

**HOLME MILLS HERITAGE PROJECT
HOLME
BIGGLESWADE
BEDFORDSHIRE**

ARCHAEOLOGICAL DESK-BASED ASSESSMENT

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Compiled by	Approved by
Gary Edmondson and Hester Cooper-Reed	Drew Shotliff

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**Preface**

All statements and opinions in this document are offered in good faith. Albion Archaeology cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party, or for any loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in this document.

Albion Archaeology
St Mary's Church
Bedford, MK42 0AS
☎: 01234 294004
Fax: 01234 294008
e-mail: g.edmondson@albion-arch.com
www.albion-arch.com

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Key Terms

Throughout this report the following terms or abbreviations are used:

ADS	Archaeology Data Service
IfA	Institute for Archaeologists
NMR	National Monument Record
HER	Historic Environment Record



Non-Technical Summary

This assessment has been prepared by Albion Archaeology on behalf of DH Barford + Co for The Jordan Trust and W Jordan Holdings Ltd. It comprises a review of historical documents and archaeological records and an assessment of the archaeological potential of the site of Holme Mills, situated in the valley of the River Ivel, to the south-west of Biggleswade. The study area comprises land within a 500m radius of the site.

The valley of the River Ivel is an archaeologically sensitive area, with the Central Bedfordshire and Luton Historic Environment Record and the National Monument Record identifying evidence of human exploitation in the prehistoric period, extending from the Palaeolithic onwards. The gravels of the river valley resulted in soils which are well drained and easily cultivated. Cropmarks and occasional artefact findspots indicate extensive activity in the prehistoric period, continuing into the Roman period.

In the medieval period the area was extensively occupied, with a wide variety of activity being identified, particularly from earthworks and documentary evidence. This includes evidence for a mill, whilst deer parks were located adjacent to the river in the areas to the south-east. Immediately to the east of the site was a moat, with the extensive settlement associated with Holme, one of the three townships of the parish of Biggleswade, further to the east.

In the post-medieval period few sites are recorded, including at least one farm house. It is likely that the general layout of the mill complex had been established by the end of this period.

In the modern period after 1750, industrialisation affected the area with the canalisation of the River Ivel as part of the developing coal trade. Associated with this was the construction of the cast iron bridge at Holme Mills; the only Scheduled Ancient Monument in the study area. The area was generally agricultural with evidence for small-scale gravel quarries. In the 20th century an isolation hospital for smallpox was established. In World War 2 a pillbox was constructed; one of a series along the valley of the River Ivel, which envisaged using the natural barrier of the river as a 'stop line' to hinder the westwards advance of enemy forces in the event of an invasion.

The River Ivel, although relatively narrow is a powerful river, with constant water flow, providing a reliable source of power for mills. There is no mention of a mill at Holme in Domesday Book. The earliest documentary evidence for a mill at the site is indirect evidence from the 1639 will of a weaver, who is described as 'of Holme Mills', indicating a mill was already established by this date.

The earliest cartographic evidence for a mill is the depiction of a waterwheel at Holme Mills on a map of Holme for Sarah, Duchess of Marlborough. This map, although undated, will have been produced in the 1730s or possibly the early 1740s. A plan of 1781 provides a detailed layout of the mill and associated buildings. This indicates that the mill site and at least some of the ancillary building were established by this time. The series of detailed 25-inch Ordnance Survey maps from the first edition of 1884 provides an insight into the development of Holme Mills.



Little archaeological investigation has been undertaken in the vicinity of the site, with the nearest investigation being associated with repairs to Holme Mills sluice. This indicated significant disturbance associated with the watercourse. Investigations associated with a water main to the north of the site confirmed previous evidence for Roman activity within the river valley.

The site is within a sensitive archaeological landscape. Modifications to the leats and channels supplying water to the mill, as well as alterations to the associated buildings are likely to have disturbed a significant proportion of the site. However, it is possible that evidence for earlier mills and associated buildings survives on the site. The area between the river and the moated site to the east is less disturbed and may contain the remains of medieval activity associated with the moat. Although the function of the moat is uncertain, it may be related to the Manor House when the Scroups were Lords in the 14th century. Roman and earlier periods of activity, if present, are likely to be sealed by river-borne alluvial deposits.

It is essential that the above summary is read in conjunction with the main body of the report.



1 INTRODUCTION

1.1 Background

Albion Archaeology was commissioned by DH Barford + Co on behalf of The Jordan Trust and W Jordan Holdings Ltd to undertake a desk-based assessment of Holme Mills. It comprises a review of historical documents and archaeological records and an assessment of the archaeological potential of Holme Mills, which can be used to inform the proposed development of the site as a heritage project.

1.2 Site Location, Geology and Land Use

The site lies approximately 900m to the south-west of Biggleswade, straddling both banks of the River Ivel, centred on Ordnance Survey grid reference TL (5)18514 (2)42987 (Figure 1). Generally the site is level at *c.*27m OD. The mill is associated with a complex series of leats and channels, with the water flowing from south to north. The site occupies two islands of irregular form in plan, with a third area to the east extending from the river to the moat (Figure 2).

The Western Island is the larger, defined by the Ivel Navigation to the west and the main channel of the river to the east. It contains the Mill Cottages in the west, with elements of the mill complex occupying the eastern margin of the island, adjacent to the main channel. The complex comprises the Miller's House and part of the mill building, with ancillary buildings to the north. The Eastern Island is defined by the main channel in the west, with by-pass leats defining the other sides. It contains the continuation of the mill building and ancillary buildings. Most of the area south of the mill is *c.* 1m above the ground level of the southern tip of the island, and adjacent areas beyond the river. This indicates a significant raising of the ground level. A smaller island to the south is occupied by the continuation of the Broom Road, which dog-legs around the site.

The mill site is within the alluvial band associated with the current course of the River Ivel, with 1st and 2nd river terrace deposits composed of silt, sand and gravel, extending over 600m to the east. The area to the west consists of an extensive roughly north-south linear band of glacio-fluvial deposits of the Lowestoft Formation, comprising undifferentiated chalky sand and gravel (British Geological Survey, Sheet 204, Solid and Drift, 1:50 000). It would appear that the current course of the river occupies the western margin of the post-glacial river channel.

The current mill building dates to the late 19th century and is the county's longest surviving, industrial-style, corn mill. This building is recorded on the Central Bedfordshire and Luton Historic Environment Record (HER 2499). Constructed of yellow brick and originally of three storeys and attic, the building has undergone significant changes to keep pace with changing requirements; however, the contemporary roller mills are *in situ*. This building is not listed. There have also been changes to incorporate new power



technology, such as the replacement of the two overshot waterwheels with a 20 hp Gilbert and Gilkes turbine.

The adjacent red brick Miller's House (HER 7773) is earlier, dating to the 18th century. This building is not listed. Other buildings in the mill complex are identified in the HER (14543), although no details are available.

Throughout its history, the mill complex has undergone change, although the most significant changes occurred following a period of abandonment in the mid 1940s. After several years the flour mill was restarted and production at the site was diversified, with feed milling being undertaken, requiring additional buildings. The feed mill was attached to the eastern elevation of the mill; this has since been demolished, although the engine room remains. The construction and subsequent demolition of the feed mill has resulted in some alteration to the eastern elevation of the mill building. Other 20th-century alterations comprise the addition of a stairwell on the southern side of the mill and alterations to the roof. A number of modern storage sheds occupy the yard to the east of the mill. The flour mill is no longer operational.

The heritage project will retain the Mill Cottages, Miller's House and mill building. Later additions to the mill building in the east will be removed, as will several ancillary buildings to the north and east of the mill. New buildings and glasshouses to assist with understanding of the history and technology of milling will be erected at the margin of this area, with the central part of the Eastern Island turned to gardens. Several new bridges will connect the three parts of the site. In the Eastern Area between the River Ivel and the moat, a new sinuous watercourse will be created, with pond linked by a series of paths.

1.3 Archaeological and Historical Overview

Although few archaeological investigations have been conducted in the vicinity of the site, evidence from the wider area indicates that the valley of the River Ivel has been an important focus of activity from the Palaeolithic period (Old Stone Age), with extensive activity from the Neolithic period onwards. In the medieval period, the landscape was intensively utilised, with evidence of milling on the site being established by at least the 1630s.

Of the 25 sites recorded on the HER and NMR within approximately 500m of the site (the Study Area), there is considerable range in both the types of site and the periods represented (Figure 3 and Appendix 2). A significant number of the sites are cropmarks, which are particularly well defined on the gravel soils in the vicinity of the river. Cropmarks are the result of a contrast in the soils filling former features, such as ditches, and the adjacent subsoil. The contrasting moisture content of the soils can manifest itself as differential growth in vegetation or as soilmarks when the land is ploughed. Little investigation of these has been undertaken, although the form of several of the cropmarks indicates multi-period activity including ring ditches, which are likely to be the remains of Neolithic to early Bronze Age burial monuments. A variety of isolated enclosures as well as more regularly laid out enclosures systems with trackways can be discerned, which elsewhere in the area are typically of Iron Age to Roman date (HER 461, HER 9095). The site is on the margins of the



medieval settlement of Holme (HER 465), with a moat being located a short distance to the north-east of the site. The cast iron bridge (HER 3287) spanning the Ivel Navigation, located immediately to the west of the site is of national importance, being designated as a Scheduled Ancient Monument (Figure 2).



2 REVIEW OF KNOWN DATA

2.1 Methodology

This assessment was prepared in accordance with the IfA's *Standard and Guidance for Archaeological Desk-Based Assessments* (1999).

It comprises a review of archaeological and historical information located within approximately 500m of the site (the study area). In some instances information from a wider area has been included where it helps to place the site in its wider archaeological or historical context.

This information was obtained from the following sources:

- The Central Bedfordshire and Luton Historic Environment Record (HER), Bedford;
- The Bedfordshire and Luton Archives and Records Service, Bedford;
- The National Monument Record (NMR), Swindon.

A list of all records and referenced material can be found in Appendix 1.

A site visit was made on Friday 12th March 2010.

2.2 Summary of Evidence

2.2.1 Central Bedfordshire and Luton Historic Environment Record

There are 25 recorded archaeological sites within or close to the Study Area (Figure 3). Three of these are associated with the mill complex, and are within the proposed development site: the mill building (HER 2499), the Miller's House (HER 7773) and other buildings in the mill complex (HER 14543). None of these buildings is Listed.

The cast iron bridge (HER 3287) over the Ivel Navigation, located immediately to the west of the site is a Scheduled Ancient Monuments (SAM 87).

Other sites in the immediate vicinity are the Ivel Navigation (HER 14539) and the site of a medieval square moat at Scroup's Farm (HER 461).

Within the study area as a whole, sites range in date from the Palaeolithic to modern period, indicating that the river valley and its resources have been utilised for an extended period of time. A significant numbers of the sites are cropmarks, mostly multi-period, or artefact findspots. Of particular interest is Holmemyll (HER 14199) the site of a medieval mill and grange of Warden Abbey, although its exact location is uncertain.

Palaeolithic finds are rare (HER 593 and HER 16201), being recovered from the margins of the area. In the later prehistoric period there is cropmark evidence (HER 631, HER 1486, HER 9095) for both settlement, indicated by tracks and enclosures, and ritual activity, with the construction of burial monuments. Isolated find of flint barbed and tanged arrowheads (HER 16199



and HER 16200) may provide an indication of hunting along the margins of the river in the Neolithic to early Bronze Age period. Sparse evidence from the Roman period suggests that both settlement and burial continued (HER 5216). The study area was extensively utilised in the medieval period, including settlement at Holme (HER 465) as well as high status sites such as Broom Grange (HER 14179), deer parks for hunting (HER 13936 and HER 13937) and a moated site of uncertain function (HER 461). In the period after 1750, agriculture and transport are represented, including the current mills. The Ivel Navigation was constructed and small scale gravel quarries provided material for construction and repair of roads and the railway.

2.2.2 National Monuments Records

The NMR replicates a small number of the records in HER.

2.2.3 Historical Mapping

Map of Holme for Sarah, Duchess of Marlborough – HA 527 (Figure 4)

Although undated, this depicts the area in the 1730s or early 1740s. This is the earliest depiction of a mill at the site, showing a waterwheel labelled as ‘Holme Mills’ (Figure 4). This is a schematic map, although it does contain useful information. A rectangular building is shown on the west bank of the river, which, although away from the waterwheel, would appear to be associated, as few buildings are shown in any detail. The map also shows the original course of the River Ivel, with a crossing point to the south of the mill.

1781 Plan and Survey of Holme Estate – HF 400/1 (Figure 5)

The mill and associated buildings near the River Ivel are shown in considerable detail for the first time, although the grey tone indicates that they are not part of the estate of the Right Honourable Earl Spencer. Only parts of the area are depicted, with the eastern leat ending abruptly, as it extends into an area labelled ‘Land belonging to Dean and Chapter of Westminster’.

The map indicates that a leat extended eastwards from the main channel of the River Ivel. The mill building straddles the main channel a short distance south of the junction of the leat and main channel. Only part of the eastern mill island is shown, with a small square structure located a short distance south of the mill, against the bank of the river.

A series of buildings are shown adjacent to the west bank. Immediately to the north of the mill against the channel is a rectangular building aligned roughly north-south, with a regular ‘indent’ into the river bank, at the northern limit. The location may suggest that this is a landing place for boats to load/unload. A perpendicular, rectangular building is located to the north-west. A series of buildings are located to the south of the mill; the main one is an inverted L-shape in plan with three smaller buildings to the south. The main building roughly corresponds to the location of the present Miller’s House.

1838 Map of Titheable lands in the Parish of Biggleswade (Figure 6)

Identified as ‘Holm Mill’, the building straddles the main channel of the river, in a location corresponding to that of the present mill, although little other detail can be discerned. No associated buildings are shown, although a single



small, isolated building is shown within the eastern mill island. The main watercourses associated with the mill are present, with by-pass leats to the east and south. The divergent course of the Ivel Navigation can just be discerned at the edge of the map. The adjacent moat is shown; it has a rectangular form in plan, with an associated watercourse to the north-east. At this time the farm is labelled as ‘Scrapps Farm’.

1884 Ordnance Survey 25-inch map, first edition (Figure 7)

The map indicates a complex series of leats and channels associated with the corn mill, which is clearly defined straddling the main channel. Most of the channels correspond to those shown on earlier maps. The mill is significantly longer than the current building at almost 39m (c.130’), with a central segment of narrower width. This is likely to correspond to the buildings shown on an 1890 picture of the mill (Howes 2009, 92) (see Section 2.2.5). Immediately south of the mill, a narrow channel diverges from the main channel, heading north-eastwards towards the middle of the central segment of the building, before stopping — probably entering an enclosed leat. A short distance to the south-west is the Miller’s House with associated paths and garden in the triangular area to the south, defined by the converging watercourses of the main channel and the Ivel Navigation. Cottages are located to the west, adjacent to Broom Road; three main buildings and a smaller outbuilding to the south are shown within a defined area. Two main blocks of ancillary buildings are associated with the mill, comprising an inverted L-shaped range with outliers in the area north-west of the mill. A second range of buildings to the east of the mill defines a central enclosed yard.

The northern ancillary buildings are located adjacent to the angle between the main channel and the east-west arm of an L-shaped leat, which extends to the Ivel Navigation. This leat does not appear on the earlier maps. An irregular series of four square to rectangular structures, which range from 7.4m square (24’ 6”) to 9.25m (31’) long and 3.7–7.4m wide (12’–24’ 6”) define the northern extent. This approximates to the site of the rectangular building shown on the 1781 map. Two larger structures define the main component to the east, with the larger example measuring approximately 15m (50’) long and 5.6m (18’ 6”) wide. Two smaller structures cluster around the southern extent of this range. The western side of the main channel is lined by two rectangular buildings, which are slightly smaller than the large structures immediately to the west. These two structures correspond to the building present in 1781. The ‘indent’ north of these buildings was still present, measuring c.8m north-south by 6m. This would seem to be too small to be a loading dock. The main channel is very wide immediately downstream of the mill, at the junction with the eastern by-pass leat. Whilst this may have been to ensure the swift movement of water away from the mill, it may have also provided access to water transport.

Situated immediately south of the junction of the main channel and the by-pass leat was a series of four buildings. These defined three sides of a yard, with a wall defining the southern side and a narrow passageway in the south-west, leading towards the mill. Two regular ‘indents’ are shown in the



southern edge of the by-pass leat in the vicinity of the buildings. These 'indents' are slightly smaller than the one described previously.

1901 Ordnance Survey 25-inch map, second edition (Figure 8)

This map shows no change to the watercourses associated with the mill, although the Ivel Navigation north of the Holme Mills lock is shown as marshy ground. There has been a significant change to the mill building and ancillary structures, some of which may be associated with the fire of 1899 (BLARS X758/1/3). At this time, William Jordan, who had been a tenant since 1894, became owner of the mills.

The mill building has undergone significant change, being shortened, but having a similar form to the earlier mill, with a narrower segment in the east (similar to the earlier central segment). This is likely to be the rebuilt yellow brick mill following the 1899 fire. A small addition has been added to the south elevation of the mill, on the west bank of the main channel, which corresponds to the stairwell. There is no sign of the narrow channel, which diverged from the main channel on the 1884 map. The significance of this is uncertain.

The northern ancillary buildings now form isolated groups as the largest element of the eastern range of buildings has been demolished, as has at least one of the smaller structures at the southern extent of this range. The two buildings on the western bank of the main channel are unchanged, although a boundary which connected them to the main cluster of buildings to the west has gone, indicating a change of access into this area.

Most of the ancillary buildings to the east of the mill have gone, with only a single range of three buildings and possible open structure to the south. The location and north-east to south-west alignment of this range of buildings suggests that these correspond to the western range of buildings depicted on the previous map, with partition of the southern building. The two 'indents' in the by-pass leat are still present.

The Miller's House is unchanged, though no detail is shown of the garden area to the south, apart from the trees towards the southern tip of the island. It is not clear if the garden had gone, or if the survey simply omitted such detail.

The cottages adjacent to the Broom Road have undergone change, with the northern building being extended, whilst the southern buildings have been replaced by smaller structures.

1926 Ordnance Survey 25-inch map, third edition (Figure 9)

Minor changes have occurred to the watercourses associated with the mill. The L-shaped leat, defining the northern and north-eastern limits of the mill site is now shorter, stopping north of the roadway. The two 'indents' in the southern bank of the eastern by-pass leat have gone. The lock on the Ivel Navigation is shown as 'disused'.



The mill building has been extended to the east, with a new range of two buildings of different size forming a perpendicular range, extending to the south. These are likely to correspond to buildings shown on a 1910 picture of the mill (Howes 2009, 15) (see Section 2.2.5). A wider yard has been created in the area to the east, extending to the ancillary buildings.

The northern ancillary buildings have undergone change, whilst the northern component of four buildings is unchanged. A new building has been added to the south, linked by a roughly north-south boundary to the northern buildings. A short distance to the east a new L-shaped range of buildings has been created, utilising the larger of the early buildings as its core and adding to the north and south. The buildings on the western bank of the main channel are still present, although the northern building may have been altered.

The eastern ancillary buildings have also undergone change. It would appear that the central building in the range has been enlarged.

A minor extension to the Miller's House is apparent, extending from the south-east corner, towards the main channel. The garden also appears to have undergone change with the wooded area extending northwards and the addition of a circular pond.

Two cottages are now present adjacent to Broom Road, set within a larger land parcel. Whilst it is possible that the northern cottage has undergone alteration rather than being rebuilt, the southern example is definitely new, being much larger than the buildings shown previously.

2.2.4 Aerial Photographs

Aerial Photographs taken in June 1970 (1942/1/326) show evidence of very straight cultivation furrows in the land parcel immediately to the south-east of the mill site (Figure 3), characteristic of post-medieval steam ploughing. These contrast with the sinuous furrows characteristic of medieval arable cultivation, which can also be seen in this area. The straight furrows have not been obscured by alluvium associated with the river. A variety of cropmarks are visible in the adjacent area, although none can be traced in the immediate vicinity of the site, possibly due to masking by river-borne alluvial deposits.

2.2.5 Other Photographs

The Mill in 1890

The image reproduced in Howes (2009, 92) corresponds to the mill depicted on the 1884 first edition Ordnance Survey map. This shows the northern elevation of the mill, prior to the fire, being taken from the area of the 'indent' on the western side of the main channel. This indicates a dark brick building of three storeys with pitched roof, the hoist is off-centre to the east of the building. A third component of the mill is of mixed construction. The ground floor is timber framed with brick infill, whilst the upper storey is of horizontal lap timber construction. The pitched slate roof is hipped. There are two channels visible emerging from beneath the mill; a wide squared one in the foreground corresponds to the current one. This façade masks two convergent arched channels. A much smaller arched channel appears further to the east; it



is no longer visible. The ancillary building on the west bank appears to be of horizontal timber lap construction. This is possibly associated with the coal landed at the small 'indent' dock (*pers. comm.* John Barker).

The Mill in 1910

The image reproduced in Howes (2009, 15) is taken after the fire of 1899 and clearly indicates a new building. It was taken from the weir near the northern side of the by-pass leat and shows the mill contrasting with the darker brick of the Miller's House. The façade indicates that since the image was taken the mill has undergone changes, particularly to the roof line and also to the hoist area. The ancillary buildings on the eastern gable end of the mill (nearest the viewer) are not seen on the 1901 second edition Ordnance Survey map, but correspond to the off-set buildings depicted on the 1926 map, indicating that they were erected between 1901 and 1910. The nearest building is an insubstantial lean-to with open eastern side, whilst the larger building to the south is of single-storey brick construction. The lean-to overlaps a door at first floor level in the gable of the mill, indicating changes to work processes.

On the western side of the main channel the horizontal timber lap building can be seen. The red brick footings of this are visible today in a recently cleared area of site adjacent to a 20th-century building (Figure 10).

The combination of the photographs and the first and second edition Ordnance Survey maps suggests that the current yellow Arlesey brick mill was built on the footings of the earlier mill; the maps indicating very similar dimensions. It is not clear if this explains the off-set lower brick courses visible in the current mill walls (Figure 11).

2.2.6 Previous Archaeological Work

Limited investigations were undertaken in the vicinity of the site during repairs to Holme Mills Sluice, situated at the southern end of the lock (Figure 3). This revealed deposits associated with earlier repairs to the bank.

Investigations associated with the creation of the reinforced water main from Topleys Hill revealed evidence of recut Roman boundaries in the area to the north of the mill (ASC 2001). This is in the area of HER 5216, where a Roman coffin was found in 1864 (Figure 3). This area also contains a variety of cropmarks.

2.2.7 Previous Land Use

Maps indicate that the site has been associated with milling for at least 280 years. The location of the mill referred to in the will of 1639 is unclear, although it is likely to have been in the same area. The evidence suggests that the mill shifted several times, whilst associated leats and channels were maintained and repaired over time, resulting in significant disturbance to the area. It is likely that some of the material excavated from the leats and channel was used to raise the level of the mill islands. The area in the east between the river and the moat appears to have been farmland in the past, but is currently under grass (March 2010).



3 DISCUSSION OF ARCHAEOLOGICAL EVIDENCE AND SIGNIFICANCE BY PERIOD

3.1 *Undated*

As noted above, although not themselves investigated, large areas of cropmarks have yielded small quantities of ploughsoil artefacts. Combined with comparable dated features from sites in the vicinity, these have provided indicative dating.

3.2 *Palaeolithic and Mesolithic (c.40,000 – 5,500BP)*

Two artefact findspots are recorded (HER 593 and HER 16201) on the margins of the study area. The precise location of the railway ballast pit which yielded artefacts (HER 593) is uncertain.

3.3 *Later Prehistoric: Neolithic – Iron Age (c.3,500BC – AD43)*

The limited amount of investigation makes it difficult to sub-divide this period. Isolated findspots of arrowheads (HER 16199, HER 16200) can be dated to the Neolithic-early Bronze Age period. However, other sites, particularly the extensive areas of cropmarks (HER 631, HER 1486 and HER 9095) are multi-period, with the forms of the features and occasional finds recovered from the vicinity indicating activity in the period. The activity includes both settlement, with associated field systems, and ring ditches which, given their size, are likely to be the ploughed out remains of burial monuments.

3.4 *Romano-British (AD43 – AD410)*

Situated to the north of the site, HER 5216 represents evidence of Roman settlement, including a coffin discovered in the 19th century. More recent investigations revealed recut Roman ditches in this area. A series of cropmarks are also visible. Roman artefacts have been recovered from the area of cropmarks on the south-eastern margin of the study area (HER 1486).

3.5 *Saxon – Medieval (AD410 – 1539)*

Within the Study Area, evidence for activity dating to the medieval period is both extensive and varied. Located at the eastern margin of the site is Scroup's Farm moat (HER 461). This large moat, some 45m by 45m is of uncertain function, although the wide, deep ditch suggests that it has undergone extensive recutting and cleaning. There is no evidence for buildings on the platform of the moat. In the 14th century the Scroups were the Lords of the Manor; it is possible that the moat is associated with that period. Activity associated with the moat is likely to extend westwards into the site. In the vicinity of the river, is the site of Holmemyll and Grange (HER 14199), although their exact location is uncertain. At the eastern margins of the study area is the extensive settlement of Holme (HER 465). Part of this site at Beauford Farm (beyond the study area) has been investigated, indicating that the settlement dates from at least the Saxo-Norman period, as well as providing evidence for earlier occupation of the site. Other sites dating to this period include the site of Broom Grange (HER 14179) to the east of the



River Ivel. Two deer parks are recorded on the eastern side of the river (HER 13936 and HER 13937). A 13th-century lead seal die (HER 15978) was recovered from the area to the east of the site. It is not clear if the mill was associated with a bridging point across the River Ivel in the medieval period. If it were, it would have been a focus for travel, which might explain the loss of the seal.

3.6 Post-medieval (AD1539 – 1750)

New farmhouses, such as Scroup's Farm (HER 4999), were constructed in this period.

3.7 Modern (AD1750 – present)

In this period, agriculture and transport are represented, including establishment of the current mills (HER 2499) and Miller's House (HER 7773), neither of which is listed. The Ivel Navigation (HER 14539) was constructed with the cast iron beam bridge (HER 3287) spanning the cut. This bridge is the only monument of recognised national significance in the area, being designated a Scheduled Ancient Monument (County SAM **87**). This designation has significance not only to the scheduled area (Figure 2) but also to the setting of the monument. Small scale gravel quarries (HER 2876, HER 14573 and HER 593) provided material for construction and repair of roads and the railway.

Within the site, HER 14543 would appear to relate to modern buildings, although no details are available. Other sites dating to the 20th century include the World War 2 pill box (HER 17848), located a short distance to the west of the site. Early wartime doctrine used natural barriers, such as the River Ivel, reinforced by strongpoints to create defensive lines to stop the westwards movement of invading forces. This structure no longer survives. Emphasising the rural nature of the area, a smallpox isolation hospital (HER 15060) was established to the east of the site.



4 ASSESSMENT SYNTHESIS

4.1 *Prehistoric to Post-medieval*

The valley of the River Ivel is known to have been occupied for an extended period of time. The presence of Palaeolithic artefacts is rare, although to be expected in such an area. However, this material has only been recovered from areas peripheral to the current site.

The Ivel valley supported a number of farming communities from the prehistoric to the Roman periods. This is indicated by the extensive series of cropmarks along both banks of the river. The presence of ring ditches indicates that the area also had ritual significance, with conspicuous burial monuments being constructed. These tend to occupy slightly elevated positions on river terraces some distance from the present course of the river. Remains of this date could be masked by later deposits, derived from the river, or could be affected by later activity such as the cutting of channels associated with the mill.

Documents suggest that a mill and grange of Warden Abbey were present at Holme in the medieval period, although their location is unknown. The eastern margin of the site extends to Scroup's moat, the function of which is uncertain; some originally contained buildings, whilst others appear to have been gardens. Moats often have a long history of utilisation, undergoing change overtime. This is suggested by the fact that today, the moat is still defined on three sides by a wide, deep ditch. It is possible that contemporary features associated with the moat extend into the eastern part of the site between the moat and the River Ivel. If present, such remains, could be destroyed by aspects of the proposed development, including cutting of the new watercourse and ponds as well as peripheral tree planting. The site is close to the medieval settlement of Holme, with evidence for associated field being visible on aerial photographs. Other activity in the vicinity includes deer parks, with Broom Grange being located on the west bank of the river. This clustering may suggest that a crossing point was present at this time, possible associated with the mill, which would have required good access for grain and the transport of flour.

Documents indicate that a mill was in existence by at least 1639. The earliest recorded depiction of the mill suggests that at least an associated building, if not the mill, was located on the west bank of the river, in the vicinity of the current mill. Typically, once a mill is established, the site tends to be reused. Deposits associated with the early mills and associated structures are likely to have been disturbed by later modifications both to the buildings and associated channels and leats. This will have resulted in a combination of destruction and burying of deposits, as material excavated from the channel is often used to raise parts of the mill islands.

4.2 *The Modern Period*

The current mill building and Miller's House are made of contrasting types of brick, indicating different dates of construction. These buildings and other



associated mill buildings are recorded on the Historic Environment Record, although none is listed. The Mill Cottages are not recorded on the Historic Environment Record. The bridge over the Ivel Navigation is a Scheduled Ancient Monument. Whilst the boundary of the monument is beyond the site, it could be considered to be part of the setting of the monument.

The post-World War 2 feed mill and associated buildings, other than their place in the modern history of the mill, have little architectural interest. Another storage shed to the west of the river is more likely to be contemporary with the late 19th/early 20th-century mill building and would have replaced another similar building on the same site. Traces of wall footings exposed in a recently dug service trench are likely to be associated with an earlier building in this area.

The existence of *in situ* fixtures and fittings and the evidence that it provides for the process flow within the mill are a significant survival. This, along with the existing knowledge of the site, makes Holme Mills a unique example. The survival of the roller mill and other equipment gives the mill added significance, as, although not an uncommon technology after its introduction in the late 19th century, the historic record has tended to concentrate on mills with millstones as the principal grinding technology. The resource assessment for the eastern counties archaeological research framework identifies roller milling as a gap in current knowledge (Glazebrook 1997, 76). A detailed record and analysis of the current building before any change, set against the documentary evidence, will provide an interpretative history of the mill, its processes and construction, particularly when combined with any archaeological evidence of associated buried remains. The *in situ* fixtures and fittings, before alteration or removal, will provide a record of the process flow within the building and how this has changed over time.



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6 APPENDIX 1: SOURCES CONSULTED

6.1 Historical Mapping

Description	Date	Reference
An accurate survey of the Manor of Holm in Bedfordshire for Sarah, Duchess of Marlborough	undated	HA 527
A Plan and Survey of Holme Estate in the Parishes of Biggleswade, Langford and Stratton in the County of Bedford. Belonging to the Right Hon ^{ble} Earl Spencer. Survey by John Corris	1781	HF400/1
Titheable lands in the Parish of Biggleswade	1838	MAT 5/1
OS 25 inch	1884	Sheets XVIII.13 and XXIII.2
OS 25 inch	1901	Sheets XVIII.13 and XXIII.28
OS 25 inch	1926	Sheets XVIII.13 and XXIII.2

7 APPENDIX 2: SMR AND NMR RECORDS

HER	NMR	Description	Period	Easting	Northing
461	362730	Moat – square medieval moat at Scroup’s Farm. Approximately 45m by 45m with ditch up to 15m wide and 3m deep. No indication of buildings on platform. The family were Lords of the Manor of Holme with Langford in the early 14th century.	Medieval	518632	243022
465		Cropmarks – site of medieval village of Holme – ploughed out remains of settlement including trackways and enclosures. Mentioned in Domesday Book.	Medieval	519214	242915
593		Findspot – Palaeolithic implements found during quarrying at railway ballast pit. Exact location uncertain.	Palaeolithic	519200	243100
631	969328	Cropmarks – extensive series of cropmarks on gravels to the west of the River Ivel. These include a block of rectangular enclosures as well as ring ditches.	?Prehistoric	518100	242800
1486		Cropmarks – extensive series of cropmarks defining ring ditches, trackways, rectangular enclosures and small enclosures. Iron Age, Roman and medieval finds from area.	Prehistoric, Roman and medieval	519100	242600
2499		Building – Holme Mills – late 19th-century building in yellow brick. Much altered and extended.	Modern	518510	242992
2876		Site of gravel pit shown on 1901 OS map.	Modern	518835	242725
3287	362745	Bridge – cast iron beams on brick abutments. Spans navigation cut of the canalised River Ivel (HER 14539) below Holme Mills lock. SAM 87.	Modern	518429	243022
4999		Building – Scroup’s Farm – timber-framed farmhouse, probably 17th century. No longer a Listed Building.	Post-medieval	518736	243010
5216		Findspot – Roman coffin discovered 1864, with associated glass vessel, lamp and pottery. Cropmarks in vicinity. Series of Roman ditches revealed in 2001 during investigation of pipeline easement.	Roman	518799	243232
7773		Building – Miller’s House at Holme Mills – 18th-century red brick.	Modern	518497	242986
9095	969309 969320	Cropmarks north of Broom Grange – rectangular and sub-rectangular enclosures, parallel to a stream. Also at least one trackway.	?Prehistoric	518099	243276
13936		Site of Deer Park.	Medieval - post-medieval	518860	242700
13937		Site of Deer Park at Park Mead, mentioned 1730s.	Medieval - post-medieval	518348	242355
14179		Site of Broom Grange. Still occupied in 18th-19th century.	Medieval - post-medieval	518225	243100
14199		Site of Holmemyll – medieval mill grange. Belonged to the estate of Warden Abbey. Location	Medieval - post-medieval	518300	243000

		approximate.			
14539		Ivel Navigation – canalisation of the river to create a navigation from Tempsford to Shefford for coal trade. The Ivel Navigation Act was laid down in 1756, being completed in 1822. Wound-up 1876.	Modern	518427	242954
14543		Building – Holme Mills, no details.	no details	518561	242980
14573		Site of 19th- to 20th-century quarry.	Modern	518101	243038
15060		Site of 20th-century smallpox isolation hospital	Modern	519125	242751
15978		Findspot – 13th-century medieval lead seal die.	Medieval	518850	242861
16199		Findspot – barbed and tanged flint arrowhead.	Neolithic - Bronze Age	518094	242943
16200		Findspot – barbed and tanged flint arrowhead.	Neolithic - Bronze Age	518695	242828
16201		Findspot – Palaeolithic handaxe.	Palaeolithic	518000	243000
17848		Site of World War II Pillbox, built 1940-1, demolished by 1999.	Modern	518340	243084

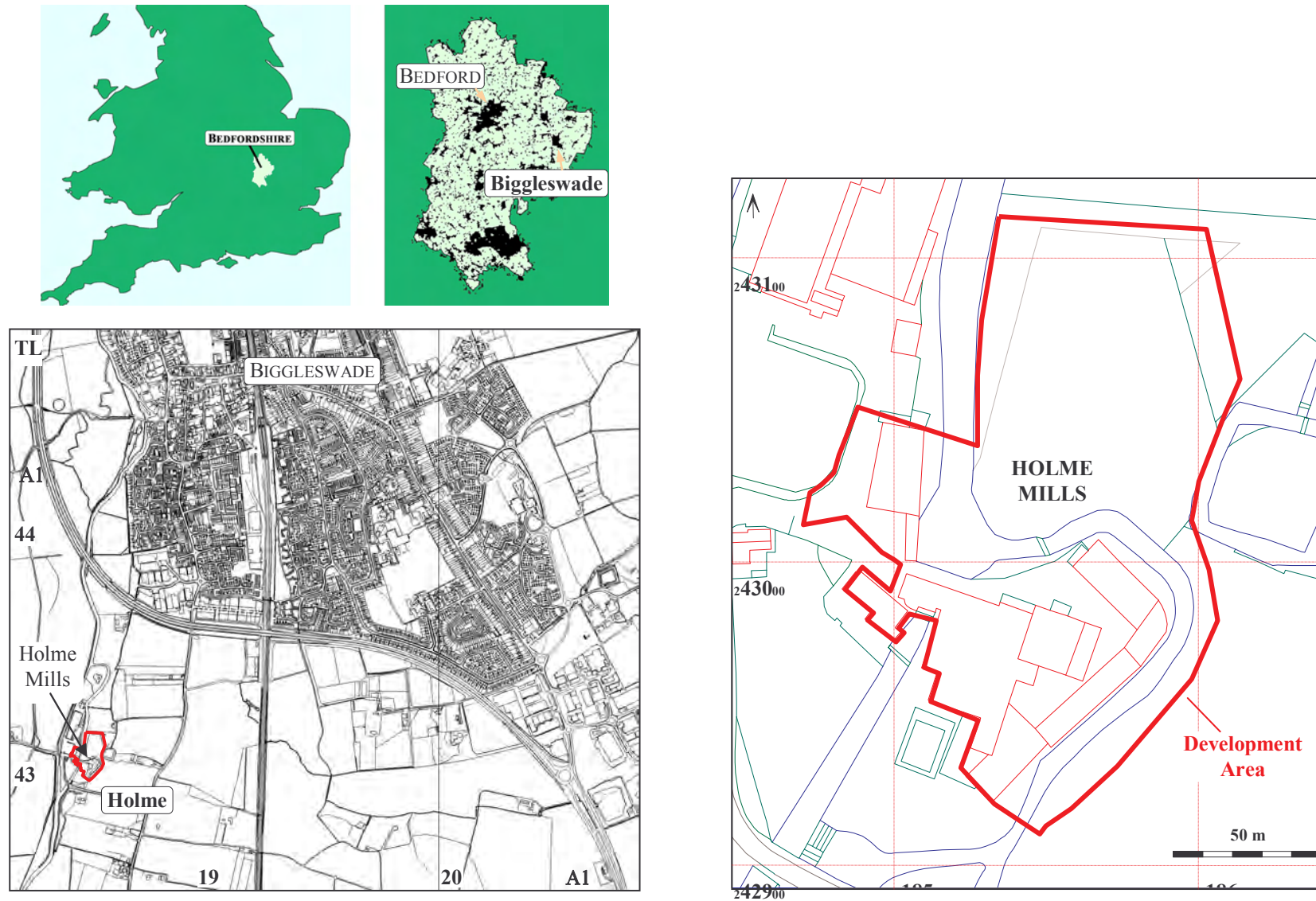


Figure 1: Site location plan

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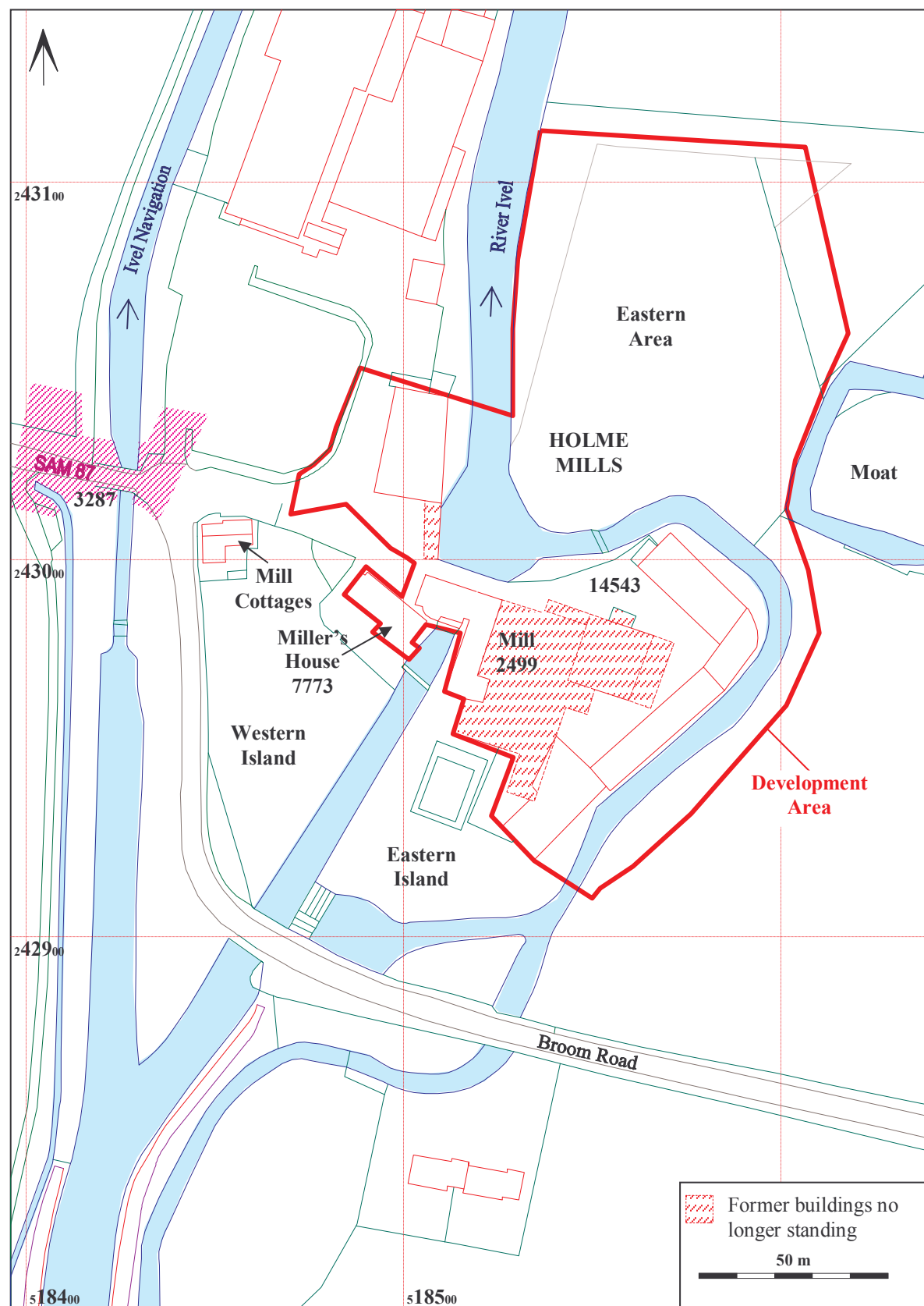


Figure 2: Site plan

Base map reproduced from the Ordnance Survey Map with the permission of the Controller of Her Majesty's Stationery Office, by Albion Archaeology, Central Bedfordshire Council. OS Licence No. 100017358(LA). © Crown Copyright.

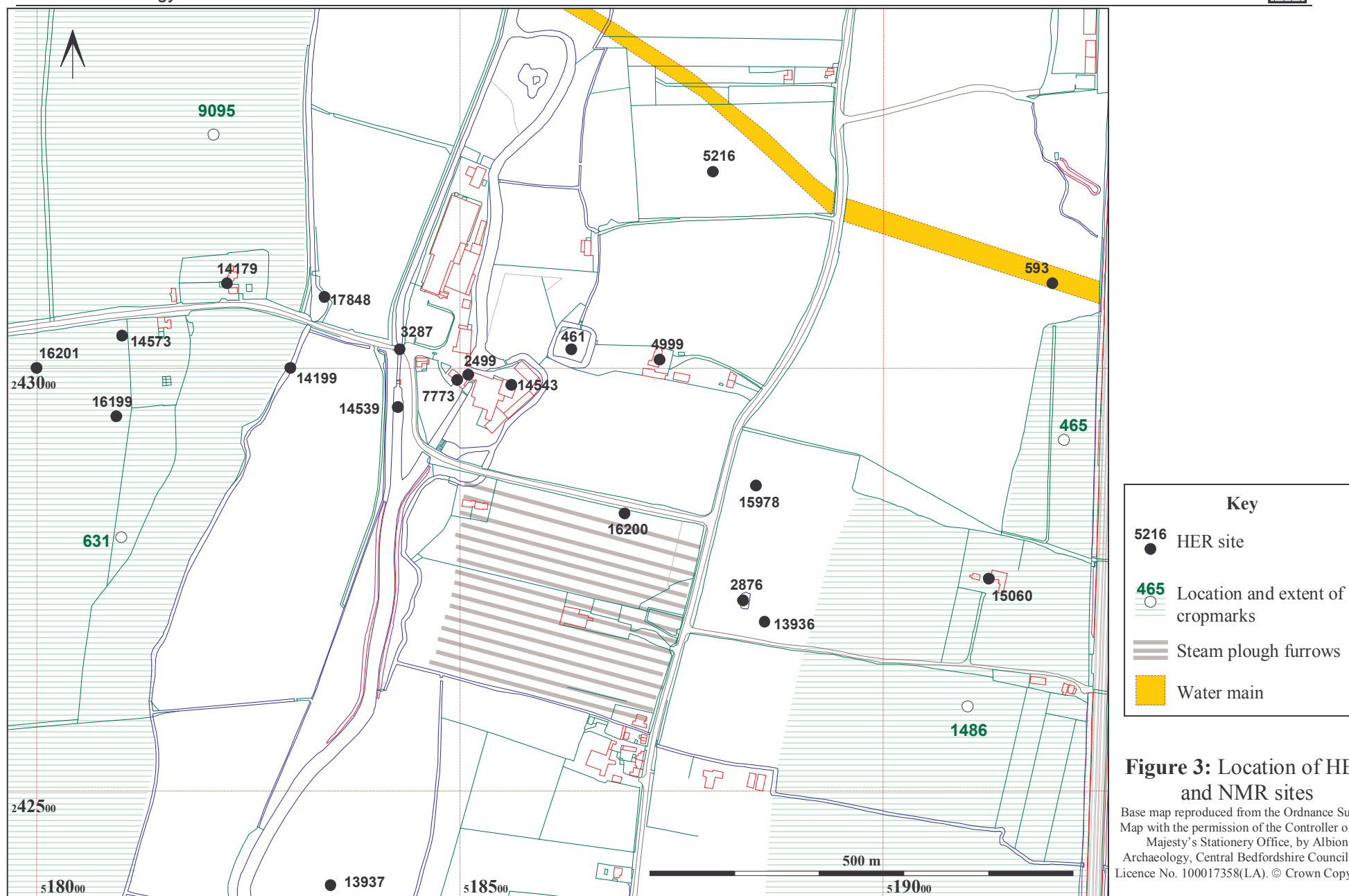


Figure 3: Location of HER and NMR sites

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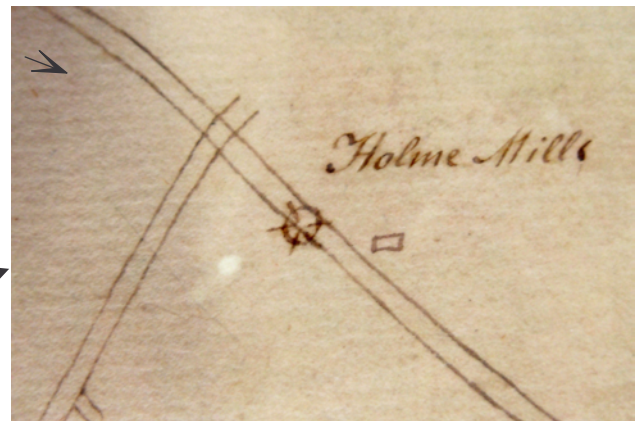
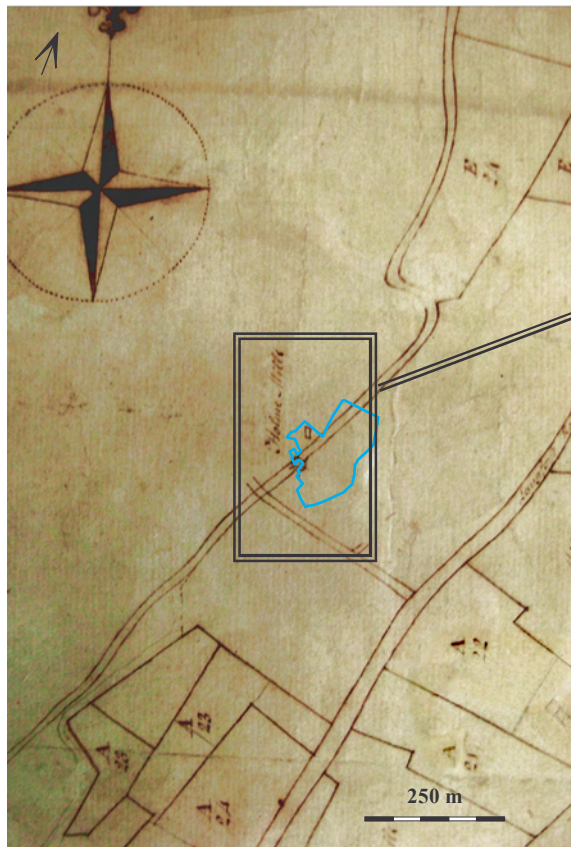


Figure 4: Detail of mill from the map of Holme for Sarah, Duchess of Marlborough. Dating to the 1730s or 1740s. Scale and position of Development Area are approximate.



Figure 5: A Plan and Survey of Holme Estate 1781. Scale and position of Development Area are approximate.

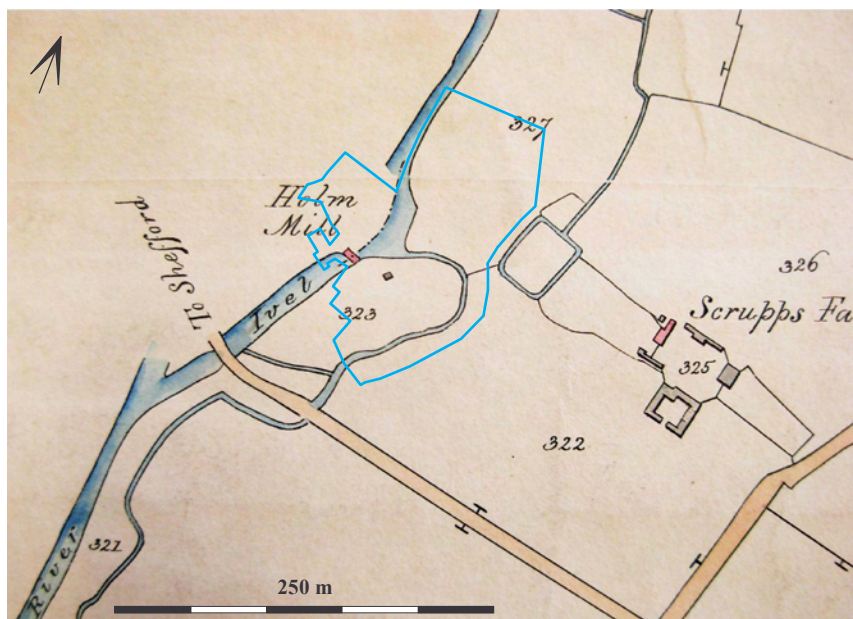


Figure 6: 1838 Map of Titheable lands in the Parish of Biggleswade. Scale and position of Development Area are approximate.

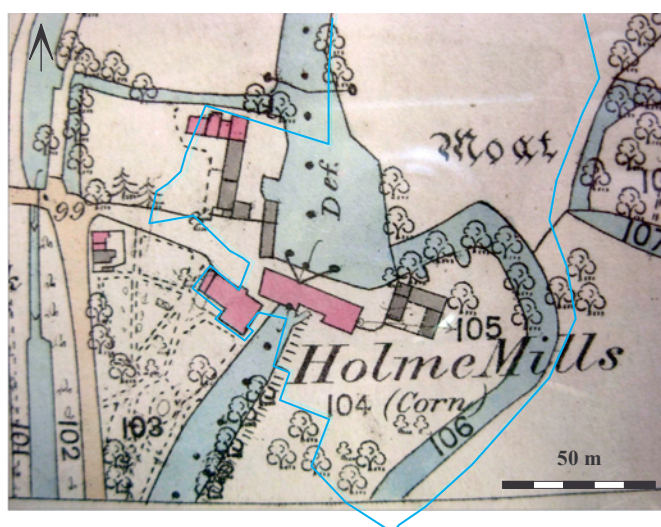


Figure 7: 1884 Ordnance Survey 25-inch map, first edition. Scale and position of Development Area are approximate.



Figure 8: 1901 Ordnance Survey 25-inch map, second edition.
Scale and position of Development Area are approximate.



Figure 9: 1926 Ordnance Survey 25-inch map, third edition.
Scale and position of Development Area are approximate.



Figure 10: Northern elevation of the mill (with red brick Miller's House beyond and ancillary buildings at right-hand margin of the image).



Figure 11: Detail of ground floor of northern elevation of mill, with off-set lower brick courses.