



Headstone Manor, Harrow, Middlesex: Archaeological Watching Brief and Excavation in the Outer Court, 2016-17

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Headstone Manor, Harrow, Middlesex:
Archaeological Watching Brief and Excavation in the Outer Court, 2016-17

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Summary

Between May 2016 and July 2017 Oxford Archaeology conducted a programme of archaeological works, consisting of watching briefs and limited excavations, during the repair and refurbishment of the Scheduled Monument at Headstone Manor, Harrow, Greater London (NGR 514090 189710).

The current access road through the Outer Court, and areas of the current courtyard to either side, proved to overlie a cobbled/metalled surface of mid-19th century date laid directly on the natural clay geology, indicating that here the ground had been truncated (ie cleared of topsoil) prior to its deposition. In places, this had also truncated much of the stratigraphy of earlier buildings within the court, but both structural evidence and sequences of earlier deposits survived over most of the area.

The corner of a flint-and-mortar-built structure was found at the north-eastern end of the Great Barn, whose robbing contained pottery of late medieval date. This may either represent a structure of this date, or may belong to an earlier version of the Great Barn constructed in 1506, which some historic maps suggest was previously wider than at present.

Structures of post-medieval date include a brick floor and wall edge built with 17th-early 18th-century bricks north-west of the Granary, and a wall of 18th-century bricks south of the Great Barn towards its north-east end. The flint-and-brick walls and rammed chalk floors belonging to a late 18th/early 19th-century east-west barn were found on the southern edge of the Outer Court, and match a building shown on historic maps from 1819 to 1916. A brick floor and walls belonging to a building south of the Small Barn were also uncovered, and although not directly dated, these match a building shown on the 1819 sale map. Immediately outside the Small Barn, a porch marked on the 1st edition OS map of 1865, and surviving until the early 20th century, was also found.

Chalk and pebble surfaces were uncovered to the south of the Great Barn, one overlain by flint walls incorporating bricks flanking wooden planks, forming a walkway up to the south-west porch, while a raised flint-and-chalk roadway was found in line with the north-east porch. The remains of a chalk-and-clay-built ramp leading up to the western end of the bridge over the moat was also recorded.

An infilled channel or pond up to 11m wide was found south-west of the Small Barn in two trenches, showing that it was orientated south-westward to north-east. Within it, several vertical timbers set into postholes were found along the north edge, and a felling date of 1709-10 was obtained from one of these uprights, but it is uncertain whether this timber was original, or was inserted at a later date. A bank of compacted chalk encased in clay and flints ran south-eastwards, appearing to divide the channel or pond into two. This bank had a line of angled timber uprights along the south-west side and vertical uprights on the north-west edge, with planks aligned south-east within the body of the bank. These were presumably revetting.

On the north-east side (towards the moat) the bank was abutted by a series of sloping deposits suggestive of deliberate infill. The earliest of these contained brick and tile fragments dated to the late 17th or 18th century, and surrounded a further

line of smaller upright timbers. Further dumping on the north-east had completely infilled the channel by the late 18th century, when it was recut, but the recut appears to have been filled in soon after, and had completely gone by the early 19th century. On the south-west side of the bank the channel deposits were not well-dated, but it had clearly gone out of use by the time the maps of 1817 and 1819 were drawn.

This structure may have been an earlier example of the series of large ponds shown on historic maps outside the south corner of the Outer Court until the later 19th century. These ponds may have resulted from clay quarrying around the edges of the Outer Court, but may also have been linked to the moat and the ponds further west, acting as an overflow channel from the moat in times of flooding, and being part of the water management system linking the moat to the Yeading Brook.

North of the Small Barn on the east side of the Outer Court, broad cuts or hollows in the natural of similar date may indicate further ponds, but as these were not bottomed, may instead represent areas of the farmyard churned by animals.

Acknowledgements

Oxford Archaeology (OA) would like to thank Daniel Mason of Focus Consultants for commissioning them to carry out the work on behalf of Headstone Manor Museum, and for his support throughout. We are also grateful to Grant Prescott of Buttress, under whose supervision the earlier phase of watching brief was undertaken, for his continuing support.

We are very grateful to Jo Saunders, Director of the Headstone Manor Museum and Restoration Project, for her interest and active involvement during the time that OA were on site, and latterly to Alison Torbitt, her replacement, for her assistance during the post-excavation work.

OA is also grateful to Iain Bright, Assistant Inspector of Historic England, who monitored the work, for his prompt advice and pragmatic decision-making on site on what has proved to be a much larger and more complicated programme than originally anticipated.

The assistance received from the Principal Contractor Lengard is also much appreciated, and in particular that of their Site Agents Martin Neaster and Imram Sakoor.

The archaeological work was managed for OA by Tim Allen, and was supervised on site by Gary Evans, and on occasion by Pete Velleth and Bob McIntosh. Survey was carried out by David Jamieson, Ashley Strutt and Ben Brown. The excavation team comprised Sophie Bojadziev, Christoff Heistermann, Tom Lawrence, Elizabeth Kennard, Bob McIntosh and Ashley Strutt.

OA is also grateful to the staff of the archives department who managed the digital photographs, supervised the security copying and prepared the archive under the management of Nicky Scott, to the staff who processed the finds under the management of Leigh Allen, and to the staff who processed the environmental samples under the supervision of Sharon Cook and the management of Rebecca Nicholson.

A draft of the report was written by Gary Evans, which was then edited and substantially revised by Tim Allen, who also wrote the discussion. The plans were prepared by Ben Brown and the sections and plates by Charles Rousseaux and Lucy Gane, who also edited and finalised all of the drawings.

Tim Allen would also like to thank Patricia Clarke, who provided unstinting help with historic maps and documents, and with their interpretation, during the post-excavation. Any shortcomings in interpretation are, however, entirely his own.

1 INTRODUCTION

1.1 Scope of work

- 1.1.1 Oxford Archaeology (hereafter OA), was commissioned by Buttress on behalf of the London Borough of Harrow to carry out archaeological monitoring of the repair and refurbishment of the Scheduled Monument at Headstone Manor, including the provision of a new Welcome Building (now the Moat Café) and improved access to the monument.
- 1.1.2 Headstone Manor is recognised as one of the most complex historic houses in Greater London. It comprises a manor house within a square moat, whose earliest standing remains date back to the later medieval period, together with a larger Outer Court to the south-west containing the agricultural buildings that supported the manor. Documentary and historic-map evidence show that the site has undergone major expansion, change and demolition during its life.
- 1.1.3 The archaeological value and national importance of the site is reflected in its statutory designation as a Scheduled Monument (List Entry 1005558), which includes all of the area upon which the Grade I listed medieval Manor House (the earliest surviving timber-framed building in Middlesex) and its associated water-filled moat, together with the Outer Court that contains the early 16th-century Grade II* listed Great Barn, the Grade II listed Small Barn, together with a Grade II listed 18th-century Granary brought to the site from Pinner Park Farm in 1991. The buildings themselves are not part of the Scheduled Monument, but their significance is indicated by their Listed status.
- 1.1.4 The present scheme of restoration follows on from an initial phase of renovation of the medieval section of the manor house, which was facilitated by a substantial grant from English Heritage in 2005. The current project aims to restore the Manor House completely, and enable it to operate as a museum to display Harrow's historic and nationally important collections.
- 1.1.5 Two Scheduled Monument Consent (hereafter SMC) agreements have been granted for work at the Site: the first in December 2013 (S00074230) and the second in June 2015 (S00110337). These are separate from the Listed Building Consents granted for work on the standing buildings.
- 1.1.6 The archaeological mitigation strategy to support the SMC agreements was prepared by OA on behalf of Buttress in consultation with Jo Saunders, Heritage and Museum Manager of Harrow Council, for the Department of Culture Media and Sport (hereafter DCMS), who are advised on matters relating to Scheduled Monuments by Historic England.
- 1.1.7 OA discussed and agreed the strategy with Historic England before fieldwork began, and this was updated as works progressed to accommodate both archaeological discoveries made during the works and necessary changes in design as the restoration work progressed. The latest version (OA 2016a) was agreed with Historic England's Assistant Inspector Iain Bright prior to commencement of works in 2016-17.
- 1.1.8 The archaeological work initially consisted of an archaeological watching brief during the intrusive below-ground works associated with the development. These were mainly trenches for the installation of heating ducts, lighting and electricity cables, foul and surface/roof water drainage pipes, but included general landscaping, the excavation of postholes for information panels and a number of test pits.

1.2 Overall order and extent of archaeological work

- 1.2.1 Work in the Outer Court began in 2014 and continued intermittently through 2015 and 2016 into 2017. The results of the archaeological works in 2014 and 2015 were reported upon in March 2016 (OA 2016b). Subsequent work from May 2016 to November 2016 to July 2017 in the Outer Court are reported upon here, and the discussion and conclusions also draws together the results of both phases of work on the Outer Court.
- 1.2.2 The archaeological watching brief was carried out to monitor below-ground works undertaken as part of the restoration programme. Where these works exposed walls, floors or other significant structures, the initial aim was to avoid their disturbance or destruction, and in 2015 this resulted in the excavation of a number of additional small trenches aimed at finding routes around such structural remains. It rapidly became clear, however, that traces of substantial buildings demolished in the 19th and early 20th centuries, and also more-extensive surfaces of post-medieval date, survived across much of the Outer Court. It became necessary to record and remove limited parts of these remains to allow the installation of new services to enable the restoration work, but every effort was made to keep this at a minimum.
- 1.2.3 The Outer Court archaeological watching brief in 2016-17 began with monitoring in advance of the construction of the Welcome Building and associated foul drainage, and was followed by monitoring of the Surface/Roof Drainage Trench that ran parallel to the Heating Duct trench excavated in 2015. Monitoring of the Surface/Roof Drainage Trench, south-west of the Small Barn, led to the discovery of waterlogged timbers and the desire to preserve these *in situ* led to a small excavation. This was carried out to understand what the timbers represented and to look for a less-damaging route for the drainage to avoid them. Using preliminary spot-dating, the results of this work were described in an interim report (OA 2017), and are now included in this report with the finds reports.
- 1.2.4 The watching brief continued with the monitoring of electricity and lighting cable trenches, and of further heating duct trenches. The last observations were those made during the excavation of foundation trenches for signage.
- 1.2.5 Archaeological watching brief also took place on the moated island in 2016-17, revealing substantial flint-and-chalk walls north-west and south-east of the standing Manor House. This also resulted in limited area clearance and further trenches to characterise and record these earlier structures. The results of the work on the moated island will be described and discussed in a separate report.

1.3 Location, geology and topography

- 1.3.1 Headstone Manor is located at Pinner View, Harrow, Middlesex, HA2 6PX, and is centred on NGR 514090, 189710 (Fig. 1).
- 1.3.2 The manorial complex, which is orientated from south-west to north-east, is in two parts (Fig. 2). The Manor House sits within a square moated enclosure on a north-east to south-west axis, with a single entrance reached by a brick-built bridge halfway along the south-western side. This entrance leads into the Outer Court, along whose north-west side sits the timber-framed Great Barn, with the Small Barn adjacent to the moat on the south-east side. Historic maps show that the latter barn was not present here before the 1860s. On the west side lies the Granary. This building is not original to the site, having been brought from Pinner Park Farm in 1991.

- 1.3.3 The Site is surrounded by Headstone Manor Recreation Ground on the south-west and to the north, and the former Kodak Sports Ground on the east. To the south, the Recreation Ground's car park and Museum administration block back on to a car-breakers yard and suburban housing and gardens.
- 1.3.4 Headstone Manor sits in an area of London Clay, but the Site itself is located on Lambeth Group clay, silt and sand (Geology of Britain Viewer 2016), in a band that turns south-westwards just south of the Site. These latter deposits clearly belong to a former stream or river valley leading south towards the Thames.
- 1.3.5 The site sits in a shallow valley, the ground rising to the west, north and east, and sloping gently downwards to the south, where the Yeading Brook forms the south-east and southern boundary of the Recreation Ground. The Yeading Brook flows from east to west and is fed by a number of streams and channels which run past the western edge of the site, including a channel which currently acts as an overflow for the Manor's moat.
- 1.3.6 The height of the Outer Court slopes southwards from 53.60m above Ordnance Datum (aOD) just north of the Great Barn to 52.65 south of the Small Barn, continuing to slope slightly down Pinner View. The level of the moated enclosure is slightly higher than that of the Outer Court, being 53.84m aOD to the north of the Manor House, while to the south the ground slopes down from 54.43m aOD just to the south of the Great Hall to 54.08m aOD at the south corner of the moat.

1.4 Archaeological and historical background

Early history

- 1.4.1 The published documentary history of Headstone Manor is largely contained in an article written by Patricia Clarke in 2000, and the following summary is mostly derived from this, supported where relevant by a number of archaeological investigations carried out over the last 50 years. For the sake of brevity, statements regarding information derived from documents mentioned in Clarke's article will not be referenced individually.
- 1.4.2 Headstone is first mentioned, as Hegton, in c 1300. However the date of the estate can probably be pushed back to c 1233, when an Ailwin de la Hegge and his son William, who took their surname from their abode Hegge (an early variant of the name Headstone) are mentioned as giving a tithe of hay to the vicar of Harrow (Clarke 2000, 157). A Walter de la Hegge is mentioned in a number of documents between 1298 and 1304, including as a witness of the purchase of Hegton by a William le Knel.
- 1.4.3 By 1332 Headstone appears to have been in the possession of a Roger Rameseyes who sold it to a Robert de Wodehouse, Treasurer of the Exchequer and Archdeacon of Richmond. A recent dendrochronology study on timbers from the roof of the Manor House's Great Hall gave a date of c 1310-15 for the felling of the timber used in this building (Howard *et al.* 2000a). It is therefore probable that the hall and the northern cross wing of the present building were already present when Roger Rameseyes sold it to Wodehouse in 1332.
- 1.4.4 In July 1344 the Archbishop of Canterbury John Stratford, who was the Lord of the Manor of Harrow, purchased Headstone from de Wodehouse. By this time the property comprised a house, three carucates (hides) of land, 20 acres of meadow and five acres of wood. Headstone subsequently replaced Sudbury as the Archbishops' main

Middlesex residence. From the end of the 14th century, Headstone was leased to various tenants who were obliged to allow the Archbishop and his retainers to use the house, stables and gardens if they visited.

- 1.4.5 The roof of the Manor House appears to have been tiled from at least the 15th century. Records show that 9,000 tiles were bought for repairs in 1466 with a further 16,000 tiles in 1486-88 (Clarke 2000, 163). Records also mention that the site also contained a dovecote and (by 1367) a chapel, where Archbishop Simon Langham is recorded as having ordained five clergymen in May of that year (*ibid.*, 161). At least one gatehouse is mentioned in the records from 1487 to 1553, variously called the 'great gate', 'the western gate' or the 'old gatehouse'. In 1553, permission was granted to demolish it, along with adjoining houses which stood at 'the end of a long stable'.
- 1.4.6 The date of origin of the moat is unknown, but in 1466-67 the moat was cleaned and refilled at a cost of 33s, and a new bridge (probably over the moat) built (Clarke 2000, 163), showing that it was already old in the mid-15th century. The bridge appears to have been built of stone, as a payment of 3s 3d for digging stone was mentioned in the record (*ibid.*). Given that Headstone Manor was leased from 1386 onwards, it is unlikely that the major expense of digging a moat would have been undertaken after that date, so the moat was more likely constructed either while the manor was owned and used directly by the archbishop (from 1344 to 1386), or was already in existence when he acquired the property in 1344. The peak period of construction of medieval moats according to documentary evidence, was in the late 13th-14th century (Le Patourel 1978) when they were seen as a must-have status symbol for any great house.
- 1.4.7 A number of farm buildings are also mentioned in the documentary record. In 1422 a John Jenkyn of Weald is accused of stealing material intended for the 'lord's barn at Headstone' (Clarke 2000, 163). In 1489, repairs on a two-door barn are mentioned. Other buildings mentioned as being on the site in the 15th century include stables, racks and mangers (1482), a new animal shelter (1489) and a 'great stable' (1496). The records give little detail as to where these structures stood on the site, although a 'western gate' is mentioned with an adjacent lodge and stable, and a new stable for three to four horses was planned for the island in 1514 (Clarke 2000, 163-4).
- 1.4.8 In 1505-6, payment was made to a Richard Boughton for the construction of the present Great Barn. Payment was also made for the transport of wood, nails, lathes, bricks and tiles for the new barn. According to the lease granted to Robert Marsh in 1514, the three bays at the western end of the Great Barn were to be reserved for the horses of the archbishop. Dendrochronological analysis of timber from the Great Barn in 2000 (Howard *et al.* 2000b) showed that timbers from its roof were felled in c 1506, which appears to agree with the historical records for the construction of the Great Barn.
- 1.4.9 Until the 16th century, Headstone was held by the Archbishop of Canterbury, and was used as an occasional residence until Thomas Cranmer was forced to exchange it with Henry VIII on 30 December 1545. Six days later, the king sold it to Sir Edward Dudley (later Lord North), Chancellor of the Court of Augmentations.
- 1.4.10 Leased to various tenants, Headstone Manor descended with Harrow Manor until 1630, when its manorial rights were detached and sold with Harrow and Sudbury Manors. Headstone Farm was then bought by Simon Rewse, the then lessee, who panelled the Great Hall and built an extension to the rear. A glimpse of the nature of the Manor House at this time is seen in the will written in June 1637 by Simon Rewse. To his wife

Anne he left 'halfe of the profite of the Orchard and Garden'. In the same document he left part of the house and "the out housing from the gatehouse under the pigeon house to the moat" to Anne. (ibid. 166). The rest of the estate was left to his four sons. His son Francis Rewse fought on the Royalist side in the Civil War, and the property was sequestered by the Middlesex Committee for Compounding a parliamentary committee which seized the properties of delinquents who had supported the king.

- 1.4.11 When the sequestration order was discharged in 1649, William Williams bought the estate. Williams built a substantial new wing with cellars, a pantry and bedrooms. He sold it in 1671 to Sir William Bucknall, in whose family it remained until 1823. Another wing was built in the 1770s, and a brick façade was added to the front of the house.

Historic-map evidence

- 1.4.12 Throughout the 18th and 19th centuries, Headstone Manor was one of the largest farms in the area. The earliest cartographic record of the site is John Roque's 1754 map of London and the County of Middlesex. It shows little detail, but four buildings are depicted, the Manor House, Great Barn and two L-shaped buildings to the south and west. The moat is not shown. It does, however, record the presence of an avenue to the north of Headstone Manor which lined the access route from Headstone Lane to the farm complex. A second map of the same period is Messeder's Map of Harrow of 1759. This shows six buildings including the Manor House and Great Barn. Three of the others are clearly parts of two of those shown by Rocque to the west and south of the Great Barn, one of which is distinguished as a dwelling. The last building is south of the manor house and appears to be linked to it, so was probably on the moated island but as it is not shown this is uncertain.
- 1.4.13 The next historic map to feature the site is the Harrow Enclosure Map of 1817, closely followed by an 1819 Sale Map (Fig. 18). The Enclosure Map shows the moat, manor house and two other buildings inside the moat; the Sale Map map joins one of the smaller buildings to the main house, but omits the other. In the Outer Court, both maps show the Great Barn with another barn opposite and a smaller building to its east where the Small Barn now stands. The 1819 map also shows a small square building south of the Small Barn very close to the moat. On the west side the 1817 map has a square building with small separate buildings to the north-west and south-east, while the 1819 map shows one larger building. Both have another small square building north of a long pond bounding the south-west side of the court.
- 1.4.14 South of the smaller barn and the building to its east, the 1817 map shows a larger feature west of a road or track that leads to the Outer Court. This is shown in black like the buildings, but has an irregular curving shape at the southern end and may instead represent the pond shown on the Sale of Particulars map of 1860 (surveyed in 1853) and the 1865 Ordnance Survey (OS) map. The 1819 map, however, shows a building on the west edge of what is now Pinner Drive, with a pond immediately adjacent to the south-west.
- 1.4.15 A map prepared for the arrival of the railway in 1845 also shows Headstone Manor. There is a formal garden south-east of the manor house within the moat and an orchard along the north-east side. In the Outer Court, the Great Barn had been extended on the northern side at the south-west end, but the two barns opposite are much the same as in 1817-19. The small square building south of where the Small Barn now stands is not

shown, nor the building to the south adjacent to a pond. There is a line of three buildings on the west, with a longer building in front (ie further north-east).

- 1.4.16 The Sale of particulars map surveyed in 1853 (reproduced as Fig. 4), is very similar to the 1845 map. It also shows the formal garden layout and orchard within the moat. Three buildings are shown to the north of the manor house, and records mention a brewhouse and outhouses for ducks, geese and wood (*ibid.*, 178). By the time of the 1878 OS map, these structures appear to have gone.
- 1.4.17 As on the 1845 map, the moat is shown with its bridge and two small embayments; one to the south of the bridge and one to the north of the moat's south-east corner. The 1865 OS map shows a further embayment on the moat's south-west corner at the point where the present moat-overflow channel is found.
- 1.4.18 In the Outer Court farmyard, the Great Barn still has the extension, though on the Sale Map this appears to be a separate building with a narrow yard in between. On the 1865 and subsequent OS maps, the extension is shown as being wider than at present, but there is no indication of a separate building.
- 1.4.19 Opposite to the Great Barn, the smaller barn is still shown and is now divided from the moat by a road across the Outer Court. The Small Barn is not shown, but it is present on the 1st edition OS map of 1865. This suggests that the building shown in approximately the same position on the Enclosure Map of 1845 had been demolished and replaced in the interim by the building still standing.
- 1.4.20 To the west, a square building is now shown between the Great Barn and the barn opposite, with the long NNW-SSE building behind it. The southernmost of the line of three buildings on the 1845 map further west have now become four joined buildings, which from records we know were four cottages; the building to the north of the cottages is the Stock Barn, and the northernmost of the line of three (as on the 1845 map) sits at the edge of the road crossing the Outer Court.
- 1.4.21 To the south of the Scheduled Monument area, a rectangular structure is shown in what is today the centre of the Recreation Ground's car park. This appears to be the open-sided, 150ft-long hay barn that we know from records stood in the manor's rick yard (*ibid.*, 180).
- 1.4.22 A number of ponds are also shown. A large pond lay west of the line of four cottages, and the 1865 OS map shows that this was fed by a stream flowing south-eastwards along the eastern side of the avenue approaching the Outer Court. There was another, narrower pond (not shown on the 1860 map but evident on the OS map) along its line just north of the Outer Court. The stream continued south-eastwards from the large pond to join the Yeading Brook.
- 1.4.23 Two interconnecting ponds lay south of the smaller barn, just beyond the Welcome Building (Moat Café) and the park's public toilets. The 1865 OS map shows that there was a narrow tail extending southwards from the westerly pond, which may indicate that this had fed back into the stream flowing south-east to the Yeading Brook. The ponds to the west and the south appear on maps up until the 1930s. One further pond is shown on the 1865 OS map along the line of the Yeading Brook to the south, located close to what is now the Museum's northern entrance.

- 1.4.24 A rather schematic plan of 1874 does not add any significant detail.
- 1.4.25 Farm buildings are mentioned in various 19th-century records (valuations, repair schedules and insurance policies, etc.), including wheat barns, hay barns and bean barns. Stables, a cow house, hen houses, a pigsty and a duck house are also mentioned, as are cart sheds, a granary, a chaff house, a brewhouse, a manure pump and a bee house. The location of many of these structures is not known, and regrettably most of the buildings shown on the OS maps and 1860 Sale Map are not labelled. Some may have been timber and corrugated iron lean-tos rather than brick structures. In the 20th century, historic maps are supplemented by a number of photographs and sketches (*ibid.*, figs 10-12 and 178-79).
- 1.4.26 With the coming of the railways, the first train station (now Harrow and Wealdstone) was opened in 1837 and the character of the area around the site gradually changed from rural to suburban. Within 17 years, following a serious agricultural depression, the large Headstone Manor Farm (sometimes called Moat Farm) was divided equally between a Frederick Harrison and William Bush Cooper. Further portions were alienated during the 19th century, and in 1874 the rest of Harrison's portion, then consisting of the Manor House and 189 acres, was conveyed to Edward Christopher York. York's executors sold some land in 1899 but the house and 148 acres were conveyed to his son, Edward, in 1922. Edward York sold the house and 63 acres in 1925 to Hendon District Council for recreational uses.
- 1.4.27 The OS map of 1934 shows that the then District Council implemented relatively few changes during its first decade of ownership of the site. The farmyard buildings had now lost their original function, and as each one deteriorated it was demolished. By 1934 the southern L-shaped group of buildings had gone, leaving only the Great Barn and Small Barn. The network of ponds, drains and ditches so characteristic of the farm remained, but were gradually drained and filled in so that by the time of the 1951 OS map they had disappeared.

Previous archaeological work

- 1.4.28 In 1985 Harrow Archaeological Surveys carried out a geophysical survey of the moated enclosure to establish the ground plan of the demolished part of the medieval Great Hall, and that of any other structures within the island. However, it produced limited evidence of features, which seem to be mostly related to the formal gardens seen in various 19th-century plans and engravings (Watkins 1985).
- 1.4.29 In 1986, prior to the restoration of the Small Barn, the Dept. Greater London Archaeology (DGLA) undertook a survey of the post-medieval framework and excavated within the standing structure of the Small Barn (Tucker 1987). Despite severe fire damage, the survey was able to show that all of the timbers in the structure had been salvaged from other timber-framed buildings. Six discrete phases of development were identified from the excavated stratigraphic sequence, with the earliest material spanning the 13th to 15th centuries, and later phases continuing through the post-medieval period until the present barn was erected in the mid-19th century. A little residual prehistoric and Roman pottery also indicated earlier activity in the vicinity.
- 1.4.30 The excavation indicated that there had been a building in this area from the 15th century onwards. There is some evidence to suggest that the earliest building lay

towards the north-east end, where a series of chalk and rammed pebble floors with associated post-holes were found, and was later extended to the south-west. This building appears to have been built on the same alignment as the existing structure, although its full extent was not defined. The remains of a red-brick hearth and drainage channel were also uncovered. This building appears to have been demolished early in the 19th century.

- 1.4.31 In 1991 Wessex Archaeology excavated three 10m by 1m trenches in advance of the erection of the Granary building (Barnes and Hawkes 1991). This followed an archaeological evaluation conducted by the Museum of London in 1989 (Haynes 1989). The excavations revealed a flint wall, aligned north-west to south-east, which was later replaced with a brick wall, a series of wooden timbers and gravel floors. All these features appeared to date post-1750. The excavators suggested that the flint wall belonged to an unnamed structure shown on the 1865 OS map, while the brick wall was interpreted as being part of a substantial pigsty depicted on the 1911 Sale of Particulars plan and shown in a 1921 photograph (*ibid.*, 331-332).
- 1.4.32 A series of watching briefs was subsequently carried out in the Outer Court. These comprised the excavation of an electric cable trench north of the Granary (Thompson 1992), postholes for information panels next to the Small Barn and Great Barn (Thompson 1993), the removal of a floor within the Small Barn (Thompson 1994a), monitoring of the removal of a fallen tree south-east of the Granary (Thompson 1994b), landscaping between the Small Barn and the moat bridge (Thompson 1995b), and a cable trench between the north-east corner of the Small Barn and the north-east corner of the Great Barn (Thompson 1995a).
- 1.4.33 The cable trench running south-west from the Granary revealed two brick walls of late 18th-19th century date belonging to the former Stock Barn, and landscaping south of the Granary in the same year uncovered a wall of recent date running south from the Granary (Thompson 1992). Aside from a number of large flints discovered in 1995 to the south-east of the Great Barn in a trench opened for an electric cable, no structural remains were uncovered during the other watching brief works.
- 1.4.34 In 1996 a linear anomaly was detected during a resistivity survey conducted by GeoQuest on a grassed area to the south of the Manor House (Hale and Grove 1996). This was taken to represent wall footings. Three sides of the probable structure were mapped. The fourth (southern) wall of the structure was not located, as the survey stopped several metres short of the moat edge for safety reasons. A second area of high resistivity was found in the south-east corner of the island. This was interpreted as being the remains of a hard standing or cobbled yard (*ibid.*, 5).
- 1.4.35 In 1997 excavations by the Central Archaeology Service to the south of the surviving Manor House uncovered parts of a linear feature running north-south (Busby 1997—see Trenches SSD1 and SSD2). This was interpreted as the remains of a robber cut of the west wall dug when the southern bays of the Great Hall were demolished. Three short sections of a north-south aligned flint wall were also uncovered further to the south (*ibid.*—see Trenches SSD3 and SSD6).
- 1.4.36 Two dendrochronological studies on timbers from the southern end of the surviving Manor House and from the roof of the Great Barn were carried out in 2000. The timbers from the Great Hall and Cross Wing were found to have been felled in c 1310-15, while timbers from the adjacent 'tower' and other parts of the Manor House gave a range of

1554-84 (Howard *et al.* 2000a). Wood from the roof of the Great Barn was shown to have been felled in 1506 (Howard *et al.* 2000b).

- 1.4.37 During 2000 the Central Archaeology Service carried out small-scale excavations within the Cross Wing of the Manor House to the north of the Great Hall, and uncovered a series of walls built of chalk and dressed and rough-hewn flint nodules. These appear to have been the footings for the western and north elevation of the service end of the 14th-century Manor House's Cross Wing and the northern wall of a service passage which ran between the Cross Wing and the Great Hall. Three successive fireplaces were found relating to a 17th-century chimney stack, and the remains of a small section of a flint wall were uncovered to the north of the Cross Wing (Fellows 2001).
- 1.4.38 In 2010 the moat and its bridge was the subject of work by Heritage Network (Heritage Network 2012). The deposits at the base of the moat were core sampled and the moat bridge and the brick revetment wall of the moat's western arm were investigated. The core samples did not produce any deposits or finds pre-dating the clearance of the moat, by drag line, in 1973.
- 1.4.39 Work on the bridge showed that the eastern arch of the bridge dated to the mid-17th century while the two western arches dated to the mid-19th century. No trace of an earlier bridge was uncovered during the works.
- 1.4.40 Work on the brick retaining wall on the moat's landward side revealed that the initial wall dated to the early 19th century with a series of repairs and rebuilds in the 1880-90s and 1930-40s. The report suggested that the western arm of the moat was originally wider and that the bridge was perhaps longer. This appears to be solely based on the fact that it is significantly narrower (10.7m) than the other three arms, which were 13.5m wide. It also suggested that the brick revetment on the moat's western (farmyard) side was built in response to the erosion of the moat's bank.
- 1.4.41 In 2014 Museum of London Archaeology excavated two test-pits and four evaluation trenches in and around the Outer Court (MoLA 2014). The locations of these are shown on Fig. 2. The test pits, which were approximately 1m square, were located south of the Small Barn, and did not find natural, but located two successive layers of silty clay below a crushed brick and clay surface of post-medieval date. An area including test pit 2 and measuring 12m by 7m, orientated from north-west to south-east, was subsequently opened up as a community excavation (Fig. 2; MoLA 2017, fig. 3), and showed that the silty clay deposits continued northwards, and that the brick and clay surface was the Pétanque court constructed in the later 20th century for the Harrow Pétanque club (*ibid.*, 11).
- 1.4.42 All of the MoLA trenches were 5m long and 2m wide and were orientated north-west to south-east. Trenches 3 and 4 lay some 20m apart within the south-west corner of the Outer Court (Fig. 2), and both encountered a pebble courtyard surface overlying the clay natural. In the more northerly trench (Trench 4) this was overlaid by a layer of crushed brick followed by recent make-up layers, but the more southerly trench (Trench 3) had a more complicated sequence involving layers of mortar and sandy silt on the north-west and a brickearth floor on the south-east, both cut by the robber trench of a brick wall (*ibid.*, 8).
- 1.4.43 An area community excavation was subsequently laid out south-west of Trench 3, again on a north-west to south-east axis, and measuring approximately 10.8m by 6.5m (Fig. 2; MoLA 2017, fig. 4). This revealed one of the rooms of the building marked on the Sale of Particulars map of 1860 (Fig. 17), and the 1st edn OS map of 1865 (MoLA

2017, fig. 14), together with a well and later lean-to structures on the north-east side. The deposit sequence demonstrated that this building had been in existence since at least the later 17th century, leading to its identification as 'the second farmhouse' known to have existed on the site from this time (ibid., 33). Finds of possibly 15th-16th century date from the excavation also hint at an earlier phase of occupation here (ibid., 12), although these may have been introduced when levelling up the site for the construction of the farmhouse.

- 1.4.44 MoLA trenches 5 and 6 were dug in the field north-west of the Great Barn, Trench 5 close to the western edge of the site, Trench 6 further north-east (Fig. 2; MoLA 2014, fig. 2). Excavation only proceeded through the topsoil and into an earlier ploughsoil in Trench 5, bottoming at a depth of 0.2-0.3m. In Trench 6, natural was found at a depth of only 0.3m, and was cut by a post-medieval drainage ditch containing peg tiles of a type manufactured between the 16th and the 19th centuries. This was overlain by a ploughsoil and then by topsoil.
- 1.4.45 In late 2014-2015 OA began the programme of archaeological watching brief required during the HLF-funded restoration of Headstone Manor. The initial watching brief involved monitoring service trenches in the Outer Court, resulting in the recording of trial trenches TP1-12, and upon the excavation of boreholes BH1-12. They revealed a Neolithic polished axe, late medieval/early post-medieval horseshoes as well as wooden drains, flint-and-brick walls, crushed chalk floors and a cobbled yard belonging to the post-medieval farm (OA 2016b).

2 PROJECT AIMS AND METHODOLOGY

2.1 Aims

2.1.1 The general aims of the project were to:

- determine the existence or absence of any archaeological remains;
- determine the approximate date or date range of the remains, by means of artefactual or other evidence;
- determine the approximate extent of the remains;
- determine the condition and state of preservation of the remains;
- determine the degree of complexity of the horizontal and/or vertical stratigraphy present;
- assess the associations and implications of any remains encountered with reference to the historic landscape;
- determine the implications of the remains encountered with reference to economy, status, utility and social activity;
- to determine the likely range, quality and quantity of the artefactual evidence present;
- and, to determine the potential of the site to provide palaeo-environmental and/or economic evidence and the forms in which such evidence may be present.

2.1.2 The specific areas of research highlighted by the Archaeological Mitigation Strategy following consultation with Historic England were as follows:

- To investigate whether medieval occupation was present on the moated platform prior to the early 14th century. This would be potentially very significant. In

particular, any firm evidence for the existence of the putative stone-built precursor to the existing Manor House (Martin and Martin 2001) would contribute to the current knowledge and understanding of the early origins and development of the monument.

- Similarly, previous archaeological excavations in the area of the Small Barn had demonstrated the presence of earlier structures, potentially dating from the 13th century (Tucker 1987). Further evidence for these or other such structures would contribute to the current knowledge and understanding of the early origins and development of the monument.
- The identification of buried medieval soil horizons. These could offer an important opportunity for palaeo-environmental sampling.

2.1.3 As the programme of work was dictated not by archaeological research but by the needs of the restoration programme, it was not possible to pursue these aims in any systematic manner. Nevertheless, these aims indicated the issues of most importance to be considered should archaeological remains be uncovered during the works.

2.1.4 The archaeological mitigation programme included the provision for additional investigation to clarify the character and date of buried archaeological deposits, and to look for alternative routes or options where buried archaeological remains of significance were threatened.

2.1.5 The Specific Aims and Objectives were reviewed as the project progressed and with the agreement of Historic England's inspector, Iain Bright, new aims were added to reflect new discoveries.

2.1.6 When a chalk surface was revealed near to the entrance to the Outer Court in 2015, a number of small trenches were excavated to either side of the proposed line of the heating duct trench, with the aim of establishing its limits and determining whether it was an internal floor.

2.1.7 In 2016 work on the Surface /Roof Drainage Trench revealed a structure consisting of several lines of upright timbers associated with layers of stony soil and larger flints where the trench passed immediately to the south-west of the Small Barn. Here, the Drainage Trench was widened and these timbers and associated deposits were partly excavated and fully recorded in an attempt to characterise and date the structure, and to search for an alternative route to limit damage to the buried archaeological remains. An interim report was produced to assist Historic England in determining the best way to mitigate the proposed impact (OA 2017). A full account of the results is given in section 3 below.

2.1.8 The specific aims relating to the extension to the Surface/Roof Drainage Trench were to:

- further investigate the extent and date of the pond or hollow found in the adjacent Heating Duct Trench I;
- investigate the possibility of further evidence for the medieval structures found below the Small Barn (Tucker 1987), and if found, relate them to the undated stratigraphy found in the Heating Duct Trench I in 2015.

2.2 Methodological standards

2.2.1 All archaeological work and the preparation of this report was conducted in accordance with the agreed mitigation strategy (OA 2016a) and in accordance with local and national planning policies (DCMS 2015).

2.2.2 Fieldwork techniques followed current best practice and accepted professional standards (see OA Fieldwork Manual 1992), and as outlined in:

- Chartered Institute for Archaeologists – Standard and Guidance for archaeological excavation, 2014;
- General Standards for the preparation of Archaeological Archives deposited with the Museum of London, 2009;
- Environmental Archaeology: A guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation, English Heritage 2011 (2nd edn);
- GLAAS Archaeological Guidance Papers 1999;
- Museum of London Archaeology Service site recording manual (MOLA 1994).

2.2.3 Watching brief

2.2.4 The Mitigation Strategy listed the proposed works for 2016-17 as follows:

- i. Land drainage and tree planting in Rear Field
- ii. New Welcome Building
- iii. Culvert down the south-west side of the site
- iv. Trench from the Manor to the centre of the Outer Court
- v. Surface water drainage
- vi. Electrical cable ducts for new lighting
- vii. Trenches for bench, cycle stand and signage
- viii. Bridge support foundations at the west and south-west edges of the Outer Court
- ix. Tree planting north of the Toilet Block

2.2.5 Of these, i and iii, viii and ix did not take place, as these works were deferred.

2.2.6 All excavations subject to archaeological watching brief were carried out by the Principal Contractor Lengard, the programme of works being dictated by their method statement. This phase of work comprised the machine excavation of a series of continuous trenches or the reduction of ground over a wider area for landscaping works.

2.2.7 All the trenches were 0.4-0.6m wide in plan and were excavated down to archaeological deposits (where present) or between 0.4m and 0.9m below the present ground level.

2.2.8 A mini-digger fitted with a toothless bucket was used. Aside from the initial cutting and breaking out of tarmac and concrete of the road/paths, this work was carried out under continuous archaeological supervision.

2.2.9 Turf, topsoil, and the backfill of modern service trenches and other modern deposits were removed by machine in spits no greater than 0.10m deep. All of the revealed archaeological deposits and features were cleaned and investigated in reverse stratigraphic order by hand.

2.2.10 All spoil and upcastings from the excavations were scanned visually for artefacts and ecofacts.

- 2.2.11 All sections and surfaces were cleaned and recorded. Where the section was seen to be the same along the length of the trench a 1m long representative section was drawn.
- 2.2.12 All excavation, both by machine and by hand, was undertaken with a view to avoiding damage to any archaeological features or deposits that might be worthy of preservation *in situ*. If in doubt, the Assistant Inspector for Scheduled Monuments, Iain Bright, was consulted and his recommendations for appropriate mitigation were implemented.

2.3 Additional archaeological works to the south-west of the Small Barn

- 2.3.1 An archaeological watching brief was carried out on the excavation of the Surface/Roof Drainage Trench up to a point just south-west of the Small Barn. Here, removal of tarmac and road sub-base was initially carried out by machine, and any layers below this were excavated by hand by the ground workers under close archaeological supervision.
- 2.3.2 Once the gravel metalling/cobbling layer seen in the rest of the Drainage Trench was reached, this was cleaned by the monitoring archaeologist and was photographed prior to removal.
- 2.3.3 The first of a series of upright timbers was exposed immediately after removal of the gravel metalling/cobbling, so machine excavation was halted, the Assistant Inspector was consulted, and thereafter all excavation was carried out by hand by OA archaeologists.
- 2.3.4 Once a line of five timbers had been exposed (Plate 4), it became clear that more of the structure would need to be exposed to understand its character.
- 2.3.5 Diversion of the Drainage Trench to the south-west was not possible due to the fact that the existing Heating Duct Trench lay immediately adjacent on this side, and the heating duct was at the same depth as the drainage pipe.
- 2.3.6 The trench was therefore widened on the north-east side in an attempt to establish the limits of the structure in this direction, and to see if an alternative route for the drainage pipe could be found avoiding the timbers.
- 2.3.7 The excavation area was determined by a number of factors. These comprised:
- The need to maintain a safe distance from the Small Barn
 - The requirement to go far enough to enable any alternative line to avoid the existing railings and gate;
 - A desire to limit investigation to the minimum required to establish the date and character of the structure, both to preserve archaeological remains *in situ* as far as possible, and to limit costs.

2.4 Recording

- 2.4.1 All observations were undertaken against a unique Event Site Code (HEM14). A continuous unique numbering system was used.
- 2.4.2 All archaeological deposits and features were recorded by means of OA pro-forma recording sheets.
- 2.4.3 A complete drawn record, which incorporated plans and representative sections, was made of the deposits and features uncovered on site. These were drawn at scales of 1:20 for plans and 1:10 for sections.

- 2.4.4 A full photographic record was maintained. The photographic record included photographs of all archaeological features and deposits as encountered and shots to illustrate work in progress.
- 2.4.5 The setting out of the trenches, landscaping and test pits was done by the Principal Contractor following their method statement, and the positions of the trenches and survey points were checked by the OA monitoring archaeologist through discussion and observation.
- 2.4.6 Where possible, the positions of the trenches and interventions were surveyed in by an OA surveyor using a GPS. Where this was not possible they were located using tapes through offsets from known points, ie standing buildings.
- 2.4.7 All levels recorded were taken from known TBMs and recorded as metres above Ordnance Datum (m aOD).
- 2.4.8 Any deposits or remains of archaeological significance were drawn by hand using a temporary site grid, which was then located using GPS, or by tapes and offsetting. All other hand recording was undertaken using at least two datum's points creating a base line from which measurements could be taken. All datum points were located either using tapes in relation to features present on the site plan or by using a GPS.
- 2.4.9 Upon project completion, all drawings were digitised to create closed polygons, polylines or points, and were then geo-referenced to the OS map of the area. This was undertaken following OA Geomatics protocols and so that the project stratigraphic and finds data could be connected using GIS.
- 2.4.10 All plan scans have been numbered according to their plan site number. Digital plans will be given a standard plan number from the site plan index at the time of archiving.
- 2.4.11 Each CAD drawing contained an information layout, which included all the relevant details pertaining to that drawing. Information (metadata) on all other digital files were created and stored in the project folders for archiving.

2.5 Finds collection

- 2.5.1 All collected finds were treated in accordance with the relevant guidance and standards set out in the mitigation strategy (OA 2016a).
- 2.5.2 All of the artefacts from excavated contexts were initially retained, except those from features or deposits of obviously recent date. Some finds from the latter were also retained at the request of Harrow Museum. Where spreads including substantial quantities of ceramic roof tile or brick rubble were found, only a representative sample of the types represented was retained.

2.6 Environmental sampling

- 2.6.1 A strategy for sampling archaeological and environmental deposits was developed in consultation with OA's environmental manager and was set out in the mitigation strategy (OA 2016a). Due to the recent date of many of the exposed deposits, however, few deposits suitable for environmental sampling were found.

3 RESULTS

3.1 Introduction

- 3.1.1 This section summarises the results of the archaeological investigation and integrates these with the finds and environmental evidence.

- 3.1.2 The results of the fieldwork are primarily summarised by investigation location and type (ie service trenches and excavation areas). Where possible related features and remains are linked.
- 3.1.3 Within each trench, the results are presented as a chronological narrative and are illustrated by selected plans and sections.
- 3.1.4 All deposits and features are presented with their extents and thickness/depths in Appendix A.
- 3.1.5 Cross-referenced site records are available in the project archive.

3.2 Surface/Roof Drainage trench within the Outer Court

- 3.2.1 Excavation of the trench for the Surface/Roof Drainage began at its northern end, close to the north-western corner of the Great Barn, and continued south-eastwards towards the Small Barn. South of this, the trench had to be diverted to avoid *in-situ* buried timbers and kinked eastwards around these before resuming its south-east line through the Museum's southern entrance and into the roadway (the northern end of Pinner View). It then extended along the eastern edge of Pinner View, exiting the site at the moat's south-west corner (Figs 2 and 3).
- 3.2.2 It was mostly excavated through the tarmac surface of the present roadway/yard surface, except at its northern end and to the south-west of the Small Barn where it was cut through grass. The drainage trench was approaching 0.35m deep at the northern end but deepened gradually as it ran south, being around 0.9m deep just south of the Small Barn.

Description of the archaeological sequence

- 3.2.3 The archaeological sequence identified in the area between the Great Barn to the Small Barn remained fairly similar throughout. A marked change occurred to the south of the Small Barn. Between the Great Barn and the Small Barn, the natural geology, which consisted of a pale brownish-yellow clay (160/174), was found at a depth of around 0.5m below ground level (BGL).
- 3.2.4 To the west of the Small Barn, the natural clay was mostly covered by a very compact metalling of small pebble gravel (Plate 1). This consisted of two phases, layer 173 being overlain towards the north-west end by a more uneven pebble gravel surface (156). The metalled pebble surface, which did not contain any finds, was seen during OA's monitoring of the Heating Duct Trench I in 2015 when it was interpreted as a 19th-century cobbling of the yard (OA 2016b: contexts 104, 105, 108, 113-117, 127 and 94). Outside the south-west corner of the Great Barn a hollow or soft spot had been filled in with a patch of rammed crushed chalk and rough hewn nodules of flints (157).
- 3.2.5 For most of the length of the trench north of the Small Barn, this metalled surface was covered by 158, a thin layer of grey clay and gravel (Fig. 12, Section 39/40). This deposit, which contained fragments of coal, charcoal and fragments of 18th/19th-century roof tile, represented a probable trample layer, and was covered by a layer of crushed red bricks (155). This brick rubble deposit contained a variety of bricks of different sizes, and included half bats, whole bricks and fragments (Plate 2). Some bricks were frogged and others unfrogged, while many had mortar attached. In some areas, lenses of mortar were mixed in with the bricks. The bricks have been spot-dated to the 18th/19th centuries. Their character suggests that the bricks were almost certainly derived from demolition rather than builders/kiln waste. This deposit was seen

along the whole trench and had also been found during the watching brief in 2015 (OA 2016b). The upper surface of 155 was too uneven to have served as a working surface, which supports the theory that it was laid down as a sub-base for the present tarmac-covered yard.

- 3.2.6 Closer to the Small Barn, metalling 173 was covered by a deposit of rammed crushed chalk (163) that did not produce any finds (Fig. 5; Plate 3; Fig. 12, Section 39/40). This deposit, which was seen over a distance of 4m, was the same as the chalk surface observed during the excavation of the Heating Duct Trench I and Test Pit 4 in 2015, when it was interpreted as being either a floor or an external surface (OA 2016b: context 55). It may also have continued north-eastwards where chalk layer 76 was found in Test Pit 6 (Fig. 5). Chalk layer 163 was overlapped at the north-west edge by the second cobbled metalling layer (156).
- 3.2.7 South-east of chalk layer 163, pebble metalling 173 continued for a further 2m to the point where the gate to the Outer Court now stands, where it abutted a clay and pebble gravel layer of similar thickness (181) sitting directly upon the natural clay (Fig. 12, Section 43). This deposit was overlain by a more compact pebble gravel and clay (layer 180). These two deposits made up the cobbled surface outside the Outer Court continuing to the south-east. The change from 173 to 181 may indicate that the road up to the Outer Court was cobbled earlier than the Outer Court, but alternatively may indicate that different loads of material were used to create the cobbled surfacing of the road and courtyard. No datable finds were recovered from 181 or 180.

3.3 Excavation for diversion of the Surface Drainage trench and Signage trench south of the Small Barn

- 3.3.1 Just beyond the south-west corner of the Small Barn, the natural (174) was cut by several deep features and the archaeological sequence became more complicated (Fig. 5; Fig. 12, Sections 41 and 43). The discovery of a series of timber uprights along the line of the proposed trench led to a small open-area excavation designed to establish their date and purpose, and, if they should prove to be significant, to find an alternative route for the trench that would leave them *in situ*. This resulted in the re-routing of the Surface Drainage Trench with a dog-leg to the north-east to avoid them.
- 3.3.2 The resulting area of the excavation was sub-trapezoidal, c 5m long from north-west to south-east and c 2.5m wide at the north-west end, tapering to just over 1m across at the south-east end (Fig. 6). The final shape in plan resulted from several stages of work, the original trench stopping when the first timbers were found, then the excavation area being opened, and this then being extended at the north corner when a flint structure was found, and the diverted drainage trench cutting obliquely across the corner between the original trench and the extended. This explains the position and orientation of sections 41, 45 and 52.
- 3.3.3 The excavation was carried out over the winter months, and the water table was high. This limited the extent to which hand-excavation was possible, even using a pump, with the result that the excavation did not reach the base of the stratigraphic sequence. The sequence of deposits was complex, and matching deposits across the area was hindered both by later cuts and the several stages in which work was carried out. To summarise, an extensive cut into the natural (184) appears to have been crossed by a bank revetted with timbers, and other timbers were found driven into the sloping sides along the north-west edge of the channel. North-west of the bank the upper part of the cut was filled with a series of deposits containing ceramic building material and other

inclusions suggesting deliberate backfill. South-west of the bank the same may have occurred, but only a small area of the deposits on this side was seen. A more detailed narrative is given below.

- 3.3.4 The natural yellow clay 174 was cut by feature 184 close to the north-west edge of the extended trench (Fig. 6; Fig. 13, Section 41). The cut sloped down gently at first, and then became steeper, continuing below the base of the trench, at which point it was 0.36m deep. Natural clay was also observed along the edge of the trench further north-east, close to timber 256, and here it was also found to be cut by 184 (Fig. 13, Section 45).
- 3.3.5 Against the edge of cut 184 was a mottled greyish-yellow and blue-grey clay containing flint nodules (182). This deposit, which continued below the base of the excavation, surrounded and abutted upright timbers 165 and 166 (Fig. 13, Section 41), but appeared to be cut immediately south of timber 165 by 185 (Fig. 13, Section 51). No finds came from this layer.

The revetted bank

- 3.3.6 Timbers 165 and 166 were two of a series of timber uprights, mostly square or rectangular in cross-section and ranging from 0.1-0.2m across (Fig. 6). There were also four smaller roundwood timbers (222-4 and 226). In plan, the whole group appeared to form a rectilinear arrangement on NNE and WSW alignments.
- 3.3.7 Timbers 165, 167, 202 and 203 were substantial timbers forming a line 3.2m long on a WNW-ESE alignment, spaced at c 0.65-1.0m intervals. They were not vertical, but sloped down at a steep angle to the WSW, continuing below the base of the excavation (Fig. 13, Section 51/90; Plate 5). Timber 202 was sampled for wood species ID, and proved to be oak. These timbers did not appear to be linked by any horizontal timbers.
- 3.3.8 In contrast to sloping timber 165, which was only exposed for a depth of 0.64m, timber 166 was vertical, and was exposed to its full depth (Fig. 13, Section 51/90; Plate 7). It survived to 1.15m long, the bottom 0.6m being within the natural clay 174. There was no trace of a wider cut or packing around the timber in the natural, but although the timber appeared to taper slightly towards the base, it was not pointed, and it is probable that it was placed into a posthole, and was not a stake. Above the natural, timber 166 appeared to sit within fill 290 of posthole 289, which was cut through 182 and overlying fills 183 and 169 (Fig. 13, Section 41). However, further excavation showed that fill 182 abutted the timber on its northern side (see Fig. 13, Section 51/90). Had 166 been cut directly through 169, the depth of the posthole would have been more than 1m, and it seems more likely that timber 166 was knocked and shifted at some point, creating a void that then filled with layer 290.
- 3.3.9 Another line of timber uprights was uncovered c 0.8m to the north-east of timber 165, this time aligned north-west to south-east. This consisted of two timbers of rectangular cross-section, 209 and 225, next to plank 217, which was at least 2.3m long and 0.2m wide (Fig. 6). The upright timbers were smaller than the 165-203 group, but still substantial, being 0.12m and 0.14m across. As with the 165-203 group of timbers, the uprights were not vertical, but sloped down at a steep angle (as did plank 217) to the NNE. The soils south-west of this plank were different to those north-east of it, suggesting that it formed a revetment, the upright timbers being driven in to prevent it from tipping over.

- 3.3.10 Between the two lines of timbers and plank 217 was a deposit of compact blocks of chalk with occasional brick fragments (291), which was only investigated at the north-west end (Fig. 6; Plates 5 and 6). Deposit 291 was abutted by layer 182 on the western and south-western sides. This was interpreted as belonging to a bank revetted by the wooden plank and the lines of driven timber uprights on both sides. Two-thirds of a brick of 16th or early 17th century date was recovered from the top of layer 291.
- 3.3.11 At the north-west end, 182 was overlain by a dark grey gravel make-up layer 183 (Fig. 13, Section 41), and at the north-west end it was topped with a thin layer of mixed crushed chalk and clay 169 (Fig. 13, Section 41). This possible surface was confined to a very small area, being cut by oval pit 178 to the north-west. No finds were recovered from this layer.
- 3.3.12 Pit 178 was 1.22m wide with steep and vertical sides that continued below the base of the trench (Fig. 6; Fig. 13 section 41). It extended eastwards to timber 209 and probably truncated plank 217. The pit had a single fill (177) of a coarse and browner gravel with clay and very frequent peg tile. The retained samples of peg tile were of late medieval (13th-15th century) character. At the eastern end of this feature, a further upright timber was revealed in the section, and is numbered 288 (Fig. 13, Section 41). This was not investigated further, and was not recovered when the drainage trench was diverted.
- 3.3.13 The northern part of fill 177 was overlain by gravel 181, whose south-east limit in section (Fig. 13, Section 41) lay only halfway across the pit, but was probably the same as a thin compact layer of gravel (238) overlying 177 further east (Fig. 13, Section 45). This layer extended beyond the pit edge to the north-east, where it overlay the natural clay and stopped at the edge of cut 184. South-east of 238, chalk bank 291 was overlain by layer 235, a black clay-and-gravel layer with occasional tile and brick fragments, which also overlay layer 182 on the south-west. One brick end is dated to the 16th or 17th century. It too abutted plank 217 on the north-east, surrounded post 167, and stopped at the edge of feature 185 SSW of the posts. Layers 235 and 238 appear to have been laid down together, neither underlying the other.
- 3.3.14 Adjacent to Heating Duct Trench 1 (dug in 2015) the south-western sloping edge of the bank was initially numbered as 'cut' 185 (Plate 5). Against 'cut 185' the bank was abutted by a succession of brownish-grey gravelly fills, but the excavation did not reach the base. The lowest of the exposed fills was a very compact fill in a clay matrix, layer 294, which was at least 0.3m deep (Fig. 13, section 51/90). Layer 294 is equivalent to layer 135 seen during work on the Heating Duct Trench in 2015 (OA 2016b). Deposit 294 was overlain by 172 and then 234, greyish brown gravelly silts with an organic component including frequent wood fragments. 172 had larger pebbles and was more compact, but this was probably simply due to the settling of the larger pebbles within a single deposit. Layer 234 was sampled for environmental assessment, the sample <3> providing an assemblage of waterlogged seeds very similar to those from layer 114 found further to the north-west in 2015 (OA 2016b, 3.4.6-8; Meen below), although these did not belong to the same feature (see Discussion and Fig. 19). There were no finds from the deposits in 'cut' 185, nor were any found in deposits 135 and 134 in the 2015 Heating Duct trench.
- 3.3.15 North-east of plank 217, ie beyond the probable bank, was a series of layers sloping downwards towards the north-east. These were originally believed to be the fills of a ditch numbered 205, before it was realised that these fills were abutting the sloping side

of the bank. The lowest of these, which was only exposed in the base of the excavation in the centre on the north-east side, was 237, and was a soft, coarse grey sand and clay with occasional flint nodules and specks of mortar or chalk (Fig. 6; Plate 8). This contained ceramic building material (CBM) of 18th-early 19th century manufacture, and bricks were also seen (Fig. 6), though not recovered.

- 3.3.16 Layer 237 was overlain by layer 216 (also not in section), which was only exposed in the south-western half of the area north-east of plank 217. This was a sandy flint gravel of a mixed light-to-mid grey and yellowish grey colour, incorporating CBM. It surrounded a line of probable stakes (222-224 and 226) and a couple of other pieces of wood (Fig. 6; Plates 8 and 9).
- 3.3.17 The line of stakes ran roughly parallel to sloping uprights 167, 202 and 203, and at the same distance as that between 165 and timber 209. Uprights 222, 223 and 224 were between 0.03m and 0.07m across, but 226 was a squared timber measuring 100mmx 70mm. These were perhaps stakes, although none was bottomed. The only one of these timbers to be exposed to any depth, 222, was steeply angled rather than upright, suggesting that this was another revetting element of the bank. Upright 224 at the south-east end lies beyond the line of the larger squared uprights, perhaps indicating that further timbers lie below the base of the excavation here.
- 3.3.18 Short lengths of plank or round wood (219 and 221) ran roughly parallel to the line of small uprights on the north-east side. These timbers lay within layer 216. They did not appear to form any structural purpose, but may have fallen from the structure. Layer 216 appeared to abut the stakes, and no excavation was carried out below this to establish their relationship to layer 237 or to bank deposits 182 or 291. It is suggested that the stakes were earlier, but that the structure had decayed and the bank had begun to erode by the time 216 was deposited, allowing this layer to spread beyond the stakes into the edge of the bank.
- 3.3.19 Layer 216 contained a horseshoe of 18th century or later date and a fair assemblage of peg tile fragments, some large and fresh, as well as individual worn brick and quarry tile fragments. Most dated to the late 17th or 18th century, with a few pieces of 18th-early 19th-century manufacture.
- 3.3.20 North-east of plank 217, layer 216 was overlain by a layer of black clay and gravel 236, which contained peg tile fragments manufactured between the 17th and the early 19th centuries. This layer continued beyond the north-east limit of excavation, and to the north it abutted another wooden upright 227/256, which lay north-east of 209 at a similar distance to that between 209 and uprights 165 and 166 (Fig. 6; Plate 10). When first exposed, the decayed top of the post was numbered 227, and was given a cut number 220, but lower down the post was well-preserved, and was renumbered 256. Its upper part lay within the sloping cut of 184, but lower down on the north side was cut into the natural clay 174.
- 3.3.21 When the drainage trench was diverted (Plate 11), it exposed the full depth of upright 256, which proved to be a roundwood timber with a sawn flat base surviving 0.74m long and 0.25m in diameter. This timber was submitted for dendrochronological dating, and yielded a felling date of winter 1709/10.
- 3.3.22 In the northern corner of the trench, layer 236 was overlain by a structure of flint blocks 218, and the spread of tiles on which it sat also overlay part of timber 256 (Fig. 6; Fig. 13, Sections 45 and 46; Plate 10). Among the flint blocks was a brick fragment, which is dated to the 16th-17th century. The flint blocks of 218 also rested upon the thin gravel

238=181, and were abutted by layer 180. This was a thin gravel and clay layer, which thickened to the north-west and also overlay pit fill 177 and gravel 181=238 (Fig. 13, Sections 41 and 45). Layer 180 was the compact pebble and gravel surface that extended further north-west into the Outer Court, and is described in section 3.2.8 above. It contained occasional small, undatable fragments of CBM. To the south-east it overlay layer 169 at the north-west end of the bank, and a localised spread of brick rubble and mortar 171=212, which also overlay fill 234 of cut 185, and surrounded the tops of timbers 165, 166 and 167 (Fig. 13, Section 41). The brick fragments in 171=212 were of 17th-18th century date. Gravel 180 was bounded on the north-east by plank 217 (already excavated prior to drawing of section 51/90).

- 3.3.23 Over 180, and level with the top of the majority of the flint blocks of 218, was a dark grey clay and gravel layer 179 (Fig. 13 sections 41 and 45). These deposits appear to represent a further phase of dumping and levelling above the bank and the infilling of 184 on either side.

The diverted Surface Drainage trench

- 3.3.24 The excavation of the diverted Surface Drainage Trench c 2m east of the trapezoidal excavation area provided a narrow long section right across the feature whose north-west edge was cut 184, and within which the timbers and deposits described above were contained (Fig. 7; Fig. 14 Section 52). This feature proved to be 12m across, and the south-eastern edge (328) was, like 184, a sloping cut. Cut 328 was only 0.4m deep and had a flat base; the base of cut 184 was not found at a depth of around 0.7m.
- 3.3.25 On the north-west cut 184 was filled with layers 321, described as redeposited yellow and grey natural clay, 236 and then 308; a lump of chalk obscured the junction between 308 and 327, but 327 must have continued beneath 308 below the bottom of the section. To the south-east, cut 328 was also filled by clay layer 321 overlain by gravel 322. All of these fills contained 18th-19th century roof tiles.
- 3.3.26 On the south side fill 322 was overlain by layer 323, which overlay cut 328 and continued southwards beyond it. On the north-west layer 307 overlay fills 236 and 308, and was probably contemporary with flint structure 218 and the layers abutting it, but was truncated by a modern feature, so no relationship with these was established (Fig. Section 52). No finds were recovered from 323, but tiles in layer 307 were dated to the late 18th century or later.
- 3.3.27 Cut 184-238 was truncated by a 6.5m-wide, vertical-sided feature (cut 309), which cut through layers 307 and 323 and the layers beneath them (Fig. 14, Section 52). Fill 237 was visible beneath the flat base of cut 309 for the north-westernmost 4.5m, but was rising at the south-eastern end, and here 309 cut into the natural (174). The fact that layer 321 was present at both edges of the cut, however, makes it clear that, when this layer was deposited, 184-328 was one feature. As 321 was the bottom fill of 328, it is possible that cut 184, which was substantially deeper, was originally narrower.
- 3.3.28 The bottom of cut 309 was filled by 310 on the north-west and fill 318 on the south-east. These were probably equivalent, but were cut through by a modern pipe trench that had removed their relationship. Layer 318 was overlain by a series of fills: 316 on the south-east overlapped by 315, and 315 by layer 313, which also overlay 310 north-west of the pipe trench. This petered out before the north edge of 309, 310 here being overlain by a thin layer numbered 311. South-east of the pipe, trench layers 313, 315

and 316 were all sealed by layer 317, the uppermost fill here, but 317 was not observed north of the pipe trench. Layer 316 contained tile of 18th or 19th century date.

- 3.3.29 Cut 309 and its fills were not observed within the excavation area, so this feature must have ended in the area between the excavation and the diverted trench. It is possible that the dip in overlying layer 214 seen in section 46 (Fig. 13) represented the very edge of the cut. Unfortunately, only the north-east side of the diverted trench was drawn, so further information is not available.
- 3.3.30 Along the north edge of the excavation area, layer 236 was overlain by layer 214, another dumped layer of dark brown silty clay with occasional gravel and a mixture of flint lumps, fragmented building material and chalk (Fig. 13 section 46; Plate 9). Peg tiles from this deposit were of 17th-19th century manufacture, most probably dating to the late 17th-18th centuries. This layer abutted the upper course of flint structure 218 on its north-east side. Flints only survived on the east edge of stonework 218 at this level, the remainder of the structure having been removed by the edge of cut 210 (Fig. 13 section 45). Section 45 gives a false impression of the relationships of 214 and 204 above it to structure 218, because it turned at the east edge of 218 and ran north obliquely along it.
- 3.3.31 Both 214 and 180 abutting 218 were interrupted by a localised intrusion filled by a patch of layer 228, which contained a residual brick waster of probable 17th-18th century date and a potsherd of late 18th-19th century date.
- 3.3.32 Layers 214 and 228 were overlain by layer 213 (Fig. 6; not in section), a mixed light grey and red gravel in a matrix of sandy silt containing fragments of building material and flints (Plate 12). This layer was compact, and formed a hard surface, in which only the tops of some of the squared timbers were still visible. At the south-eastern end of the excavation area, two horizontal timbers were found in this layer (Fig. 6), one (286) a thin, round wood timber similar to 225, the other (287) a more substantial timber, though too decayed to determine whether it had been squared. These may be the remains of further uprights of the earlier timber structure, uprooted or disturbed at some point.
- 3.3.33 In layer 213 the peg tile and quarry tile fragments were of 17th to early 19th century date, and were worn, but there were also numerous worn brick fragments of late 18th or 19th century type.
- 3.3.34 Layer 213 was in turn overlain by layer 204, a compacted layer of pebbles in a matrix of sandy silt, mottled light greyish blue and red, and containing a sherd of 18th-19th century Chinese porcelain (Plate 10). This, like 213 below it, is probably part of the same metallised surface as layer 170 (Fig. 13, Sections 41 and 45), and may be equivalent to the cobbling/metalling seen across the Outer Court to the north-west (OA 2016b).
- 3.3.35 Like the layers below it, this layer sloped down eastwards, and here it was overlain by a light brownish-grey sandy silt 206, which contained occasional pebbles and finds. The finds were mainly peg tile fragments of 17th-19th century date, but also included fragments of stoneware ink bottle and bone china of 19th century date, and a machine-made peg-tile fragment manufactured in the late 19th or 20th century.
- 3.3.36 Pit 210 was cut into layers 204 and 170 (Fig. 13, Section 45). This had a bowl profile and was 0.85m across and 0.25m deep. The lower fill was 293, a light yellowish-brown silty sand and gravel, the upper fill (211) was a dark sandy silt with much fragmented

CBM, which included one residual 16th-century brick and peg tiles of 17th-19th-century manufacture.

- 3.3.37 Along the western edge of the site, layer 170 was overlain by a layer of crushed brick and tile fragments 168. This was probably a levelling layer, and was overlain by make-up 154 for the modern tarmac road (Fig. 13, Sections 41 and 45). Further east, layer 206 was overlain by layer 292, a dark grey silty gravel containing frequent flint pebbles. This was another metalled surface of fairly recent date, probably associated with the Small Barn, and this too was overlain by modern deposits.
- 3.3.38 South-east of feature 309, layer 323 was cut by a V-profiled rubbish pit (319), whose single fill 320 contained glass bottles dating from the 20th century (Fig. 14, Section 52). There was also pottery and a spoon, together dated between 1860 and 1925, suggesting that the fill belonged to the first quarter or half of the 20th century.

Signage trench south of Small Barn

- 3.3.39 Subsequently, a small trench was dug for the foundations for new Signage 1.5m north-east of the drainage excavation and only 0.3m from the Small Barn (see Fig. 7; Plate 13). The trench measured 1.4m long and 0.6m wide, and was dug to a depth of up to 0.6m (Figs 3 and 7).
- 3.3.40 This trench did not reach the natural. The photographs show that there was a difference in the character of the fills in the north-west side of the trench, ie closest to the Small Barn, to those in the rest of the trench. It appears that cut 185 must have run along the very edge of the trench. The exposed lower fills were sloping down from north-west to south-east. The lowest deposit exposed was 702, a friable greenish-grey and orangey-brown mottled clay containing occasional fragments of roof tile, which was not bottomed. This may be equivalent to layer 307 in cut 184 just to the south-east (Fig. 14, Section 52).
- 3.3.41 It was overlaid by layer 701, a dark grey silty clay containing ash and gravel, very frequent fragments of roof tile and occasional sherds of transfer-printed whiteware dating to the later 19th century. Samples of the tile were dated to the 16th-17th centuries, so were clearly residual. Layer 701 was overlain by topsoil 704, which was 0.2m deep.

3.4 Lighting Cable Trench VII and levelling south of Small Barn

- 3.4.1 Lighting Trench VII was 0.4m wide and was up to 0.45m deep. It began just south of the north-east corner of the Small Barn and extended south-west for 8m before turning south-eastwards to a manhole on the eastern edge of Pinner View (Figs 7 and 8). It was excavated entirely into an area which was formerly grassed over, and passed through the area investigated by the MoLA community excavation in 2014.
- 3.4.2 No record was made of the deposits of the northern arm of this trench, as it was shallow, and only cut through garden soil or modern crushed hardcore. The length running south-eastwards was however deeper, and proved to contain a large feature overlain by a brick-built structure.

Description of the archaeological sequence

- 3.4.3 The natural geology here was a stiff orange clay (578) encountered at a depth of 0.25m BGL. It was only seen in the southern part of the trench, where it rose to a height of 52.60m aOD.

- 3.4.4 Natural 578 was cut to the north by feature 572, which was at least 7.6m wide, with gradually sloping sides; this was not bottomed, but it was at least 0.5m deep (Fig. 15, Section 84). The northern edge of this feature lay beyond the trench end, less than 3m from the current Small Barn. Fills 571, an orange-brown clay with much ash, charcoal and burnt stones, overlain by 583, a mottled fine sandy clay, lay on the southern edge and sloped down from south to north. Sloping from north to south were 569, a stiff mottled clay overlain by 567, a blackish silty clay with much ash, charcoal and occasional pebbles, both overlain by 568, a more friable greenish-grey clay with frequent red roof tile fragments and occasional brick fragments. The brick and tile fragments from the upper layers were of types manufactured from the 17th-19th centuries. This was probably a continuation of features 184/328/309, which were partly excavated c 3 m to the west (see 3.2.11-12 and 3.2.32-4 above).
- 3.4.5 Constructed over the top of feature 572 was a brick-built structure measuring 6.8m from north to south, and of unknown width (Fig. 7; Plate 14). The walls were built of unfrogged red bricks measuring 240mm x 100mm x 70mm thick, bonded in a soft white coarse sandy mortar. None were retained for examination, but bricks of this thickness are of 19th or even 20th century date. The building's northern and southern east-west walls (respectively 575 and 574) were all laid on bed but the bricks of the building's western wall (573) were laid on edge. Both walls 574 and 575 were 0.9m wide, and only one and three courses of bricks respectively were exposed (Fig. 15, Section 84). In both cases the bricks were laid as headers (ie at right angles to the line of the walls), as were those of the west wall, but only the length of a single line of bricks was exposed, so the full width of the west wall was not established.
- 3.4.6 South of the building the natural was overlain by layer 582, a greyish-brown clay 0.2m thick without inclusions (Fig. 15, Section 84). As layer 582 was only seen outside the southern wall of a brick building here, this probably represents a garden soil that had truncated the natural.
- 3.4.7 The robber trench cuts of the north, south and west walls (respectively 577, 584 and 580) cut through the fills of 572, and through layer 582 into the natural on the south. Their fills (576, 581 and 579) were grey or grey-brown sandy or gravelly coarse clays with much broken brick. None of the bricks were retained. The MoLA excavation in this area was not deep enough to have exposed the robber trenches of the building, so its extent to the north-east is unknown.
- 3.4.8 Overlying the fill of the northern robber trench, and spreading across the interior up to the edge of the robbing of the south wall, was layer 570, a stiff grey clay with occasional red brick and roof tile fragments. This lay directly beneath a layer of modern crush. The grey clay with brick and tile was presumably the base for the pétanque court discovered by MoLA in 2014, as it matches the description of the surface they found. The modern crush was presumably the surface of the court.
- 3.4.9 No deposits of archaeological interest were revealed in the trench continuing north-east, as this was too shallow to reach the layers below recent garden soil and make up.

Structures below and just outside the Small Barn

- 3.4.10 Three lengths of brick footings of the Small Barn were revealed during subsequent levelling works for the new landscaped garden south of the Small Barn. These were numbered 591, 592 and 593 from north-east to south-west (Fig. 8). Footings 591 and 592 lay within the north-eastern end of the barn, in Tucker's Area 3 (Tucker 1987, fig.

2), and 593 the whole length of Area 2 and continuing halfway along Area 1. These were all constructed of unfrogged bricks, 60mm thick—some were complete (230mm x 100mm) and some were half-bricks. These were all laid as headers, ie at right angles to the line of the barn wall, and were not mortared, although their upper surfaces had a thin layer of white lime mortar on their upper surface, so may have been reused. Footing 592 corresponds to the gap in the timber sills shown on Tucker's Phase 6 plan (Tucker 1987, fig. 2), opposite a similar gap in the north-west wall which is now the only entrance to the north-east part of the barn.

- 3.4.11 In the gap between 591 and 592, traces of earlier structures were visible in section (Fig. 8; Plates 15 and 16). The earliest of these was a flint and chalk structure 587, of which two courses were revealed in section. The flint structure was possibly part of the south-eastern edge of Tucker's feature 6, a flint foundation extending below the brick foundations and running both parallel and at right angles to the line of the existing Small Barn (Fig. 8, following Tucker 1987, fig. 2, Phase 3).
- 3.4.12 Extending south-eastwards from 587 for 1.6m was a narrow brick wall, the north-east side of structure 586 (Fig. 8; Plates 15 and 16). The wall was built of two contiguous lines of stretchers, using a mix of whole and half bats, all with shallow frogs, and all lain on bed. Close to the north-western end, there was a gap in this course of brick with a header below it, and half of two stretchers visible extending below the top course of stretchers under the Small Barn. Elsewhere, however, only one course of bricks was exposed throughout the structure. At the south-eastern end, this wall abutted the south-east wall returning south-westwards, which consisted of a single course of headers laid on bed, flat-side-up. This wall survived 1.35m long, but was then truncated by a later concrete-edged cut of recent date. In neither wall was there any trace of mortar between the bricks.
- 3.4.13 The area contained by these two walls was c 1.3m x 1.2m, and was filled by 589, a loose brown silty clay with frequent CBM fragments, pebbles and occasional flints, which was not excavated. Outside the walls was a band of dark grey clayey silt 594 with frequent charcoal flecks, 0.35m wide and 0.25m wide along the north-east and south-east sides respectively. This was tentatively interpreted as the fill of a construction cut for 586, numbered 595. It was not, however, possible to excavate this putative feature, and the cut was not seen in the edge of Lighting Trench VII. No certain relationship between 586 and the Small Barn was identified, but the frogged bricks used in its walls indicate a 19th century or later date.
- 3.4.14 In section, wall 587 was abutted on the eastern side and also overlain by, a layer of rammed chalk 590 about 8mm thick (Fig. 8). Layer 590 incorporated a number of brick fragments within it, but just south of footing 591 the surface of the chalk was lower, and here it was very flat and compact.
- 3.4.15 The patch of lower flat chalk corresponds to the projected line of an open brick drain (F12) found by Tucker crossing the interior of the Small Barn, which dated to the 17th century or later (his Phase 4; Fig. 8). Drain F12 consisted of a single layer of bricks laid side-by-side on bed to form the base, topped by a line of bricks laid end-to-end along either side to form the sides. The bricks were not mortared together, and on the south-east side the bricks of the base had a single layer of roof-tiles beneath them, interpreted as included raise the base of the drain to help reduce the fall. In the case of the south-western side, the bricks forming the side sat mostly on soil rather than overlapping the bricks forming the base of the drain. (ibid., fig. 3). The drain within the

Small Barn was later infilled and overlain by a layer of clay (15), covered in turn by a floor of silty clay and coarse gravel, which Tucker numbered (16), and which contained a 19th century clay pipe.

- 3.4.16 Tucker makes no mention of a chalk bed for the drain, so the level area of chalk was simply part of layer 590, laid following the removal of the drain as a general levelling and surfacing layer at a later date. This probably corresponds to chalk mentioned by Tucker overlying layer 16 in the south-east part of Area 3 within the Small Barn (ibid., 155).
- 3.4.17 Outside the Small Barn, five bricks were found laid side-by-side in a line running north-south, and were numbered structure 588 (Fig. 8; Plates 15 and 16). These were probably a continuation of the base of drain 12, the sides having been removed by truncation. It would appear that the drain was robbed out where it passed under the barn wall; the brick fragments incorporated into chalk layer 590 may represent the remnants of the destroyed drain.
- 3.4.18 Bricks 588 partly overlay layer 594 against the outer edge of structure 586, and the line of bricks stopped just short of its north-east wall. Stratigraphically, it would appear that 588 post-dated structure 586, but did not continue across it, so the drain would then have debouched against the wall of structure 586. This seems inherently unlikely, and it is alternatively possible that the drain was truncated by the construction of structure 586 after it had gone out of use in the late 18th/early 19th century, and that layer 594 was earlier than, and cut by, the construction of brick structure 586. The use of frogged bricks in 586 shows that this was built no earlier than the mid-19th century.
- 3.4.19 Structure 586 almost certainly represents a later 19th-century porch erected outside the entrance to the Small Barn. Such a structure is visible on the 1865 OS map (Clarke 2000, 159, map c), and possibly on the 1911 Sale particulars (ibid., 159 map d). It was possibly only demolished when the barn was reconstructed after the fire in the 1970s without an entrance at this point.

3.5 Heating Duct III / Surface/Roof Drainage Trench to Welcome Building

- 3.5.1 This combined service trench extended south from the Heating Duct and Surface/Roof Drainage Trench manholes in Pinner View, south-east of the scheduled monument. At the western side of the road the two trenches diverged, with the Heating Duct extending SE to the NE corner of the Welcome Building (Moat Café) and the Drainage Trench westward to its NW corner (Fig. 2).
- 3.5.2 At its north-eastern end, the trench was 0.7m deep, gradually sloping up towards the Welcome Building where they were only 0.4m deep. This trench was cut through the tarmac of the present road or into land that was formerly under rough vegetation.

Description of the archaeological sequence

- 3.5.3 No archaeological features or structures were uncovered in this trench. Beneath the roadway, the natural geology, a brownish yellow mottled clay (341), was found at a depth of 0.5m BGL. This was overlain by the gravel make-up of a former road (359). This lay beneath the sub base of the present road. To the west of the road, the two trenches cut through the made ground/levelling deposits that were seen in Evaluation Test Pits 13 and 14 (146) and at the southern end of Electric Trench II.

3.6 Evaluation Test Trenches 13 and 14 (Welcome Building)

- 3.6.1 These were excavated at the north-western and south-eastern ends of the site of the proposed Welcome Building (Moat Café) (Fig. 2). The trenches measured 5m long and between 0.4m and 0.5m deep.

Description of the archaeological sequence

- 3.6.2 No archaeological features or structures were uncovered in these trenches. The natural geology here was a firm yellowish brown silty clay (149). In Trench 14, the natural was covered by a reworked natural silty clay (152). This deposit was overlain by a brownish grey silty clay (151) which was interpreted as the remains of a buried topsoil. This was in turn covered by a levelling layer (145) of yellow brown sandy silty clay which contained fragments of concrete and cobbles. In Trench 13, the natural clay was covered by an *in-situ* subsoil (148) which lay beneath a buried topsoil (147=151). This was in turn sealed by the recent levelling (145) and the present topsoil.

3.7 Welcome Building (Landscaping and Tree-Removal)

- 3.7.1 An area around the north-west, west and north-east of the Welcome Building was stripped of topsoil and any existing shrubs and small trees prior to construction (Fig. 2). This was monitored archaeologically, but did not reach archaeological levels, and nothing of interest was seen.

3.8 Foul Drainage

- 3.8.1 Excavation of the trench for the Foul Drainage began outside the eastern end of the Recreation Ground's public toilet, west of the Welcome Building, and extended north-west and then westwards c.2m to the north of the toilet block for a distance of 12m (Fig. 2). The trench was excavated through grass, and was 0.45m deep and 0.45m wide.

Description of the archaeological sequence

- 3.8.2 No archaeological features or structures were uncovered in this trench and the sequence of layers found were similar throughout the length of the trench.
- 3.8.3 The natural yellow-brown clay lay at a depth of around 0.4m BGL. This was overlain by 325, a 0.3-0.35m-thick layer of yellow clay, which was mottled pink and contained occasional flint nodules but no finds. This levelling deposit was seen along the whole length of the trench and lay directly below the present topsoil (324).

3.9 Electric Cable Trench II

- 3.9.1 This trench was 0.4m wide and was up to 0.6m deep. It extended SSE from the Surface/Roof Drainage Trench at the gateway that marks the Museum's southern entrance across the road (Pinner View) to the north-east side of the Welcome Building (Figs 2, 3 and 5).
- 3.9.2 The northern part was cut into the tarmac surface of the present road, the southern part into an area previously covered in bushes and shrubs.

Description of the archaeological sequence

- 3.9.3 The natural geology of stiff yellow clay (341) was seen at a depth of 0.45m BGL (52m aOD) at either end of the trench, and over a small length 5-6m from the north end. Six metres from the northern end of the trench, the natural geology was cut by the construction trench 349 for wall 338, which was aligned roughly north-east to south-west. It was built of flint nodules and red unfrosted bricks dating to the late 18th-19th

centuries that were bonded with a white, sandy lime mortar (Figs 3 and 5; Fig. 15 section 57; Plate 17). This wall was 0.5m wide but only its uppermost surviving course was seen. There was a narrow gap between the wall and the construction cut on the north side, which was filled with 348, a brown clay with flecks of white mortar (Fig. 15, Section 57).

- 3.9.4 The wall was roughly aligned with wall 98 found to the south-west in Test Pit 12 excavated in 2015 (OA 2016b; Fig. 5). The walls were of a similar construction, though wall 98 was slightly wider, and they probably parts of the same structure as they correspond with the position of the south-eastern wall of a barn shown on historic maps in 1860 (see Figs 4 and 17).
- 3.9.5 About 0.25m north of wall 338, the natural geology was cut by a 3.8m-wide feature (350) that aligned north-east/south-west. The base of this feature was not reached but it was in excess of 0.15m deep and its sides sloped gently downwards (Fig. 15, Section 57). The lowest exposed fill within this cut was 346, a dark grey clay without inclusions or finds, which was seen intermittently across the whole width of 350. The shallow and uneven hollow in the top of feature 350 was filled by a succession of deposits dumped progressively from south-east to north-west. The first of these was 347 followed by 342. Layer 347 was a light blueish-grey clay, while 342 was a dark grey clay containing fragments of roof tile dated to the 16th-18th centuries. Layer 347 extended southwards beyond the edge of cut 350 over the natural clay, and overlay the construction cut 349 and its fill 348, indicating that this final infilling occurred after wall 338 had been built. Fill 347 was cut by robber trench 360, so clearly related to the interior of the building.
- 3.9.6 Layer 342 was abutted and overlain by 351, an accumulation of deposits of rammed, crushed chalk interspersed with horizontal layers or lenses of greyish-brown and greenish-grey sand (Fig. 15, Section 57; Plate 17). This deposit extended for 3.8m along the trench, and was 0.3m thick. At the north-western end, this accumulation gave way to a cleaner layer of rammed, crushed chalk (337), which overlay the northern edge of cut 350 and the natural clay to the north-west of it. The uppermost deposits making up 351 were an extensive layer of sand overlain by a final chalk surface, which covered 342 and 347, and were higher than the upper surface of chalk 337. It is unclear whether 351 represents only a single deposit, or possibly several phases of floor surface and repairs. No direct relationship between these chalk surfaces and wall 338 was established, as they were cut away by the robber trench 360, but they can plausibly be interpreted as associated floors.
- 3.9.7 At the north-west end of the trench, layer 337 stopped adjacent to footing 343, a layer of broken bricks and coarse cream-and-white mortar which covered the north-easternmost 1.8m of the trench. This overlay a thin deposit of grey clay with charcoal flecks and occasional chalk lumps (not numbered), which is believed to have sat upon the surface of natural 341, although the base of the trench was not cleaned up at this point. Footing 343 corresponds to the position of the north-east wall of the barn shown on the 1860 Sale of Particulars map (Figs 4 and 17).
- 3.9.8 Layers 351 and 337 and footing 343 were covered by 340, the levelling/sub-base of the present road. As feature 360, the robber trench of wall 338, cut this, and the wall was not marked on maps after 1920, the stub of the wall was presumably encountered when levelling for the present road in the mid-20th century, and was dug out at that time.
- 3.9.9 Abutting wall 338 on the south side was another compact rammed chalk deposit (339), which was thus probably contemporary (Fig. 5; Fig. 15 section 57; Plate 17). This

surface was 0.5m BGL, lower than that of layers 351 and 337 within the building and the natural 341, and was generally the layer on which the cable trench bottomed. Adjacent to wall 338, a small sondage showed that here it was 0.12m deep, and overlay a soft dark grey clay (numbered 352), also abutting the wall, which was not bottomed, and did not contain any finds. There was therefore a cut of some sort into the natural below, or just south-west of, wall 338.

- 3.9.10 Layer 339 extended for over 2m south of the wall, and at the south end was abutted by a patch of compact brown pebble gravel metalling 353. This may have been equivalent to the 'compact stone surface' 99 found abutting wall 98 in Test-Pit 12 (OA 2016b). Pebble metalling 353 was itself abutted by a layer of soft brown clay 354. Deposits 353 and 354 may in fact have been filling a cut into 339, but the trench was not dug deep enough to clarify this possibility.
- 3.9.11 Surfaces 339 and 353, and layer 354, were all covered by a dark grey sandy clay numbered 345. This was removed on the south by a modern cut, and on the north by robber trench 360, which also cut the make-up layer 340 that sealed both layer 345 and chalk layers 351 and 337 north of the wall. The difference between the stratigraphy cut by robber trench 360 north and south of the wall appears to demonstrate that the wall had survived above ground until this point, and was only robbed just before the tarmac was laid. The robber cut was filled with demolition material 344, a mixture of brown, red and white clayey silt with coarse sand inclusions, frequent fragments of roof tile of 17th-19th century date and occasional fragments of chalk and mortar.

3.10 Lighting Cable Trench III

- 3.10.1 This trench was up to 0.45m deep. It extended WNW from the beech hedge that marks the southern edge of the Outer Court, a little to the west of the southern gate, before curving south-westwards towards the eastern corner of the Granary. A few metres short of the corner, it turned at a right angle north-westward, parallel to the eastern wall of the Granary (Figs 2 and 3). It was excavated partly into grass and (where it ran parallel to the Granary) into the tarmac of the present courtyard.

Description of the archaeological sequence

- 3.10.2 At the eastern end of the trench a brick wall (367) was partly exposed running NE-SW along the inner line of the hedge (Figs 3 and 5; Plate 18). The top of this wall lay 0.2m BGL and the exposed width was 0.46m. Built of unfrogged red bricks dating from the late 18th to early 19th century and bonded with a coarse, sandy white lime mortar, this wall corresponded to the position of the north wall of the smaller barn that lay opposite the Great Barn on the Sale map of 1860 (Figs 4 and 17).
- 3.10.3 Against the north side of the wall was a loose deposit of fragments of red unfrogged bricks and roof tiles in a matrix of brown silty clay (369). This was 0.3m wide, and was interpreted on site as the fill of a cut 368, and was thought to cut a 2.2m long stretch of rammed crushed chalk (372) to the north (Plate 19). However, as the trench did not go below the surface of 372, though this is uncertain. This chalk layer was very similar to 163 found in the Surface/Roof Drainage Trench and during OA's monitoring of 2015 Heating Duct Trench 1 to the north-east, and could potentially be part of the same deposit (Fig. 5; OA 2016b, context 55). At the north-western end, this surface was bounded by 371, a deposit of compacted brick fragments 0.4m wide, also on a NE-SW alignment. To the north of this, a compacted, metalled gravel surface (370) was uncovered, and was seen along the rest of the trench up to the SE corner of the

Granary. This deposit was the same as (80) seen in Test-pit 7 and (156) seen in the Drainage Trench and during earlier work in this part of the site (OA 2016b, contexts; 104, 105, 108, 113-117, 127 and 94)

- 3.10.4 Brick group 371 are dated to the late 18th to 19th century. This feature may represent the remains of a robbed wall, perhaps relating to several cells/pens shown on the 2nd Edn OS map of 1896 and on the 1927 drawing of Headstone Grange by S. Shepherd (Buttress *et al.* 2011, fig. 13). Chalk 372 may have acted as a floor of this pen with the gravel courtyard 370 to the north-west (Fig. 5). All these features lay directly below the present topsoil (373).
- 3.10.5 No trace was seen of the square building in the Outer Court as marked on the 1860 Sale Map and the 1st Edn OS map of 1865, so the trench presumably just missed this; the cobbling is not believed to have been laid later than this, so is unlikely to have overlain it.
- 3.10.6 Close to the Granary, the metallised surface lay beneath a crushed brick layer (678) which here was mixed with quantities of a gritty ash and clinker. This deposit is probably the same as layer 2 seen in the trench around the north and west sides of the existing Granary in 2014, which was interpreted as a make-up layer of Victorian or later date overlying the destruction deposit from the range of buildings along the west side of the Outer Court on the 1860 Sale map (OA 2016b, 4.5.1).

3.11 Heating Duct IV

- 3.11.1 This trench ran from the 2015 Heating Duct Trench 1 where it passed the south corner of the Great Barn southwards to the north corner of the Granary (Fig. 3). This trench was 1.1m deep and was cut into the tarmac of the present yard.

Description of the archaeological sequence

- 3.11.2 The earliest deposit observed in this trench was the natural geology (160). This was overlain by a compact yellowish grey gravel-rich clay (465) up to 0.5m deep that contained occasional flint nodules and fragments of red tile dating to the 17th-18th century (Fig. 15, Section 61). The upper part of this deposit was cut by a shallow feature, in whose base was a thin layer of loose pebble gravel (488) thought to represent a disturbed layer of cobbling. Above this, the feature contained successive deposits 427/489 and 466. Deposit 427/489 consisted of a black silt with much coarse sand without finds, while 489 was a yellow and orange clayey sand with occasional small fragments of brick and tile. Deposit 466 was a layer of broken bricks of late 18th or 19th-century date and coarse, yellow sandy mortar which was presumably derived from demolition of a building, and appeared to represent make-up for a thin yard surface 428. Towards the NNE end of the trench this consisted of two successive thin surfaces, but only one was visible at the SSW end closest to the granary. Surface 428 was overlain by a compact gravel 429 that formed the sub-base of the present yard surface.
- 3.11.3 There was no correlation between the feature seen at the south end of this trench and the stratigraphy recorded in Test Pit 3 just to the west, where the only layer surviving over the natural below a modern service trench was a dark brown clay (OA 2016b).
- 3.11.4 Heating Duct Trench IV ends very close to the trenches dug by Wessex Archaeology below the Granary before it was erected, a summary report of which is published (Barnes and Hawkes 1991). The location of their trenches is shown on Fig. 3, and the nearest, Trench A, on Fig. 9. The Wessex Archaeology summary report did not include

dating evidence, or detailed section drawings, but indicates that deposits of their Phases 1 and 2 extended beyond the north-east end of Trench A, and so into Heating Duct trench IV. Their Trench A reached natural at a depth of 0.75-0.8m, corresponding to the depth recorded in the Heating Duct trench (Fig. 15, Section 61).

- 3.11.5 No trace of their Phase 1 pebble surface (70) was found, but deposit 465, and the thin pebble layer 488 that lay on its surface, may correspond to their Phase 2 surface, a compact deposit of pebbles in clay (numbered variously 25/35/61). Their deposit is given as 0.25-0.3m deep in section, only a little less than the depth recorded for 465 and 488 combined. Their surface was associated with a flint wall aligned NW-SE below the present granary, later replaced by a brick wall on the same line.
- 3.11.6 Although no deposits of their Phase IV are mentioned at this end of Trench A, the brick and mortar layer 466 presumably corresponds either to brick layers found within Trench B (54 and 55), which were topped by surface 5, or to their Phase V general demolition layer (numbered variously 10, 21, 40 and 53).

3.12 Lighting Cable Trench 1

- 3.12.1 This trench was 0.4m wide and up to 0.45m deep. It extended eastwards in a gradual curve from the northern entrance gate of the Museum to just short of the northern corner of the Granary (Fig. 3). It was excavated entirely into grass.

Description of the archaeological sequence

- 3.12.2 In the western part of the trench the earliest deposit observed was a levelling layer (362) made up of demolition material. This was seen along most of the trench where it lay at 0.35m BGL directly below the present topsoil.
- 3.12.3 Towards the eastern end of the trench two areas of brick floor (361) were found (Fig. 9), separated by a modern service trench (363), and damaged on the north-west by another (365). Although not stratigraphically related, the orientation and the character of the bricks in both was similar, suggesting that they had originally been part of a single floor. Together the patches constituted a 3.5m long stretch. The structure was built of a single course of red unfrogged bricks all laid on edge in a very soft, light grey lime mortar, except on the southern side of the more easterly area, where more than one course of bricks was apparent, suggesting the edge of a wall or plinth (Plate 20). The bricks of this structure have been dated to the 17th-early 18th century.
- 3.12.4 Structure 361 lay above a compact, dark reddish-grey silt containing pebbles (379) which represents the earliest deposit seen in this trench, and which was not bottomed. Structure 361 was 0.3m BGL and was overlain by the present topsoil (373).

3.13 Lighting Cable Trench V

- 3.13.1 This trench extended around the eastern end of the Great Barn (Figs 2 and 10). It was 0.5-0.6m wide and was up to 0.45m deep. No relationship was established between any of the deposits in this trench and the Great Barn, due to a French drain 0.4m wide that was built around the outside of the building.

Description of the archaeological sequence

- 3.13.2 The stretch of the lighting trench that extended NW-SE along the north-eastern end of the Great Barn followed the line of an earlier service trench that had removed any archaeological deposits, and bottomed within its fill. No records of the monitoring of this previous service trench have been found.

- 3.13.3 To the north of the northern corner of the Great Barn, the corner of a flint-and-mortar walled structure was uncovered 0.3m below the present surface (Fig. 10; Fig. 15, Section 63; Plates 21 and 22). Consisting of two lengths of wall meeting at a right-angled corner, wall 439 was constructed of courses of roughly dressed flints set into a dark brownish-yellow mortar, and was 0.55m wide. The wall survived up to 0.3m high above the natural (449) to the north-west of the wall, and 0.21m (3 courses) above the surface of layer 445 within the angle of the corner formed by 439. Layer 445 was very similar to natural 449, but was 0.1m higher and abutted the wall face, so was presumably an internal floor or make-up for a floor.
- 3.13.4 Within the corner of the structure, the yellow clay 445 was overlain by a yellowish-grey silty clay 444, which contained flecks of charcoal but no finds. This deposit abutted wall 439 but did not overlie it and has been interpreted as a build-up of material, or possibly a reflooring built during the use of the structure. East of the wall, the trench bottomed within layer 442, a deposit of yellow clay with white clay streaks and pinkish mottles that abutted wall 439 up to its surviving top, but did not overlie it. It was at least 0.13m deep, but was not bottomed.
- 3.13.5 To the west, wall 439 was robbed out to the base of the foundation, showing that the construction trench had been cut 0.24m into natural 449. The exposed face of the wall indicated that the foundations were also bonded with the same mortar as the upstanding wall. The robber cut 447, which cut layer 444 on the south-east, was filled up to the top of the natural with a sandy clay 448 containing quantities of flint and mortar, together with sherds of South Hertfordshire greyware pottery dating from 1170 to 1350. Layer 448 and natural 449 were overlaid by layer 446, a greyish-yellow clay with occasional flecks of chalk and CBM, but nothing large enough to date. This layer filled the upper part of the robber trench. The surviving wall, the robber trench and layer 444 inside the structure were all overlain by 443, a loose greyish-brown silty clay containing quantities of flint nodules and fragments of roof tile dating from the 17th to the 19th century. These probably represent debris from the demolition of the structure. The relationship of wall 439 to the present Great Barn was not established, due to the presence of an existing service between the trench and the corner of the barn.
- 3.13.6 To the south-east of the Great Barn, the trench extended along the side of the eastern entrance and turned parallel to the barn no more than 0.5m from it. Below the tarmac and recent make-up was a layer of dark greyish-blue clay 437, which was cut only 0.7m from the wall by feature 432 (Fig. 10). This was just over 2m wide with a bow-shaped profile, and continued below the bottom of the trench. It was filled with a bluish-grey clay with brown and orange mottling numbered 433. This was cut through by 434, a very-recent service trench dug 0.3m deep and backfilled with clay and lumps of tarmac. No finds were recovered from either 433 or from 437.
- 3.13.7 On the east side of 432 layer 437 did not continue, but was replaced by an orange-brown silty clay that may represent the natural, though here the deposit was soft. Set into a shallow cut within 436, a short length (1.1m) of a flint-built foundation or wall 430 was revealed (Fig. 10; Plate 23). Structure 430 consisted of undressed flint nodules averaging 0.15m across bonded with an orangey yellow clayey sand. The stones were two or three deep in places, but these did not form clear courses and there was no evidence of edging stones. It was truncated to the north by the present wall (red bricks on concrete footings) of the Great Barn and to the east and south by modern service trenches. This left masonry fragment 430 stratigraphically isolated making it difficult to

see what its original orientation had been and whether it was a foundation for a wall or a buttress.

- 3.13.8 From the small fragment of structure 430 that remains, it is not possible to say very much about its function or its relationship to the Great Barn. Wall 439 outside the north-east corner was on a very slightly different alignment to the present wall of the barn and was of completely different construction; the present barn wall (431) is built of red brick on a concrete foundation. The pottery found in the robbing of wall 439 could at face value indicate a very early date for the building, but it is also possible that this was residual, and that both wall 439 and structure 430 relate to an earlier version of the Great Barn. The 1860 Sale Map surveyed in 1853 suggests that the barn was then completely rectangular without the current narrower north-eastern end, and if this representation is accurate, walls 430 and 439 could belong to this earlier version.

3.14 Electric Cable Trench I

- 3.14.1 This trench was 0.4m wide and was up to 0.6m deep. It ran SSW from the east corner of the Great Barn to the Surface/Roof Drainage Trench (Figs 2 and 3). It was excavated partly into the tarmac surface of the present yard surface and partly into grass.

Description of the archaeological sequence (Figs 3 and 10)

- 3.14.2 The natural geology (195/333) in this trench was a stiff yellow clay, which was cut by feature 330, the base of which was not found at 0.5m BGL (52.20m aOD). As initially recorded, this was approximately 14.5m long, but the south-westernmost 3.5m was very shallow, and was probably a later feature, so is shown in brackets (Fig. 16, Section 49 and see below). The south-western edge of the main feature, which contained a wooden post (335), was steep, though only exposed to a depth of 0.2m, and 330 was not bottomed; the exposed part contained three fills: 334, 331 and 196. Fills 334 and 331 were seen at the south-western edge and sloped down towards the NNE. The earliest of these (334) contained fragments of 17th-18th century peg tile. The latest of the three observed fills (196), which was the only fill exposed for the full width of the feature, was a soft, dark blueish-grey gleyed silty clay containing frequent flint nodules and a residual sherd of medieval pottery dating to AD 1170-1350. It continued NNE along the trench almost as far as the Great Barn, ending below feature 190 (Figs 3 and 10).
- 3.14.3 To the south-west of the steep edge of 330, the yellow clay natural was also truncated by a shallow hollow some 3m wide, which had shelving edges and a flattish base, deepest at the junction of sides and base on both sides (Fig. 16, Section 49). This was interpreted on site as part of feature 330, and is shown as (330) in Fig. 16, section 49). It was filled with a soft, dark grey, gritty clay with much gravel and frequent pebbles (336), which directly overlay the fills of 330 proper, and was generally level, except for dips corresponding to those in the hollow beneath. Layer 336 was in turn overlain by 187, a mix of crushed chalk, gravel and flint nodules that was 6.1m wide and up to 0.15m thick, and formed a very compact cambered surface (Fig. 16, Section 49; Plate 24). The sloping edges of 187 are on the projected line of the eastern projecting wagon entry to the Great Barn, and this surface probably represents a raised path in front of the more easterly of the two wagon entrances of the Great Barn. The underlying hollow in the natural was probably caused by wagons and other traffic coming in and out of the barn, and layer 336 may have been laid to fill this in and provide a cobbled pathway into the barn. A slight hollow developed in the central part of surface 187, probably due to the wear caused by traffic passing in and out of the barn.

- 3.14.4 To the south-west, raised surface 187 was abutted by a compact brownish-grey sandy gravel (332), which continued to the end of the trench, where it lay below 155, the layer of crushed red bricks seen along most of Drainage Trench to the south and west. Layer 332 was almost certainly the same metallated surface as 156 seen in the Drainage Trench and during the monitoring of Heating Duct Trench I in 2015.
- 3.14.5 The sequence was different to the east of 187. Here, the raised surface was abutted by a thick, dark blueish-grey, gleyed clay (188/201) containing sub-rounded gravel, part of a wooden plank (191) and fragments of red roof tile dating to the 17th-19th century (Fig. 16, Section 49). At the north-east end of the trench, layer 188/201 was cut by a north-south aligned wall (186) built of unfrogged orange-red bricks all lain on bed, and set in a white soft coarse sandy lime mortar (Plate 25). This wall, which based on the typology of its bricks dated from the 18th century, was 0.24m wide and survived four courses high, its top lying at 53.08m aOD, only 0.25m below the present ground level. The fill (197) of the construction trench contained comminuted fragments of tile and brick.
- 3.14.6 Wall 186 was sealed by 200/189, a layer of compact metalling which was almost certainly part of the courtyard surface (156) seen during work on the Surface/Roof Drainage Trench and during the 2014-2015 work on the Heating Duct Trench (OA 2016b). This layer also overlay most of surface 187, though it left exposed the highest surviving part along the south-west edge (Fig. 16, Section 49).
- 3.14.7 Metalling 200/189 was cut by a north-south linear feature 190, which was at least 0.3m deep, but was not bottomed. It contained three fills (192-194), all gravelly clays with no datable finds. Ditch/gully 190 was covered by layers 199 and 153, the sub-base and surface of the present yard, which were seen along the whole length of the trench.

3.15 Lighting Cable Trench II

- 3.15.1 This trench was 0.5-0.65m wide and was up to 0.6m deep. It extended along the south-east side of the Great Barn (Fig. 3), and into Electric Cable Trench I. It was excavated partly through the tarmac of the present yard and partly into a grassed area.

Description of the archaeological sequence

- 3.15.2 The earliest deposit seen in this trench was a rammed crushed chalk surface (417) seen at the south-western end at a depth of 0.4m BGL (Plate 26). This was 9m long and was abutted by 426, a layer of gravel metalling which was seen for a length of just over 5m before the trench shallowed. Two postholes for an information board were excavated in 1993 halfway between the two porches of the Great Barn and just west of Lighting Cable trench II, and this work was monitored (Thompson 1992). The postholes were 0.6m deep and did not find this gravel, only a sequence of clays, so layer 426 presumably ended south-west of this.
- 3.15.3 Layer 426 was either cut by, or possibly abutted, two parallel rough flint-and-brick walls (425 and 423) aligned NNW-SSE (Fig. 11). These were 0.25m wide and 2.4m apart. Bricks and peg tiles recovered from wall 425 have been dated to the 17th-early 18th century, while three transfer-printed whiteware sherds of Victorian date were recorded in post-excavation as coming from 423. A series of wooden planks (424), the largest around 0.15m wide, extended between the walls, forming a sort of walkway set into the metallated surface (Fig. 11; Plate 27). One of the planks was sampled and proved to be of oak. Some 1.5m to the north-east of wall 423, and on a north-west to south-east alignment, a wooden beam (422) was set into surface 426 (Plate 27). Gravel metalling

426 continued north-eastwards, and was cut by feature 420, which was also aligned north-west to south east, and was 0.5m wide. It was filled by 421, a dark brownish-grey silty gravel with chalk and charcoal flecks, but was not excavated.

- 3.15.4 All these features, bar 420, were overlain by 419, a layer of gravel metalling containing fragments of peg tile of a type dating from the 17th to the 19th centuries. This was sealed by another layer of rammed crushed chalk 416 (Plate 27), which was covered by levelling deposits of gravel (409, 414) and clay (413) to the west and to the east by a 0.25m thick yellow-grey clay (399). Layer 399, which directly overlay feature 420, and was up to 0.25m deep on the south-west, contained fragments of wooden oak planks and tile of 17th-early 18th century manufacture, but otherwise none of these deposits contained any finds.
- 3.15.5 At the south-western end, chalk 416 was cut by a vertical-sided, flat-based feature 410, which also cut earlier chalk layer 417 on its west side. Cut 410 extended slightly obliquely across the trench from NNW-SSE. Chalk 416 was 0.12m thick at the edge of 410, but did not continue west of it. The cut of 410 was 1m wide in its lower part, but also cut layer 409 above, and in this upper part the eastern edge was vertical, but the western side was shelving, widening the feature to 2.2m across. It is therefore possible that 410 had originally contained a boundary wall or fence contemporary with chalk layer 416, against which make-up gravel layer 409 had been laid, but was then robbed out from the western side before being overlaid by 408, the first tarmac surfacing for the Outer Court. The sole fill (411) was clay, and did not contain any finds.
- 3.15.6 Layer 399 was seen along most of the trench. At c 6.5m from the north-eastern end of the trench it was cut by feature 415, only the western side of which was seen within the trench (Fig. 16, Section 60). The first 3.8m consisted of a shelving cut that bottomed out at only 0.25-0.3m deep, and this length is shown on Fig. 3 as (415) in brackets. North-east of this the cut deepened 2.8m from the end of the trench. The deeper part was not bottomed, and 397, the single fill exposed, was a firm, dark grey silty clay that did not contain any finds. This fill is probably equivalent to layer 196 in Electric Cable Trench I, into which feature 415 continued. The shallower and wider cut to the west was filled with deposit 398, yellow sand and pebble gravel, and this was abutted on the east side by 396 and 395, both of which sloped down from west to east. Layer 396 consisted of broken peg tiles dating to the 18th-19th century, while 395 was a yellow clay. These all appear to represent deliberate backfilling to level up the ground. A series of modern deposits: 394 and 402, 403 and 404, overlay these deposits and represent the various make-up layers for the present yard and topsoil.

3.16 Heating Duct II

- 3.16.1 This trench was 0.5m deep and ran north-east from the manhole in Heating Duct I in the centre of the Outer Court towards the moat bridge, where it crossed the moat in a pre-existing duct cut into the surface of the bridge (Figs 2 and 3). This trench was partly cut through the tarmac of the present yard and partly into grass lawn.

Description of the archaeological sequence

- 3.16.2 At the south-western end of the trench, the archaeological sequence was broadly similar to that found in the Surface/Roof Drainage Trench. The natural geology (485), here represented by a stiff yellow clay found at at 0.3m BGL, was overlain by a deposit of clay and brick rubble 499/245 which contained residual late medieval peg tiles and brick dating to the late 17th to 18th centuries. A 2.45m-long layer of compact rammed

chalk (229) was seen 3m from the south-western end of the trench (shown on Fig. 3). This surface was overlain by a compact layer of gravel metalling similar to deposit 155 seen to the south-west in the Surface/Roof Drainage Trench. This deposit was not found to the north-east and the crushed brick layer lay directly beneath the topsoil (230).

- 3.16.3 Further north-east and continuing all the way to the western side of the moat bridge, the sequence was different (see Fig. 16, Section 59). Here the natural geology (385) was cut by feature (386), which was 0.8m wide and was aligned north-south, and was probably a ditch, though it was not fully excavated (Fig. 16 section 59; Plate 29). The top fill (387) was a reddish-grey silty clay containing flecks of chalk and charcoal, but produced no datable finds. Ditch 386 was overlain by layer 384, a very similar clay that extended for 7m along the trench, and was filling a shallow cut into the natural numbered 392. Fill 384 contained tile fragments dating to the 16th-18th century. At the north-east end, layer 384 was abutted by layer 383, a yellowish-grey clay with similar charcoal and chalk flecks, which was in turn abutted by clean clay layer 486 at its east end, perhaps indicating a succession of fills within cut 392, which would then have been at least 8.5m wide. Layer 486 was truncated to the north-east by a modern cut just west of the bridge that lay just below the tarmac, and the north-eastern edge of 392 was not seen. There were no datable finds in either 383 or 486.
- 3.16.4 Overlying fill 486 were successive thin clay layers 473 and 474, neither of which contained any finds. Layer 473 was covered by a thin layer of rammed chalk (676). These fills are interpreted as dumped to form a ramp up to the bridge. At the base of the ramp, layer 383 was covered by a thin layer of mixed chalk and clay (388), probably material eroded from the chalk ramp and mixed with the underlying clay.
- 3.16.5 The ramp was cut to the east by cut 677, which contained a single fill of orange-brown mottled silty clay numbered 475. This was sealed by a deposit of firm yellow clay (390) that extended for 10m westwards, and is probably the same as layer 460 seen in Lighting Cable Trench IV. This layer, which did not contain any finds, also sloped upwards from west to east, ie towards the moat bridge (Plate 30). Close to the bridge, layer (390) was overlain by a more substantial deposit of chalk (380), but further west it was covered by a layer of crushed red bricks (389). Abutting the chalk, and overlying (389) was a layer of gravel (391), which lay directly beneath the tarmac of the roadway/path and adjacent lawn. No structural remains which could be associated with an earlier bridge across the moat was seen in this trench.
- 3.16.6 The Heating Duct crossed the moat bridge in a modern, concrete-lined service run cut into the tarmac surface of the bridge deck. As a result, no archaeological remains were exposed or affected.

3.17 Lighting Cable Trench IV

- 3.17.1 This trench was excavated entirely within a lawn and was up to 0.45m deep. It extended SW-NE just north of the Small Barn turning at its north-eastern end to the north-west, parallel to (and some 2m from) the western the edge of the moat (Figs 2 and 3). The present topography of the area shows a marked north-west to south-east slope with the lowest point being just short of the north-east corner of the Small Barn.

Description of the archaeological sequence

- 3.17.2 The earliest deposit seen in this trench was a compact, dark greyish brown pebble rich clay (497). The base of this deposit was not reached at 0.45m BGL. Along most of the

trench, layer 497 was sealed by a layer of friable greyish brown silty clay (461). However, at the south-western end of the trench, a small stretch of compact crushed chalk was found at the base of the trench (0.45m BGL). This surface/floor was the same as the chalk layer 76 found in adjacent Test-pit 6 (OA 2016b, 11-12; Fig. 5). It was overlain by a layer of broken brick (155), equivalent to layer 75 in Test-pit 6. Both 461 and 155 were overlain by topsoil (230).

- 3.17.3 The NW-SE section of the trench close to the moat 461 contained a 0.1m thick layer of redeposited yellow clay (460) with residual pottery dated between AD 1450 and 1600. A deposit of redeposited yellow clay (390) was also seen in Heating Duct Trench in the 10m closest to the bridge crossing the moat, and this is probably part of the same deposit. These made-ground deposits appear to be part of the levelling of the site, possibly associated with the infilling of a small embayment used as a watering bay for cattle shown on the 1860 Sale Map, the 1865 OS map, the 1911 Sale of particulars plan and historical drawings of the Manor (Clarke 2000, 171-77; Figs 4 and 17). This had been infilled by the time of the OS map of 1934.

4 DISCUSSION

4.1 Introduction

- 4.1.1 A substantial number of service trenches providing narrow windows onto former structures, features and deposits have been dug across large parts of the Outer Court in the course of the improvements since 2014 (Fig. 17). Many of these trenches have not, however, been more than 0.6m deep, and even where (as in the Heating Duct and Drainage Trenches) they have been deeper, they have not always exposed the full depth of buried structures and features, or the full sequence of their associated stratigraphy.
- 4.1.2 It is not, therefore, surprising that all but one of the structures, features and deposits found appear from the associated finds to be post-medieval, and that there is little evidence of 16th or 17th century date, most belonging to the 18th century, 19th century or later. Finds prior to the 18th century are very few and almost all appear to have been redeposited in later features.
- 4.1.3 In addition, there has generally been a marked lack of finds from the deposits exposed, aside from fragments of ceramic building material (brick and roof tile), for which date ranges are generally wide. This has, in part, been due to the limited extent of detailed hand-excavation appropriate to archaeological watching brief, and partly due to the location of the trenches, which are all outside the standing buildings. As a result, it has not been possible to date many of the features and deposits, while others, mostly dated using ceramic building material, can only be given broad date brackets.
- 4.1.4 Uncertainties about the provisional dating of some of the roof tile on the Moated Island have emerged with regard to one of the buildings uncovered there (OA 2019 forthcoming), suggesting that some of the roof tile could be considerably earlier than the dates given, but in the Outer Court there was generally much more tile, making dating easier, and in most cases the tile is accompanied (and the provisional dating supported) by other types of find. While documentary evidence shows that tile was certainly in use at the site in the fifteenth century (Clarke 2000, 163; see section 1.4.5 above), this will mostly have been for the manor house itself, not in the Outer Court.

- 4.1.5 A number of pieces of waterlogged timber have also been found, all of oak. While many of these came from the small area excavation south of the Small Barn into a fairly deep feature cut into the natural, most of which were uprights, a variety of others were horizontals found at relatively shallow depth in trenches. One of these timbers has been sufficiently large and well-preserved to allow dendrochronological dating, but most have not. What these timbers do show is that the water table across the site has remained sufficiently high until very recently to allow their preservation, although the condition of the shallower pieces indicates that waterlogging has been variable and intermittent, probably reflecting the fluctuating level of the water table each year.
- 4.1.6 The narrowness of the trenches has also meant that exposures of structural and other features are limited, and this has sometimes hindered their interpretation within individual trenches. The varying depth of the trenches has meant that features cannot always be traced from one trench into the next, thus limiting the establishments of the extents of some of the more-deeply buried features, and thus their wider layout and function within the manor.
- 4.1.7 Although there is a good sequence of historic maps of Headstone Manor from the mid-18th century onwards that can be used to assist in interpreting the walls and surfaces that have been uncovered during the works, it must be borne in mind that the earliest of these are small-scale representations, and that the accuracy of the 19th-century maps prior to the Ordnance Survey series (1st edn dated c 1865) cannot be relied upon. The maps of 1817 and 1819 (see 1.4.14-15) illustrate the discrepancies particularly clearly. The Enclosure map of 1817 was not drawn at a scale to deal with the detail of small buildings, and omits a small building shown on the 1819 map south of the Small Barn that was confirmed by excavation. A possible building shown on the 1817 map with a squared end on the north, but curving on the south, is confirmed as a building and a pond by the greater detail of the 1819 map. However, the large building shown south-west of the Great Barn on the 1819 map (the only building shown on this side of the Outer Court) does not match the three buildings shown on the 1817 map, which also appear on the subsequent maps of the 1840s. If it was meant to represent the new range shown east of the three buildings on the 1845 map, it is in the wrong place, and was not confirmed by the trench observations.
- 4.1.8 It is clear that some of the buildings shown on the 1819 map may have come and gone between 1817 and 1845, but that others shown may be inaccurate. Other omissions may be due to the remit given to the map-maker. For example, the Dutch hay barn in the rickyard is shown on the 1860 Sale Map surveyed in 1853, but not on the very similar Sale Map of 1845, although it is known from documents that this barn already existed in this location in 1824. The sale particulars accompanying the sale map note that the Dutch barn is not included in the buildings for sale, and so it may simply have been omitted from the map. There is also the problem of copying, that is, the reproduction of details drawn on a previous map without bothering to check, resulting in buildings and layouts giving the appearance of continuity beyond the date at which they were, in reality, altered or demolished.
- 4.1.9 While these considerations will need to be borne in mind, the map evidence does provide a number of windows onto the development of the site, particularly in the 19th century. From the late 19th century onwards, there are also drawings of the site that provide more details, plus photographs from the 20th century.

- 4.1.10 As indicated in the Archaeological and Historical Background (Section 1.4 above), there is also a rich documentary record for the site, much of which has been usefully summarised in print (Clarke 2000). The scale and significance of the discoveries in the Outer Court does not justify further research among the unpublished archive, so in the following discussion only the published information will be used where relevant.
- 4.1.11 The condition of the surviving remains was variable, some walls surviving above the contemporary ground level (at least in part), some only as foundations, or only as robber trenches, and in one case, truncation by later service trenches had made the original dimensions and orientation of the masonry impossible to reconstruct. Structural wood survived only at or below the contemporary ground level, and was generally not well-preserved, although it was possible to obtain a dendrochronological date from one of the recovered upright posts. A variety of layers forming surfaces were fairly well-preserved, and these included extensive yard surfaces and floors of discrete structures, although with some materials, for example chalk, it was not always possible to determine whether these were internal or external surfaces. In a few cases a stratigraphic sequence of deposits allowed some refinement of the chronology of particular features, but this was rare.
- 4.1.12 Bearing these caveats in mind, it is nevertheless possible to link some of the discovered walls to standing or former structures shown on historic maps, or to identify the function of former structures within the courtyard. The following discussion will, where relevant, incorporate evidence from the earlier phase of watching brief carried out in 2014-2015 (OA 2016b), and from earlier investigations carried out by others (eg Tucker 1987; Barnes and Hawkes 1991).

4.2 Medieval activity? Structures at the north-eastern end of the Great Barn

- 4.2.1 The north-east corner of a building with flint foundations and mortared flint walls (439) was uncovered 1.5m north-west of the north corner of the Great Barn. The building was on a similar alignment to the standing barn, although building 439 was oriented a little more nearly north-east to south-west, and the north-east wall of 439 was roughly in line with the north-east wall of the present barn. On the inside the building had a floor of yellow re-deposited natural clay. The robber trench of the wall produced only pottery of late medieval date.
- 4.2.2 The proximity of 439, and its similar orientation, would suggest that 439 represents an earlier version of the Great Barn, whose current footings at the eastern end are of red brick built on concrete footings, much later than the 16th century date which historical records (Clarke 2000, 163) and dendrochronological data (Howard *et al.* 2000b) indicate for the construction of the barn. The historic maps show some variation in the width and shape of the Great Barn, and it is clear that from 1845 onwards the building was wider at the south-west end than at the north-east end. Whether this was due to a narrowing at the north-east end, or an addition at the south-west end, is however uncertain, although the latter is perhaps more likely. Otherwise, the plan of the barn today is very similar to that marked on the 1817 enclosure map. If the change in shape was due to a narrowing at the north-east end, then on map evidence this must have occurred between 1817 and 1845, and the layer found sealing 439, which was interpreted as destruction, and which contained CBM with a date range of the 17th to the early 19th century, would be consistent with this. The block of masonry 430 found just outside the north-east corner of the barn may also represent an earlier phase of foundation, although this was so badly truncated that its orientation remains unclear.

- 4.2.3 There may of course have been earlier post-medieval changes to the barn to which these substantial foundations belong. Given the age of the surviving timber frame, it is unlikely that the barn has been substantially altered in size, although partial dismantling due to repairs and re-erection in a slightly different place may have occurred on several occasions.
- 4.2.4 If not, then this may genuinely represent a fragment of a late medieval building that predated the Great Barn, as the only pottery from the robbing was of late medieval date. The similar, and broadly north-east to south-west, orientation of both this building and the Great Barn may simply be due to the predominant orientation of the manor and the moat. If, as was suggested by the observations of the draining of the moat (Heritage Network 2010), the north part of the south-western side of the moat was originally wider, then the moat would have allowed little option in orientation.
- 4.2.5 There is unfortunately little in the documentary record (Clarke 2000) to suggest what buildings there were in the Outer Court before the construction of the Great Barn, or how they were arranged, although there was already a lord's barn in 1424, a two-doored barn to which repairs were made in 1489-90 (possibly the same), a great stable, a Great Gatehouse and a new house adjacent, all of which might have been built in stone (*ibid.*, 163-4). There was also a dovecote, but this would most likely have been circular.

4.3 17th/early 18th century? The brick structure north-west of the Granary

- 4.3.1 Parts of a brick-built structure (361) was uncovered to the north-west of the Granary. The bricks used for the floor and wall of 361 were all of a type manufactured in the 17th or early 18th century, so unless reused from an earlier building, relate to a structure that was constructed earlier than all of the historic maps.
- 4.3.2 The two mid-18th century maps are not detailed enough to determine whether 361 might match any of those depicted. The structure does not match anything shown on the 19th century maps; a long building is shown on the 1860 Sale of particulars plan (Fig. 4 and 17) and on OS maps of 1865 and 1878-79, running north-west to south-east below the Granary on much the same alignment as 361, but on none of the maps is this building shown extending far enough to include 361. Structure 361 is crossed by the line of a boundary shown extending north-west from the long building on the 1865 map, which had gone by the time the 1897 map was drawn, but given that the enclosed area lay south-west of the boundary, while the flooring of 361 lay north-east of the wall that was exposed, it is thought unlikely that this boundary represents what was found.
- 4.3.3 Brick floor and wall 361 is only 6.5m from the trenches dug by Wessex Archaeology below the existing Granary in 1990 (Trench A), and a brick wall is mentioned as crossing their trenches, but no brick floor (Barnes and Hawkes 1991). As no plan or dating was provided in their report, it is not possible to determine whether this was linked to 361. They interpreted their brick wall as part of an early 20th-century pig sty, based upon a map of 1914 and a photograph of 1927.

4.4 17th/early 18th century: The channel or pond south of the Small Barn

Date of the structures and deposits in the channel and its recut

- 4.4.1 The earliest feature seen in the excavations to the south-west of the Small Barn was cut 184, but the deposits at the base of the large feature this represented were not

reached by the drainage trench and adjacent excavation, so its date of origin is unknown. Within the cut, the earliest deposit excavated was chalk bank layer 291, which included large fragments of glazed brick manufactured in the Tudor or early Stuart period, making the whole of the observed sequence post-medieval in date.

- 4.4.2 The fill of pit 178 just outside this cut to the north-west contained only tile fragments of late medieval character, but stratigraphically this pit was later than layers 291 and 182. Other large and fresh-looking pieces of tile with similar characteristics were also recovered from later deposits in the sequence that also contained clearly post-medieval tile and brick fragments. It would therefore appear that the techniques of manufacture of roof tiles in the area remained similar well into the post-medieval period.
- 4.4.3 Given the proximity of the excavation area to the Small Barn, below which activity from the 13th-15th centuries onwards was uncovered, the presence of residual late medieval tiles would not be surprising (Tucker 1987, 153, Phase 1). The earliest mention of chalk in his sequence is in the early post-medieval period (Phase 3), and this is consistent with the probable date of the chalk found in layer 291.
- 4.4.4 The full extent, depth, date and purpose of cut 184 is unclear, as the excavation did not reach the bottom of the cut, and may not have exposed the earliest fills within it. The earliest exposed deposits appear to be those belonging to a bank or bund made of compacted chalk lumps (291) encased in clay and flints, and reinforced on the south-west by a series of near-vertical timber uprights, and on the north-east by further upright timbers and a plank. The bricks from 291 were manufactured in the 16th or the first half of the 17th century, providing a *terminus post quem* for its construction, and a brick end from the overlying layer 235 was also of 16th-17th century date. Closer dating of the timbers either side through dendrochronology was not possible, as the timbers were not large enough to contain sufficient rings for dendrochronological matching. In addition, all of the better-preserved timbers were of trimmed heartwood, providing no indication of their date in relation to the felling date of the tree or trees from which they came.
- 4.4.5 The bank fills (291 and 182) also appeared to surround vertical post 166. This post, which lay adjacent to near-vertical revetting post 165, was set into the natural at or close to cut 184's edge, as was timber 256 further north-east. Timber 256 was retrieved and dated using dendrochronology, and was felled in the winter of 1709-10, so was probably set into the cut shortly thereafter. Timbers 166 and 256 may have been associated, forming a line with posts 209 and 227 in between, but if so, this suggests that the revetted bank was also of 18th century date. The date hinges on the interpretation of a possible posthole cut for 166 through layers 182 and subsequent fills. If post 166 was cut through fill 182, which is one interpretation of the evidence in Section 41, then both posts may have been inserted into the existing pond or channel and the revetted bank, giving a *terminus ante quem* for the digging of 184. If not, as was argued above (3.2.14), then this could be the date of construction of cut 184, and the bank within it.
- 4.4.6 Other than those making up the timber-revetted bank, the lowest exposed fills in cut 184 contained 18th century finds. On the north-east, none of the fills from 237 onwards had the character of active channel fills; they were either probably deliberate backfill or, as was possibly the case with fill 236, had the character of shallow waterlogged fills into which debris of varying character was being tipped. The finds from 237 comprised CBM of 18th-early 19th century manufacture, 216 included a horseshoe of 18th century date,

and subsequent fill 236 also contained CBM with a date range of the 17th-19th centuries. After a succession of further undated deposits, a group of stones 218 surrounded the rotted top of timber 256, and were abutted by successive layers 180 and 179, the latter then overlain by brick rubble 171 dated to the 17th-18th centuries, which also surrounded the surviving tops of timbers 166 and 165. 179 and post 256 were also overlain by a more extensive gravel deposit 214, which contained pottery manufactured in the late 18th or 19th century. In the diverted Surface Drainage trench, the adjacent uppermost fill of cut 184 (layer 307) also contained tile and brick fragments dated to the late 18th or 19th century.

- 4.4.7 Layer 307 was cut by the vertical-sided cut 309, which must therefore date from either the very late 18th or early 19th centuries. The vertical and near-vertical sides indicate that it was not open for long. The bottom mottled clay fills were without finds, but middle fill 216 and top fill 211 both contained pottery of 18th or early 19th century manufacture.
- 4.4.8 Taken at face value, the dating evidence would suggest that the cut (or cuts) represented by 184 and 328 were infilled during the 18th century, and that the recut 309 was also infilled by the end of the first quarter of the 19th century, as no Victorian material was recovered from either. The suggested chronology relies upon the latest finds within the fills not being residual, and while the felling date for timber 256 is fixed, the date of the succeeding deposits could be later than suggested.
- 4.4.9 The vertical sides of 309 certainly support a short period of use for this feature, as an extended period of use would certainly have resulted in the collapse of the upper sides of the feature, unless they were revetted. The depth of the recut channel was nearly as great as the excavated part of cut 184, within which substantial timbers did survive, so had cut 309 been revetted and lined with planks, some trace of this should have survived in the excavation and the cutting of the diverted Surface Drainage trench, but none was seen. It is of course possible that the lining of the recut channel was removed when it went out of use, and was backfilled immediately thereafter, but this is much more likely to have been judged worthwhile if the timbers had been in place for only a short time, before they began to decay.
- 4.4.10 Despite the relative lack of precision of the dating based upon the finds, the suggested dating also finds support from the evidence provided by the historic maps, at least for the infilling of these cuts. The 1817 Enclosure map shows the moat, so if the channel or pond was still extant, it would probably have been shown. It is possible (although unlikely) that the small scale of this map meant that the cartographer did not bother to illustrate a pond or channel in this location, but the larger scale 1819 map (Fig. 18) marks a building south-east of the Small Barn that was confirmed by excavation, and this overlay the fills of cut 572 of this channel. It is of course possible that the recut of the pond or channel remained open west of this. No ponds are, however, marked on the 1845 map south of the Small Barn, and on the 1860 Sale Map the road from Pinner View is clearly visible. On balance, it is likely that the pond or channel and its recut had been backfilled by 1819, and probably very early in the 19th century.

Extent of the channel or pond

- 4.4.11 If the whole of the cut represented by 184 on the north and 328 on the south originally one feature, then this was 11.5m wide, and had a stepped profile, being only 0.45m deep on the south, but at least 0.65m on the north. This is however not certain, as the channel was recut by a vertical-sided cut 309, which was 6.5m wide and 0.57m deep,

and had removed the relationship between cut 328 and cut 184 on the south side. The date of the fills of 328 was predominantly CBM of 16th-17th or 17th-18th century date, but included one or two hard-fired fragments of 18th-19th century date, so the fills were broadly contemporary with those in 184, and on balance it is believed that the two were parts of one feature.

- 4.4.12 The continuation of 184, the north edge of this feature, may have been located in the Signage trench immediately south of the Small Barn, as there was a distinct change in the stratigraphy in the north-west section compared to that in the other three sides, and the layers were generally sloping down in a south-easterly direction.
- 4.4.13 The feature appears to have continued in a north-easterly direction, as the stretch of Lighting Trench VII aligned north-west to south-east, and some 7.5m north-east of the exposure in the Surface Drainage Trench, bottomed on the fills of a large feature at least 7.6m wide, the fills at the north end sloping south-eastwards. This feature was not seen underneath the Small Barn in Tucker's excavations, so the northern edge must lie south of this. The southern edge of this feature in Lighting Cable trench VII lay beneath the brick building 573-5. The southern edge was shelving gradually downwards, so appears more similar to that of cut 328 than the vertical-sided cut 309, whose edges may therefore lie further north-west. Traced eastwards, the channel was not observed extending as far south in the 2015 Heating Duct Trench as in the diverted Surface Drainage Trench, indicating that it either ended or narrowed considerably between them (Fig. 19).
- 4.4.14 There is very little firm evidence as to how far to the west or south-west cut 184 continued, as none of the trenches and test-pits further west was dug very deep. It is now clear that, contrary to what was assumed in the report on the 2015 Heating Duct trench (OA 2016b), and the interim report on the Surface Drainage excavation (OA 2017), the cut containing waterlogged deposits 294=135 and 234=172 are not the same as that containing fill 114, as these are separated by natural at shallow depth over a distance of 6.5m (Fig. 19). It seems very unlikely that cut 350 is a continuation of cut 184, as there is natural in the Surface Drainage trench between where its projected edges would run. South of the wall chalk 339 and fill 352 below it were clearly filling another depression or cut into the natural, as north of the wall the natural was 0.22m higher, and 352 was not bottomed. Natural was found at shallow depth below the Welcome Building, but did not reappear at its usual depth in Electric cable trench II until the trench began to turn further south, so there is a length of 8m that could contain a continuation of this channel.
- 4.4.15 It is possible that cuts 184-328 and 309 served as an overflow channel leading from the moat to a series of ponds which lay on the western edge of the farmyard and joined on to the Yeading Brook which flowed N-S along the western edge of the site. The mid-18th-century Rocque map shows a pond on the south-west side of the site, and all of the 19th-century maps show one or more additional ponds along the south-east side. The OS map of 1934 shows that this network of ponds, drains and ditches that appears to be characteristic of the farm remained until the 1930s, but were gradually drained and filled in, so that they had disappeared by the time of the 1951 OS map. The present outflow channel leading to the Yeading Brook on the moat's SW corner, does not appear to be of any great age. Aside from the modern pipe and brick and concrete drop chute, which were both cut directly in to the natural clay, no channel was observed during the digging of the Surface Drainage Trench in this part of the site.

- 4.4.16 In the 2015 Heating Duct Trench, Section 23 shows a shelving cut starting roughly in line with cut 184 and deepening to the south-east, but the angle of this cut does not match the steep angle of the lower part of 184 shown in section 41, 1m further to the north-east. This may alternatively indicate that cut 184 was turning between them, and that section 23 records an oblique cut across a narrowing of this feature, or even across its end.
- 4.4.17 Rather than a straight channel of even width and depth, the cuts found in this part of the site may represent further ponds of varying depth, which were joined by much narrower channels to direct water between them as required for flood management. The historic maps consistently show a group of ponds along the south-west and south-east sides of the Outer Court, although their exact locations and extents vary over time. Due to its low-lying location, the site has flooded frequently over the last 100 years, and there is no reason to believe that the situation would have been better before that, so the ponds may have been linked in a system of water management during times of flooding. The reason for having so many ponds linked in this way remains unknown. It is possible that the ponds were originally localised clay quarries, subsequently made use of for drainage. Water may also have been channelled to refresh the drinking water for animals, and possibly for fish-management, a common practice in later medieval manors and ecclesiastical establishments, although the last is not mentioned in the documentary research carried out to date.
- 4.4.18 As already mentioned in the report on the 2015 watching brief (OA 2016b), the main access to Headstone Manor was from the north-west until the late 18th or early 19th century. It is only in the Enclosure map of 1817, and the sale map of 1819, that the access from Pinner Drive appears. Prior to this date, therefore, there could have been a continuous line of ponds, or even an extension to the moat, along the south-east side of the Outer Court.
- 4.4.19 One other possibility needs to be mentioned. The 19th-century maps from 1845 onwards show one or more embayments extending from the south-west side of the moat, principally used as watering places for animals (see 4.7.7. below). It is theoretically possible that cut 184-238 could have performed a similar function, but the distance from the moat, even assuming that the feature ended just west of the 2015 Heating Duct Trench, is much larger than that of the later embayments, and this seems an unnecessary amount of effort simply to provide drinking water for livestock.

The function of the 'bank' and associated timbers

- 4.4.20 Both upright and slightly leaning timbers were found at or very close to the edge of cut 184. Those running roughly at right angles across the line of the cut were angled, and are interpreted as revetting for a possible bank or bund within the cut made of chalk surrounded by clay. Stone is not part of the local geology, so the use of imported chalk in the bank is no more unusual than imported stone, and is much lighter to transport. Chalk would also be easy to compact, but would dissolve unless protected from water (as it was) by clay layer 182. The date of this structure has already been discussed above (section 4.4.5), but its purpose has not.
- 4.4.21 The fragment of chalk surface 169 overlying the clay at its surviving north-west end might suggest that it was a walkway of some sort, but the structure was not of even width, appearing to narrow from around 0.75m on the WNW to possibly as little as 0.5m on the ESE. This narrowing may be less than it appears, as plank 217 may originally have been nearly upright, and have only gradually fallen inwards as the bank material

settled. In addition, the small uprights on the north-east side ran parallel to the large ones on the south-west, and the bank surface was probably higher than the plank, so additional deposits (now truncated) may have widened the bank at the top. In any case, at 0.5m wide the bank was still wide enough to have been used as a walkway, so this may still have been the main purpose of this feature. Even though the main access to the Outer Court was at the west corner, pedestrian access from the south-east may have been required across the channel or pond, and the fact that the bank coincides with the later line of access may not be coincidental.

- 4.4.22 It was previously suggested (OA 2017, section 4.1.4) that the bank might have been constructed to divide feature 184, that part to the south-west ('cut' 185) remaining open when the area to the north-east was already being filled in. That view was based on the presumption that 'cut 185' was linked to deposits 114 and 109 further north-west, which is no longer believed to be the case. While a continuation of this pond or channel south-westwards has been discussed above, there is no artefactual dating material to assist in determining when this might have been filled in from any of the trenches dug across it. The historic map evidence would suggest that any continuation was filled in by the same time as the excavated part to the north-east, ie in the very early 19th century, so that there would have been no need for such a feature.
- 4.4.23 The cutting of pit 178 into the bank at the north-west end suggests, given that the pit spanned its whole width, that at the time the pit was excavated the 'bank' had gone out of use. Unfortunately the roof tiles within the pit were of late medieval date, and so residual. Timber 288 may have belonged to the earlier structure, and have been left in place, or may be unrelated. This occurred some time before cut 184 was fully filled in, as the pit was overlain by layer 216, one of the lower deposits exposed of 18th century date within the cut. If 184 was filled in in one operation, however, which is certainly possible, then pit 178 could have been cut only shortly beforehand, ie at the very end of the 18th or very early in the 19th century
- 4.4.24 Two of the posts found along the edge of cut 184 (166 and 256) were vertical, and penetrated 0.3-0.5m into the natural. Roundwood timber 256 was retrieved, and proved to have a flat base, showing that it was a post rather than a stake. In section, timber 166 appeared to be the same. Timber 256 was dated by dendrochronology, providing a felling date of winter AD 1709-10. These two structural posts were 1.8m (6') apart, and could have formed part of a building or a substantial barrier above-ground. The orientation of a line between these posts, and incorporating post 209 between them is NNE-SSW, and so is not consistent with that of the extant Small Barn, nor the orientation of the possible predecessors marked on 18th or early 19th century maps. No further post or posthole was seen in the Signage trench, but the projected alignment of the posts lies just beyond its west corner. A pit or posthole that was in line, some 4m to the north-east, is marked at the south-east edge of Area 1 within the Small Barn in both Phases 4 and Phases 2-3 (Tucker 1987, 154, fig. 2 and 155), and that belonging to Phase 4 could be of the same date as timber 256. A relationship over such a distance is however very speculative, and it is probable that there was no link between them.
- 4.4.25 There was no evidence in the surviving parts of either timber to suggest that they had been attached to other timbers, or had had horizontal planks like 217 placed behind them torevet the edge of cut 184. It is possible that they had supported a fence higher up to prevent animals from falling into the cut, and, although unlikely, a building

suspended over the edge of cut 184 in the first half of the 18th century cannot be ruled out.

4.5 Later 17th/18th century? Features south-east of the Great Barn

- 4.5.1 In Lighting Cable Trench II a chalk surface abutted by pebble metalling was overlain by a wooden plank walkway (424) flanked by two flint walls or kerbs (425 and 423) 2.4m apart, and less than 2m from the western porch entrance to the Great Barn (Plate 17). The walkway was aligned NNE-SSW, and was running towards the entrance, albeit slightly obliquely. Bricks and peg tiles incorporated into one of these walls were manufactured in the 17th-early 18th century, giving a *terminus post quem* for the construction of the walls and plank walkway. Three sherds of Victorian transfer-printed ware were also recorded in post-excavation as coming from 423, but as only the surface of this feature was exposed, and stratigraphically this is later not only than succeeding layers, but also wall 186 built of 18th century tiles, it is likely that these sherds have been misnumbered, and do not in fact derive from this wall or kerb. Although called a walkway, this was wide enough to take a cart. This structure probably suggests that the court was flooded at times, and so the walls or kerbs and the planks were provided to raise traffic off the ground. About 1.5m east of the walkway, another timber was found sitting upon the cobbled surface, this time on a north-west to south-east alignment, ie at right angles to the Great Barn, and this lay just inside the projected edge of the porch.
- 4.5.2 The 1845 map and the 1860 Sale of particulars map show the two porches on the Great Barn's south-east side as wider and deeper than they are now, extending into or across the line of Lighting Cable Trench. Although feature 410 is only just outside the projected south-west edge of the barn porch, and narrower unexcavated feature 420 less than 1m outside the north-eastern edge, no trace of any corresponding features marking the edges of the north-east porch were seen (wall 186 is too far to the north-east). In addition, these two maps vary in their location of the porches, as well as their size. Although the location of the Little Barn has proved fairly accurate on the 1860 Sale map, the purpose of these maps was less to provide absolute accuracy than to represent clearly the character of the buildings, which in the case of the two barns is best shown by accentuating the porches. On balance, therefore, the revealed features are likely to have been outside the Great Barn, and wall 410 is more likely to represent a former yard boundary. The only historic map that might possibly represent such a boundary is the 1819 map.
- 4.5.3 Outside the north-eastern porch of the Great Barn, a raised cambered roadway was exposed in Electric Cable Trench I (187). This was 6.1 wide and was built of crushed chalk, gravel and flint nodules which lay above gleyed deposits containing tile fragments of 17th-18th century manufacture. Although the exposure was narrow, this roadway appeared to be running north-westwards towards the porch, whose width it matches very closely. The make-up for 187 overlay a slight hollow in the natural some 3.5m wide (part of cut 330), which may represent an earlier track leading up to the barn (see 3.13.3 above).
- 4.5.4 A hollow in a corresponding position (part of cut 415) was also found in Lighting Cable trench II, although here it was deeper, and not flat-bottomed. Layer 399 into which 415 was cut produced tile of 17th-early 18th century manufacture, so the dating in both the trenches is similar. No corresponding cambered chalk, gravel and flint roadway was seen in Lighting Cable trench II, however, instead the hollow was infilled by a flat-

topped sand and gravel layer 398 0.25m thick, which extended for a distance of 4.25m, corresponding closely to the width of the porch. It is possible that layer 398 performed the same function as 187 further south (Fig. 17), the two indicating a raised patch across the Outer Court to the north-eastern porch, but the looser character of deposit 398 makes this less likely, and fill 398 may have been of later date, and unrelated.

- 4.5.5 Wall 186 was aligned north-west to south-east at right angles to the Great Barn, and the exposed length was only 2m from it (Fig. 3). This wall, which was built of bricks of 18th century character, was only 0.24m wide, so probably belonged to a single-storey building of relatively small size. No structures are shown on this part of the site on the early 19th century historic maps, nor on any subsequent maps, so the wall had presumably been demolished by the end of the 18th or very early 19th century.
- 4.5.6 Below 186, 187 and 398, a wide cut into the natural was exposed in the north-eastern parts of Electric Cable Trench I and in Lighting Cable trench II. In both cases, the westernmost 3.5-4m of cuts 330 and 415 consisted of the shallow hollows described above, but east of this the cut deepened in both trenches. The fills of the shallow hollows overlay the fills of the deeper cuts, and are believed to be the result of separate, and later events than the deeper cuts. The deeper feature comprising cuts 330 and 415 extended for a distance of 11m north to south and at least 2.5m from west to east, although the east edge was not located (Fig. 19). Feature 415 was cut into layer 399, which contained tiles of 17th-early 18th century manufacture, and the earliest exposed fill within the feature (334) included tile fragments of 17th-18th century manufacture. The latest fill seen (196) was overlain by a deposit (188) containing tile of 17th-19th century type. This was in turn cut by the construction trench of wall 186, a brick wall made of bricks of 18th century type, so that the infill of this feature may well have occurred within the 18th century, if not earlier. If the transfer-printed wares from wall or kerb 423 did indeed come from its surface, however, then 399 would be later 19th century in date, and this feature would date to the late 19th century or later, as would all of the structures considered above.

The embayments on the south-west side of the moat

- 4.5.7 It is uncertain what cut 330/415 represents, as both its depth and its eastern extent are unknown. If it was a pond, it lies very close to the edge of the Great Barn, which was certainly standing from the early 16th century onwards, and the western edge only just avoids the access to the eastern porch of the Great Barn. The earliest historic maps of the site, Rocque's and Messener's maps of the mid 18th century, only show one pond, that beyond the buildings on the south-west side of the site, and none of the later maps are relevant.
- 4.5.8 Only the very earliest maps of the moat (1817 and 1819) show it with a straight south-western side. On the 1845 map, and on all subsequent maps until 1897, the moat is shown with two small embayments; one to the south of the bridge its southern edge being close to the NE corner of the Small Barn, and one at the moat's south corner, the latter where the present moat overflow channel is to be found. The embayment at the south corner is never absent after 1845, though its size varies; a bulging embayment next to the bridge is not shown on the 1897 OS map, though the moat steps out just south of the bridge, but it reappears on the 1911 map. This embayment next to the bridge was used as a watering bay/cart wash and is clearly visible to the south of the moat bridge in a drawing of the western aspect of the Manor and moat from 1867. Although not shown on the 1916 OS map, the watering bay is still shown on a sketch of

the farmyard and house from 1927, but appears to have been fenced off, so may have gone out of use (Clarke 2000, 171, fig. 7, 177, fig. 13). It does not reappear on any subsequent maps.

- 4.5.9 Lighting Cable trench IV ran through the area of the embayment just south of the moat bridge, and found what was believed to be the fill of the embayment (497) at a depth of 0.4-0.42m. Only 0.1m of this deposit was exposed in the trench, and there were no finds. This deposit was however located both in Section 68 within the known embayment, and in Section 67, which was located opposite the south-western half of the Small Barn. None of the plans showing the embayments suggest that it extended this far to the south-west, the maximum extent being indicated on the 1860 Sale map (Fig. 17), with a similar extent on the 1865 map. While it is possible that the embayment was larger than indicated at some stage, this seems unlikely. Gathering livestock to drink at the embayment is however likely to have resulted in a fairly substantial area of trampled soil, like that around any farm gateway, extending back from the embayment, and this may be what is represented by layer 497. Alternatively, this layer may represent a later levelling deposit extending beyond the infilled embayment.
- 4.5.10 It is possible that the large feature 330/415 represents an earlier pond or watering place for cattle within the Outer Court, replaced in due course by the embayment on the south side of the entrance. As only a limited depth of deposit within it was seen, it is also possible that it represents no more than a favoured area where livestock stood within the court, resulting in a trampled area of some depth, and not a cut feature
- 4.5.11 No structures that could be said to be part of an early bridge were uncovered during the works, although a series of chalk and clay layers appeared to be part of a ramp up to the western end of the bridge. We know from work conducted by Heritage Network during dredging of the moat in 2008-9 (Heritage Network 2010) that the eastern half of the present brick-built bridge dates to the mid-17th century with the western farmyard side dated to the 19th century. We also know that a stone-built "new bridge" was constructed across the moat in 1466-67, although this was not necessary on the site of the present bridge.

4.6 Late 18th/early 19th century: The Little Barn

- 4.6.1 Wall 338 in Electric Cable trench II and wall 98 in Test Pit 12 are in line, and appear to run parallel to wall 367 at the south-east end of Lighting Trench III. These walls are all constructed in a mixture of brick and flint with very similar mortar, the sampled bricks all being unfrogged and of the same thickness, so may represent elements of one building. They correspond to the positions of the south-east and north-west walls of the barn shown on the 1860 Sale map surveyed in 1853 (Figs 4 and 17). Chalk surfaces 351 and 337 can reasonably be interpreted as internal floors within this end of this barn.
- 4.6.2 The historic map also indicates that the north-west end of the north-east end wall of this barn corresponds to another area of brick (343) found at the north-east end of Electric Cable trench II (Fig. 17). This brick deposit appeared to have only consisted of a single layer, and so may indicate that the end wall of the barn was more shallowly founded than the long walls. As natural was only seen at one edge below the brick, however, it is also possible that the wall was deeper. It is also possible that brick deposit 371 in Lighting Trench III, bricks from which were also unfrogged and of very similar dimensions, belonged to one of the projecting porches of this building, although if the plan here is accurate, it lay just outside the north-east corner of the porch, as did chalk surface 372 (Fig. 17). It seems unlikely that the end of the barn (or its porch) lay any

further to the north-east, as neither the north-east wall of the building, nor the rather deeper north-west wall, were identified in the 2015 Heating Duct trench 1 adjacent.

- 4.6.3 Internally, the earliest feature observed was cut 350, whose southern edge lay only 0.25m from the construction trench of wall 338, and whose northern edge lay 1.3m from brick layer 343. This feature, which had a dark grey clay fill, was interpreted on site as earlier than the building, as its dark fill suggested a link with feature 185 found in the 2015 Heating Duct trench and the excavation south of the Small Barn only 4-5m to the east. As the trench bottomed only a few cms into the fill, however, and there were no finds, this cannot be substantiated. Sections 42 and 43 in the drainage trench showed no trace of a substantial cut into the natural, so if cut 350 was associated, it would have been a separate pond linked by a very narrow channel. Alternatively, cut 350 may instead represent the hollow created in the floor of the barn by animal trampling and vehicle wear, and the dark colour may have resulted from the decayed remains of manure and other organic remains.
- 4.6.4 Dating evidence associated with the barn itself is slight, but the fill of the construction trench for the south-eastern wall of the barn contained CBM of 17th-19th century type, and the bricks retrieved from walls 338, 367 and 371 were all of late 18th or 19th century date. The earliest of the bulk fills used to raise the floor level, which abutted the wall, contained tile of 16th-18th century date. None of the subsequent make-up or chalk floor layers contained any finds.
- 4.6.5 The earliest plan of the site, Rocque's map of 1754, although lacking a moat, shows an arrangement of four buildings surrounding a yard, the whole on the same orientation as the present Outer Court. The north-eastern building probably represents the manor house, and the north-western the Great Barn, suggesting that the long building opposite may be the barn whose walls have just been described. Rocque's representations of buildings are not however noted for their accuracy (cf Allen 1994, 443), and this building is not shown on Isaac Messeder's map of Harrow of 1759 (Clarke 2000, fig. 1a). The clearer 1817 enclosure map, which also includes the moat, clearly shows the Great Barn and its projecting bays, and a smaller structure, apparently also with two projecting bays or door porches, opposite, with a smaller building to the north-east against the edge of the moat. A building in a similar position is also marked on maps of c 1840 and 1845, although the number and position of porches varies. Taken together with the date of the bricks, therefore, this barn is likely to have been built in the late 18th (or very early 19th) century.
- 4.6.6 The evidence of the foundations and lowest wall courses is not, of course, conclusive, as many barns, including the Great Barn at Headstone, are much older than the walls on which they are currently founded. In timber-framed buildings, the foundations or dwarf walls serve only to keep the timbers off the ground and so prevent rot, and the foundations can be replaced while the building is still standing. There are no views of the Little Barn at Headstone to make clear whether this was a timber or brick barn, nor does it appear that the documentary records make this clear. In addition, the map evidence prior to the later 19th century is not accurate, so it is not certain that the building could not have existed earlier, but have been extended at a later date. Nevertheless, the available evidence would support a late 18th century or very early 19th century date for its construction.
- 4.6.7 This barn is also indicated on the 1st edition OS map of 1865, although the door porches of both this and the Great Barn are planned as very shallow, and the more

south-westerly door may already have been demolished. This building was still present on the 2nd edn OS map of 1897, but without the door porches, and by this time a two-celled structure has been added running at right angles north-west towards the north-east end. It is therefore possible that chalk 372 was the floor of one of these.

- 4.6.8 The 1911 Sale of particulars also shows the same arrangement, as do the OS Middlesex County series map of 1916 and the OS map of 1920. By the time of the OS map of 1934 this barn had been demolished, but the two-celled structure had been extended southwards to make three cells. A sketch of the Outer Court of 1926 indicates that the more northerly cells were walled enclosures or pens at this time (Clarke 2000, 177, fig.13).

4.7 The area of the Welcome Building south of the Outer Court

- 4.7.1 No evidence of any former archaeological structures or features was found in the service trenches and test-trenches dug in this area.
- 4.7.2 None of the historic maps other than the 1819 Sale map shows any buildings in this area for certain; the 1817 Enclosure map may also show the same building, but its shape is not regular at the south end. If there was a building here in the early 19th century, it had gone by 1845.
- 4.7.3 Documentary records state that the Dutch hay barn in the rickyard shown on the 1860 Sale map surveyed in 1853 was built before 1824, when an account of repairs mentions it specifically. Such barns were built only on very flimsy foundations, normally brick or stone pads at wide intervals. It is possible that the building marked on the 1819 map was an earlier example of such a type; the limited observations made in this area might well not have picked up such a structure. It is even possible that this was the predecessor to the haybarn in the rickyard, replaced in the early 1820s.

4.8 Early 19th century and later: Structures below and south of the Small Barn

- 4.8.1 Two brick built structures were uncovered to the south of the Small Barn. The larger of these, found halfway along Lighting cable trench VII, consisted of the south-western side of a brick building 6.6m long and aligned north-west to south-east. No structures are shown on historic maps in this part of the site, except for the sale map of 1819 (Fig. 18). This shows a building of the same length and orientation, which the trench cuts just inside the south-west side, but some 2.5m further to the south-east along the trench. This building is not shown on the 1817 Enclosure map, nor on the 1845 map, so was presumably erected soon after the Enclosure map was drawn, and demolished before 1845. Unfortunately none of the bricks from this structure were retrieved for detailed recording, but it was constructed of unfrogged bricks, some measuring 70mm thick. Bricks of this thickness are certainly 19th century or later, and usually Victorian, but a construction date in 1818-1819 is not at odds with the use of such bricks, and the white coarse sandy mortar is consistent with that used for the barn to the west, which is dated to the late 18th or early 19th century.
- 4.8.2 A flint wall (587), together with a small segment of chalk flooring (590) were uncovered beneath the brick foundations (591-593) of the southern wall of the Small Barn. The flint structure was possibly part of the south-east edge of feature 6, a flint foundation found by Tucker extending below the brick foundations and running both parallel and at right angles to the line of the existing Small Barn (Fig. 8, following Tucker 1987, fig. 2 Phase 3). As argued above (3.3.14-18), the layer of chalk appears to have been a levelling

layer following the removal of Tucker's drain 12, which in his Phase 4 crossed the north-eastern part of the barn; a curving line of five further bricks outside the barn may represent the continuation of this 18th century drain. The chalk has tentatively been linked to chalk mentioned overlying clay floor 16, which contained 19th century clay pipe.

- 4.8.3 A brick structure (586) was found immediately outside the Small Barn, and appears to have truncated the drain discussed above. Structure 586 was built of frogged bricks, so must have been constructed after the middle of the 19th century. It almost certainly represents a later 19th century porch erected outside the entrance to the Small Barn. Such a structure is visible on the 1865 OS map (Clarke 2000, 159 map c), and possibly on the 1911 Sale particulars (*ibid.*, 159 map d). It was possibly only demolished when the barn was reconstructed after the fire in the 1970s without an entrance at this point.

4.9 Cobbling/metalling of the courtyard

- 4.9.1 The cobbling/metalling was found all along the line of the current tarmac paths/roads from south of the Small Barn up to the north-west entrance to the site. It also continued south-westwards down Pinner Drive. Within the Outer Court OA's observations showed that it extended south-westwards, including Test pit 8, and reached the eastern corner of the Granary, while MoLA Trenches 3 and 4 and their excavation in the south-west of the Outer Court (Fig. 2) also picked it up (MoLA 2014; MoLA 2017). North of the roadway running from the north-west to south-east corners of the Outer Court the cobbling extended almost to the very end of the Great Barn, although it does not appear to have covered the area north of the Small Barn up to the moat bridge.
- 4.9.2 Where the cobbling/metalling was found in the Outer Court in the 2014 and 2015 Test-pits and Heating Duct Trench, the recorded evidence indicated that the ground had generally been truncated (i.e. cleared of topsoil) prior to its deposition, so that the gravel metalling lay directly on the clay of the natural geology, and left few traces of any earlier soil horizons. A series of shallow deposits of dark clay beneath the metalling and overlying the natural clay were interpreted as the remains of pockets of an earlier yard soil in hollows, though mixed with deliberate infill deposits to level and stabilise the ground prior to the laying of the cobbling. These deposits contained fragments of tile and brick of 18th or early 19th century date, as well as a 19th century horseshoe. A brick early-mid 19th century drain (context 110: OA 2016b) was also observed during the early phase of work cutting into these deposits, and was sealed immediately by the metalled gravel surface.
- 4.9.3 Further work has shown that in many areas a much deeper and more complex sequence of deposits is sealed by the cobbling. This is true even along the line of the main north-west to south-east road, where the mid-19th century cobbling overlay an infilled pond or channel south of the Small Barn, and elsewhere within the Outer Court the remains of brick buildings and associated floors, chalk surfaces, preserved wooden walkways and further hollows or ponds are preserved, particularly to the north of the roadway.
- 4.9.4 The 2015 investigations did identify two phases of cobbling, which generally directly overlay one another. The further observations have shown that there are areas of cobbling that are probably of earlier date, such as in Lighting cable trench II, and that successive cobbled surfaces are sometimes separated by sequences of other deposits, but these appear to be more localised areas of hardstanding, and the most extensive phase of cobbling remains that of the mid-19th century.

5 CONCLUSIONS

5.1 Medieval activity?

- 5.1.1 One corner of a flint-walled building that was found just north of the Great Barn could possibly represent the remains of a genuinely late medieval building. If it does predate the Great Barn, then further evidence of this building may well survive below the floor of the barn.
- 5.1.2 A small number of sherds of pottery of late medieval date were recovered as residual finds in later contexts across the site. The absence of further evidence of late medieval occupation may well be due to the limited depth of many of the service trenches, rather than the absence of such occupation, although the large areas containing hollows or ponds of probable post-medieval date, together with the evidence for the removal of earlier soils in others, is likely to have removed evidence of the kind previously recovered by Tucker below the Small Barn (Tucker 1987).

5.2 16th-18th century activity

- 5.2.1 No evidence of certain activity of 16th century date was found, and only very tentative evidence for activity of 17th century date. A number of features or structures using bricks of 17th-early 18th century manufacture were however found, and other features were infilled with deposits containing bricks or tiles of similar date. In all these cases, the possibility of the reuse of earlier materials, or of the incorporation of residual finds from earlier activity, makes dating less than certain, but at least provides a basis for more targeted future investigation. Additional support for an 18th century, or at the latest a very early 19th century, date for these structures and features is provided by their absence from the numerous 19th century historic maps.
- 5.2.2 Two horseshoes with a date range of the 14th-16th centuries were found in the fill of a pond west of the Small Barn (Fig. 19). Although these may have been the products of a conservative blacksmith, or have been discarded at a later date, it is possible that this pond was used in the 16th century, and even if the objects were old when discarded, a date in the 17th century is more likely than one in the 18th century.
- 5.2.3 It is also possible that the pond or channel found south of the Small Barn is of 17th century (or even earlier) date, as the revetted bank within it had a *terminus post-quem* of the later 16th or early 17th century. If however the upright post 256 dates the feature, rather than being inserted, then it is of early 18th century date.
- 5.2.4 Environmental evidence of the character of the farmyard flora when these ponds were silting up is provided by the waterlogged plant remains. These are entirely in keeping with what would be expected of the post-medieval farmyard. Animal bones from these deposits are few, but are of the usual domestic species to be expected.
- 5.2.5 The brick floor and wall 361 north-west of the Granary is likely to have been constructed in the 17th or early 18th centuries, according to the type of bricks used.
- 5.2.6 In front of the Great Barn, the flint walls flanking the wooden walkway incorporated brick fragments of 17th to early 18th century manufacture, giving a *terminus post quem* for its construction. Transfer-printed Victorian pottery was also recovered, and attributed to one of the walls, but due to a succession of following deposits cut by wall 186, itself built of 18th century bricks, this later pottery is believed to have been

misattributed, and this walkway (and the features discussed in 5.2 6-8 below) may also be of either later 17th or 18th century date.

- 5.2.7 The large feature just outside the north-east end of the Great Barn cut a layer containing tile fragments of 17th or early 18th century manufacture, and as it was overlain by deposits cut by wall 186, is also likely to have been created in the late 17th or the first half of the 18th century. This may have been another pond.
- 5.2.8 Later in the 18th century, and after the large pond had gone out of use, a cambered roadway was built up to the north-east entrance to the Great Barn.
- 5.2.9 Still within the 18th century, unless it was constructed entirely of reused bricks, brick wall 186 was built south of the Great Barn towards its north-east end.
- 5.2.10 The pond or channel south of the Small Barn was infilled, but was recut west of the revetted bank by a narrower vertical-sided pond or channel.

5.3 Very late 18th or early 19th century activity

- 5.3.1 In the south-west part of the Outer Court, the smaller barn with two porches shown on 19th century historic maps, and in this report called the Lesser Barn, was built either late in the 18th or very early in the 19th century, and chalk laid down outside.
- 5.3.2 The recut pond south of the Small Barn did not last for very long, and was infilled very early in the 19th century.
- 5.3.3 By the time of the early 19th century historic maps (1817 and 1819) a brick building was constructed south of the Small Barn overlying the former channel.
- 5.3.4 The building north-west of the Granary and the structure represented by wall 186 both appear to have been demolished at this time, as neither appears on any of the 19th century historic maps.

5.4 Victorian activity

- 5.4.1 Little of significance was found to enhance the history of the site illustrated on the historic maps, unless the transfer-printed wares supposedly from wall or kerb 423 in front of the Great Barn were genuinely from there, in which case the walkway up to the south-western porch and the cambered roadway up to the north-eastern porch, together with the pond north-east of that, would all have belonged to the mid-late Victorian period.

5.5 Ponds or farmyard slurry? (Fig. 19)

- 5.5.1 A recurring theme across the Outer Court was the discovery of deposits covering a large area that occupied cuts or hollows within the natural. Figure 19 shows the known and conjectured extents of some of these. They illustrate the difficulties of interpretation where the stratigraphic sequence was not bottomed, and only shallow exposures were seen.
- 5.5.2 Those outside or on the edge of the Outer Court (Fig. 19, cuts 184/328, 309 and 173/114) were steep-sided and/or deep enough to be confident that they represent cut features. As previously discussed, they may belong with the series of ponds seen on historic maps, constituting a more or less continuous barrier along the south-east side of the Outer Court before its reorganisation in the late 18th or very early 19th century, when the southern entrance to the Outer Court was also formalised. These ponds may

have originated as clay quarries; there is evidence for the raising of the ground both on the Moated Island and in the Outer Court in the post-medieval period, long after the excavation of the moat, and obtaining this from immediately adjacent to the site would have been the simplest and least time-consuming option. Once dug, they will also have helped in water management.

- 5.5.3 In other places, due to the shallowness of the excavation for services, it was not possible to establish whether these deposits were filling further cuts, or were the result of repeated animal trampling and slurry (Fig. 19, 330, 350 and 392). Within the Little Barn the latter interpretation seems more plausible, and in the case of deposit 392, which appeared to occupy a very shallow hollow, this also seems more likely, particularly as it is known that an embayment for watering livestock existed at the moat edge adjacent. As there is little or no evidence for the cobbling of the Outer Court before the 19th century, deposits of this kind would be expected over much of the interior, and the same is true inside farm buildings that were not provided with cobbled floors.

5.6 Chalk and lime

- 5.6.1 Chalk was found extensively on the site, and was a resource available locally from the quarries and mines at Pinner (Kirkman 1999). The quarries were owned by the lords of the manor of Harrow, who were also the owners of Headstone Manor until the 17th century. The quarries continued in use until 1870 (ibid., 61), and it is clear that material from these local quarries was used at Headstone almost up until their closure.
- 5.6.2 While this would be expected to provide a good flooring inside buildings, it was clearly also used outside. Here it was usually compacted, forming rammed chalk surfaces that may have been resistant to bad weather. Some of the areas where it was found externally appear to have been over hollows or ponds, and chalk may have been regarded as a better final levelling layer than pebbles or gravel, which were usually a major component of the infill of these ponds.
- 5.6.3 The occurrence of chalk may be an indicator of the presence of a former pond, for example, immediately outside the Little Barn on the south-east side, where rammed chalk covered an area at least 4m wide, and was clearly filling the top of a hollow or cut into the natural, although only a very small exposure of the dark fill below was seen.
- 5.6.4 The use of chalk in lime mortar was also important, and the remains of a possible lime mixing pit were seen south of the Granary in the first trench observed in 2014. This pit, some 8m across and with two surviving wooden posts *in situ* at the northern edge, was not bottomed or dated (OA 2016b; Fig. 19).

**APPENDIX A. ARCHAEOLOGICAL CONTEXT INVENTORY**

Context	Type	Depth/thickness (m)	Width (m)	Length (m)	Comments	Finds	Date
145	Leveling	0.55		>5	Firm, yellow brown sandy silty clay, occ. concrete, very occ. cobbles		
146	Leveling	0.3	>0.8	>0.8	Loose, brownish red fragments of pan tile and brick		
147	Buried soil	0.3		>4.3	Firm, brown very humic silty clay, occ. red tile, charcoal		
148	Subsoil	0.31		>5	Plastic, light greyish brown sandy silty clay, occ. charcoal flecks		
149	Natural Geology	> 0.2			Firm, yellowish brown sandy silty clay		
150	Topsoil	0.35			Loose, dark brown charcoal rich topsoil, fragments of glass, clinker and brick		
151	Buried soil	0.18		>5	Plastic, brownish grey silty clay		
152	Layer	0.32		>5	Firm, brownish yellow sandy silty clay, occ. chalk flecks -Reworked natural geology		
153	Surface of modern yard path	0.1	-	-	Compact, black tarmac		
154	Sub-base / leveling	0.15	-	-	Moderately compact, black tarmac, type 1 aggregate and pebbles		
155	Surface/ sub base	0.07	-	-	Compact, rammed crushed red brick fragments	CBM	18 th century
156	Surface	0.15	-	-	Very compact, well rounded pebbles – Metaling		
157	Surface	>0.1	-	-	Compact, rammed		



					crushed chalk with flint nodules		
158	Layer	0.05	-	-	Compact, dark grey clay, gravel, coal and charcoal	CBM, iron nail stem	18-19 th century
159	Natural Geology?	>0.04	-	-	Stiff, grey gleyed clay		
160	Natural Geology	0.3	-	-	Stiff, pale mottled brownish yellow clay		
161	Sub base/ leveling	0.1	-	-	Compact, black ashy silt and gravel		
162	Sub base/ leveling	0.11	-	-	Compact, greyish brown gravelly clay		
163	Surface	0.2	-	-	Compact, rammed crushed chalk		
164	Dump	0.3	2	2.26	Peg tiles set vertically on edge in rows, same as 175		
165	Post	> 0.2	0.2	0.16	Wooden vertical upright, part of a row, rectangular in cross section		
166	Post	0.5	0.2	0.16	Wooden, vertical, part of a row, rectangular in cross section		
167	Post	>0.2	0.2	0.17	Wooden, vertical part of a row, rectangular in cross section		
168	Surface	0.12	-	-	Very compact, brownish red, crushed brick roof tiles fragments in clay		
169	Surface	0.04	-	-	Compact, grey to white crushed chalk and clay mix		
170	Surface	0.09	-	-	Compact, grey clay with gravel, flint, ?=202		
171	Dump	0.06	0.7	0.4	Firm, brick fragments (up to half bricks), frequent fragments lime mortar		
172	Fill of 185	0.2	-	-	Firm, brownish grey		



					silt with frequent gravel, organic inclusions		
173	Layer	>0.3	-	-	Moderately compact, grey sandy gravel, frequent large flint nodules		
174	Natural Geology	>0.42	-	-	Stiff, pale brownish yellow clay		
175	Dump	> 0.3	0.56	0.5	Peg tiles set vertically on edge in rows, same as 164		
176	Dump	0.1	1.9	1.1	Loose, mixed red brick fragments, flint nodules and concrete		
177	Fill of 178	0.5	0.8	1.22	Loose, brownish grey sandy gravel and clay, frequent CBM-Robbing	CBM	17-19 th century
178	Pit	0.5	0.8	1.22	Oval vertical sides flat base		
179	Layer	0.1	-	-	Compact, dark grey clay and gravel		
180	Layer	0.15	-	-	Compact, grey gravel and clay		
181	Layer	0.18	-	-	Compact, brownish grey clay and gravel		
182	Fill of 184	0.24	-	-	Soft, yellowish grey, mottled gleyed clay-Redeposited natural geology		
183	Layer	0.1	-	-	Moderately compact, dark grey gravel		
184	Channel or extension to moat	>0.3	12		N edge of feature edge -steep. base not found feature 328 is possibly part of the same feature		
185	Channel /pond	>0.35	-	-	Large feature only E edge seen -steep almost vertical		
186	Wall	0.24	0.3	>0.7	N-S aligned, orange red handmade unfrogged bricks, soft white sandy lime mortar	CBM	18 th century



187	Surface	0.12	6.1	-	Very compact, crushed chalk, gravel and flint nodules, sub rounded pebbles		
188	Layer	0.15	-	-	Soft, dark blue grey (gleyed) clay, frequent CBM, occ. large flint nodules, sub rounded pebbles	CBM, iron nail	17-19 th century (1 frag 13-15 th cent)
189	Layer	0.06	-	-	Soft, pale brown gritty clay, frequent white chalk flecks		
190	Ditch	>0.3	0.9		N-S aligned, seen in section only, steep sided, flat based,		
191	Plank	0.1	0.29	0.3	Wood, lain horizontally within layer 188		
192	Fill of 190	0.3	0.64	-	Compact, brownish orange gravel rich clay	Iron Horseshoe	15 th -16 th century or later
193	Fill of 190	0.1	0.3	-	Soft, grey gravel rich clay, occ. white flecks		
194	Fill of 190	0.1	0.1	-	Moderately compact, brown clay, frequent white chalk flecks		
195	Natural Geology	>0.1			Stiff, yellow sandy clay		
196	Fill of 330	>0.18	-	-	Soft, dark blueish grey (gleyed) silty clay, frequent flint nodules	Pottery	1170-1350
197	Fill of 198	0.23	0.26	-	Soft, dark grey sandy clay, frequent very small fragments roof tile, red brick		
199	Layer	0.10			Compact orange gravel and clay		
200	Surface	0.15			Compact, dark grey sandy clay frequent well rounded pebbles, occ. small fragments of CBM		



201	Layer	0.15	-	-	Compact, grey clay with well rounded pebbles		
202	Post	>0.25	0.16	0.2	Wooden upright, rectangular in plan		
203	Post	>0.24	0.12	0.14	Wooden upright		
204	Surface	0.09	5	1.7	Compact, light grey blue and light greyish red sandy silt, with frequent sub-rounded cobbles- Metalling	Pottery	18-19 th century
206	Layer	0.45	5	0.95	Friable, light brownish grey sandy silt, occ. sub rounded pebbles	Pottery, CBM. Iron blade fragment	1820-1900
209	Post	-	0.14	0.14	Wooden upright, in poor condition		
210	Pit	>0.25	0.85	-	Only partially observed in plan, circular. Filled by 211		
211	Fill of 210	>0.25	0.85	-	Friable, dark greyish brown clayey silt, frequent roof tile	CBM	18-19 th century
212	Layer	>0.1	0.6	-	Compact, red brick rubble	CBM	17-18 th century
213	Surface	0.09	1.8	5	Compact, light greyish red and light yellowish grey sandy silt with frequent sub-rounded pebbles- Metalling	CBM, 2 iron nails, stone	E18-19 th century
214	Layer	0.25	1.93	1.06	Moderately firm, mid to dark brown sandy silty clay, occ. sub rounded pebbles	CBM, Pottery, iron nail	18-19 th century
216	Layer	0.2	4.26	0.7	Moderately compact, light to mid grey and yellowish grey sandy gravel, sub rounded pebbles	CBM, horseshoe	18-19 th century
217	Beam	0.15	2.23	0.18	Wooden horizontal, orientated north south, moderate		



					condition		
218	Dump	0.2			Loose, flint nodules		
219	Beam	0.06	0.7	0.12	Wooden horizontal		
220	Post hole	>0.25	0.19	0.17	Square in plan with vertical sides, base unseen. Filled by 227 and 256		
221	Beam	0.05	0.71	0.08	Wooden Plank angled at between 70° and 80° degrees. Poor level of preservation		
222	Stake	0.04	0.05	0.15	Wood angled at 45 degrees, poor condition		
223	Stake	>0.1	0.06	0.07	Wood vertical, poor condition of preservation		
224	Stake	0.03	0.02	0.04	Wood vertical, poor condition of preservation		
225	Stake	>0.05	0.08	0.12	Wood, vertical poorly preserved		
226	Stake	>0.1	0.1	0.07	Wood, vertical-poorly preserved		
227	Fill of 220	>0.25	0.12	0.12	Soft, dark brown organic- Decayed post		
228	Layer	0.15	0.15	2.05	Soft, grey brown clay frequent flecks of light grey clay and chalk	CBM	18-19 th century
229	Layer	0.1	2.45	0.45	Compact, crushed white chalk		
230	Topsoil	0.25	-	-	Friable, brownish grey fine sandy clayey silt, occ. pebbles		
231	Layer	0.2	-	-	Loose, brown with red and yellowish brown, gravel rich clayey silt, flint nodules		
233	Layer	0.2	-	-	Compact, mid to dark grey mix of sub rounded pebbles and ashy silt		
234	Fill of 185	0.2	1	0.36	Compact, greyish		



					brown organic rich gravely silt		
235	Fill of 185	0.1	1.6	0.9	Compact, dark blackish grey clay with sub rounded pebbles	CBM, iron hinge staple	18-E 19 th century
236	Fill of 184	0.25	>1.65	-	Soft, black gleyed clay, occ. large flint nodules and roof tiles	CBM, heel iron, nails (2), iron strip and bar. Window glass	18-19 th century
237	Fill of 309	>0.1	6	-	Soft, grey sandy clay, very frequent fragments of mortar. Sloped down towards the east	CBM	18-19 th century
238	Layer	0.1	1.54	1.3	Compact, brownish grey gravel, sub rounded. Sloped downwards towards the west		
245	Layer	>0.1	1.3	-	Semi-compact, brown clay with, frequent brick, occ. chalk flecks	CBM	L17-18 th century
248	Layer/topsoil	>0.1	2	2	Firm, brownish grey silty clay, infrequent sub angular pebbles, occ. wood		
256	Post	0.20	0.24	0.74	Wood, vertical well preserved with no visible tool marks. Flat base, untrimmed one side, flat the other		Felled AD 1709-1710
286	Beam	0.08	0.4	0.02	Wood, horizontal aligned north to south	Iron tack	
287	Post	-	0.5	0.13	Wood horizontal aligned east to west		
288	Post	0.25	0.08	-	Wood, vertical		
289	Post hole	0.37	0.06	-	Only one edge observed, vertical sides. Filled by 290		
290	Fill of 288	0.37	0.06	-	Compact, dark blueish grey silty clay, occ. stone		



291	Layer	>0.1	-	-	Compact, white chalk fragments with occ. bricks	CBM	16-E17 th century
292	Surface	0.12	0.39	3.85	Friable, dark blackish grey silty gravel- Metaling		
293	Fill of 210	0.29	-	0.52	Friable, light yellowish brown silty sand, frequent small pebbles		
294	Fill of 185	0.25			Very compact, brownish grey silty sand, frequent small pebbles. Slopes down from E-W		
307	Layer/ Dump	0.35	1.7		Compact, mottled blue grey clay, occ. roof tile, chalk lumps and pebbles	CBM	L18-19 th century
308	Fill of 184	0.25	0.55	-	Semi soft, dark grey clay, semi rounded and angular pebbles, fragments of chalk	CBM	18-19 th century
309	Re cut Channel or ditch	>0.75	6.5	-	Steep N side. Vertical S side Filled by 310, 311, 313, 315, 316,317, 318, 237		
310	Fill of 309	0.43	3.16	-	Semi soft, mottled dark brown and yellow brown sandy clay		
311	Fill of 309	0.08	1.88	-	Soft, orange brown silty clay, occ. well rounded pebbles	Pottery	1700-1825
312	Layer	0.29	0.29	-	Soft, mottled orange brownish grey silty clay, well rounded pebbles		
313	Fill of 309	0.16	1.7	-	Soft, mid to dark grey silty clay, chalk fragments		
314	Fill of 309	0.18	-	-	Loose to semi compact, mottled brownish grey silty clay		
315	Fill of 309	0.22	1.25	-	Semi soft, dark brownish grey silty clay, occ. pebbles		



316	Fill of 309	0.19	1.74	-	Semi soft-compact, mottled yellow-brown clay, fragments chalk, flint nodules	Pottery CBM	1700-1825
317	Fill of 309	0.21	3.88	-	Semi-soft to loose, dark grey silty clay, angular pebbles		
318	Fill of 309	0.24	3.4	-	Soft, brownish yellow clay, round and angular pebbles		
319	Refuse pit	0.4	1.7	-	Oval, 45° sides pointed base		
320	Fill of 319	0.4	1.7		Loose, dark brown coarse ashy silt, frequent fragments of slag, clinker, pottery and glass bottles	Pottery, cupro-nickel dessert spoon & glass bottles	20 th century, probably before 1925
321	Fill of 328	0.16	-	-	Friable, mottled yellow brown clay, chalk flecks	CBM	18-19 th century
322	Fill of 328	0.22	-	-	Compact, dark grey, angular gravel	CBM	17-18 th century
323	Fill of 328	0.1	-	-	Semi compact, grey brown gravel, sub rounded pebbles		
324	Topsoil	0.05	-	-	Friable, dark grey clay silt, occ. sub rounded pebbles		
325	Leveling	0.3	-	-	Soft to friable, yellow with pinkish red vertical mottling throughout clay, occ. flint nodules		
326	Natural Geology	>0.1	-	-	Stiff, yellowish brown clay		
327	Layer	0.2	-	-	Compact, mid grey brown clay silt well rounded and sub rounded pebbles		
328	Channel/ pond or extension to moat possibly the same as 184	>0.5	12.5		E-W aligned, southern edge of large feature 45° degree sloped side with flat bottom. Filled by 321, 322 323 308		



330	Cut	>0.2	15	-	Western edge of feature, base not found. Edge gradual. Filled by 196, 331, 334 and wooden plank 335		
331	Fill of 330	0.1	-	-	Friable, grey with greenish mottling, ashy gritty clay silt		
332	Surface	0.20	-	-	Compact, brownish grey sandy gravel and clay silt, sub rounded – well rounded pebbles, occ. flint nodules -Metaling		
333	Natural Geology	>0.3	-	-	Stiff, yellow grey clay		
334	Fill of 330	>0.15	1.42	-	Soft, light to mid grey with patches of light greyish blue, clay, well rounded -sub rounded pebbles	CBM	17-18 th century
335	Post	0.15	0.1	0.7	Vertical rectangular wood post or stake, only the top seen in section. Badly preserved, no joints or tool marks seen. Not removed		
336	Layer	0.1			Soft, dark grey gravel rich gritty clay, sub rounded -well rounded pebbles		
337	Surface	0.2	0.4	1.8	Compact, rammed crushed chalk		
338	Wall	>0.1	0.5		NW-SE aligned flint and red brick, white sandy lime mortar	CBM	L18-19 th century
339	Surface	0.1	0.4	1.5	Rammed, crushed chalk		
340	Leveling /Sub base	0.3			Compact, dark greyish brown ashy gravel rich silt, well rounded -sub rounded pebbles		
341	Natural Geology	>0.1			Stiff, brownish yellow with light		



					grey mottles clay		
342	Fill of 350	>0.3	2.2		Soft, dark grey gleyed clay, rare flecks chalk	CBM	16-18 th century
343	Sub base	0.1			Compact, crushed red unfrogged bricks mixed with cream and white sandy lime mortar- Demolition		
344	Fill of 360	0.26	2.1		Moderately compact, brown with frequent red and white, coarse sandy clay silt, frequent fragments roof tiles, occ. fragments chalk and mortar -Demolition	CBM	17-19 th century
345	Layer	0.25	0.4	2.1	Friable, dark grey fine sandy gleyed clay, occ. sub rounded -sub angular pebbles		
346	Fill of 350	>0.1	3.5		Soft, dark grey gleyed clay		
347	Fill of 350	0.2	1.1		Stiff, light blue grey sandy gleyed clay		
348	Fill of 349	0.1	0.1	>0.4	Soft, brown silty clay, frequent flecks white mortar, occ. fragments roof tiles	CBM	17-19 th century
349	Construction trench	0.1	0.4	0.6	NE-SW linear vertical sides, flat base		
350	Channel	>0.6	3.8	0.4	NW-SE aligned only S edge seen 45° slope, filled with 346, 347 and 342		
351	Surface	0.3	0.4	3.8	Compact, rammed crushed chalk with lens of greyish brown sand		
352	Layer	0.1	0.4		Soft, light grey gleyed clay		
353	Surface	>0.1	0.4	0.1	Compact, brown gravel, sub rounded well rounded pebbles- Metalling		



354	Layer	0.1			Soft, brown clay		
355	Sub base	0.05			Very compact light-mid greyish orange gravel and clay, sub angular pebbles		
359	Surface	0.3			Compact, light -mid grey clay and gravel well rounded sub rounded pebbles, occ. large rough hewn flint nodules		
360	Robber cut	0.4			E-W aligned linear, flat base, vertical sides		
361	Surface	0.5	1.5		Single course of red unfrogged bricks lain on edge, very soft light grey lime mortar-Floor	CBM	17-E18 th century
362	Leveling	>0.1			Moderately compact, brown with white and red flecks silty clay, chalk and mortar		
363	Service Trench	>0.3	0.6		NW-SE aligned linear, vertical sides Modern service		Modern
364	Fill of 363	>0.3	0.6		Loose, grey brown sandy clay, occ. roof tile, clay drain pipe		Modern
365	Service Trench	>0.3	0.6		Irregular vertical sides, base not reached		Modern
366	Fill of 365	>0.3	0.6		Compact, grey silty clay	Pottery	1850-1900
367	Wall	>0.3	0.46	>0.4	E-W aligned red unfrogged bricks in white coarse sandy lime mortar	CBM	L18-19 th century
368	Construction Trench	>0.1	0.6	>0.4	E-W aligned cut		
369	Fill of 368	>0.1	0.2	>0.4	Loose brown silty clay, frequent unfrogged brick and roof tiles	CBM	17-19 th century
370	Surface	0.1		>0.4	Compact, brown grey clay and gravel well rounded sub rounded pebbles-		



					Metaling		
371	Robbed out wall?	>0.2	0.2	>0.4	Compact, red bricks fragments	CBM	L18-19 th century
372	Surface	>0.1	2.2	>0.4	Rammed crushed chalk		
373	Topsoil	0.35			Loose, brownish grey fine sandy clay silt occ. chalk and mortar flecks		
379	Layer/Make up deposit	0.18			Compact, dark grey silty clay and pebbles, occ. mortar	CBM Pottery	16-19 th century
380	Layer	0.18	3.5	>0.4	Friable, white clayey chalk, rare pebbles-Ramp		
381	Pit/ditch	0.3		0.46	Linear		
382	Fill of 381	0.3		0'46	Soft, light – mid grey orange brown mottles clay, occ. pebbles and chalk flecks		
383	Fill of 392	0.14			Firm, yellowish grey clay, chalk and charcoal flecks		
384	Fill of 392	>0.3	9.3	>0.4	Firm, reddish grey silty clay with flecks of charcoal, CBM and chalk	CBM	16-18 th century
385	Natural Geology	>0.5			Stiff, yellow clay		
386	Ditch	>0.3	0.8		Linear N-S base not found		
387	Fill of 386	0.3	0.8		Firm, reddish grey silty clay, flecks charcoal and chalk		
388	Layer	0.05			Loose chalk and clay		
389	Sub base	0.18	5.25		Loose red crushed brick occ. flint nodule	CBM	17-19 th century
390	Layer	0.25	7	>0.4	Firm, mid -light yellow clay, occ. charcoal-Ramp		
391	Sub base	0.1			Gravel		Modern
392	Channel /moat or natural	>0.4	>10.5	>0.4	Large cut or slope into moat only western edge seen		



	typography				gentle slope < 45° base not found. Filled with 384, 473,474 and 486		
393	Surface	0.1			Concrete		Modern
394	Sub base	0.15			Loose, grey pebbles		Modern
395	Layer	0.1	2.6	0.4	Firm, yellow clay, flecks CBM -Sloped down from east to west		
396	Dump	0.1	2.6		Compact, crushed roof tiles- Sloped down from east to west	CBM	18-19 th century
397	Fill of 415	0.1			Firm, dark grey silty clay occ. flint		
398	Leveling	0.1			Loose, yellowish grey sand and pebbles		
399	Leveling	0.2			Firm, grey and yellow clay	CBM	17-E18 th century
400	Surface	0.05			Rammed, crushed chalk		
401	Topsoil	0.2			Loose, dark greyish brown clayey silt, occ. pebbles		
402	Sub Soil	0.2			Loose, dark brownish grey clay silt, moderate pebbles		
403	Leveling	0.1			Loose, black gravel		Modern
404	Dump	0.2			Friable, light yellowish white silty clay and chalk, frequent rounded pebbles		Modern
405	Dump	0.03			Friable, light yellowish white mixed chalk and silty clay		
406	Surface	>0.1			Rammed chalk		
407	Sub base	0.1			Friable, yellow brown sandy gravel		Modern
408	Surface	0.05			Tarmac		Modern
409	Packing layer	0.15			Friable, brownish grey silty sandy gravel		



410	Ditch /beam slot	0.35	0.48	>0.4	Base flat steep sides		
411	Fill of 410	0.35	0.48		Soft, dark blue-gray silty clay		
412	Leveling	0.15	1.35		Soft, dark brownish grey gravel rich clay		
413	Leveling	0.2	1.7		Soft, greyish brown silty clay		
414	Leveling	0.18	3.7		Firm, brownish grey clay gravel		
415	Possible part of moat	> 0.2			Gradual sides base not found		
416	Surface	>0.05	10		Rammed, crushed chalk		
417	Surface	>0.03			Crushed chalk		
418	Surface /Repair	0.05	0.7		Rammed, crushed chalk		
419	Surface or sub base	0.15	4.3		Loose, dark greyish yellow sandy gravel, frequent flecks chalk and charcoal	CBM	17-19 th century
420	Ditch?	>0.05	0.5		N-S linear		
421	Fill of 420	>0.05	0.5		Friable, dark brownish grey silty gravel, charcoal, chalk flecks		
422	Beam/Edge	>0.1	0.07		Wood lain horizontally		
423	Wall	0.1	0.25		SW-NE aligned Flint nodules	Iron strip or plate frag, Glass bottle	1899-1920s
424	Plank walkway	0.03	0.6	0.15	Wood lain horizontally		
425	Wall	0.1	0.25		NNE-SSW Flint and brick associated with wall 433	CBM	17-E 18 th century
426	Surface	0.10	15		Firm, dark brownish grey sandy gravel -Metaling		
427	Layer	>0.04			Loose, black coarse sandy silt		
428	Sub base 429	0.1			Friable, brownish grey gravelly clay sub rounded -well rounded pebbles		



429	Sub base	0.1			Compact grey coarse sandy ashy gravel		
430	Wall	>0.15	0.48	1.1	Flint clay rich orange yellow mortar		
431	Wall	>0.15			Red brick and concrete footings- Standing wall of Great Barn		Modern
432	Ditch	0.35	2.2		N-S aligned cut concave sides, base not found		
433	Fill of 432	0.35	2.2		Soft blue grey silty clay with brownish orange mottles		
434	Service trench	0.33	0.35		Vertical sides, flat base		Modern
435	Fill of 434	0.33	0.35		Friable, dark brown tarmac		Modern
436	Possible natural geology	>0.1			Soft, orange brown silty clay		
437	Layer	>0.35			Soft, dark greyish blue silty clay- alluvium?		
438	Construction trench	0.1			Flat base vertical sides		
439	Wall	0.5	0.55		Rough hewn flint nodules bonded with dark brownish yellow sandy mortar		
440	Surface	0.09			Tarmac		Modern
441	Sub base	0.13			Loose, dark grey gravel		Modern
442	Surface or leveling	>0.12			Compact, yellow with pinkish mottles clay-		
443	Demolition	0.22			Loose, greyish brown mix of silty clay and fragments of roof tile occ. large flint nodules	CBM	17-E19 th century
444	Buildup	0.15			Firm, yellowish grey silty clay, rare charcoal flecks- Occupation or abandonment		



445	Surface	>0.1			Firm, yellow clay occ. flint nodules		
446	Layer	0.31			Firm, greyish yellow clay, occ. flecks chalk		
447	Robber trench	0.24	0.5		NW-SE aligned almost vertical sides, flat base		
448	Fill of 447	0.25	0.5		Loose, yellowish grey sandy clay, very frequent flint and mortar rubble	Pottery	1170-1350
449	Surface or leveling	>0.1			Firm, yellow clay		
460	Dump/ Leveling	0.1			Soft, yellow clay- Redeposited natural	Pottery	1450-1600
461	Former topsoil	0.25			Friable, greyish brown silty clay, occ. brick, roof tile and pebbles		
465	Layer	0.7	-	-	Moderately compact, light -mid yellowish grey gravel rich clay, occ. large flint nodules and fragments CBM	CBM	17-18 th century
466	Sub base or rough surface	0.1			Compact, crushed red brick with yellow coarse sandy mortar-Demolition	CBM, Horseshoe 19 th century	L18-19 th century
469	Sub base	0.05			Very compact orange yellow coarse sandy angular gravel		
473	Fill of 392	0.1			Friable, grey brown with dark brown mottles, occ. sub rounded pebbles- Ramp		
474	Fill of 392	0.1			Moderately compact, brown clay		
475	Fill of 677	>0.3	>0.75		Friable, orange brown dark orange brown mottles silty clay, occ. sub rounded pebbles		
485	Layer	>0.1			Soft, yellow with mauve and pink clay		
486	Fill of 392	>0.1	2	>0.4	Friable, orange		



					brown silty clay with grey mottles, no inclusions		
488	Surface	0.25			Loose, brownish grey gravel rich clay well rounded -sub rounded pebbles -Metalling		
489	Sub base	0.1			Compact, yellow orange clayey sand		
497	Layer	>0.1			Compact, dark grey gleyed gravel rich clay, occ. charcoal flecks- In fill or leveling		
499	Layer/sub base	0.15			Compact, red and brown crushed red bricks mixed with brown clay bricks unfrogged with mortar attached. Occ. white mortar fragments	CBM	14-16 th century
566	Wall	0.24	0.3	>0.7	N-S aligned, orange red handmade unfrogged bricks, soft white sandy lime mortar	CBM	17-18 th century
567	Fill of 572	>0.2			Friable, dark grey ashy charcoal rich silty clay, frequent flecks charcoal occ. sub rounded pebbles	CBM	17-19 th century
568	Fill of 572	>0.3			Friable, greenish grey clay	CBM: roof tile, occ.brick	
569	Fill of 572	>0.25			Stiff, greenish yellow with brown green mottling fine sandy clay		
570	Fill of 572	0.25			Stiff, grey, clay,		
571	Fill of 572	0.1			Friable, orange brown ashy silty clay, frequent charcoal, burnt angular pebbles and white mortar		
572	Channel	>0.5	7.5	>0.4	E-W aligned only south side seen.		



					Gradual slope base not found. Filled with 567-571		
573	Wall	>0.1			N-S aligned red unfrogged brick lain on edge		
574	Wall	>0.1.			E-W aligned red unfrogged brick lain on bed		
575	Wall	>0.1			Red unfrogged brick lain on bed		
576	Fill of 577	>0.05	0.2	>0.4	Loose, grey with red flecks mix of coarse sandy clay and crushed red bricks		
577	Construction trench	>0.05	1	>0.4	E-W aligned linear cut vertical edges		
578	Natural Geology	>0.4			Stiff, orange clay		
579	Fill of 580	>0.05			Loose, greyish brown with orange mottles coarse sandy gravel rich silt		
580	Construction trench	>0.05			N-S aligned linear only eastern side seen = vertical. Base not found		
581	Fill of 582	>0.05			Friable, grey brown sandy clay		
582	Layer	0.2			Moderately compact, greyish brown clay		
583	Fill of 584	>0.2			Stiff, light yellowish grey with orange brown mottles fine sandy clay		
584	Robber trench	>0.2			E-W aligned linear gradual sides -Robbing of wall 575		
585	Construction trench	>0.31			Vertical sides base not found		
586	Manhole	>0.1	1.3	1.67	Square brick built structure red shallow frogged rd bricks mix of whole and half bats all lain on bed		
587	Wall	>0.2			E-W aligned, two		



					courses of roughly dressed flint with crushed chalk		
588	Drain	>0.15			Five bricks in row unfrogged red bricks		
589	Fill of 595	>0.15	0.24		Loose, brown silty clay, frequent roof tile fragments, well rounded pebbles, occ. flint nodules		
590	Surface	0.1			Rammed crushed chalk		
591	Wall	>0.2			E-W aligned, red unfrogged bricks all on bed and all half bats white mortar on upper surface reused no bonding		
592	Wall	>0.1			E-W aligned, red unfrogged bricks all on bed and all half bats no bonding seen		
593	Wall	>0.1			E-W aligned, red unfrogged bricks all on bed and all half bats no bonding seen		
594	Fill of 595	>0.15			Moderately compact, dark grey clay silt, frequent flecks charcoal		
595	Construction trench	> 0.15			Square cut vertical sides, base not found		
676	Layer	0.07	1.8	0.4	Rammed, crushed chalk -Ramp		
677	Pit/Ditch	>0.3	>0.8	>0.4	Western edge of feature. Side-45° base not found filled with 475		
678	Sub base	0.2			Compact, dark brown and red crushed brick layer mixed with gritty ash and clinker		
679	Layer	>0.15			Soft, dark grey clay and pebbles		
700	Layer				Grey and dark	CBM	16th-17th



					orangey-brown mottled clay with rare pebbles		C?
701	Layer	0.2			Dark grey gritty silty clay frequent fragments of roof tile, occ. china	CBM	16th-17thC?
702	Layer	>0.2			Friable greenish grey clay with dark orange brown mottles, occ roof tile fragments	CBM	
704	Layer	0.2			Loose dark grey gritty clay frequent well rounded pebbles		

APPENDIX B. ASSESSMENT OF FINDS

B.1 The post-Roman pottery

by John Cotter

Introduction and methodology

- B.1.1 The Phase 2 work in the area of the Outer Court produced only 21 sherds of post-Roman pottery weighing 394g (see Table B.1). The pottery came from 13 contexts (see Appendix A table).
- B.1.2 All the pottery was examined, spot-dated and fully catalogued (see Excel spreadsheet in archive). This was catalogued using the fabric and form codes of the Museum of London (MoLA 2015). For reasons of economy and easier presentation some of the more ephemeral/interpretative data fields have been omitted from the catalogue here although all those essential for the assessment and potential publication of the assemblage have been retained. For each context, and fabric, the total pottery sherd count and weight were recorded. Vessel form, if identifiable, was also recorded together with ENV (minimum vessel count). Vessel part, decorative details, condition and traces of use are recorded in the comments field.

Pottery Fabrics

- B.1.3 A range of medieval and post-medieval pottery is present although post-medieval pottery (after c 1480) is much commoner. A detailed breakdown of the fabrics is presented in Table B.1 below.

Fabric	Common name	E Date	L Date	Period	Sherds	Weight	ENV
--------	-------------	--------	--------	--------	--------	--------	-----

BBAS	Black basalt stoneware	1770	1900	PM	1	5	1
BONE	Bone china	1794	1900	PM	1	9	1
CHPO	Chinese porcelain	1580	1900	PM	1	2	1
ENGS	English stoneware	1700	1900	PM	1	10	1
ENGS BRST	English stoneware with Bristol glaze	1830	1900	PM	2	164	2
PMR	Post-medieval redware	1580	1900	PM	2	65	2
PMRE	London area early post-medieval redware	1480	1600	PM	1	14	1
RBOR	Surrey-Hants border redware	1550	1900	PM	1	13	1
REFW	Refined whiteware	1805	1900	PM	1	4	1
SHER	South Hertfordshire greyware	1170	1350	M	2	16	2
TPW	Transfer-printed refined whiteware	1830	1900	PM	8	92	4
TOTAL					21	394	17

Table B.1. The Outer Court. Breakdown of pottery fabrics in alphabetic order (by code)

Overview

- B.1.4 The area of the Outer Court produced only 21 sherds of pottery (see Table 1). These include two small medieval sherds (SHER) and 19 post-medieval sherds. The previous Phase 1 works had produced only 10 sherds, and in only three fabrics post-medieval fabrics: TPW, REFW and PMR, all fabrics also represented in Phase 2. The overall assemblage is therefore small, and of limited interest.
- B.1.5 The only fabrics not also represented on the Moated Island are single sherds each of Chinese porcelain (CHPO), black basalt ware (BBAS), and bone china (BONE).
- B.1.6 The assemblage comprises medieval and post-medieval pottery fabrics and vessel forms common to the London area and beyond. The condition is variable but generally fairly fragmentary, with the earliest material generally being the most fragmentary while the latest material occurs as much larger, fresher, sherds.
- B.1.7 The earliest material comprises sherds of South Hertfordshire greyware (Fabric code SHER) which has a date range of c 1170-1350, although a 13th-14th century date

seems more likely for the material here. Two sherds (2 ENV) come from the Outer Court, and another seven (4ENV) came from the Moated Island. The very fragmentary vessels forms present in this ware include jugs and cooking pots. Much, but not all, of this appears to be residual in later contexts. In relation to Headstone Manor, the nearest known sources of this ware are in north-west Middlesex, at Pinner and Uxbridge.

- B.1.8 Early post-medieval redware (PMRE, c 1480-1600) is by far the commonest fabric from the Moated Island, though not well-represented in the Outer Court. Several production centres for this fabric tradition are known from sites along the Thames in London including Lambeth, Woolwich and Greenwich and also upriver at Kingston-on-Thames (Surrey). Other production centres probably existed in the London area but have yet to be discovered. While some vessels from Headstone Manor have the typical oxidised medium-coarse sandy fabric found in central London, a few have a coarser fabric which may perhaps come from a more local source. Unlike sites closer to London, no PMRE vessels here have white slip decoration of any kind, or green or yellow glazes; some vessels have a clear (brown) glaze, or small patches of glaze, but otherwise the PMRE assemblage here is very plain and not decorated in any way. On its own, plain PMRE is not closely datable.
- B.1.9 Sherds in post-medieval redware (PMR) include some dating mainly to the 18th and 19th centuries and include terracotta flowerpots. The latest material, mainly transfer-printed whitewares (TPW), which are the most numerous fabric in the Outer Court, is fairly unremarkable.

Recommendations

- B.1.10 Should a publication report on the results be required, then one sherd from the Outer Court should be illustrated:

Context [460] Early post-medieval redware (PMRE). Jar/cooking pot with flanged rim (diam 190mm). Outer Court.

B.2 Assessment of the ceramic building material (CBM) (Phase 2 works)

By John Cotter

Introduction and Methodology

- B.2.1 The site produced a total of 613 pieces of ceramic building material (CBM) weighing 107.232kg from 100 contexts. The assemblage mainly comprises fragments of post-medieval flat roof tile (peg tile) and brick with smaller quantities of floor tile and miscellaneous CBM including ridge tile.
- B.2.2 All the CBM was catalogued in some detail in Excel and using the fabric codes of the Museum of London, and a duplicate reference collection of the commonest fabrics (housed at Oxford Archaeology). The catalogue has a column for each broad functional type or category of CBM (eg roof tile, brick, floor tile and 'other' or miscellaneous types). For each context and fabric, the functional types were recorded by sherd (or fragment) count and weight, each functional type being treated as a separate record. Complete bricks or tiles were treated as separate records, but some groups of broken CBM in the same fabric (eg broken roof tiles) were dealt with in the same record. A comments field provides additional details including measurable dimensions of all complete items and many broken items of interest (eg all floor tile thicknesses). A brief description of fabric

colour, condition and anything else of interest was also noted for most items. An approximate spot-date was assigned to the latest material in each context. Given the conservatism of CBM production techniques and fabrics over time, however, plus the broken condition of much of the assemblage, spot-dates assigned to individual contexts are usually quite broad - and even these should be treated with a degree of caution. Besides this there is also the likelihood of re-use and particularly of redeposition. Pottery spot-dates (where present) usually provide a more accurate estimate of context date.

- B.2.3 The final column (headed 'Discard?') recommends if an item or group of items should be discarded ('D?'). This should only happen after the final (publication?) report stage and once all stratigraphic considerations have been taken into account. Full catalogue details remain in the project archive and are summarised in the grey literature report here.

Date and nature of the assemblage

- B.2.4 The CBM assemblage is generally in a fragmentary condition but consists of a mixture of some complete pieces (eg bricks), a fair number of fairly large/fresh pieces (most categories) and many smaller/abraded pieces. Most of the assemblage is undoubtedly post-medieval (after c 1480), particularly the brick assemblage. Some pieces of flat roof tile and ridge tile however have a rougher earlier look and may be of medieval date - although possibly residual. Only a few contexts have been assigned spot-dates spanning the 14th-16th centuries (contexts [499] and [569]). Many more have been assigned spot-dates in the 15th-16th century or 16th-century range, but the majority of spot-dated contexts are somewhere between the 17th and 19th centuries. Rare pieces may be as late as the late 19th or 20th century. No Roman material was noted. A breakdown of CBM types is provided in Table B.2 below.

CBM Type	No. Frags	Weight (g)
Flat roof tile	154	12,694
Floor tile	9	3,533
Brick	69	35273
Other (Miscellaneous)	7	616
Total	239	52116

Table B.2. Types and quantities of ceramic building material from the excavation

Flat roof tile

- B.2.5 These are recognizable either as peg tile, or probably parts of peg tile. They are of typical rectangular shape with a pair of circular nail holes at the upper end. They occur in a limited number of fabrics mostly oxidised orange-red or orange-brown. The

differences between individual roof tile fabrics at this site are not very marked and sometimes subjective; they may represent a range of closely related fabrics from fairly local sources showing only very subtle differences in firing colour, texture and manufacturing technique over time. The commonest is Fabric 2276 (F2276). This comprises 54% by fragment count of the roof tile assemblage. F2276 has a fairly smooth brightly oxidised (orange-red) fabric which is generally very hard-fired. This appears to be the standard post-medieval roof tile fabric of the local area, as it is for most of Greater London. Its associations on this site (with pottery etc) suggest F2276 may have been produced from as early as the late 15th or the 16th century, but seems to be commoner in the 17th and 18th centuries, and may have continued in production into the 19th century. This agrees well with the broad date range of c 1480-1900 normally assigned to this fabric.

- B.2.6 The F2276 peg tile assemblage is mostly quite fragmentary with no complete examples or complete lengths preserved (nor in the remaining fabrics). Two tiles however preserve complete widths. A tile from [396] has a complete width of 155mm and, unusually, has rectangular nailholes which become more circular towards the underside of the tile. Square nailholes are usually considered a post-medieval characteristic and this tile probably dates to the 18th or early 19th century. Most tiles in this fabric have fine sanding on the underside; a few with a grittier sanding may be of late medieval or early post-medieval date. F2276 peg tiles are fairly well made but occasionally dented or slightly warped. A few have patches of accidental greyish ash glaze on the edges.
- B.2.7 The second commonest peg tile fabric across the whole site is F2816 (c 1200-1800). Its date range here is similar to F2276 above. This fabric appears to be a browner sandier version of F2276 and may be commoner in early post-medieval contexts than F2276. Some tiles have complete widths, including one from context 216 measuring 157-158mm. Another fairly common peg tile fabric is F2586 (c 1180-1800). This is a fairly smooth brown to orange-brown fabric typically with a grey core. Another feature of tiles in this fabric is that some are unusually thin (8-10mm thick), although most are of normal thickness (c 13-14mm thick). Four complete widths are present (175-185mm wide) - all fairly wide compared to the tiles above. F2586 tiles seem to occur in the earliest contexts on the site including some spot-dated to the 14th-16th century, although they also occur in later contexts.
- B.2.8 The remaining three fabrics are present as one or two examples each (F2272, F2587 and F3038). Fabric 3038 is a machine-made flat roof tile edge in the same dense red-brown fabric as 'engineers' bricks from other sites. It dates to c 1850-1950 and is probably the latest piece of CBM from the site [206]. The lack of true lead glazes (typical of medieval roof tiles) on any of the peg tiles here suggests that roof tiles of the 13th-14th century are absent from this site, or else that local tiles of this date were rarely glazed.

Floor tile

- B.2.9 The floor tile assemblage is very fragmentary, mostly comprising edge or corner fragments. None is complete. The majority are worn from lifetime usage as well as abraded by redeposition. Most occur residually in late post-medieval contexts. Most of the tiles are thick and plain and fall into the broad category of 'quarry tiles'. These are probably all post-medieval (after c 1480), the majority of may be of early post-medieval date, rather than later, but redeposited nonetheless.

- B.2.10 Most floor tiles occur in a light orange-brown sandy fabric (F3246) with abundant streaks and swirls of cream clay and coarse lumps or pellets of the same and also some red clay pellets. Some contain angular flint up to 5mm across. The upper surfaces are usually very worn from use (worn-off, in fact) so it is not possible to say whether this surface was once covered with glaze or white slip - as is common on quarry tiles of late medieval/early post-medieval date. One example, however, has a few small specks of brown glaze surviving on one edge surface. The edges or sides are knife-trimmed and vertical. The less-worn pieces have thicknesses on the 30-35mm range, which is typical for quarry tiles.
- B.2.11 The best (descriptive) fabric match is with Fabric 3246 which is described as a medieval Penn tile fabric (from Bucks), but it is also very similar to Fabrics 2318 and 3075 which are described as imports from the Low Countries. The latter may be fairly common in the city of London but it seems unlikely that true Flemish floor tiles would have been transported, in quantity, as far inland as the Harrow/Headstone area. The resemblance to Penn tiles is slightly more convincing but the tiles here are not the classic decorated medieval Penn tiles (c 1330-1380) known from many sites in southern England. Very similar streaky early post-medieval brick and tile fabrics occur in Oxford, and these are very unlikely to be from Penn or Flanders, but were probably made from similar mixed clay beds to those used earlier on by the Penn tilemakers. A source to the west or north-west of Middlesex might be suggested for this group.
- B.2.12 The 'floor tile' assemblage includes four pieces from two ordinary red bricks (F3033) which appear to have been used as paving bricks.

Brick

- B.2.13 Brick forms the bulkiest element of the CBM assemblage here (57% by weight). This includes nine complete bricks and many other large brick-end pieces, as well as much brick rubble. The vast majority consists of fairly crude, handmade, unfrogged, red brick mainly dating from the 17th to the early 19th century. A small number of 'Tudor' bricks from contexts 499 and 569 are probably of 15th-16th century date. All but one or two bricks occur in just two brick fabrics which are present in roughly equal amounts: F3033 is a common soft orange-red brick fabric found throughout the Greater London area (broadly datable c 1450-1700, also known as 'local Tudor red'); F3032 has a harder, typically purplish-brown, fabric and is typical of London buildings dating after the Great Fire of 1666 (broadly datable c 1666-1900). Both fabrics contain some flint inclusions - sometimes present here as large flint pebbles. At Headstone Manor there is no reason to suspect that the softer F3033 brick fabric did not continue into the 19th century. In both cases a local or fairly local source seems highly likely.
- B.2.14 Most other bricks from the site are of fairly standard handmade post-medieval type: roughly similar in length and width but showing gradual increase in thickness, and neatness, over time - in line with national trends. A group of fairly late bricks made in F3032 probably date to the 18th and early 19th century (eg [228], [237]). These are large in size (up to 80mm thick), very crudely made and have usually warped or bloated in the kiln suggesting they are 'seconds' (ie overfired/near-wasters, but still useable for rough walling). They probably come from a local production site. One or two bricks made in F3033 may have been used as paving bricks as the upper surfaces are very worn-down (see 'floor tile' above). Another brick corner in F2276 (normally a roof tile fabric) may perhaps be from a quarry tile [211]?

Miscellaneous or 'other' CBM: 17 pieces

B.2.15 This breaks down into two main types: ridge tile and 'unidentified'. Ridge tile comprises nearly all of this category (16 pieces, 1861g) but includes some small fragments of curved tile that could possibly be pan-tile rather than ridge tile - but are too small to tell. The ridge tile assemblage - which is very fragmentary - occurs in the same red or orange-brown (unglazed) fabrics as the flat roof tile assemblage here (mainly F2276 and F2816). The other pieces are almost certainly post-medieval.

Summary and Recommendations

B.2.16 The CBM assemblage is fairly typical of many rural assemblages from southern England, although the fabrics conform with those used in the Greater London area. These fairly undiagnostic or general fabrics, however, were not confined to the London area. The assemblage is almost entirely post-medieval but with a few pieces possibly derived from earlier medieval occupation on the site or in the vicinity.

B.2.17 There is nothing in the assemblage here that hints in any way of luxury or even of a fairly well-to-do settlement; it looks like the sort of CBM assemblage that might come from any fairly old group of farm buildings where some of the buildings or structures, at least, were brick-built and some had tiled roofs.

B.2.18 The source of the small group of (residual) post-medieval quarry tiles with fabrics similar to medieval Penn floor tiles (from Bucks), and more tenuously to imported Flemish quarry tiles, remains speculative, but as they are all plain and residual there is probably little to gain in researching these in any detail. The brick assemblage has a small but interesting group of early post-medieval bricks that are unusually narrow and neatly made. Likewise, there is a small group of overfired 18th-19th century bricks that appear to be 'seconds' possibly from a local kiln. It may be worthwhile to research the source and date of these two groups in more detail. Ian Betts of the Museum of London (MoLA), the foremost specialist on CBM from the London area, should be consulted in these cases.

B.2.19 In view of the fairly unremarkable nature, and fairly poor condition, of the material here, a summary report of the CBM, such as that provided above, but with additional details and observations, is recommended for any publication report. A small selection of the most significant and best-preserved examples of CBM should be illustrated (by photograph) to accompany the report.

B.3 Metals from the Outer Court

By Ian R Scott

B.3.1 There are 18 metal objects (19 fragments), mostly iron. These include 7 nails, a tack, a hinge staple and 3 items relating to Transport. The nails are not closely datable, but would not be out of place in a 19th-century context.

B.3.2 The transport items comprise three horseshoes or fragments of horseshoes. Two of the horseshoes, from contexts 216 and 466, are late in date (Cat. Nos 24 & 39), but one (Cat. No 23) from context 192 is possibly late medieval in date.

B.3.3 Other items include a possible blade fragment (Cat. No. 25) from context 206, a hinge staple (Cat. No. 29) from context 235, a dessert spoon (Cat. No. 37) from context 320 and a heel iron (Cat. No. 30) from context 236.

Catalogue

- Context 158 (21) **Nail** stem fragment. Fe. Not measured. Sample <2>
- Context 188 (22) **Nail**, hand forged, flat oval head and tapered stem. Fe. L: 69mm
- Context 192 (23) **Horseshoe**, eroded with enlarged nail holes, probably rectangular originally. No evidence for fullering. Square heels. Fe. L: 123mm; W: 117mm. Late medieval or later.
- Context 216 (24) **Horseshoe**, with branches with fullering. One branch with 3 rectangular nail holes tapered to a pointed heel. The second branch with at least 2 nail holes and a square heel. Fullering is late feature. Fe. L: 124mm; W: 110mm. 18th-century or later.
- Context 206 (25) Possible **blade fragment** of triangular section. Fe. L extant: 200mm; W: 40mm.
- Context 213 (26) **Nail** with flat circular head and rectangular section stem tapered to chisel point. Fe. L: 43mm.
- (27) **Nail** with L-shaped head. Fe. L: c 40mm.
- Context 214 (28) **Nail**, large with chisel tip. Slightly domed circular head. Fe. L: 135mm
- Context 235 (29) **L-shaped hinge staple** with pintle of circular section for a drop hinge. Fe. L: 88mm; pintle Ht: 40mm.
- Context 236 (30) **Heel iron** with 5 nail holes. Fe. L: 82mm.
- (31) **Nail** with flat oval head, incomplete. Fe. Not measured.
- (32) **Nail** with small head, clenched. Fe. L: c 57mm
- (33) **Narrow strip**, bent at one end. Fe. L: c 65mm
- (34) **Tapered bar**. Fe. L: 50mm.
- Context 286 (36) **Tack** with flat head. Fe. L: 14mm.
- Context 320 (37) **Dessert spoon**. Cupro-nickel. L: 203mm.
- Context 423 (38) Small **square strip or plate fragment**. Fe. Not measured.
- Context 466 (39) **Horseshoe**, large, with toe clip. One branch has a square heel and 3 square nail holes. The other branch has a rounded heel and 4 nail holes. The nails are positioned towards the front of the shoe. Fe. L: 160mm; W: 156mm. 19th-century

B.4 Glass from the Outer Court

By Ian R Scott

- B.4.1 The glass recovered from the site is almost all of 20th-century or later date. The large sherry or aperitif bottle (Cat. N0. 2) from context 79 dates from the mid or later 19th-century and the small spirits bottle (Cat. No. 10) from context 423 dates from the later 19th or early 20th-century. The date of the small spirits bottle (Cat. No. 10) is confirmed by the embossing of the name Henry H Finch. Henry H. Finch was the landlord of the King's Arms Fulham Road, from 1899 to at least 1921. By 1938 it was owned by H. H.

Finch Ltd. In addition to the complete bottle and jars there is one small sherd of window glass that cannot be closely dated.

Catalogue

- Context 79 (1) **Soda bottle** with screw cap closure in colourless glass. Complete. Machine moulded with bands of dots at the heel and shoulder. Embossed 'UG' within a hexagon. This is the mark of the manufacturers United Glass Ltd, and securely dates the making of the bottle to the period from 1959 to 1968. Ht: 155mm; D: 54mm.
- (2) **Sherry or aperitif bottle**, in dark olive green glass. Complete. Moulded in three-piece 'Rickett's type' mould. It has the distinctive horizontal mould line just below the shoulder and vertical lines on the shoulder and neck. The rim or finish has been hand applied and shaped using a finishing tool. Ht: 310mm; D: 83mm. Dates after 1830.
- Context 236 (3) **Window glass**. 1 x small sherd, regular faces. Colourless with iridescent weathering. Post medieval.
- Context 320 (7) **Spirits bottle**. Complete cylindrical bottle in dark green glass. Machine moulded with cork closure. Embossed 'W' and '5' and a small illegible stamp. Ht: 297mm; D at shoulder: 81mm. 20th-century or later.
- (8) **Bottle of square section** tapered from the shoulder to base. Complete. Colourless glass. Screw cap closure. Machine moulded. Embossed 'U G B' and '13396' on base. Ht: 214mm; 64mm x 64mm at shoulder. 20th-century or later.
- (9) **Brandy bottle**, with embossed 'BERTOLA' on shoulder with armorial crest opposite. Embossed 'GUARANTEED CONTENTS | 6 BOTTLES EQUAL ONE GALLON'. Machine moulded. Embossed 'F G C' on base for the Forster Glass Company. Brown or dark amber glass. Ht: 245mm; D at shoulder: 90mm. 20th-century or later.
- Context 423 (10) **Small spirits bottle** of oval section. Embossed 'HENRY H. FINCH' on front and 'LONDON' on opposite face. Moulded bottle with hand tooled finish. 2-part mould with base plate. Corked closure. Very pale green glass. Ht: 167mm; 60mm x 36mm.

B.5 Stone

By Ruth Shaffrey

- B.5.1 A total of six pieces of stone, three of which came from the Outer Court, were retained as samples for identification of sources of materials used at the site. Due to the relatively late date of the contexts from which they came, no scientific analysis of the materials was undertaken.
- B.5.2 Two of these (from context 307, a late fill of the pond or channel south of the Small Barn) are pieces of unworked chalk. A chalk quarry existed at Waxwell, only 2.6km (1.6 miles) from the site, which was worked from the medieval period until some point during the 17th-18th centuries, and thereafter quarrying and mining moved further north towards Pinner Wood, the last mine closing in 1870 (Kirkman 1992, 61). The lords of the manor or Harrow owned the mining rights to these quarries, and were also the

owners of Headstone Manor until the 17th century (Thompson 1993). This is almost certainly the source of the chalk surfaces found extensively in the Outer Court.

- B.5.3 No examples of the flint nodules found in walls in the Outer Court were retained, but these presumably derived from the same quarries as the chalk.
- B.5.4 The third piece (from context 213, a metalled surface south of the Small Barn) is a large block (3369g) of burnt spar prominent oolitic limestone. It retains no evidence of having been worked, but is certainly imported to the site – it is of probable Bath stone type – and therefore probably structural stone. This block should be retained for possible closer geological identification at a later date. The other stones can be discarded.

B.6 Mortar

By Cynthia Poole

- B.6.1 Mortar samples were taken from various structures, which included wall or kerb 423. The sample was examined with the aid of a x10 hand lens and recorded on an Excel spreadsheet to provide a basic description of the main constituents of the sample.
- B.6.2 The sample from structures 423, like those from structures 240, 260, 476, 477, 492, was not mortar, but apparently soil, which may have replaced mortar that had been leached out. It consisted of loose orange brown clay sediment with cream calcareous flecks, quartz sand, flint grit, gravel and pebbles, and white calcareous grits some of which clearly derived from shelly limestone. The coarse components in these is similar to those found in mortar type M3, suggesting the original mortar was of this type or possibly a mixture of clay and mortar. The use of clay or subsoil as bedding is not unknown in some old buildings.
- B.6.3 Mortar type M3 was a lime mortar, containing a high density of medium brown, pink and clear quartz sand mostly 0.5-1mm, sometimes finer <0.5mm and occasionally up to 2mm, white lime/plaster/chalk grits from 1-2mm up to 12mm and coarser inclusions of flint grit, gravel and pebbles ranging up to 19mm in size. It was divided into a light brown or buff (M3a) and a darker orange brown (M3b) variety, but this may simply reflect the degree to which the samples had dried out, though there is also some slight difference in sand grade.

B.7 Waterlogged wood

By Tim Allen with species identifications by Julia Meen

- B.7.1 A variety of waterlogged worked wood was recovered from the watching brief and excavations at Headstone Manor in 2016-7, and samples for more detailed examination and for wood identification to species were taken from some of these. The recovered sample assemblage comprised two uprights found at the edges of a large cut (184) south of the Small Barn (contexts 202 and 256), fragments of plank from the infilling of the same cut (those from contexts 166 and 218), planks from a walkway below a chalk surface just south of the Great Barn (399 and 424) and another plank fragment from a trench south of the Great Barn (191).
- B.7.2 None of the wood was particularly well-preserved, the surfaces being spongy and details of transformation no longer fresh or sharp. The largest timber (256) did however preserve sapwood towards the base, allowing dendrochronological sampling to produce a felling date (see B.7 below)

- B.7.3 All of the material was washed, examined, measured and described. The results are given in Table B.3 below.
- B.7.4 All of the timbers were sampled for species identification. The transverse section of each timber was thin-sectioned by hand and examined at low magnification using a LEICA EZ4D stereo microscope. In all cases the sections showed a ring porous structure with uniseriate and compound rays, characteristics found only in oak (*Quercus*) in trees native to Britain. Roundwood trunk 256 also had sapwood preserved towards the base.

Table B.3 *Description of timbers with measurements by context and species*

Sample number	Context	Type	Species ID
	166		<i>Quercus</i> heartwood
1	191	Fragment of plank or stake. Length 235mm, width 70mm and thickness 30mm. Oblique radial split. Surfaces are flat, one narrower edge cut square, other damaged. Indentations on largest surviving face.	<i>Quercus</i> heartwood
3	202	Sample sawn from upright timber, roundwood trunk trimmed to rectangular cross-section 200mm by 160mm. At least 400mm long, but not fully exposed.	<i>Quercus</i> heartwood
2	219	Tangentially split plank, 700mm long by up to 120mm wide and 50mm thick. Squared ends. There is a transverse drilled semicircular cut 16mm across in the surface on one side.	<i>Quercus</i> heartwood
	256	Roundwood trunk surviving 740mm long and 250mm in diameter. Sawn across at the base, and down one side to remove a large branch. Sapwood preserved for lower 390mm, only heartwood above. Two notches 25mm deep and 35mm wide cut through sapwood and into heartwood. One has a rounded, one a squared end. Both notches cut obliquely downwards, splaying as they shallow upwards, but not obviously related.	<i>Quercus</i> sapwood and heartwood
	399	Two fragments of plank, tree-rings suggest different objects. a) 240mm long by 165mm wide and 43mm thick. Tangentially split, square cut one end, the other oblique. One long edge oblique (split along grain), other damaged. Transverse saw marks. b) 170mm long by 89mm wide and 48-50mm thick. Split at angle to the grain, possibly part of a tangentially split plank. One face flat, the other uneven, and one edge flat, the other curved (possibly broken along grain).	<i>Quercus</i> heartwood



4	424	Sample of plank 600mm long and 150mm wide. Tangentially split, 25-30mm thick, from trunk at least 400mm diameter. Even thickness, oblique parallel saw or plane marks.	Quercus heartwood
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B.8 Dendrochronological Dating

By Dan Miles

- B.8.1 Summary: LONDON, Harrow, Headstone Manor. *Felling date: Winter 1709/10.* Upright timber 1709(12C). *Site Master* hem256 1656-1709 ($t = 8.88$ SCENG; 5.66 wc12053; 8.23 BRILL).
- B.8.2 Roundwood timber 256 was retrieved from a small excavation in the Outer Court at Headstone Manor, and was associated with a number of other worked uprights and planks within a large feature cut was submitted for dendrochronological sampling at the Oxford Dendrochronology Laboratory. This timber had 54 rings including sapwood, and has given a felling date of winter AD 1709/10.
- B.8.3 Although there is always some element of doubt with a single timber and a relatively low ring count such as this, the ring pattern provided some very good matches with other timbers from southern England, including t -values of 8.88 with SENGLAND, 8.65 with Windsor Castle and 8.23 with Brill windmill. There were also ten matches with t -values in the 7-7.8 range, fifteen in the 6-6.9 range, and a good number in the 5-5.9 range, providing good confidence in the date given.
- B.8.4 There were also two other possible matches in the 16th and 17th century, but the t -values were much lower.

APPENDIX C. ASSESSMENT OF ENVIRONMENTAL REMAINS

C.1 Animal bones

By Lee Broderick

Introduction

- C.1.1 Only six hand-retrieved animal bone fragments, and no sieved fragments, were found in the Outer Court in 2016-17. This is in contrast to the twenty two fragments found in 2014-15 (Strid in OA 2016b).

Methods

- C.1.2 All the material was recorded in full, using a diagnostic zone system (Serjeantson 1996 for mammals) together with the Oxford Archaeology reference collection and standard identification guides.
- C.1.3 Measurements were taken following von Den Driesch (1976). Taxonomy follows Wilson and Reeder (2005). The word 'caprine' is used when referring to an animal that may be a sheep or a goat.

Results

- C.1.4 Three came from layer 158, a mixed soil overlying the mid-19th century cobbled surface, and these comprised a fragment from a right cattle pelvis, an indeterminate long bone fragment from a large mammal, and one small unidentifiable fragment. Both

the pelvis and the long bone shaft showed saw marks, indicating portioning of the carcass.

- C.1.5 A fragment of right radius from a large mammal, probably cattle, was recovered from layer 235, a dark deposit of 17th-18th century date that lay on the top of a chalk and clay bank within a channel or pond south of the Small Barn.
- C.1.6 A piglet right humerus from fill 308, the uppermost fill of the channel or pond, dating to the mid-late 18th century. The diaphysis was unfused, indicating a foetal animal.
- C.1.7 Lastly, a tibiofibula of frog or toad was recovered from subsoil layer 402, which is of 20th century date.

Discussion

- C.1.8 The domestic species indicated by these bones fall within those indicated by the bones previously retrieved, and display the same type of butchery evidence.
- C.1.9 Nothing more can be said about this small collection of bones, except to note that the paucity of bones from the Outer Court is in marked contrast to the larger assemblage (63 hand-retrieved bones and 340 bones recovered from sieving) from the Moated Island. This is due to the different character of the deposits investigated, those on the Moated Island including drain fills and deposits within buildings forming part of the manor house itself. The small number of animal bones from the Outer Court bears out the interpretation that the areas investigated in the Outer Court did not include, or lie close to, domestic buildings.

C.2 Waterlogged plant remains

By Julia Meen

- C.2.1 A bulk environmental sample <3> was taken from a waterlogged deposit encountered during an archaeological watching brief at Headstone Manor, Harrow, West London. This deposit, context (234), was thought likely to be the same as deposit 114 sampled during a previous phase of work (Meen in OA 2016, sample <1>). Sample <3> was taken in order to characterise both the sediment and its inclusions and the waterlogged plant assemblage it contained, in order to compare it with the previously examined sample and establish if they are indeed from the same deposit.
- C.2.2 The sediment was a dark grey (10YR 4/10) loamy sand. It contained abundant coarse inclusions, with approximately half of the sample composed of coarse sand and rounded or sub-rounded gravel. A 1L sub sample was processed for the recovery of waterlogged plant remains using the 'wash-over' technique. Flot and residue were collected separately onto 250µm meshes and retained damp to prevent desiccation of the organic remains. The residue was scanned by eye and it was noted that several fragments of ceramic building material were present in the sample.
- C.2.3 The sub sample produced a flot of 80ml, and approximately 5ml was scanned in order to assess the range of material present. The flot contained two large pieces of wood (approx. 150mm in length), and was dominated by small fragments of broken up wood. Waterlogged seeds occurred frequently, in a good state of preservation. A total of 56 identifiable seeds were present in the scanned 5ml, and are quantified in Table C.1. Plant nomenclature follows Stace (2010).

	Common Name	Number of Seeds
<i>Papaver</i> sp.	Poppy	15
<i>Ranunculus acris/repens/bulbosus</i>	Meadow/Creeping/ Bulbous Buttercup	7
<i>Chenopodium</i> sp.	Goosefoot	1
<i>Rumex</i> sp.	Dock	6
Primulaceae	Primrose family	4
<i>Plantago major</i> L.	Greater plantain	5
<i>Prunella vulgaris</i> L.	Sealheal	3
cf <i>Leontodon hispidus</i> L.	Rough Hawkbit	2
<i>Anthemis cotula</i> L.	Stinking Chamomile	8
<i>Juncus</i> sp.	Rush	2
<i>Carex</i> sp.	Sedge	3

Table C.1 Waterlogged plant remains from sample <3> (context 234)

- C.2.1 The seed assemblage contains several species also identified from sample <1> (Meen OA 2016b context 114): *Ranunculus* (buttercup), *Anthemis cotula* (Stinking Chamomile), and *Plantago major* (Greater Plantain), as well as seeds belonging to the primrose family (*Primulaceae*). The current sample also contains several taxa not noted in sample <1>, including *Prunella vulgaris* (selfheal), *Papaver* (poppy) and *Leontodon hispidus* (Rough Hawkbit).
- C.2.2 Subsequent watching brief has shown that deposits 114 and 234 are not the same, although they are only 8m apart, but both occur in sediments of similar character and date (18th century?) The texture and inclusions of the sediment in both samples are similar, especially the numerous rounded pebbles, and both samples contain fragments of ceramic building material. Although some of the seeds from sample <3> were not present in the earlier sample, these seeds are from a similar habitat to those that were – mostly weeds often associated with arable fields or grassland.
- C.2.3 The good preservation of the plant remains in sample <3>, the high density of seeds, and the possible association of the weed assemblage with arable farming mean that the sample would be suitable for more detailed analysis, should future study of the environment of the Outer Court be desired.

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APPENDIX E. SUMMARY OF SITE DETAILS

Site name: Headstone Manor, Harrow, Middlesex (Outer Court)

Site code HEM 14

Grid reference: Centred at NGR 514090 189710

Type of watching brief:

Date and duration of project: November 2016 to July 2017

Area of site:

Summary of results:

The corner of a flint and mortar built structure, was found just north of the north-eastern end of the Great Barn. The robbing contained only late medieval finds. This may be the corner of an earlier version of the Great Barn, or may predate its construction.

South-west of the Great Barn and north-west of the Granary a brick wall and floor was found, built of bricks of 17th-early 18th century date, and as it is not on any historic maps, may belong to a building of this date.

South of the Great Barn rammed chalk and pebble surfaces of probable 18th century date were found, together with a walled or kerbed wooden walkway leading up to the barn's south-west porch. A later raised chalk and flint roadway was also found overlying a worn trackway leading up to the north-east porch.

North-east of this, and overlain by the worn trackway, was a possible pond or trampled area. This was filled in by the later 18th century, when a brick wall was constructed running south-east from the barn. Further south, and just north of the Small Barn, another possible pond or trampled area was found, possibly related to the embayment shown on 19th and early 20th century historic maps. A chalk and clay built ramp leading up to the western end of the moat bridge was also recorded.

Opposite the Great Barn on the south side of the Outer Court a barn with porches shown on 19th century historic maps was confirmed, and had flint and brick mortared walls of late 18th -19th century date and internal rammed chalk surfaces. South of this were further chalk and pebble surfaces.

Further east, and immediately south of the Small Barn, a large pond or channel was found, with several upright posts along the north edge, one felled in 1709-10. The feature contained a revetted bank made of compacted chalk encased in clay and flints and edged by a line of angled timber uprights and horizontal retaining planks. The feature was filled with layers of clay, brick and tile, dated to the 18th century. It was recut by a narrower vertical-sided cut, which was itself infilled by the early 19th century, as a brick building shown on a map of 1819 was found overlying the infilled pond or channel. This feature may have continued south-westwards, and may have been an earlier example of the series of ponds shown on historic maps along the south-east and south-west sides of the Outer Court. These may have been clay quarries, or part of the water management system linking the moat to the Yeading Brook.

Location of archive:

The archive is currently held at Oxford Archaeology (South), and will be deposited with Headstone Manor Museum under accession number: TBC



Figure 1: Site location

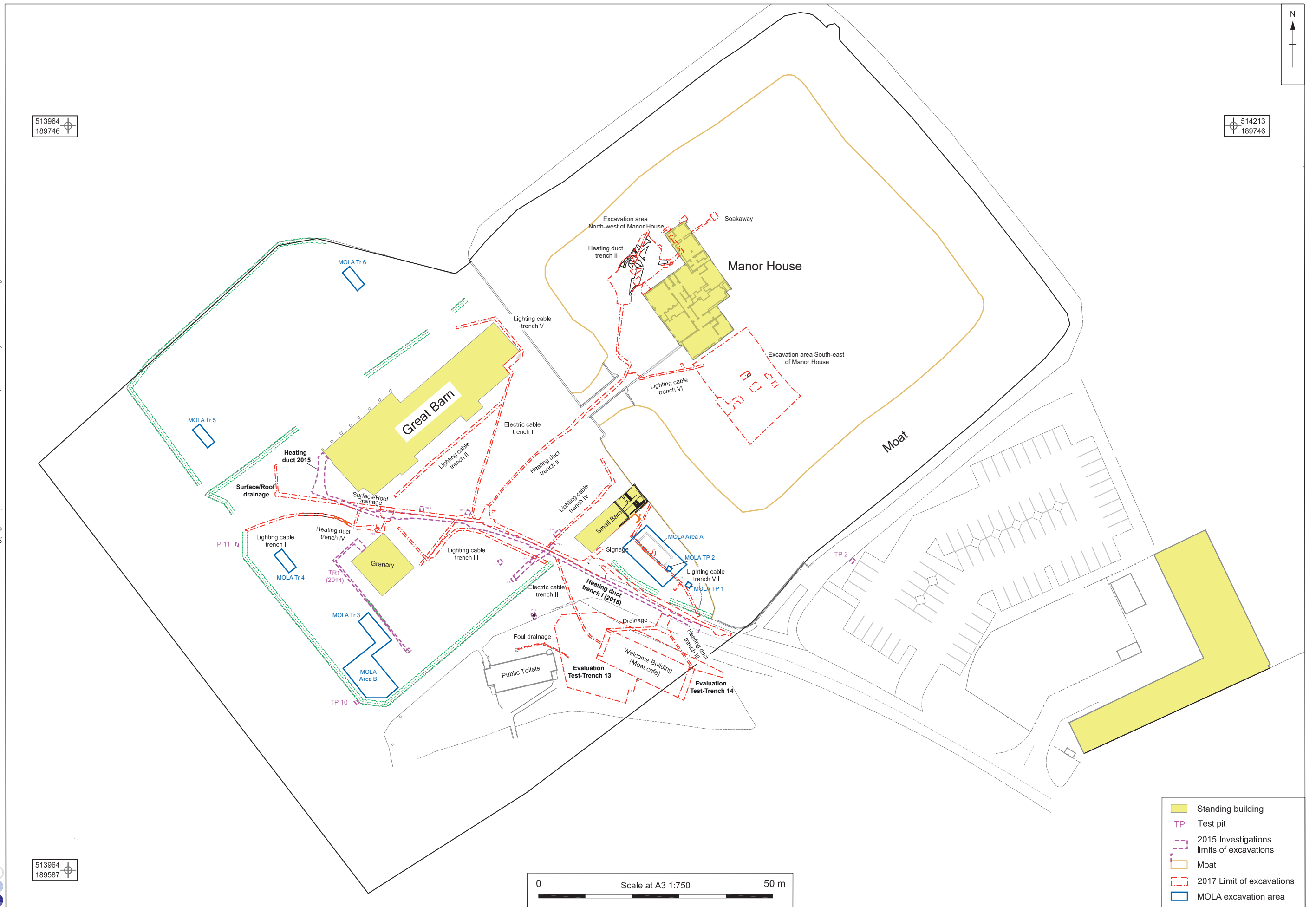


Figure 2: Site plan showing location of 2016-2017 trenches and excavations alongside 2014-2015 interventions

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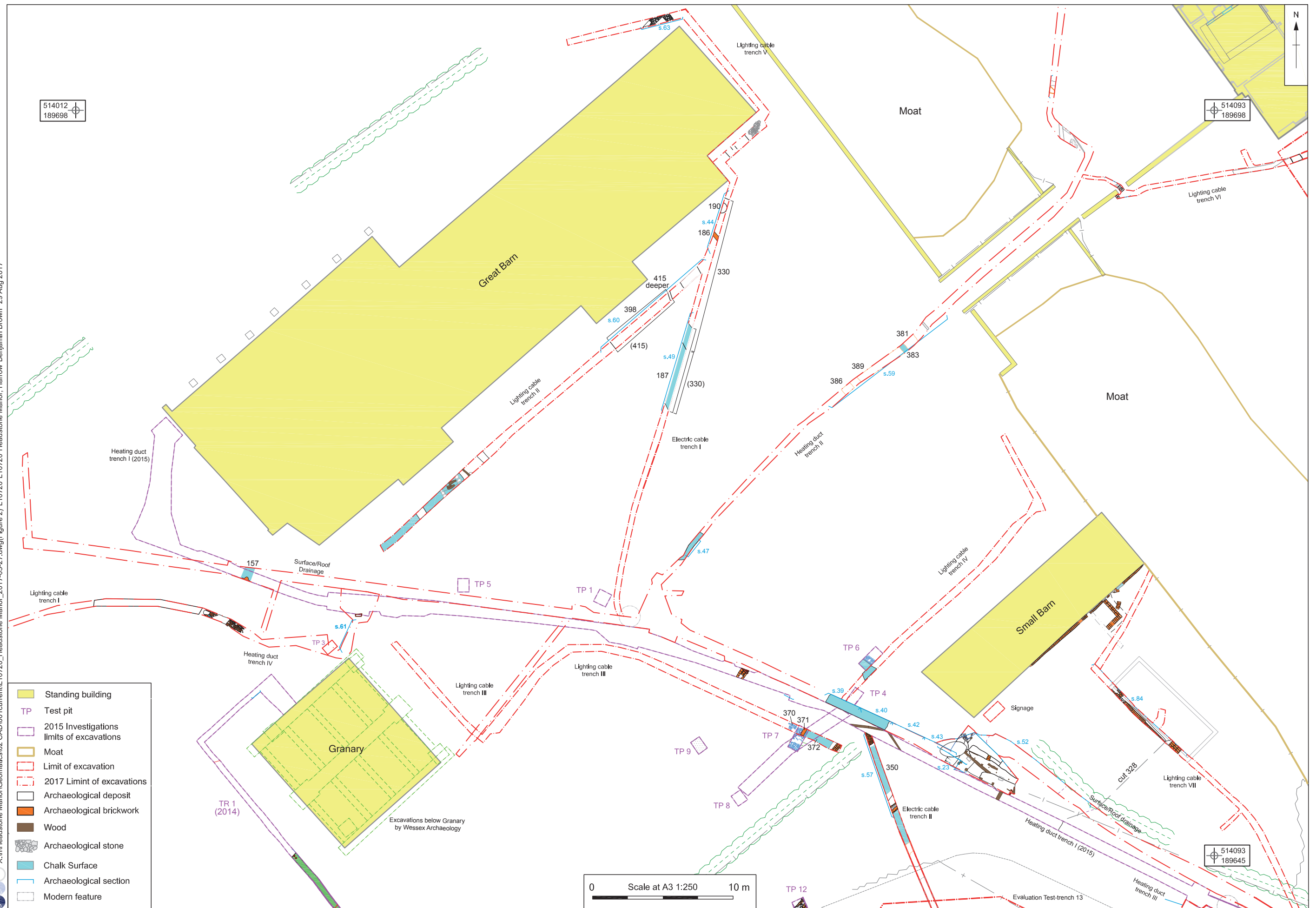


Figure 3: Plan of the 2014-2017 trenches dug in the Outer Court in relation to the standing buildings and earlier watching brief works

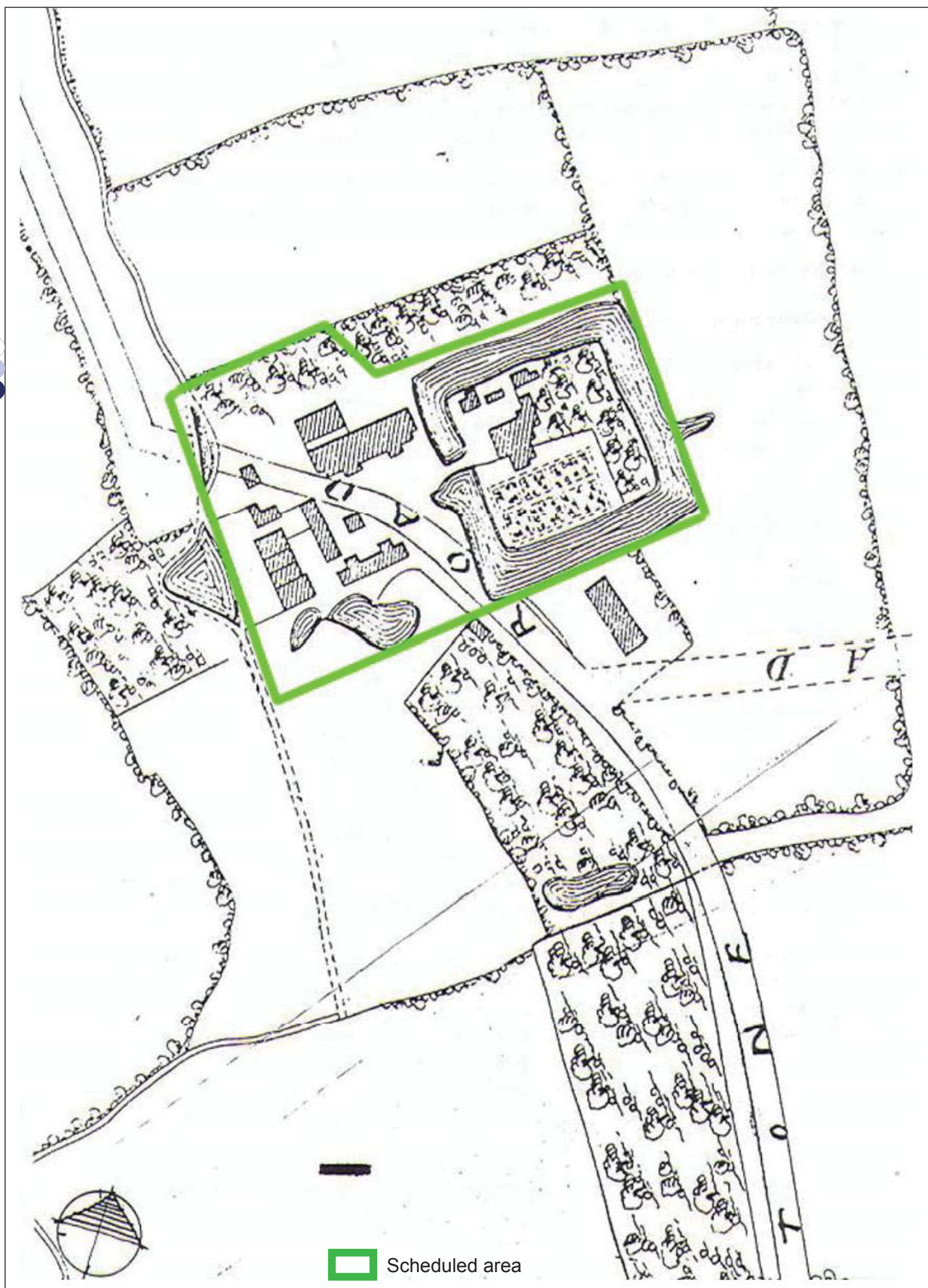


Figure 4: Plan of the 1860 Sale of Particulars map, copyright Harrow Local History Collection D2a Item 38, with scheduled area overlain

X:\h\Headstone Manor\Geomatics\02 CAD\001current\L10720_Headstone Manor_2018-12-19_Figures_(Updated)_recover.dwg(Figure 4)\L10720\L10720*Headstone Manor, Harrow\lucy.gane* 08 Jan 2019

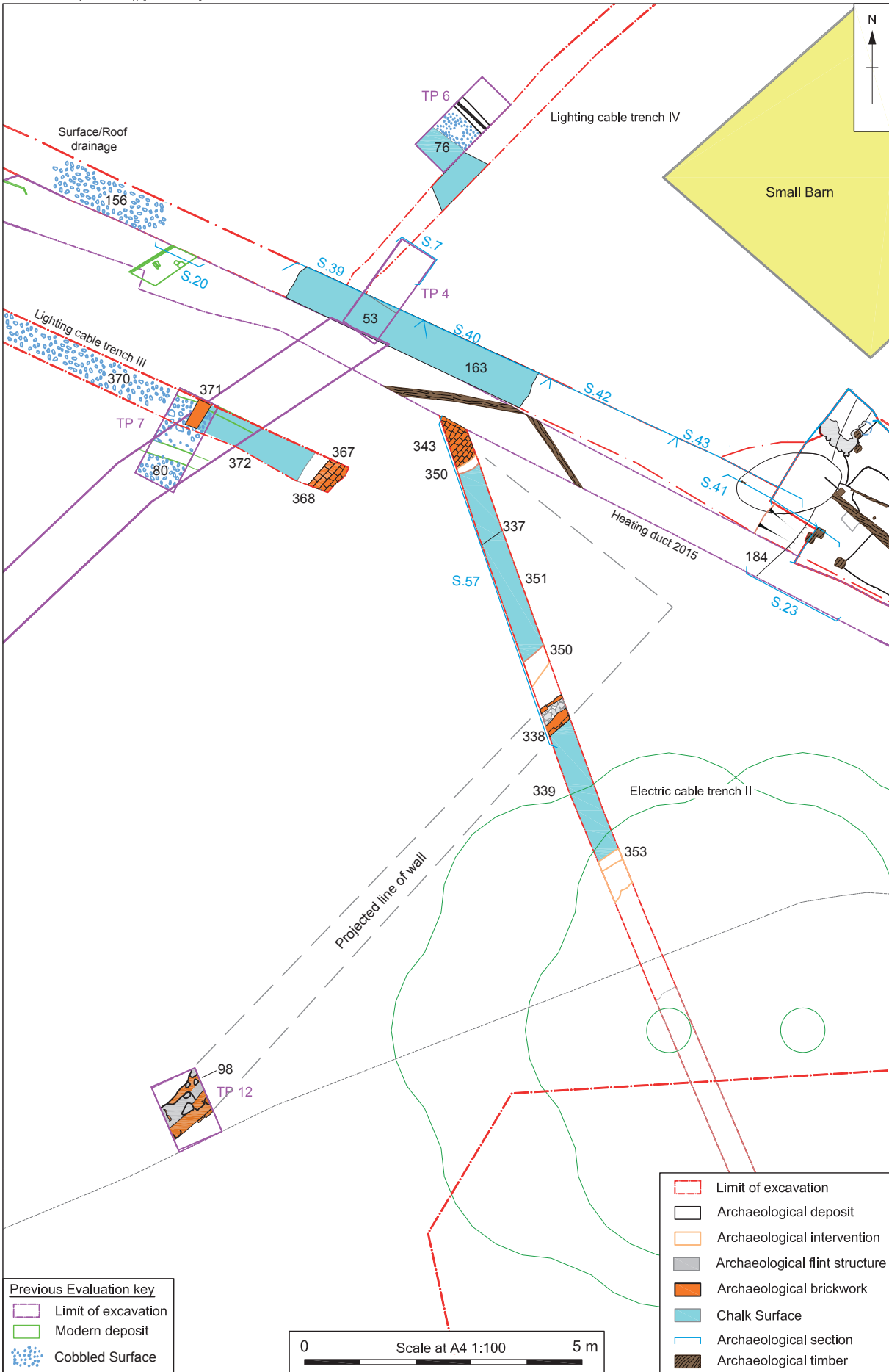


Figure 5: Plan showing detail of structures and features found to west and south-west of Small Barn (Surface/Roof Drainage trench, Electric Cable Trench II, Lighting Cable Trench III)

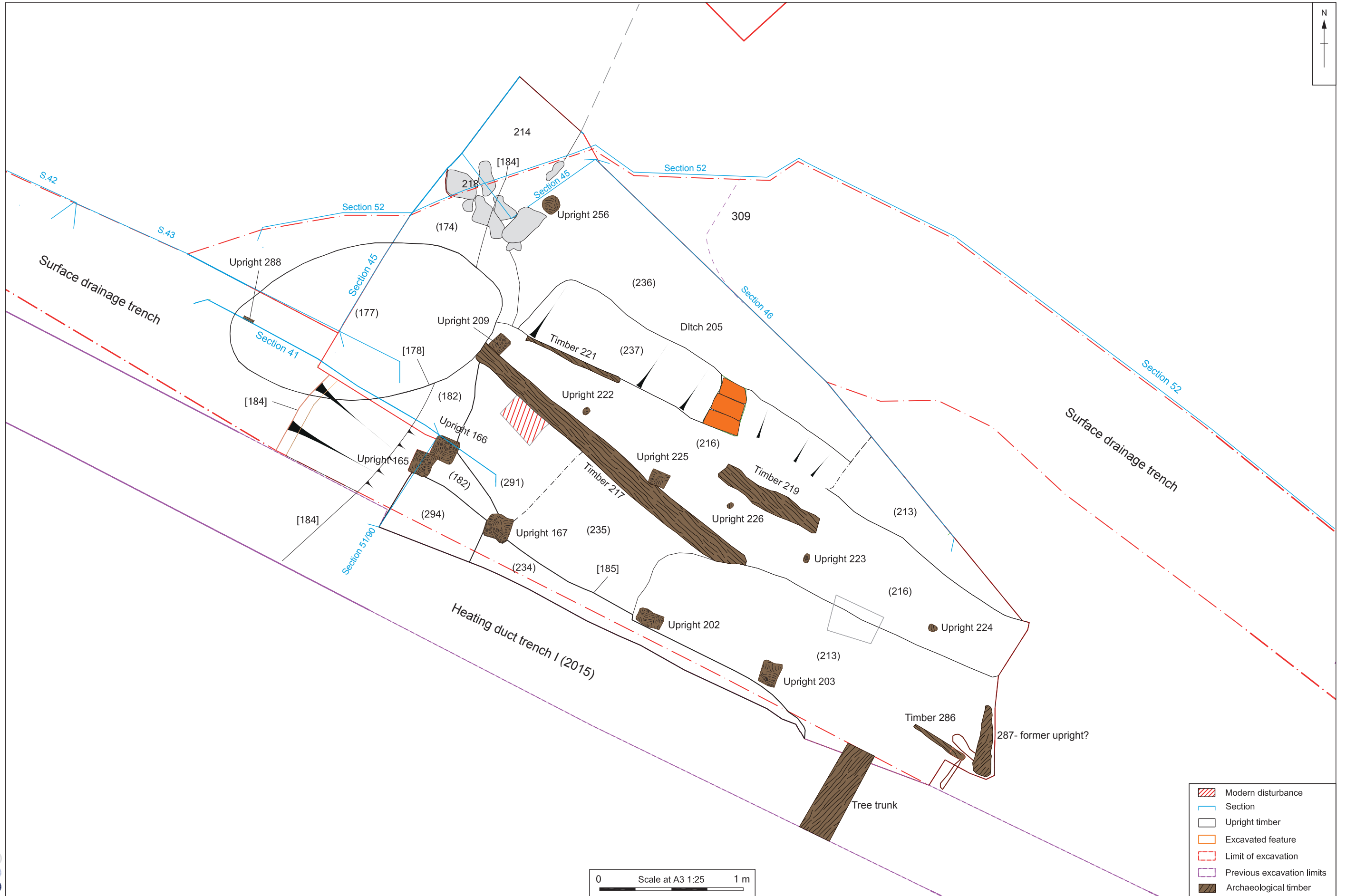


Figure 6: Detailed plan of timbers and features found in Surface/Roof Drainage Trench extension



Figure 7: Plan showing Surface/Roof Drainage trench diversion and features to south of Small Barn (Lighting Cable Trench VII)

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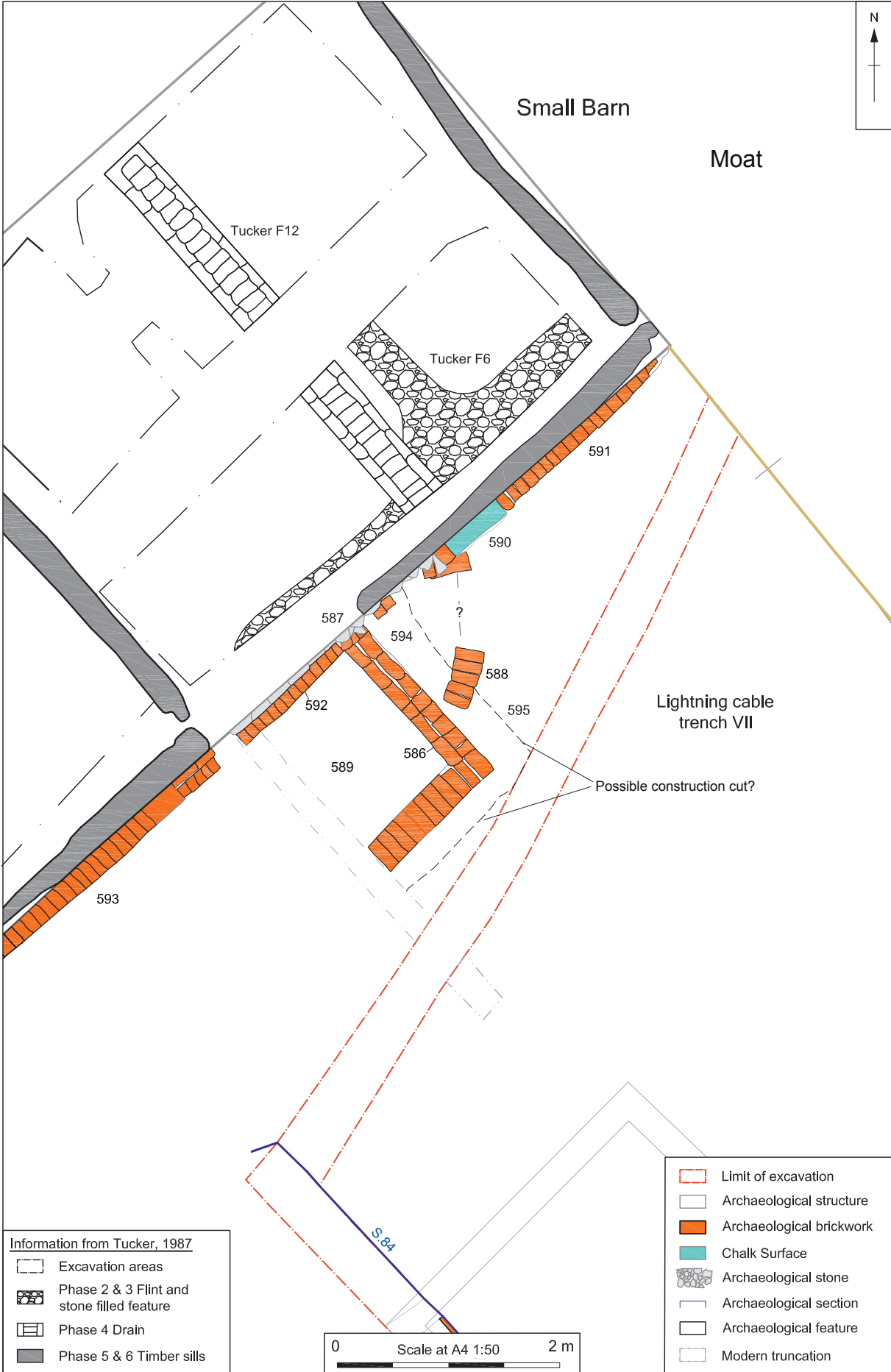


Figure 8: Detail of structures and features below and adjacent to the east end of the Small Barn (Lighting Cable Trench VII)

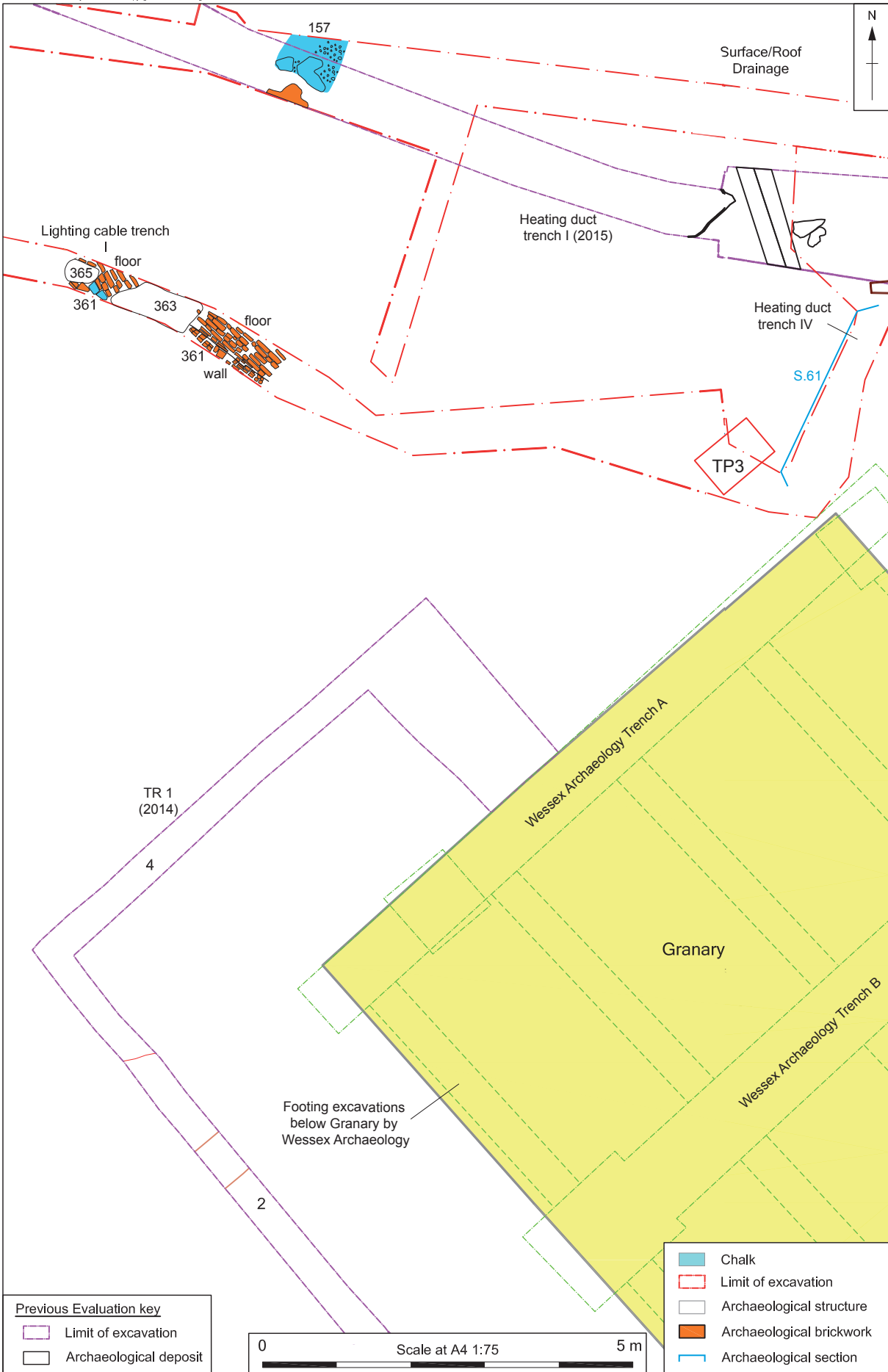


Figure 9: Plan of structure 361 to north-west of Granary (Lighting Cable Trench I)

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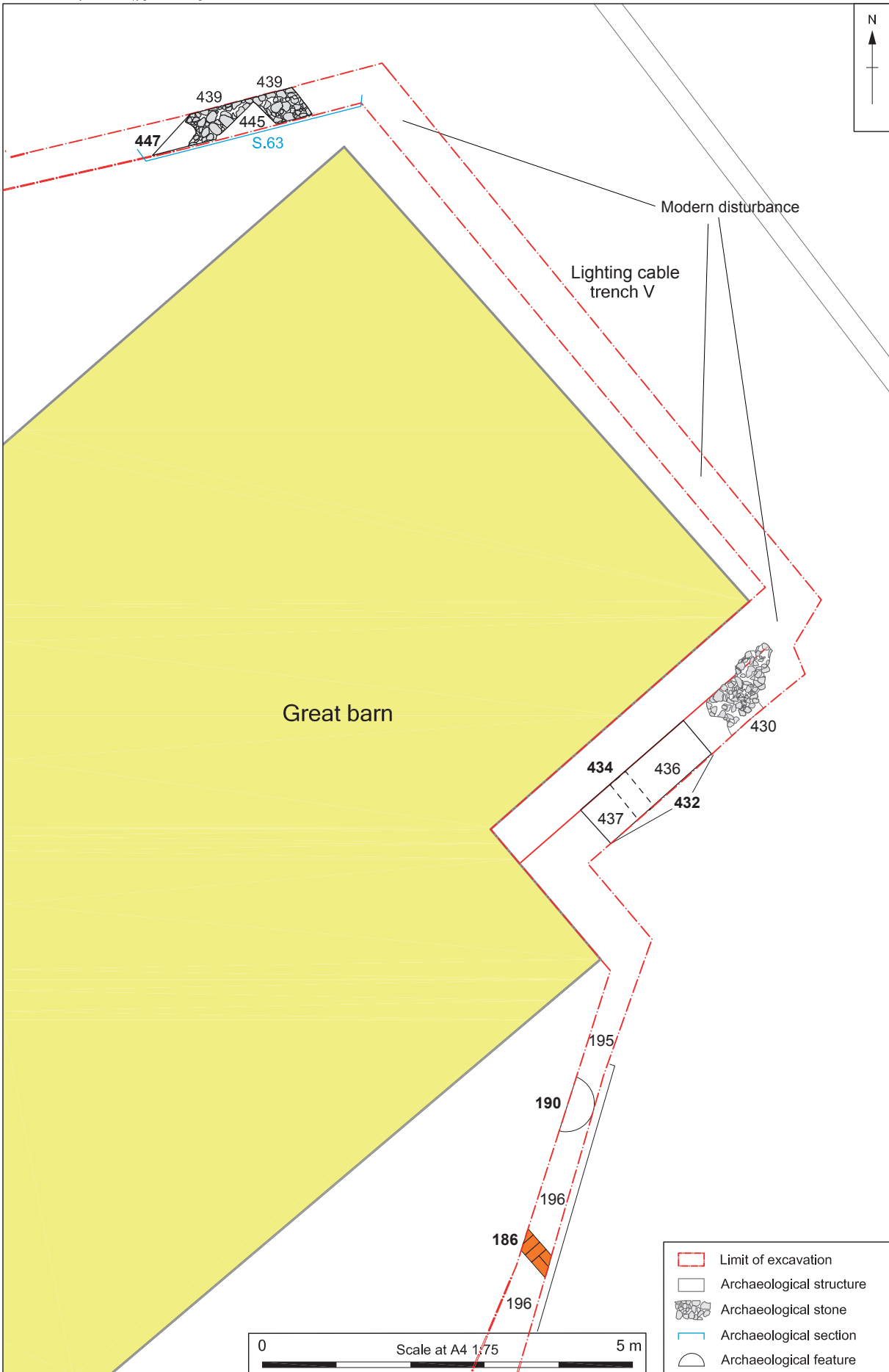


Figure 10: Plan of structures found at north-east end of Great Barn (Lighting Cable Trench V)

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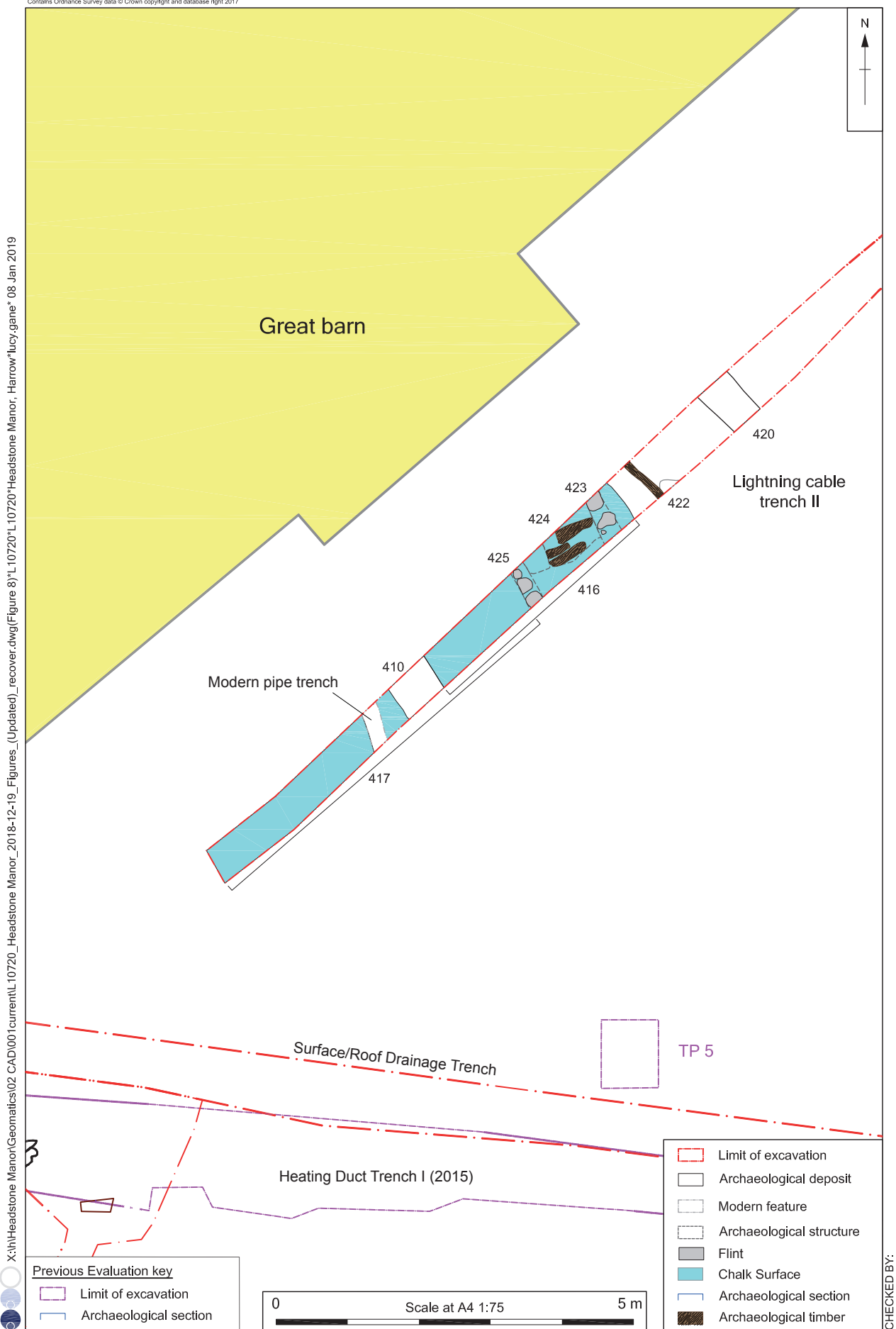


Figure 11: Detail of features found to south of Great Barn (Lighting Cable Trench II)

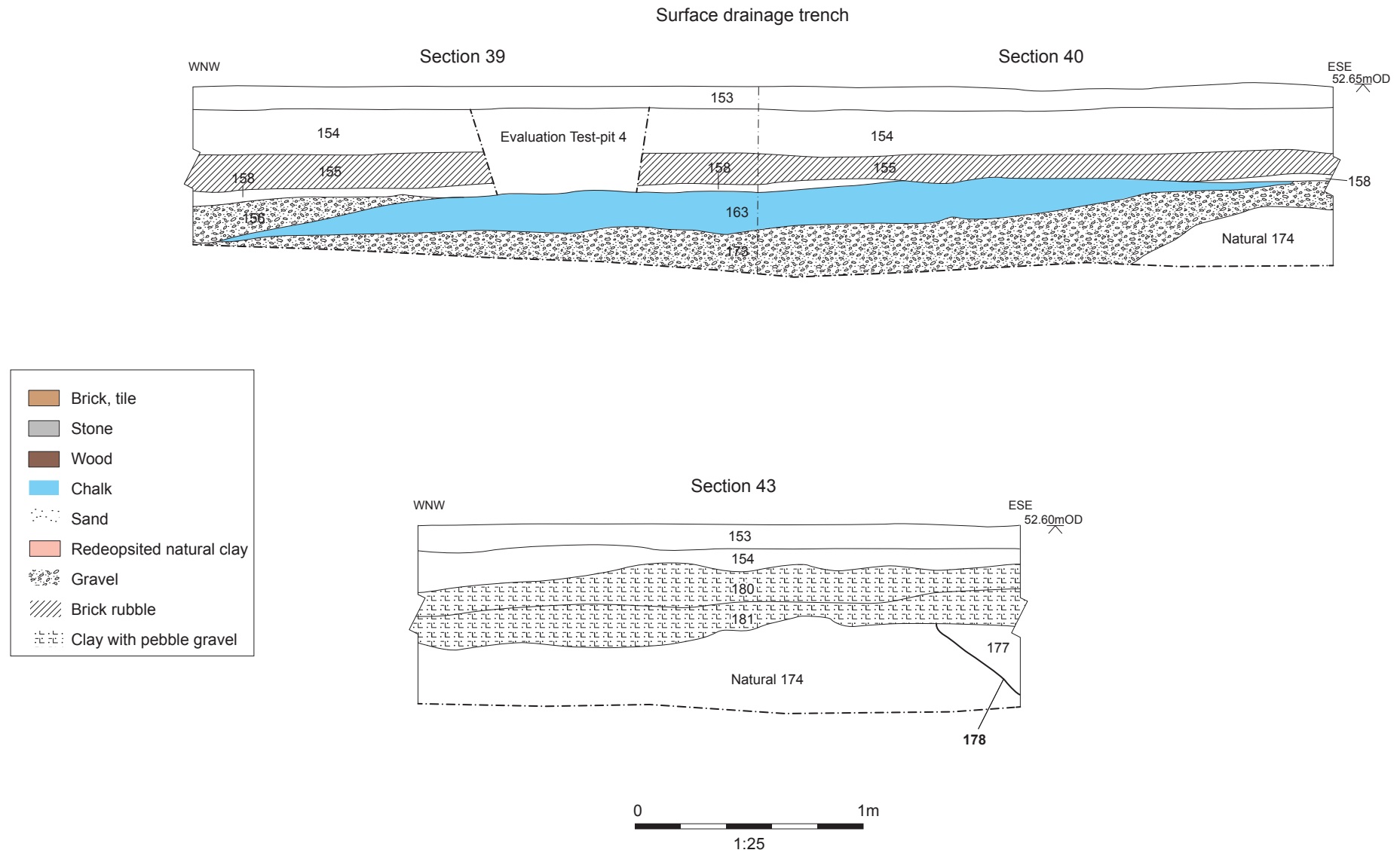


Figure 12: Sections 39,40 and 43

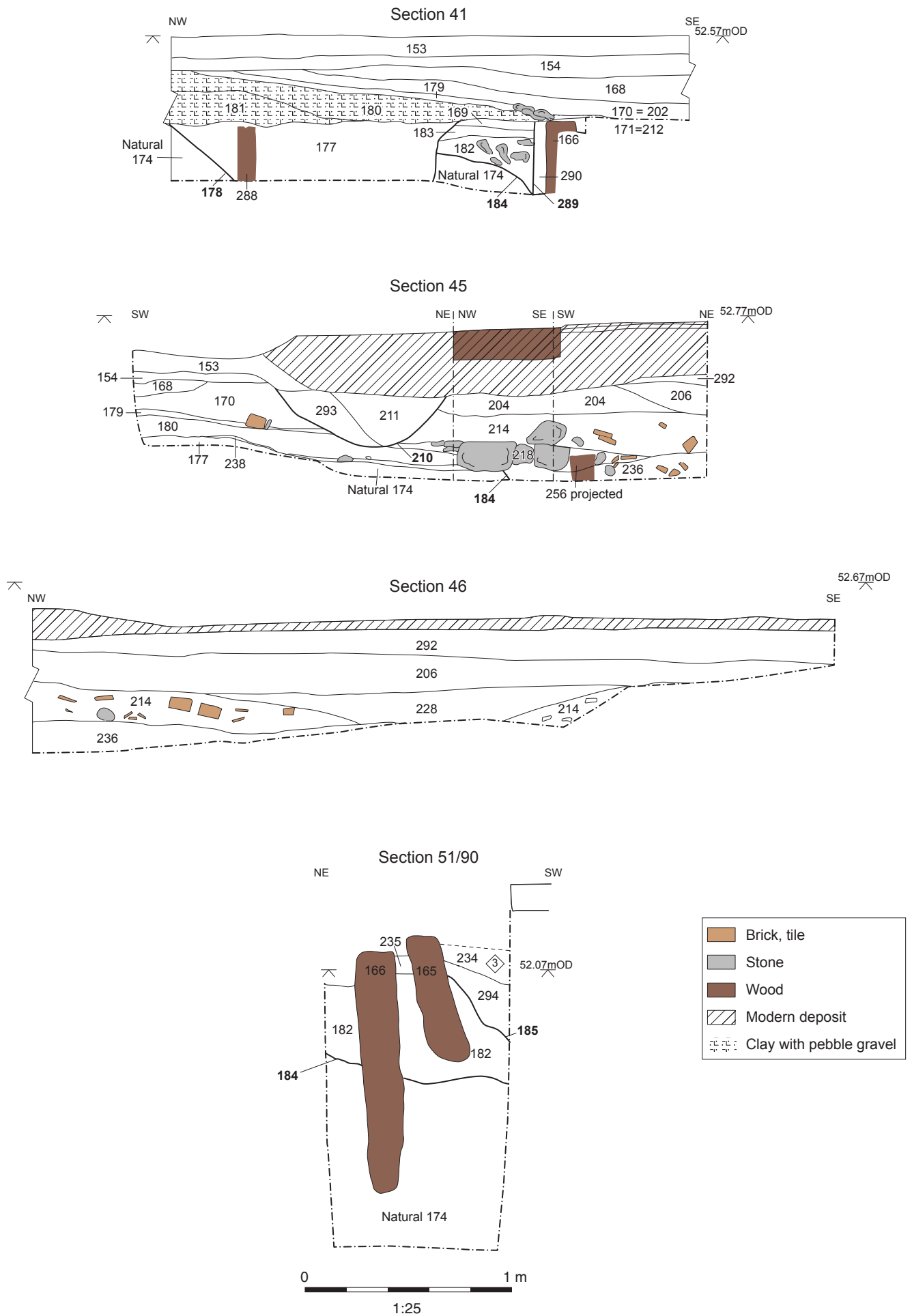
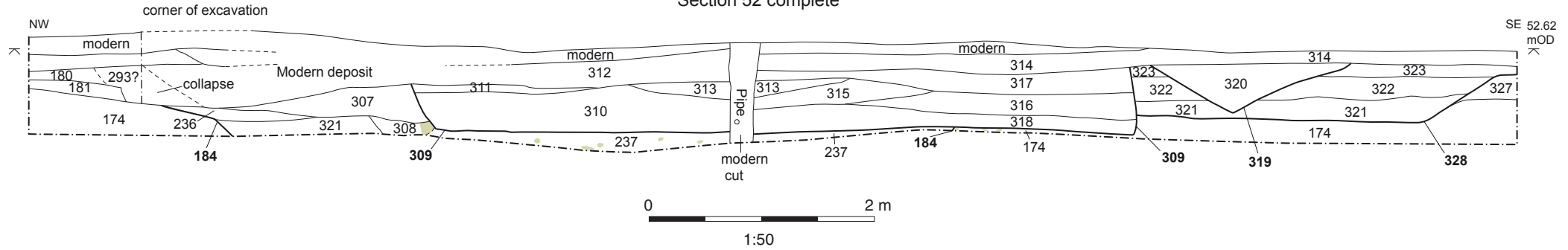
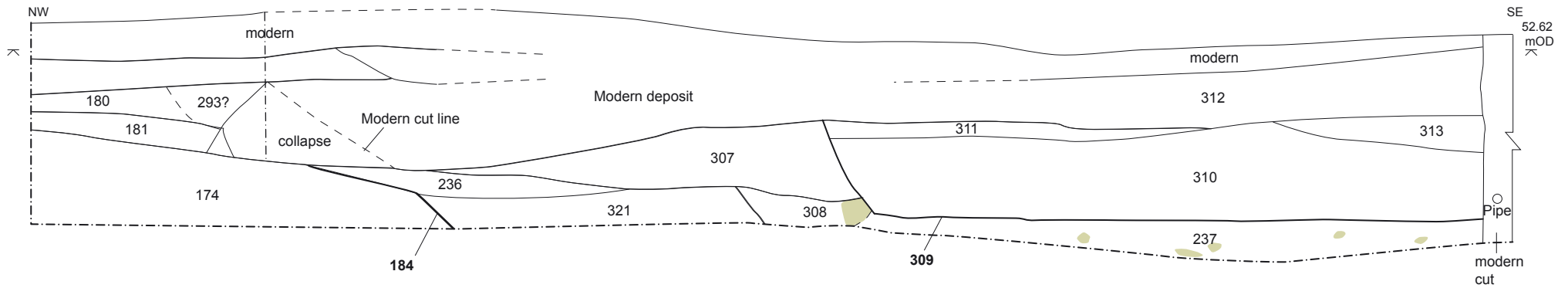


Figure 13: Sections 41, 45, 46 and 51/90

Section 52 complete



Section 52 detail



Section 52 continued

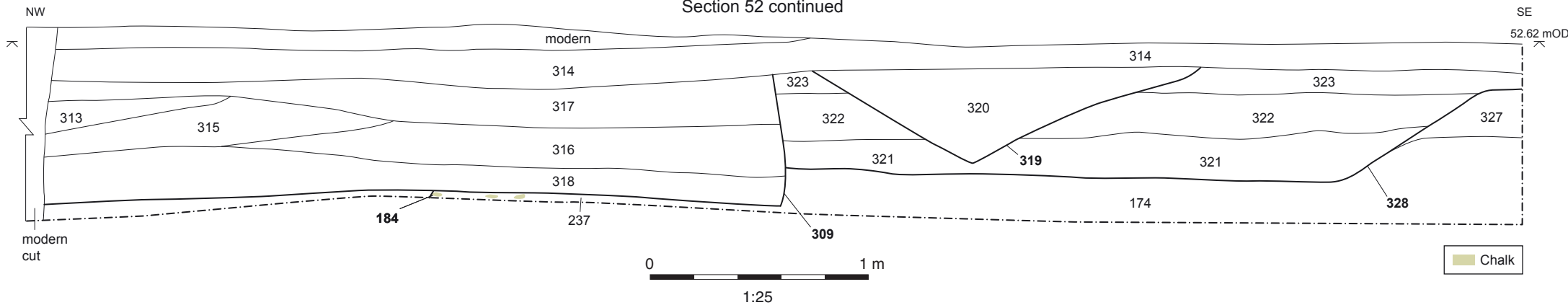


Figure 14: Section 52

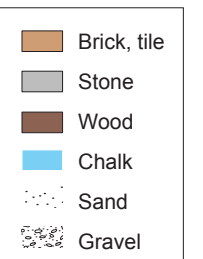
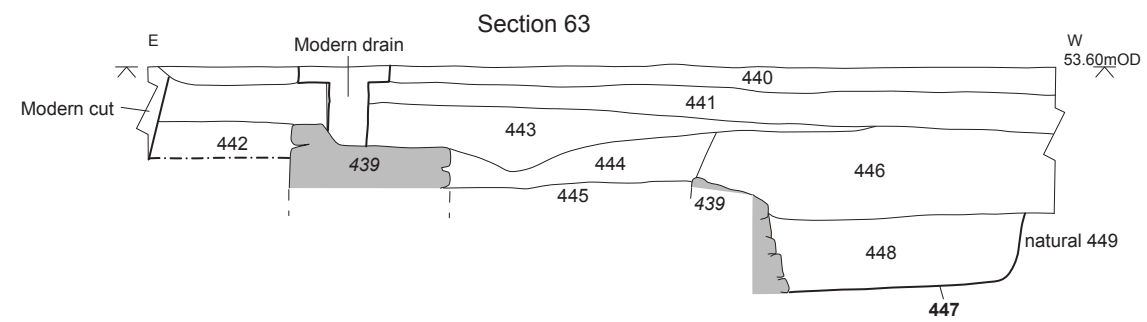
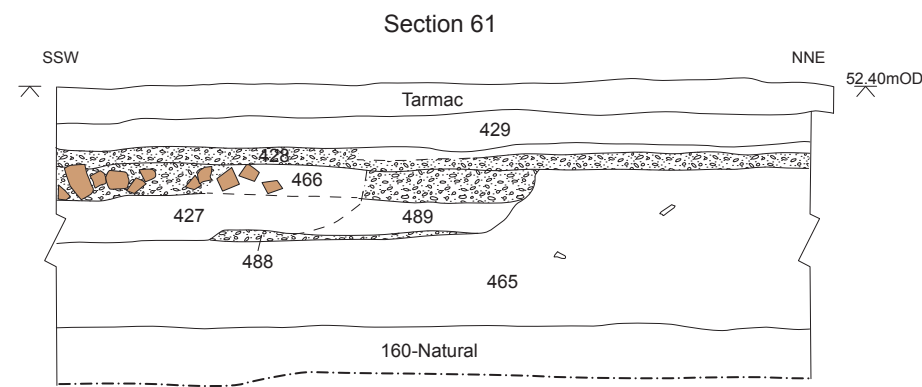
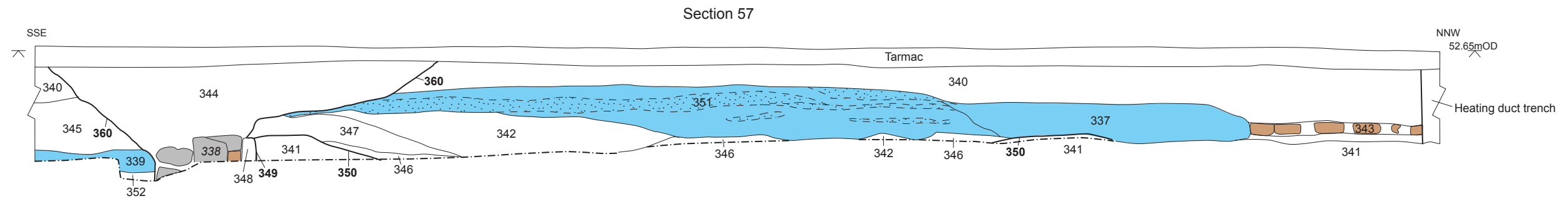
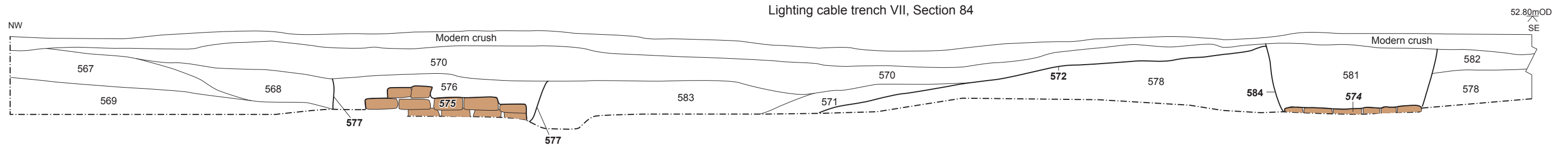


Figure 15: Sections 84, 57, 61 and 63

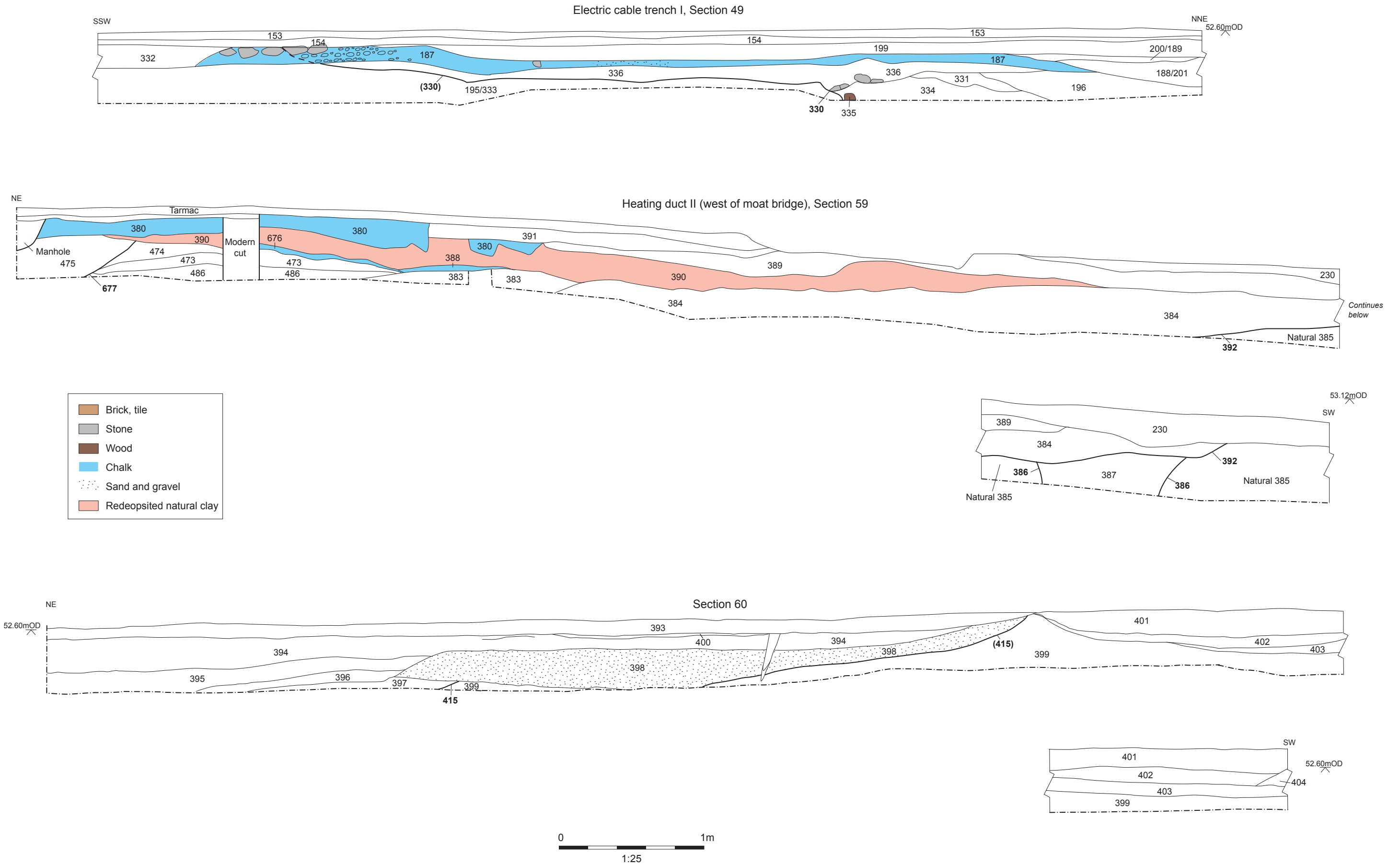


Figure 16: Sections 49, 59 and 60

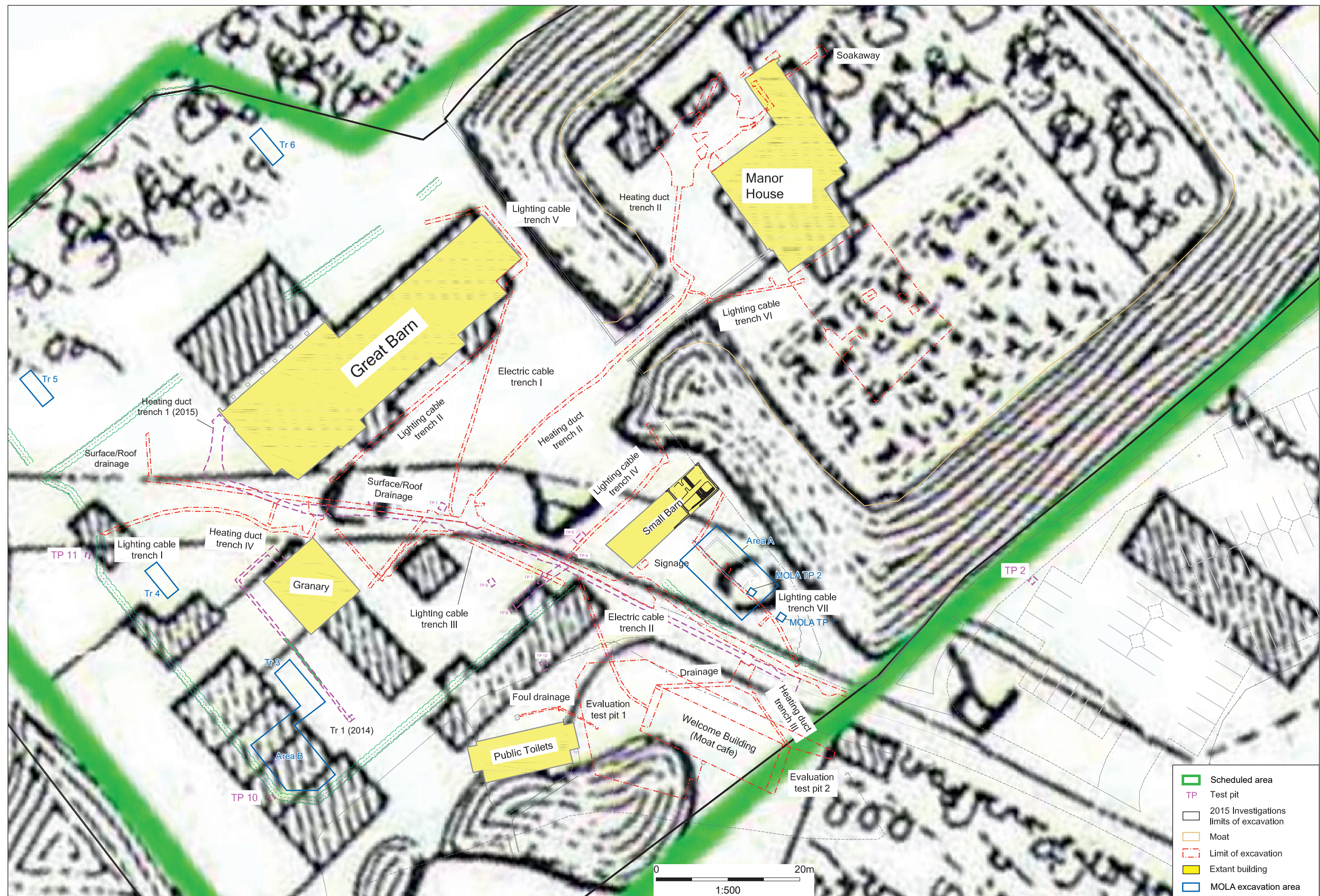


Figure 17: 2015-2017 investigations overlain upon the 1860 Sale of Particulars map (copyright Harrow Local History Collection)



Figure 18: Plan of Hedgestone Farm in the parish of Harrow, surveyed by W Leonard in 1819 (Copyright Hertfordshire Archives & Local Studies (HALS) D/EG0 PG), overlain by 2014-17 trenches

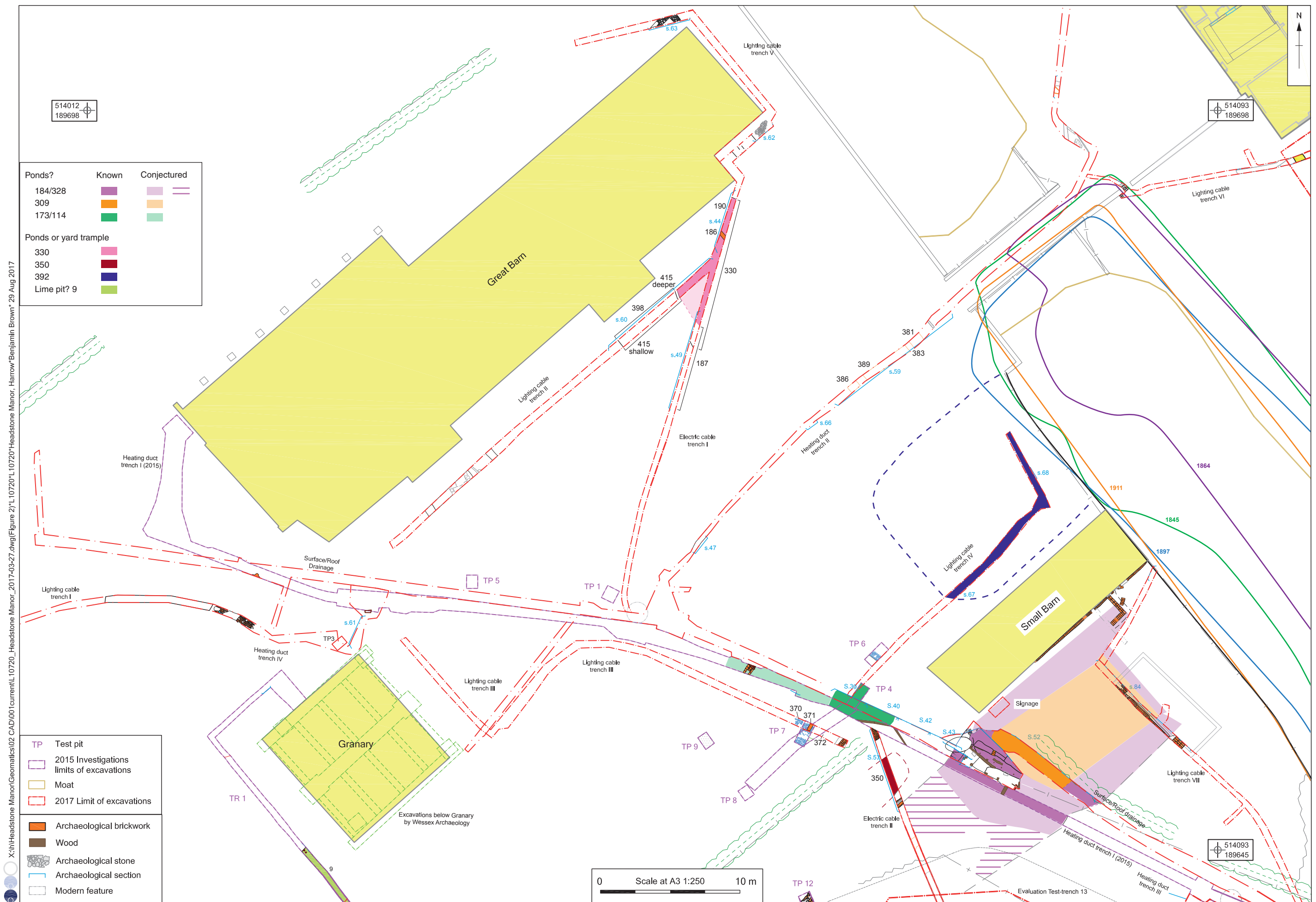




Plate 1 Metalled surface 156/173 looking north-west



Plate 2 Representative section of Surface Drainage trench, looking north-east



Plate 3 Chalk surface 163 to NW of Small Barn, looking south-east



Plate 4 Timbers 165, 167, 202 and 203 as first exposed, looking east



Plate 5 Bank showing chalk 291, clay 182, timbers 165, 167, 202-3 and 'cut' 185, looking ESE



Plate 6 Detail of chalk 291 with uprights 165-7 and plank 217, looking NNE



Plate 7 Excavation of timber uprights 166 and 165 showing eastern edge of 185, looking ESE



Plate 8 Timbers and dumped layers 237 etc. to the NE, looking SE



Plate 9 Plank 217 and uprights 209, 222-4 and 226 in layer 216, looking SW



Plate 10 Flints 218 abutted by dump 214 and overlain by cobbling 204, with timber 256 appearing below, looking north



Plate 11 Trench showing cut 184, fill 236 and post 256, looking north-east



Plate 12 Metalled surface 213, looking ESE



Plate 13 Trench dug for sign outside the SW corner of the Small Barn, looking north-east



Plate 14 Structure 573 looking west



Plate 15 Brick porch 586 with drain 588 and flint and brick walls beneath Small Barn, looking north-east



Plate 16 Detail of flint wall 587, chalk surface 590 and brick walls 591,591 and 592 under Small Barn, looking north



Plate 17 Wall 338 with chalk surface 339 and channel 350, looking NNE



Plate 18 Detail of wall 367, bricks 369 and chalk 372, looking south-west



Plate 19 Walls 367 and 371 with chalk surface 372 between, looking ESE



Plate 20 Brick structure 361, looking south-west



Plate 21 Wall 439, robber trench 447 and floor 445 from above, looking south-east



Plate 22 Corner formed by wall 439, looking ENE



Plate 23 Wall 430, looking north-west



Plate 24 Western edge of raised flint and gravel surface 187, looking north-west



Plate 25 Brick wall 186, looking north-west to Great Barn



Plate 26 Chalk surface 417 cut by feature 410 and narrower modern service, looking south-west

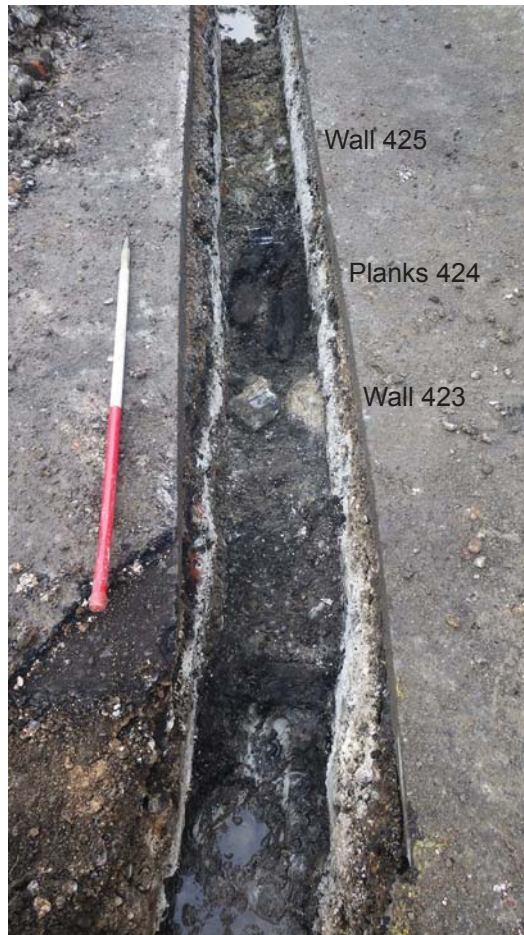


Plate 27 Flint walls 423 and 425 with plank walkway 424 between, metalled surface 426 and beam 422, looking south-west



Plate 28 Chalk surfaces 417 and 416, looking south-west



Plate 29 Western edge of 392 and ditch 386, looking north-east



Plate 30 Chalk and clay ramp up to moat bridge overlying upper fill of 392, looking south-east



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