



**CHAPTER 5**

**The post-Roman Landscape**

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## Introduction

The Perry Oaks excavations yielded only sparse evidence for post-Roman activity, including an early medieval 'ridge and furrow' system to the west of the late Roman 'ladder' enclosure, a finds distribution which indicated a possible settlement focus on the southern edge of the excavations, and a post-medieval boundary and trackway to the east of the 'ladder' enclosure. No features of Saxon date were identified within the Perry Oaks site, nor were any stray finds of this date recovered.

The subsequent excavations of the Terminal 5 site have significantly enhanced this evidence, in particular through excavation of a small concentration of settlement-related early Saxon features to the north of Perry Oaks and just south of the present village of Longford (PSH02 Area 14). There is still, however, an apparent hiatus of activity in the middle to late Saxon period (mid 7th to early 11th century). The distribution of early Saxon (AD 410–850) features is shown in Figure 5.1.

To the sparse evidence for medieval activity revealed by the Perry Oaks excavations can now be added substantial evidence for medieval settlement and agricultural activity at Burrows Hill Close in the south-west of the excavated area (Areas 47/49)—confirmation of the hints of a medieval focus uncovered by the original excavation (POK96)—together with more sporadic evidence for field systems across other areas of the site, primarily in the west and north of the excavated area. A secondary focus of activity was noted in Area 14 to the far north. The distribution of medieval features across the site is given in Figure 5.1. Chronological evidence suggests that none of this medieval activity can be dated earlier than the 11th century.

Alongside structural, artefactual and environmental analyses, the interpretation of the post-Roman history of the site has benefited from selective research into the documentary sources for the period, covering the parishes of Harmondsworth and Stanwell in

detail, and nine surrounding parishes at a broader level. Examination of manuscript and cartographical sources has helped to place the excavated sites in a sequence of landscape development (*Phillpotts, CD Section 22*). The wealth of documentary evidence for agricultural practices in particular (crops, animal husbandry, grazing, etc) raises the possibility of being able to tie in structural, artefactual and environmental analyses to the documented medieval landscape. One particular objective of the post-excavation analysis was to attempt to trace the Burrows Hill Close settlement in the cartographic or manuscript sources, subsidiary questions focusing on the layout of the medieval field systems and how far these marked continuity with preceding periods, and to link their development with the historical framework.

## The Roman-Saxon transition

The latest elements of the Roman settlement included at least two buildings, associated waterholes, enclosures and the substantial 'ladder' enclosure system (see Chapter 4). Stratigraphic and artefactual evidence suggest that the settlement and enclosure system persisted in use until at least the end of the 4th century, but the precise point of abandonment remains obscure, largely because there are no finds types which can be more closely dated within this period with any degree of confidence. One of the final acts of the inhabitants of the Roman settlement may have been the deposition of a lead tank into a small waterhole, an act which 'can be viewed as a metaphor for the end of Roman activity on the site' (Framework Archaeology 2006, 229), but again, the date of this deposit cannot be pinpointed more closely than sometime in the late 4th or early 5th century AD.

The end of the Roman period, its effects on the inhabitants of the province, and the corresponding changes apparent in the archaeological record, remain matters for debate. What happened to the indigenous inhabitants? Does the change in material culture in the early Saxon period equate to a change in population? How far was the existing late Roman

landscape exploited by incoming settlers—does early Saxon settlement and agriculture mark continuity or discontinuity with the preceding period?

The dating evidence for the early Saxon settlement at Terminal 5 (Longford) is discussed below, and theoretically there could have been some brief chronological overlap between this settlement and the late Roman settlement and enclosure system, but it is unlikely that this could ever be proved one way or the other. Whatever the timescale, however, it is clear that the inhabitants of Longford's Saxon predecessor were using material culture of almost exclusively Anglo-Saxon origin, although there is a suggestion of the curation of certain Roman objects, such as coins, and possibly a brooch. While there are dangers inherent in the linking of material culture to ethnic identity (Cowie with Harding 2000, 172), since this could be used either to signify the adoption of aspects of a new and dominant culture by the indigenous population, or to reinforce ethnic identity in a period of tense interaction, these people can almost certainly be regarded as part of the influx of settlers moving up the Thames and its tributaries from the 5th century onwards. Their progress can be seen in the distribution of migration-period burial sites (Hines 2004, fig. 7.1).

It is apparent that by the end of Roman rule in AD 410, London was already in decline, and that subsequently, having lost its role as an administrative and military centre, it quickly ceased to function as a town; indeed, it is probable that it was largely abandoned by the early 5th century (Milne 1995, 89; Perring 1991, 128). Some British survival in the London area may be indicated by place-names with Celtic or Latin elements, including Berkshire and the River Brent (Cowie with Harding 2000, 177; Crystal 2004, 25), but 'if there was a period when distinct British and Saxon communities co-existed in the region then it was probably short-lived ... The apparent absence of British sites suggests that the indigenous population either abandoned the area or adopted the material culture of the incoming Saxon groups'

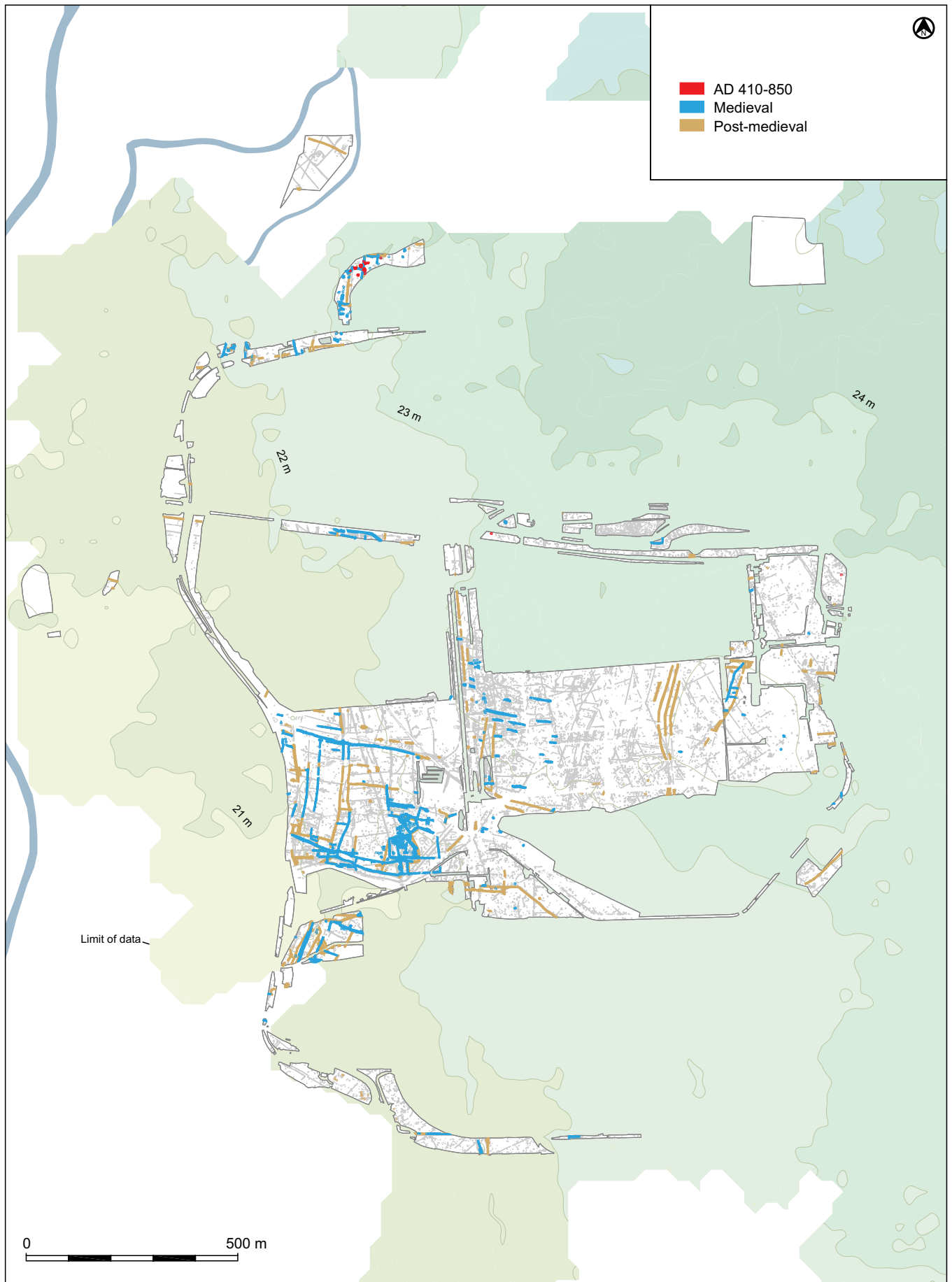


Figure 5.1: Distribution of all Saxon and medieval features

(Cowie with Harding 2000, 178). The extreme rarity of sites for which there is any evidence of continuity from the Roman into Saxon period is notable; Staines is one possible candidate, but the evidence is very tenuous (Poulton 1987, 215). There may well have been a decline in population following the end of imperial rule which would have had an inevitable effect on the agrarian economy (Cowie and Blackmore 2008, 130).

The Roman landscape framework in the Middlesex area centred on the river crossing town of *Pontibus*, which later became Staines (see Chapter 4). Its territory probably equated to the later hundred of Spelthorne, and included settlements with surviving Roman place-name elements at Bedfont (from the Latin *fonta* for spring) and Ashford (whose earlier forms include *ecles* for church) (Bailey 1989, 114, 120). The status of the British people who remained in this area may be represented by the slaves recorded in *Domesday Book*, who formed 18% of the population in Spelthorne and Elthorne Hundreds, but less than 5% in Middlesex as a whole (Darby and Campbell 1971, 117–18), although recent commentators have argued for a relatively small-scale Saxon influx and a more consensual division of territory (Poulton 1987, 216; McKinley 2003, 110–11; Hines 2004, 97–8).

The organisation of the early Saxon landscape was partly based on pre-existing Roman land-units and partly on new tribal groupings, both of which can be suggested from place-names and 8th-century charter evidence. There was therefore an element of continuity from the period of Roman dominance, and perhaps even from the Iron Age. In Spelthorne, for example, there are good correlations between Roman settlements, Saxon cemeteries and parish boundaries (Poulton 1997, 213). Middlesex may be related to the earlier *territorium* of Roman London, the land allocated for the support of the city. In the grain-producing lands on the gravels of south-west Middlesex, the existing post-Roman agricultural units and their slave populations are likely to have been taken over by

incoming Saxon leaders and tribes. At least part of the Saxon settlement at Harmondsworth was established within Roman field systems, as were others in the London area (Cowie and Blackmore 2008, 130). Some of the locations of early Saxon groupings straddling Roman roads may suggest the installation of mercenary bands (*foederati*), with land allocated for their support (Poulton 1987, 213; Bailey 1989, 108, 121; Hines 2004, 93), although some of the material evidence for these bands is now under question (Cowie and Blackmore 2008, 128–9).

Evidence for settlement in the Heathrow area, as discussed below, shows a spatial and morphological break with the Roman period, which supports the idea of an incoming population, but the environmental evidence is more ambiguous. Here it is as well to remember that agricultural activity would have been less subject to social than to environmental constraints (ie topography, geology, drainage, etc), and is therefore less likely to have differed significantly in terms of location from the preceding period. Early Saxon field systems have been tentatively identified at Manor Farm, Harmondsworth (possibly also the site of a Roman villa: Cowie and Blackmore 2008, 130), but other evidence for agricultural activity at this period is sparse, and ‘it is impossible ... to determine the organisation of agricultural land during the 5th and 6th centuries’ (Cowie with Harding 2000, 180). Within the London area settlements were often established within Roman field systems, for example at Rainham, Mucking and Mortlake, or close to late Roman villas—in other words on land that had previously been farmed. Does this indicate continuity of agricultural organisation? At this point the environmental data from the Terminal 5 settlement may be pertinent:

*The main issue for this period concerns post-Roman woodland regeneration. The charcoal assemblage has quite a strong hedgerow component, including field maple, which could represent remnants of Roman hedgerows. However, the taxa exploited do not differ significantly from the Roman assemblages, so the charcoal*

*does not offer a reliable indicator of environment change. Nonetheless, the results are interesting in the light of evidence from nearby Saxon sites at Hounslow and Kingston upon Thames for the deliberate use of heather as fuel (see discussion in Smith 2002, 33). It is thought that extensive areas of heath were exploited and managed in the early to later Medieval periods. The charcoal evidence from the early Anglo-Saxon period at Heathrow indicates that this was not yet the case.*

(Challinor, CD Section 15)

In 1919 Montague Sharpe interpreted Middlesex and its six hundreds as the surviving elements of the Roman *territorium* of London, the interior elements of its component *pagi* laid out in rigid grid patterns ‘like a gigantic chequer board’. Each *pagus* or *semi-pagus* became a hundred by the time of *Domesday Book* in the 11th century. The common assessments of villis in multiples of five hides in this survey were relics of Roman decimal figures. Sharpe detected the grid-lines in the field lanes and boundaries recorded on Rocque’s 18th-century map of Middlesex, the location of later churches and supposed Roman surveying mounds. He used much mathematical ingenuity to determine the layout of Roman fields and lanes, considering that the ‘rude Saxons’ were incapable of achieving this regularity. Although the precision of his system obviously contained an element of optimism, in outline he appears to have discerned a real continuity in the framework of the landscape in parts of Middlesex from the Roman to the post-medieval periods. In Sharpe’s system both the parishes of Harmondsworth and Stanwell lay within the south-western *pagus*, the lanes of its grid aligned from north-east to south-west, with other lanes at right-angles. The Roman road from Brentford to Staines lay at an irregular angle across this grid (Sharpe 1919, 64–8, 97–107).

The apparent continuity of some of the excavated field boundaries from the Bronze Age, through the Roman period to the medieval centuries should be seen in this context. Some of these in Stanwell parish were excavated in 1977

and 1979 (O'Connell 1990, 7, 60); others were investigated in the Terminal 5 excavations in the vicinity of the enclosures later called Borough Green, Borough Hill Closes, and Wheat or Long Closes. In contrast, the layout of late Saxon ridge and furrow fields across much of midland England commonly overlies the ditches of Iron Age and Roman fields, and is unrelated to them (Williamson 2004, 65–6, fig 24).

## The early Saxon period

### *Early Saxon political landscape*

Historical sources provide a political context for the Terminal 5 early Saxon settlement. Middlesex emerged as an identifiable region between the nascent kingdoms of the East and West Saxons in the 6th century AD, bounded by the Rivers Colne, Thames and Lea, and the wooded hill country to the north, and probably stretching further in this direction than the later county. The first known mention is as a province called *Middelseaxan* in a charter of 704 (Sawyer 1968, 87 no 65; Gelling 1979, 95 no 191). It never formed a separate kingdom, but was rather a loose confederation of peoples called the Middle Saxons. In the south-western part of the later county a widespread group called the *Wixan* appears to have fragmented by the 7th century into smaller units called the *Lullingas* in the Hayes area, the *Geddingas* in the southern part of the later Elthorne Hundred, and the *Stæningas*, occupying most or all of Spelthorne Hundred. One family of early Saxon leaders in western Middlesex may have included *Gislhere*, *Gilla* and *Geddi*, who gave their names to Isleworth, Ealing and Yeading respectively.

In other parts of England the territories of these local groups formed the building blocks in the construction of the Anglo-Saxon kingdoms. Here they were dominated by the surrounding larger kingdoms who extended their influence from their original power centres into the political vacuum of the London area, which had followed the collapse of British authority in the former Roman city in the early 5th century. The neighbouring kings defeated

the local leaders and their warriors in unrecorded encounters, or bought them off with gifts of land or money. The kings of Kent and Wessex were competing for control here in the 560s. Ceawlin of Wessex was active in western Middlesex between 560 and 580, and from this period may date the naming of Sunbury after his client Sunna of the Sunningas, a group which had its core lands in eastern Berkshire. The East Saxons were in control of Middlesex from at least the reign of Saberht (590–616), and Wessex and Mercia sought to dominate the region after 650. Wulfhere established Mercian overlordship north and south of the Thames after c 665. The Thames served as a trading route in times of peace, but became a barrier and a boundary in times of unrest and political fragmentation (Bailey 1989, 108–14, 118–22; Cowie with Harding 2000, 177). It is not clear if these Middle Saxon land-units and groupings should be regarded as surviving Roman estates, Saxon tribal home-lands of the migration period, early Saxon embryonic kingdoms, or middle Saxon multiple estates, or indeed all of them.

Early and middle Saxon cemeteries in the area may give some indication of where these middle Saxon groups had settled. Early Saxon graves have been found at Twickenham, Shepperton and Hanwell on the gravel terraces of the Thames and its tributary the Brent (Meaney 1964, 167–8). At Oaklands Road in Hanwell ten skeletons were found with their weapons (Keene 1975, 5). To the rear of the King's Head Inn on the east side of Longford, early Saxon necklace beads and a possible cremation urn were found; these objects are now in the British Museum (Cotton *et al.* 1986, fig. 60; Cowie with Harding 2000, 203). Three early Saxon (6th/early 7th century) inhumation burials have recently been excavated at Victoria Lane, Harlington, although due to aggressive soil conditions only the grave goods survived (Wessex Archaeology 2008). However, there is little evidence for early Saxon occupation on the claylands of northern Middlesex, or in the vicinity of London itself (Bailey 1989, 112), settlement apparently being confined to sites along

the Thames and its tributaries. On the London Clays between the river valleys, Iron Age and Roman sites were later covered by medieval woodland and wood pasture (Williamson 2004, 109).

### *Early Saxon settlement in the Heathrow area*

The distribution of early Saxon settlements in Middlesex is likely to have been less dense than its Roman predecessors (Fig. 5.2). A possible decline in population appears to correspond to a retreat from the heavier clay soils in favour of the more easily worked free-draining soils (Cowie and Blackmore 2008, 130–1). Settlements lay across the brickearth and gravel terraces of the Thames basin in a dispersed pattern, each consisting of only a few households (*ibid.*, fig. 137). The settlements in the study area are likely to have drifted within the same locality in the early Saxon period, in a process of *Wandersiedlungen* ('wandering settlements'), and shifted to different sites in the middle Saxon period. These are common factors which have emerged in settlement studies, but are still little understood. It appears that all early Saxon settlements were regarded as temporary, and that they were necessarily deserted by their communities in favour of fresh sites. This implies that a shifting form of agriculture was practised, which periodically required new ground to be broken in, as old fields became exhausted or choked with weeds. The more permanent middle Saxon settlements probably operated a more stable and intensive form of agriculture, based on heavier ploughs able to cope with a wider variety of soil types. The movements of settlements are likely to have taken place within the boundaries of the existing land-units. At Harmondsworth and Stanwell these may have been Roman estates. The mechanism by which these shifts of settlement occurred is unknown, but in the context of the division of the landscape into a series of estates, they are likely to have been seigneurially directed.

Excavated early and middle Saxon settlement sites in the West London area include Winslow Road,

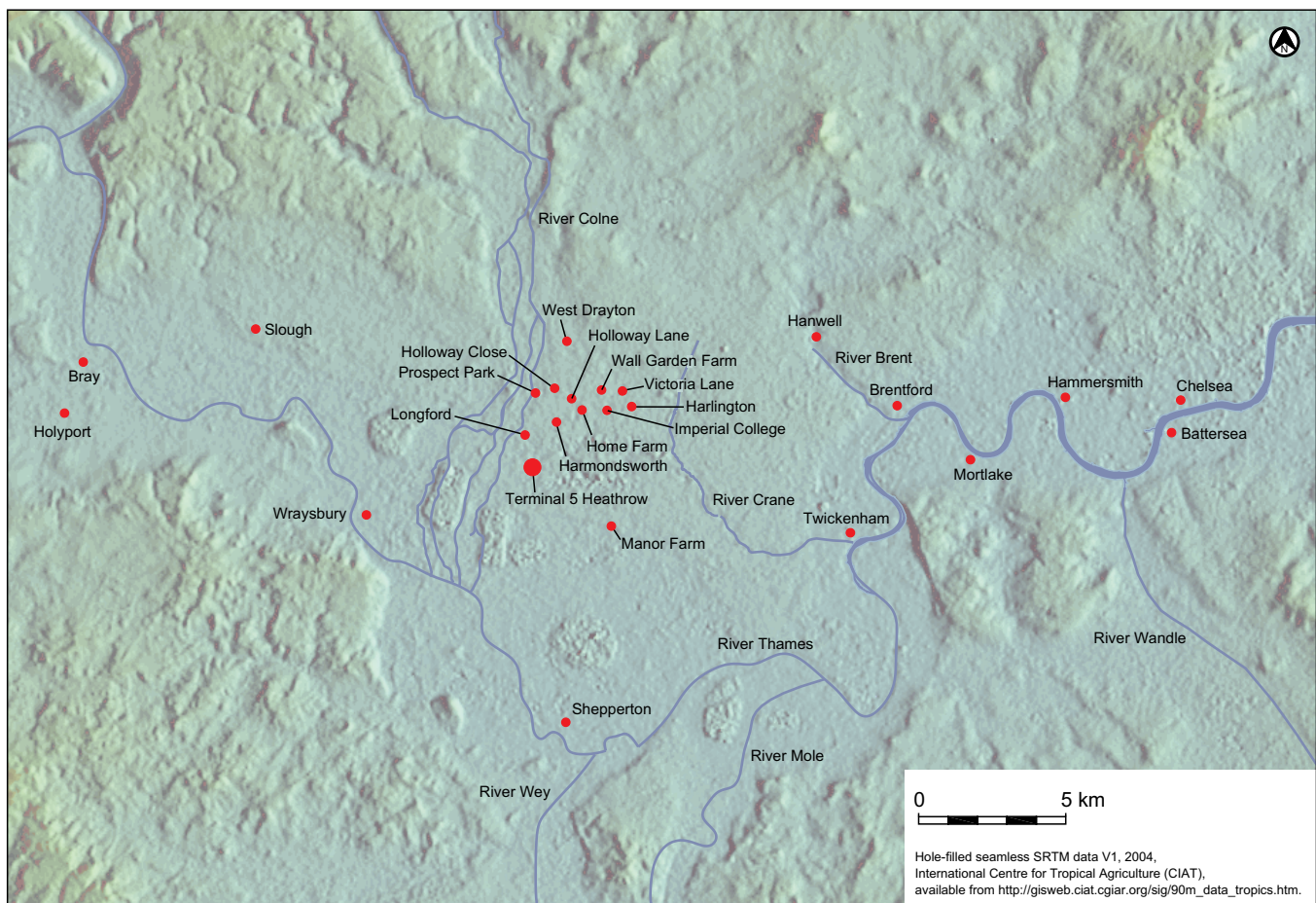


Figure 5.2: Early Saxon sites mentioned in the text

Hammersmith (three sunken-featured buildings and associated postholes); High Street, Mortlake (two sunken-featured buildings, one with a projecting oven, and ditches); Brentford (sunken-featured building); Chelsea (possible post-built structure); and Battersea (where re-analysis has concluded that no buildings were discovered) (Cowie and Blackmore 2008, sites H-K, V and W respectively). A further settlement site has been excavated on the opposite bank of the Thames at Hurst Park, Molesey, about 10 km to the south-west of Heathrow (six or possibly seven sunken-featured buildings; Andrews 1996). In Harmondsworth parish settlement sites have been found at Prospect Park (up to 11 sunken-featured buildings and two possible earthfast timber buildings), Holloway Close (one sunken-featured building), Manor Farm (a rectangular ditched enclosure and a sunken-featured building), Holloway Lane (one sunken-featured building in a small enclosure on the edge of a Roman field system), and features at Home Farm and Wall

Garden Farm (Cowie and Blackmore 2008, sites N-Q; Andrews 1996; Farwell *et al.* 1999). Two possible sunken-featured buildings have been identified at Imperial College Sports Ground in the neighbouring parish of Harlington (Mephram forthcoming), while in Hayes a sunken-featured building and a number of rectangular timber structures suggest that early Saxon activity in this area extended as far west as the River Crane (Cowie and Blackmore 2008, 88-9; [www.pre-construct.com/Sites/Summary06/HYA01.htm](http://www.pre-construct.com/Sites/Summary06/HYA01.htm)).

This scatter of sites at and around Harmondsworth—‘the greatest concentration of recorded early Saxon features in London’ (Cowie and Blackmore 2008, 88)—probably represents a drifting settlement of the 5th to 7th centuries AD, similar to the extensively excavated site at Mucking in Essex, but in a more diffuse pattern. Two main zones of activity can be suggested here, comprising a settlement zone along the river terrace just above the Colne, and mixed farmland further east (Cowie

and Blackmore 2008, 137). These settlements housed farming communities who grew wheat and barley and kept cattle, pigs and sheep or goats, but little sign has been found of their field systems. At West Drayton wattle-lined pits are thought to have been used for retting flax and hemp for textile production (Thompson *et al.* 1998, 56, 67, 80-3, 88; Cowie and Harding 2000, 175, 179-81, 183, 186, 195; Blackmore and Cowie 2001), which is of interest given the later medieval and post-medieval evidence for flax-retting at Terminal 5, in Areas 16 and 17 (see below). Remains of flax processing have also been found in a Saxo-Norman ditch at Spitalfields to the north-east of the city of London (Thomas *et al.* 1997, 18).

To the west, in Berkshire and Buckinghamshire, evidence for early Saxon settlement is sparse, and again with a largely riverine distribution, along the Thames. A single sunken-featured building has been found at Wraysbury (Pine 2003), further settlement traces at Bray, and there are hints

of Saxon activity at Slough and Holyport (Ford 1987, 97–8; Hiller and Munby 2002, table 2.1, fig. 2.2).

It is in this context that the components of early Saxon settlement excavated at Terminal 5 should be viewed, extending the drifting settlement to the south along the Colne, with isolated features to the east, within the putative area of agricultural land. The settlement remains lay within the enclosed tofts of the medieval and later village of Longford, although no continuity between the excavated settlement and the medieval village could be proved.

The name of Harmondsworth means Hermond's farm. The name of Stanwell literally means 'stoney stream or spring', but it may have a relationship to the name of Staines to the south, reflecting an early connection between the two settlements within one estate boundary.

### *Chronological indicators for the early Saxon period*

No scientific dates are available for the early Saxon settlement or other features, and dating instead relies very largely on ceramics. Other datable finds are extremely scarce – just a few metal and glass objects (see below).

### *Pottery*

Whatever the reality of the continuation of everyday life and material culture during the Roman-Saxon transition, the ceramic record shows a marked discontinuity in the early 5th century. The end of Roman rule in AD 410 was evidently followed by a rapid and complete breakdown of the administrative infrastructure of the province, with the existing machinery of production and distribution no longer able to be sustained (Hinton 1990, 1). Pottery production in the Roman style, which involved a number of centres operating at workshop or factory level, distributing standardised, largely wheelthrown vessels over wide areas of the country, was replaced during a relatively short space of time (perhaps within a generation) by handmade, domestic production in a

system which had more in common with the later prehistoric period. This renders the recognition of an early Saxon 'horizon' on ceramic grounds relatively easy, but there are difficulties in refining the chronology more closely.

The main problem concerns the lack of comparable, well-dated assemblages. While considerable progress has been made over recent years in the classification and dating of middle and late Saxon pottery in the London area (eg Blackmore 1988b; 1989; 2008; Vince and Jenner 1991), the early Saxon period remains something of a grey area. Pioneering work by Myres (eg 1977) relied overwhelmingly on pottery from cemeteries, and it is only recently that pottery from settlement sites in the London area has been studied. One major assemblage, from Mucking in Essex, has been published, with a ceramic sequence spanning the 5th to 7th centuries (Hamerow 1993), and the state of knowledge of early to middle Saxon ceramics in the London area at this point was summarised by Blackmore (1993). Since then, further early Saxon assemblages have been published (Laidlaw and Mephams 1996; 1999; Blackmore 1997), and work is continuing on others in and around London. The only site for which scientific dates are available is Mucking, and these have not significantly aided the construction of a ceramic sequence, which relies on typology, associated artefacts, primarily from cemeteries, and, from the 7th century, a few continental ceramic imports.

To summarise, a ceramic sequence has been proposed in which the earliest post-Roman assemblages of the 5th century, which are characterised by a range of ware types, primarily sandy but also including some regional imports, and certain distinctive, carinated vessel forms, were superseded in the later 6th century by a more restricted range of wares, predominantly organic-tempered, in less angular forms. Other attributes, such as surface treatments and decorative techniques, can also be chronologically distinctive.

The chronological evidence gained from the Heathrow pottery, which was

entirely derived from the Terminal 5 excavations, can be summarised as follows:

*The predominance of sandy fabrics within the T5 assemblage, together with the presence of the carinated vessel(s), and the use of external combing, could suggest that there is at least a small 5th century component here, although the majority of the assemblage is less closely dated within a 5th to early 7th century date range.*

*(Mephams, CD Section 3)*

### *Other finds categories*

Other finds types which might provide chronological information for the early Saxon period are very limited. None of the glass bead types are closely datable. Other objects comprise three copper alloy brooches, one of which (a small-long brooch of 5th to 6th century date) was found unstratified, while another is a plain disc brooch from a Saxon context (pit 525287; see Fig. 5.5, 2 below), which could be either Roman or Saxon and is therefore not helpful for dating. The third brooch is a zoomorphic example, in the form of a stag (see Fig. 5.5, 1 below), from pit 525340. The brooch is an unusual type, but its dating has proved troublesome.

*Dating the brooch on typological grounds is difficult. Roman zoomorphic brooches are found representing a wide range of living creatures including stags. Stag brooches are not as common as other types of animal brooch and most are quite distinct stylistically from the example under discussion ... The Terminal 5 brooch does not readily fall within the Roman tradition ... Roman zoomorphic brooches were copied in Germanic areas of the Elbe-Saale basin, middle Weser valley and southern Scandinavia between the late 2nd and early 4th centuries, but they did not continue in use into the Migration Period or early Anglo-Saxon period. Examples of Germanic stag brooches ... are more stylised in design and have sprung pins. In the post-Roman world there were Lombardic brooches from Italy representing stags and dating to the 6th and 7th centuries. Although these differ in some respects from the example under consideration, they do have features in common ...*

Feature	Context	Sample	Charcoal	Charred plant remains
Pit 525295	525296	15145	-	Yes
Pit 525331	525332	15144	-	Yes
Pit 525340	552322	15142	Yes	Yes
SFB 538326	538329	15146	Yes	Yes
Posthole 538287	538288	19218	Yes	-
Pit 555767	555771	19199	Yes	-
Waterhole 555805	555826	18279	-	Yes
Waterhole 555805	555830	19222	-	Yes

Table 5.1: Palaeo-environmental evidence from early Saxon features

Neither the Roman stag brooches, nor any of the Lombardic brooches provide a completely convincing parallel for the Terminal 5 brooch. However, a recent find from Micheldever, Hampshire, reported to the Portable Antiquities Scheme (Finds ID HAMP3109) is very similar (information from Barry Ager, British Museum). Although it is missing its head and antlers, it is clear that [these] were similar to the Terminal 5 example ... the similarities between the two brooches are striking. Unfortunately, the Micheldever brooch is a stray find.

(Scott, CD Section 6)

### Palaeo-environmental evidence for the early Saxon period

The palaeo-environmental evidence available from early Saxon features is limited. Eight samples, taken from seven features, produced charcoal and charred plant remains (see Table 5.1). All these features were located in PSH02 Area 14 (see Fig. 5.3).

The pit and sunken-featured building samples were from dry deposits, so bulk samples (40 litres) were processed. Despite the large sample size, small flots were recovered, and these produced limited amounts of charcoal and sparse, poorly preserved charred plant macrofossil assemblages. Of the charred cereals represented, the barley grains were often too poorly preserved to be identified to species level ... The two waterlogged samples from waterhole 555805 were reasonably well preserved, particularly the lower of the two, sample 19222. Some seed decay was seen in the upper sample (18279), but this is unlikely to have affected the species composition to any noticeable extent.

(Carruthers, CD Section 14)

### The early Saxon settlement

Features dating to the early Saxon period were mainly confined to the northern edge of the site (PSH02 Area 14; Fig. 5.3), where they formed a spatially and chronologically coherent group. As noted above, these remains lay within the enclosed tofts of the medieval and later village of Longford and just to the south of the present village. Only three other features of this date were identified, in Areas 34, 61 and 99 respectively. These features are quantified by type and by area below (Table 5.2).

The cluster of pits, postholes and waterholes provided the most comprehensive evidence of early Saxon occupation, although they may be peripheral to the main focus of settlement. Most of the features fall into one of four broad groups: single pits, pit clusters, waterholes and postholes. The exceptions include the finds-rich floor of a probable sunken-featured building (feature 538326), a second possible sunken-featured building (509180) and two areas of natural bioturbation (features 578441 and 581222, the latter in Pit Cluster 1), which did not yield any finds. The features were concentrated in an area measuring some 800 m<sup>2</sup>, with the two pit clusters dominating at the centre (Fig. 5.3; see reconstruction in Plate 5.1).

#### Pit Cluster 1

Pit Cluster 1 (PC1) comprises the more northerly of the two pit clusters (Fig. 5.4). The group of features, which lay within an area of brickearth enclosed

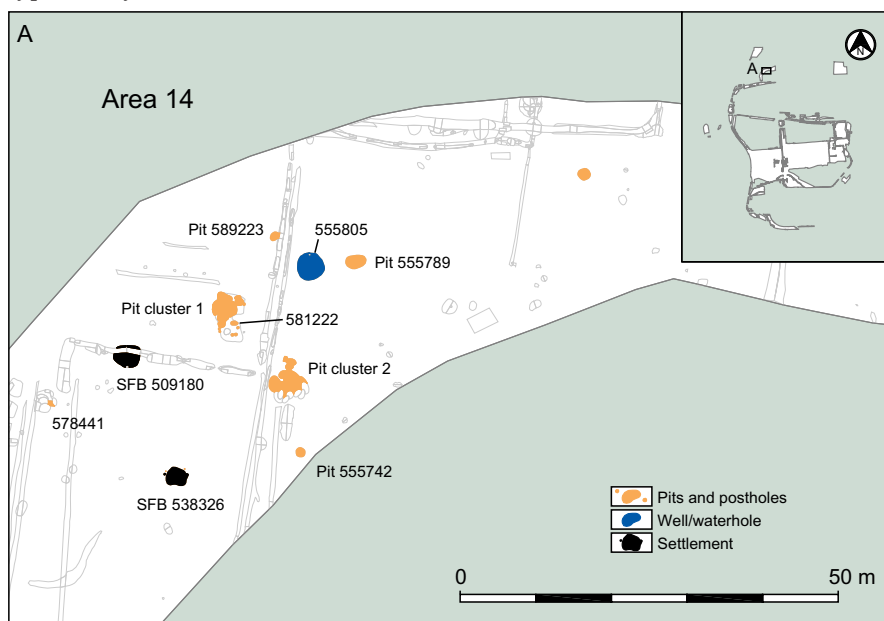


Figure 5.3: Distribution of early Saxon features on Area 14

Site code	Area	Feature interpretation	No. of features
PSH02	14	Natural Feature	2
PSH02	14	Posthole / Stakehole	12
PSH02	14	Pit	27
PSH02	14	Construction Cut	2
PSH02	14	Waterhole	1
PSH02	34	Pit	1
PSH02	61	Waterhole	1
PSH02	99	Pit	1

Table 5.2: Early Saxon feature types





Plate 5.1: Artist's reconstruction of pit digging within the Saxon settlement

by two medieval ditches, consisted of 13 intercutting pits and six postholes. The pit complex covered an area of around 12 m<sup>2</sup>. There were no stratigraphic relationships between the pit group and the six postholes, but the latter were assigned to the entity on the grounds of their proximity. Finds assemblages were recovered from all the pits (Table 5.3), with the exception of pit 525301. An area of natural disturbance (581222) was also identified within the group, although no finds were recovered from this hollow.

There were at least four phases of pit digging and, if the pits were dug and used individually, perhaps as many as fourteen. With a diameter reaching 2 m, pit 525338 was among the largest examples in the cluster. This feature contained a single fill to a depth of 0.34 m and is thought to be the earliest in the sequence, although pits 612087 and 525333 may have been dug at the same time. Pits 525287, 525301, 525323 and 525331 were cut into the top of pit 525338, followed by pits 525293, 525327, 525335, 525340 and 612090 in

uncertain order. At some later point, pit 525295 was cut into the top of the sequence.

All of the pits produced varying quantities of animal bone, including cow, pig and sheep/goat, presumably the remains of a typical Saxon diet (see Table 5.5 below). The small size of many fragments suggests heavy utilisation typical of comprehensive animal product consumption. The largest number, a total of 80 fragments, was recovered from pit 525287. One of

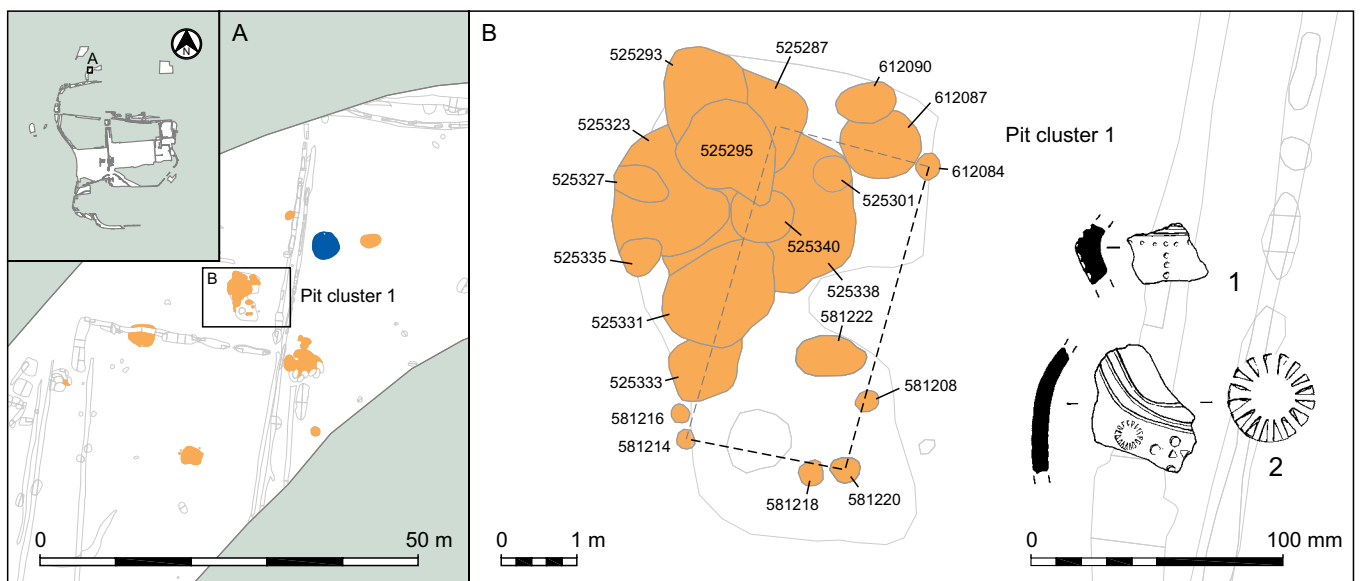


Figure 5.4: Pit Cluster 1 in Area 14, with pottery sherds

Pit	Animal bone	Pottery	Fired clay	Burnt flint	Copper alloy	Iron	Glass
525287	80	23	3	9	1 brooch	-	-
525293	17	-	-	-	-	-	-
525295	62	26	4	13	2 coins	-	2 beads
525323	22	21	2	1	-	-	-
525327	10	-	-	-	-	-	-
525331	41	11	10	10	-	-	-
525333	20	12	2	-	-	-	-
525335	14	5	2	1	-	-	-
525338	16	11	-	-	-	-	-
525340	24	12	2	5	1 brooch	2	1 bead
612087	1	5	1	1	-	-	-
612090	6	2	7	10	-	-	-
<b>Total</b>	<b>313</b>	<b>128</b>	<b>33</b>	<b>50</b>	<b>4</b>	<b>2</b>	<b>3</b>

Table 5.3: Quantification of the finds assemblage from PC1 (number)

the more unusual assemblages came from feature 525340, a small pit situated near the centre of the cluster. Most of the weight came from three large, meat-bearing cattle bones displaying cut marks, and three pieces of red deer antler. All three pieces of antler consisted of lengths of sawn beam with the tines removed, ideal portions for comb manufacture, although antler found many uses in the Saxon period, and no 'finished products' were found on the site.

Pit 525340 produced charcoal of oak (*Quercus* sp.), hazel (*Corylus avellana*) and blackthorn (*Prunus spinosa*). The charred plant assemblages from this pit and from two others within Pit Cluster 1 (525331 and 525295) were very sparse, comprising mainly barley grains, with bread-type wheat grains and oat grains from 525331 and 525295. Several weed seeds were present as contaminants, including stinking chamomile (*Anthemis cotula*), a weed of

heavy, damp, clay soils, while henbane (*Hyoscyamus niger*) and stinging nettle (*Urtica dioica*) from 525295 are indicative of nutrient-rich soils, perhaps indicating manuring of the fields. The origins of all three assemblages probably lie in the deposition of burnt domestic waste, although the association of possible 'high status' finds in pit 525340 (see below) has prompted the suggestion that the barley grains from this pit 'may represent a handful of processed barley burnt as an offering.' (see Carruthers, CD Section 14)

One of the latest pits in the group, feature 525295, produced two copper alloy Roman coins (AD 330–348 and AD 364–378). It is possible that these finds, along with a copper alloy disc brooch (Fig. 5.5, 2) from pit 525287, represent curated Roman objects—the 'magpie' tendency of early Saxon settlers is well documented (eg Plouviez 1985; Hamerow 1993, 71–3). Pit 525295 also contained one pale green glass

bead and the fragmented remains of another bead, of translucent blue. An unusual stylised stag brooch (Fig. 5.5, 1; see above) was recovered from adjoining pit 525340, which produced a second pale green glass bead, two corroded, unidentifiable iron objects and three lengths of antler beam. None of the other pits contained metal or glass items, or even organic objects that could be described as decorative objects.

It may be significant that these fairly unusual finds, more ornamental or symbolic in purpose than utilitarian, were concentrated in three intercutting pits (525287, 525295 and 525340) at the northern end of the pit cluster. These three pits were all cut into the top of

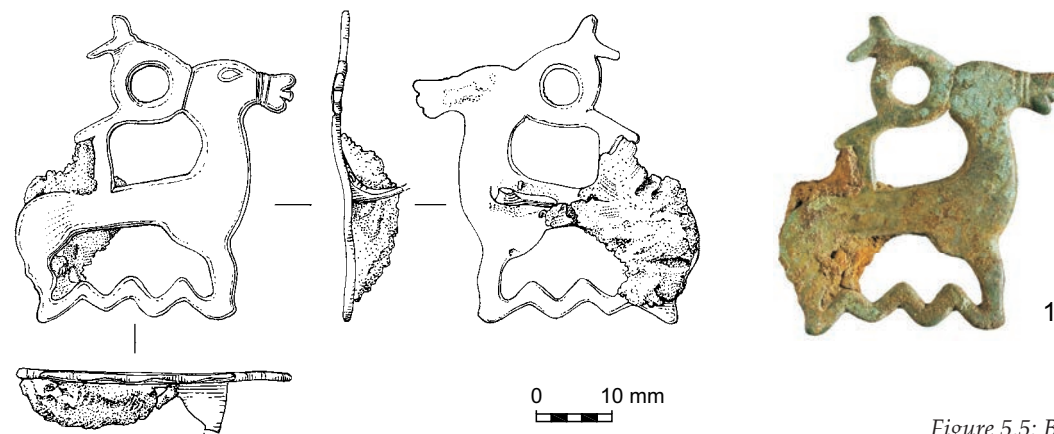


Figure 5.5: Brooches from Pit Cluster 1

what appeared to be the earliest pit in the sequence. Perhaps the coins, brooches and beads were originally placed or cached in the first pit as a single deposit, held together in an organic container. If never reclaimed, they may have since become dispersed throughout the fills of recuts as later pits were successively dug and filled in. Such small items might go unnoticed during later activity. Indeed, both beads were missed during excavation and only recovered as a result of environmental sieving.

An alternative explanation for the presence of jewellery, accommodating an interpretation of the features as 'heeling' (ie trampling) pits (for the mixing of brickearth with animal dung and fibre to create daub), is that they derive from redeposited midden material used to supplement the daub mixture. Another possibility is that the finds occurred as accidental losses during strenuous *in situ* working. However, it seems unlikely that the peasant inhabitants of Saxon Longford would have been so careless with the few valuable items they had acquired or unearthed from Roman deposits. The presence of an exotic zoomorphic brooch is a particularly unexpected find in a pit containing general domestic waste from what is presumed to be a low status settlement. The possibility that the pit was used to conceal a hoard of valuables from public curiosity is thus an appealing one.

### Posthole structure

The pits were surrounded by six postholes (581208, 581214, 581216, 581218, 581220 and 612084), which were confined to the south-eastern side of the pit cluster (Fig. 5.4). These features were of uniform size, ranging from 0.17 to 0.4 m in diameter and from 0.1 m to 0.27 m in depth. The majority contained a single fill, usually of grey clay silt, but none of the postholes produced any finds. The arrangement of the postholes around the south-eastern side of the pit cluster suggests that they formed part of a single structure, perhaps a screen or shelter that was constructed around the pits. The double corner postholes (581214/581216 and 581218/581220) may have been attempts to reinforce or repair the structure. The conjectured outline of this structure is shown in Figure 5.4 (broken line).

Another more likely possibility is that the six postholes belong to a separate, later structure that was unrelated to the pit cluster, which is particularly compelling as Pit Cluster 2 (PC2) lacks any evidence of an associated structure. In the absence of stratigraphic relationships, however, it is uncertain whether this structure pre- or post-dates the pits. Perhaps the missing elements of the building were truncated by the pits, as shown in Figure 5.4 (dotted line), which would imply the earlier presence of a small structure

measuring some 2.5 m wide by 4.5 m long. The paired postholes (see above) may have defined the doorway to the building, while the missing corner post may have been situated in the vicinity of pit 525287, which was over 0.5 m deep and certainly would have removed any trace of an earlier posthole. The function of the postulated structure remains uncertain, but its position might suggest a small farm building or an outhouse for storage or stock enclosure.

### Pit Cluster 2

A second pit complex (PC2) was located some 10 m to the south-east of PC1 (Fig. 5.6). There were eleven inter-cutting pits in the group, nine of which produced small assemblages of animal bone, pottery and other finds (Table 5.4). From the absence of postholes, there does not appear to have been any structure associated with the pits. PC2 covered an area of around 16 m<sup>2</sup>. The features were less tightly clustered than PC1, and seemed to form an almost linear arrangement on an approximately north-south axis. The aggregation of features represents at least four phases of pit construction and, if the pits were in use sequentially, possibly as many as eleven.

The diameter of individual pits ranged from 0.42 m to 2.4 m, while the depths varied from 0.07 m to 0.78 m. As in PC1, the earliest pit in the sequence

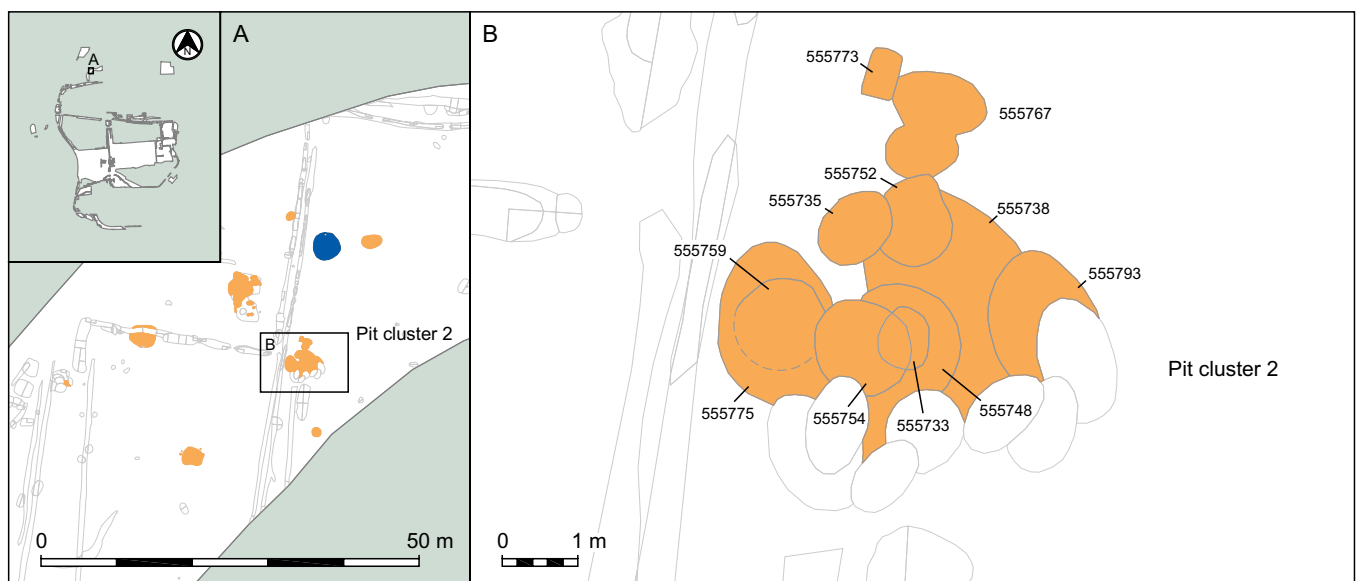


Figure 5.6: Pit Cluster 2 in Area 14

Pit	Animal bone	Pottery	Fired clay	Burnt flint
555733	2	-	-	-
555735	-	-	1	3
555738	7	2	16	3
555752	37	1	-	-
555754	7	-	2	1
555759	7	-	-	-
555767	93	-	-	8
555775	1	-	-	-
555793	6	5	-	2
<b>Total</b>	<b>160</b>	<b>8</b>	<b>19</b>	<b>17</b>

Table 5.4: Quantification of the finds assemblage from PC2 (number)

(feature 555738) was among the largest and deepest examples and was centrally located. Assuming that the pits were used for brickearth extraction and daub production, this particular approach to pit building might find an explanation in the construction process. The first—and largest—extraction pit would probably have provided enough daub for the main construction phase of a new building. The subsidiary pits—which were smaller and occupied positions peripheral to the main pit—may have been opened later to extract a bucket or two of brickearth for minor repairs during the lifetime of the building. The series of small, elliptical pits that clustered along the southern edge of the main group may represent just such maintenance pits, suggesting that small but clean deposits of brickearth were being sought for sporadic repair jobs. Each pit cluster, with its associated water-hole, probably represents the original construction and subsequent maintenance of a single building. It would not be unreasonable to conclude that the buildings were situated, for practical reasons, close to the daub production centres. SFB 538326 (see below) may have been one such building; the other may exist a short distance beyond the boundaries of the excavated area.

While originally intended as extraction pits, the hollows remaining from the quarrying of brickearth would have provided convenient receptacles for the deposition of domestic waste. It seems that some of the pits stood empty for some time before they were put to this secondary use. One of the deposits in pit 555738, for example, showed a

distinctive 'banding' thought to result from a succession of wet and dry conditions; the pit may have stood open for a considerable period of time before deliberate depositions 555746 and 555747 sealed the previous silting events. This would be consistent with the view that the pits were reassigned as rubbish pits rather than backfilled immediately after the brickearth was extracted. Similar considerations may have governed the later reuse of water-hole 555805 as a latrine or cess pit. Perhaps, if one pit cluster contributed to the construction and maintenance of a single dwelling, it was considered to belong to the occupying household and continued to serve its needs as a refuse pit. Thus, having contributed the raw materials to build the house, the pit was then filled with the by-products of its existence in an almost direct reversal of the process.

#### *The two pit clusters – chronologically or functionally independent?*

Were the two pit clusters operating independently? Qualitative and quantitative differences in the finds assemblages from the two clusters (Tables 5.3 and 5.4) may indicate differential treatment. Such discrepancies could be explained in chronological terms, or it could be argued that the material differences reflect the activities of two broadly contemporaneous households, each utilising separate midden deposits, and producing their own depositional signature. The most striking difference

is in the overall quantities of material, PC1 producing an assemblage which is numerically more than twice the size of that from PC2.

With a view to exploring the chronological development of the two pit complexes, the pottery was examined, although the overall sample is far too small for any statistically valid conclusions to be drawn. Sandy wares dominate both assemblages, but organic-tempered wares were only present in PC1. Given the ceramic sequence outlined above, in which sandy wares were superseded by organic-tempered wares by the later 6th century, this could suggest a chronological difference, but slightly contradictory evidence is provided by two diagnostic sherds from PC1: a carinated sherd with impressed decoration (shown on Fig. 5.4, 1) and a sherd with stamped motifs (shown on Fig. 5.4, 2). Carinated vessels are considered to be typical of the 5th century whereas stamping is a decorative trait with a *floruit* in the 6th century. Moreover, there is some evidence for contemporaneity (and other links) in the presence in both clusters of distinctive sherds with surface combing, a technique generally dated relatively early within the early Saxon sequence.

The animal bone assemblage from the two pit clusters is quantified in Table 5.5 (above). In both cases the majority of the bones were unidentified, but both produced a similar range of species. The proportions of all species

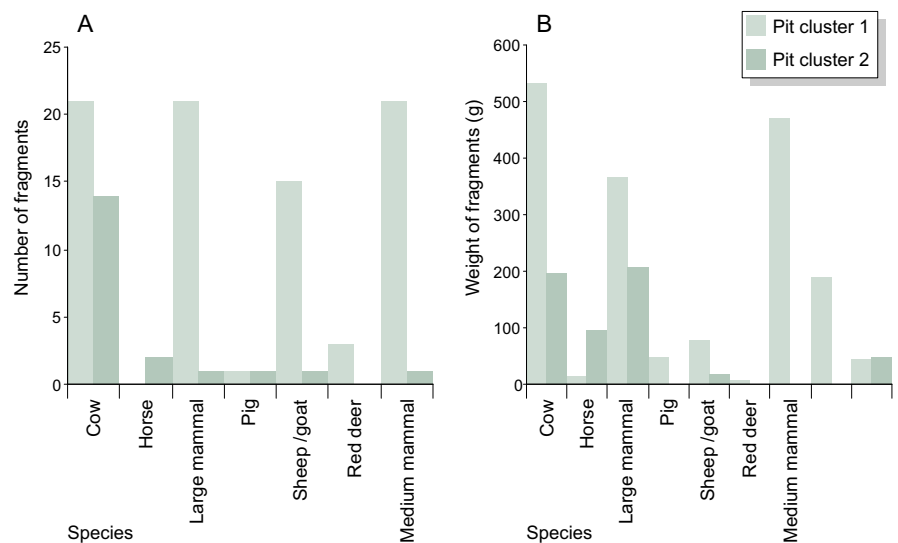


Figure 5.7: Quantification of animal bone assemblages from Pit Clusters 1 and 2

other than cattle are lower for PC2 than for PC1. Figure 5.7 shows the species profiles of the two assemblages (identified bone only).

If the two pit clusters represent two households, then perhaps the activities of their respective owners can be inferred from these subtle differences in domestic waste. The red deer antler beams from PC1 might suggest the workshop of a specialist craftsperson. Perhaps payment for his or her creative services was in kind—brooches, beads, curated antiquities and coins, cuts of meat—which would perhaps account for some of the more unusual finds in this pit complex and may also explain the wide range of domestic species represented by the animal bone assemblage.

There were no metal or glass objects from PC2. Perhaps the limited range reflects a less prosperous household, which in turn suggests that the occupants were engaged in less profitable methods of subsistence. The animal bone assemblage from PC2, which is dominated by large-sized domesticates, might belong to a cattle-farming house-

hold that did not possess many other valuable goods apart from their stock.

From the pottery evidence, the two households were probably broadly contemporaneous. The longevity of the two inferred dwellings is traced by the configuration and sequence of the individual daub pits within each cluster. Practical considerations might have linked each pit cluster with its own waterhole, which provided fresh water for daub mixing. Once emptied by the extraction of daub, the pits would have formed convenient receptacles for rubbish disposal.

In summary, the evidence discussed so far could support the presence of two broadly contemporaneous but distinctly separate households, with socio-economic differences reflected in the content and composition of their finds assemblages. On the one hand, there is the rich and varied assemblage from PC1; on the other, there is the comparatively small and impoverished collection from PC2. Such material distinctions might be explained by disparities in wealth resulting from alternative subsistence practices.

The finds evidence is indeed, suggestive, but it still remains questionable whether these pit clusters really were used, after their initial digging, primarily for refuse disposal, as the quantities of material, even from PC1, are not great. Furthermore, the brooches and coins, and possibly glass beads, in PC1 seem unlikely to represent deliberately discarded refuse; their significance as a deliberate deposit, with or without the possibility of recovery, has already been discussed. An explanation involving a limited period of deposition seems to be negated by the chronological evidence of the pottery. Deposition into the pits may, therefore, have been largely as secondary refuse from middening elsewhere, or on an intermittent and *ad hoc* basis. In this regard, the animal bone evidence is pertinent.

*Some pits seem to contain bones that may have originated from specific activities, such as butchery or table waste, which implies occasional spontaneous deposition into whichever feature happened to be open, rather than a particular waste disposal strategy.*

*(Knight and Grimm, CD Section 13)*

Feature - Context	Cow	Horse	Large mammal	Pig	Sheep/goat	Red deer	Medium mammal	Unidentified	Total
Pit cluster 1 - 525287	-	-	-	-	2	-	-	78	80
525293	17	-	-	-	-	-	-	-	17
525295	-	-	-	1	-	-	-	61	62
525323	-	-	6	-	6	-	5	5	22
525327	-	-	5	-	3	-	-	2	10
525331	1	-	-	-	-	1	-	39	41
525333	-	-	-	-	2	-	-	18	20
525335	-	-	8	-	-	-	1	5	14
525338	-	-	1	-	1	-	14	-	16
525340	2	-	1	-	-	2	1	18	24
612087	1	-	-	-	-	-	-	-	1
612090	-	-	-	-	1	-	-	5	6
<i>Pit cluster 1 total</i>	<i>21</i>	<i>0</i>	<i>21</i>	<i>1</i>	<i>15</i>	<i>3</i>	<i>21</i>	<i>231</i>	<i>313</i>
Pit cluster 2 - 555733	1	-	-	-	-	-	-	1	2
555738	-	-	-	-	-	-	-	7	7
555752	2	-	-	-	-	-	-	35	37
555754	-	2	1	-	-	-	-	4	7
555759	1	-	-	-	-	-	-	6	7
555767	10	-	-	-	-	-	-	83	93
555775	-	-	-	-	-	-	1	-	1
555793	-	-	-	1	1	-	-	4	6
<i>Pit cluster 2 total</i>	<i>14</i>	<i>2</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>140</i>	<i>160</i>
<b>PC 1 and PC 2 total</b>	<b>35</b>	<b>2</b>	<b>22</b>	<b>2</b>	<b>16</b>	<b>3</b>	<b>22</b>	<b>371</b>	<b>473</b>

Table 5.5: Quantification of the animal bone assemblage from Pit Cluster 1 and Pit Cluster 2

### Sunken-featured building 538326

So where were the putative building(s) that were created from the brickearth removed from the two pit groups? Feature 538326 is the most convincing candidate (Fig. 5.8), with another possible structure about 15 m to the north-west (509180); any other structures may have existed beyond the boundary of the excavated area, perhaps a few metres to the north or south of Area 14, but probably not far from the pit clusters and waterholes.

Feature 538326, thought to be a sunken-featured building, was situated some 15–20 m to the southwest of PC1 and PC2 (Fig. 5.8; Plate 5.2). The feature measured 3.05 m long and 3 m wide; its longer axis followed the same alignment as the later medieval ditch boundaries nearby. It was relatively shallow in places, largely due to truncation, reaching depths of around 0.05 m. At each end of the main cut lay a single posthole: 582423 in the east and 538287 in the west. Two small stakeholes were set at some distance (between c 0.3 m and 0.6 m) to the north of each posthole, while a third stakehole was revealed within the main cut itself. Tenuous evidence for the actual construction comes in the form of oak (*Quercus*) charcoal (from posthole 538287 as well as the fill of 538326) and a single sedge nutlet (see artist's reconstruction in Plate 5.3).

*It is likely that the structural wood for the building was oak, since this makes excellent building timber, but it must be remembered that the charcoal was not recovered from in situ burning, and is more likely to represent the remains of domestic debris, probably dumped into the building post-abandonment.*

(Challinor, CD Section 15)

*It is interesting to note that at West Heslerton (Carruthers and Hunter forthcoming) frequent sedge seeds and rhizomes from the SFBs provided possible evidence for the use of turves for walling. An alternative explanation is that the sedge was growing as a cereal contaminant, indicating the cultivation of damp ground.*

(Carruthers, CD Section 14)

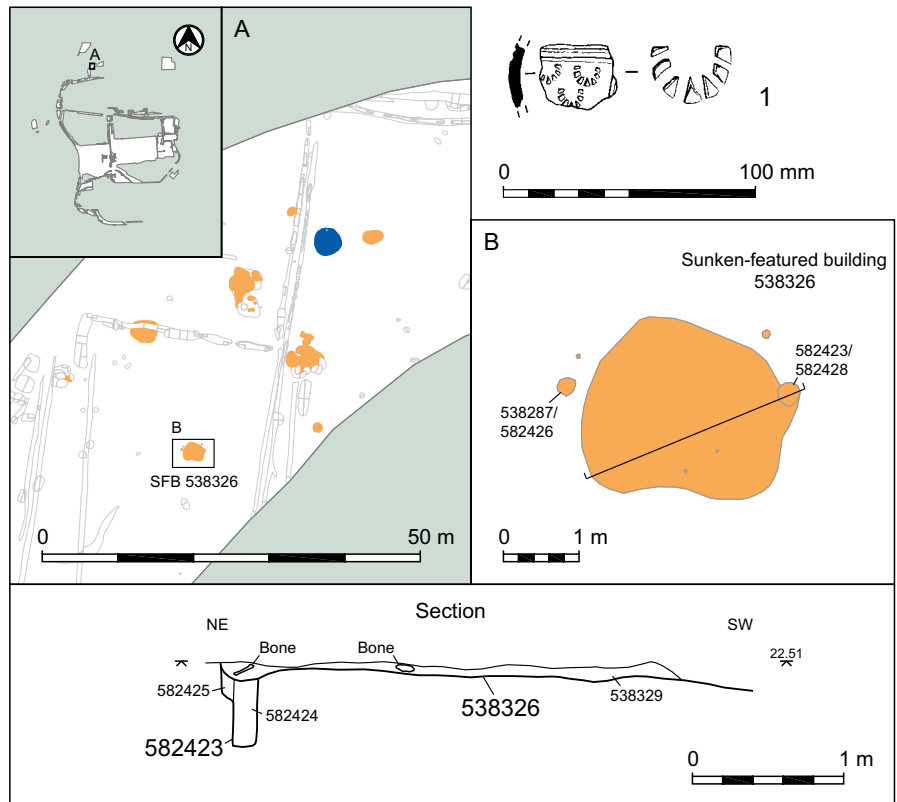


Figure 5.8: Sunken-featured building 538326 and its associated postholes, with stamped pottery sherd



Plate 5.2: Sunken-featured building 538326

The cut was filled by a single deposit (538329), consisting of a dark brown-grey organic silty clay. The layer contained pottery, animal bone, burnt, unworked flint, one iron object and two pieces of ironworking slag (Table 5.6); the postholes (538287 and 582423) also contained small quantities of

animal bone, pottery and burnt flint. Virtually the only charred plant remains present (all from 538326) were cereal grains, including barley and bread-type wheat. No finds were recovered from any of the three stakeholes.

Feature	Animal bone	Pottery	Fired clay	Burnt flint	Iron	Slag	Glass
Feature 528326	127	47	13	55	1	2	1
Posthole 538287	7	3	-	3	-	-	-
Posthole 582423	3	-	-	1	-	-	-
<b>Total</b>	<b>127</b>	<b>50</b>	<b>13</b>	<b>59</b>	<b>1</b>	<b>2</b>	<b>1</b>

Table 5.6: Quantification of the finds assemblage from feature 538326 and its associated postholes



Plate 5.3: Artist's reconstruction of sunken-featured building under construction

In terms of the datable finds, the pottery fabrics are almost exclusively sandy, with just one organic-tempered sherd. Diagnostic forms comprise one carinated vessel, and one sherd with stamped decoration (shown on Fig. 5.8). As with PC1, this gives slightly contradictory evidence; the predominance of sandy fabrics and the presence of a carinated form are indicative of an early date (5th or early 6th century AD), while the organic-tempered sherd and the stamped decoration could fall slightly later in the 6th century.

### Sunken-featured building 509180

SFB 509180 was located approximately 15 m to the north-west of 538326, and about 11 m south-west of PC1 (Fig. 5.9; Plate 5.4). It was sub-rectangular but slightly irregular in outline, measuring 3.39 m by 2.63 m. It was flat-bottomed, with steep sides and a relatively even depth of 0.6 m. Unlike 538326, no postholes were observed either within or close to the feature (two features cutting the upper fill of the feature, 538285 and 538276, may be small tree-throws or postholes, but are clearly later in date). Several fills were recorded. Most of these were secondary fills, which had apparently formed initially through a period of slow silting, followed by slumping of the sides, possibly incorporating upcast material, and then further erosion of the sides and surrounding topsoil. These secondary fills produced very few finds, and nothing closely datable. Finally, there was an episode of deliberate backfill, which contained most of the cultural material from the feature (Table 5.7). No palaeo-environmental material was recovered from 509180.

If this is a sunken-featured building, it is unusual in having no associated postholes or stakeholes, but is by no means unique—other possible buildings in the Greater London area also lack these (Cowie and Blackmore 2008, table 66). The dimensions are well within the known range, although the depth is above average, which is particularly marked since 538326 nearby has been so heavily truncated. It is not clear why the depths of the two buildings should have differed so widely.

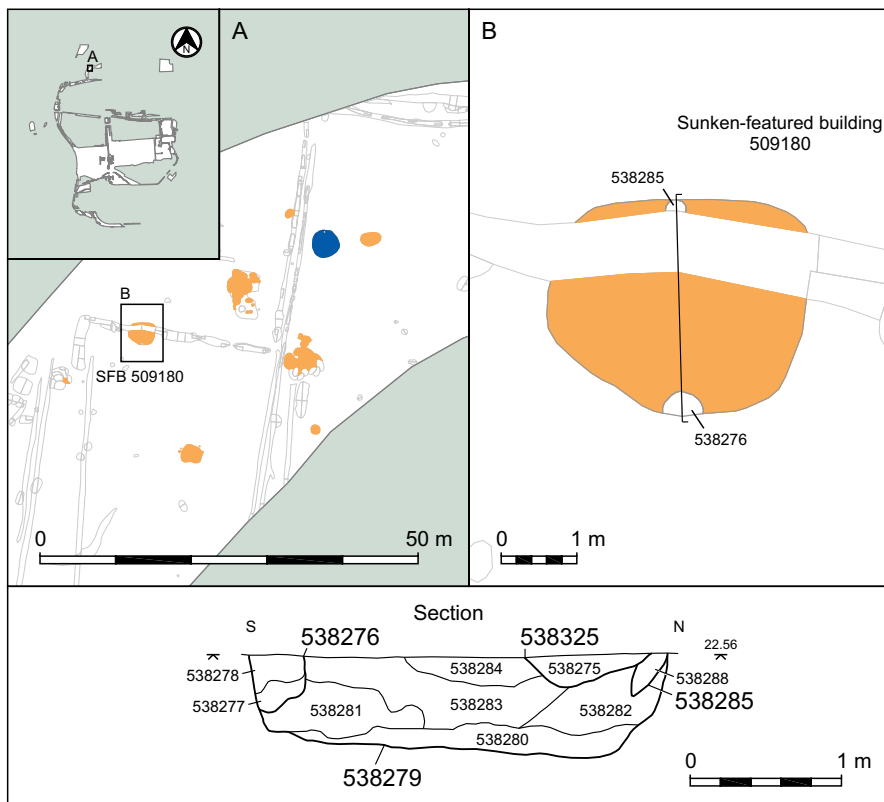


Figure 5.9: Sunken-featured building 509180



Plate 5.4: Sunken-featured building 509180

The pottery from the backfill deposit (27 sherds) includes both sandy and organic-tempered wares, in roughly equal quantities; amongst the sandy wares is the partial profile of a small, carinated vessel. As discussed above, the combination of sandy fabrics and carinated vessel forms is considered to indicate a date range relatively early within the Saxon sequence, perhaps 5th century into early 6th century. The quantity of pottery is very small, but this is nevertheless a valuable chronological indicator.

The faunal assemblage is also of interest in providing possible evidence for butchery. In the secondary fill was a single large mammal long bone in very poor condition. All the remaining bone came from the deliberate backfill, which contained horse, pig and cattle (in that order of frequency), and a single dog lower canine tooth.

*In the [back]fill ... are left equid metatarsal and metacarpal (with abaxials) and associated phalanges and sesamoids, from the deposition of at least two horse feet, and this is the only definite evidence of this species in the feature. It is possible that they were deposited with attached skin, but there is no evidence to confirm this, and*

*these parts of the carcass may have been dumped after primary butchery as low value meat waste. The pig was represented by a humerus, radius and two ulnae, pelvis and unfused phalanges, all potentially from a single immature individual under one year. Other items are medium and large mammal ribs and vertebrae, and cattle humerus and some are burnt. Butchery or consumption waste with some unusual deposits is suggested; the horse bones are of low meat utility so they are likely to be the former, deposited soon after primary butchery and not further disturbed, rather than indicating any particular underlying preferences, such as horse meat avoidance or 'special' deposition of meaningful parts. The young pig remains may also have been deposited after the animal had been cooked or butchered as the absence of the dense teeth indicates that this was not deposited as a whole individual, and the both left and right forelimb parts are present rather than a single limb that had been deposited whole.*

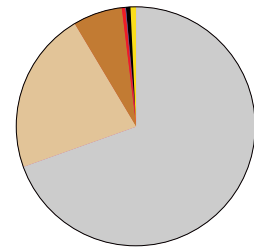
(Knight and Grimm, CD Section 13)

While the by now almost silted feature could have provided a convenient site to dump discarded animal waste, an alternative explanation is possible — this could have been a deliberately placed 'termination deposit'. A recent study has identified such deposits in a small number of SFBs and other features from early and middle Saxon settlements (the number is almost certainly under-represented, due to the difficulties inherent in recognition), and may contain human or animal bone, either disarticulated or as articulated limbs or other body parts (Hamerow 2006). The study found that while cattle were the species that most commonly occurred in these deposits, dogs and horses were disproportionately well represented when compared to the figures for settlements as a whole, and this is certainly true in this instance—this is the only occurrence of dog on the site, and only three other

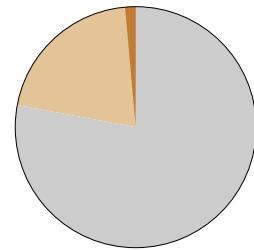
Fill	Animal bone	Pottery	Fired clay	Burnt flint
Secondary fill	1	-	2	4
Deliberate backfill	102	27	-	23
<b>Total</b>	<b>103</b>	<b>27</b>	<b>2</b>	<b>27</b>

Table 5.7: Quantification of the finds assemblage from 509180

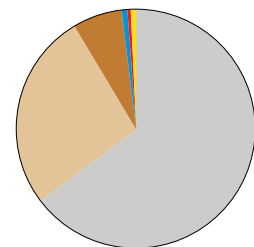
Feature 538326



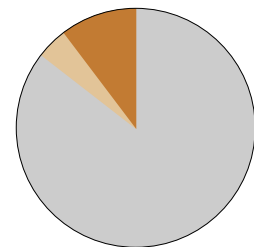
Feature 509180



Pit cluster 1



Pit cluster 2



Legend:  
 Animal bone (grey), Pottery (tan), Fired clay (orange), Iron (red), Slag (black), Copper alloy (blue), Glass (yellow)

Figure 5.10: Comparison of finds assemblages from (a) Feature 538326, (b) Feature 509180 (c) Pit cluster 1 and (d) Pit cluster 2

horse bones were identified. No other sites in the West London area were included in the study, although there is an example of the dumping of an entire horse carcass into an abandoned SFB at Hammersmith (Ainsley 2008). A partial cat skeleton found on the floor of an SFB at Brentford may merely represent an animal that had crawled beneath the floorboards of the hut (Canham 1976, 30).



### The SFBs and the pit clusters

The hypothesis that either or both of the sunken-featured buildings had particular associations with the pit clusters was explored with reference to the material content of the four features (Fig. 5.10). This approach was based on the assumption that similar debris would be generated by the same process, in this case the activities of a single household, and that it might be possible to examine the composition of an assemblage in order to trace its origin to a common source. The flaw in this approach is that the pit deposits are likely to be contemporary with occupation, while the fills of the sunken-featured buildings relate to the period after their abandonment. The organic nature of the waste from the latter was confirmed by the presence of two mineralised ‘nodules’ of the type characteristic of faecal and midden deposits from 538326 (Carruthers 1989). Nevertheless, the comparison of the assemblages from the sunken-featured buildings and the two pit clusters is interesting.

The composition of the finds assemblage from SFB 538326 is very similar to the collection from PC1. A comparison of the relative contribution made by each material category reveals the degree of correspondence between the sunken-featured building and PC1 collections (Fig. 5.10). Animal bone makes the largest contribution to each

assemblage, followed by pottery and fired clay; the remainder is provided by small quantities of glass, metalwork and slag. Another link between the two entities is the presence in both of pottery sherds with stamped decoration. Meanwhile the finds composition from SFB 509180 is very similar to that of PC2, in both cases restricted to a large proportion of animal bone, accompanied by smaller proportions of pottery and fired clay. The pottery in both instances comprises sandy fabrics only. The potential links suggested by the respective ‘finds signatures’ are interesting, given the relative positions of the four feature groups but, given the caveat above, this cannot be taken as linking the life-use of the SFBs with those respective pit clusters. Instead, a sequence could be suggested in which SFB 509180 and PC1 were backfilled at broadly the same time (incorporating a possible ‘termination deposit’ in 509180), possibly during the use of SFB 538326 and PC2, which were then backfilled in turn at a slightly later date.

### Waterhole 555805

The single waterhole on Area 14 was situated to the north-east of the two pit clusters, and consisted of an irregular sub-circular feature with a degraded shaft at the centre (Fig. 5.11; Plate 5.5). It measured 3.75 m long and was filled by a complex series of 23 deposits to a depth of 1.8 m. These deposits

contained a large and varied assemblage throughout, consisting of 102 fragments of animal bone, including sheep or goat, red deer, pig and cattle; 38 sherds of early Saxon pottery, two fragments of fired clay, and 18 pieces of waterlogged wood, including bark and heartwood chippings, and two ladder rungs. The latter are rare finds.

*Both have been pared down from small diameter roundwood and their surviving ends have been carefully trimmed to create short, blunt points which would fit into holes cut in the rails. No holes for peg or nail fastenings are present, not are there any wedges which might have been driven into the end grain of the rung to lock it in place. It may be suggested that the holes housing the rung ends did not pass all the way through the rail.*

*Parallels for these rungs are not easy to find. A single example cut from beech (*Fagus sylvatica* L.) was identified from a 12th–13th century pit at Pevensey Castle, Sussex (Dunning 1957, 211), but the one surviving end is pierced by a single hole to allow a peg to fasten it into the rail. Three examples, one each of alder, field maple and hazel have been found at 16–22 Coppergate in York in 10th–11th century contexts (Morris 2000, 2320). These have tapered ends to fit into holes augered into their rails and no piercing for pegs, the ends being locked by wedges driven into the exposed end of the rung from outside the rail. A similar method seems to have been used to attach the oak rungs to the alder*

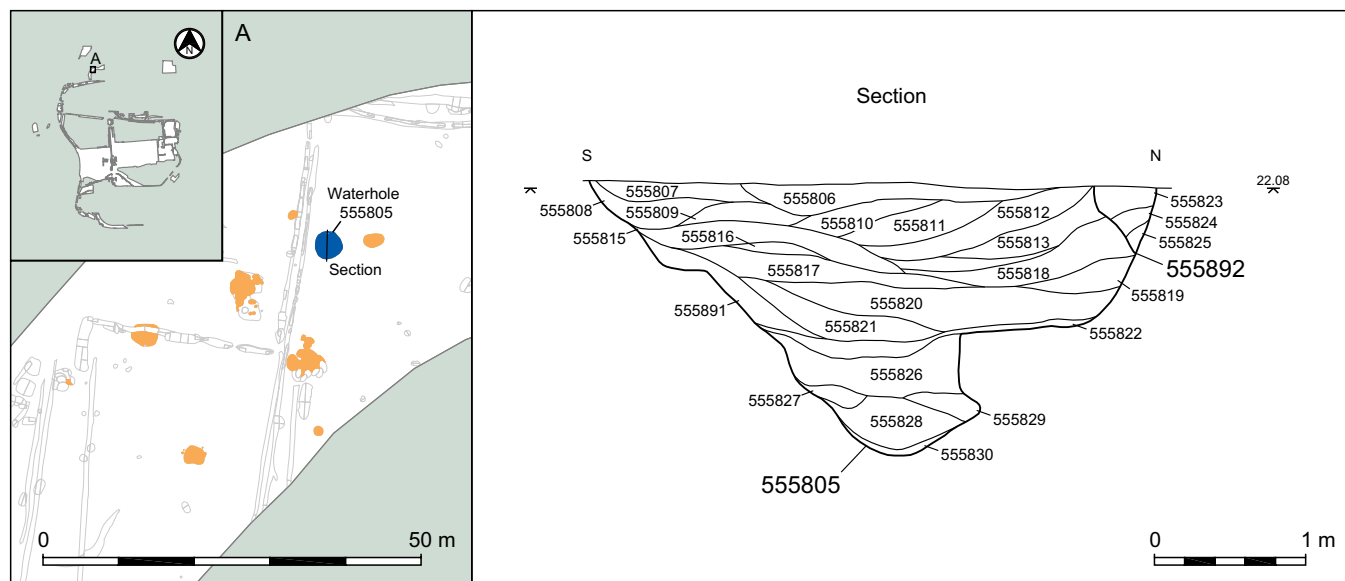


Figure 5.11: Waterhole 555805



Plate 5.5: Waterhole 555805

rails of a late 12th–mid 13th century ladder from 1–5 Aldwark, York (MacGregor 1988, 71). Currently the best parallel is a recently recovered 12th–14th century example from Fox Covert, Dinnington, Newcastle upon Tyne (Allen 2006) cut from ash.

(Allen, CD Section 11)

Human faecal remains were also recorded. Palaeo-environmental samples were taken from two fills—555830 on the base of the waterhole and 555286 above—and yielded hints of its possible use(s).

The main plant group represented in the assemblages from both fills was seeds from plants of nutrient-enriched, disturbed places. These included nettles, (*Urtica dioica* and *U. urens*), fat hen, chickweed (*Stellaria media*), knotgrass (*Polygonum aviculare*), docks (*Rumex* sp.) and henbane (*Hyoscyamus niger*). The increase in henbane and stinging nettles in the upper sample may be due to the establishment of this type of vegetation close to the waterhole. Henbane, a poisonous but also medicinally useful plant, is characteristic of middens and farmyards.

There is some evidence to suggest that the waterhole may have been used for flax retting (rotting down the stems to release the fibres), or at least for the deposition of flax processing waste. Running water is preferable for retting as it is a very smelly business that would have made the waterhole unusable for people or livestock. The small sections of flax capsule observed in the lower sample were more characteristic of the waste from 'rippling', ie. pulling the

dried stems through a comb-like structure to remove the brittle, dry leaves, capsules and seeds, prior to bundling the stems for retting. No seeds were recovered from the sample, but these would have been valued for their medicinal properties, for oil and for sowing the next year's crop.

Other evidence of deposited waste was the presence of a few fragments of cereal chaff, both charred and uncharred (bread-type wheat, barley and emmer/spelt), and hemp seed fragments. The charred emmer/spelt spikelet fork was in a very poor state of preservation, so this may have been redeposited. However, there is some evidence to suggest that spelt wheat continued to be grown in small quantities into the Saxon period in some areas. Cannabis or hemp (*Cannabis sativa*) remains have been recovered from a few Saxon sites, but in most cases this is pollen in retting pools rather than seeds. The seed fragments could have been deposited amongst hemp processing waste, or they may represent the chewed remains of seeds consumed for medicinal purposes. The two cotton thistle (*Onopordum acanthium*) seeds could represent plants grown for food, fibre or medicinal use. Cotton thistle was grown as a crop in earlier periods, so it may have persisted as a useful weed in the area.

(Carruthers, CD Section 14)

The (potentially toxic) contents of the 'waterhole' on Area 14 would seem to dispute its interpreted use as a reservoir for the provision of clean water, and its primary function may have been for the preparation of daub, which would not have precluded the deposition of faecal matter.

Another possibility is that the waterhole was in fact a latrine pit serving the needs of the nearby household. The finds from the waterhole were distributed throughout its numerous fills, demonstrating that domestic waste was regularly and continuously deposited in the feature. The types of items included—broken pottery, food residues, pieces of wood—would not be unusual finds in a latrine, and least surprising of all is the evidence for human faecal material. The morphology of the feature, described as a large flat-based pit with a deep central shaft reaching the water table, would also be compatible with this interpretation. Of course, the varied interpretations of feature 555805 need not be mutually exclusive: disused waterholes and wells were often revived as latrines and rubbish pits in the Saxon period, and such muddy deposits might later prove suitable for daub preparation.

Comparison with the 'finds signatures' of the two pit clusters and the SFBs suggests that waterhole 555805 is close to PC1 and SFB 538326 in terms of relative quantities of finds (animal bone, pottery and fired clay), and the animal bone species represented are very similar to PC1 (sheep/goat, red deer, pig and cattle). In other words, following on from the potential sequence suggested above for the pits and SFBs, the waterhole could have been backfilled at the same time as PC1 and SFB 509180.

### *Life in the early Saxon settlement*

The archaeological evidence as described here gives a picture of a relatively sparsely occupied landscape in the early Saxon period. Two possible dwellings were located, with associated evidence for pit digging (probably primarily in order to produce the necessary building materials) and one waterhole. Outside the main concentration of activity in Area 14 at Terminal 5, only two other features were located. Given the survival of medieval features across the excavated area, the absence of Saxon features cannot be explained by truncation, and must be seen as a real absence. However, topographical

factors must be considered here. As has already been observed, early Saxon settlement in the London area was concentrated on the brickearths and gravels of the river valleys of the Thames and its tributaries, including the Colne. Settlement evidence has been revealed at several locations on the Colne terrace to the north of Heathrow within Harmondsworth parish (Cowie with Harding 2000, 179, 202; Farwell *et al.* 1999; Cowie and Blackmore 2008, fig. 64), probably representing a drifting settlement, of which that at Terminal 5 was possibly a part, with an area of mixed farming to the east. Other settlement evidence from the period may lie to the north and west of the excavated area. While precise dating is not forthcoming for the length of occupation at Terminal 5, the pottery suggests a range of at least late 5th to 6th century, potentially encompassed within one or perhaps two generations.

Evidence for specific activities is limited. There is no textile-working or grain-processing equipment, and craft activity seems to be limited to antler-working, although no finished products were found. Such a scarcity should not be overemphasised, however, in view of the small number of excavated features. There is a suggestion of on-site pottery manufacture in the form of a possible 'waster' vessel apparently deliberately deposited in a small pit.

While it might be expected that small-scale settlement at this period would be largely self-sufficient, the artefactual evidence highlights outside contacts in the form of glass beads and two copper alloy brooches, at least one of which has potential continental affinities (although its date is not firmly established). There is little other evidence for commerce or trade in the early Saxon period in London, although the development of Anglo-Saxon kingdoms in the 6th century may have encouraged the exchange of prestige items (Cowie with Harding 2000, 181; Cowie and Blackmore 2008, 156). The beads and brooches could have arrived via other means, for example as heirlooms, and were not necessarily traded goods.

The evidence for some continuity of the Roman landscape in terms of agricultural exploitation has been discussed. Palaeo-environmental evidence from Terminal 5 is tantalisingly slight, but there is a suggestion of remnant Roman hedgerows (Challinor, *CD Section 15*). The Old English place-name for Hayes, just to the north of Harlington, means 'land overgrown with brushwood' (Cowie and Blackmore 2008, 88), and suggests a once open landscape.

Cereal cultivation evidently took place, but the sparseness of the remains suggests that,

*... arable cultivation was probably a minor component of the economy during this period. The four small charred plant assemblages may not be representative of the period, but it is noticeable that for the first time at T5 barley grains were more frequent in all four samples than the other cereals, bread-type wheat and oats ... By the medieval period bread-type wheat had taken over as the preferred cereal for human consumption in most areas.*

*The sparse ecological evidence gathered from the charred weed contaminants suggested that the arable fields had been manured, since nitrophilous weeds were dominant, and that at least some of the fields were on heavy, damp clay. It is possible that some of the cereals were being purchased elsewhere and brought onto site, in view of the fact that charred cereal remains were so scarce. However, charred cereal processing waste is scarce on most Saxon and medieval sites, due to differences in the taphonomy of crops being grown at this time. It is likely that most households would have grown some cereals for their own use and to feed livestock. If the main aspect of the economy was livestock, manure would have been in plentiful supply. In addition, stock was often turned onto arable fields after the grain was harvested to graze the straw and manure the fields.*

*The waterlogged assemblages indicated that nutrient-rich, disturbed areas were common around the waterhole, and that open grassland was likely to be the predominant vegetation type on the site as a whole. As well as providing lush pasture,*

*the damp soils of the floodplain would have been suitable for the cultivation of fibre crops such as flax, cotton thistle and hemp, with flax retting taking place in the flowing waters of the rivers nearby.*

*(Carruthers, CD Section 14)*

Faunal remains are not well represented on early Saxon sites in London, and Terminal 5 adds little to the overall picture. This may be at least partly to do with patterns of discard—there is a suggestion that the majority of bone waste may have been discarded away from the pits, with only bone from specific (and intermittent) activities entering the pits, although a relatively large volume was recovered from the post-abandonment debris in the sunken-featured building.

*Relatively large numbers of pig and horse (the latter over-represented by the articulated parts) and the low proportion of cattle may be caused by restricted sample size rather than specific husbandry patterns, although at some sites in this area pigs do seem to be common (Cowie and Harding 2000) and may have been useful for clearing woodland as well as their meat. However, minimum numbers suggests sheep to be more numerous, at least four individuals, with two individuals each of horse and pig, then only one cattle, dog, fowl and deer definitely present (excluding the shed antler). Small numbers of wild resources are typical of the period.*

*All horse and cattle bones were fused, but for pig and sheep/goat a range of ages was identified; one pig of around 2 years and another neonatal were present, suggesting breeding on site, and of the sheep/goat one individual over 20 months and another under 16 months were present. The tooth eruption and wear analysis indicated one very old, two subadult and one immature animal, presumably retained for their secondary products, although poor preservation may have destroyed many of the less robust younger bones. Where sex could be identified, one male pig and a probable bull were present. Mature cattle and horses may be working animals and this interpretation is perhaps supported by pathological modifications to an equid astragalus, the dorsal articular surface of which has almost completely degenerated. Although the*

database is very small, it seems that sizes are larger than for the preceding period, with withers heights for sheep at 631 mm and horse 1333 mm, 1327 mm (these two perhaps from the same animal) and 1436 mm, as a result of Roman improvement of livestock and/or the import of new animals (King 1991, 17).

(Knight and Grimm, CD Section 13)

There are, however, no associated features on the site that would confirm either stock management or cereal cultivation—no ditches or gullies were excavated. These, of course, could have been outside the excavated area. Limited evidence for field systems have been found on other early Saxon sites in the area, although an enclosure and possible droveway were found at Bath Road in Harmondsworth (Cowie and Blackmore 2008, 83–5). It is also possible that some earlier ditches could still have been extant at this period—the evidence for the continued use of Bronze Age ditch alignments during the medieval period will be explored below.

### Other early Saxon activity

The only other evidence for early Saxon activity comprises two isolated features that lay beyond the main focus described above, pits 547384 and 613067, which were situated on Areas 99 and 34 respectively. The locations of these features (c 850 m apart), and their position relative to the focus of activity on Area 14, are shown in Figures 5.12 and 5.13. These features appeared to be unrelated to any neighbouring activity, although both lay close to the edge of the excavated site, and it is possible that additional features of early Saxon date once lay within the unexcavated region to the north and east.

Alternatively, it could have been that these two early Saxon pits were as remote from settlement as they appear to be, perhaps situated within pastureland or by the side of seldom-used trackways. It is possible that they were associated with certain activities, perhaps of an agricultural or industrial nature, that were traditionally located at some distance from domestic settlement. As such, a comparison with contemporary features from Area 14 might

Feature	Pottery	Fired clay	Burnt flint
Pit 547384	54	1	-
Pit 613067	3	3	13
<b>Total</b>	<b>57</b>	<b>4</b>	<b>13</b>

Table 5.8: Quantification of finds from isolated early Saxon features (number)

reveal differences in fill or form that result from functional differences. Table 5.8 quantifies the finds assemblages from these two features.

One of the most striking characteristics is the total absence of animal bone from the fills of these isolated features. Comparable features from Area 14 produced large quantities of animal bone, interpreted as general refuse deposits, following butchery and consumption. The absence of such remains from these pits might, conversely, indicate their distance from settlement and domestic activity. Alternatively, it is possible that this discrepancy results from local soil conditions, since the brickearth may have been more favourable to the preservation of bone in Area 14. Other differences can be detected that cannot be so easily explained by taphonomic factors.

#### Pit 547384

Pit 547384 contained the single largest Saxon pottery deposit from the site, a total of 54 sherds weighing over 1.5 kg. These sherds derive from a single vessel (shown on Fig. 5.12; Plate 5.6), which is described by the specialist as follows:

*One interesting deposit comprises what may be most of a single vessel, a large, rounded jar in an organic-tempered fabric, which appears to have been burnt or overfired (the surfaces have powdery feel and a 'cracked/crazed' appearance). The vessel may have been deliberately placed within pit 547384—this is an apparently isolated feature within Area 99, which is at least 800 m from the nearest excavated feature containing Saxon pottery.*

(Mephram, CD Section 3)

Above the pottery vessel was a layer of deliberate backfill, which was very similar in appearance to that seen below the pot—a mid grey silty clay

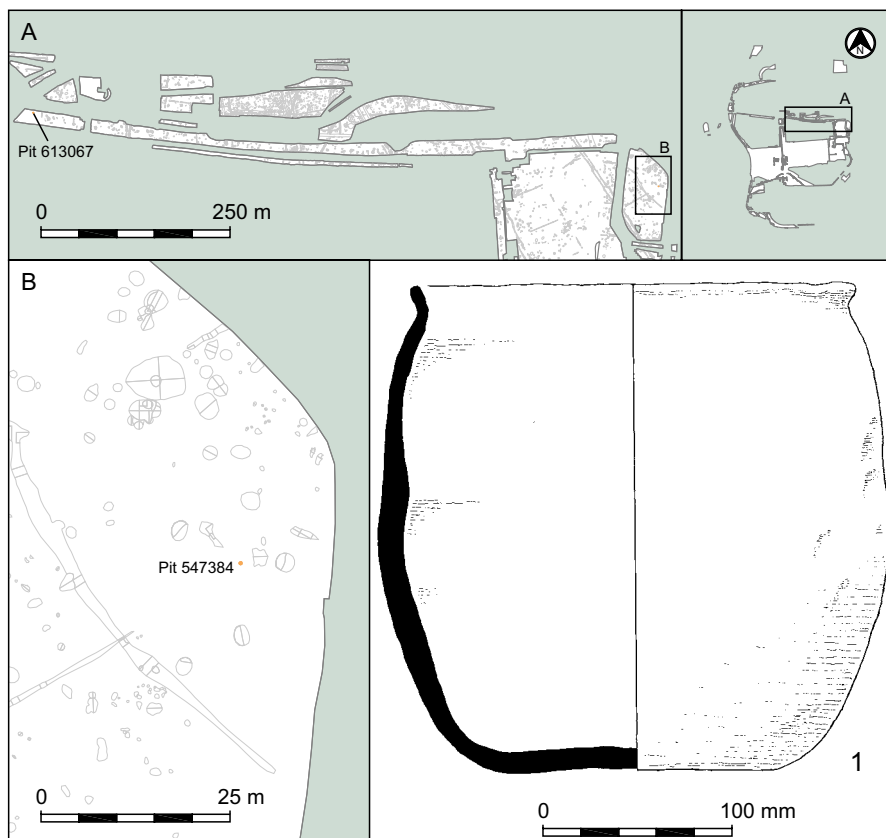


Figure 5.12: Pit 547384, with pottery vessel in situ



Plate 5.6: Pit 547384, with pot vessel in situ

with charcoal flecking—leading to the suggestion that the material upcast from the pit digging was used first to partially backfill it, then to complete the operation once the pot was deposited.

Very little additional material was recovered from the pit, and none of it convincingly formed part of a deliberate deposit. Finds included a small fragment of fired clay and two small, residual, flint flakes. In the absence of evidence to the contrary, it seems that the jar itself formed the most important element of the deposit. The possibility that this represents on-site pottery manufacture (which would not be unexpected), is tantalisingly slight. There is no evidence that the pit itself was used for pottery firing, and the fact that only a single vessel is represented would be unusual in such a context.

### Pit 613067

This feature was situated in Area 34, nearly 700 m to the south-east of the settlement in Area 14 and some 330 m to the north of waterhole 569189 (Fig. 5.13; Plate 5.7). The pit, which contained a sequence of six deposits, measured some 1.5 m in both diameter and depth. It had an irregular, bell-shaped profile with steep, concave sides. It was suggested that the pit had at one time held standing water, which had undercut the sides, causing gravel to repeatedly collapse into the feature. The location of the pit, adjacent to and cutting the fills of a palaeochannel, may have been critical to its function as a small waterhole.

The feature produced a small but chronologically wide-ranging artefact assemblage. Items included one sherd of late Bronze Age pottery and one sherd of Roman pottery, both residual and from the upper fills of the pit (not included in Table 5.8). Two sherds of unabraded early Saxon pottery came from the lowest deposit (613073) and provide a probable date for the use of the feature. The collection of six struck flints and 13 pieces of burnt unworked flint were scattered throughout the pit deposits, suggesting that the later feature cut through a zone of earlier, prehistoric activity. The description of the pit suggests that it functioned as a small waterhole, serving the needs of those working in the surrounding fields and those of their livestock.

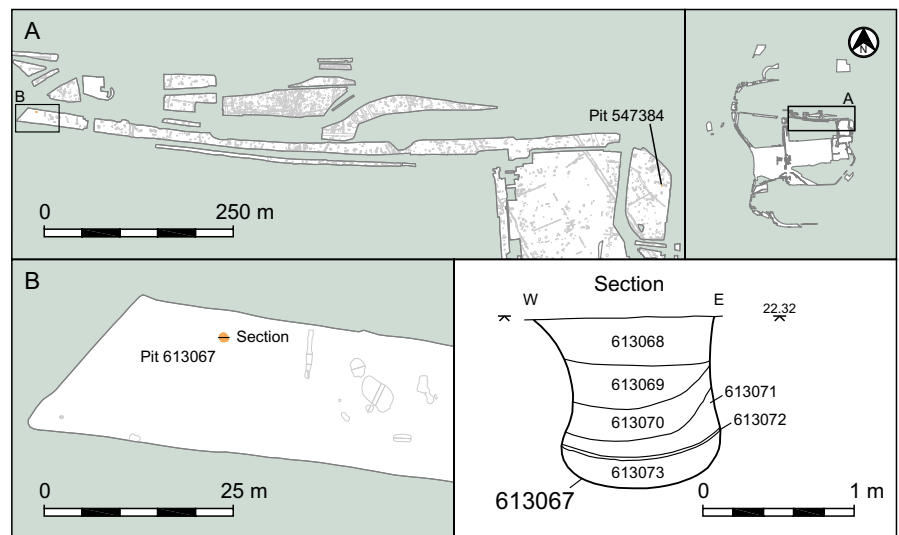


Figure 5.13: Pit 613067



Plate 5.7: Pit 613067

### The middle to late Saxon period

The analysis of the pottery from Terminal 5 suggests that there was desertion of the excavated area from at least the early/mid 7th century and perhaps earlier. This is largely supported by similar dating evidence from other early Saxon sites at Harmondsworth (Cowie and Blackmore 2008, 88–9). However, the inclusion of settlements and estates in south-western Middlesex in the written evidence of charters dating from the 8th, 9th and 10th centuries implies that it remained an occupied and exploited landscape throughout this time-frame. Amongst the places mentioned in the charters is Harmondsworth. In AD 704,

thirty *cassati* of land at Twickenham were granted to Bishop Waldhere of London by King Swæfred of the East Saxons and the *comes* Pæogthath, with the permission of the Mercian king Æthelred, and the confirmations of his successors Coenred and Ceolred (Sawyer 1968, 87, no. 65; Gelling 1979, 95, no. 191). In about 781 King Offa of Mercia sold twenty *mansae* of land at *Hermondseyeord* (Harmondsworth) in the middle Saxon province to his servant Ældred for a gold bracelet (Sawyer 1968, 102, no. 119; Gelling 1979, 99–101, no. 203). In 831 Harlington was mentioned in the boundary clause of a charter granting land at Botwell in Hayes (Sawyer 1968, 119, no. 188; Gelling 1979, 104, no. 207). In about 939 King Athelstan gave ten *mansae* at West Drayton to St Paul's Cathedral (Sawyer 1968, 180; Gelling 1979, 107).

There is no evidence that the early Saxon settlement at Terminal 5 was the direct precursor of the present day village of Longford, with unbroken continuity, although middle/late Saxon evidence may still lie beneath the built-up area. Middle and late Saxon settlements are indeed rare in the hinterland of London, beyond *Lundenwic* (Cowie with Harding 2000, 183; Cowie and Blackmore 2008, 165). There is possible evidence for 7th century activity at Feltham, although the pottery could just as easily be of 6th century date (Howell 2008). The middle Saxon dating evidence from Northolt Manor is ambiguous and may in fact be later (Hurst 1961). Closer to the excavated area, there is some rather vague evidence for middle Saxon activity. Earlier excavations at Stanwell located an oval enclosure which may have been associated with Saxon pottery, probably of 8th or 9th century date (O'Connell 1990, 54–9), while at Staines, Saxon finds from the site of the Yeoveney Neolithic causewayed enclosure suggest occupation in the vicinity of the site during the 6th to 8th century (Robertson-Mackay *et al.* 1981). More recently, better evidence has come from excavations at Victoria Lane, Harlington, where an Alfredian coin (AD 871–5), pottery and radiocarbon dates from several features have

confirmed occupation from the middle Saxon period into the early medieval period (Mepham forthcoming). Meanwhile to the west, excavations at Dorney in Berkshire have produced evidence for a highly unusual middle Saxon site which has been interpreted as a market or open air meeting place (Hiller *et al.* 2002), and middle Saxon (if not early Saxon) origins are claimed for the royal palace at Old Windsor (Wilson and Hurst 1958).

### **The late Saxon to medieval period**

There is no further definitive evidence for activity within the excavated area until the 11th or 12th century. Field systems established at this period cut through the early Saxon settlement at Terminal 5. Further elements of these field systems were excavated to the south, within Stanwell parish, and a complex of enclosures, probably for stock management, began to be constructed at Burrow Hill, although the evidence for settlement on the site is ambiguous. The following section sets out the historical background to these developments.

### ***Tenurial changes and manorial development in the late Saxon and medieval periods***

The origins of the medieval landscape of Heathrow can be seen in the late Saxon period, when the larger middle Saxon estates were broken up and new, smaller estates were formed, later evolving into manors. These late Saxon tenurial changes were accompanied by the concentration of settlements into large villages and the formation of open field systems, although the relative chronology of these various elements is uncertain. These developments have been linked to the processes of manorialisation and feudalisation—along with more efficient estate management— and occurred earliest on royal, episcopal and great monastic estates (Muir 2000, 76–7, 123).

Settlement nucleation may have come first in *c* AD 850–1050, transforming the pattern of settlement from

dispersed hamlets to individual villages in each estate. These villages appear to have been created by the lords of the estates, and the rising numbers of the population were moved to them in order to make agricultural arrangements more efficient. The movement was most marked in areas with extensive meadow land and those most suited to grain production, already being cleared of much of their woodland. In these estates it was necessary to mobilise large amounts of labour at short notice to mow the hay and harvest the corn while the weather was favourable, and it was easier to organise the tenants for these labour-intensive operations when they lived in nucleated villages (Muir 2000, 182, 184, 205; Williamson 2004, 15–16, 19, 174, 182–3). These criteria applied to the Harmondsworth and Stanwell estates, with their meadow lands along the Colne valley and their extensive level grain fields, which may have been in continuous production since the Roman period.

The move to nucleation was often accompanied by the development of common field systems, or closely succeeded by it in the early 10th century. These field systems consisted of large open fields divided into furlongs of cultivation strips, resulting in ridge and furrow patterns in the landscape. Stock enclosures developed at the same time. As we shall see, some of the open fields may have been formed within a pre-existing landscape framework, the location of their furlongs dictated by previous boundaries. By contrast, in other areas such as the north Middlesex claylands, the open fields overlay abandoned Roman farms, and the dispersed and shifting pattern of early and middle Saxon settlement (Reynolds 1999, 155–6; Muir 2000, 205–8; Williamson 2004, 6, 70, 119–22).

The manorial structure of the tenurial landscape in Middlesex can first be traced in detail in the *Domesday Book* survey of 1086, which also refers back to conditions at the end of the reign of Edward the Confessor in 1066 (Williams and Martin 2002, 360–6, 411, 415). The frequent geld assessments of the Middlesex manors in *Domesday Book*

in multiples of five-hide units probably reflect an earlier more regular arrangement of the landscape, as was postulated, for example, by Montague Sharpe, who saw Middlesex as the surviving elements of the Roman *territorium* of London (see above). The county may have been particularly heavily assessed because of the capacity of parts of it to produce grain (Darby and Campbell 1971, 104–10; Sullivan 1994, 51–2). In the study zone the arable land was not all being used to full capacity in 1086, as the number of available ploughlands in a manor often exceeded the number of plough-teams working, and this was often accompanied by a fall in annual value over the previous 20 years. Only Stanwell appears to have been overstocked, with 13 ploughs operating on ten plough-lands, but Staines, Ashford and West Drayton were fully stocked. The drop in annual value of most of the manors in the previous 20 years probably reflects the political dislocation of the period.

The manorial framework provided the context in which later medieval landscape changes took place. It was followed by the emergence of the parish framework which was based on proprietorial churches built on the manors in the 11th and early 12th centuries. Medieval agriculture was subject to advances and retreats. Some manors in the study zone were probably extending their areas of cultivation in the late Saxon period by clearing areas of woodland and heath, a process known as assarting.

Over the two and a half centuries after the *Domesday Book* survey, the advancing frontiers of cultivation progressed at different rates within the tenurial framework of the different manors of the area, each manor taking its own direction on the initiative of the lord or the tenants, or of both. The general method of making an assart consisted of surrounding the chosen land with a ditch and clearing the trees and underwood within it. The land was then ploughed and sown with oats or rye. It was often allowed to lie fallow for several years. There was certainly some assarting in Ashford in the 1220s, when the abbot of

Westminster ceded the manor for the support of his monks (*VCHM* ii 306).

### *The villages and manors*

Harmondsworth village lies in the north-west part of its parish. Of the component settlements of the parish Longford was first mentioned in 1337, when it had 30 houses, but had probably had a continuous existence since the middle Saxon period. Sipson was first mentioned in 1214. Southcote or Southcoterow existed by 1265 but its position is uncertain. The name remained in use until the mid 15th century, when it appears to have been succeeded by the name Heathrow (first mentioned in 1416, the new name derived from its proximity to Hounslow Heath), although both names were listed in a rental of 1493 (*VCHM* iv 3–4; LMA Acc 446/EM/1; Acc 446/ED/112, 118; TNA: PRO, E 315/409 ff1v and 4; E 326/9174; SC 2/191/13; SC 11/443; SC 11/446; WC 11502 m1). A Harmondsworth survey of 1542/3 specifically refers to *Sowthecoterow alias Hetherowe* (WC 11451 m4). Perry Oaks probably existed by 1324, when Robert atte Pirie and Robert de Suthcote served on a jury (TNA: PRO, E 142/83/2). Stanwell village centred on a small green and the parish church built in about 1200 on its south side. There were houses at Stanwell Moor by the 14th century (*VCHM* iii 34, 46). Most of these peripheral hamlets which appeared in the 13th century were probably secondary assarting settlements, established by extending the cultivated area into Hounslow Heath or the marshy lands of the Colne valley. Some of them were associated with the formation of sub-manors.

The main manor of Harmondsworth was held by the Abbey of St Catherine's at Rouen from shortly after the Norman conquest until 1391, through its cell at Harmondsworth priory (Sherwood 1993, 3; *VCHM* iv 7). In 1391 the main manor was purchased by William of Wykeham, bishop of Winchester, and passed to his foundation of Winchester College. At this time the manor was farmed out in several lots and increasing in value. The College retained ownership until 1543,

when it was subject to one of Henry VIII's forced exchanges (Himsworth ii 457–62; *VCHM* iv 7).

Throughout the medieval centuries the main manor of Stanwell was held by the descendants of William fitz Other, who took the surname of Windsor. Most of the Windsor family probably lived at Stanwell in a manor house on the site of the later Stanwell Place to the west of the village, which was in existence by at least the 14th century (Collins 1754, 4–13; *VCHM* iii, 37–8). In 1542 Henry VIII forced Lord Andrews Windsor to exchange Stanwell and its appurtenances for Bordesley Abbey in Worcestershire (Collins 1754, 16–46; *VCHM* iii 37).

A common phenomenon represented in the study zone is the emergence of sub-manors in the late 13th and early 14th centuries, although it is not clear why this should have taken place. Sometimes these were established as secondary settlements within existing arable fields. The sub-division of manors to form sub-manors is often linked to the digging of rectangular moats, as at Poyle House in Stanwell.

In Stanwell the manor of West Bedfont was already a separate estate in 1086, but the manors of Poyle, the Park, Hammonds or Shepcotts, Cleremunds and Knollers appeared between the late 12th and 14th centuries, mostly on the west and south sides of the parish (*VCHM* iii 36, 38–41, 45). At Harmondsworth the sub-manors of Perry Oaks, Padbury, Luddingtons and Barnards originated in the 14th century. The manor of Perry Oaks included 143 acres of heathland, most of which was called Perry Heath. This may point to its origin as a secondary assarting settlement of the early medieval period. Padbury included part of the hamlet of Southcoterow or Heathrow, and had a manor house in the 16th century; Luddington and Barnards lay in Sipson (Himsworth ii 465–6; *VCHM* iv 8–11). At Harlington the manor of Dawley was already separate in 1086, and the manor of *Harlington with Shepiston* (ie Sipson) was created in the 14th century, apparently from the lands of Hounslow Friary (*VCHM* iii 263–6).

### *Late medieval agricultural decline*

The manorial economies of the study area suffered a general agricultural decline in the 14th and 15th centuries. Like most manors in England the fortunes of Stanwell and Harmondsworth began to change with the transformation of climatic conditions and the increase in population late in the 13th century. The impact of famine episodes and the Black Death in the 14th century on settlement patterns and land-use can be traced directly in manors with surviving accounts of the appropriate dates, as at Harmondsworth. The shock to the agricultural economy often led to the shrinkage of cultivated areas and settlements, a retreat from marginal land, and the abandonment of direct exploitation of demesnes by manorial lords.

Throughout the 13th century the population of England had continued to rise until it reached critical levels. After 1280 the balance between population levels and food resources was delicate enough for the English to be described as 'calamity-sensitive'. The year 1294 was one of famine in East Anglia. Crops were destroyed in the fields by heavy rain and fungus, and the price of corn rose six-fold (Kershaw 1973, 37; Rawcliffe 1999, 14). The most widespread famine of the period was in 1315–17, which resulted from a series of bad harvests and was accompanied in 1316 by an epidemic of an enteric type, which may have been typhoid. There was an unprecedented inflation in grain prices, which lasted until a better harvest in 1317 halved the price levels. Alongside the famine was a sheep murrain, which was followed in 1319 by a disease which wiped out large numbers of cattle and oxen. Starvation was therefore compounded by epidemics of animal disease, which remained prevalent until 1322. As more cattle died, the price of livestock escalated, and the means of restarting arable production was lacking. There may have been an overall loss in the human population of about 10% in these years, and many peasant smallholders abandoned their landholdings, becoming vagrants and refugees.

Over the next few decades the level of population was unable to recover fully, and it suffered a more lasting reduction in the greater mortality of the Black Death in 1348–9 (Kershaw 1973, 10–14, 29, 46, 49–50; Rawcliffe 1999, 14–15). The Harmondsworth court roll of July 1349 and an accompanying list of heriots (death duty) record deaths of at least 46 tenants in that year. While some of the larger holdings had passed to heirs, most of the cottages and smaller holdings were still in the lord's hands (WC 11437–8). There were later visitations of the plague in 1361–2, 1369, 1374–9 and 1390–3, which had more long-term effects on the capacity for recovery.

In these circumstances many manors found it difficult to find tenants to work the customary holdings. Houses and lands were deserted. In 1402 and 1404 Harmondsworth tenants were being fined for allowing their tenements to become ruinous (LMA Acc 446/EF/1/1 mm1, 2; WC 11441). The more prosperous peasants took advantage of the shortage of tenants to increase their land holdings. At Harmondsworth and Longford in 1433/4 and 1450/1 there were still some vacant holdings in the lord's hands, and a number of cottages had been let at reduced rents. Some holdings had been incorporated into the demesne arable and the site of one cottage by the heath at Sipson had been lost (VCHM ii 74; TNA: PRO, SC 6/1126/7 mm1, 2, 2d, 3, 4d; WC 11504 mm1, 2).

In the general shortage of labour which followed the reduction of the population, the balance of advantage swung to the tenants against the lords. Hired labour was often substituted for customary works, the annual labour services owed to a manor by its unfree tenants. Lords moved away from direct exploitation of their manors and began leasing out their demesnes in the second half of the 14th century, especially the major landlords with many manors. At first this was a temporary expedient, but as the lease arrangements became more permanent, most labour services due from the tenants were abandoned. However, some manors continued with the direct management of their demesnes until

the second half of the 15th century, relying on the customary labour of their tenants (Fryde 1996, 76, 113–14; Campbell 2000, 430–1, 436). At Harmondsworth the tenants organised a campaign of obstruction and vandalism to undermine the manorial economy, a common course of tactics (Fryde 1996, 32). Harvest boon-works (specific days of labour services) were still being demanded of the tenants and performed at Harmondsworth in the late 14th and early 15th centuries, although some works had been commuted; disputes over services and heriots continued into the early years of the 15th century (VCHM ii 71; TNA: PRO, SC 6/1126/7 mm1, 3, 3d, 4d; SC 12/11/20; WC 11502–4). In the 16th century the buildings and lands of the manor were leased out (TNA: PRO, SC11/450).

The increased emphasis on livestock in the 15th century led to the enclosure of some common field land in Stanwell. Between 1488 and 1517 Edward Bulstrode enclosed 140 arable acres in the west part of the parish and converted them to pasture, making three ploughs redundant. Andrews Windsor, the lord of the manor, also enclosed a smaller area at this time, comprising half a ploughland (VCHM ii 89; iii 44).

Former assarts can be recognised on later maps by series of fields forming lobe shapes, or intruding into wooded or heathland areas, sometimes containing looped secondary settlements; and also by field names such as *Stocking*, *Ridding*, *Ley* and *Hayes* (Sloane *et al.* 2000, 213). Fields in Stanwell in *c* 1252 included *Savoriesrudinge* (CAD ii 75 no A2408). This was conveyed in 1471 as *Savereysrydyng*, enclosed with ditches and with an acre of arable land on its south side, by William and Alice Peryman of Borough (BL Additional Charter 27216). It may therefore have been one of the enclosed fields in the excavated area (Area 49). The shape of Borough Field itself suggests that it may have originated as an early and extensive assart into the heathland along the northern boundary of the manor. In Harmondsworth parish the shape of the south-west part of Heathrow Field suggests that it was an assart into Hounslow Heath, with



Heathrow established as a looped settlement on its fringe. The same may be true of the settlements at Perry Oaks and Sipson Green. At Perry Oaks in the 14th century there was a six-acre field surrounded by hedgerows called *le Ridynge* (LMA Acc 446/L1/15).

It is against this historical background that the archaeological evidence for late Saxon and medieval activity must be considered. First, however, the chronological evidence from the excavations will be briefly reviewed.

### ***Chronological indicators for the late Saxon and medieval periods***

As for the Saxon period, in the absence of scientific dating, artefacts provide the chronological evidence, primarily in the form of pottery, although there are also coins from this period.

#### ***Pottery***

Pottery was the most commonly occurring medieval artefact type (1792 sherds; 19,697 g). These fabrics fall into six groups in terms of known or potential source area, including both local and non-local types:

- Surrey types, from early to late medieval, characterised by pale-firing fabrics and iron-stained quartz;
- Greywares falling within the Limpsfield/South Hertfordshire greyware tradition;
- London-type wares;
- Miscellaneous early medieval types (shelly, chalk-tempered, flint-tempered);
- Miscellaneous sandy wares probably largely of local manufacture;
- Imported wares.

A chronological framework for at least some of these wares is provided by the London type series (Vince 1985; Vince and Jenner 1991). Few of the wares, however, are very closely datable, and the best evidence in this respect is provided by the finewares, eg the decorated Kingston-type and London-type wares, and the imported wares. An attempt was made to phase features using the ceramic evidence.

*Despite the relatively large quantities of pottery recovered from this area, this exercise has been hampered by the generally low level distribution within individual features—only 13 features (out of 190) yielded more than 25 sherds, and only six more than 50 sherds. Moreover, the preponderance of less closely datable coarsewares in undiagnostic body sherds precludes anything more than a broad spot date for many features. Bearing these caveats in mind, however, three ceramic phases have been defined:*

- *ceramic phase 1 (cp1): characterised by the presence of early medieval wares (eg EMCH, EMFL, ESUR, etc), including Q404. Jar forms have undeveloped rims. Date range broadly 11th to 12th century.*
- *cp2: appearance of Kingston-type wares (dated from c 1230 in London) and greywares, generally dated as 13th century; also a few London-type wares. Jar forms generally have developed rims; wider range of forms, including glazed and decorated jugs.*
- *cp3: appearance of later medieval Surrey wares such as Coarse Border Ware (from c 1270 in London), Cheam-type and 'Tudor Green' (both late 14th/15th century).*

*(Mepham, CD Section 3)*

The first two ceramic phases are the best represented amongst the pottery assemblage (approximately 55% and 41% of the total respectively by weight), with only sparse evidence for cp3. The ceramic phases have been used in conjunction with stratigraphic evidence to provide at least a relative framework within which to consider the various medieval elements of the site. Throughout this report, in descriptions of pottery, ceramic phase 1 equates to 'early medieval', ceramic phase 2 to 'medieval' and ceramic phase 3 to 'late medieval'.

#### ***Coins***

Ten medieval coins were recovered from the excavations, of which nine, and possibly all ten, are hammered silver pennies. Six of the ten could be closely dated, with the earliest a silver penny of William I (AD 1066–1087) (Plate 5.8) and the latest a penny of Edward I (AD 1272–1307). Of these, only the coin of William I is unusual as a site find. Of these ten coins, however, only five came from stratified contexts, within four features. Three of these were within Area 49, and one in Area 51. Details are given in Table 5.9.



*Plate 5.8: Silver penny of William I*

Object No.	Context	SG	Details	Date
13194	552066	552098	Silver penny, William I; obverse: 'Canopy type', text illegible	AD 1070-2
13031	529062	527197	Silver Long Cross penny with three pellets, unknown issuer; quartered	Medieval
13173	537154	537164	Silver penny, illegible; unknown issuer; quartered	Medieval
13172	537154	537164	Silver Short Cross penny with four pellets; unknown issuer; quartered	AD 1180-1247
13001	539085	539098	Silver Short Cross penny, Henry II; minted Northampton; halved	AD 1154-89

*Table 5.9: Medieval coins*

### Other finds categories

Chronological evidence from other medieval finds categories is extremely limited. Finds types include metalwork and ceramic building material, of which the latter cannot be dated more closely within the period. As for metalwork, of the 28 objects from medieval contexts (excluding obviously residual and intrusive objects), only one is datable—a horseshoe of typical medieval type (Clark 1995, type 2b; 11th to 13th century) from ditch 517237.

### Problems and caveats

Any chronological study has to take into account the taphonomic processes that lead to artefacts entering features. Depositional processes may result in datable material entering features in a non-primary context. For example, finds discarded *in situ* (eg within a living area) may subsequently be cleared out for redeposition on to a midden or rubbish dump, where material may accumulate over a considerable period. The midden deposits themselves may then be utilised for manuring purposes, and the incorporated finds thus redeposited again across the manured fields.

These processes can be postulated within the medieval settlement in Area 47/49, where it is clear that pottery within the enclosure ditches and waterholes is chronologically mixed. Coins, too, add to the chronological mix—the coin of William I came from a ditch in Area 51 also containing 13th century pottery. Coins, of course, may circulate for many years between issue and deposition, and curation may also play a part here.

The problems of dating are also compounded by the continued cleaning out of features during their period of use. This is certainly true of the enclosure ditches within the medieval settlement in Area 47/49, where the original primary fills were not preserved. Any dating evidence contained within these ditches, then, would belong to the final silting and not to construction date and use.

### Palaeo-environmental evidence for the late Saxon and medieval periods

The environmental samples—in the form of charred and/or waterlogged plant remains, charcoal and pollen—from medieval features at Terminal 5 are shown in Table 5.10. No samples of insects, mollusca or soil micromorphology were analysed from medieval contexts.

*Charred cereals in the medieval samples were fairly poorly preserved but reasonably frequent. The cereal grains were often vacuolated ('puffed up') and there was some surface erosion. Vacuolation is common in bread-type wheat grains that have been charred at high temperatures, because the high gluten content makes large air pockets appear. This often leads to fragmentation due to increased fragility. Distortion during charring and fragmentation during redeposition meant that large numbers of grains could not be identified or accurately counted in some samples.*

(Carruthers, CD Section 14)

Some woodland regeneration is evident, although it is unclear whether this process began during the Saxon period or later.

*The two waterlogged features [waterholes 569022, 529139] both produced abundant evidence for the presence of trees, and these must have grown close to the features as buds, twigs and leaf fragments were frequent as well as fruits and seeds. The waterhole contained mainly oak remains. Although some of this tree growth may have occurred after the features were abandoned and there was an increase in the occurrence of acorn fragments towards the top of the feature, acorn fragments were also found towards the bottom of the feature so woodland must have existed close to the waterhole while it was in use. This is similar to the situation during the Bronze Age, although at that time thorny taxa were predominant suggesting hedgerows rather than woodland. During the Iron Age and Roman periods the waterholes were located in very open, grassland environments.*

(Carruthers, CD Section 14)

Area	Feature	Context	Sample	Charcoal	CPR	Pollen
17	Pit 546437	546438	18459	-	Yes	-
		546439	18455	-	Yes	-
		546439	18458	-	-	Yes
		546440	18426	-	-	-
49	Ditch 529241	538020	16502	Yes	-	-
49	Pit 537105	537109	17063	Yes	-	-
		537109	17065	-	Yes	-
		537110	17066	-	Yes	-
49	Waterhole 529139	-	17518	-	-	Yes
		529149	17059	-	Yes	-
		529159	17518	-	-	Yes
		568018	17046	-	Yes	-
		568019	17054	-	Yes	-
		568022	17056	-	Yes	-
49	Waterhole 569022	569029	17068	-	Yes	-
		569030	17069	-	Yes	-
		569031	17070	-	Yes	-
		569035	17072	-	Yes	-
		569035	17073	-	Yes	-
51	Ditch 559118	559109	15507	Yes	Yes	-
58	Pit 658047	658048	26035	-	Yes	-
61	Kiln 523075	523077	19136	Yes	-	-
77	Pit 562018	562020	15044	Yes	Yes	-

Table 5.10: Palaeo-environmental evidence from medieval features

Likewise, the growth of the heathland is of uncertain date, although palaeo-environmental evidence suggests its presence from the latter half of the 2nd millennium BC (Framework Archaeology 2006, 164). To the south-east of the excavated area lay Hounslow Heath. Palaeo-environmental evidence from Saxon features suggests that within the excavated area at least the heathland was not yet exploited at that period, in contrast to other sites to the east (see Challinor, CD Section 15). By the 13th century, however, these areas of manorial waste were regarded as part of the property of the lords of the manors, with the tenants having common grazing rights on them (Williamson 2004, 92). A keeper of the heath was appointed in the Harmondsworth manor court in 1377 (VCHM iv 15). Vegetation was also cut on the heath and regarded as a valuable asset. Thorns and heather were sold by the manor and rents were paid for turf-cutting by the millers of neighbouring parishes (TNA PRO, SC 6/1126/7 m1; SC 11/449 m3; SC 12/11/20 m1; WC 11451 m4; 11501 m1; 11502 m1; 11503 m1; 11504 m1).

*Three samples produced small quantities of charred ericaceous fruits, the origins being a ditch and two pits in Areas 51, 58 and 77. All of these areas are on the southern edge of the excavated area. However, waterlogged ericaceous remains were not found in the waterhole samples. Heathland, therefore, may not have been located adjacent to the settlement features, but was probably close enough to make gathering vegetation for fuel worthwhile.*

(Carruthers, CD Section 14)

### The inherited landscape

How much of the earlier landscape survived into the medieval period? Information comes from the alignments of archaeological features, and also from palaeo-environmental evidence. The sporadic and spatially limited evidence for Saxon activity within the excavated area leaves little scope for assessing continuity over the previous half millennium. We may, however, be able to look farther back for the origins of some elements of the medieval landscape. There are hints from the palaeo-environmental

evidence, for example, that Roman hedgerows survived into the Saxon period and beyond (see above; Challinor, CD Section 15), and that this survival could be part of a wider survival of Roman *pagi* or land divisions to formalisation within the late Saxon system of hundreds.

More interesting, however, is the evidence for the survival of Bronze Age field alignments into the medieval period (Fig. 5.14). This was observed particularly within the field system across Areas 47 and 49, for example, north-south ditch 526228 and its recut, which contained no pottery yet were seen to truncate the upper fills of medieval waterhole 533018 (see Fig. 5.24 below). The enclosure to which these ditches appear to belong contains only Middle/Late Bronze Age pottery (with Bronze Age Settlement 2; see Chapter 3), yet on the basis of the ditches cutting the waterhole, it appears this enclosure may have been in use in the medieval period, possibly existing as a bank and hedge.

Late medieval place names in Stanwell parish may commemorate then extant monuments from an earlier era, for example, Borough Field on the 1748 Stanwell estate map (*Borrowefelde* in 1544), near the boundary between Harmondsworth and Stanwell, may derive from *beorg*, meaning a hill or mound. In this generally flat terrain a man-made feature such as a barrow was perhaps deliberately used to mark the boundary. There is some archaeological evidence for Bronze Age barrows in the vicinity (O'Connell 1990, 7). Alternatively, *beorg* could refer to the C1 Stanwell Cursus, which is known to have been extant as a very low mound in 1943 (see Chapter 2). Another alternative derivation for the name is discussed below, in relation to the Burrow Hill enclosure complex. Land divisions marked on the 1748 map to the north of Stanwell village, 'perpetuate earlier boundaries noted on the aerial photographs of the field and subsequently excavated in 1977 and 1979' (O'Connell 1990, 7), as well as within the Terminal 5 excavated area. Equally intriguing is the suggestion that medieval features



Figure 5.14: Medieval field system overlaid on earlier (Bronze Age) field systems

excavated to the north of Park Road, Stanwell, followed the same alignment as the Neolithic cursus, although Bronze Age, Roman and Saxon linear features in the same area appear to ignore the cursus (ibid., 60).

In the following section, we will relate the archaeological evidence from the Terminal 5 excavations to the post-medieval cartographic evidence, and in doing, disclose the identity of a possible lost settlement.

### *Burrow Hill: a lost settlement?*

Within the area excavated, medieval activity was concentrated in Area 49, represented by a series of enclosures and post-built structures lying within a field system (Fig. 5.15). The origins of this complex appear to lie early in the medieval period (11th or 12th century), although of particular interest is the fact that some of the ditches seemed to reuse Bronze Age alignments, in some cases actually recutting on the same line. The field systems will be discussed further below, but first the development of the possible settlement focus will be explored.

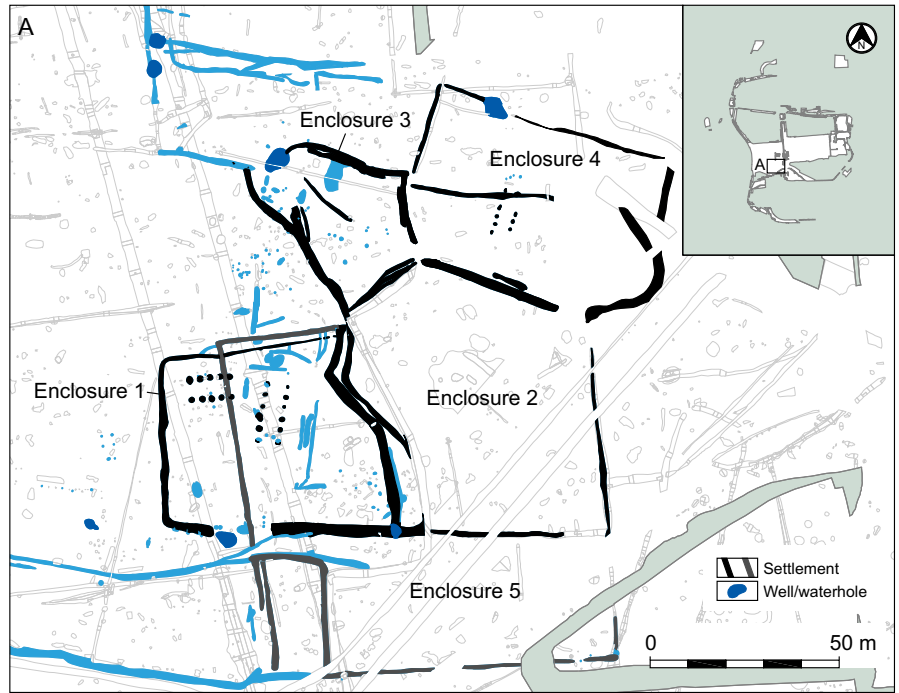


Figure 5.15: Medieval settlement at Burrow Hill

### *Enclosure 1*

This appears to be the earliest element within the complex of enclosures within Area 49, and comprises a roughly rectangular enclosure approximately 50 m by 40 m, enclosing an area c 1.8 hectares (Fig. 5.16). Within the enclosure at the northern end are two rectangular post-built structures

(Buildings 1 and 2), and several pits and gullies apparently associated with them. At the southern end, and within the entranceway of the enclosure, are a large waterhole (569022) and a smaller pit (537105), while another pit lay within the south-west corner of the enclosure (555453) (see Fig. 5.18 below). Not all of these features are necessarily contemporaneous; the precise layout of the enclosure, its development, and its relationship with internal features, is a matter of some conjecture, as will be explored further below.

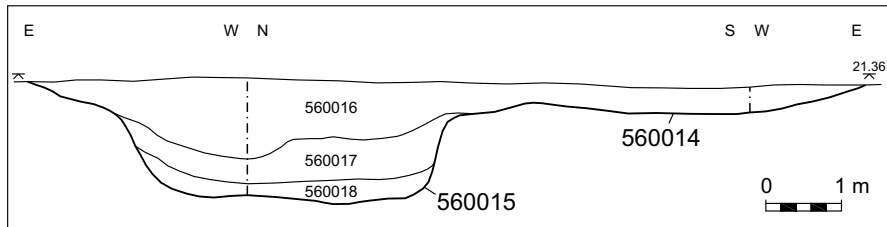
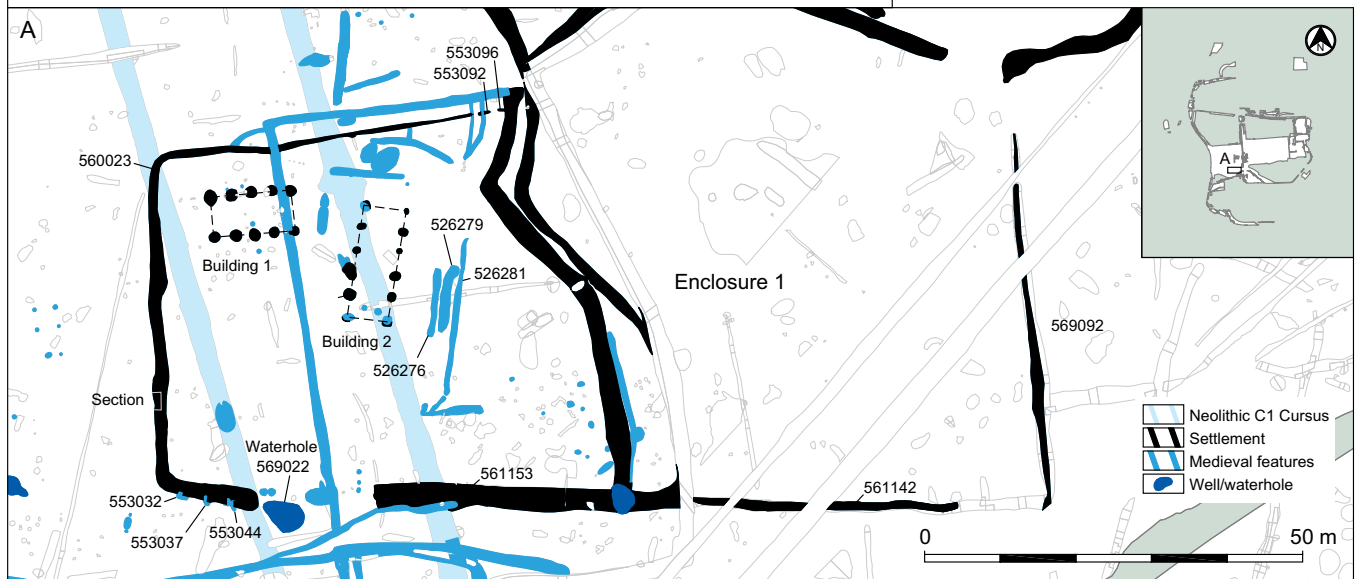


Figure 5.16: Enclosure 1



Ditch 560023 forms the western and northern flank of the enclosure with a short return to the east at its southern extent, terminating in the western curcus ditch. The southern flank is associated with three large post-pit features (553032, 553037, 553044); all are substantial, *c* 1 m in diameter. Their function in relation to the ditch is uncertain, although they are certainly all cut by it. They may have formed part of a pre-existing structure removed when the ditch was constructed, the ditch subsequently following their alignment, which might explain the slight deviation from a right-angle at the south-west corner of the enclosure.

The north-western corner reflects the layout of Building 1, and the northern flank kinks slightly to the north as it heads eastwards, seemingly to take in a group of features to the north of Building 2. Two heavily truncated gullies (553092 and 553096) may continue the ditch line in the north-east corner, but no return to the south is visible here. Further to the south on the eastern side, however, there are three possibilities for the boundary—ditch 526281 and the shorter lengths of 526276 and 526279. All run parallel to each other, and their inter-relationships are unknown (only 526276 produced any datable material), although the most likely explanation is that they represent re-use of a single boundary line. All three of these eastern ditches appear (from concentrations of gravel within fills) to have had a bank on the eastern side.



Plate 5.9: Building 1

SG	Burnt flint		Fired clay		Flint	Iron	Pottery		Slag		Stone	
	No.	Wt. (g)	No.	Wt. (g)			No.	No.	Wt. (g)	No.	Wt. (g)	No.
526276	-	-	-	-	-	-	2	6	-	-	-	-
560023	3	91	11	117	3	1	38	335	2	607	3	497

Table 5.11: Finds from Enclosure 1

The south-eastern corner remains unclear. On the eastern side of the entrance, the ditch appears to continue as 561153, which itself is a recut of an earlier ditch (561142). The latter is dated to the Late Bronze Age on the basis of flint and a single sherd of pottery, but the dating remains ambiguous on such scanty evidence. It is possible that ditch 561142, and its return to the north on the eastern side (569092, which contained a handful of Late Neolithic, Early Bronze Age and Middle Iron Age sherds), in fact marked the original extent of the earliest enclosure, which was later subdivided into Enclosures 1 and 2. There is, however, no definitive evidence to prove this one way or the other. It may be noted that the eastern ditch (569092) follows the same alignment as the eastern side of Enclosure 5 (see below).

There is little dating evidence from the enclosure ditches themselves (see Table 5.11), with the northern and most of the western flanks being conspicuously lacking in finds. What pottery there was came almost entirely from the south-western corner, with two sherds from ditch 526276 on the eastern side. Of the other finds, the flint and possibly the burnt (unworked) flint are residual. The pottery consists exclusively of early medieval wares

(dated *c* 1050–1200), including Early Surrey types and London-type coarseware. Also of interest amongst the finds from ditch 560023 is a plano-convex hearth bottom, suggesting iron-smithing in the near vicinity.

The purpose of the enclosure ditch is unclear. At points it is too shallow for a boundary ditch (although this may be due to heavy truncation) and too flat for drainage. Its nature and depth vary enormously. Towards the south-west corner, it is flat bottomed, very shallow, and becomes quite wide (nearly 2.5 m) where it terminates in the curcus. North of the beam slot it is U-shaped and narrows progressively.

The ditch encloses two post-built structures (Buildings 1 and 2), a group of gullies and pits in between these structures and the northern ditch of the enclosure; and one other large pit in the south-east corner (555453). In the entrance to the enclosure are another large pit (537105) and a waterhole (569022), and various postholes.

### Building 1

This structure comprises two rows of five postholes aligned east-west, all of similar form and dimensions (Fig. 5.17; Plate 5.9). Overall the dimensions are 10.5 m by 4.8 m, with an area of approximately 50 square metres. Only one posthole (537034) shows good evidence of a post-pipe, but it is probable that the posts were removed during deliberate demolition rather than left to rot *in situ*. At least two postholes (537034, 570027) show signs of having been deliberately robbed. The two postholes on the eastern end of the structure (537056 and 537068) are cut by north-south ditch 537118.

The location of the structure seems to have been placed quite fortuitously between the ditches of the curcus (Fig. 5.16). Given that the curcus is known to have survived as a very low mound as late as 1943 (see Chapter 2), it was

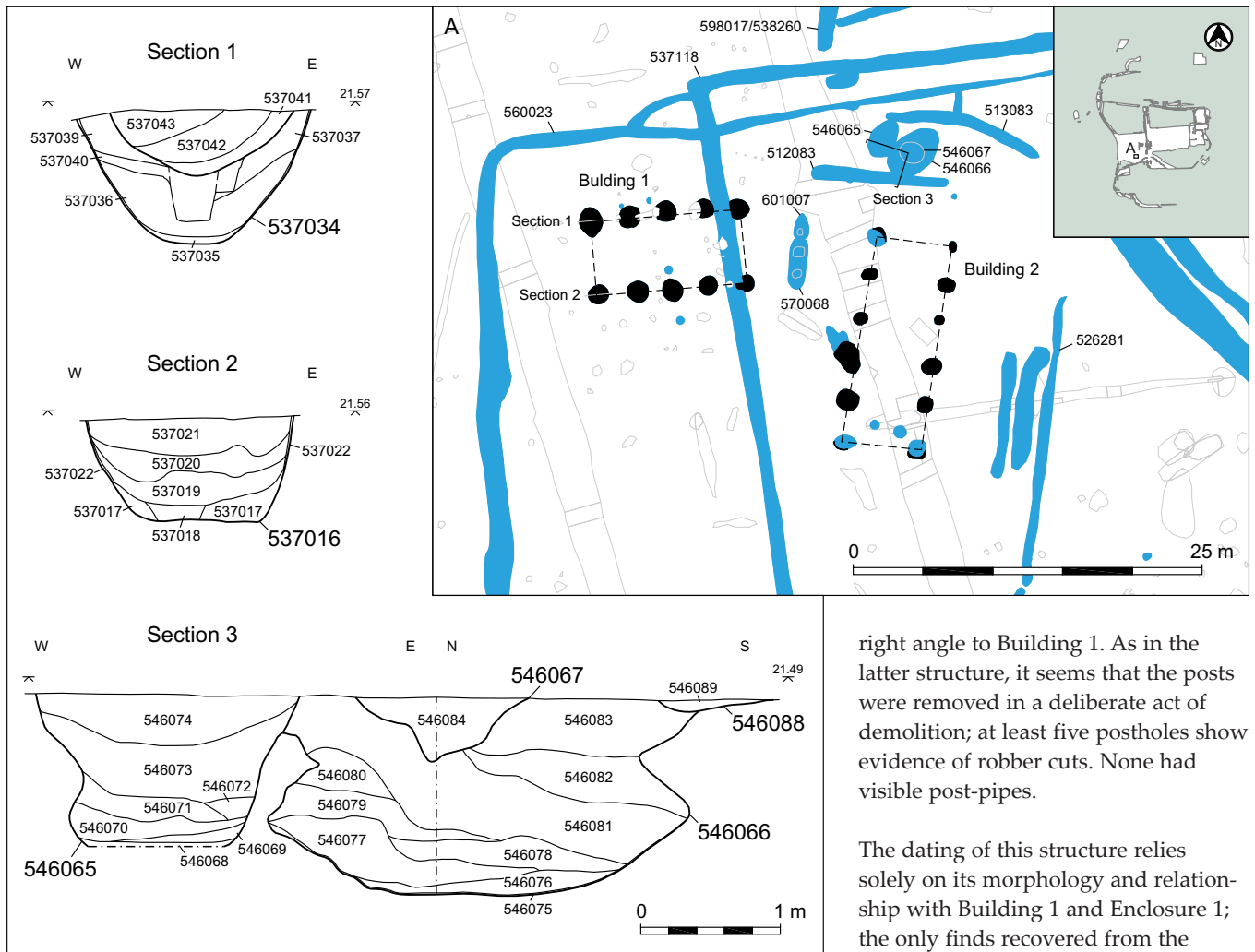


Figure 5.17: Buildings 1 and 2, and adjacent features

presumably extant in the early medieval period. The postholes, however, show no difference in depth across the structure, and the positioning of Building 2 (see below) suggests that it was not a significant landscape feature at this time. The alignment of Building 1 echoes that of the north-west corner of Enclosure 1—either the structure was deliberately placed here within the enclosure, or the enclosure ditch was dug around it, and respecting it, once erected.

The majority of the dating evidence from this structure (Table 5.12) comprises worked flint, of mixed date from Mesolithic to Bronze Age, as might be expected from a structure located in between the cursus ditches. There is also a significant amount of burnt, unworked flint, probably also of mixed prehistoric date. Of the five sherds of pottery, three (from 537016) are Late Bronze Age, one (from 537093)

is Roman, and one (from 537023) is early medieval (Early Surrey ware).

### Building 2

This structure comprises two rows of six postholes, aligned NNE-SSW (Fig. 5.17). Unlike Building 1, the postholes vary in size and depth. The overall dimensions are 15.3 m by 5 m, covering an area of approximately 73 square metres, and it lies obliquely across the eastern cursus ditch, at an approximate

right angle to Building 1. As in the latter structure, it seems that the posts were removed in a deliberate act of demolition; at least five postholes show evidence of robber cuts. None had visible post-pipes.

The dating of this structure relies solely on its morphology and relationship with Building 1 and Enclosure 1; the only finds recovered from the postholes comprise three flint flakes and a small sherd of Late Bronze Age pottery. These artefacts all came from postholes that cut the fills of the eastern cursus ditch.

### What were Buildings 1 and 2 used for?

The architecture and function of the two structures is uncertain. From the size of the majority of the postholes, they contained quite substantial posts, and the internal areas are relatively spacious (see artist's reconstruction in Plate 5.10). Either would have been

SG	Burnt flint		CBM		Fired clay		Flint		Pottery		Stone	
	No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)	No.	No.	Wt. (g)	No.	Wt. (g)	
537034	-	-	-	-	2	7	-	-	-	-	-	-
537044	-	-	-	-	1	1	3	-	-	-	-	-
537056	-	-	-	-	-	-	3	-	-	-	-	-
537016	33	341	-	-	4	4	184	3	11	4	1326	
537082	-	-	-	-	-	-	4	-	-	-	-	
537023	72	659	-	-	1	1	211	1	2	1	173	
537093	2	7	2	17	1	1	2	1	15	-	-	
<b>Total</b>	<b>107</b>	<b>1007</b>	<b>2</b>	<b>17</b>	<b>9</b>	<b>14</b>	<b>407</b>	<b>5</b>	<b>28</b>	<b>607</b>	<b>1601</b>	

Table 5.12: Finds from Building 1



Plate 5.10: Artist's reconstruction of the interior of the medieval barn (Building 2)



Plate 5.11: Artist's reconstruction of the view from the medieval barn (Building 2) to the domestic medieval building (Building 1)

large enough for a range of activities. An interpretation as living accommodation is possible (eg see Plate 5.12), but there are no internal features such as hearths that would support this. Pottery from the late 11th/12th century, which is the presumed date for construction of Enclosure 1 and the two buildings, is relatively scarce—a smattering was found in the enclosure ditches and in some of the internal features, but this is insufficient evidence for intensive use as habitation.

As for construction technique, this could have followed either of two methods within the earthfast tradition. In the first, the walls were constructed with tie beams resting on the tops of pairs of opposing posts, the roof then raised from a wall plate placed on top of the tie beams. The building plan in this case might show some irregularities, as there would be no need for the lines of posts to be absolutely straight,

as they were not linked by a wall plate. In the second method, the wall plate rested directly on the post tops. The posts would in this case need to be in straight lines, but there would be no need for equally spaced posts (Brunskill 2004, 26). In Building 1, the post settings are regularly spaced and may be an indicator of tie beams resting directly on the post tops, while Building 2 shows more irregularity, although the posts are in straight lines, suggesting the presence of wall plates, as opposed to tie beams. The absence of ceramic roofing material indicates the use of thatch, even if the buildings were deliberately demolished and materials reused, some fragmentary roof tile at least would have been left behind. As for walling material, the postholes of Building 1 contained fired clay in both packing fills and upper fills, and in post pipes, possibly indicative of structural material such as daub.

#### Features adjacent to Buildings 1 and 2

To the west of Building 2 are two short, contiguous lengths of gully (601007 and 570068), both of which contained posthole remnants at the base, although it is unclear whether postholes and gullies were contemporaneous, or whether the gullies truncated pre-existing postholes (Fig. 5.17). Whatever the sequence, these lengths of gully may mark a division of space between Buildings 1 and 2, but the six sherds of pottery from 570068 (601007 was devoid of finds) included greyware of 13th or early 14th century date (ceramic phase CP2), that is from a later phase than the initial construction of the enclosure and buildings. An alternative explanation could be proposed by observing the possible continuation of the two gullies to the north, outside the enclosure, as 598017, recut as 538260; the recut contained a single sherd of early medieval pottery.





Plate 5.12: Artist's reconstruction depicting domestic function for medieval building (Building 1)

A number of other features may or may not be related to the two structures; these are located immediately to the north of Building 2, and just inside the northern enclosure ditch—pits 546065, 546066 and 546067, and short lengths of gully 512083 and 513083 (Fig. 5.17).

The sequence in which these features were cut and used is not entirely clear. Pit 546066 is cut by pits 546065 and 546067, and by gully 512083; there are no clear relationships with gully 513083, but the proximity of 513083 to pit 546065 indicates that these two features were not contemporaneous. Gully 513083, however, seemingly respects the position of the earliest pit 546066. Pottery dating is not helpful—there is very little of it, but all five features produced either Kingston-type wares or sandy greywares, dating to the 13th or early 14th century, in other words, potentially contemporaneous with gullies 601007 and 570068.

Again, function is unclear. Gully 512083 forms a right angle with the projected line of gully 570068 and could be further evidence of subdivision of the enclosure, or control over access to the post-built structures. The pits do not seem to have been used for primary refuse disposal, and the overhanging section of 546066 (which appears to be deliberate and not a result of erosion) would perhaps be more suited to cool storage conditions.

#### Features at the southern entrance

Several features clustered around the southern entrance to Enclosure 1—three pits (555453, 537105 and 537115), two postholes (537098, 537100) and a waterhole (569022). The two postholes (537098 and 537100) were located next to each other, immediately to the north of waterhole 569022; their function may have been connected to the latter feature. Four sherds of early medieval pottery came from 537098. Pit 537105

was an oval feature situated approximately midway between the two terminals of the enclosure ditch, and on a similar alignment; it does, however, appear to be a discrete feature and not part of the ditch. The dating also differs—this feature produced pottery of 13th/14th century date, albeit alongside sherds of early medieval pottery in good condition, including a complete jar profile (Fig. 5.18, 1). It was cut by a smaller, circular pit (537115), and the Enclosure 5 ditch 537118, both of which contained pottery of a similar date.

Waterhole 569022 was apparently located directly within the entrance into the enclosure. In common with other waterholes in Area 49, it was pear-shaped, with a gradually sloping access from the west; it contained a series of gradually accumulating deposits laid down in standing water. Finds were relatively prolific, although

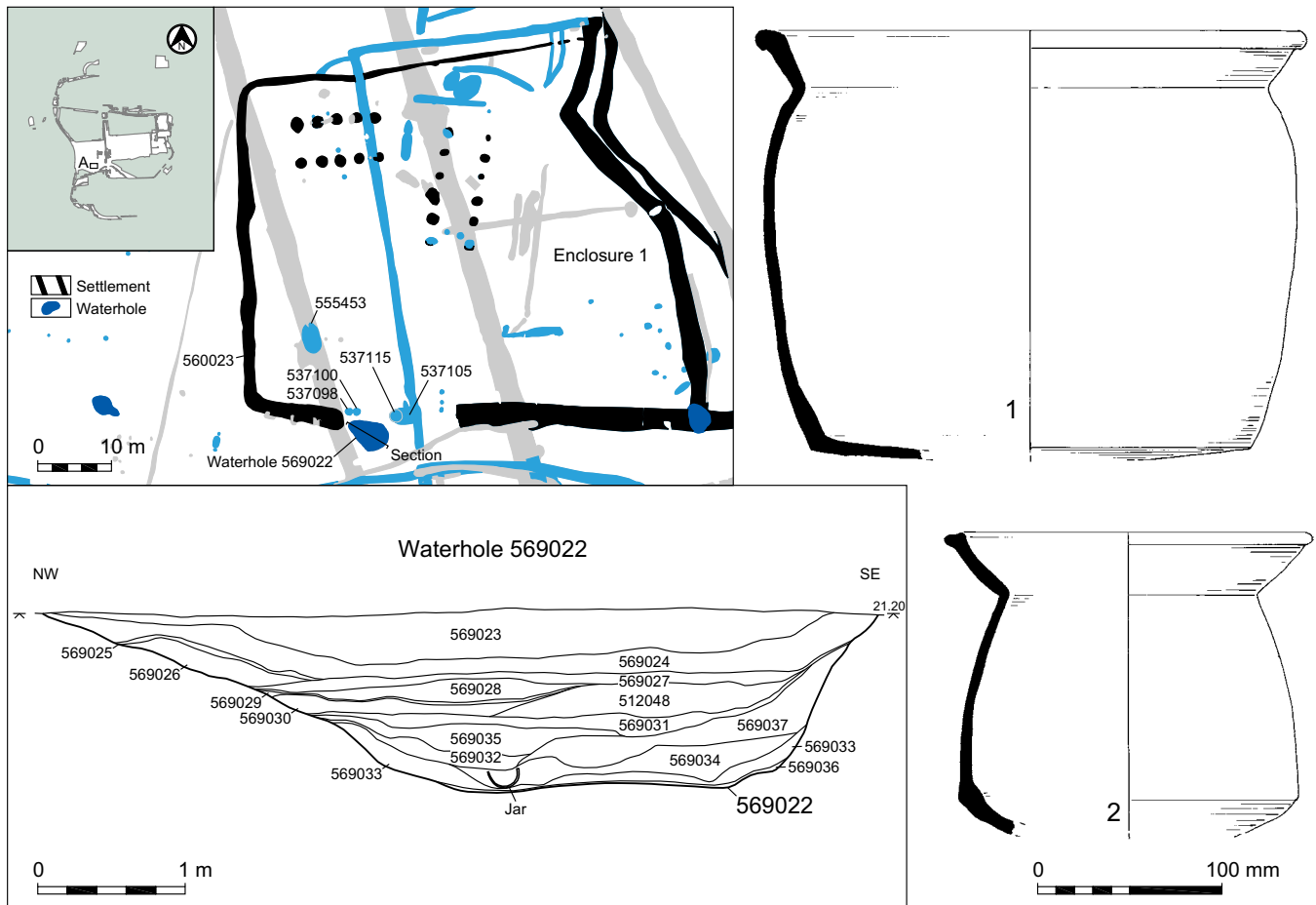


Figure 5.18: Features at the southern entrance to Enclosure 1, with section of waterhole 569022, and pottery vessels

consisting largely of pottery, and occurred throughout the sequence of fills (see Table 5.13). Pottery from the lower fills was exclusively of early medieval date (Early Surrey wares, as well as chalk-tempered and flint-tempered local wares; see Fig. 5.18, 2), suggesting that the waterhole was constructed, and started to infill, in the late 11th/12th century—in other words, contemporaneous with the ditches of Enclosure 1. Although early medieval wares formed the bulk of the assemblage throughout the fill sequence, greywares appear in the middle fills, while pottery from the uppermost fills shows that the waterhole was still in use in the late medieval period, perhaps only abandoned in the late 14th or 15th century. Palaeo-environmental evidence from the waterhole is of interest.

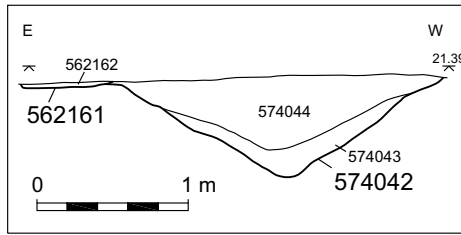
*Charred plant remains were present in fairly low concentrations in all five samples. The general character of the assemblages was very similar down through the profile, with cereal grains being the dominant components. Weed seeds were fairly scarce and limited in species range. Small-seeded weedy legumes (vetches and tares) and stinking chamomile seeds were the main taxa represented. The dominance of these two taxa indicated that nutrient-poor,*

*heavy, damp soils were being cultivated. Apart from the cereals, cultivated vetch, possible pea and a sloe, cherry or plum (*Prunus* sp.) stone fragment were the only other remains of economic importance. Mixed burnt domestic waste appears to have been represented.*

*Compared to the overall average ratio of wheat to barley to oats to rye, the samples from this feature produced slightly lower*

SG	Animal bone		Burnt flint		CBM		Flint		Pottery	
	No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)
569023	8	20	-	-	-	-	-	-	49	736
569024	9	9	-	-	-	-	-	-	165	2069
569027	-	-	-	-	-	-	-	-	11	105
569028	-	-	-	-	-	-	1	36	593	
569029	-	-	-	-	-	-	1	2	29	
569030	-	-	-	-	-	-	-	7	91	
569031	-	-	3	29	-	-	1	6	94	
569035	-	-	-	-	-	-	-	3	64	
569032	5	20	2	9	2	92	-	11	121	
569034	2	97	-	-	1	242	5	14	451	
569033	-	-	6	28	-	-	-	29	455	
<b>Total</b>	<b>24</b>	<b>146</b>	<b>11</b>	<b>66</b>	<b>3</b>	<b>334</b>	<b>8</b>	<b>333</b>	<b>4808</b>	

Table 5.13: Finds from waterhole 569022



quantities of bread-type wheat but relatively frequent rye grains. Rye rachis fragments (chaff) were also more common in the lowest sample than other chaff fragments. This may indicate that the origin of the burnt waste was more likely to be fodder than household waste, or that fodder was mixed with other types of rubbish. Cultivated vetch and peas probably represent fodder, as peas were often used to feed pigs in medieval times (Dyer 2000).

From the surviving [waterlogged] assemblage, the overwhelming impression was one of an open vegetation on soils with high nutrient levels. Apart from hemlock which prefers damp soils, no aquatic or marsh taxa were present, even though seeds such as sedge have tough seed coats. Some of the remains were from poisonous plants with medicinal uses (hemlock, henbane), whilst others were from edible taxa (elderberry, mallow, and possibly fat hen and orache). However, use of these plants is difficult to prove since all of the taxa would also be well-suited to growing in a disturbed, nutrient-rich, damp habitat like as a midden or farmyard.

(Carruthers, CD Section 14)

### Enclosure 2

Enclosure 2 either extends Enclosure 1 to the east (ditches 568079, 568083 and 52966/52967/52968) or was a sub-division of it (ditches 512072, 529241 and 546100). The subdividing ditches 529241 and 546100 cut off any access from the western end of Enclosure 1, but there are other access points into Enclosure 3 to the north, and possibly at the north-eastern corner (Fig. 5.19). On the eastern side ditches 569080 and 525172 appear to provide the boundary, although these produced only Bronze Age pottery (ditch 569080 is a recut of Bronze Age ditch 569092). On the north-eastern side, a short parallel length of gully (568068) may also be related to the enclosure ditch.

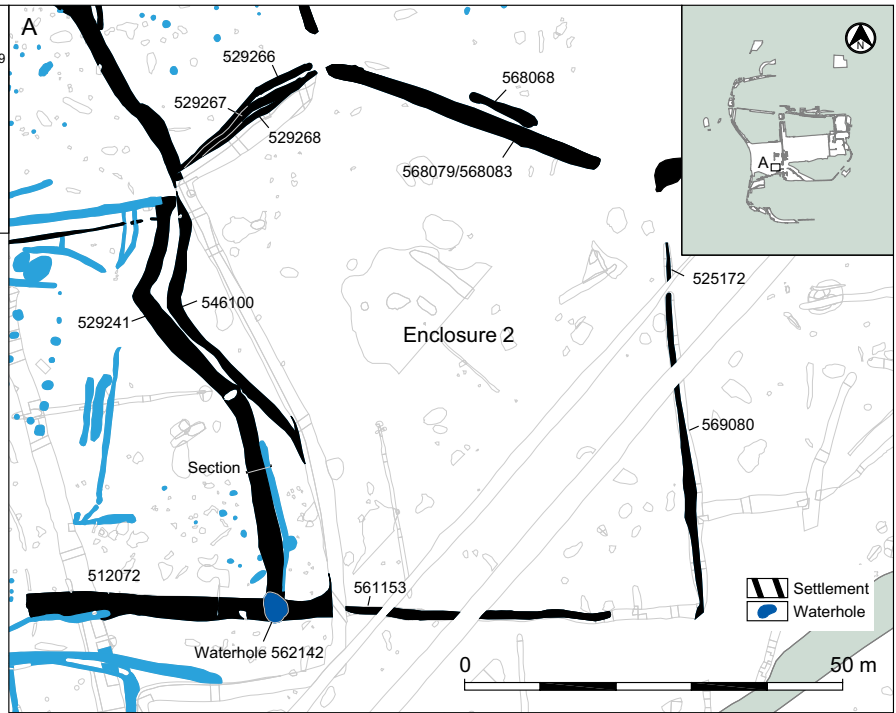


Figure 5.19: Enclosure 2

Morphologically, the ditches of Enclosure 2, or at least those on the northern and western sides, differ from those of Enclosure 1 in being wider, although still relatively shallow. There were at least three phases of ditch on the northern and western boundaries, while further possible phases may have been lost due to post-medieval and later medieval truncation. The general outline of the enclosure suggests a corral type area, for the containment or manipulation of livestock. It is likely that an additional access point existed at the northern end of Enclosure 2, allowing filtered access and movement towards Enclosure 3. No contemporaneous internal features were identified.

The dating evidence for Enclosure 2 is more prolific than for Enclosure 1, although still consisting only of pottery

(see Table 5.14)—164 sherds in total, of which the five sherds from 569080 are prehistoric. The ditches that did produce medieval pottery are consistent in their dating—all contained Kingston-type ware and/or sandy greywares, of 13th or early 14th century date (ceramic phase CP2). Ditch 529241 also contained a single sherd of Late London-type ware, which could serve to push this into the late medieval period. In terms of dating, then, the ditches of Enclosure 2 appear to be contemporaneous with the internal features of Enclosure 1, apart from the post-built structures.

Other functional evidence is confined to two joining but very abraded fragments from a Nierdermendig lava quernstone, probably from a rotary quern.

SG	Animal bone		Burnt flint		Fired clay		Flint	Pottery		Stone	
	No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)		No.	Wt. (g)	No.	Wt. (g)
529241	5	2	5	75	8	19	2	44	676	2	270
529266	-	-	-	-	-	-	-	27	239	-	-
529268	-	-	-	-	-	-	-	52	387	-	-
546100	5	5	-	-	-	-	-	8	62	-	-
568068	-	-	-	-	-	-	-	26	334	-	-
568079	-	-	-	-	-	-	-	2	22	-	-
569080	-	-	10	21	-	-	11	5	8	-	-
<b>Total</b>	<b>10</b>	<b>7</b>	<b>15</b>	<b>96</b>	<b>8</b>	<b>19</b>	<b>13</b>	<b>164</b>	<b>1728</b>	<b>2</b>	<b>270</b>

Table 5.14: Finds from Enclosure 2

### Enclosure 3

This enclosure comprises several phases of ditch, butting onto the northern boundary line of Enclosure 2 (Fig. 5.20). The initial phase comprised two gullies (603039 and 546107), converging towards the focal waterhole 539129 (Plate 5.13). This was then extended by the construction of a ditch alignment (529228 and 529233). It is uncertain whether these two ditches originally butted on to the northern boundary of Enclosure 2 (and, indeed, what the original stratigraphic relationship of the two enclosures was) as they were later successively recut on a slightly different alignment by 527192, 527195 and 527197. The latter three ditches do cut the northern boundary of Enclosure 2, and appear to supersede gully 546107.

The northern and eastern boundaries of the enclosure were provided by ditches 529237/529239 and 539051, later recut by 546103. Ditch 529239 appears to cut the upper fills of waterhole 529139 (see Fig. 5.21) and thus superseded the use of the waterhole. It remains uncertain if other elements of the enclosure also did so.

The focal point of the enclosure is waterhole 529139, and the design of the enclosure system appears to encourage movement (presumably of livestock) towards it (see artist's reconstruction

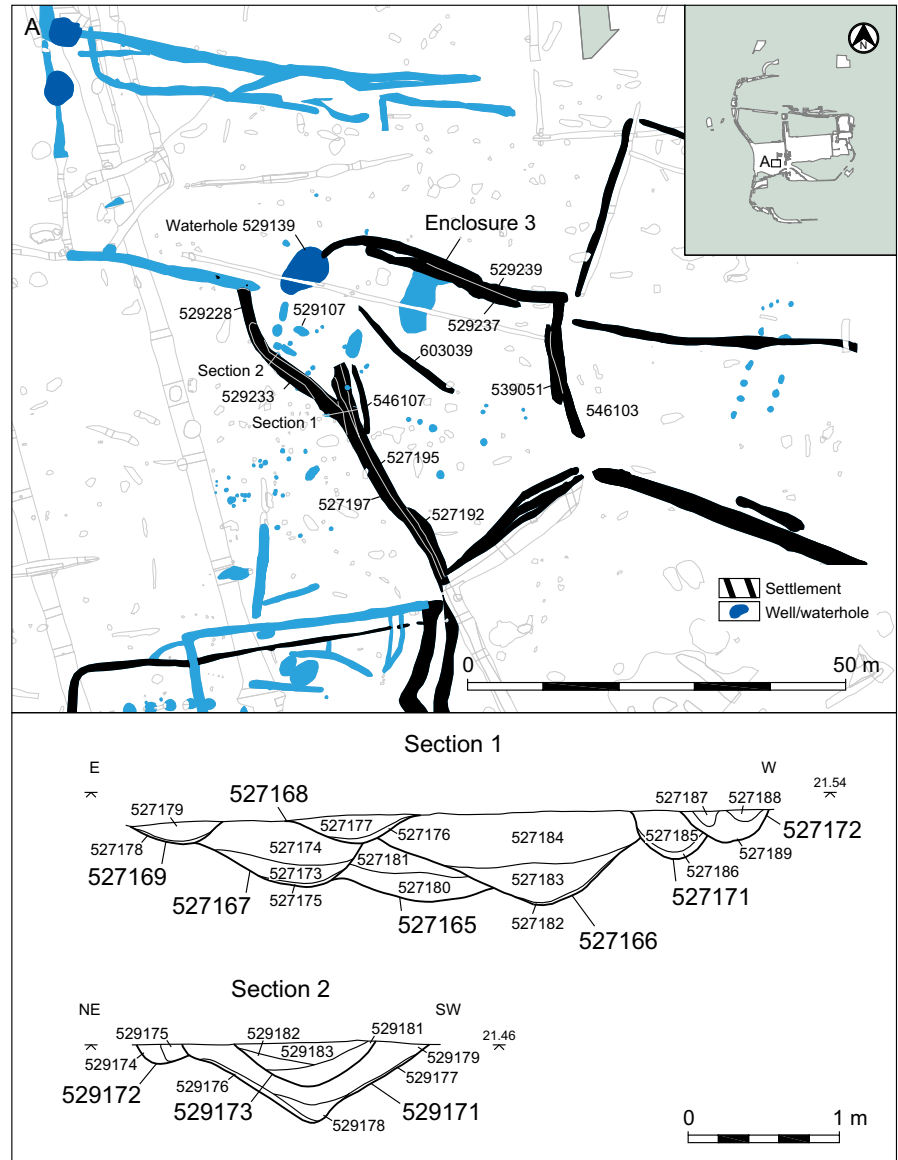


Figure 5.20: Enclosure 3



Plate 5.13: Waterhole 529139

in Plate 5.14). Furthermore, the likely access point at the northern end of Enclosure 2 would have allowed tightly controlled access into Enclosure 3.

It seems likely that a number of postholes in this area are related to animal control, possibly acting as pens or fence lines used with the ditches as funnelling systems. As some of the postholes truncate the later ditch phases it is possible that once the ditches and banks were established and stabilised that the system was further elaborated. Further structural pits and postholes at the northern end of the enclosure, close to the waterhole, may have provided additional control in the form of hurdle lines and tethering posts.



Plate 5.14: Artist's reconstruction of stock control system in Enclosure 3

Dating evidence from the enclosure ditches (Table 5.15) comes almost exclusively in the form of pottery, with most ditches containing sherds of 13th/early 14th century date (Kingston-type wares and greywares). This is also true of the internal 'funnel' gullies 546107 and 603039. Ditches 529228 and 539051 contained only early medieval wares (11th/12th century), but quantities are too small (five and two sherds respectively) to draw definite conclusions as to an early origin for Enclosure 3. Any development of the enclosure, as evidenced by the continued recutting of ditches on the western side, did not, apparently, have a lengthy history. A silver coin from ditch 527197 can only be broadly dated as medieval; the presence of a post-medieval halfpenny in a secondary fill of ditch 546103 is less easy to explain, but is presumed to be intrusive here.

#### Waterhole 529139

Waterhole 529139 is pear-shaped, steep-sided and circular at the north-east end, and sloping up to the south-west (Fig. 5.21). It was infilled by a series of edge slumping episodes interleaved with deposits laid down in standing water. At one point an attempt seems to have been made to halt erosion by means of a revetment comprising timber and gravel infill across the south-west end. By the time the uppermost fills were deposited the feature had ceased to hold water. The upcast material from the construction of the waterhole was deposited around the northern and western sides, restricting access from these directions.

Pottery dominates the small finds assemblage from the waterhole

SG	Animal bone		Burnt flint		CBM		Flint	Metal	Pottery		Slag	
	No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)			No.	No.	Wt. (g)	No.
527192	-	-	1	149	-	-	-	5 Fe	13	213	1	17
527197	-	-	-	-	-	-	-	1 Ag	2	17	-	-
529228	-	-	2	72	-	-	-	-	5	24	-	-
529233	9	137	-	-	-	-	-	-	3	42	-	-
529237	-	-	-	-	1	6	-	-	17	117	-	-
529239	-	-	-	-	1	47	1	-	24	205	-	-
539051	-	-	-	-	-	-	-	-	2	11	-	-
546103	9	6	-	-	-	-	-	1 Cu	5	25	-	-
546107	-	-	2	85	-	-	-	1 Fe	6	26	-	-
603039	-	-	1	32	-	-	-	-	5	42	-	-
<b>Total</b>	<b>18</b>	<b>143</b>	<b>6</b>	<b>338</b>	<b>2</b>	<b>53</b>	<b>1</b>	<b>6 Fe</b> <b>1 Cu</b> <b>1 Ag</b>	<b>82</b>	<b>722</b>	<b>1</b>	<b>17</b>

Table 5.15: Finds from Enclosure 3

(Table 5.16), and wares present suggest a fairly rapid filling sequence—13th/early 14th century wares (CP2) occurred throughout, from the primary fill (529154) onwards, but there were no later medieval wares. Other finds types were sporadic, but the presence of a moderate amount of ceramic building material and slag may be significant (see below). The animal bone consists mostly of large mammals (cattle and horse), represented largely by teeth and other dense elements, making it likely that these bones eroded gradually into the waterhole rather than being deposited deliberately.

In contrast to waterhole 569022 in Enclosure 1, which produced evidence of a location within a nutrient-rich habitat such as a midden or farmyard, waterhole 529139 appears to have been situated in an area of low-level use.

*The samples from waterhole 529139 are quite unlike the earlier waterholes at Terminal 5. During the Bronze Age, thorny hedgerow and woody taxa were*

*common in the waterholes, but aquatics and nitrophilous plants were usually fairly scarce during the period of use. In the Iron Age, Roman and Saxon periods, woody taxa became scarce and grassland plants were dominant. Heathland remains, possible dung and charred cereal processing waste were sometimes dumped in the features, and nitrophilous plants were often abundant. Aquatic plants, however, were still rare. Medieval waterhole 529139 appears to have been close enough to mature oak woodland for leaves, buds, twigs and acorns to have fallen into the feature throughout the period represented by the four samples. In view of the lack of evidence for animal disturbance and the growth of aquatic vegetation, it is likely that this period was one of abandonment or very low-level use. The higher fruit and seed concentrations at the bottom and top of the sequence can be explained by differing preservation conditions and perhaps the canopy becoming more closed, making flowering less likely in most plants. Although the highest concentration of remains was at the top of the sequence, signs of decay suggested that some drying*

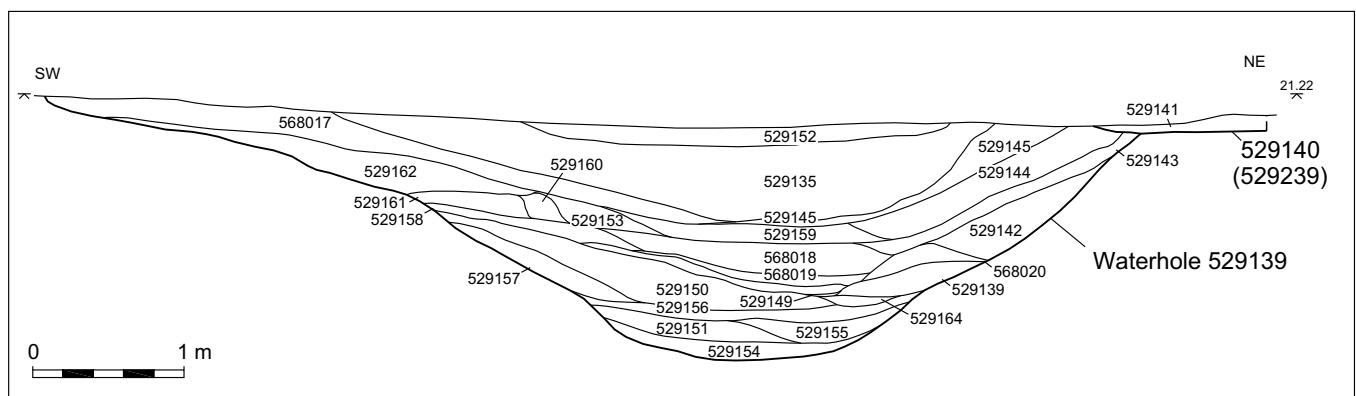


Figure 5.21: Section of waterhole 529139

SG	Animal bone		Burnt flint		CBM		Fired clay		Flint	Iron	Pottery		Slag
	No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)			No.	Wt. (g)	
529152	-	-	-	-	-	-	-	-	1	-	1	1	-
529135	-	-	3	55	8	276	-	-	14	3	6	52	-
568017	6	11	-	-	1	12	-	-	1	1	34	223	159
529144	-	-	1	360	16	326	15	155	1	-	-	-	-
529153	-	-	-	-	-	-	-	-	-	-	6	67	-
529143	-	-	-	-	11	445	-	-	-	-	1	7	1276
568018	14	355	-	-	-	-	-	-	-	-	1	3	260
529158	2	28	-	-	-	-	-	-	-	-	12	110	-
568020	1	2	-	-	1	38	-	-	-	-	5	26	229
529150	1	6	-	-	-	-	-	-	-	-	2	23	-
529157	-	-	-	-	-	-	-	-	-	-	2	11	-
529151	-	-	-	-	-	-	-	-	-	-	1	2	-
529154	-	-	-	-	-	-	-	-	-	-	1	10	-
<b>Total</b>	<b>24</b>	<b>402</b>	<b>4</b>	<b>415</b>	<b>37</b>	<b>1097</b>	<b>15</b>	<b>155</b>	<b>17</b>	<b>4</b>	<b>73</b>	<b>535</b>	<b>1924</b>

Table 5.16: Finds from waterhole 529139

out had occurred, leading to the loss of leafy material which would have increased the concentration of more resilient fruits and seeds. In addition, some of the aquatic plants had clearly become more established by this time. The drying out, therefore, probably occurred after the feature had been backfilled rather than while it remained open.

(Carruthers, CD Section 14)

The pollen assemblages from this feature are dominated by herbaceous taxa, primarily grass pollen, with a relatively wide range of ruderals and species associated with open/rough ground, such as daisy-type, dandelion-type, plantain including buck's-horn plantain (*Plantago coronopus*), and docks (*Rumex undiff*). The relatively high values for ribwort plantain, which may be associated with trampling by animals, suggest that some areas also carried livestock. A number of herbaceous taxa typically, although not exclusively, associated with cultivated land are also present, including goosefoots, plus members of the pea family (*Fabaceae*) such as bird's-foot-trefoil, clovers, and vetches/peas. Cereal-type pollen is well represented and includes oats/wheat and barley in all subsamples, and is better represented in the uppermost four levels.

Levels of tree and shrub pollen appear to be quite well represented, ranging from 15% TLP to over 20% TLP, with a peak at 0.22 m. The dominant tree pollen in all the subsamples is oak, which is responsible for the peak in the tree curve, with some ash

and a relatively wide range of shrubs, including holly, honeysuckle (*Lonicera periclymenum*), rose family (including hawthorn-type), and elder. After the peak in tree/shrub pollen at 0.22 m depth, levels fall once again in the top of the diagram, which, interestingly, is concomitant with the increase in cereal-type and goosefoot pollen.

The results show that the environment surrounding the site was one of open grassland and rough ground, with evidence of both pastoralism and cereal cultivation, the latter perhaps becoming more important later on. Unlike some of the earlier

periods at Heathrow, the landscape in this area of the site during the medieval period was slightly more wooded with oak and ash, and also contained areas of shrubs, or hedging. Ash is often indicative of secondary woodland. The pollen assemblages may, in part, represent parkland with grazed grassland and standard oaks.

(Peglar et al., CD section 16)

### Functional activity in Enclosure 3

Ironworking slag (c 2 kg) was incorporated into the upper and middle fills of waterhole 529139 from the north-east end. Nearby pit 529107 also contained a significant quantity of slag (c 6 kg), and further slag came from ditch 527192 (17 g) (Fig. 5.20). This concentration of slag is indicative of localised, small-scale metalworking in the near vicinity, but there is no conclusive evidence of *in situ* deposits of burning associated with furnaces or larger scale metalworking.

### Enclosure 4

The evidence for Enclosure 4 is much more ephemeral than for the other enclosures. It comprises a possible extension to the north and north-east of Enclosures 2 and 3 respectively, utilising ditches 568079/568083 and 546103 respectively as its southern and south-

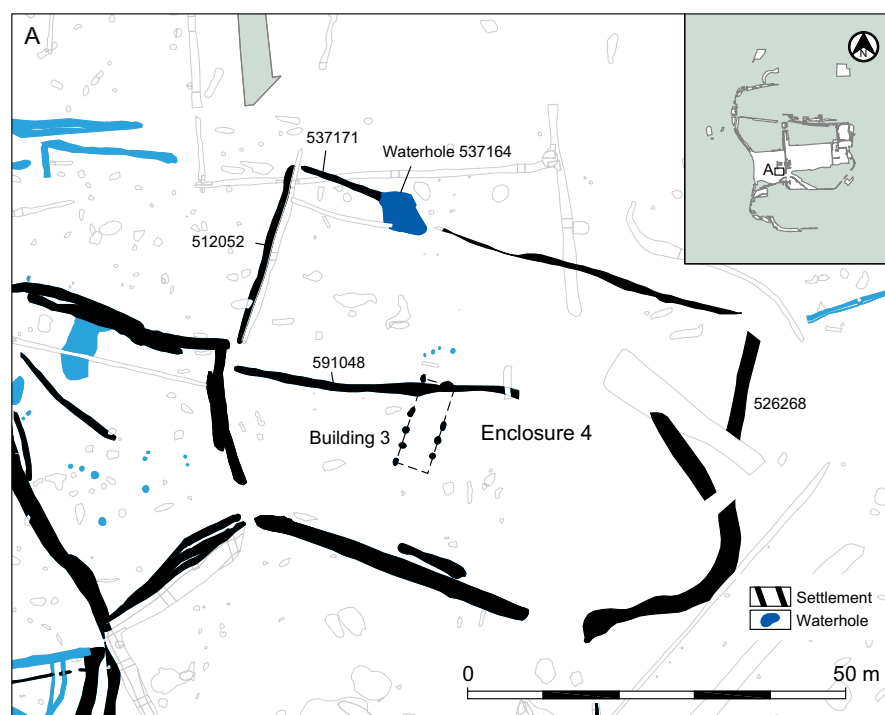


Figure 5.22: Enclosure 4

SG	Burnt flint		CBM		Flint	Pottery		Slag	
	No.	Wt. (g)	No.	Wt. (g)		No.	Wt. (g)	No.	Wt. (g)
526268	1	3	5	162	-	-	-	1	8
591048	1	30	-	-	1	18	106	-	-
<b>Total</b>	<b>2</b>	<b>33</b>	<b>5</b>	<b>162</b>	<b>1</b>	<b>18</b>	<b>106</b>	<b>1</b>	<b>8</b>

Table 5.17: Finds from Enclosure 4

western boundaries (Fig. 5.22). Ditches 512052 and 537171 form the north-east corner, while a partially investigated ditch (526268) may provide the eastern boundary. Other unexcavated ditches on the northern and south-eastern sides have been extrapolated as continuing the line of the enclosure. At the centre of the enclosure is a post-built structure (Building 3), which is cut by ditch 591048 that divides the enclosure roughly in half on an east-west alignment at a later date.

Dating evidence is extremely sparse; pottery came only from the internal ditch 591048, and includes 13th/early 14th century Kingston-type wares (CP 2). Indeed, finds of any type were scarce (Table 5.17).

### Building 3

This structure comprises nine postholes (if this was originally a ten-post structure, then the posthole at the south-east corner is missing), with a possible extension to the north, where four smaller postholes or stakeholes may mark an associated, more ephemeral lean-to structure. The overall external length (without the possible lean-to) is 11.5 m, and the width 4.5 m, with an internal area of approximately 38.5 square metres; this is slightly smaller than both Buildings 1 and 2.

The building broadly echoes the alignment of Building 2, and the presumption is that Building 3 is contemporaneous with the two structures within Enclosure 1. This is confirmed by the ceramic dating—all of the nine sherds recovered from the posthole fills are of early medieval date—and by the fact that the building is cut by the 13th/early 14th century ditch 591048. At least two of the postholes on the western side of the building were robbed out.

As with all of the medieval structures, the function of this building is very

difficult to interpret. The dimensions may indeed be similar to medieval houses in the surrounding geographical area (Astill and Grant 1988, 54). Yet as Astill points out, there does not seem to be a distinction in terms of plan between dwellings and out-buildings in this period (ibid., 55). Any evidence of activity within this building has been lost to truncation, hampering further interpretation. The lack of contemporary negative features surrounding the building precludes the identification of activities. Although spatially it sits within Enclosure 4, the ceramic dating suggests that it predates the enclosure ditches (and, indeed, those of Enclosures 2 and 3). This building, then, may have formed another element in the earliest phase of the medieval landscape, along with Enclosure 1 and its associated buildings.

### Waterhole 537164

This pear-shaped waterhole sits in the north-western corner of the enclosure, within a possible entrance; its upper fills are cut by ditch 537171. Surviving depth is approximately 1.3 m. As for other waterholes, the fill sequence combines deposits formed in standing water with those representing erosion of the side. The dating evidence (Table 5.18) suggests that this waterhole infilled relatively rapidly during the 13th/early 14th century; pottery includes Kingston-type wares and greywares, and there are also two silver coins from the fill—one broadly dated as medieval and the second as 1180–1247 (Table 5.9).

SG	Burnt flint		CBM		Flint	Metal	Pottery	
	No.	Wt. (g)	No.	Wt. (g)			No.	Wt. (g)
537154	17	794	4	8	3	2 Ag	10	51
537149	20	946	-	-	2	-	1	4
537151	3	143	-	-	1	-	11	448
537147	-	-	-	-	-	-	1	14
537145	-	-	-	-	-	-	1	6
<b>Total</b>	<b>40</b>	<b>1883</b>	<b>4</b>	<b>8</b>	<b>6</b>	<b>2 Ag</b>	<b>24</b>	<b>523</b>

Table 5.18: Finds from waterhole 537164

## Enclosure 5

Enclosure 5 forms part of the latest medieval phase of the enclosure system; it cuts through Enclosure 1, thus modifying its use, and extends the enclosed area to the south of both Enclosures 1 and 2 (Fig. 5.23). The north-western corner is formed by 537118, extended to the south by 547167, and the southern side by ditches 529278, 615343, 593239 and 593317, with ditch 621038 forming a short northern return in the south-eastern corner, lining up with the eastern side of Enclosure 2. On the northern side, ditch 537118 just cuts the more westerly of the two ditches forming the western side of Enclosure 2, but does not continue, implying that Enclosure 2 was still in use at this time. Two of the ditches (547167 and 621038) appear to recut Bronze Age alignments (547170 and 578559 respectively); on the eastern side this forms part of an extended alignment which also forms the eastern side of Enclosure 2 (see above). Ditch 529279 appears to continue westwards beyond the enclosure as 512087, but there is a definite kink in this ditch just outside the south-western corner of the enclosure, as though 512087 had been modified to fit in with a pre-existing alignment. Overall, the enclosure measures approximately 93 m from east to west, and 90 m from north to south.

Dating evidence for the enclosure ditches is extremely sparse (see Table 5.19). All finds came from secondary fills. The 25 sherds of pottery include 13th/14th century Kingston-type wares and greywares, but the presence of two post-medieval clay pipe stems in 529278 and one post-medieval brick fragment in 547167 should be noted; the enclosure could in fact have been extant at this period. A later date for



the enclosure is also suggested by the fact that the western enclosure ditch 537118 cuts a 13th/14th century pit (537105) within the entrance to Enclosure 1.

No internal features can be definitively tied to this phase of enclosure (the 13th/14th century features adjacent to the post-built structures within Enclosure 1, described above, are potential candidates, but could equally well, along with pits 537105 and 555453 [see above, Enclosure 1], belong to the phase immediately preceding the construction of Enclosure 5). Building 1 had clearly been abandoned by this stage, as the enclosure ditch cuts right through it. Building 2 could in theory still have been extant (there is no dating evidence from the structure), but this seems unlikely.

Some modification to Enclosure 5 subsequently took place, whereby ditches 547179 and 547168/547169 formed a small subrectangular enclosure (approximately 30 m by 15 m) within the south-western corner. Ditch 512087 (see above) forms the southern end of this small enclosure; at the northern end, ditch 547168, itself a recut of two earlier ditches (547169 and 547171) cuts ditches which run on a broadly parallel alignment to 512087 (547173 and 566049), and also ditch 547167, the southern extension of 537118. Dating evidence comprises four sherds of early medieval pottery from 547169 and five sherds from 547168, including one 13th/14th century greyware. One piece of post-medieval brick came from 547179, and a pair of iron pliers from 547168.

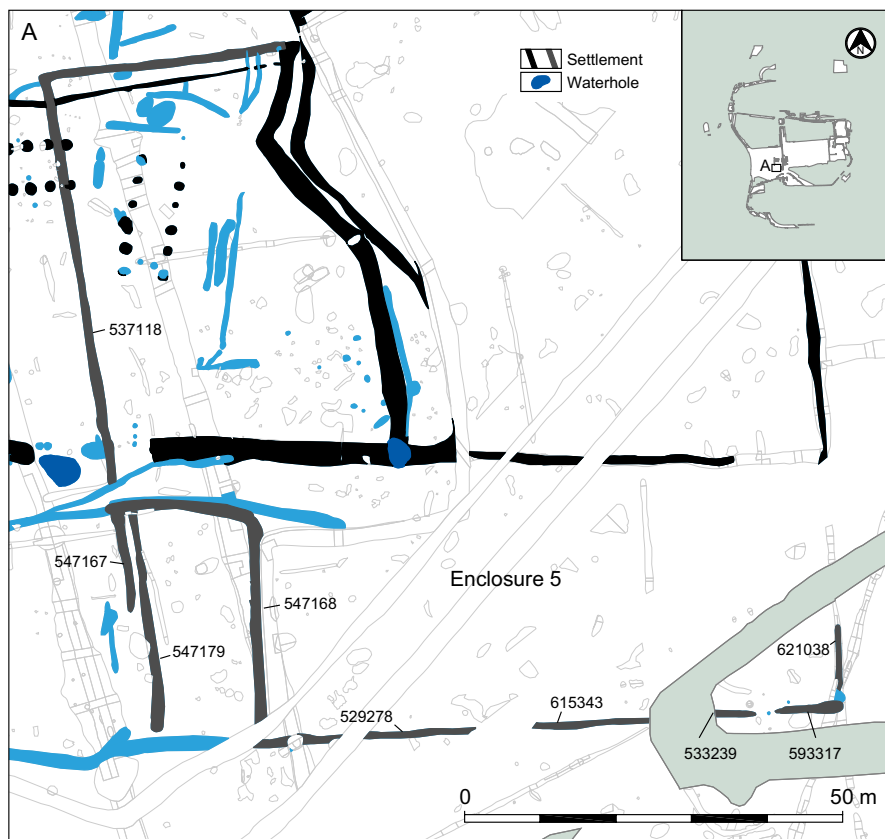


Figure 5.23: Enclosure 5

The function of Enclosure 5 is unclear. It stands out from the rest of the complex of enclosures by its relatively regular form, which imposes a more rectangular structure on the field system. Its relationship with the parallel ditches 566049 and 512087 is likewise uncertain—the latter could be seen to feed into the south-western corner of the enclosure, but the later, small enclosure appears to block this. The enclosure ditches are generally smaller than those of the other enclosures (apart from the southern and eastern sides of Enclosure 2, which are on similar

alignments). There are no internal structures, and no other arrangements which would suggest, for example, stock management. Finds evidence suggests that at least some of the ditches were still extant in the post-medieval period. Although post-medieval ditch 529255 does cut through the southern part of the enclosure, truncating the ditches of the small enclosure in the south-western corner, it does seem to respect southern ditch 529278.

### The field systems

To the north and west of the enclosures described above were parts of an extensive field system, visible across Areas 47, 49, 51 and POK96 (Fig. 5.24). The field system lies on the northern edge of Stanwell parish—bounded to the north by the parish boundary between Stanwell and Harmondsworth (see below)—and several of the boundary ditches conform to field boundaries shown on the 1748 Stanwell Estate Map (Fig. 5.26). Perhaps more interestingly, this area also saw the extensive reuse of Bronze Age ditches, which must have remained visible in the late medieval period.

SG	Burnt flint		CBM		Clay Pipe		Flint	Iron	Pottery	
	No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)			No.	Wt. (g)
529278	-	-	1	31	2	9	-	-	-	-
537118	1	16	2	73	-	-	2	-	10	62
547167	-	-	1	204	-	-	1	-	15	63
547168	-	-	-	-	-	-	1	1	5	61
547169	-	-	-	-	-	-	-	-	5	31
547171	-	-	-	-	-	-	3	-	-	-
547179	-	-	1	290	-	-	1	-	-	-
593239	2	114	-	-	-	-	19	-	-	-
593317	-	-	-	-	-	-	4	-	-	-
621038	3	-	-	-	-	-	1	-	-	-
<b>Total</b>	<b>3</b>	<b>130</b>	<b>5</b>	<b>598</b>	<b>2</b>	<b>9</b>	<b>32</b>	<b>1</b>	<b>35</b>	<b>217</b>

Table 5.19: Finds from Enclosure 5

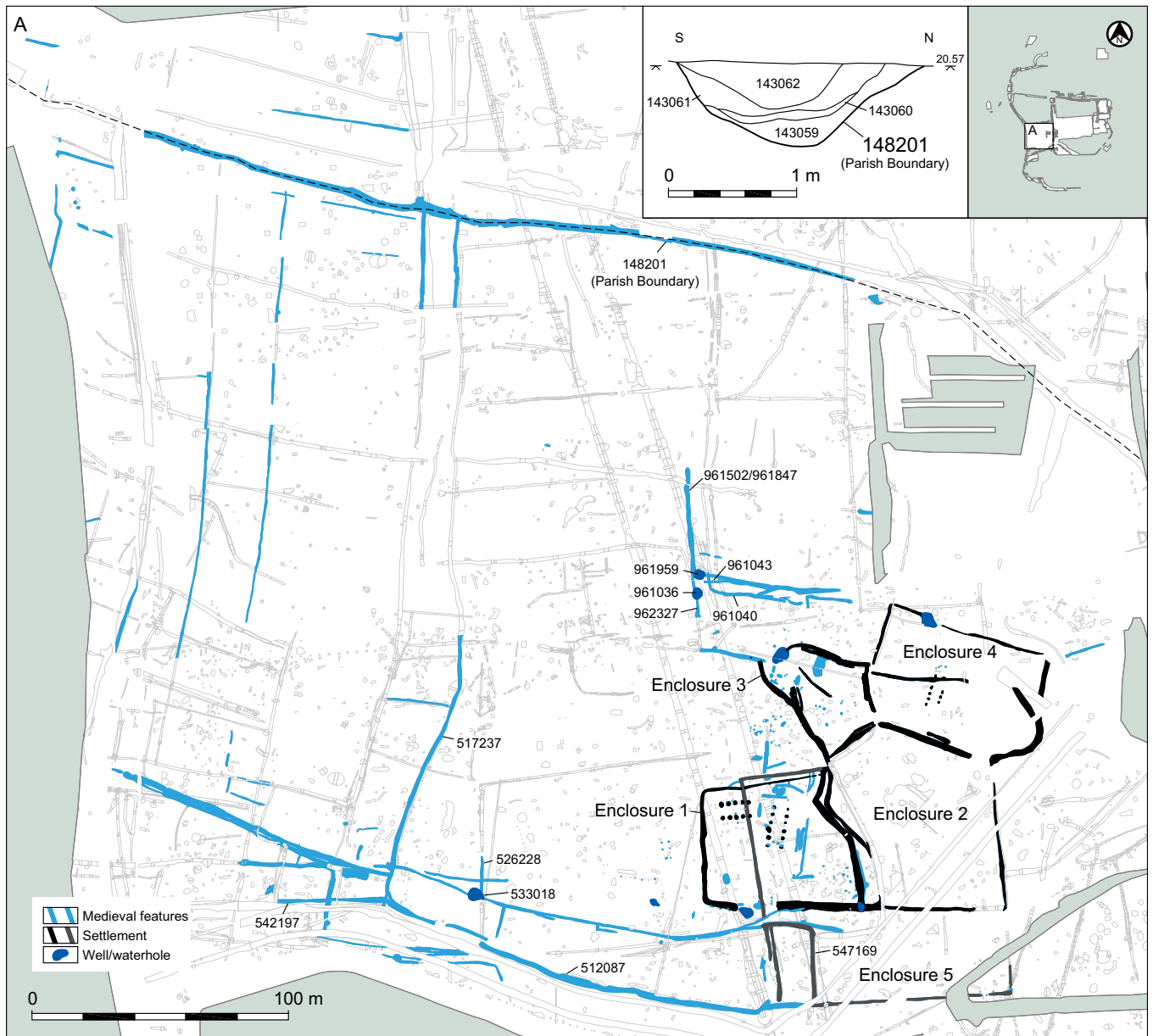


Figure 5.24: Medieval field systems across Areas 47, 49, 51 and POK96

The series of ditches within this area fall into three main blocks: (a) ditches on a broadly north-south alignment, running south from the parish boundary, and forming a series of long strip-like fields, occasionally sub-divided by transverse, east-west ditches; (b) ditches on more varied alignments, several intercutting, running around the southern perimeter of Area 49 and, at the eastern extent, probably associated with Enclosures 1–4; and (c) a small group of intercutting ditches to the north of Enclosure 3. All three blocks together form a series of north-south aligned strip fields, bounded by a serially modified droveway to the south, while other stock-channelling ditches are visible within the overall system.

The strip fields were later amalgamated into the three enclosed (and subdivided) fields shown on the 1748 map as Wheat (or Long) Closes, Borough Hill Closes and Pingles, while the southern droveway formed part of the linked grazing areas of Hither Moor, Spout Moor and Borough Green, leading from the Colne valley in the west to the pasture lands of Hounslow Heath in the east (Fig. 5.26). Within this area there are also assorted pits, postholes, tree-throws, wells and waterholes.

The inference from the distribution of early medieval pottery (see Fig. 5.25) is that at least some elements of the field system were laid out during the 11th/12th century. However, only a few

of the features which contained a minimal number of sherds from this period can be regarded stratigraphically as early medieval. Within the complex of ditches to the north of Enclosure 3, these include the north-south ditches 961502 and its recut 961847, possible southern extension 962327, and miscellaneous ditch segments to the east (Fig. 5.24). The quantity of pottery (and other finds) throughout is low; none of these features yielded more than ten sherds. The east-west ditch 961040 produced sherds of Kingston-type ware (mid 12th to 13th century), and bends to the north to run parallel to ditch 961847, possibly forming a trackway leading northwards, on the same line as, but slightly to the west of, a similar



Figure 5.25: Distribution of (A) medieval pottery and animal bone ; (B) ceramic building material; (C) iron and slag

trackway of Bronze Age date (Trackway 10; see Chapter 3). This medieval trackway was subsequently blocked by east-west ditch 961043 (which cut ditch 961040), then by well 961959, and also well 961036. None of these later features, however, contained any pottery later than 12th century.

Similarly, there is a scatter of early medieval pottery and a Henry II penny (1154–89) to the south and south-west of Enclosures 1–4 (Figs 5.24 and 5.26). However, with the possible exception of right-angled ditch 547169, which is possibly part of a separate enclosure to the south of Enclosure 1, none of the major ditches can be assigned on stratigraphic grounds to this period. Nonetheless, some features cut by these ditches—short gully lengths, pits and tree-throws—could be. The ditches in this area seem to be designed to channel movement (presumably of stock) on an approximate east-west alignment, and possibly also to the north, following the line of ditch 517237, which may mark the eastern ditch of a trackway running between Wheat (or Long) Closes and Borough Hill Closes (see Figs 5.24 and 5.25). Ditch 512087, and ditch 542197 to the west, appear to mark the southern extent of the field system; this ditch alignment coincides with the northern edge of Borough Green, which itself formed part of the east-west grazing route (see above).

### The parish boundary

The parish boundary between Stanwell and Harmondsworth is represented by ditch 148201, which runs on a WNW-ESE alignment across much of Bed B (Fig. 5.24; Plate 5.15). There is no definitive dating for its establishment; it is assumed to be medieval only through its coincidence with the parish boundary. A single sherd of post-medieval pottery was recovered from an upper fill. Associated ditches offer little supporting evidence. A number of north-south ditches join 148201 and appear to be contemporary with it, though dating evidence is very poor, comprising a small amount of post-medieval pottery. Some of these ditches correspond to features on the 1748 map (Fig. 5.26).

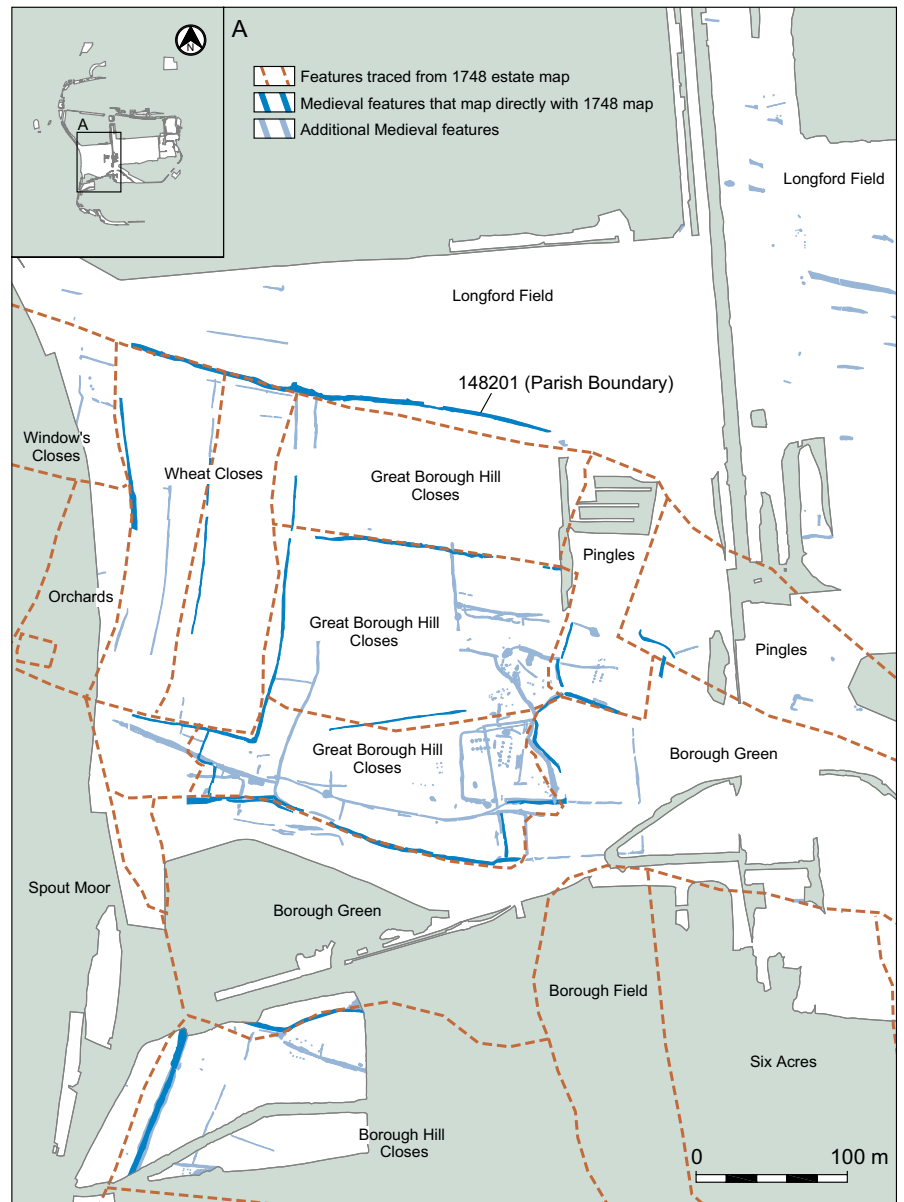


Figure 5.26: Medieval field system overlaid on 1748 estate map



Plate 5.15: Parish boundary ditch 148201

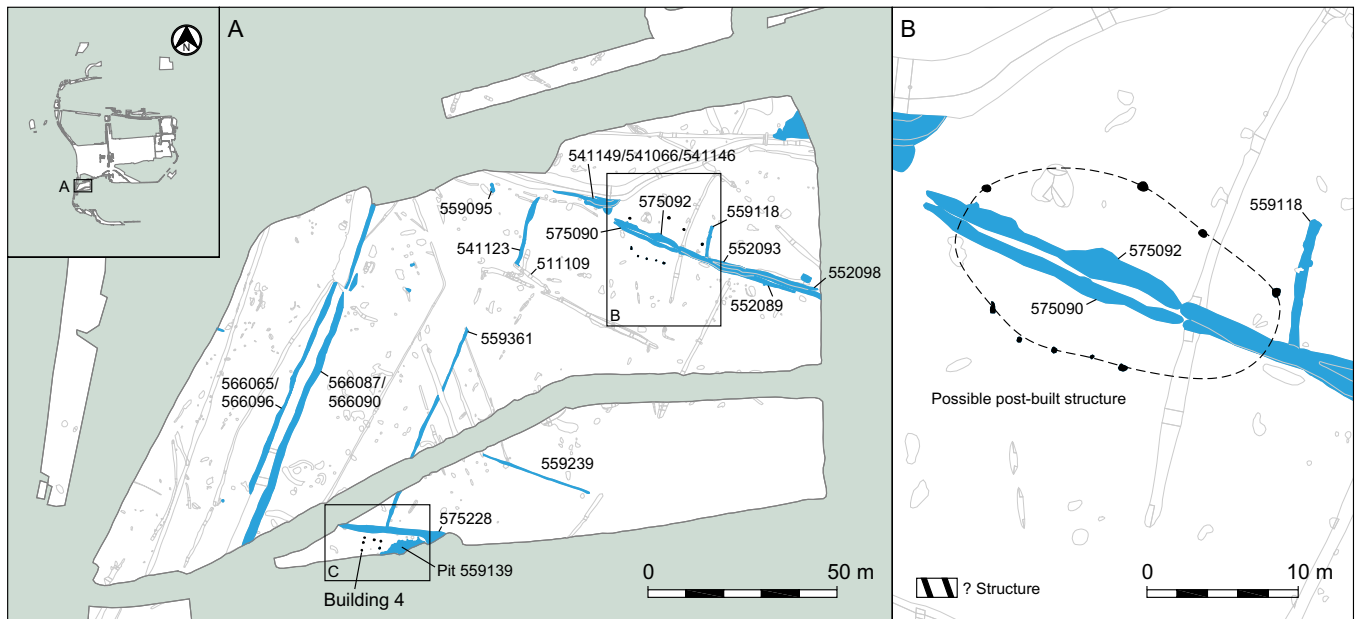


Figure 5.27: Medieval field system and other features in Area 51

Ditches in this area of the site share common characteristics in their fills in that all seem to have formed by the gradual deposition of waterborne silts—in other words, these are likely to have been drainage ditches.

### The south: medieval field system and other features in Area 51

The medieval features to the south of Area 49 (areas 51, 52 etc) are limited to a fairly small excavation area, making it difficult to link the activity here to that within the larger excavated areas to the north although, as for the latter area, some correlations can be made with features on the 1748 map (Fig. 5.26). Features consist largely of field boundary ditches, with very few other feature types (two possible post-built structures, one pit). As with the area to the north, this area shows an interesting correlation between the Bronze Age and medieval field alignments, to the extent that it has proved difficult to disentangle the two (Fig. 5.27).

The ditches assigned to this phase form two sides (north and west) of a

rectilinear system, reinforced on both sides, with smaller north-south and east-west ditches within this enclosed area. To the north, the boundary was provided by ditches 552089, recut by 552093, recut by 552098; the alignment was extended to the west by ditches 575090 and 575092. The western boundary was formed from ditch 566087, cut by 566090, and reinforced to the west by ditch 566096, cut by 566065.

There is a possible entrance to the enclosure on the northern side, where intercutting ditches 541149, 541066 and 541146 form one side of a possible 'funnel' entrance to control the movement of stock, although these three ditches contained no dating evidence. If so, this entrance may originally have been wider, and subsequently become restricted by the western extension ditches 575090 and 575092.

Within the enclosed area, the picture is more complicated. On a similar north-south alignment to ditches 566090 etc are ditches 559361 and 541123, while one east-west alignment is provided by ditch 575228. All three ditches produced medieval pottery, albeit in small quantities. Ditches 559361 and 541123, however, were initially phased as Middle/Late Bronze Age, the medieval pottery being dismissed as intrusive.

Establishing the dating of the field system and associated features in Area 51 is hampered by the small quantity of finds recovered; none of the ditches contained more than eight sherds of medieval pottery (see Table 5.20; pottery from ditch 541123 was largely of prehistoric date). What was recovered, however, may be sufficient to postulate a 13th century date for the main east-west and north-south boundary ditches, and for internal ditches 575228, 541123 and 559361 (if these ditches are included in this phase). Again, evidence is scanty, but chronological mixing of pottery within the ditches (11th/12th century sherds are also present) suggests that these sherds entered the ditches as redeposited refuse, perhaps as part of the manuring of fields (see below).

There is some hint, however, of earlier activity in Area 51. The most prolific feature in terms of pottery recovered from this area was tree-throw 559095, which contained 21 sherds, all of 11th/12th century date (CP1). This could be indicative of an initial phase of tree clearance, prior to the establishment of the field system. Other tree-throws from the area contained no finds, but may also belong to initial clearance. This tree clearance may be linked to the process of assarting, which is well documented in the late Saxon and early medieval period (see above). Area 51 lies within

	SG	Animal bone		Burnt flint		CBM		Fired Clay		Flint	Metal	Pottery		Slag		Stone	
		No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)	No.	No.	No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)
Ditches	511109	-	-	-	-	-	-	-	-	-	-	5	24	-	-	-	-
	541123	-	-	2	29	-	-	-	-	2	-	24	51	-	-	-	-
	541149	-	-	13	29	-	-	-	-	-	-	-	-	-	-	-	-
	552089	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-
	552093	12	10	7	394	11	330	-	-	1	-	6	131	-	-	1	288
	552098	-	-	8	209	6	383	-	-	-	1 Ag	3	76	-	-	-	-
	559118	1	1	22	215	-	-	67	126	7	-	3	8	-	-	-	-
	559361	-	-	-	-	-	-	-	-	3	-	1	3	-	-	-	-
	566090	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-
	575090	10	8	-	-	-	-	-	-	-	-	1	18	-	-	-	-
	575228	-	-	-	-	-	-	-	-	-	-	5	37	-	-	-	-
Other	559095	-	-	5	32	-	-	-	-	-	2 Fe	21	92	-	-	-	-
Features	559139	-	-	-	-	3	4	-	-	1	1 Fe	7	25	-	-	-	-
	571006	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-
	571012	-	-	1	6	-	-	-	-	-	-	-	-	-	-	-	-
	571020	-	-	-	-	-	-	2	7	-	-	-	-	-	-	-	-
Entity	10005	-	-	1	1	1	1	-	-	-	-	-	-	1	1	-	-
	<b>Total</b>	<b>23</b>	<b>19</b>	<b>60</b>	<b>917</b>	<b>21</b>	<b>718</b>	<b>69</b>	<b>133</b>	<b>14</b>	<b>4</b>	<b>78</b>	<b>469</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>288</b>

Table 5.20: Finds from features in Area 51

Borough Field (prior to the enclosure of Borough Hill Closes), the shape of which suggests an origin as an extensive assart.

The other area of possible early activity focuses on ditch 559118 and a group of postholes to the west, which form a roughly ovoid outline (Fig. 5.27). Ditch 559118, which was cut by 13th century ditch 552093, contained three 11th/12th century pottery sherds (CP1), as well as a quantity of burnt material (126 g fired clay, 22 pieces of burnt flint, and charcoal). Initially, this deposit was interpreted as the burning *in situ* of some form of structure, but the charcoal revealed a range of taxa more in keeping with fuel gathered from the underwood of managed woodlands.

The charred cereal assemblage from this feature was the richest medieval sample analysed, and provides some illumination on crop quality and soil fertility.

*Bread-type wheat was the dominant cereal. Chaff fragments were more frequent than in other samples, perhaps because of the better state of preservation, since chaff is less likely to survive charring and redeposition than grain and weed seeds. The fairly high proportion of weed seeds, and the fact that in several cases seed head fragments*

*were present, suggested that either whole sheaves were burnt, or that waste from the early stages of processing had been deposited. Both stinking chamomile seed head fragments, and corn cockle seeds (Agrostemma githago) stuck together in the position they would have been in their capsules, were present. The only other example of preservation of this nature known to the author was from a post-medieval barn at Wharram Percy, Yorkshire, that was burnt down (Carruthers forthcoming). Sheaves of wheat were charred in situ at Wharram, and similar proportions of grains to rachis fragments, and grains to straw nodes, were found in some of the samples. Fragments of seed heads were present in about a quarter of the samples.*

*It is possible that a similar situation occurred in this ditch, with the remains of a stored crop being preserved in situ. If so, this sample can provide useful information about the quality of the crops grown during this period, as its weed assemblage has not been biased by processing.*

*Assuming that the assemblage is from a primary context and is not mixed waste, the grain to chaff to weed seed ratio shows that the crop was fairly badly infested with weeds. Stinking chamomile, vetches/tares, corn cockle, corn marigold (Chrysanthemum segetum) and chess*

*(Bromus sect. Bromus) were the main contaminants, all of which are common weeds of arable fields. Corn marigold is more typical of moderately acid soils and stinking chamomile prefers damp clay soils. Leguminous weed seeds were particularly frequent, although some of the larger seeds, 3-4mm, could have been from the crop plant, cultivated vetch (V. sativa ssp. sativa).*

*An abundance of leguminous weeds in a crop is often indicative of impoverished soils (Moss 2004). Leguminous plants are at a competitive advantage as they have the ability to manufacture their own nutrients with the help of nitrogen-fixing bacteria located in nodules in their roots. It is interesting to note, however, that even though charred cereal processing waste was also frequent in some of the Late Iron Age to Roman samples at T5, leguminous weeds fell dramatically in occurrence. This may indicate improvements in soil fertility, probably through manuring. The implication is, therefore, that by the medieval period manuring may not have been adequate to cope with the increased demands on the soil made by the cultivation of bread wheat. Crop rotation involving cultivated vetch, peas and/or beans may have been practised, but this does not appear to have been sufficient to maintain soil fertility.*

*(Carruthers, CD Section 14)*

The possible ovoid post-built structure to the west remains ambiguous. Only one of the postholes produced any datable finds—a single sherd of 11th/12th century pottery; other finds comprised burnt flint and fired clay. The posthole arrangement is, however, bisected by the 13th century east-west boundary ditch alignment and so is presumably of earlier date. It lies across a Late Bronze Age ditch. No direct association with 559118 other than by close spatial proximity and sherds of a similar date is demonstrable, and there was no comparable evidence for charred plant remains. It remains possible, however, that it may represent some form of temporary structure associated with crop processing.

#### **Possible post-built structure (Building 4)**

A group of seven postholes at the southern edge of Area 51 may represent the northern end of a post-built structure with a width of 4.2 m, similar to those observed in Area 49 (Fig. 5.27). The only dating evidence from this structure was a single piece of ceramic roof tile, and the only other find was a single piece of ironworking slag. The postholes are located immediately to the south of 13th century ditch 575228. In terms of morphology, the building fits the earthfast building tradition, with unequally spaced posts suggesting the use of a wall plate to support a roof.

#### *Burrow Hill— is this a lost settlement?*

The enclosures, structures and field boundaries described above lie in the area recorded in 1748 as Borough Hill Closes (now Burrow Hill), between the Borough Green stock route and the northern boundary of Stanwell manor. It is not clear from the documentary sources if this was an area of habitation in the late medieval period. In 1471 William and Alice Peryman were described as ‘of Borough in the parish of Stanwell’, but no other references to inhabitants have been found. It seems more likely that the excavated buildings were field barns which held winter fodder for cattle and other livestock, although they may represent an

undocumented hamlet abandoned in the contraction in agriculture in the early 14th century. There are references to the cultivated selions (open strips of land) of Borough Field to the south in 1545 and 1677, and Grigg’s Close on the south side of the Field in 1366 and 1486. There are descriptions and plans of the Field and the Closes in the Stanwell estate surveys of 1748 (Fig. 5.26), the enclosure award of 1792, and the tithe survey of c 1840, when some of the closes were arable and others were meadows.

As we have seen, datable material from the presumed construction date and earliest use of the post-built structures (11th/12th centuries) is largely absent from the structures themselves, and the quantities deposited in the enclosure ditches and various internal features is insufficient to postulate intensive occupation. Quantities of material do not increase significantly through the medieval period (13th/14th century), and the late medieval period is largely blank. Whatever was going on at Burrow Hill, it did not involve the use (and discard) of large quantities of material culture, which would be in line with an interpretation as a complex of agricultural buildings and enclosures, not used for permanent settlement. The environmental evidence may be pertinent at this point.

*It is interesting to see that indicators of heavily disturbed, nutrient-enriched soils such as nettles and fat hen were not particularly abundant in the waterlogged features, perhaps suggesting that only small numbers of people were present during this period, or that the occupation was fairly short-lived. Aquatic plants grew in and around the waterholes, whilst during earlier periods use of the waterholes had been sufficient to have prevented aquatic plants from becoming established. Alternatively, perhaps they were deliberately kept clear of weeds or were covered over to keep livestock and falling leaves from fouling the water.*

*(Carruthers, CD Section 14)*

Some artefactual evidence, however, remains intriguing, and has some

possible implications for a consideration of the status of the site within the local settlement hierarchy. The 13th/14th century pottery includes fine glazed wares from regional sources (the Surrey whiteware kilns in London), and even a couple of continental imports, alongside the expected range of local coarsewares. The presence of imports is particularly suggestive, as these are rarely found outside major ports and, when they do occur, they are frequently associated with ‘higher status’ sites such as manorial and religious sites—there are a few sherds, for example, recorded from Northolt Manor (Hurst 1961, 272). The environmental evidence, however, does not support this.

*Since no imported fruits and spices were recovered from the samples, apart from possible hemp, the status of the settlement appears to have been fairly rural in character. However, no cess pits or deposits that obviously contained faecal waste were examined, so information concerning diet was fairly biased.*

*(Carruthers, CD Section 14)*

The only other hint of a manorial link comes in the form of the place name of Burrow Hill. The possible derivation of Borough or Burrow from *beorg*, meaning a hill or mound, has already been discussed. The word could, however, be derived from *burg*, relating to a fortification or fortified place. This developed into the common post-conquest use of *burh* to denote a manor house or the centre of an estate, particularly in the 13th century in the Home Counties north of the Thames (Smith 1956). It is therefore possible that the name Burrow Hill could derive from the fact that the field lies close to the manor and/or the centre of the estate.

The following sections examine the pastoral and arable agricultural regimes of the medieval landscape.

## *A stalled ox: stock management at Burrow Hill*

Manuring fallow fields by folding sheep on them was an integral part of the medieval open field system of agriculture, especially on the lighter soils, the sheep acting as mobile muckspreaders within moveable folds made from hazel hurdles. The sheep of whole villages were controlled in this operation by communal shepherds (Williamson 2004, 79, 133–4). At Harmondsworth 13 hurdles were bought for the lord's sheep-fold in 1386/7 (WC 11501). A conveyance of 1488 included two free folds amongst other property in Harmondsworth, Longford and Stanwell (TNA: PRO, E 328/412). Dung carts and dung forks formed part of Harmondsworth manor's equipment in the 15th century; muck and rubbish from the manor courtyard was spread on the fields as part of the services owed by the tenants (TNA: PRO, SC 6/1126/7 m2d; WC 11502 m4d; 11504 m3d).

The *Domesday Book* survey implies that teams of oxen were used to draw ploughs in the 11th century, although only demesne teams may have used eight oxen, the tenants ploughing with smaller teams. In the 12th and 13th centuries work horses called *stots* or *affers* replaced oxen as the main draught animals in Middlesex; they were present on more than a third of the Middlesex demesnes in the century 1250–1350. They were faster and more adaptable than oxen, but more expensive to keep as they ate a diet of oats and hay, whereas oxen could be fed hay alone. The introduction of horses depended in part on the amount of meadow land available (Campbell 2000, 123, 126, 133; Williamson 2004, 158, 196). Manors to the south and west of London sold pigs, geese and chickens to the London market, and sometimes luxury items to richer customers (Galloway and Murphy 1991, 11). In 1293/4 and 1324 Harmondsworth was keeping swans and peacocks (BL Additional MS 6164 p98; TNA: PRO, SC 6/1126/5).

As an interesting exercise, the figures for livestock on the Harmondsworth

Type	Date	1293/4	1324	1337	1388/9	1397/8	1406/7	1433/4	1450/1	Total documentary	Total excavated
Horse		3	2	1	-	6	5	-	6		
Plough-horses		7	4	4	4	4	4	4	5		
Cart horses		-	4	2	4	-	-	6	-		
<b>Sub-total horses</b>		<b>10</b>	<b>10</b>	<b>7</b>	<b>8</b>	<b>10</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>75</b>	<b>70</b>
Oxen		14	12	8	14	15	-	16	14		
Bulls		2	1	1	1	1	-	1	1		
Cows		20	9	8	24	34	-	26	24		
Bullocks		23	5	12	2	2	-	3	-		
Calves		8	5	4	4	1	-	1	-		
<b>Sub-total cattle</b>		<b>67</b>	<b>32</b>	<b>33</b>	<b>45</b>	<b>53</b>	<b>0</b>	<b>47</b>	<b>39</b>	<b>316</b>	<b>91</b>
Boars		-	3	2	-	2	2	3	4		
Sows		-	5	-	4	3	3	3	3		
Pigs		24	92	3	23	14	18	30	41		
Hogget		40	-	27	28	45	43	45	42		
Piglets		20	30	20	18	45	45	45	45		
<b>Sub-total pigs</b>		<b>84</b>	<b>30</b>	<b>50</b>	<b>73</b>	<b>109</b>	<b>111</b>	<b>126</b>	<b>135</b>	<b>718</b>	<b>9</b>
Ewes		-	-	-	-	202	-	-	-		
Hogasters		-	-	-	-	2	-	-	-		
Lambs		-	-	-	-	2	-	-	-		
Goats		-	-	5	2	-	-	-	-		
<b>Sub-total sheep/goat</b>		<b>0</b>	<b>0</b>	<b>5</b>	<b>2</b>	<b>206</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>213</b>	<b>11</b>
Ducks		-	20	-	-	-	-	-	-		
Geese		-	30	-	26	5	5	5	4		
Swans		2	-	-	-	2	4	11	9		
Peacocks		12	4	-	-	-	-	-	21		
Capons		-	10	-	15	12	2	6	5		
Chickens		-	-	13	4	6	6	6	6		
Pullets		-	-	-	-	24	24	24	24		
<b>Sub-total birds</b>		<b>14</b>	<b>64</b>	<b>13</b>	<b>45</b>	<b>49</b>	<b>41</b>	<b>52</b>	<b>69</b>	<b>347</b>	<b>0</b>
<b>Total</b>		<b>175</b>	<b>136</b>	<b>108</b>	<b>173</b>	<b>427</b>	<b>161</b>	<b>235</b>	<b>253</b>	<b>1669</b>	<b>90</b>

Table 5.21: Harmondsworth: livestock on the demesne, compared with the excavated assemblage from the whole site

demesne, obtained from various documentary sources ranging in date from 1293/4 to 1450/1 (Phillpotts, CD Section 22 Table 3) were compared to the animal bone assemblage recovered during the excavations (Fig. 5.28; Table 5.21). As overall quantities are relatively small (total number of excavated bones = 90), all medieval features have been grouped together, regardless of date. The results show a dominance of cattle and horse, with relatively small quantities of pig and sheep/goat, which is at odds with the documentary records; the reasons for this may be at least partly explained by the bone preservation on the site.

*The medieval assemblage is small ... Four bones that may have originated from a single immature roe deer in pit 555777 [Area 14] may indicate deliberate*

*deposition. They were not complete and may have been fully exploited for food; deer remains may have been buried to avoid detection of illicit hunting and consumption of venison. The assemblage as a whole was quite poorly preserved, with some in good condition, but little gnawing. Horse and cattle were most common, with smaller numbers of sheep/goat, pig and roe deer, and this may have been due to bias from poor preservation favouring larger animals. Prior to deposition two of the horse bones had been marked during butchery, with possible skinning marks on a horse metatarsal and cuts from disarticulation of a horse femur; it is likely that horses were not eaten by humans at this date, but the skin would have been used and meat may have been fed to dogs. Pigs [were probably] killed relatively young for their meat, and cattle kept to maturity to provide secondary products (milk, traction, manure, etc.),*



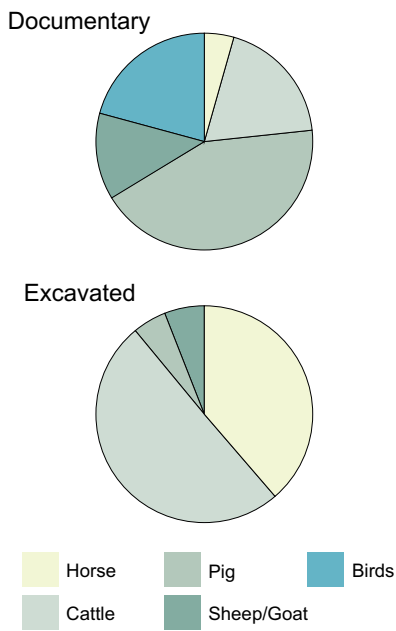


Figure 5.28: Comparison of animal bone data from documentary and excavated sources

*a typical pattern for this period. The assemblage is atypical in certain respects, for instance the low proportion of sheep, in a period where sheep farming for wool was popular, but is probably not representative due to preservation and small sample bias.*

*(Knight and Grimm, CD Section 13)*

In the last quarter of the 14th century and the 15th century, manors in the Greater London area and elsewhere kept more pigs, sheep and cattle, supporting them by increasing the area of pasture at the expense of arable, and growing more fodder crops (Campbell 2000, 166, 431; Sloane *et al.* 2000, 222). Pigs were now more likely to be transferred within the different manors of an estate than other animals; they were often sent to the lord's household for slaughter (Campbell 2000, 167). Pigs and cattle were also sold, with cattle being bought at Drayton, Kingston and Reading. A herd of between 100 and 140 pigs was kept by Harmondsworth manor, and the servants included a pig-keeper, while the manor also had about 25 cows. Sheep were grazed on Hounslow Heath but the demesne had only about 200 in the late 1390s, and none at any other time; it must have relied upon the sheep of the tenants. Thirty stones of wool were sold in

1397/8. In 1411 and 1416 the tenants had at least 140 sheep which they had grazed on the lord's land. In the late 15th and early 16th centuries 120 sheep were also kept on the sub-manors of Padbury, Barnards and Luddingtons. The manor also kept cart-horses, draught-horses and stable horses, oxen, goats, geese, pigeons, chickens and swans. Twenty-five geese were sent to the lord's household in 1388/9 and nine swans in 1406/7 (VCHM iv 11; TNA PRO, SC 6/1126/6; SC 6/1126/7 mm1, 2d, 4; WC 11473, 11501-4).

It was necessary to move much of this stock around from common grazing to enclosed pasture fields to fallow grazing on the stubble after the harvest. Small greens and grazing areas were linked by a network of hedged lanes and wider driftways (Williamson 2004, 176). In Stanwell the linked grazing areas of Farther Moor, Hither Moor, Spout Moor and Borough Green formed a stock movement route from the meadow lands of the Colne valley, between the open arable fields of the manor and the enclosed fields of its northern edge, to the pasture lands of Hounslow Heath (VCHM iii 35). This route ran to the south of the complex of enclosures at Burrow Hill, but there are elements within these enclosures, and within the wider field system excavated in Areas 47 and 49, that were almost certainly designed to facilitate the movement of stock.

### *Speed the plough: arable agriculture in the Heathrow area*

The particular version of common field agriculture which emerged in western Middlesex consisted of one very large field for each village, surrounded by a series of smaller peripheral fields. In these systems crop rotation was practised on an intra-field basis between the furlongs of the main field, and on an inter-field basis between the smaller fields. Stanwell had the enormous Stanwell or Town Field and the smaller Borough Field and West Bedfont Field, each divided into cultivation strips; part of Ashford Field also lay within the parish. Harmondsworth had Harmondsworth Field, and also

Longford Field, Sipson Field and Heathrow Field, which were based around subsidiary hamlets. There were similar patterns at Ashford, East Bedfont, Feltham, Hanworth, West Drayton, Harlington, and Northolt. It is not clear when the subsidiary settlements in the study area and the wider zone developed. They may have been the relics of a dispersed pattern of settlement which preceded nucleation, or they may have been early medieval secondary hamlets associated with assarting and the creation of sub-manors. There may have been elements of both.

The largest holding in each manor was the lord's demesne or home farm, consisting of arable land in the open fields, meadows in the Colne valley and pasture on Hounslow Heath and elsewhere. The villein tenants of the manors had holdings which consisted of a series of cultivated strips in the common fields, allotted doles of meadow land and rights of pasture, in return for services performed for the lord of the manor on his demesne lands.

Almost all the arable land in Stanwell and Harmondsworth lay in open fields divided into cultivation strips or selions, which occupied a large percentage of both parishes. In Harmondsworth in 1293/4 there were 241 arable acres in the demesne (BL Additional MS 6164 p98), and in 1324/5 there were 240 acres 'in divers perches in the common fields' (TNA: PRO, E 142/83/2). Strips of both demesne and tenant land were intermingled in the fields of both manors, grouped in numerous furlongs (LMA Acc 132/1 and 2; Acc 446/L1/15; TNA: PRO, SC 11/445; SC 12/11/20 m1). The positions of most of these cannot now be traced. The ridge and furrow strips excavated in the Terminal 5 project (see below) lay in Longford Field in the manor of Harmondsworth. A medieval strip-field system has also been excavated at Pinner, and field ditches at Stanwell (Sloane *et al.* 2000, 221). In 1404 tenants were fined in the Harmondsworth manor court for removing hedges and allowing their animals to enter the lord's meadows and corn (LMA Acc 446/EF/1/1 m2).

## Crops

Manorial accounts reveal what crops were grown on the demesne land in particular years. Since the demesne arable strips were mostly intermingled in the common fields with the strips of the free and bond tenants, they must also have grown the same crops in similar proportions. At Harmondsworth the accounts of tenants' crops paid as tithes also indicate what they were growing.

These details can be compared to the assemblages of seeds recovered during the excavations. Relatively little attention was paid in medieval agriculture to weeding crops, and environmental samples of plant remains from medieval sites normally contain a rich weed flora.

*In comparison with earlier periods, the medieval samples produced fairly high concentrations of charred plant remains. The poor preservation of most of the grains is typical of the period, mainly being due to the nature of the grain being charred. Some of the better preserved samples produced chaff and seed head fragments, demonstrating that cultivation was occurring locally (as opposed to processed cereals being bought at market). The accompanying weed seeds were indicative of nutrient-poor soils (frequent leguminous weeds) and heavy, damp clay soils (seeds and seed heads of stinking chamomile). It is likely that the predominant cereal, bread-type wheat, would have been grown on the heavier soils, and that nutrient depletion was mainly due to the cultivation of this nutrient-demanding crop. Barley, oats, rye, cultivated vetch, Celtic beans and possibly peas were also being grown, as is common on many medieval sites. It is less certain whether flax, hemp or hops were being cultivated or gathered (in the case of hops). However, where a useful plant such as hop was growing locally in the hedgerows it is inevitable that someone would have made use of it, at a time when much more was known about plant uses than today, and resources were more highly valued. This would also have been true for hedgerow herbs, fruits and nuts such as mallow, blackberries, sloes, cherries and hazelnuts.*

(Carruthers, CD Section 14)

Grain yields were low in the medieval period, averaging about eight bushels per acre for wheat, about four bushels of which was surplus available for sale. At the end of the 13th century the manors along the Thames were supplying the London market (Galloway and Murphy 1991, 11). Between 1250 and 1350 many demesnes in the Thames valley grew rye as the dominant crop, followed by barley, oats and wheat in that order of importance (Campbell 2000, 267, 470). Harmondsworth in 1293/4 was growing more wheat and oats than other crops, and wheat was accelerating in importance by 1337 (VCHM iv 11; BL Additional MS 6164 p98; TNA: PRO, C 270/17/7; 1126/5). The tenants must have been growing oats in 1301, as Robert Cridde took four sheaves from the house of Roger Pellyng (TNA: PRO, SC 2/191/13).

Raising a variety of crops gave some insurance against the failure of a particular crop in any one season. As barley and oats were normally sown in spring, and wheat and rye in autumn, the work of ploughing, manuring and sowing was spread more evenly over the year. This made the utilisation of tenants' services and the rotation of crops easier. The leguminous crops of peas and vetch were cultivated extensively in England from the 13th century onwards to replace nitrates in exhausted soils, suppress weed growth and improve fodder supplies. There is insufficient evidence to discern crop rotations in the study area. There

was evidently rotation between a large number of furlongs at Harmondsworth, but they are not usually identified in the accounts. Only a small portion of the demesne land was left fallow in each year. In 1367 only 104 demesne arable acres of Stanwell manor were sown, out of a possible 269, the remainder lying fallow (VCHM iii 43–4).

In the period from 1350 to 1450 there was greater emphasis on growing wheat at Harmondsworth, followed in importance by barley, oats and legumes. Some of these crops were grown in the form of *harascum*, a mixture of oats and legumes designed to be fed to horses and therefore sometimes called *horsemeat*. This was an innovation of the mid 14th century in demesne agriculture, partly substituting for grain in crop rotations. At the end of the 14th century a substantial proportion of the Harmondsworth demesne wheat and barley crop was sold, partly to the tenants; in the 15th century wheat sales decreased but barley sales rose. The acreages of demesne wheat and barley grown in the open fields were remarkably consistent. Oats were not grown much, and sometimes had to be bought in. Demesnes were becoming more dependent on selling to the market, particularly those owned by religious houses and colleges (Campbell 2000, 166, 227–8, 435, 470; VCHM iv 11; TNA: PRO, SC 6/1126/6 m1; SC 6/1126/7 mm1, 1d; SC 12/11/20 m2; WC 11501 m1; 11502 m2; 11503 m1; 11504 m1).

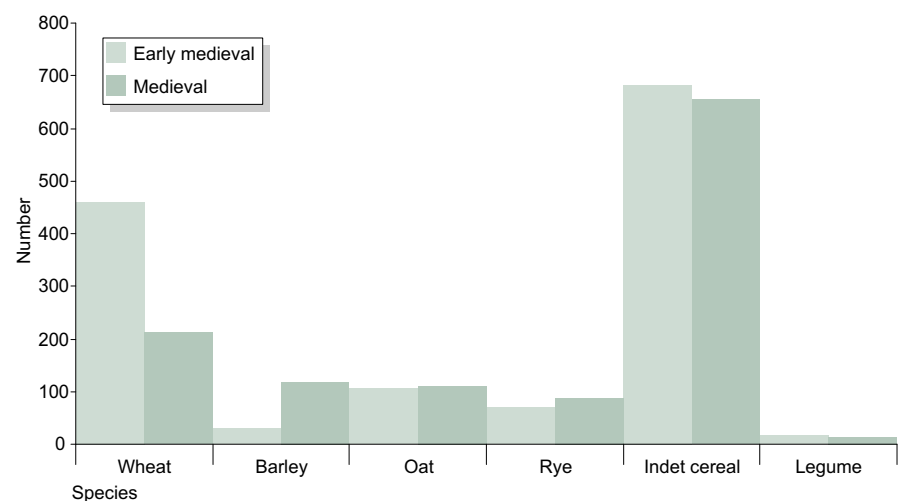


Figure 5.29: Cereal and legume remains by period



Plate 5.16: Artist's reconstruction of medieval ploughing

### *The palaeobotanical evidence*

As a very crude means of reviewing the excavated evidence against these documentary references, the charred plant remains from five medieval features were quantified (these were the only five features of this date range analysed for charred plant remains, two in Harmondsworth parish, and three in Stanwell). Two features were dated as early medieval (11th/12th century; pit 562018 in Area 77 (east of the Burrow Hill enclosures), and ditch 559118 in Area 51; Fig. 5.27), while the other three were later medieval (13th/14th century; pit 537105 and the upper fills of waterhole 569022, both in Area 49 (Fig. 5.18), and pit 658047 in Area 58). Figure 5.29 presents the quantities of cereal and legume remains by period. The poor preservation of charred cereal grains at this period has already been commented on, and has resulted in the high

proportion of indeterminate cereal grains. Throughout the period the predominance of wheat is clear (although less so in the 13th/14th century features), and appears to agree with the documentary references to the emphasis on this crop in Harmondsworth. There is certainly no evidence to support the documentary references to the importance of rye elsewhere in the Thames Valley. Legumes appear in small quantities from the early medieval period, but in the 11th/12th century features approximately half the total is made up of cultivated vetch, which is virtually absent in the 13th/14th century features. The other leguminous crops identified are Celtic bean and pea. The low proportion of legumes does not tally with their use as part of a mixed *harascum* crop, although it must be remembered that these figures are based on a very small sample of features, which have a wide distribution across the excavated area.

### *The archaeological evidence: ridge and furrow in Longford Field*

Figure 5.30 shows the location of a series of parallel features interpreted as ridge and furrow (see Plate 5.16 for artist's reconstruction of medieval ploughing). The interpretation seems sound, but the precise date of the furrows is open to debate. Some of these ditches contained Roman pottery, probably redeposited from the truncation of the area of Roman activity towards the north of the furrowed area. The survival of the furrowing in this area of the site and not elsewhere may be due to truncation. However, the survival may be indicative of areas of differential use within the medieval period. It seems from the study of the Roman activity that this area was subject to remodelling during the Roman period (see Chapter 4), and this may have had a bearing on the land use into the medieval period. Another

factor could be the topography of the area. The western edge of the furrowing almost coincides with the 22 m contour line. This topographic feature may have had an impact on the utilisation of the land, the slightly higher ground being cultivated while the lower land towards the east remained as pasture.

***Use of the meadow: medieval activity to the south of Longford (Areas 14/15/16/17 and 35/42a)***

Stanwell manor had substantial amounts of meadow land along the River Colne and its various branches, but Harmondsworth had rather less (VCHM iii 35, 44; iv 11). There were 24 acres of demesne meadow in 1293/4 and 16 acres in 1324/5. In the 15th century they produced about 20 loads of hay each year, which was used for winter fodder (BL Additional MS 6164 p98; TNA: PRO, E 142/83/2; WC 11504 m2d). The Stanwell meadows were in Foul Haw, Runnings, Bone Head Mead and Blackengrove (LMA Acc132/2 and 24; Acc 809/MST/9B). The Harmondsworth meadows were called Wereyt (probably an island between branches of the Colne), Fotherheth, Longmede, Wydemede, Bury Mead, Testemede, Shepemedede, Fayre Meade, Lord's Hay, Medehay, the Inning, Redmede, Colbrookmede, Scollaresmede and next to Blackengrove, which lay across the boundary in Stanwell (LMA Acc 446/EM/1 m1; Acc 446/L1/15; TNA: PRO, E 315/409 ff3, 9v; SC 6/1126/7 mm1, 3; SC 11/444 m4; SC 11/445; SC 11/449 mm2, 3; SC 12/3/15; SC 12/11/20; WC 11451 mm1, 3; 11501 m1; 11502 m1; 11503 mm1, 4; 11504 mm1, 2). The excavated hollow-way to the south of Longford (Area 35/42a) may represent a stock route to the common meadows of the manor.

The northern part of the excavated area, comprising Areas 14, 15, 16 and 17, provides a restricted 'keyhole' view of features just to the south of the medieval village of Longford, falling within the area of the medieval meadowlands (Wydemede) (Fig. 5.31). Longford was first mentioned in 1337,

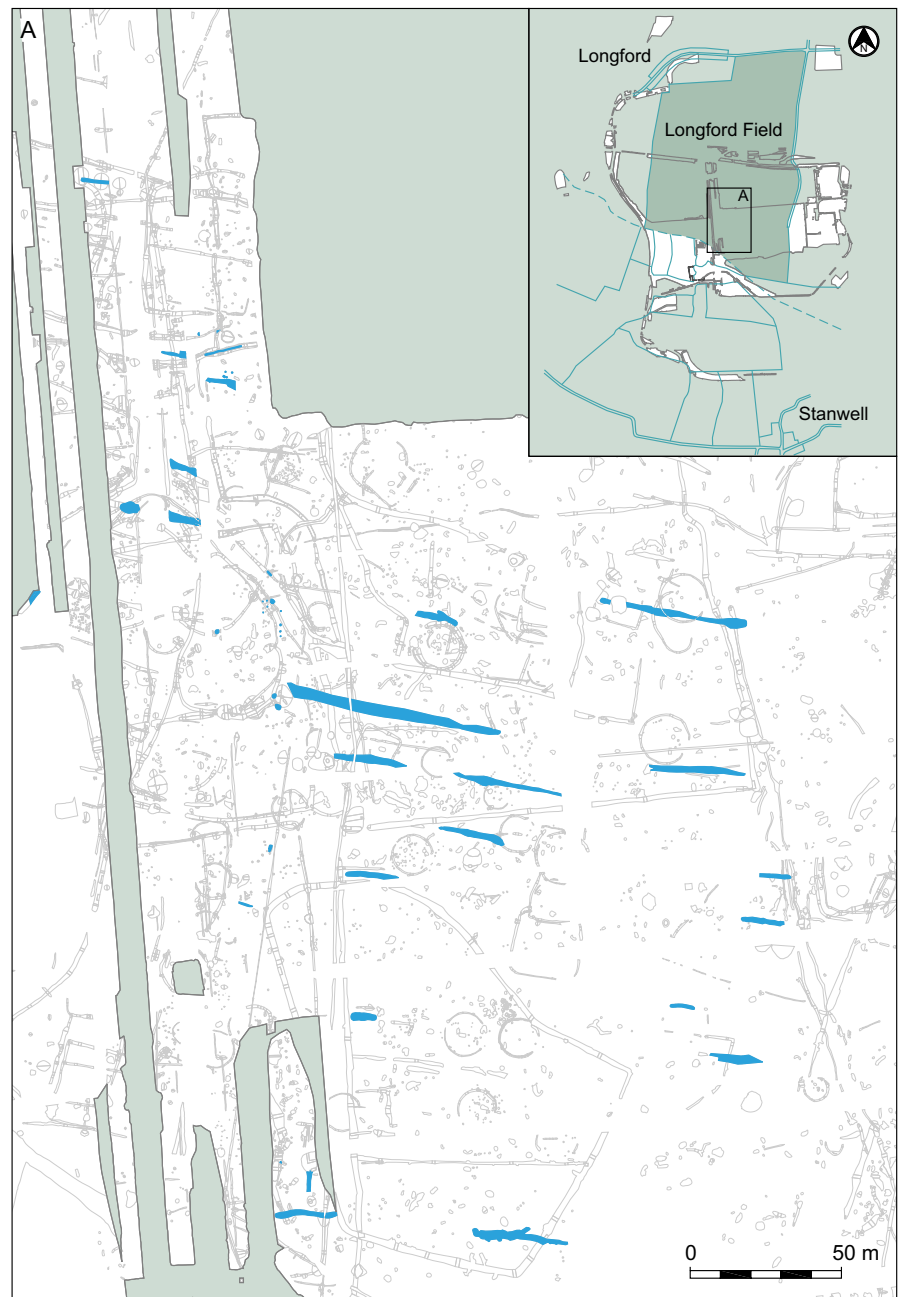


Figure 5.30: Ridge and furrow in Longford Field

when it had 30 houses, but had probably had a continuous existence since the middle Saxon period.

The most coherent pattern can be seen in Area 14, comprising two contiguous strip fields and a linear cluster of pits. The western field (Field 1) appears to be the earlier of the two, and was dug and recut in several sections, the western north-south ditch (617141) appearing to pre-date the first east-west alignment (555876) which was subsequently recut along the eastern part. Ditch 617141 contained a few sherds of pottery, a mixture of early medieval wares and 13th/early 14th

century greywares, while ditch 555876 produced a single greyware sherd; all sherds came from secondary fills. The east-west ditch cuts early Saxon pit 509180 (see above). The relationship to Field 2, to the east, is uncertain; the ditches here, too, seem to have been dug in sections, and the western side was recut at least once on the same alignment, although most of the ditches are truncated by post-medieval recuts. Dating is dependent on a very few sherds from the western ditches—again a mixture of early medieval wares and 13th/14th century wares (Kingston-type). The full dimensions of the two fields are unknown, but

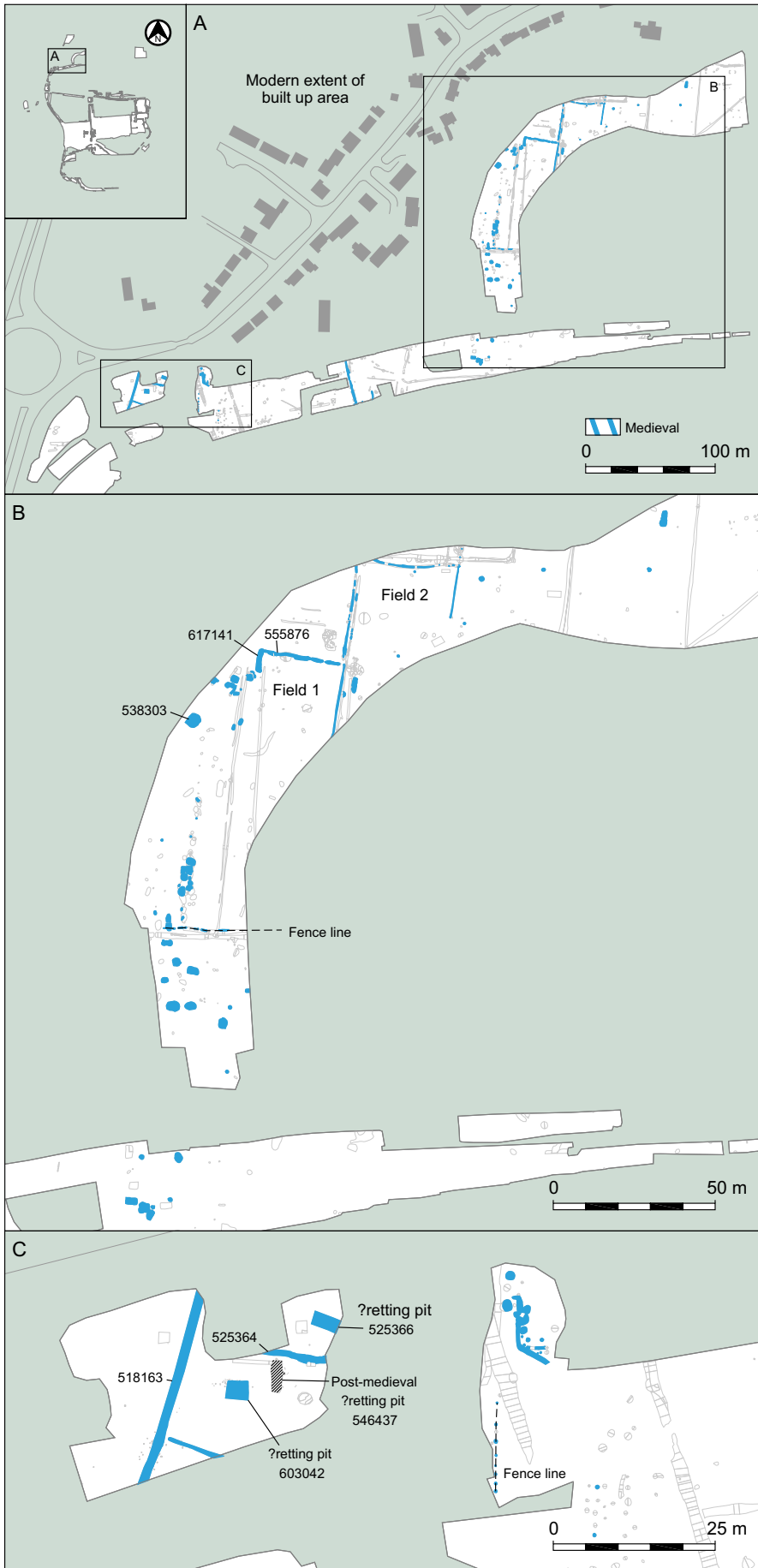


Figure 5.31: Medieval features in Areas 14 to 17

their widths are, respectively, around 26 m (Field 1) and 31 m (Field 2); this would equate roughly with widths of 5 rods/perches and 6 rods/perches (using the measurement of a rod as 5.5 yards, as standardised in 1607).

Approximately 50 pits form a linear cluster aligned broadly north-south, and concentrating in the southern part of Area 14. Although of varying sizes (the largest is over 4 m in length) and shapes (some appear as fairly regular subrectangular cuts, some more irregular), most are relatively shallow, and the fills suggest that once cut, these pits were left to silt up gradually. Finds are generally few but include medieval pottery sherds, a mixture of early medieval wares and 13th/early 14th century greywares. One pit stands out, both in terms of the contents and the nature of the fill. This is pit 538303, one of the largest pits, which produced 107 sherds of pottery, including both early medieval and 13th/early 14th century wares, 757 g of fired clay (possibly hearth material), and small quantities of animal bone and ironworking slag, nearly all of which derived from one deliberate backfill layer—this pit was not left to silt up gradually. The chronological mixing of the pottery, however, suggests that this dump originally derived from a nearby midden deposit.

The purpose of the pits is not entirely clear, nor is their contemporaneity definitively demonstrated. Apart from a couple of residual early Saxon sherds, however, the only dating evidence is medieval, and their concentration, alignment and intercutting supports broadly contemporaneous use. The most likely explanation is that these pits were used for the extraction of brickearth, for construction purposes, presumably by the inhabitants of medieval Longworth. At least one pit was subsequently utilised for the dumping of midden refuse, but otherwise the pits were left to silt up gradually, thus precluding the use of this area for agricultural purposes. The pitted area is clearly separated from the adjacent fields—few pits were observed within Fields 1 and 2.

To the west, within Areas 16 and 17, there is another area of activity, comprising ditches, pits and a fence-line. Two of the pits may have been used for retting (the processing of flax or other fibres for textile production). Short lengths of gully in the north-west corner of Area 16 were interpreted as drainage gullies, possibly for a small structure, although no definitive evidence for this was found. These gullies were surrounded by, and cut by, a small cluster of pits of uncertain function. Pottery sherds from one of the gullies and one of the pits indicates an early medieval date (11th/12th century), but there were very few finds. To the south of this small cluster, a north-south alignment of postholes formed a fence-line. No dating evidence was recovered, and this feature is dated as medieval purely by association with other features.

Features within Area 17 reflect the wet conditions of seasonally flooded meadows—a series of drainage ditches surrounding three rectangular pits. One of these pits (546437) is dated as post-medieval, and is discussed further below, but all three have been interpreted as possible retting pits, utilising the wet conditions during seasonal flooding (this is implied by the interleaved alluvial and clay fills of the pits, which included much waterlogged organic material). The two medieval pits are both very sharply rectangular and straight-sided. One pit (603042) appeared to be lined with roughly worked wooden (willow) stakes. Waterlogged plant remains from the post-medieval pit (546437; see below) confirmed the wet nature of the environment, but no definitive evidence was recovered for the function of any of the pits.

Another small ‘keyhole’ into the medieval archaeology south of Longford is provided by features in Areas 35 and 42a (Fig. 5.32). Wide, shallow ditches 562140 and 524190 appear to form a hollow-way running approximately ESE to WNW across the narrow excavated area. The only finds recovered from this feature were worked flint, burnt (unworked) flint and one sherd of very broadly dated

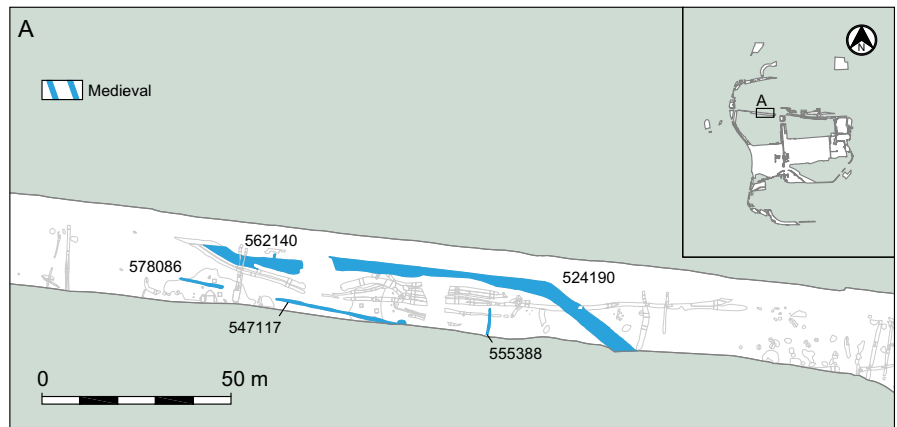


Figure 5.32: Medieval features in Areas 35 and 42a

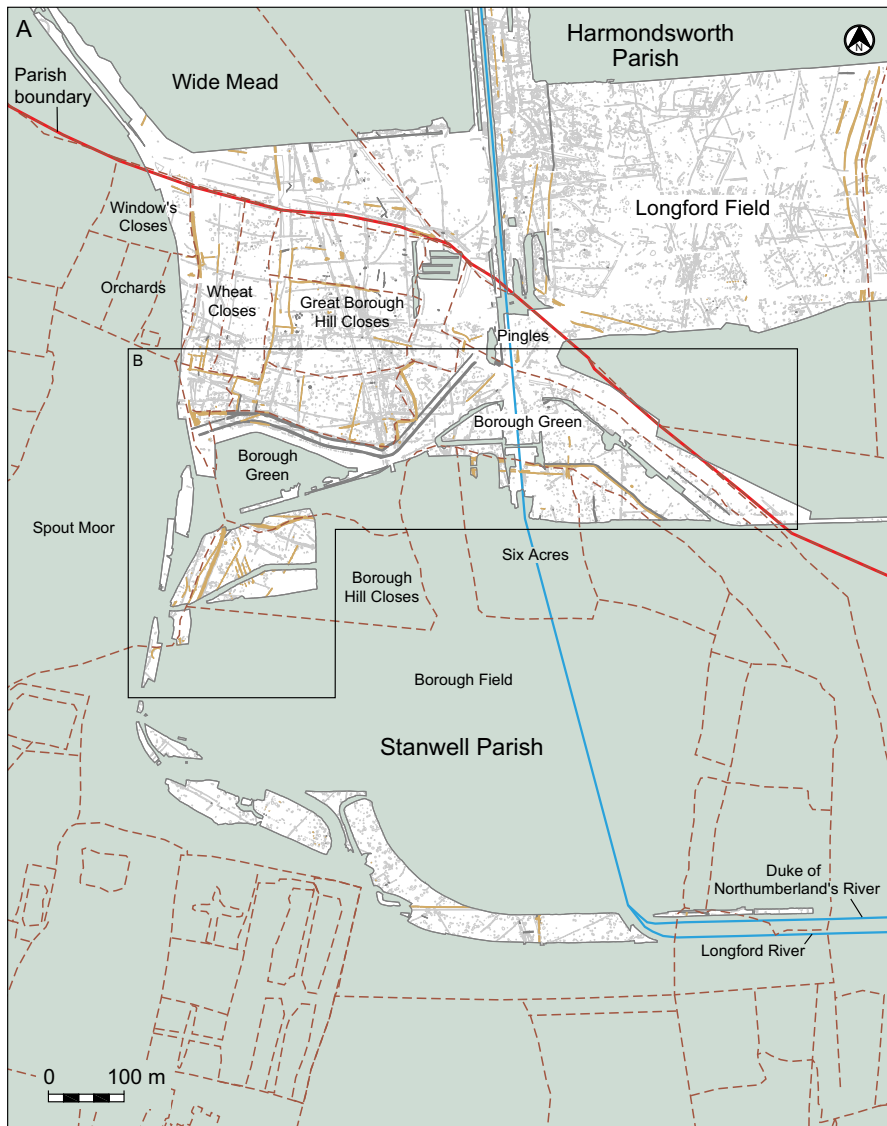
prehistoric pottery, but it is dated as medieval on the grounds of morphology and stratigraphic position. To the south, ditch 555388 contained five early medieval (11th/12th century) pottery sherds, while one 13th/14th century sherd came from ditch 547117, although the apparent western continuation of the latter (578086) produced only prehistoric flintwork.

### Post-medieval developments

As we have seen, some elements of the post-medieval landscape were already in place by the middle to late Saxon period, and in some instances prior to that. The boundary between the lands of the later Stanwell and Harmondsworth parishes was established by the middle Saxon period, while elements of the field system to the south of the boundary may have utilised alignments surviving from the Bronze Age. The Duke of Northumberland’s River, an artificial cut dug in about 1530-43 to run from a branch of the River Colne upstream of Longford to supply Isleworth Mills with water, runs along part of the parish boundary and is likely to have run along the course of an established watercourse or boundary ditch. The name of Longford suggests that it was at a river crossing, and this river may have been the predecessor of the Duke’s River on a similar alignment (Sherwood 1999, 31; *VCHM* iii 33, 42; iv 2, 3, 7; see above). The Longford River was cut to the south of the Duke’s River by Charles I (1625-49) to improve the water supply to Hampton Court. It was also known at various times as the New River, the King’s River, the

Queen’s river, the Cardinal’s River, the Hampton Court Cut and the Hampton Court Canal (*VCHM* iii 34; iv 2).

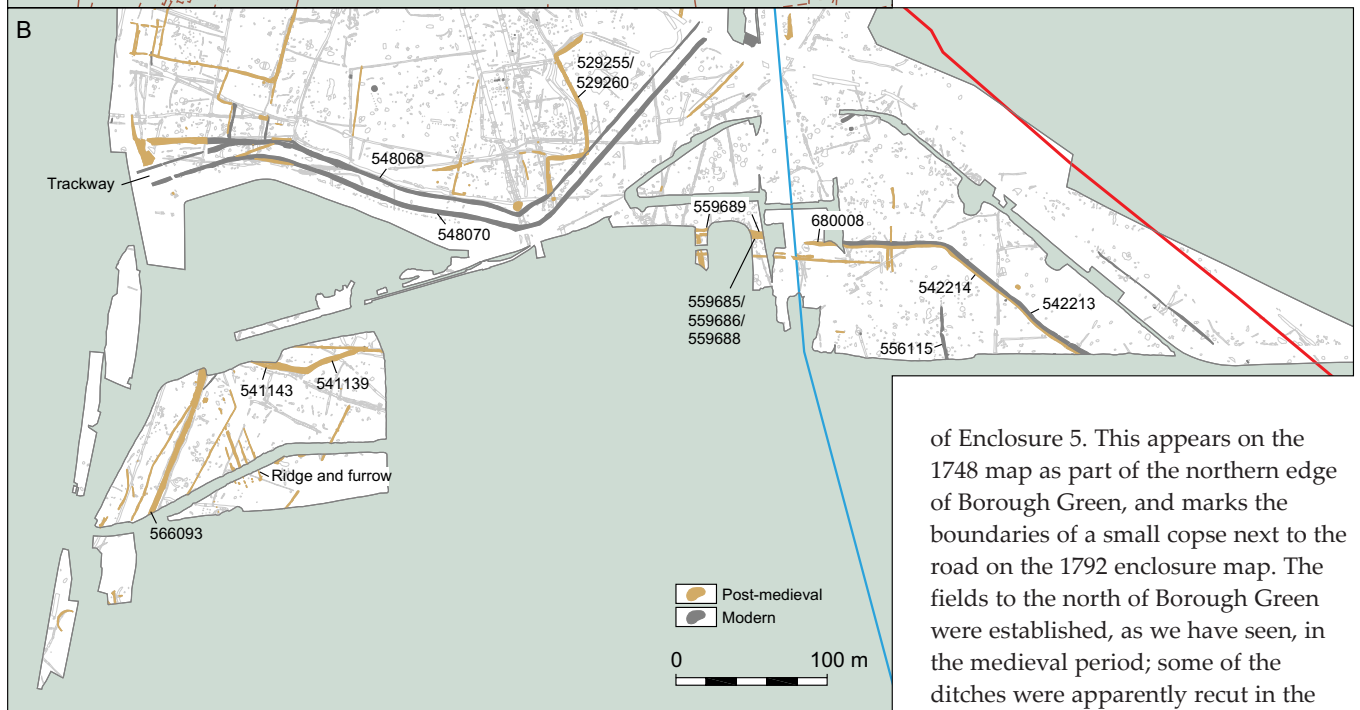
From the 15th century onwards, further developments of the medieval field system largely took the form of enclosure of the common fields, a process which can be traced through surveys and maps spanning the post-medieval period. Most of the meadow lands in the western parts of Stanwell parish around Stanwell Moor and Hammonds were enclosed before the mid 18th century, and there was a failed attempt to enclose the rest in 1767. Borough Field, Court Ley and Griggs Close were enclosed in 1771 to form Sir William Gibbon’s Park of more than 300 acres, attached to his house at Stanwell Place. In 1792 (under an Enclosure Act of 1789) Stanwell enclosed its portion of Hounslow Heath and 1600 acres of open field arable land, increasing its annual value from 14s to 20s per acre. Artificial grasses and turnips were sown in the new hedged fields, which were allotted to the landowners of the parish in lieu of their strips in the common fields, lammas lands in the meadows and common rights of grazing (*VCHM* ii 98-9; iii 35, 38, 44). There was piecemeal enclosure in the north-west and south-west parts of Harmondsworth parish in the second half of the 18th century. Full enclosure of 1100 acres of common fields and meadows, and 1170 acres of heath and moor in 1819 (under an Enclosure Act of 1805 and an amending act of 1816) resulted in the usual landscape of straightened roads and small hedged fields (Sherwood 1999, 7, 9; *VCHM* iv 4, 13).



### Stanwell parish

In Area 51 the medieval boundary ditches of Borough Field were recut. Parallel lines of ridge and furrow within the field, however, dated as post-medieval on the presence of ceramic building material, are on a different, NW-SE alignment (Fig. 5.33). The northern boundary ditch of Borough Field, picked up again to the east in Areas 54a, 58 and 72 (542214, 559685, 559686, 559688, 559689, 680008), does not appear to have had a medieval precursor, although it is shown on the 1748 estate map. The ditch was recut again in the modern period (542213). A short length of ditch to the south (556115), containing post-medieval brick, may mark the eastern boundary of Six Acres, a subdivision of Borough Hill Closes shown on the 1748 estate map; this field was subsumed within Sir William Gibbon's park in 1771.

To the north, within Area 49, further modifications were made to the complex of enclosures. Ditch 529255, and subsequent recut 529260, both recut the north-western ditch of polygonal Enclosure 2, then cut across its western side, turning to the west and then dog-legging south to terminate just to the north of the southern boundary



of Enclosure 5. This appears on the 1748 map as part of the northern edge of Borough Green, and marks the boundaries of a small copse next to the road on the 1792 enclosure map. The fields to the north of Borough Green were established, as we have seen, in the medieval period; some of the ditches were apparently recut in the post-medieval period, including the boundary between Wheat Close and

Figure 5.33: Stanwell Parish

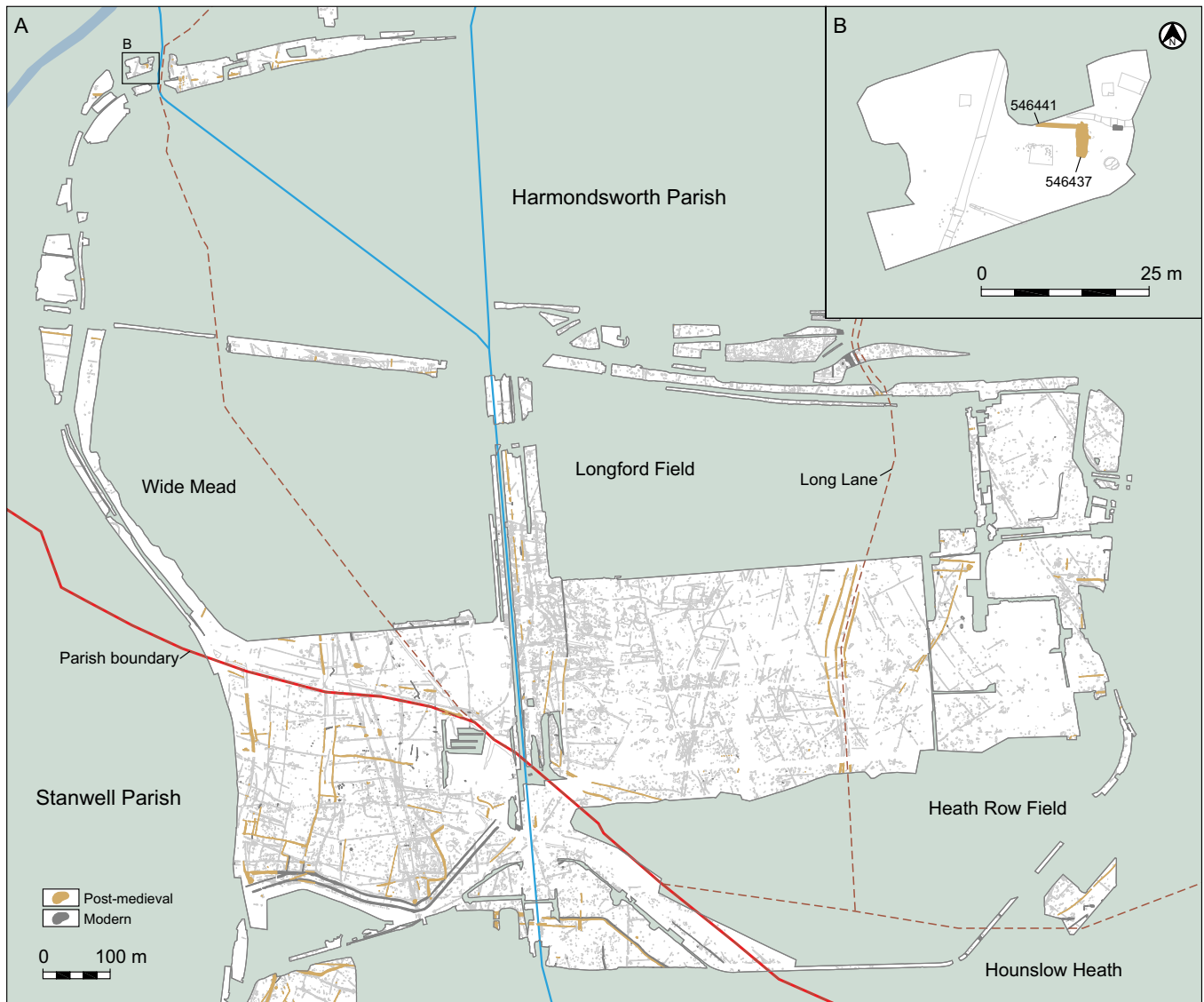


Figure 5.34: Harmondsworth Parish

Great Borough Hill Close, and the subdivisions of Great Borough Hill Close also become apparent at this period.

### *Harmondsworth parish*

The trackway excavated during the Perry Oaks excavations (Framework Archaeology 2006, fig. 4.37) marks the boundary between Longford Field and Heath Row Field; it is visible on John Rocque's map of 1765, and was known as Longford Lane, leading south towards the heath (Fig. 5.34).

In Area 14, to the south of Longford village, the field system ditches that were laid out in the early medieval period were recut on similar alignments. Despite the proximity of the village, little cultural material was found in this area—just a few sherds of

pottery and fragments of ceramic building material. Use of the meadow to the south-west of the village, however, did apparently continue, where another possible retting pit was excavated.

#### *Possible retting pit (546437)*

This subrectangular, straight-sided pit was situated in Area 17, and was cut into the upper fills of a palaeochannel (Fig. 5.34; Plate 5.17). Its secondary fills, particularly the uppermost, were rich in organic material (wood, seeds, leaves). Within these secondary fills were numerous lenses of grey clay, which appear to represent individual flooding events. The relationship of the pit to a gully at the northern end was unclear, but the gully may have been cut to feed water into the pit. A series of wooden stakes (willow/poplar and

elm) was recovered from one of the secondary fills, and may have formed a revetment to the pit; evidence of collapsed wattle was also recovered, as well as a few axe chippings, and a small piece of sawn oak board with peg holes, of unknown function. One post-medieval sherd (Border ware) came from a secondary fill.

The function of this pit is unclear. It is one of three features in Area 17 interpreted as retting pits; the other two were more sharply rectangular and were dated as medieval (see above). The straight-sided form of 546437 and the possible relationship with the gully suggests that it was a tank of some sort. The palaeo-environmental evidence confirms the wet or marshy nature of the immediate environment, but is ambiguous on the question





Plate 5.17: Pit 546437

of retting. No flax remains were recovered from the pit, and hemp remains, although present, were sparse.

*The pollen assemblages are indicative of a largely cleared landscape with a mixture of pastures, arable fields with cereals including possibly barley, emmer/spelt and rye, and probably hemp (Cannabis), rough open ground, and damp/wet grassland. The biodiversity of the area is very high with many taxa. Obligate aquatic species are represented, and taxa of shallow water or marshy ground including flowering rush (Butomus), common reed (Phragmites), bulrushes/bur-reeds, and sedges, are present, indicating that the palaeochannel into which the pit was dug was still a damp course with a high water table, and that the pit would have filled with water to enable the hemp to be retted. Surprisingly, the hemp pollen values are quite low, and the pit itself is quite small in area. It may be that the male hemp plants were harvested and put into the retting pit before they were fully ripe and producing their pollen. It is also possible that the pit was used just for collecting water and not as a retting pit, and that the hemp pollen is indicative of the growth of hemp close by.*

(Peglar et al., CD Section 16)

*The waterlogged plant remains were reasonably well preserved, with the lower samples producing wider ranges of taxa and slightly more fruits and seeds. Leaf fragments, buds and twigs were frequent... willow buds (Salix sp.), ash keys (Fraxinus excelsior) and alder seeds (Alnus glutinosa) were present in small quantities in all three samples. These taxa grow together in floodplain alder woods and fens, with alder and willow on wetter soils close to rivers, and ash growing on drier land where the vegetation is sufficiently open.*

*There was little evidence to indicate that domestic waste had been deposited in the feature, or to demonstrate what the function of the pit had been. Two, poorly preserved charred cereal remains (a possible rye grain and a barley rachis fragment) were present in the middle of the three samples, but these may have been washed in from manured land close by. The three cherry stones (Prunus avium) present in the middle sample had all been gnawed by rodents, so they probably represent an animal deposit rather than human waste. Nitrophilous plants such as nettles and docks were common but not abundant, as might be the case if the pit had been used for retting. No flax remains were recovered from the three fills.*

*The only unusual taxa represented were hop (Humulus lupulus) and possible hemp. (cf. Cannabis sativa seed fragments). Hop was present in small numbers in all three samples but a few hemp seed fragment were present in the middle sample. Hops grow naturally in hedgerows, scrub and fen-carr, so it is difficult to know whether the presence of seeds has any bearing on the use of the feature. No flower bracts were found to indicate use of the fruits for brewing or dyeing. Hops also have medicinal uses.*

*The hemp seeds were unfortunately only present as fragments, so there was some uncertainty over their identification. Hemp was grown as a fibre crop and for medicinal purposes, and it may also have grown more widely as a casual (escaped cultivated plant) in the medieval period than today, during a period when it was widely grown as a garden plant as well as a crop. If the identification is correct, hemp retting is a possibility, although the author would have expected greater evidence for nutrient-enrichment of the soil around a feature with this function. Retting is a smelly business that produces large amounts of organic waste.*

*The remaining taxa in these samples were primarily plants of wet places, grassland*

and damp meadows. Aquatics such as duckweed (*Lemna* sp.), flote grass (*Glyceria* sp.) and crowfoot (*Ranunculus* subg. *Batrachium*) appear to have been growing in the feature from the earliest level sampled, and their presence confirms that the feature held standing water. Frequent sedge nutlets (*Carex* spp.) and other marginals such as gypsywort (*Lycopus europaeus*) would have been growing around the edges. Damp grassland, possibly growing as hay meadow, occurred nearby. Meadow plants such as meadowsweet (*Filipendula ulmaria*), buttercups (*Ranunculus repens*/ *bulbosus/acris*) and wild angelica (*Angelica sylvestris*) were present.

(Carruthers, CD Section 14)

## The end of rural Heathrow

Despite the establishment of some industry (brick-making and paper mills), the character of the Heathrow area remained predominantly rural well into the 20th century. In 1935 it was described in idyllic terms as a scene 'as rural as anywhere in England ... there is a calmness and serenity about it that is soothing in a mad rushing world' (Maxwell 1935). The mad, rushing world, however, was about to engulf it.

## Perry Oaks Sludge Works

Ironically, it was the isolated position of Perry Oaks, and the 'unlikelihood of future building development taking place in the immediate vicinity', that appealed to John D. Watson, who devised the West Middlesex Main Drainage Scheme in 1928 (Watson 1937). For these reasons the site was identified as ideal for the process of sludge treatment, and in 1934 the Perry Oaks plant was constructed as an adjunct to the sewerage plant at Mogden in Isleworth, seven miles away. At that time, the Mogden/Perry Oaks plant was as advanced as any plant in use in Germany or the USA, then considered to be leaders in this technology. Over the remainder of the 20th century, the plant evolved to meet

new demands and technologies, changing from a manual, land-hungry and intermittent process to one that was fully automated, compact and continuous (Framework Archaeology 2000; 2006, 10–11).

## Aviation at Heathrow

In 1929 the Fairey Aviation Company purchased 150 acres of land at Heathrow, for the construction of an airfield, which opened in 1930, and was known as the Harmondsworth Areodrome (Sherwood 1993, 20–3). It was probably the presence of the Fairey aerodrome at Heathrow that led to the identification of the area as a prime site for a civil airport, but it was not until the outbreak of war in 1939 that an opportunity was offered for the whole area to be requisitioned.

The first recorded mention of the proposals to develop aviation facilities at Heathrow, initially at least as a Royal Air Force Base, is the Air Ministry files for mid 1943, although it is clear that the development was always intended for civil aviation (now in the National Archives; see Sherwood 1999, 35). The War Cabinet provisionally accepted the recommendation for development in three stages in November 1943.

The original planned layout of the new airport shows runways extending over the site of the sludge works (Sherwood 1999, fig. 16), but the works could not be closed down without finding an alternative site. This could not be resolved quickly, and the plans were revised, with two runways, one either side of the sludge works. The other impediment to the development was the presence of the Fairey aerodrome, and in 1947 the Fairey Aviation Company moved its operations to White Waltham airfield in Berkshire. By then, work had already started on the first stage of construction, which began in June 1944, Construction involved the demolition of existing buildings on the site, which extended south of the Bath Road from

Harlington to Longford. The airport was transferred from the Air Ministry to the Ministry of Civil Aviation on 1st January 1946. The airport had never been used as an RAF base; the first use was for a civil flight. It was formally opened on 31st May 1946.

Stage 2 of the airport construction did not involve any further acquisition of land, but Stage 3 proposed extension north of the Bath Road, involving the complete destruction of the village of Sipson, and most of Harlington; these proposals were agreed by the Cabinet in January 1946, but without a firm timetable. Concerns over costs, combined with resistance to the proposals from local residents, and objections from bodies such as the Royal Commission on Historical Monuments, has deferred a decision to proceed with the development until the present day. In 1952 the Ministry of Civil Aviation announced that the scheme had been abandoned, but it was to be resurrected later. (At the time of writing, the proposals for a third runway, running east to west across Harlington, Sipson and Harmondsworth, have recently received Government approval.)

Construction of the airport continued within the perimeter agreed in 1952, and in 1953 Gatwick was selected as the site of the second London airport, to relieve the pressure on Heathrow. It soon became apparent, however, that even two airports could not cope with the anticipated expansion of air traffic, and proposals were made in the mid 1970s to expand Heathrow by constructing a fourth passenger terminal. Terminal 4 opened in 1986 and was seen then as the final development of Heathrow, beyond which no further expansion would be permitted. Again, however, pressure of air traffic led to proposals for a fifth terminal, which was approved in 2002. Although the fate of the Perry Oaks Sludge Works was finally sealed, the approval precipitated the need for the extensive archaeological work described in this volume.