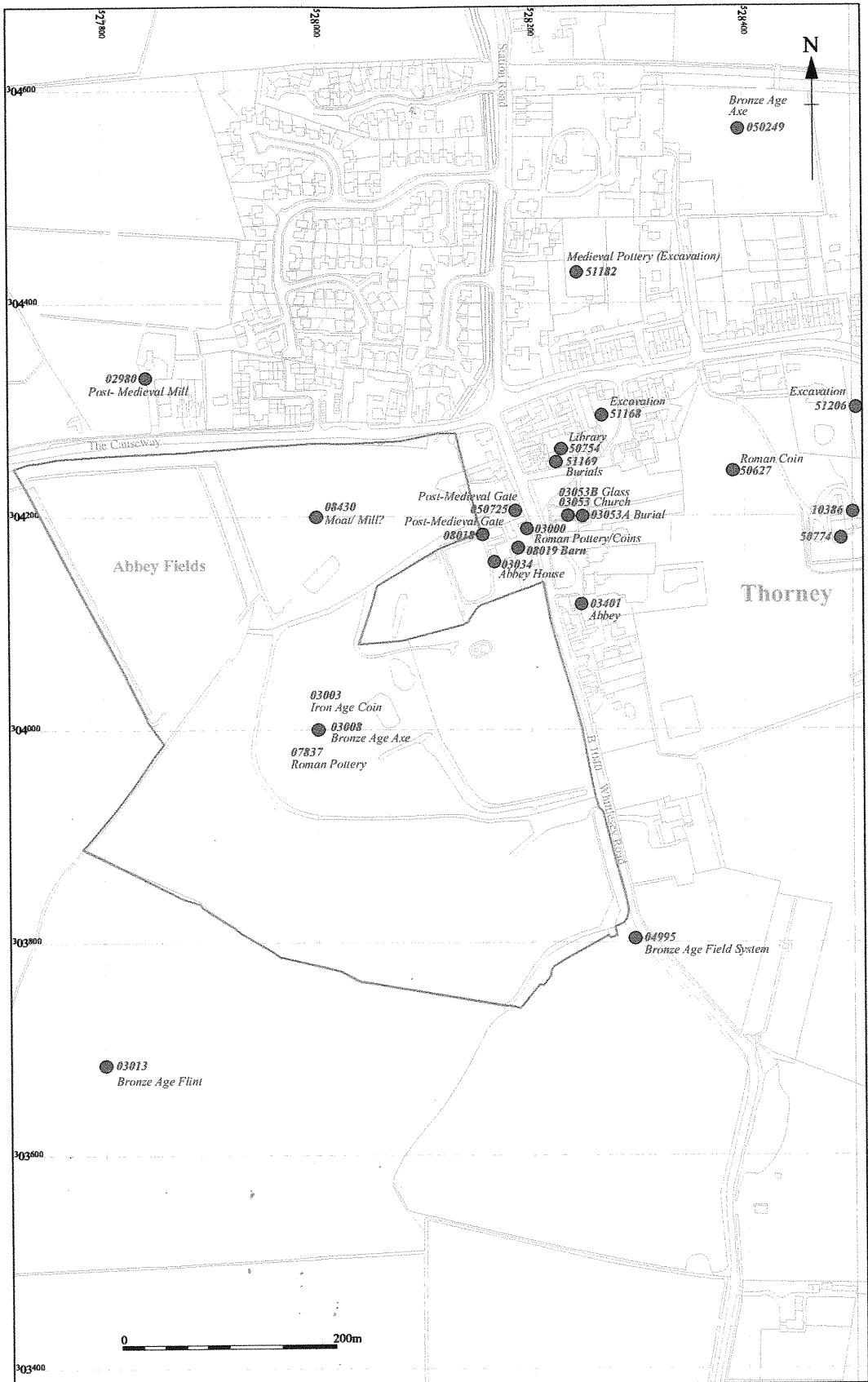
As a whole, little archaeological work has been undertaken within the historic village of Thorney.

##### **Church Street/23-25 Wisbech Road**

Immediately to the northeast of the study area a recent investigation at Church Street (SMR 51168) has confirmed Saxo-Norman and medieval occupation within the historic nucleus of Thorney. In particular, at the northern end of the site there were the remains of shallow ditches that are likely to have represented boundaries. The ditches were sealed by cultivation soil suggesting that this part of the site had reverted to agricultural use during the eleventh-twelfth centuries. At the southern end of the site there was evidence for redevelopment during the twelfth century in the form of structural remains, including a pair of substantial walls. One of these walls was abutted by a clay surface cut by thirteenth century postholes. Among the finds there were residues of iron working, large amounts of medieval pottery, and fragments of painted glass and lead *came* consistent with the presence of monastic buildings nearby. Most finds had been dumped in the area north of the walled structure (Thomas 2001).

##### **Church Street, Gas Pipeline**

Limited archaeological observations along Church Street during the excavation of a gas pipe-trench revealed the disarticulated remains of twelve medieval burials (SMR 51169). The remains were all recovered from a graveyard soil horizon, suggesting that the medieval cemetery was originally larger than that enclosed by the mid nineteenth century wall (NVRC Annual Report 1991-1992).



**Figure 2** Map of Abbey Fields, Thorney, showing SMR entries (blue)

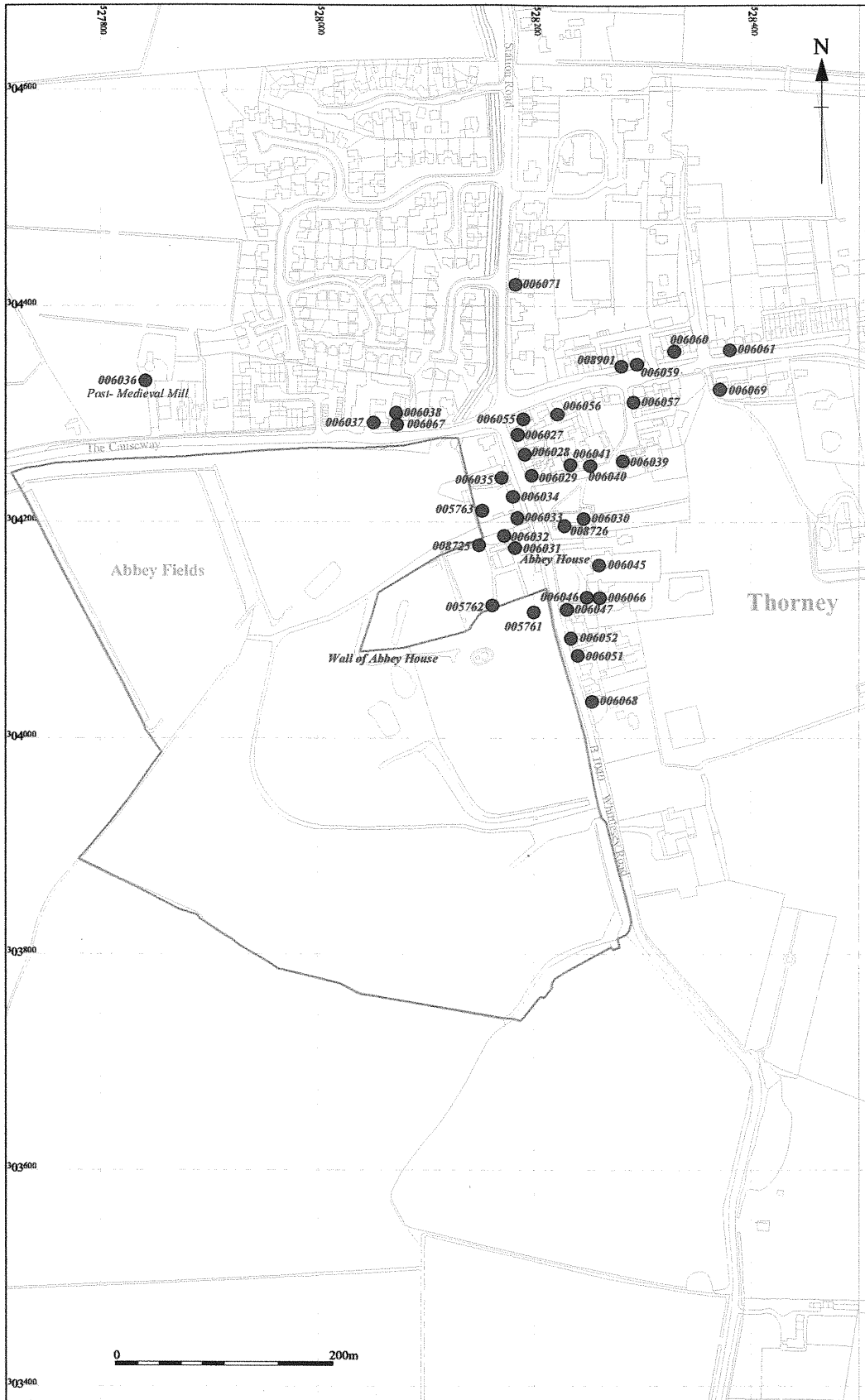


Figure 3 Map of Abbey Fields, Thorney, showing proximity of Listed Buildings (red)

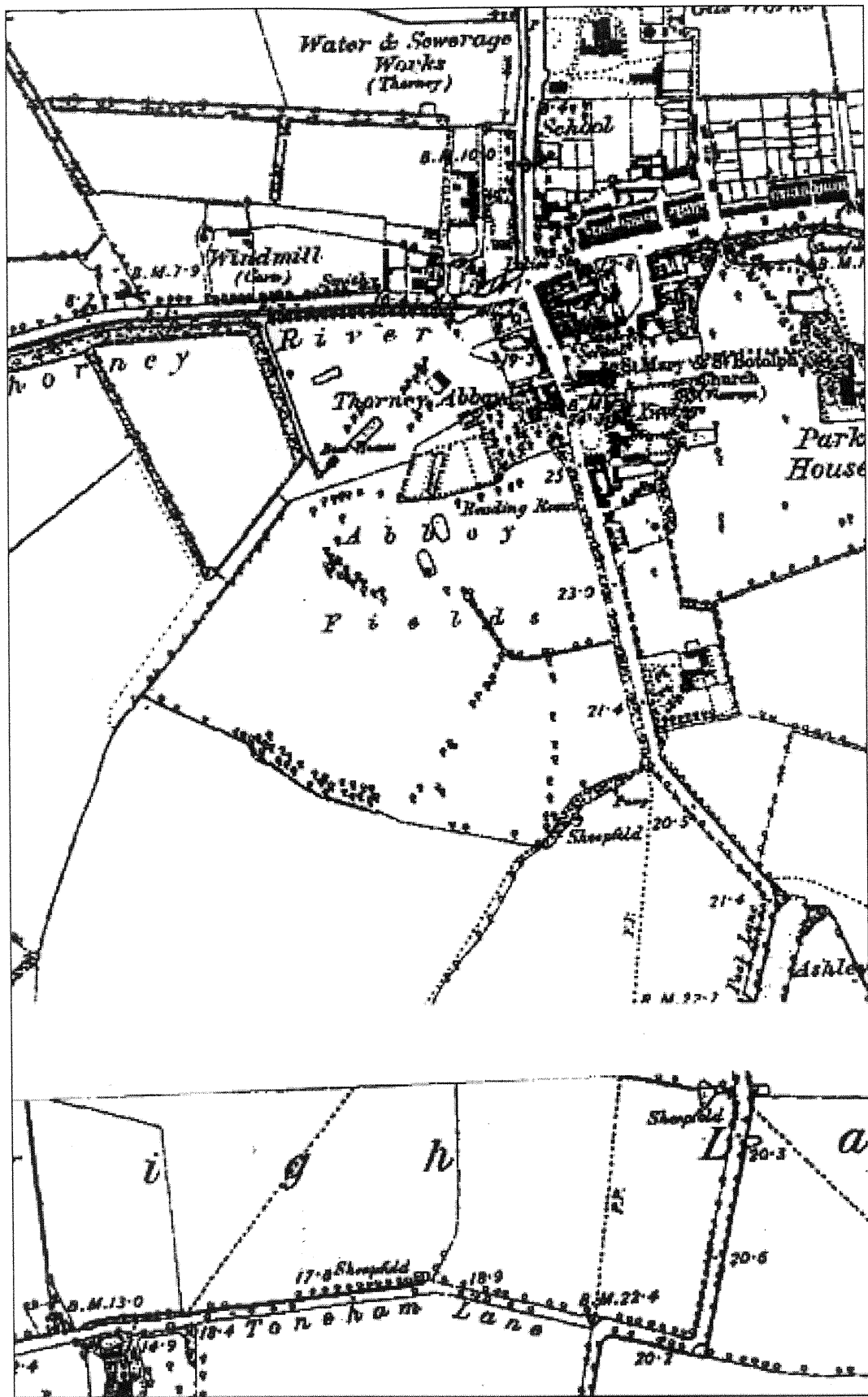


Figure 4 Thorney Abbey, 1st Edition OS 1890-1892



*Figure 5 Thorney Abbey, taken from Benjamin Hare 1652 (copy 1710)*



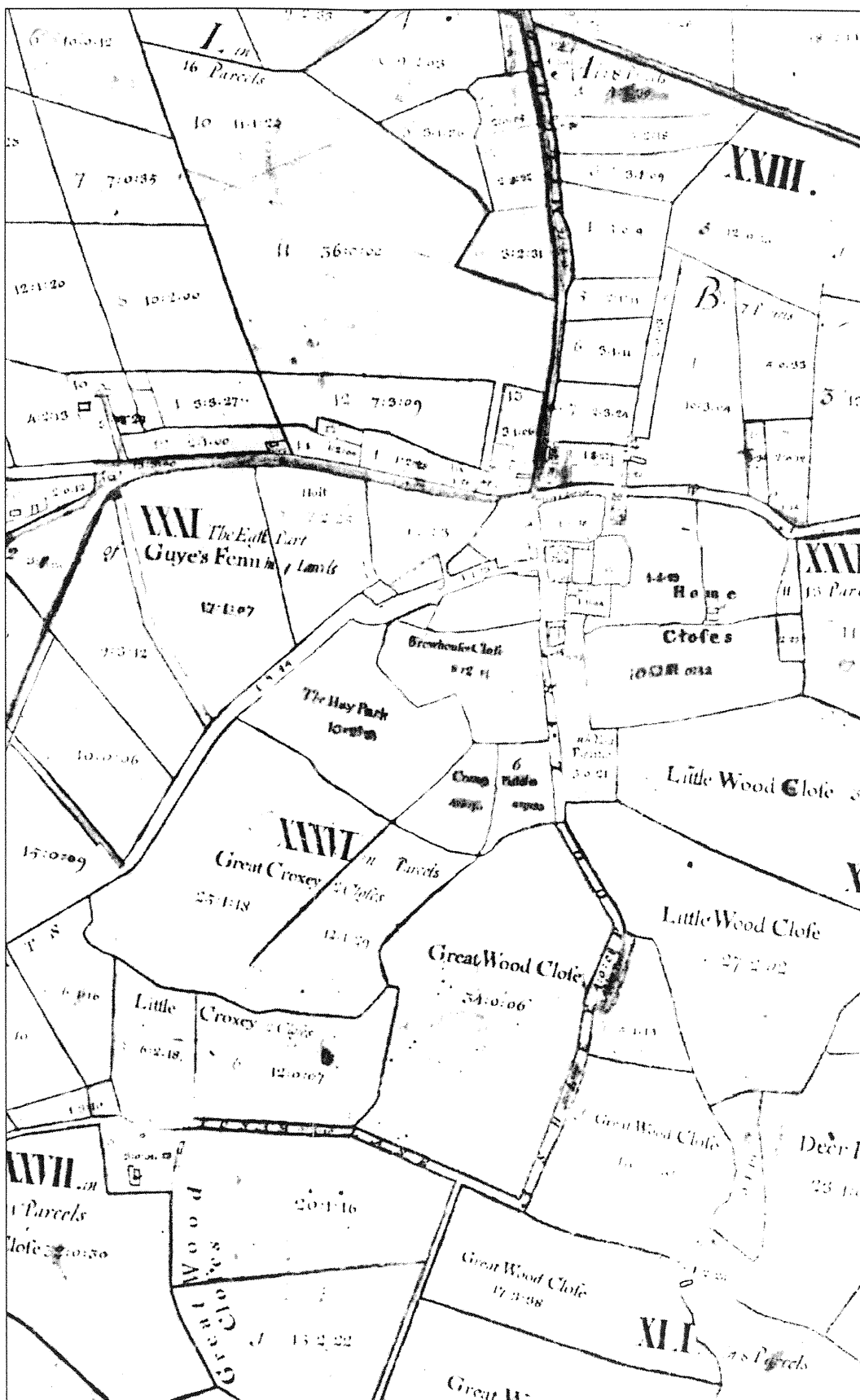


Figure 6 Thorney Abbey, taken from John Halsey 1731-2

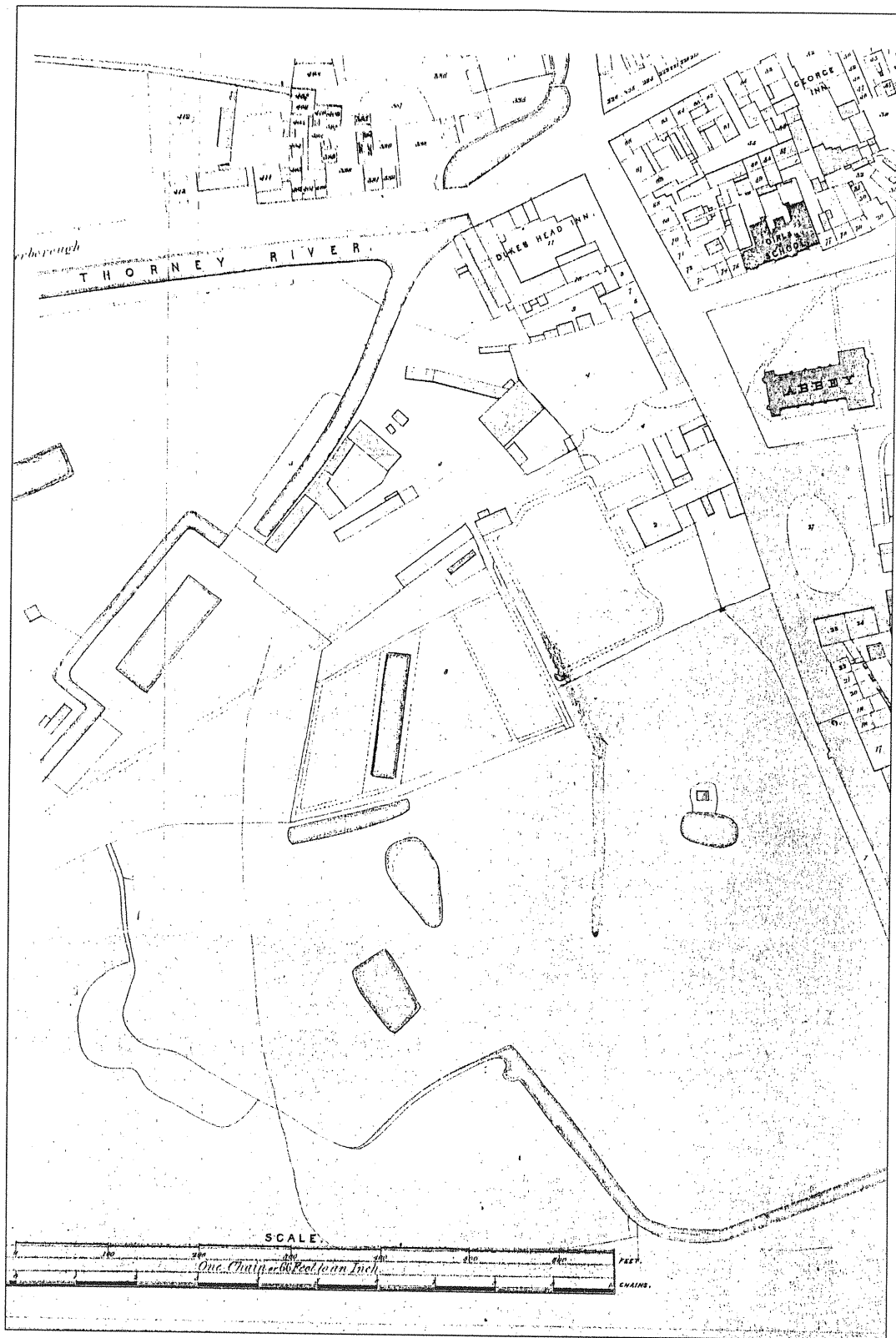


Figure 7 Thorney Abbey, taken from Fred Utting 1853

## **Wisbech Road**

During an archaeological evaluation at land off Wisbech Road and north of Church Street sherds of unstratified medieval pottery were recovered (SMR 51182). The area appears to have been prone to flooding and was probably not occupied during the medieval period (Bailey 2002).

## **2.3 CONSERVATION AREAS AND EXISTING DESIGNATIONS**

### **2.3.1 Listed Buildings (see Fig 3)**

All relevant Listed Buildings are listed in Appendix 2.

- LB 005761 and LB 005762 (Grade II): 2.5m high sixteenth century walls of coursed dressed stone and rubble with later rebuilding. Nineteenth century brick heightening (eight courses) with a weathered brick coping.
- LB 008725 (Grade II): 2.5m high eighteenth century enclosure wall of brick and stone with two gateways to a former kitchen garden. The west gate incorporates reused late seventeenth century masonry.
- The large late seventeenth century gate piers to the north northwest (LB 006032 – Grade II) and north northeast (LB 006033/SMR 50725 – Grade II) of Abbey House, respectively.

There are no other designations of historical, archaeological or scientific interest within the study area.

## **2.4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND**

### **2.4.1 General Background**

#### **Prehistoric**

The content of this section is drawn from the Fenland Survey (Hall 1987).

The early prehistoric period in the Thorney area is poorly represented with a few flints occurring as a background on the gravels. Later peat deposits which are likely to mask the Neolithic landscape presently cover most of the Thorney Fens. During the Neolithic the area was dominated by a roddon system. The roddons merged into what is believed

to represent an early northern branch of the river Nene along the southern and eastern edge of the parish.

During the Bronze Age Thorney was part of an extensive peninsula of land stretching from Eye and Borough Fen where creek and river systems once operated. The Bronze Age landscape was dominated by barrows visible today as cropmark remains of ring-ditches spaced along the western fen-edge, on deposits of Upper Barroway Drove Beds. Cropmark remains of ring ditches have also been identified within the village, immediately to the east of the study area (Palmer 2003). The few stray finds of metalwork and lithics from the parish were probably associated with the barrows. More material has been found during gravel extraction, including the remains of a salt-making site (Hall 1987, Site 46).

Peat continued to grow during the Iron Age, reducing the amount of dry land in the west. The ancient roddon was still active, as suggested by the deposition of flood silt of the Terrington Beds. Several settlements have been identified on the gravel islands where cropmarks show remains of enclosures and field-systems. Similar features have been identified in the southern part of the study area (Palmer 2003).

### **Roman**

During the Roman period the gravels on the west still remained dry. The Terrington Beds on the north were also dry for the first time. The Roman landscape was dominated by small dispersed farmsteads and associated drove-ways for livestock, and field-systems. Some of these sites are likely to have originated in the Iron Age, as in the case of the area of possible Iron Age/Romano-British cropmarks visible on aerial photographs. These appear to concentrate in the southern part of the study area (Palmer 2003).

There are no securely provenanced Roman finds from the study area. Stray metalwork and pottery from the village, as well as residual pottery sherds from excavations at Church Street (Thomas 2001) are indicative of a settlement nearby and further corroborate the hypothesis of settlement-related features within the study area.

### **Saxon and Medieval**

In the Saxon period there was only a limited area of dry land, under the present village. All the gravel to the west was shallow fen (Hall 1987, 52).

Besides the presence of a monastic foundation, to date, evidence for Saxon occupation at Thorney is scanty. The place is first recorded in the Anglo-Saxon Chronicle in 656 as *Ancarig (igland)* from the Old English *ancor* meaning 'anchorite' (island) and probably referring to the foundation of a monastic house. Thorney is recorded from the late tenth century meaning island covered with Thorn bushes (Reaney 1943, 280).

A recent archaeological investigation at Church Street has confirmed Saxo-Norman and medieval occupation in this area, possibly associated with the presence of monastic buildings nearby (Thomas 2001).

## **The Abbey**

Thorney Abbey is the earliest of the Saxon 'fen' monastic foundations. Tradition has it that Saxulf, founder and abbot of Peterborough (654-675), established a community of monks at *Ancarig*. After the Danish incursions the island was abandoned and became overgrown with thorn bushes, hence the name Thorney. In 972 St Ethelwold bishop of Winchester re-founded a monastery here. King Edgar nominated the first abbot, Godeman of Winchester, who collected relics, included those of St Botolph. The abbey church was therefore dedicated to the Blessed Virgin and St Botolph. Throughout the late Saxon period the abbey acquired land from benefactors who included King Knut and King Harold, and by the Norman Conquest it held estates in the Peterborough area, including fisheries at Whittlesey Mere (Domesday Book), and in Huntingdonshire, Bedfordshire and Northamptonshire

Following the Conquest, the abbey underwent major refurbishments under Abbot Gunther (1085-1112) who rebuilt the church, completing the chancel, tower and transept. The twelfth century witnessed the addition of the Great Gate, a Granary and a Bakehouse, a new Refectory and the Abbot's Chamber. During the thirteenth century Abbot William Copton rebuilt the Chapter House, the Guest Hall and the Abbot's Chamber, adding to it a private Chapel. He also replaced the Abbot's Hall and Dormitory and added stained glass windows in the Lady Chapel.

A series of floods during 1315-1317 came as a blow to the abbey finances. The Black Death further exacerbated the financial crisis. At the Dissolution there were only 20 monks who were pensioned off. The abbey and its former estate were granted to the Duke of Bedford (Haigh 1988).

## **The Church**

The parish church of the Blessed Virgin and St Botolph (LB 006030/SMR 03053, Grade I) was built between 1085 and 1108 as the abbey church. In its present form it consists of the five west bays of the nave of the original church. When the isles were demolished in 1638 the arcades were filled in with perpendicular windows. The transept is modern.

The church stands within a rectangular churchyard covering the sites of the side isles, choir and chancel of the medieval abbey church. The churchyard originally extended across Church Street, as suggested by the recovery of disarticulated medieval bodies.

## **The Manor**

Very little is known of the manor and references to it, apart from the abbey, are very scanty. The sources record arrangements in 1248 to define the boundaries with Ely Cathedral which owned properties in Wisbech Murrow. The dyke to the east of Thorney became the estate (and later parish) boundary separating Thorney and Wisbech fen.

A manor of Thorney is mentioned in 1485 when it is said that the abbot had the right of free warren in his demesne.

### **Economy**

The earliest record of a market at Thorney dates to 1634 when the Fourth Earl of Bedford was granted the right to a market and two fairs which continued into the nineteenth century. No grants appear to have been ever made to the abbot.

The sources contain references to detailed arrangements concerning the granting of fisheries and fishing rights around Ramsey Mere and Whittlesea Mere (Darby 1983, 24 ff.). In 1306 the abbot of Thorney had five 'cotes' abutting on Whittlesey Mere and five boats were allowed to fish (Coles & Hall 1998).

Agriculture was only possible on the Thorney peninsula, as suggested by surviving patterns of ridge and furrow visible as earthworks in Abbey Fields and in other pasture fields around the village. The monks probably had to rely more on their outlying manors for corn. There is no record of early medieval mills. Thorney Mill on the manorial estate is mentioned in 1470. Its location is uncertain. A ruined late eighteenth century windmill stands on the A47, opposite Abbey Fields (SMR 02980).

Meadow and pasture were probably also part of the outlying estates. There are accounts of disputes between the major abbeys of Ramsey, Thorney and Ely about profits and limits of their commons (Darby 1940, 72 ff.).

There is no record of trades associated with the abbey, although references to a possible brewery (below) would point to ale-house keeping.

### **Transport and Waterways**

Early attempts to drain the fen are recorded from the fifteenth century, although flood defence schemes appear to have been implemented from the late Saxon or early medieval period. At that time the gravel to the west was shallow fen bounded by the Catswater, an artificial canal which ran into another channel, the Old Ea (Eau) or Shire Drain, along the northern boundary of Thorney parish. A bank on the Lincolnshire side of the channel was probably a late Saxon/early medieval flood defence to keep out the waters of the Thorney fens (Hall 1987, 52).

The main drainage channel in the medieval period was the northern branch of the Nene, the Catswater. In post-glacial times the river followed a deep channel. In the Bronze Age a new channel was taken up and by the medieval period a new artificial course was made (Hall 1987, 53). The Catswater was linked with the Old Ea (or Eau) along the north side of the parish and with the Thorney Dike on the south. The eastern boundary of the parish called Gold Dyke from c.1500 was formerly known as *Abbotesdik* in 1228 (Hall 1987, 52).

It is possible that some of the waterways were flanked by banks which could have acted as raised trackways. At Thorney the Causeway (Thorney/Wards Causeway) follows the

course of the A47. It might have originally linked the Thorney peninsula with Peterborough via the Catswater and Oxney Load or Storey Bar Water. A similar causeway is known to have linked Ramsey Abbey to the main land near Peterborough (Darby 1940, 113).

### **The Abbey and Church**

Thorney Manor was granted to John Duke of Bedford in 1550. The abbey was left to decay and the buildings were largely quarried away during the sixteenth and seventeenth centuries. Some of the masonry was re-employed during the construction of Abbey House that also incorporates a Norman arch and round piers from the monastery. No. 2, The Green (LB06046) appears to have medieval cellars. The early eighteenth century Cheriton House (the former Vicarage) on The Green (LB06045) is built on the site of the Chapter House.

The advowson of the restored church followed the descent of the manor until the sale of the estate in 1910. The advowson and patronage were subsequently granted to the bishop of Ely (Pugh 1967, 221 ff.).

### **The Manor**

In 1544 it is recorded that the Thorney estate included a chase held by the king. Historic sources also refer to a 'moat' (possibly a pale) approximately 1.5km long and 6m deep. This 'moat' would have enclosed some 40 acres of land known as Hay Park on Halsey's map of 1731 and located to the west of the abbey in the area presently called Abbey Fields.

A deer park is known to have existed in the mid seventeenth century to the southeast of the abbey. It formed part of the manor of the Earl of Bedford. Whether this deer park was associated with the earlier Hay Park remains uncertain (Way 1997, 277).

The Manor House, commonly called Abbey House (LB 006031/SMR 03034 - Grade II) is a late sixteenth century stone building. The two-storey east wing is the original house. The west wing was designed by John Webb, architect of Thorpe Hall, and built by John Lovin, mason of Peterborough, in 1660. The east front was altered in the eighteenth century. During the nineteenth century the house was enlarged towards the north.

Next to the house is a seventeenth century range of stables much altered and converted into a dwelling (LB 006035 - Grade II).

Additional features of architectural interest associated with Abbey House include:

- the sixteenth century boundary walls (LB 005761 and LB 005762 - Grade II)
- The late seventeenth century garden wall with gateways in the east and west walls (LB 008725 - Grade II)
- The large late seventeenth century gate (LB 006032 and LB 006033/SMR 50725 - Grade II)

## Enclosure and Drainage

During the medieval period the parish was largely occupied by marshes. The western Thorney Fen was relatively shallow. Some parts were therefore enclosed from an early date, as suggested by the pattern of irregular boundaries in contrast with the more regular enclosures. Early enclosure was probably piecemeal and prompted by the abbey (as at Wryde where the abbey had a grange in the fourteenth century). Systematic drainage of the Great Level began in the 1630s under the aegis of Francis, Fourth Earl of Bedford, and his associated 'adventurers'. The first attempts at land reclamation were unsuccessful. The situation was further exacerbated by the Civil War. After the Restoration, new drainage schemes were implemented. Since then, reclamation has proceeded outwards from the settlement area (Pugh 1967, 221-222).

### 2.4.2 Abbey Fields

Evidence from aerial photographs would suggest that occupation began as early as the Iron Age/Romano-British period (Palmer 2003).

During the medieval period the study area was probably part of the abbey estate.

The monastic manor originally extended south of the A47 (the Causeway) and across the B1040 (Whittlesey Road). Post-medieval and modern cartographic evidence would suggest that the original boundaries of the estate underwent very little alterations and are still largely preserved.

The internal organisation of the manorial site remains uncertain. According to the standard Benedictine monastic plan, the abbey probably extended along the eastern side of the B1040, with the Cloister and Chapter House being located to the south of the church. The location of the remaining monastic and service buildings is however unknown.

Medieval sources refer to a granary and a bakery. Halsey's map of 1731 depicts Abbey Fields as having been divided into closes, including Brewhouse Close. An earlier map by Hare (1652) depicts a small building immediately to the south of the post-medieval Abbey House. Whether this small building represented a brewery originally associated with the abbey is uncertain.

Further features on Hare's map include two ponds to the east of the brewery, and possible buildings at the junction of the B1040 (Abbey Pool Lane on Halsey's map) and the Causeway, underneath the post-medieval houses to the north of Abbey House. The 'brewery' and other features on Hare's Map do not appear on Halsey's map of 1731. However, later maps and aerial photographs (Palmer 2003) show the presence of ponds.

Reference to a royal chase in 1545 might suggest that part of the Thorney estate was converted into a park just before, or immediately after, the Dissolution. A later deer-park was created within the estate of the Earl of Bedford. It extended to the west of the site of the post-medieval Park Farm.



The early park probably included Abbey Fields and was called Hay Park. On Halsey's Map of 1731 Hay Park encloses the area immediately to the south of Brewhouse Close. However, it might have originally extended across the B1040 to Whittlesey, where the eighteenth century Park House (LB 06858) now stands. Furthermore, historic references to a moat some 1.5km long and 6m deep would be consistent with a park pale enclosing an area of at least 40 acres (Pugh 1967, 221). It is interesting to note that on Hare's map of 1652 there is no reference to a park. Furthermore, the area presently known as Abbey Fields was part of two unnamed closes separated by a (ditched?) track/drove approximately on the same alignment as the modern track that flanks the north boundary wall of Abbey House. A third, small close referred to as Pig\*\*\* on Halsey's map of 1731 was also part of Abbey Fields.

By 1731 the former park had been divided into closes defined by substantial boundary ditches: Brewhouse Close, Hay Park, the eastern most part of Guy's Fen south of the Causeway, Croxey and Pig\*\*\*. Some of the banked ditches that survive today, as earthworks within Abbey Fields could be the remains of these boundaries.

On Utting's Map of 1853 the boundaries of the former Brewhouse Close were maintained, the old close being unaltered except for the presence of three, possibly four, very large oval and rectangular ponds. The two oval ponds could have been the same as those represented on Hare's map. Furthermore, the eastern most pond appears to have been associated with a small building. By 1853 the western side of the Wisbech Road had undergone further development, including the construction of the Duke Head Inn (demolished in the late nineteenth century). The former track/drove separating Guy's Fen from Hay Park and Brewhouse Close on Halsey's map of 1731 had undergone some alterations. A major canal was cut from the Thorney River to accommodate what look like a series of boathouses. By the time of the OS First Edition (c. 1890), the canal had been backfilled, its layout being marked by rows of trees, and most buildings demolished, except for a small boathouse near the eastern boundary of Abbey Filed together with the adjacent rectangular structure. The small boathouse was demolished before 1901 (OS Second Edition).

The site underwent little transformation during the first half of the twentieth century. In 1968 Abbey Fields was converted into a live animal park that incorporated the nineteenth century ponds and the drove/holloway (converted into a track) that originally separated Guy's Fen and Hay Park on Halsey's Map. The zoo was finally closed in 1978 and dismantled.

Some of the ponds are still preserved today, together with relics of the boundary (presently known as The Water) that originally defined the southern and western sides of Brewhouse Close on Halsey's map of 1731. On the same map the existing track follows the layout of a pre-existing drove/holloway. It is interesting to note that on Hare's Map of 1652 this feature ran to the northeastern corner of the site where aerial photographs show the remains of wide depressions (Palmer 2003). Some of these depressions might represent portions of an original holloway.

## 2.5 SOURCES AND CONFIDENCE RATING

### 2.5.1 Documentary Sources

Original documentary research has not been undertaken, as it lies outside the scope of this survey.

General outlines of the history of the county together with accounts of individual parishes are provided by the VCH.

The VCH tends to be biased towards the following:

- The medieval ecclesiastical and manorial history
- The medieval origin and development of the villages with emphasis on extant monuments and earthwork remains
- Social history

As a whole, the available documentary sources provide useful and reliable information on the historic, economic and social development of the villages.

### 2.5.2 The SMR

The information provided by the SMR is affected by the following:

- The distribution of entries has a bias towards periods that are well represented by material culture, i.e. medieval and post-medieval remains, and towards classes of monuments which can be related to historical sources, i.e. religious buildings and manorial sites. This bias has its roots in the kind of information provided by the Ordnance Survey records, i.e. the precursor of the SMR, that placed emphasis on extant remains, including earthworks, and important finds' spots.
- Most pre-medieval finds are the result of chance discovery and do not always have an accurate provenance.
- The distribution of entries is conditioned by the limited amount of archaeological work undertaken within and immediately outside the historic nucleus of the village.

The SMR collection represents a variable source of information that has been influenced by fieldwork strategies, collection of finds, antiquarian observations, local and professional interests. The degree of accuracy of the entry is therefore variable.

### 2.5.3 Cartographic Evidence

The earliest available map of Thorney estate, including the study area, is *The True Platt and Linear Description of the Manor of Thorney Abbey* by Benjamin Hare (1652, copy

1710). The map shows the main divisions within the study area. It also depicts buildings and ponds. The perspective is however distorted, making it difficult to establish the exact location of the represented features.

The later map by John Halsey (1731-32) shows the site as having been subdivided into a series of smaller closes, including 'Brewhouse Close'. The map does not depict any buildings within the closes.

Finally, the Map of the Town of Thorney by J. Utting (1853) shows the site as having been developed with boat houses along an arm of the Thorney River. The map also depicts the manorial complex of Abbey House.

Besides the estate maps, there is a series of eighteenth century maps representing the districts of the North Level of the Bedford Level. These provide useful information on the drainage schemes implemented in the Thorney area, but very little detailed information on the study area.

Bearing in mind the varying degree of accuracy and detailing of the pre-Ordnance Survey maps, as a whole, the available cartographic evidence provides useful information for the later post-medieval and more recent development of the village, including the study area.

#### **2.5.4 Aerial Photographs**

Besides negative evidence from the northwestern part of the study area, probably due to the presence of *alluvium* masking potential remains, the aerial photographic assessment undertaken as part of this desktop study has shown the potential for the presence of possible medieval and Iron Age/Romano-British features. The high visibility of these remains is due to the underlying well-drained gravels of the Thorney promontory. The aerial photography is covered more fully in section 3 and Appendix 3.

### **2.6 DEPOSIT MAPPING OF ARCHAEOLOGICAL REMAINS**

In this section an attempt has been made to map all known monuments and events and, based on mapping, to predict the existence of further remains in areas of archaeological potential. These predictions should not be used to produce 'constraint maps'.

#### **2.6.1 Prehistoric and Roman**

To date, records of prehistoric and Roman activity within the village is scanty, in contrast with the known distribution of fen sites. Scarcity of finds from the historic settlement is probably due to medieval and later remains obliterating earlier features and deposits. This even manifests itself with reference to the Roman period. Although

there are no securely provenanced Roman finds from the study area, stray metalwork and pottery from the village, as well as residual pottery sherds from excavations at Church Street (Thomas 2001), are indicative of a settlement nearby.

Based on the available evidence, it is not possible to predict the location of prehistoric and Roman sites within the village, although the potential for their existence in undeveloped areas within the modern parts of the settlement and, in particular, within the study area, is reasonably high.

### **2.6.2 Saxon and Medieval**

There is no evidence for occupation at Thorney prior to the Saxo-Norman period. Negative evidence would confirm a late Saxon/early Norman date for the re-development of the abbey, as known from documentary sources.

Very little, if anything, is known of Thorney village. It is likely that a settlement developed outside the abbey estate to house the people employed on the estate. Late-Saxo-Norman and medieval remains could therefore exist underneath the present day village, allowing for a higher degree of disturbance along the street frontages due to post-medieval and modern re-development.

The manorial estate of the abbey is bound to contain remains of buildings and park features known from historical sources. Earthwork remains of medieval ridge and furrow survive within the study area. Their presence indicates that the area known as Abbey Fields was used as arable sometime during the medieval period.

### **2.6.3 Post-medieval**

Post-medieval settlement development is reflected by the present layout of the village where extant historic buildings attest to the period of growth following the drainage of the Bedford Level.

The study area was converted into a park immediately before or soon after the dissolution of the abbey. Its recent history is provided by cartographic evidence dating from the middle of the seventeenth century.

## **2.7 DEGREE OF SURVIVAL OF ARCHAEOLOGICAL REMAINS**

In this section an attempt is made to assess the degree of survival of archaeological remains in the areas defined by deposit mapping. The assessment takes the form of a prediction model based on probability and not certainty.

A major constraint to a prediction model is posed by the absence of conclusive and datable archaeological evidence from the study area. Interpretations are therefore fraught with difficulty.

### **2.7.1 Prehistoric and Roman**

Mapping suggests that the prehistoric period within the village may be under-represented, as the location of these remains is least well known and finds least well preserved, with particular reference to ceramics artefacts. Based on the available evidence, the degree of preservation of potential prehistoric remains is unknown.

Despite records of Roman stray finds and the presence of possible Iron Age/Romano-British cropmarks/earthworks visible on aerial photographs (Palmer 2003), there are no known sites within the village. Here, Roman remains are likely to have been damaged by settlement expansion. Ploughing and quarrying are also expected to have affected the survival of potential remains. Based on the available evidence, the degree of preservation of Roman remains is unknown.

### **2.7.2 Medieval**

Despite references to the abbey, medieval Thorney is elusive. Potential remains within the study area, as shown on aerial photographs (Palmer 2003), are likely to have been variably affected by later activities, including farming and the creation of the twentieth century zoo.

Despite modern interventions, earthwork remains visible on the ground (namely, ridge-furrow, banks and ditches) appear to be in good conditions of preservation.

### **2.7.3 Post-Medieval**

Within the study area potential post-medieval remains other than former property/field boundaries known from cartographic evidence might include garden/park-related features. Some of the earthworks attributed to the medieval period (above and Palmer 2003) could in fact represent post-medieval garden remains.

## **3 SUMMARY OF AERIAL PHOTOGRAPHIC SURVEY (see Fig 8)**

A re-assessment of the existing aerial photographic collections was commissioned by the AFU and undertaken by Air Photo Services (Palmer 2003). The full report has been reproduced in Appendix 3.

Three main groups of features were identified, possible abbey-related features, features of unknown date and features associated with a zoo created in the later part of the 1960s.

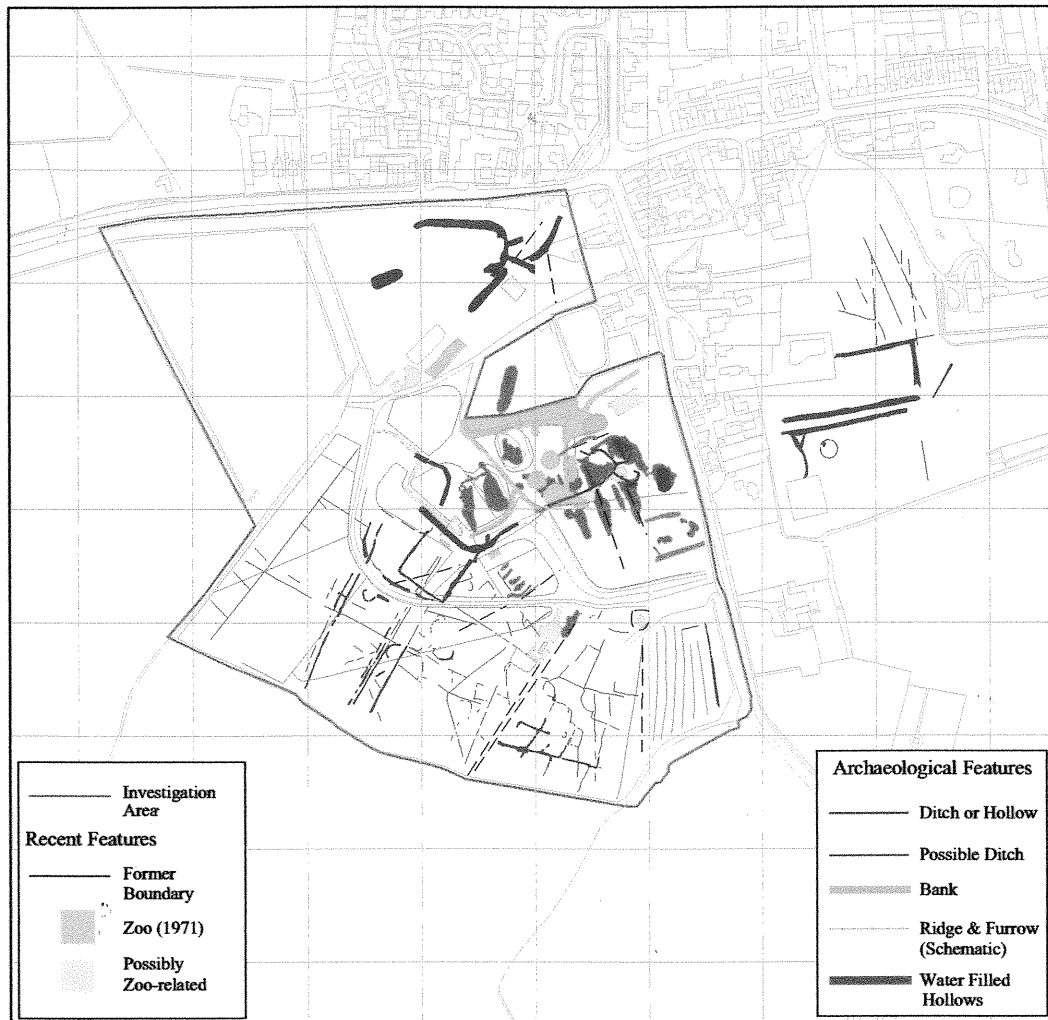
The possible abbey-related features included a 'moat' in the centre of the study area, a series of depressions/ponds further east, remains of ridge and furrow in the south-eastern corner of the site, and a series of large ditches/depressions of uncertain function (possibly ponds and associated canals) at the northern end. Ponds directly to the northeast of the moated feature could relate to those on Hare's map of 1652, and later on Utting's map of 1853, mentioned in Section 2.4.2.

Features of unknown date comprised low earthworks in the southern and southwestern part of the site. The western most earthworks could have represented droves and boundaries defining small plots, some of which appeared to overlie the 'moat' and some to underlie it. In addition, there were smaller linear and curvilinear features of uncertain function. Further to the east were the remains of slight ditches and hollows (paddocks?). Some of these undated features would be consistent with an Iron Age or Romano-British landscape.

Finally, the most recent features were those associated with the zoo created at Abbey Fields in 1968. The zoo comprised a curving track, a series of fenced enclosures and animal houses. The zoo was closed down in 1978 and dismantled progressively.

#### **4 SUMMARY OF EARTHWORKS SURVEY (see Fig 9)**

An earthwork survey of Abbey Fields was undertaken in December 2003 and January 2004, the results of which are detailed in Appendix 4. The survey was undertaken by officers of Cambridgeshire County Council's Archaeological Field Unit.



**Figure 8** Thorney Abbey, all features identified from aerial photographs



Figure 9 Earthwork Survey



Initial inspections showed a strong correlation between the remaining earthworks and the aerial photographs. Except in a very few cases the remains visible on the ground are very low.

The results of the survey suggested that remains existed in several phases at Abbey Fields. In phase 1, at the centre of the subject site, was the large moated feature (seen on the aerial photographs) that could potentially be a manorial residence prior to the dissolution of the monastery and the building of Abbey House immediately adjacent to the former Abbey. The moated feature leads into an extant watercourse, probably a water management feature. There are also three fishponds on the western edge of the subject area. In the southeast corner lie a series of strips of medieval cultivation bounded by a baulk to the west that probably defines a boundary separating field systems. On Hare's map of 1652 this southeastern corner is in fact marked as a separate small plot of land. It may also be the piece of land referred to on Halsey's map of 1731 as Pig\*\*\*. This first phase suggests extensive use of the Abbey Fields site by either the Abbey or the possible moated site.

A second phase of earthworks were identified to the south of Abbey House and is therefore probably post 1660. The remains comprise a series of ditches on a north-northwest to south-southeast alignment with banks running at right angles, a possible ha-ha, and two, possibly three ponds. Like the first phase this second phase probably relates to a number of periods of activity. The ditches were probably part of a watercourse as they are today.

Later phases of activity can also be seen such as the addition of a walled garden to the west of Abbey House and the imposition of the zoo in the 1960's.

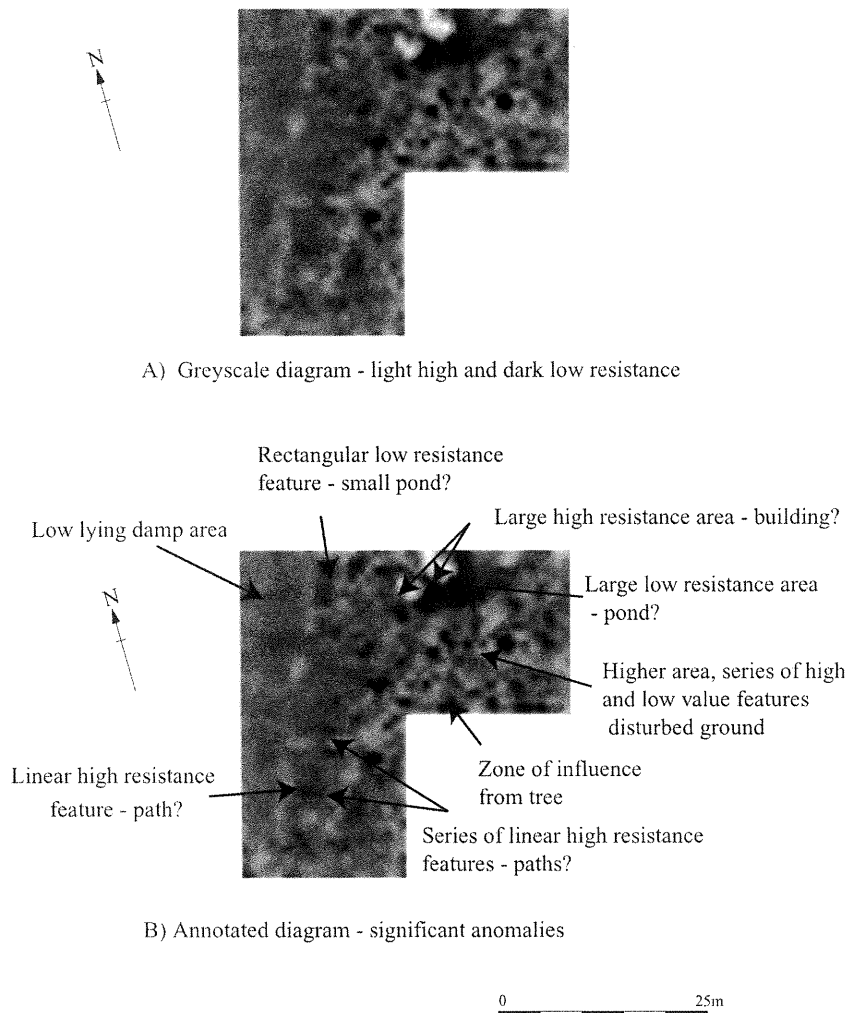
## 5 SUMMARY OF GEOPHYSICAL SURVEY (see Fig 10)

A limited geophysical survey was undertaken at Abbey Fields, Thorney by Paul Middleton of Peterborough Regional College on 15/11/03. The work was located in the northern part of Abbey Fields, along the line of possible fishponds and perhaps later eighteenth/nineteenth century canalisation.

A total area of 1200 square metres was surveyed by resistivity, carried out at 1m increments.

Figure 10 shows the plots and suggested interpretation. This identified the ponds (suggested from both field observation and historic maps). Subsequent to the initial plot interpretations (Paul Middleton pers. Comm..) the mottling has been interpreted as rubble spreads (rather than tree roots) and the 'paths' have been re-interpreted as walls. Both observations would concur with the historic maps (Utting 1853) that detail buildings on this land in the nineteenth century.

At this stage further geophysical survey work is not envisaged and this would not significantly add to any restoration management plan proposals. However it should be considered to compliment any future field excavations (possible Community Archaeology Project 2005-6?) to target specific research priorities.



*Figure 10 Abbey Fields, Geophysical survey*

## 6 SUMMARY OF ECOLOGICAL SURVEY

The Wildlife Trust for Bedfordshire, Cambridgeshire, Northamptonshire and Peterborough undertook an ecological survey at Abbey Fields in November 2003. The aim of the survey was to identify and map wildlife habitats and, where possible, identify specific management measures to conserve and enhance the wildlife value of the site.

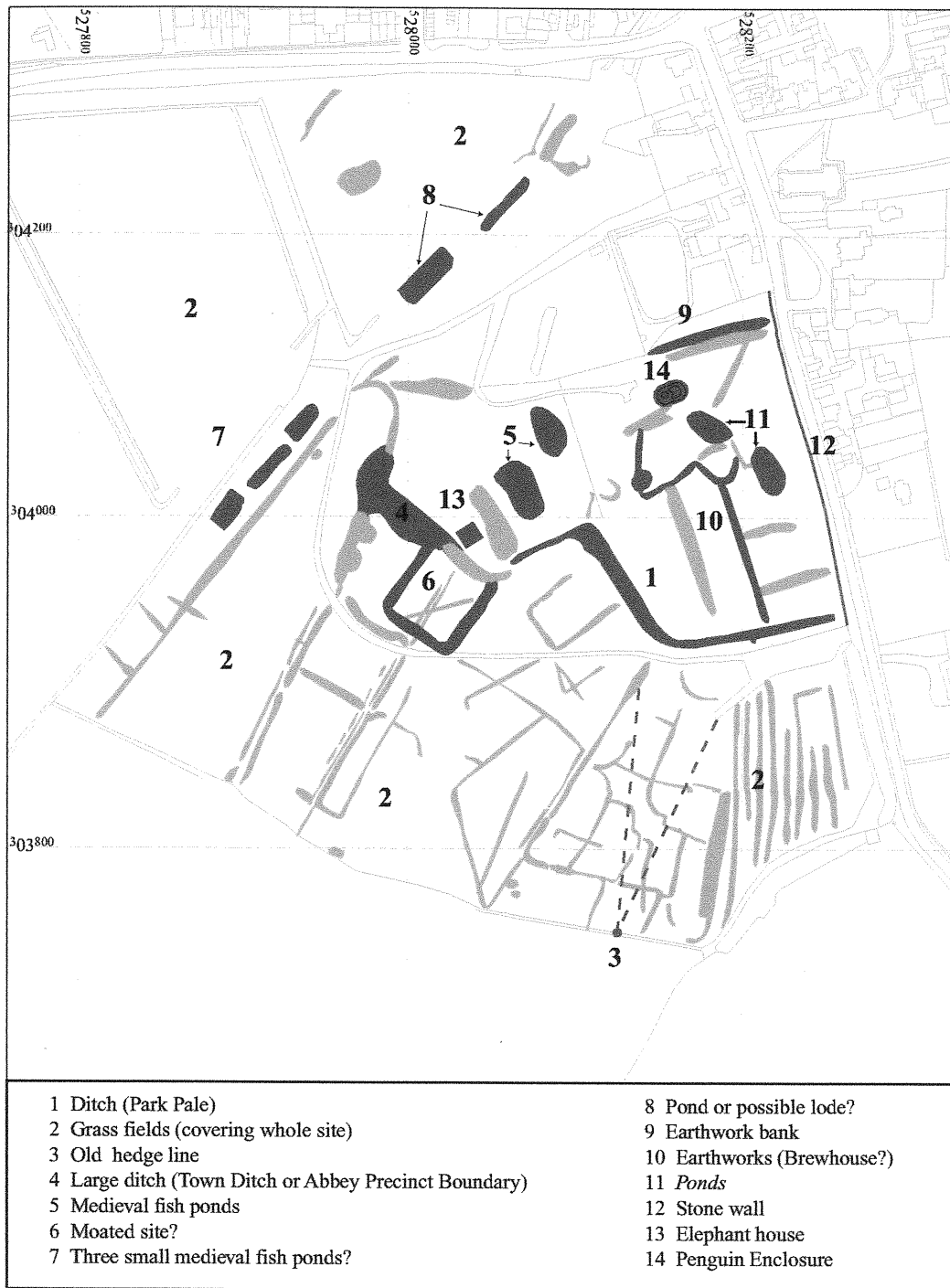
The ecological survey carried out an initial desk based study and a Phase 1 habitat survey (including protected species). The time of the survey (November) was considered sub-optimal for an ecology survey and the results should not be considered conclusive (see Appendix 5)

The ecological survey concludes that the site has a low local value, although the site has a value for its habitat mosaic and can provide food and shelter for a variety of wildlife.

A summary of the Management Recommendations, with a priority to maintain existing mosaic of habitats and varieties, is as follows:

- A Parkland Trees  
Maintain and keep dead wood, minimal surgery for health and safety only prior to surgery survey for bats. Consider replacement planting, however this is at variance to the protection of buried archaeology and should not be considered.
- B Hedgerows and Scrub  
Leave unless conflict with archaeology (i.e. remove).
- C Ponds  
Thin scrub and trees by the ponds (AP – remove some of the willows)
- D Grassland  
Leave some long grass between northern ponds and trees.
- E Arable Field (to northwest)  
Recommend for grassland recreation, or set-aside/fallow, or at least reduce fertiliser input all to help farmland birds.

A complete copy of the Ecology Survey is contained in Appendix 5.



**Figure 11** *Abbey Fields, Conditions survey*

## **7 CONDITIONS SURVEY (see Fig 11)**

### **7.1 Introduction and Background**

The site was initially observed by a walk over survey, the aim was to provide a general monument management recommendation and form the basis for the restoration management plan recommendations, which would incorporate the other archaeological and wildlife surveys. The Conditions Survey would detail visible archaeological features, identify erosion and other preservation threats and suggest conservation measures.

### **7.2 General Site Description**

Overall Abbey Fields, Thorney is in a very good condition (with regards to the preservation of archaeological and historic features). The site is at present open grassland, currently used for rough grazing and cut as a hay meadow. It has clearly been well looked after and is in a stable condition.

The site has a number of clearly visible earthwork remains of the medieval Abbey complex, and these include: ridge & furrow, drainage and possible boundary ditches and banks, a probable moated site and enclosures, fish ponds, hollow ways, trackways and possible house platforms. In addition to these visible remains, aerial photography has identified additional features, including field systems and enclosures, particularly to the southwest of the site. Some of these are also visible as faint earthworks. The date of these features may be Romano-British or earlier.

In addition to the earlier medieval (and possibly prehistoric remains), the site has also been used as a Wildlife Park between 1968-78. The remains of this later land use are also still clearly visible, with tarmac roads and the foundations of the more significant 20th century buildings, which include the elephant house and penguin enclosure!

### **7.3 General Management Recommendations**

In simple terms the key factor in preserving the archaeological and historic (and nature conservation) value of Abbey Field, Thorney is to maintain the existing farming regime of grazing with sheep. This is summarised below:-

#### **7.3.1 Grassland is to be maintained.**

- Ideally grazed
- Control scrub growth
- Manage Trees

#### **7.3.2 Improve Features (for conservation and interpretation)**

- Remove scrub and trees from ditches and ponds
- 7.3.3 Reinstatement of archaeological features (ponds, ditches)
- Determine Costs
  - Determine rational
- 7.3.4 Access/Public/Interpretation
- What is the level of public access to be allowed?
  - Display Panels, leaflets?, web?,
  - At present not easy to understand from the ground
- 7.3.5 Wildlife Park Features
- Leave or remove (very costly)
  - Health and Safety considerations?
- 7.3.6 Reinstatement of historic features (Hedgerows etc.)
- Damage likely to be caused by tree/hedge planting v's benefit

#### 7.4 Individual Feature Descriptions (see Fig 11)

(1) ***Ditch (Park Pale?)***

*Ditch overgrown scrub and trees, recorded on historic maps and is probable medieval feature, although might be a park pale.*

*Management Recommendation*

- Remove scrub from entire length
- Selective removal of trees (dead/dying)
- Removal of tree saplings (self sets)
- Remove rubbish
- Consider dredging base to improve water flow.

(2) ***Grass Fields***

*General descriptor for the grassland fields to the south, southwest and north of the site. Aerial photography and earthwork survey have identified buried features.*

*Management Recommendation*

- Maintain grass sward and regular grazing regime
- Selective removal of scrub and trees (dead/dying)
- Removal of any tree saplings (self sets)
- Remove rubbish

(3) ***Old Hedge line***

*Still visible on the ground and recorded on historic maps (Fig 4 1st Ed OS). Potential to restore old hedgerow*

*Management Recommendation*

- Consider restoring hedgerow, but plant species depths important
- No trees in hedgerow

**(4) Large Ditch (Town Ditch or Abbey Precinct Boundary?)**

*A large ditch, is a probable medieval feature and may be Thorney's town ditch or the outer boundary of Thorney Abbey's precinct.*

*Management Recommendation*

- Selective removal of trees (dead/dying or liable to topple)
- Remove rubbish
- Consider dredging base to improve water flow.
- **Archaeological Investigation to determine date and function.**

**(5) Medieval Fish Ponds**

*Series of 3 ponds (one in garden of Abbey House to north) and potentially further ponds in complex to the east (Brew House Close). Overgrown with Willows and trees shade the feature, and has been subject to man-made alterations in modern times.*

*Management Recommendation*

- Remove some but not all willows to improve water levels in ponds (see section 6.14 Ecology Survey) but maintain invertebrate habitat.
- Selective removal of scrub and trees to decrease shade (see section 6.14 Ecology Survey)
- Removal of tree saplings (self sets)
- Remove rubbish
- Consider dredging base to improve water flow if willow removal not successful in increasing the water level.

**(6) Moated Site?**

*Clearly visible is a large square earthwork enclosure (see Appendix 4), this probable medieval manorial residence is of real interest and importance*

*Management Recommendation*

- Retain as grazed pasture
- Removal of tree saplings and any scrub (self sets)

**(7) Three Small Medieval Fishponds?**

*A linear alignment of 3 rectangular ponds, possible medieval fish ponds or related Abbey water management features (see Appendix 4).*

*Management Recommendation*

- Retain as grazed pasture
- Removal of tree saplings and any scrub (self sets)

(8) ***Pond or possible Lode?***

*Probable medieval fishpond, with additional ponds to the northeast and also to southwest (see 7 above). Area covered in Geophysical Survey (see Section 5 above). Later historic maps indicate nearby buildings and a possible Post-Medieval canal?*

*Management Recommendation*

- Retain in pasture
- Maintain water level
- **Archaeological Investigation to determine date and function.**

(9) ***Earthwork Bank***

*Linear earthwork bank and ditch (to south) running east-west. This feature lies to the south of the Manor House and may be aligned to other banks further to the west. Potentially a precinct boundary.*

*Management Recommendation*

- Keep clear of scrub and tree saplings
- Retain in pasture

(10) ***Earthworks (Brewhouse?)***

*Series of clear and faint linear irregular earthworks, perhaps forming an enclosure and a building foundation. Lies within area commonly associated with Brewhouse Close (Fig 6 John Halsey Map 1731-2).*

*Management Recommendation*

- Retain in pasture
- Keep clear of scrub and tree saplings
- **Archaeological Investigation to determine date and function.**

(11) ***Ponds***

*At least 2, perhaps a complex of up to 4 possible medieval fishponds, not immediately obvious but detected in certain conditions (see Plates 5 & 6).*

*Management Recommendation*

- Retain in pasture
- **Archaeological Investigation to determine date and function.**



(12) **Stone Wall**

*Stone and mortar wall, clear use/re-use of Abbey masonry. No immediate preservation requirements.*

*Management Recommendation*

- Monitor condition and repair as necessary.

(13) **Elephant House**

*The remains of the shell of the Elephant House, exterior walls survive, however no roof.*

*Management Recommendation (options)*

- Option 1 - Remove entirely due to landscape and/or health and safety considerations
- Option 2 - Retain (if safe)
- Option 3 - Repair and convert into farm building

(14) **Penguin Enclosure**

*The remains of the Penguin pool.*

*Management Recommendation (options)*

- Option 1 - Remove entirely due to landscape and/or health and safety considerations
- Option 2 - Retain (if safe)
- Option 3 – Infill to improve Landscape value.

## 8 RESTORATION PLAN & FUTURE RECOMMENDATIONS (see Fig 12)

The research into the known historical records for Abbey Fields and physical archaeological surveys (Aerial Photographic, Earthwork, Conditions and limited Geophysical) on the site have revealed a number of very important discoveries and pose a set of preservation and potential future research priorities.

### 8.1 Restoration Proposals

Identified in Sections 7.3 and 7.4 above are a series of general and feature by feature management recommendation, which can be *agreed, timetabled and costed* upon the submission of this report. The recommendations will comment on maintaining and improving the sites *historic, landscape, wildlife and amenity value*. These can then be presented in a **Table** with *Proposals, Actions, Timing and Costs*, which can be added to this report.

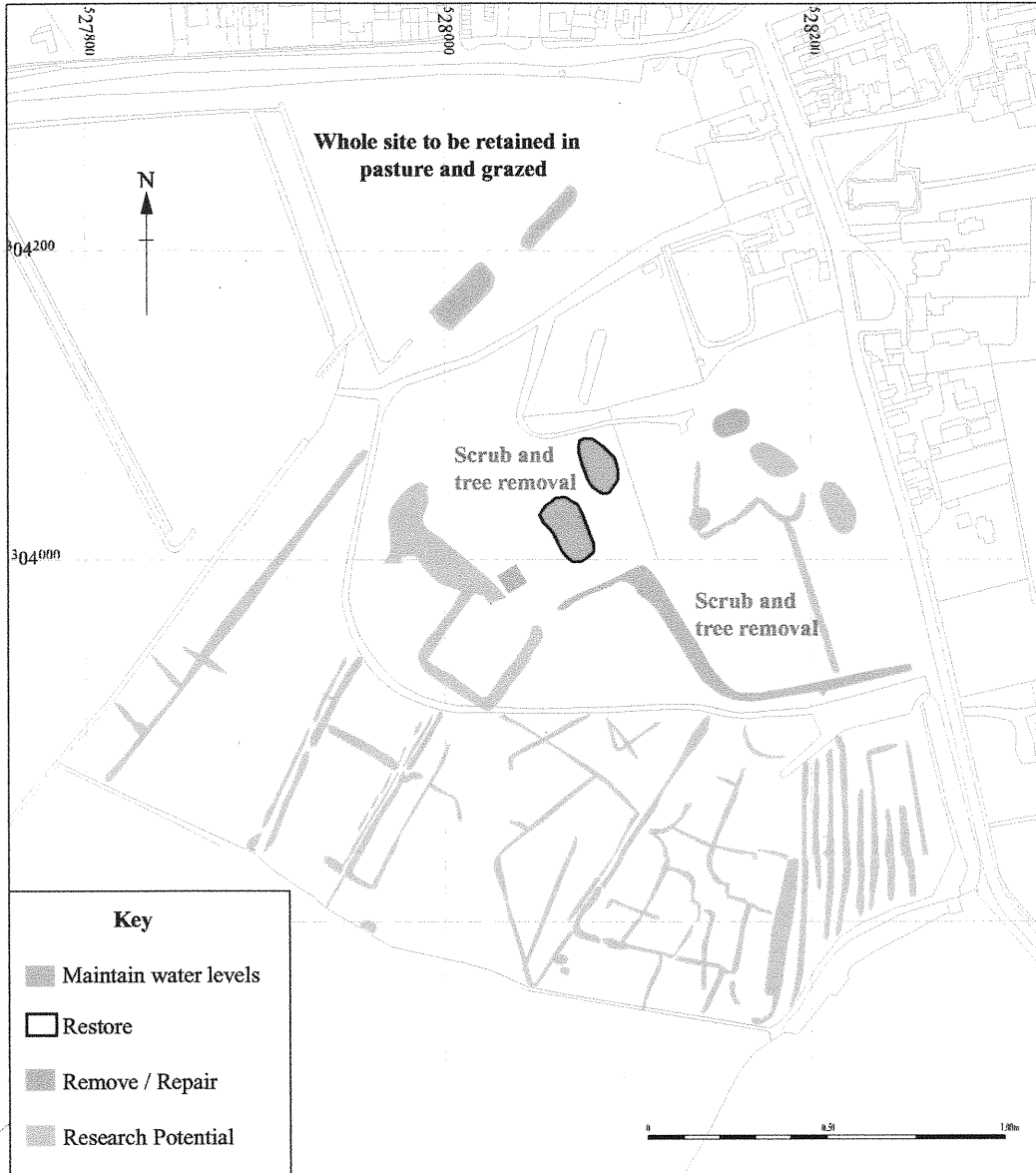


Figure 12 Abbey Fields, Restoration plan recommendations

8.1.1 The key management recommendation for Abbey Fields, Thorney can be summarised thus:-

- **The Site to be retained in Pasture.**
- **A Grazing Regime to be maintained.**
- **Existing water levels to be maintained.**
- **Selected Scrub and trees to be removed from ALL earthwork banks and sections of ditches.**

8.1.2 A set of management recommendation for Abbey Fields will need to be considered based on levels of resourcing, health & safety and broader landscape issues. These can be summarised thus:-

- **The removal or repair of Wildlife Park structures (e.g. Elephant House)**
- **The restoration/dredging of the sites water features (ditches/ponds) to enhance wildlife, promote archaeological preservation and interpretation.**

## **8.2 Interpretation and Access Proposals**

Abbey Fields is an important archaeological monument and a rare example of earthworks surviving in grassland within the fenland environs. Although much of the sites archaeology is not immediately obvious, on site interpretation and potentially research investigation would enhance visitor appreciation. Dependent on resourcing and farming schedules Abbey Fields can improve the present level of information.

8.2.1 The Interpretation and Access proposals for Abbey Fields, Thorney can be summarised thus:-

- **The Site accessible to the public all years round**
- **Kissing Gates/Stiles to be installed**
- **On-site interpretation boards and signs to be designed and erected**
- **A site leaflet to be produced.**
- **Information and leaflet to be available via website (Thorney Society?)**
- **School and educational group site visits to be organised.**
- **Guided walks to be held on site (Thorney Society?)**
- **Undertake a Community Archaeology Project (Thorney Society & Local Heritage Initiative?) – see below**

## **8.3 Research Priorities**

The non-intrusive investigations at Abbey Fields, Thorney, have identified a number of potential research areas that will greatly enhance the understanding of the site's archaeology. The original project aim proposals and aims considered the possibility of

trial trenching and/or test pitting to compliment the site surveys. This report concludes that while physical investigation on the site will not significantly add to required management recommendations, it will increase the understanding of the site, improve onsite interpretation and if conducted as a local community led project would in itself provide an opportunity to promote the site and greatly improve local appreciation and use of the site.

8.3.1 The Research proposals for Abbey Fields, Thorney can be summarised (sees Fig 11 & 12):-

- **Large Ditch (Town Ditch or Abbey Precinct Boundary?) – (4 on Fig 10)**
- **Possible Moated Site – (6 on Fig 10)**
- **Pond or possible Lode? – (8 on Fig 10)**
- **Earthworks (Brewhouse?) – (10 on Fig 10)**
- **Ponds – (11 on Fig 10)**
- **Undated field systems in southwest of site (Roman?)**

8.3.2 **Community Archaeology Project proposal**

It is proposed that rather than conduct a rapid, small scale evaluation of Abbey Fields, a Community Archaeology project might be set up, with the Thorney Society and local residents supported by professional archaeological staff from Cambridgeshire County Council's Archaeological Field Unit. In addition students from Peterborough Regional College Archaeology department will continue to undertake geophysical surveys of the site and other non-intrusive surveys. This approach will not only allow increased understanding of the site but provide an increased public focus on the site, the new Countryside Stewardship Scheme and encourage greater appreciation of the sites heritage.

## ACKNOWLEDGEMENTS

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The briefs for archaeological works were produced by Ben Robinson, Peterborough City Archaeologist and DEFRA.

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OS Map First Edition (1890)

OS Map Second Edition (1903)



*Plate 1 Aerial Photograph of Abbey Fields, Thorney*





*Plate 2 Aerial Photograph of Abbey Fields viewed from the south*



*Plate 3 Aerial Photograph of Abbey Fields viewed from the southwest*



*Plate 4 Aerial Photograph of Abbey Fields viewed from the southeast*



*Plate 5 Aerial Photograph (NMR 4198/28) of Abbey Fields from the north*



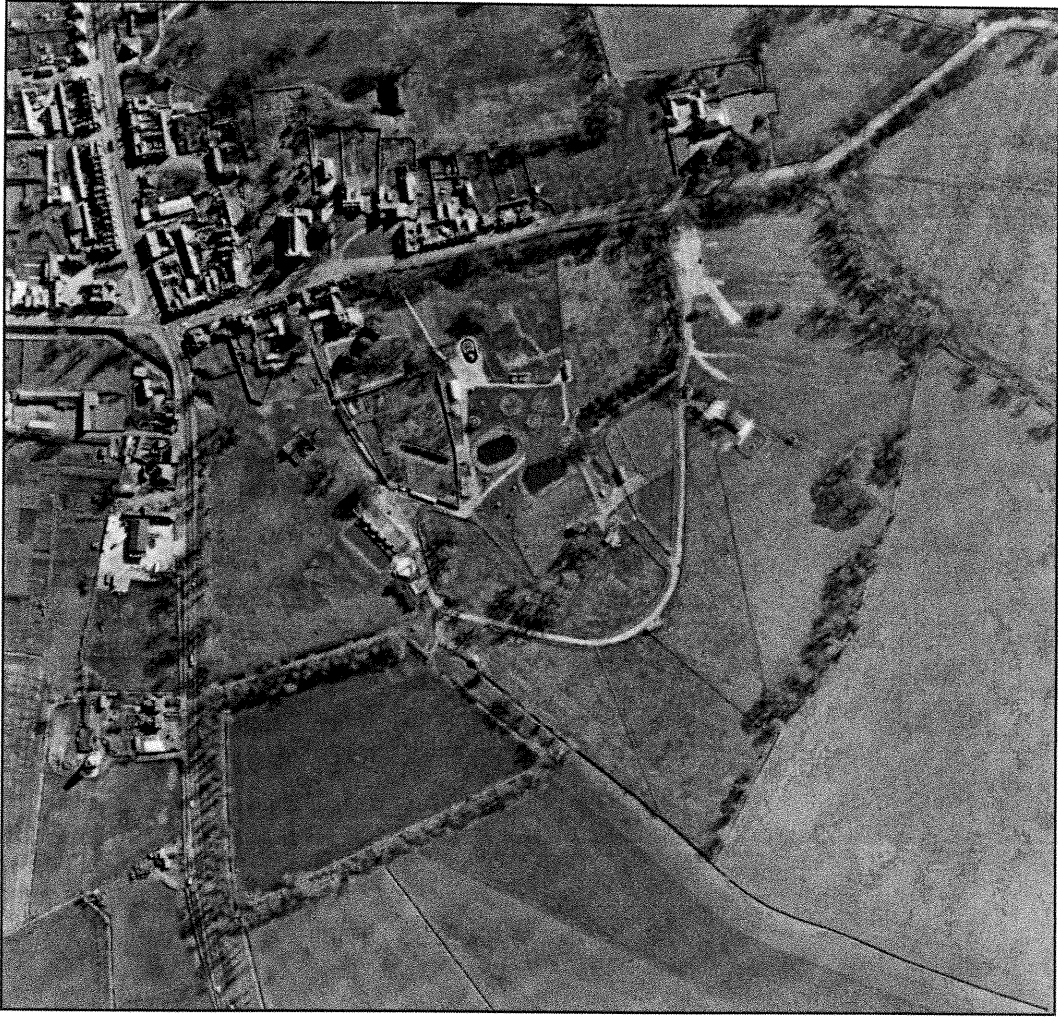
*Plate 6 Aerial Photograph (NMR 4072/43) of Abbey Fields from the north*



*Plate 7 Aerial Photograph (NMR 15893/19) of Abbey Fields viewed from the southwest*



*Plate 8 Aerial Photograph (NMR 18025/18) of Abbey Fields from the south*



*Plate 9 Aerial Photograph (NMR 05/71025) of Abbey Fields from the west*

## Appendix 1 – SMR Entries

Rec. No.	Easting	Northing	Site	Descriptor	Period	Form
01731	528000	204000		anvil	U	stray find
02980	527840	304330		mill	P Med	ruined building
03000	528200	304200		pottery, coin	Ro	excavation
03003	528000	304000		coin	IA	stray find
03008	528000	304000		battleaxe	BA	stray find
03034	528180	304180	Abbey House	house	P Med	roofed building
03035	524820	303490		pottery, kiln ? , shell, glass, clay pipe	Med, P Med	finds scatter, earthwork
03035a	524820	303490		wind mill, pottery	P Med	earthwork, documentary evidence
03053b	528230	304200	Abbey Church	Glass and window	Med., P Med	Architectural fragment
03401	528250	304120		abbey	AS, Med	documentary evidence
06771	528800	303900		enclosure, bank (earthwork), ditch ),	U	soilmark
07837	528000	304000		pottery	Ro	
08018	528180	304180		gate	P Med	
08019	528180	304180		barn	P Med	roofed building
08430	528000	304190		moat, mill	U	documentary evidence
10386	528500	304200		bank (earthwork), ridge and furrow	Med	earthwork
50249	528550	304450		battleaxe	BA	stray find
50565	528850	303880		PWO camp	Modern	documentary evidence
50627	528400	304200		coin	Ro	stray find
50632	527770	304640		aircraft	Mod	casual observation
50725	528190	304190	Abbey House	portal	P med	extant building
50754	528230	304250	Library	library	P Med	extant building
50774	52848	30418	Park House	House	P med	extant building
51168	528270	304290	Church Street	wall, ditch, posthole, pit, well, ice skate	Ro, AS Med, P med	excavation
51169	528232	304244		human remains	Med?	watching brief
51182	528240	304410	Wisbech Road	pottery	Med	excavation
51206	52851	30431	53 Wisbech road	/	/	excavation



## Appendix 2 – Listed Buildings

Rec. No.	Easting	Northing	Grade	Descriptor	Period	List No.	Address
005761	5282000	3041200	II	Wall	16	41/603	Boundary wall to Abbey House Fields
005762	5281600	3041200	II	Wall	16	41/603	Boundary wall to Abbey House Field
006031	5281800	3041800	I	House	L 16	41/567	Abbey House and Lovin House
006032	5281700	3041900	IIs	Gate pier	L 17	41/568	Gate piers to NNW of Abbey House
006033	5281900	3042000	IIs	Gate pier	L 17	41/569	Gate piers NNE of Abbey House
006034	5281800	3042200	II	Stable, house	17	41/570	Duke of Bedfords Stables, Abbey Place
008725	5281500	3041800	II	Garden wall	L 17	41/607	Walled enclosure to W of Lovin House

**Appendix 3 – Aerial Photographic Assessment Report N: 2003/14 by R. Palmer**

**THORNEY ABBEY, TF280040,  
CAMBRIDGESHIRE:  
AERIAL PHOTOGRAPHIC ASSESSMENT**

**SUMMARY**

This assessment of aerial photographs examined an area of some 20 hectares (centred TF280040) in order to identify and accurately map archaeological and recent features.

The many features identified are shown and briefly described using a series of maps that attempt to classify them as abbey-related, of unknown date, or recent – including the zoo of the 1970s.

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

**THORNEY ABBEY, TF280040,  
CAMBRIDGESHIRE:  
AERIAL PHOTOGRAPHIC ASSESSMENT**

Rog Palmer MA MIFA

**INTRODUCTION**

This assessment of aerial photographs was commissioned to examine an area of some 20 hectares (centred TF280040) in order to identify and accurately map archaeological and natural features and thus provide a guide for field evaluation. The level of interpretation and mapping was to be at 1:2500.

**ARCHAEOLOGICAL AND NATURAL FEATURES FROM AERIAL PHOTOGRAPHS**

In suitable cultivated soils, sub-surface features – including archaeological ditches, banks, pits, walls or foundations – may be recorded from the air in different ways in different seasons. In spring and summer these may show through their effect on crops growing above them. Such indications tend to be at their most visible in 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.

The most immediately informative aerial photographs of archaeological subjects tend to be those resulting from specialist reconnaissance. 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 product 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 are not necessarily flown at times of year that are best to record the 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.

## PHOTO INTERPRETATION AND MAPPING

### *Photographs examined*

Cover searches were obtained from the Cambridge University Collection of Aerial Photographs, the National Monuments Record: Air Photographs at Swindon and Peterborough Museum. Photographs included those resulting from specialist archaeological reconnaissance and routine vertical surveys.

Photographs consulted are listed in the Appendix to this report.

### *Base maps*

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

### *Study area*

Photographs were examined in detail for an area extending one modern field beyond the assessment area.

### *Photo interpretation and mapping*

All photographic prints were examined by eye and under slight (2x) magnification, viewing them as stereoscopic pairs when possible. Interpretations, at 1:2500 level, of photographs from CUCAP and NMRAP were marked on overlays to individual prints following

procedures described by Palmer and Cox (1993). These overlays were then scanned and transformed to match the 1:2500 base map using Irwin Scollar's AirPhoto program (Scollar 2002). Ben Robinson (Peterborough Museum) allowed scanned copies to be taken of his prints and a selection of these was transformed for examination and interpretation on screen. All transformed files were set as background layers in AutoCAD Map, where features were overdrawn using standard conventions. Layers from this final drawing have been used to prepare the figures in this report and have been provided in digital form to the client.

### **Accuracy**

AirPhoto computes values for mismatches of control points on the photograph and map. In all transformations prepared for this assessment the mean mismatches were less than  $\pm 1.50\text{m}$ . These mismatches can be less than the survey accuracy of the base maps themselves and users should be aware of the published figures for the accuracy of large scale maps and thus the need to relate these mismatches to the Expected Accuracy of the Ordnance Survey maps from which control information was taken (OS 2003).

## COMMENTARY

### ***Soils***

The Soil Survey of England and Wales (SSEW 1983) shows the most of the area to lie on drift over Jurassic and Cretaceous clay shale (soil association 572h: Oxpasture) with marine alluvium (soil association 815: Normoor) to the north and west and possibly just covering the extreme north-west of the Assessment Area. Local Flandrian deposits of Thorney parish and their changes through time are discussed by Hall (1987, 48) but include little of direct relevance to the abbey environs.

### ***Features identified (Map 1)***

All of the features identified on aerial photographs are shown on Map 1 to indicate the superimposition that has occurred and the intermixing of structures of different dates. An attempt to simplify the palimpsest of information is made in the following three maps and may assist field investigation.

For ease of reference this report will use, or give, field names as follows:

*Zoo Field* – the two fields enclosed by Whittlesea Road and the curved track.

*South Field* – that which is (mostly) south of Zoo Field.

*Abbey Fields* – as named on the OS 1:2500 map.

*NW Field* – the field in the north-west part of the Assessment Area.

Map 1 also extends east of the Assessment Area following discussion with Ben Robinson about the possibility that features related to the abbey may lie within the modern playing field. Most of the features there are of unknown origin, but may include elements of post-medieval land division. The ring ditch (TF28360405) is likely to indicate a genuine archaeological site – most probably a bronze age burial. A further two ring ditches lie to the south (at approximately TF28440350 and TF28570379) and were identified on RAF verticals taken in 1946.

Much of the information mapped has been interpreted from oblique photographs that have concentrated on Zoo Field and South Field in which possible archaeological features have

been identified by the observer. Considerable detail has thus been recorded in the two fields where very low earthwork remains survive while Abbey Fields and NW Field have rarely been targeted or, indeed, shown much of obvious archaeological merit. The absence of information in NW Field may be a result of its cover of marine alluvium (see *Soils* above).

### *Possible abbey-related features (Map 2)*

Features in Map 2 have largely been selected from knowledge of abbey environs elsewhere in Britain and include those that 'look right' and which survive in earthwork form. What follows is conjecture not fact!

The modern OS map shows a curved feature named 'Water' in the south-east part of Zoo Field. Air photographic evidence shows this formerly extended to the west where it appears to have formed one side of a moat-like square enclosure which may be of medieval date. The same water supply also can be traced to the east where it links with shallow depressions that may remain from former fish ponds. Similar systems of ponds and feeder channels have been identified at religious houses elsewhere. The ponds at Thorney were best visible when water-filled in February 1988.

On the same date a series of five parallel hollows was recorded in the angle between Water and the possible moat. These may remain from ridge and furrow cultivation – of which a larger area can be seen in the east part of South Field – but there is no indication on any other photographs of any continuation on the same alignment. It may also be noted that they fit comfortably within one of the zoo enclosures (See Map 1) and they may originate from that phase.

Features mapped in Abbey Fields include an ovoid hollow and a series of possibly-connected linear hollows. The position of the ovoid matches a rectangular feature on the 1890s OS 1:10560 map. It is not known what the rectangle represents but it may be a pond. The origin of the linear hollows is less certain. The curving form was initially thought to be caused by frequent riding as it tends to follow modern field edges. However, the alignment of the southern part leads towards a pond and it may be a former natural or purpose-made water channel.

### *Features of unknown date (Map 3)*

South Field and the southern part of Zoo Fields contain a confusion of features, most of which are of unknown date and origin. Many remain as low earthworks. Among them, on the west, is a series of what may be droves and boundaries that combine to enclose a group of rectangular plots part of which over- or underlies the moat-like feature. Among these plots, but probably of a different date, are several smaller rectilinear and curvilinear features that may be parts of enclosures. East of these, and close to the centre of South Field, slight hollows form a large triangular shape that looks very much like a field 'envelope' that results from a certain type of cultivation. However, it is almost certainly created by ditches not ploughing. Further east are slight ditches and hollows that form a group of small paddock-like enclosures of forms that would not be out of place in an iron age or Romano-British landscape. However, the date of this group is unknown.

### *Recent, zoo and zoo-related features (Map 4)*

The zoo appears to have been constructed in the early 1970s. Ordnance Survey vertical photographs taken in 1971 show the curving track had been laid and also a number of fenced enclosures in Zoo and South Fields and smaller units in those fields and Abbey Fields. Work was underway in what may have been planned as the entrance and car park at the south-east end of the curving track by Whittlesea Road. There were minor changes in 1972 and the zoo appeared to be active until at least 1975 but by 1982 fences and most of the animal houses had been removed. Map 4 shows the maximum extent of the zoo as recorded on the photographs examined and some other structures that may have been part of the zoo.

Recent boundaries, some of which are shown on the 1890s OS map, are also on Map 4.

#### ***Ordnance Survey 1:10560 map of 1890-1892 (Map 5)***

This map shows the 1890s map transformed to fit the modern OS digital data. This transformation was originally made as a working document to help identify features that may be recent. It has been included in this report at the suggestion of Ben Robinson.

#### **Acknowledgements**

Thanks go to Ben Robinson for sending me the brief for this Assessment and for discussing some of the problems at this site that were likely to confuse a photo-interpreter. Thanks also for making freely available his photographs held in the collection at Peterborough Museum.

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## APPENDIX

### *Aerial photographs examined*

*Source: Cambridge University Collection of Aerial Photographs*

#### Oblique photographs

ET 44-47	28 May 1950
NZ 5-10	14 June 1954
CAU 13-17	31 July 1976

#### Vertical photographs

RC8-AT 140-142	25 March 1975	1:13650
RC8-EF 138-139	25 March 1982	1:10000
RC8-EF 187-188	25 March 1982	1:10000
RC8-KnBH 112	13 June 1988	1:10000

*Source: National Monuments Record: Air Photographs*

#### Specialist collection

TF2703/1-5	3 July 1981
TF2803/13-17	28 April 1998
TF2804/14-20	17 February 1988
TF2804/22-31	23 July 1992
TF2804/32-35	28 April 1998

#### Vertical collection

106G/UK1606: 3435-3436	27 June 1946	1:9800
106G/UK1606: 6429-6430	27 June 1946	1:9800
106G/UK/1634: 4259-4261	9 July 1946	1:10000
106G/UK/1704: 4002-4003	28 August 1946	1:9800
106G/UK/1717: 3204	6 September 1946	1:9800
541/205: 3095	20 November 1948	1:10000
F21.82/865: 64-66	8 March 1954	1:10000
58/515: 5040	29 June 1950	1:10000
OS/71025: 27-28	27 March 1971	1:7500
OS/72352: 411-412	23 August 1972	1:7500



*Source: Peterborough Museum*

Oblique photographs (taken by Ben Robinson, listed by date and frame)

BR19980315/17-18	15 March 1998
BR19980315/20, 22	15 March 1998
BR19980802/11-12	2 August 1998
BR19990904/7-10	4 September 1999
BR20010413/27-32	13 April 2001
BR20030920/36	20 September 2003

Vertical photographs

OS/72352: 412-413	23 August 1972	1:2500 (enlargement)
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*Most informative photographs*

**2 General**  
RC8-AT 141

*Abbey Fields (N)*  
TF2804/32  
RC8-KnBH 112

*Abbey Fields (zoo area)*  
ET 44  
RC8-KnBH 112  
BR19980802/12  
BR20030920/36

**3 Zoo structures**  
OS/71025: 027  
CAU 13  
OS/72352: 412

**4 Southern Field**  
TF2804/34  
RC8-EF 138

**5 Playing Fields**  
TF2804/24  
OS/72352: 413

## TERMS AND CONDITIONS

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

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

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

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

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

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

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## **Appendix 4 – Abbey Fields, Thorney Earthwork Survey by Steven Kemp (AFU)**

### **Thorney Earthwork Survey.**

An earthwork survey of subject Area was undertaken in December 2003 and January 2004. The survey was undertaken by officers of Cambridgeshire County Council's Archaeological Field Unit (CCC AFU).

Initial inspections by CCC AFU showed a strong correlation between the remaining earthworks and the aerial photographs. Except in a very few cases the remains visible on the ground are very low. In their presently reduced state, a formal, detailed survey of the remains was most likely to result in a misleading illustration of the archaeology.

The survey therefore aimed to:

- to verify the survival earthworks shown on the aerial photographic surveys,
- to qualify the survival of earthworks in terms of whether the remains were clear or faint,
- to survey any additional features not shown on the aerial photographs
- to confirm the location of the major archaeological features.

Five site visits were undertaken. Hand drawn plans and written records were supplemented with Total Station survey tied directly into the National Grid. The results of this work can be seen in Figure 9.

The main points that can be identified as a result of the survey are:

- Three distinct alignments can be identified:
  - A northeast-southwest alignment, largely surviving as earthworks in the southern fields, but also extending into fields to the north of Abbey House.
  - A north-northwest to south-southeast alignment, mainly seen surviving to the south of Abbey House, but also including an area of ridge and furrow in the southeast corner of the subject area.
  - Areas of earthworks that cut across the above systems of earthworks and many of which survive as present day trackways.
- The definition of clear and faint earthworks is not an accurate method of defining phasing and therefore association.
- Three additional small rectangular ponds that lie on a northeast-southwest alignment adjacent to the drain on the western side of the property.
- Two possibly three other ponds to the south of Abbey House.

### **Conclusions**

The earthwork survey has been successful in mapping the resource, confirming survival and providing a basic chronology to the remains.

The results suggest a primary northeast to southwest orientation of the remains. These are the most extensive of the archaeology and survive particularly well in the southern areas of the subject area. These remains include enclosures, including a large moated feature central to

the subject area (NGR 528000/303950). This moated feature could potentially be the site of a manorial residence prior to the dissolution of the monastery and the building of Abbey House immediately adjacent to the former Abbey and parish church in the 16<sup>th</sup> century. The moated feature may either have a trackway or similar series of boundaries leading through it or is laid over earlier landscape features that lie on a similar alignment.

The moated feature leads into an extant watercourse and suggests that water in the area was managed to keep this part of the site isolated. Other areas of water management are also contained in this sequence as can be seen from the features at the western edge of the subject area. Here three rectangular features were identified during the earthwork survey. It is likely that these were fishponds linked to the existing drain that lies on their western boundary. The earthworks to the north of these ponds consist of a large ditch and another pond which are clearly visible on the aerial photograph plot although less so on the earthwork survey. These show us the former course of the drain which once led to a bridge beneath the Causeway, the A47 (T). This may have been the western boundary to the property although other earthworks including another pond that lies to the northwest and may suggest that the Abbeys lands extended further.

A sub-phase of Phase 1 is evidenced by a series of field names shown on a plan of Thorney dated 1732 (CRO/TR). This map shows the lands to the south of Abbey House as Hay Park. Way suggests that the park was created post 1574 AD (Way 1997).

In the southeast corner of the subject area lie a series of strips of medieval cultivation bounded by a baulk to the west. As no ridge and furrow occurs to the west of the baulk one can presume that this was the edge of the open field system lying on the southern side of the village of Thorney. Although on a different alignment in all probability the ridge and furrow and the open field system were in place during the earliest phase of surviving remains (Phase 1). The baulk probably defines a boundary separating field systems from already enclosed areas surrounding the moated site. This parcel of ridge and furrow was probably enclosed in the late 16<sup>th</sup> century and became part of Hay Park.

This first phase suggests an extensive use of the Abbey Fields site by either the Abbey or as part of the lands linked to a possible moated site at NGR 528000/303950. Here fishponds and other landscape features such as trackways and field boundaries survive which had by the 17<sup>th</sup> Century had given away to an area of parkland (Way 1997). The parks northern boundary, to the south of Abbey House, may be marked by a park pale which shows as a cropmark.

A second phase of earthworks can be identified to the south of Abbey House and is therefore probably post 1660. Here the alignment is dominated by ditches on a north-northwest to south-southeast alignment with banks running at right angles to these ditches. This alignment runs parallel with the B1040 that marks its eastern boundary and extends to an existing fenced boundary about 130m to the west. It's southern boundary appears to be delineated by the aforementioned large ditch systems which dominate the first phase of activity outlined above. During this phase the ditches are likely to have remained as a watercourse, as it is today. The park pale may have been re-aligned and now sits directly in front of Abbey House. This feature may be a ha-ha, with the grounds or parklands lying to the south.

Within this plot of land two, possibly 3 ponds have been identified, the most southerly one defined by banks. The ponds are linked by smaller ditches into the main ditch system that

outlines the area. The main axis of these earthworks appear to relate to Abbey House, however the ponds may have already been remnants from the earlier phase of activity.

Like the first phase this second phase probably covers a number of periods of activity. In this phase immediately to the south of the house lies an area of gardens that were formerly part of the parklands. The remains of these gardens survive as banks with ditches providing water to and from the ponds. Potentially more formal ground plans survive immediately adjacent to the house and possibly beneath the turf within the subject area, although later remodelling has probably removed the majority of these remains.

Beyond the gardens laid out in front of Abbey House lay the park that is likely to have been used for pasture in addition to its earlier associations with deer. Beyond the park continued the arable fields systems that would have remained as part of the open field system until Enclosure.

Later phases of activity can also be clearly identified such as the addition of the walled garden to the west of Abbey House. During the twentieth century we can also see the imposition of a zoo onto this historical landscape the most striking evidence of which is the remains of the penguin house and the surviving red brick buildings (Elephant House).

Appendix 5 – Ecology Survey by Martin Baker (Beds & Cambs WT)

**ABBEY FIELDS, THORNEY  
CAMBRIDGESHIRE**

**ECOLOGICAL SURVEY**

**November 2003**

**Prepared by**

**The Wildlife Trust for Bedfordshire, Cambridgeshire, Northamptonshire &  
Peterborough**



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## **1 INTRODUCTION**

- 1.1 An ecological survey was requested in connection with the preparation of a restoration plan as part of a Countryside Stewardship application for land at Abbey Fields, Thorney, Peterborough. The brief requires wildlife habitats to be identified and mapped as well as the specific management measures to conserve and enhance the wildlife value of the site to be identified.
- 1.2 This report presents the findings of the habitat survey. Section 2 outlines the methods used. Sections 3, 4 and 5 describe the findings. Section 6 makes recommendations for conservation and enhancement of features of nature conservation value together with recommendations for further survey.

## **2 METHODS**

### **Desk Study**

- 2.1 An initial desk based study was undertaken based on records held by the Wildlife Trust, including protected sites and key local biodiversity action plan (BAP) species. A check was made with both the local Bat and Badger groups to ascertain any known records of these protected species within the vicinity of the site. In addition recent aerial photographs dating from 1988 and 1998 were examined. Finally, a conversation was held with the site owner to gather information that he held on factors affecting wildlife and the site's management.

### **Habitat Survey**

- 2.2 A phase 1 habitat survey of the site was undertaken. This assessed the main habitats present, supplemented with species lists by way of target notes. Common names have been used throughout the report with scientific names following Stace 1991 included at the first mention of each species. The survey took place on 25 November 2003. The weather was cool and damp.

### **Protected Species**

- 2.3 During the phase 1 survey an additional search for visible signs of badger activity, including the presence of active and disused setts, latrines, badger trails and other signs of activity including foraging marks, prints and hairs, was made.
- 2.4 No survey was undertaken for other Protected Species due to the inappropriate time of year, however a search was made for potential locations for bat roosts and the suitability of habitat for herpetofauna assessed.

### **Constraints**



- 2.5 All ecological surveys are subject to the conditions on site at the time of the survey including access and seasonal constraints. This survey was requested and undertaken in November that is a sub-optimal time of year for an ecological survey. The results must therefore be treated with caution and the absence of habitats / species of interest should not be interpreted as conclusive.

### **3 DESK STUDY**

#### **Protected Sites**

- 3.1 There are no SSSIs or County Wildlife Sites (CWS) within 2 Km of the site. The nearest SSSI is the Nene Washes which is 4.5 Km south of the site. The nearest CCWs is Thorney Dyke, 2.9 Km south of the site.

#### **Protected and BAP Species**

- 3.2 No records of protected species or BAP species have been recorded from Abbey Fields themselves. Water Voles have been recorded from the Thorney River in October 1999, as close as 600 metres to Abbey Fields following the farm ditches.

There is only one known record of a potential bat roost within Thorney village, where droppings were found scattered below a gable end in 1998. No bats were observed and the species was undetermined. The other nearest recorded bat roosts are two Pipistrelle roosts 2 Km and 5 Km from Abbey Fields respectively.

There are no known records of Badger setts within the vicinity of Thorney.

#### **Peterborough Phase 1 Habitat Survey**

- 3.3 The Peterborough phase 1 habitat survey was also undertaken at a sub-optimal time of year. Access was not gained to Abbey Fields, but part of the field was surveyed from the path north of the site and habitat features confirmed using the aerial photographs. This survey recorded the grasslands as species-poor semi-improved grassland and noted the presence of hedges / tree belts, ditches, ponds and standard trees.

### **4 HABITAT SURVEY 2003**

- 4.1 The major habitats and wildlife features on site are shown in figure 1.

#### **Grasslands**

- 4.2 The grassland communities were species-poor, semi-improved neutral grassland corresponding with the National Vegetation Community MG6 *Lolium perenne-Cynosaurus cristatus*. The grasslands were dominated by grasses such as Perennial Rye Grass *Lolium perenne*, Crested Dog's-tail *Cynosaurus cristatus*, Red Fescue *Festuca rubra*, Rough Meadow Grass *Poa trivialis* and Cocksfoot *Dactylis glomerata*. Herbs were infrequent and included Creeping Buttercup *Ranunculus repens*, Autumn Hawkbit *Leontodon autumnalis*, Common Sorrel *Rumex acetosa* and Dandelion *Taraxacum officinalis*. Other weed species present included infrequent Creeping Thistle *Cirsium arvense*, Spear Thistle *Cirsium vulgare*, Stinging Nettle *Urtica dioica* and Cow Parsley *Anthriscus sylvestris*.

#### **Ponds**

- 4.3 Four ponds were present on the site, one of which appears to be the remains of an old moat. The moat feature was shaded by hedgerows and scrub growing on the top of the banks and had no aquatic, emergent or marginal vegetation.
- 4.4 The two ponds north of the moat were less shaded with weeping willow hybrids *Salix x sepulcralis* planted around the edges. Water levels were low in both ponds revealing muddy margins of potential value to invertebrates. Celery-leaved Buttercup *Ranunculus scleratus*, Water Forget-me-not *Myosotis scorpioides*, Water Figwort *Scrophularia aquatica* and a couple of clumps of Branched Bur-reed *Sparganium erectum* were present at these margins.
- 4.5 The pond in the northern field had deeper water and the margins / banks had a dense vegetation of Lesser Pond Sedge *Carex acutiformis* and Reed Canary Grass *Phalaris arundinacea*.

#### **Hedgerows / Scrub**

- 4.6 The arable field to the north-west of the site is currently in set-aside. It is surrounded on all sides by hedgerows and / or tree belts. Hybrid Italian Black Poplar *Populus x canadensis* was the most abundant tree present but Pedunculate Oak *Quercus robur*, Ash *Fraxinum excelsior* and Sycamore *Acer pseudoplatanus* were also present. Shrubs present included Hawthorn *Crataegus monogyna* and Elder *Sanbucus nigra*, with Ivy *Hedera helix* present on many trees and Mistletoe *Viscum album* present on a few of the poplars.
- 4.7 Along the north side of the moat a gappy and overgrown hedge occurs dominated by Hawthorn with occasional Ash, Elder, Dog Rose *Rosa canina* and Bramble *Rubus fruticosus* occurs. On the south side scattered trees and bushes of the same species occur together with the occasional Pedunculate Oak. At the western end of the moat are 4 willow hybrids *Salix x sepulcralis*, the cross between White Willow *Salix alba* and Weeping Willow *Salix babylonica*.

### **Parkland Trees**

- 4.8 Scattered mainly around the margins of the site though occasionally in the middle of the park were standard trees of various species. These included Pedunculate Oak, Ash, *Salix x sepulcralis* and *Populus x canadensis*. Along the eastern boundary wall there was a row of Horse Chestnut *Aesculus hippocastanum* with occasional poplars, Beech *Fagus sylvatica* and Sycamore. Scattered Hawthorn bushes were present alongside and both the poplars and some of the Hawthorn supported Mistletoe. The trees were generally approximately 80-120 years old, though one over mature Oak with significant deadwood was present in the centre of the site and a single Ash with deadwood occurred towards the south of the site. These last two trees could support notable invertebrate species.

## **5 SPECIES**

### **Badgers**

- 5.1 No badger setts or other evidence of badger activity was found on site.

### **Bats**

- 5.2 Bats are fully protected under the Wildlife and Countryside Act 1981 (as amended). Trees and other structures were assessed for their suitability as bat roosts. The vast majority of the trees on site appeared not to be suitable as bat roosts, still being relatively young and healthy with little in the way of rot holes. All of the built structures on site were too open and exposed to be attractive to bats.
- 5.3 The grounds are however within the flight range of the nearest known bat roosts and the mixture of habitats with tree belts, hedges, ditches, ponds and grassland provide a suitable feeding area for bats

### **Water Voles**

- 5.4 None of the ditches or ponds within the site or the boundary ditch along the southern boundary were suitable for Water Vole.

### **Birds**

- 5.5 The only species recorded on site during the site visit were Carrion Crow, Blackbird, Green Woodpecker and Moorhen.
- 5.6 All British birds (except certain pest species) are protected from disturbance during active breeding (including during nest building and until chicks are fledged), under the Wildlife and Countryside Act 1981. The tree belts and hedges provide only limited opportunities for breeding birds, as they are

generally overgrown and gappy with little in the way of cover. The best area for breeding birds within the site is the tree belt around the arable field.

### **Amphibians & Reptiles**

- 5.7 The ponds do not appear to provide high quality habitat for amphibians. The only record (from the site owner) is of newts, probably smooth newts in the Penguin pond, but these have not been observed in the recent past. Fish were known to be present in the two ponds surrounded by weeping willows (*M. Sly, pers, comm.*) making it unlikely that these support amphibians. Further, the management of the grasslands and surrounding land provides few habitats for feeding and shelter throughout the rest of the year
- 5.8 The pond in the northern field has not been known to support fish and may therefore support amphibian species. This northern pond is connected by a ditch / longer grassland to the tree belts and hedge around the arable field which could provide suitable habitat for feeding and shelter.
- 5.9 The site also does not appear to be suitable for reptiles such as Grass Snake, Common Lizard or Slow-worm, due to the lack of high quality habitat for feeding and shelter.

## **6 ASSESSMENT & RECOMMENDATIONS**

### **Nature Conservation Interest**

- 6.1 Abbey Fields has no designated status in terms of its nature conservation interest either at a national or local scale. None of the habitats present (species poor semi-improved grassland, trees, hedges, ponds) are intrinsically of high nature conservation value. However, they do have value in combination as a habitat mosaic. They provide or have the potential to provide food and shelter for a variety of wildlife. The site is therefore assessed overall as having a low local value (i.e. it is considered to be of value within the context of the Parish).
- 6.2 No evidence of protected species was found on site and the habitats present were assessed as having a low potential as breeding habitat for such species.
- 6.3 However, the site provides a suitable habitat for feeding bat species and is well within the foraging range of the nearest known roosts.
- 6.4 The tree belt around the arable field provides opportunities for nesting, feeding and shelter for common bird species. The arable field, currently fallow, will provide suitable habitat for ground nesting birds such as Skylark next year, assuming that it is not ploughed. The remnant hedges and shrubs within the site provide a limited food source for birds. Moorhens will feed in the ponds and may nest given sufficient water and cover.

- 6.5 The ponds are currently limited in interest, though do provide habitat for a range of invertebrates and have the potential to support common amphibians given suitable management. This includes increasing the variety of aquatic and marginal vegetation and decreasing shading. The muddy areas around the margins of the two ponds in the centre of the site in particular, have the potential to support interesting invertebrates. Such marginal areas are a favoured area for feeding and courtship displays for predatory species such as some ground beetles and spiders.
- 6.6 Parkland trees often become an important conservation resource once they reach over-maturity and rot holes and deadwood start to appear. This provides a specialist environment for a range of rare and notable invertebrate species. Unfortunately most of the trees on this site have not reached this stage and are of limited value for such species. The exceptions are an old oak in the centre of the site and an ash towards the southern end of the site. These have both been damaged and have significant deadwood present that has the potential to support specialist deadwood invertebrate species.
- 6.7 Willows are renowned for supporting the highest number of invertebrate species of any group of native trees. Unfortunately the willows present on site are a hybrid including one non-native species. However they still have the potential to support many invertebrate species and their location in association with the water bodies increases their potential value.
- 6.8 The presence of a significant population of Mistletoe on the site, in both poplars and hawthorn is locally notable. Mistletoe has a very patchy distribution in Cambridgeshire with few records from the Fens.

### **Management Recommendations**

- 6.8 The key ecological recommendation for Abbey Fields is to maintain the existing mosaic of habitats and variety of habitat features present, while at the same time taking opportunities to enhance each individual feature. The variety of habitats present could be significantly enhanced given sympathetic management and potential management options are considered in more detail below.

#### ***Parkland Trees***

- 6.9 The mature trees should be retained wherever possible and allowed to grow and die naturally. As they become senescent and the amount of deadwood increases they may attract specialist and notable invertebrate species. Where all or part of the trees die the deadwood should be retained within the canopy wherever possible and it is safe to do so. If surgery is required to prevent the trees falling over and damaging the archaeology or for safety reasons, only the bare minimum work should be undertaken to remedy the problem. Cut deadwood should be retained in as large pieces as possible and as close to the tree as possible where it should be allowed to decay naturally. Particular care should be taken to retain the presence of Mistletoe.

- 6.10 Where tree surgery or felling is considered for a mature or over-mature tree, an assessment by a qualified bat worker must be undertaken prior to any work to ensure that no bat roosts are present.
- 6.11 In future a replacement tree planting programme should be considered to replace those trees that die, where this does not conflict with the archaeological objectives of the site.

#### *Hedgerows / Scrub*

- 6.12 The shrubs and hedgerows on site currently provide only limited opportunities for breeding birds and a very limited food (berry) supply. Where it does not conflict with the archaeology opportunities should be taken to thicken up the areas of scrub and hedgerows to improve the breeding habitat. One such opportunity may be to create a new thick hedge / scrub belt along the southern boundary to link up with the tree belts around the arable field and the area of trees and shrubs beyond the south-eastern corner of the site.

#### *Ponds*

- 6.13 The water levels in the ponds should be allowed to naturally fluctuate to retain the valuable muddy drawdown zone. Some drying out should be accepted as the natural course of events.
- 6.14 The two ponds surrounded by the willows and the old moat would benefit from a decrease in shade through selective thinning of the scrub and trees. This would encourage the colonisation of aquatic and marginal vegetation which would enhance the overall habitat quality of the ponds. While some of the willows could be removed, others should be left because of their value for invertebrates. If willows are to be removed those on the south and west side should be removed first to increase the light reaching the ponds. Decreasing the number of willows surrounding the ponds is also likely to decrease the level of drawdown in the ponds.
- 6.15 The ponds should not be dug out at this stage as they are all still capable of holding water. Digging out would also result in the ponds becoming over-deepened, which would decrease the opportunities for colonisation by aquatic and marginal vegetation. It would also remove the muddy drawdown zone at the edges of the ponds. Thinning of the willows should help retain water in two ponds that have significantly dried out in 2003. The effects of thinning should be assessed before any drastic digging out of ponds is attempted.
- 6.16 Ideally the ponds will not be restocked with fish as they would predate the invertebrate fauna and prevent colonisation by amphibians. However, should fish stocking be considered at least one or two of the ponds should be kept fish free.

#### *Grassland*

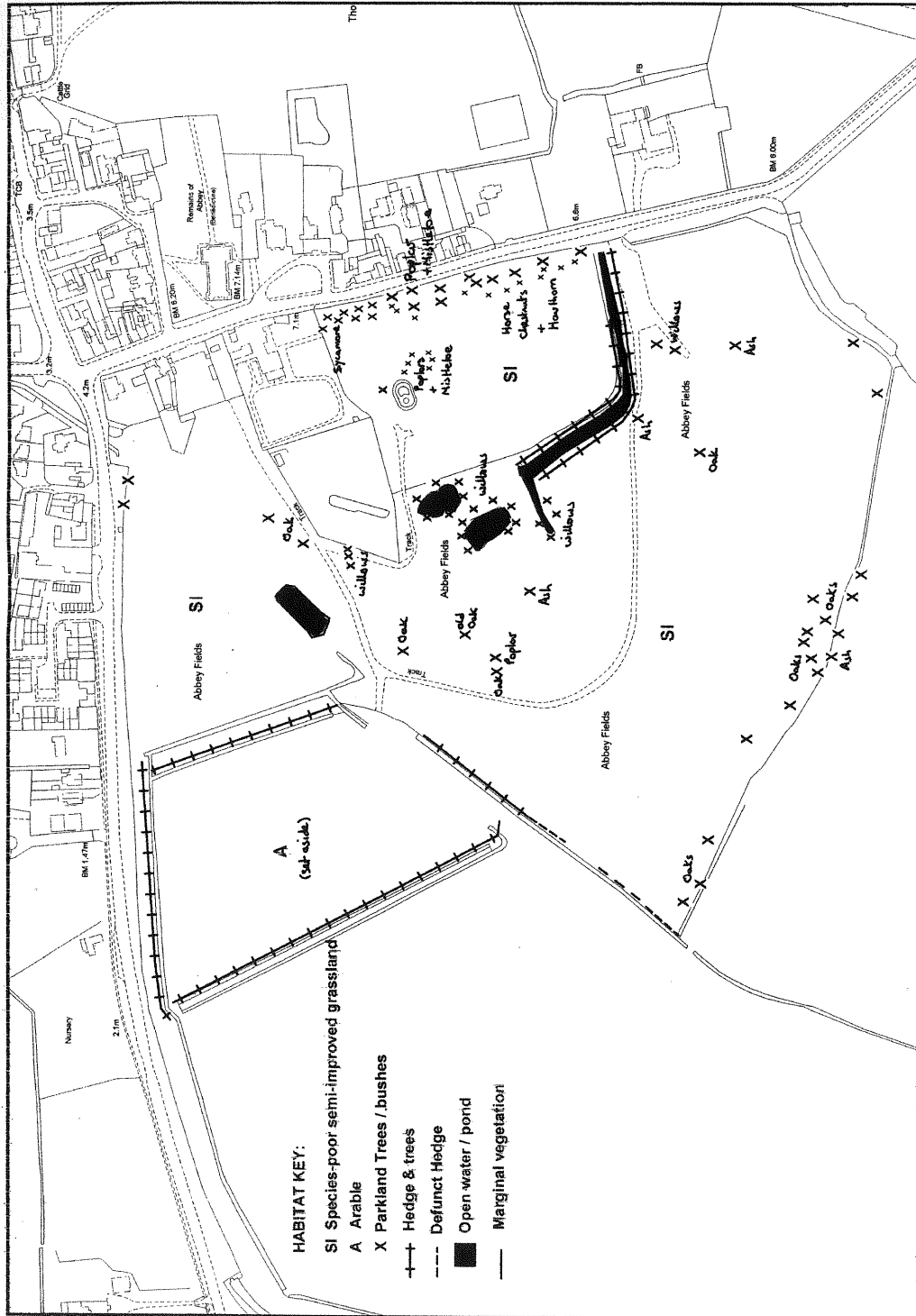
- 6.17 The grassland is species-poor, however it could be enhanced by ensuring that there are areas, particularly at the field edges that are allowed to grow longer

and become more tussocky. This would benefit invertebrates such as grasshoppers and crickets as well as other plant feeding species. A corridor of longer grassland could be retained between the northern pond and the tree belt surrounding the arable field to provide shelter for species moving between the two. A further option for enhancing the value of the grassland would be to attempt to introduce native grassland herbs, in selected areas, to increase species richness and so provide a greater food resource for wildlife. Many invertebrate species benefit when they have nectar sources in close proximity to their main habitat, whether that be trees, deadwood or wetland vegetation.

*Arable Field*

- 6.18 The ecological value of the arable field could be enhanced by growing a low input (particularly fertiliser) crop, retaining it as managed set-aside or fallow land or through the creation of a more species-rich grassland. The first two options would particularly benefit farmland birds. The fertility of the soils may decrease the potential for the species-rich grassland creation option.

# ABBAY FIELDS, THORNEY - HABITAT SURVEY



**HABITAT KEY:**

- SI Species-poor semi-improved grassland
- A Arable
- X Parkland Trees / bushes
- +— Hedge & trees
- - - Defunct Hodge
- Open water / pond
- Marginal vegetation

Scale: 1:2500  
 Plot Date: 1/12/2003  
 For: Wildlife Trust  
 For: GCC

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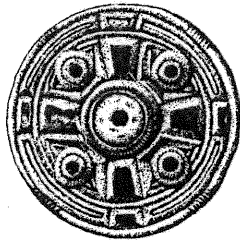




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**Abbey Fields, Thorney, Peterborough:  
Archaeological Site & Desk-Based Survey  
and Conservation Restoration Plan  
– Interim Report**

Stephen Macaulay

2004

**Cambridgeshire County Council**

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