# London Gateway Access Road, Stanford-le-Hope, Essex

## Archaeological Investigation Report

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# LONDON GATEWAY ACCESS ROAD,

# STANFORD-LE-HOPE, ESSEX

# ARCHAEOLOGICAL INVESTIGATION REPORT

# PHASE 1 AND 3 MITIGATION

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## *NON-TECHNICAL SUMMARY*

*During 2012 Oxford Archaeology undertook archaeological mitigation along the proposed route of a new Access Road forming part of the London Gateway Port development, on land to the south-west of Great Garlands Farm, Stanford-le-Hope. The road was constructed in three main phases, as follows:*

*'Access Road Phase 1' comprised construction of a large road embankment across the low-lying Thames floodplain at the south-east end of the route. Archaeological mitigation in this section was completed in conjunction with work in the adjacent London Gateway Admin Building development plot. Two trenches were excavated to a typical depth of 1m. Five inspection holes were then excavated to a maximum depth of 3.5m to investigate the deep alluvial sediments infilling the Thames floodplain. Small amounts of late Bronze Age or early Iron Age pottery suggest that the upper alluvium in this area was deposited from the later prehistoric period onwards. Various historic sea walls and associated drainage ditches survive in this area as extant earthworks. They were investigated and recorded before being buried under the road embankment. Although no archaeological dating evidence was recovered, documentary sources suggest that the earthworks probably date from the early 17th century, when the Thames marshes in this area were first subject to large scale, systematic reclamation.*

*'Access Road Phase 2' comprised construction of the road surface and associated structures and services, on top of the Phase 1 embankment, for which no archaeological mitigation was required.*

*'Access Road Phase 3' comprised the north-western section of the route, where it crosses the higher ground of the Thames terraces. Extensive topsoil stripping in this area uncovered relatively sparse evidence for activity in the prehistoric, medieval and post-medieval periods. The earliest in situ archaeology encountered was a middle Bronze Age (c 1600-1000 BC) pit containing the remains of a large pottery urn, and a group of complete fired clay cylindrical pedestals, identified as oven furniture. While no human remains were recovered from the fill, the pit may have had funerary associations, as it lay c 120m south-west of a series of circular cropmarks, assumed to be the traces of a Bronze Age barrow cemetery. Iron Age features were also present in small numbers, including a cluster of small pits and postholes (NGR 569973, 182585),and several poorly dated boundary ditches which seem to reflect a phase of Iron Age enclosure of the river terrace landscape. No substantive evidence for Romano-British or Anglo-Saxon settlement was found within the excavated area. Cropmark evidence suggests that traces of a significant settlement, probably of late Iron Age and/or Roman date, lies c 300m to the south-west of the Access Road, but the route was designed to avoid it.*

*Evidence for medieval and early post-medieval settlement activity was more extensive, and concentrated at two separate locations in the Phase 3 excavations. The pottery from both locations falls into two distinct phases, covering the late 13th - early 14th century and the late 15th - 16th century. The first site consisted of a series of settlement enclosures along the north side of High Road (NGR 570070, 182460). The evidence suggests that various house plots located along High Road in the 19th century may have originated in the late 13th/ early 14th century as a more extensive row of cottages. The second medieval site lay on the edge of the reclaimed marsh, to the south of Great Garlands Farm (NGR 570500, 182060). This site appears to be the southern periphery of an extensive medieval/ post-medieval wharf, clustered around the head of Carter's Creek. The wharf site is located on land historically associated with Old Garlands, a small manorial estate with medieval origins.*

*The excavations have shed light on the development of the local landscape, but the remains have limited potential for more detailed analysis. It is recommended that the results be written up in a combined publication with the nearby London Gateway Rail Corridor excavation.*

# 1 INTRODUCTION

## 1.1 Project planning background

1.1.1 This report details the results of archaeological mitigation arising from the development by DP World London Gateway of an access road to serve the London Gateway (LG) Port and Park development, in Stanford-le-Hope Essex (Fig. 1).

1.1.2 LG Port and Park received planning permission from Government on the 30th May 2007. The applications were in the form of an Outline Planning Application for the Park (OPA) and a Harbour Empowerment Order (HEO) for the Port. Associated infrastructure considered in the outline planning permission included a highway access road serving the Park and Port. In November 2010 planning permission was granted to implement a revised arrangement of the development access road (Application 10/50182/TTGFUL), which was broadly similar to that for which outline planning permission was originally granted, but followed a straightened alignment in the north-west section. The application was supported by an updated Environmental Impact Assessment (EIA) which included detailed consideration of potential impacts to heritage assets, including historic buildings, historic landscape and archaeology. The adopted overall scheme is referred to in this report as the 'Access Road'.

1.1.3 The Access Road construction was completed in three main phases:

- *Access Road Phase 1* refers to the formation of a large embankment in the low-lying south-east section of the road, crossing the Thames floodplain.

- *Access Road Phase 2* refers to construction of the south-east section of the road on top of the Phase 1 embankment, which did not involve any archaeological mitigation.

- *Access Road Phase 3* refers to construction of the north-western section of the road across the higher ground from the Thames terrace edge to the A1014/ Manorway road junction.

1.1.4 The London Gateway development area is extensive, including works on the gravel terrace, historic marshland, and the inter-tidal and sub-tidal zones, which encompass a diverse archaeological resource. Desk-based studies, and non-intrusive surveys undertaken to support the original London Gateway Environmental Statement, suggested that the development as a whole had the potential to impact on important archaeological remains. In recognition of this, a condition of the OPA and HEO is the implementation of the London Gateway Archaeological Mitigation Framework (AMF, OA 2003a). Originally included as a Technical Report to the Environmental Statement, the purpose of this document was to establish a strategic framework, applicable to the

entirety of the archaeological resource, within which the London Gateway archaeological programme would operate. Following consultation with Thurrock Council, an updated version of the AMF was included as Appendix 2 of a 'Statement of Common Ground' agreed between P&O (now DP World) and Thurrock Council in July 2003 (OA 2003b).

1.1.5 The AMF envisaged that, wherever possible, any archaeological remains would be preserved *in situ* and that where this could not be achieved any remains would be investigated and recorded. In accordance with procedures outlined in the AMF, a site specific Archaeological Project Design (APD) was produced, which assessed potential archaeological impacts for each component of the development and detailed appropriate mitigation measures. A programme of archaeological works was required to comply with the provisions of the AMF (OA 2003a), as stipulated in Conditions 11 and 12, attached to the planning consent for the revised highway access road.

1.1.6 The Access Road has been the subject of an Environmental Impact Assessment (DPW 2009) and three APDs covering the following elements:

- *Route-wide Evaluation Surveys* (OA 2010a) - The scope of work included earth resistance and electrical resistivity surveys, analysis of Lidar data and a series of evaluation trenches. A separate report has been prepared detailing the results (OA 2010b). The results are summarised where relevant in this report.

- *Access Road Phase 1 Mitigation* (OA 2012b) - The archaeological scope comprised trenches to investigate the archaeological potential of deep alluvial deposits, and the recording of historic earthwork features, in the south-eastern route section.

- *Access Road Phase 3 Mitigation* (OA 2012c) - The archaeological scope comprised extensive shallow 'strip, map and sample' (SMS) excavations in the north-western route section.

1.1.7 The investigation strategy was determined in consultation with Gill Andrews, the London Gateway Archaeological Liaison Officer (ALO), and the local authority archaeological advisor, Richard Havis (ECC Historic Environment Branch), to ensure compliance with the aims and methods of the AMF.

1.1.8 This interim report on mitigation for the Access Road Phases 1 and 3 has been completed to a sufficient level to allow post-excavation analysis and reporting requirements to be determined, but does not at this stage present detailed proposals for further analysis or publication of the results. On completion of substantive mitigation within the London Gateway site as a whole, a combined programme of analysis and reporting will be designed to disseminate archaeological results from the Access Road, the Rail Corridor and Port and Park developments, in accordance with the AMF.

## 1.2 Location, geology and topography

1.2.1 The Main Port and Park Access Road is a new dual carriageway to link the container port and commercial park with Sorrell's Roundabout on the A1014 Manorway. The proposed road corridor was re-aligned in 2008/9 following an updated Environmental Impact Assessment (OA January 2008). The final alignment was broadly similar to that presented at Public Inquiry in 2003, but follows a straighter alignment in the middle section, in the vicinity of Great Garlands.

1.2.2 The Access Road is situated entirely within the parish of Stanford-le-Hope, Essex (NGR 570200, 182200; Fig. 1) and is *c* 2km long. The drift geology is mapped by British Geological Survey as Holocene tidal flat deposits at the south-eastern end (Access Road Phase 1) and Pleistocene Undifferentiated Head and River Terrace 3 deposits at the north-western end (Access Road Phase 3, Fig. 2).

1.2.3 The route lies between *c* 18m and 2m OD, and generally slopes gently downwards from north-west to south-east, although the interface between the terrace and tidal flat deposits is marked by a dip in the surface topography. The lower-lying areas to the south-east have been systematically reclaimed from the inter-tidal zone since the 17th century through drainage and the construction of sea walls. Existing land use in the Access Road Corridor is characterised by arable land on the river terrace areas, at the north-west end of the road corridor, and rough pasture in areas of former marshland to the south-east.

## 1.3 Geoarchaeological background

1.3.1 For assessment purposes the route of the Access Road has been divided into a series of five 'mitigation zones', which are numbered from south-east to north-west (Fig. 2). The mitigation zone boundaries are defined on geomorphic grounds, using BGS 1:50,000 drift geology mapping, informed by results from desk-based assessment, cropmark plots, gradiometer surveys and fieldwalking data. Each of these units has different archaeological potential, dependant on their age, formation history and preservation potential. The route of the Access Road crosses three distinct geomorphological units:

- Tidal flat deposits (inter-tidal alluvium), (mitigation zones 1 and 2)
- Undifferentiated Head deposit (mitigation zones 3 and 5)
- River Terrace 3 deposits. (mitigation zone 4)

1.3.2 The Undifferentiated Head and River Terrace 3 deposits, together referred to as the 'terrace deposits', are a series of sediment units, formed from *c* 200,000 BP onwards. These deposits have a different formation history from the lower floodplain, with the potential to contain archaeology from the Late

Palaeolithic through to the present day at relatively shallow depths within the sediment profile. During the Holocene, shallow soils have developed above them.

1.3.3 The evolution of the tidal flats (mitigation zones 1 and 2), the focus of the Phase 1 mitigation, is more complex. At the end of the Devensian and during the early Holocene the floodplain is likely to have been an extensive gravel braidplain. Recent modelling (Bates and Bates 2012d) has shown that the development area began to accumulate inter-tidal sediments from the late Mesolithic, from both marine and riverine influences, the channel network probably becoming more constrained and less braided as a result. The process of sedimentation continued throughout the Holocene, producing the current depth of alluvium. During the historic period (according to documentary evidence most likely during the early 17th century), a sea wall halted marine influence into the alluvial floodplain and the vertical accretion of the sediment body stopped. The top of the alluvial sequence has subsequently undergone soil maturation and stabilisation, coupled with drainage and agricultural improvement.

1.3.4 The interfaces between such geologically defined landscape zones often act as a focus for human settlement, as such locations provide access to a wider range of resources than would be obtainable from a uniform landscape. Within the Access Road route, the key transition between the terrace and inter-tidal flat deposits (Fig. 2, mitigation zone 2/3) has been identified as a particularly likely focus for human activity. The high potential of the interface zone is borne out by the intensity of known historic settlement activity in the vicinity. Nearby historic terrace edge settlements, such as Old Garlands/ Great Garlands are typically located on areas of river terrace gravel (apparently avoiding the clayey head deposits) at around the 13m contour, presumably to avoid the effects of floods. However, prior to the construction of sea walls in the 17$^{th}$ century they were located close enough to the terrace edge to permit ready access to the river Thames via navigable tributary creeks. Carter's Creek (so named on the 1873 OS map, Fig.13) formerly provided a navigable route from the terrace edge to the main Thames channel. The head of the creek was accessed by a series of trackways leading from Old Garlands/ Great Garlands, and the 'High Road' to the north-west (principally the 'Manor Way' track). There is substantial archaeological evidence for creekside activity along the terrace edge in the period *c*1200-1600, probably focussed around a former wharf site to the south-east of Great Garlands (OA 2010; Peachey and Dale 2005).

1.3.5 The terrace edge forms a sharp divide between the rectilinear fields of the gravel terrace and the sinuous boundaries and trackways of the reclaimed saltmarsh below. The latter follow the lines of relict creeks and sea walls, which commonly survive as low earthworks. This reclaimed marshland landscape has been extensively modified, particularly in the last 250 years or so, by land reclamation, drainage and agricultural improvement. The land between the terrace edge and the former refinery boundary retains a generally flat, treeless, open aspect. Development of the Shellhaven site in

the course of the 20th century progressively removed the last traces of historic landscape within the refinery perimeter fence.

## 1.4 Archaeological and historical background

1.4.1 The terraces of the River Thames are extremely rich in archaeological remains, and the general vicinity of the Access Road is no exception. Most notably, the Mucking excavations (1965-78), 3km to the west of the route, revealed a complex series of superimposed landscapes, dating from the Neolithic to the Medieval period, with substantial settlements and cemeteries of Bronze Age through to Anglo-Saxon date, extending over 18ha (Clark, 1993).

1.4.2 On the gravel terrace, extensive areas of historic settlement can clearly be recognised on either side of the LG Access Road corridor, in particular in the cropmark data (Fig. 2, ECC 2011). A series of circular cropmarks to the north-east of the Access Road may represent a dispersed prehistoric barrow cemetery. A wide band of soilmarks and cropmarks crosses the upper part of the terrace, predominantly in areas mapped as river terrace deposits (gravel) describing a network of ditches, probably settlement and field enclosures, with trackways between them. The Access Road route lies close to one of these complexes *c* 400m south of Sorrell's Roundabout (Fig. 2, OA39). The cropmarks are undated, although they appear typical of late prehistoric/ Romano-British rural settlement features (particularly when taken together with cropmarks to the west and east). Some are likely to be of medieval or post-medieval date as they lie in the vicinity of medieval settlements at Broadhope Farm and Great Garlands/ Old Garlands.

1.4.3 The geophysical surveys generally support the cropmark evidence, without adding significant additional data. The surveys show no archaeologically significant geophysical anomalies within the Access Road route.

1.4.4 The evidence from fieldwalking survey on the gravel terrace is generally negative. Most of the cultural material collected comprises ceramic building material of recent origin. Otherwise a low density background scatter of Palaeolithic to Bronze Age worked and burnt flint is present, within which it is possible to suggest a slightly more significant concentration of worked flint along the terrace/ floodplain boundary (mitigation zone 2/3). Prehistoric and Roman pottery is also present in small quantities, and a minor concentration of medieval material has been found close to Great Garlands Farm (OA 2002).

1.4.5 In summary, all of the surveys suggested a low density of archaeological features within the road corridor itself. The results were consistent with a largely agricultural landscape of trackways and field boundaries, of various periods, falling between more intensively settled areas (Fig. 2). The landscape of the south Essex claylands and gravel terraces is characterised by extensive co-axial, rectilinear field systems. The date at which this landscape was first enclosed has been the subject of debate. There is evidence that the general pattern of local trackways and boundaries originates in the late Saxon

period, although some major elements may date back to the late Iron Age or Roman period and even the Bronze Age (Rippon 1991; Wilkinson 1988).

1.4.6 Archaeological features found in evaluation trenches were generally sparsely distributed and mostly undated (OA 2010a). One small group of Iron Age pottery was found in a pit in Trench 12. The trial trenching results broadly confirm the predictions made on the basis of the non-intrusive surveys for these zones. However the density of features, and the quantity of artefacts recovered was perhaps less than expected, particularly on the river terrace gravel, given the extent of cropmark sites on either side of the route. The trenching broadly confirmed that the distribution of archaeological features appears closely related to the extent of the river terrace deposits and was very sparse in areas of head deposits, except along the terrace edge, which seems to act as a significant settlement focus regardless of the soil type. An important objective of the excavation was to establish whether the cropmarks reflect real patterns in the distribution of human settlement or differential visibility of cropmarks on different soil types.

1.4.7 In the later medieval and post-medieval periods the land crossed by the Access Road, lying in the south-eastern part of the parish, will have fallen within the lands of Abbotts Hall Manor and Old Garlands Farm. Abbotts Hall moated manor house no longer exists, and the site has been built over by late 20th century housing estates, but the site is shown on late 19th century maps to the north-west of Sorrell's Roundabout (Fig. 2, OA 32 and Fig.13). In the mid-13th century William de Septem Molis gave this manor to the Abbott and Convent of Waltham Abbey, along with the right to appoint a chaplain to St. Nicholas's Chapel (exact site unknown, but probably alongside Corringham Road in the vicinity of Abbott's Hall). The core of the manor's lands were located in the vicinity of the chapel and manor house, including the lands between Corringham Road and High Road, but also the separate pasture of Curry Marsh in Stanford-le-Hope and various properties in Mucking. At the time of the Dissolution of the Monasteries the Abbott's Hall estate was farmed by Robert Pake at a rent of £10 per annum. In 1543 Henry VIII sold it, under the name of the '*Manor of Stanford Hoope*', to Walter Farre, a gentleman of London who acquired extensive lands, mainly in Essex and Dorset, following the Dissolution (Saunders 1988). St. Nicholas's Chapel, with which the lands of Abbott's Hall had been associated, was merged with Stanford-le-Hope parish in 1650, as part of a wider consolidation of parishes under the Commonwealth (Houston 1968).

1.4.8 Various small estates in the area of the Access Road are mentioned in documentary sources. Old Garlands Farm and Old Hall, Corringham, are certainly documented by the 15th century and may have existed as separate estates in earlier periods (Saunders 1988). These farms are located among their respective 'upland' fields, which at the time of the 1840 Tithe Map lay broadly between High Road and the edge of the gravel terrace (Fig.13). In addition, each estate included extensive marshland pasture, comprising both 'fresh marsh' (ie, enclosed by a sea wall) and unenclosed 'greenmarsh', 'saltings' or 'waste'. The artefacts recovered from archaeological investigations within the lands of Old Garlands and Broadhope Farm

(discussed below) suggests that these settlements may have evolved into permanent settlements by *c* AD1200, although the finds to date have been found at probable wharf sites along the adjacent Thames foreshore rather than at the farms themselves.

1.4.9 In 1591 'Old Garlands Farm', through whose lands most of the LG Access Road runs, was acquired by Sir John Hawkins (one of the leading English seamen of the Elizabethan period) and was given by him as an endowment for a hospital that he founded in Chatham for sick and elderly mariners in 1592. The Hawkins Hospital, which still exists, owned the estate from 1592-1920 and has extensive surviving records covering that period. Documentary evidence that it may have existed as a separate estate earlier in the medieval period comes from a 13th century land grant relating to the Petre Family of Ingatestone and Horndon, which was witnessed by a group of south Essex notables including Peter de Stanford and Robert de Garlande (Essex Records Office - D/DP T1/139). The estate owned by the Hawkins Hospital is variously referred to in the records as 'Old Garlands Farm', 'Garlands Farm', 'Old Garlands Den' and latterly 'Great Garlands' to distinguish it from the neighbouring 'Little Garlands'. The 'den' element, and the large proportion of marshland pasture that it contains, suggests that this estate may have originated as a detached portion of an 'upland' parish, a common arrangement in south Essex in the late Anglo-Saxon and medieval periods, through which communities with no river frontage had access to the marshes for summer grazing.

1.4.10 A conveyance dated 1599 (transferring the farm to ownership of the hospital, following Hawkins death in 1595) refers to the *"Manor and capital messuage called Olde Garlandes, 30 acres pasture adjacent to 95 acres greenmarsh and saltmarsh [abuttals], pasture for 26 sheep in Church Marsh, all in Stanford-le-Hope, rent of 5 acres from a fresh marsh in Corringham, and right of passage to and from Mousehole Well to carry water"*. The use of three different terms for marshland here implies that they describe specific categories. A lease dated 1614/15 describes the same estate as a *"Messuage called Old Garlandes, 4 closes of upland ground (30 acres), a wick house and 5 marshes (70 acres) all in Stanford-le-Hope and in tenure of Francis Shawe [citizen and cloth-worker of London]"*. 'Wick' in this context refers to a specialised livestock farm, often attached to a larger estate located elsewhere. In this case a sheep farm seems most likely. Connections with London mercantile interests are a common feature of estates in south Essex in the medieval and post-medieval period. The 13th century estate may have been larger than described in these 16th - 17th century documents if it originally included Little Garlands. The latter was certainly under separate ownership by 1636 (see below).

1.4.11 Documentary sources held in the Essex Records Office indicate that 1500 acres described as 'Fobbing Level Marshes', which probably included all or most of the marshes associated with Abbotts Hall and Old Garlands, were 'inned' (i.e., enclosed by sea walls) at the instigation of the landlords in *c* 1623. 17th century maps held in the PRO also show the coastline as enclosed by a 'Dutch Wall' (Sparkes 1965). Reclamation marked a major investment,

resulting in substantial changes in land use within the marshes and reflects their increasingly intensive exploitation, still mainly for grazing livestock, in response to population pressure. This was a nationwide phenomenon but pressure on land is likely to have been particularly intense in the Thames estuary due to the growth of London. The 18th century estate records include a draft ‘to be let’ notice for Old Garlands Farm, dated *c* 1750, which by this date is described as *'messuage, barn, stable, 30 acres upland, 87 acres fresh marsh land and 15 acres salt/waste land'*. This appears very similar in terms of area to the 1599 and 1614/15 descriptions, but the bulk of the marshland is described as ‘fresh marsh’ in the *c* 1750 document whereas it was ‘greenmarsh’ in 1599, presumably reflecting the reclamation of the area in *c* 1623. Even after reclamation flooding was clearly a perennial risk. The tenants of Old Garlands Farm in 1735 complained of the disastrous effect on their livestock and corn of severe Thames floods.

1.4.12 On 19th century historic maps the head of Carter's Creek, and the marshland beyond, was accessed via a series of trackways leading from Old/ Great Garlands and 'High Road' (eg 1898 OS Map). The principal track through the marshes was the 'Manor Way', which led to an enclosure (and probable wharf) on the Thames (Fig.13). Hawkins Hospital estate records refer to a lawsuit brought in 1636 by Robert Cheslin for a “driveway through Old Garlands Farm to a marsh of Cheslin’s” (which is identified in later legal correspondence as Curry Marsh) and also in respect of Little Garlands Farm, whereby one third of the cost of building the driveway was to be borne by the owner of Little Garlands Farm and two thirds by the Hawkins Hospital as owners of Old Garlands Farm. This must refer to construction of the historic Manor Way track, indicated as a double line of embankments on 19th century historic maps (Fig. 2, running from OA162 to OA52 and Fig.13), which still survive as earthworks to the north of the Access Road (this is not to be confused with the modern A1014 Manorway which is on a considerably different alignment). The date of this case, *c*13 years after the reclamation of the marshes in *c*1623, might suggest that the need for the driveway arose as a consequence of the construction of sea walls and subsequent changes to the landscape.

1.4.13 A medieval and early post-medieval archaeological site of particular interest within the route study area was first discovered to the south of Great Garlands Farm during a watching brief by ECC FAU on the Coryton Power Station gas pipeline in 1999 (Fig.2, OA57). A further group of late medieval/ early post-medieval features was also identified during trial trenching in the Access Road corridor (OA 2010b). The earliest features on both sites are a series of medieval drainage ditches, some of which were in-filled with dumps of domestic rubbish dating from the 12th-14th centuries. The ditches were sealed by alluvium in some places (probably flood deposits). The most significant features date from the 15th-16th century and were concentrated in the 1999 ECC FAU watching brief area (Fig. 2). Taken together, these two sites probably represent a late medieval/ early post-medieval wharf at the head of the historic 'Carter's Creek'. The 1840 Tithe Map names one of the fields in this area 'Saw Pit Field' (OA184) which suggests that wood-working, and very likely boat-building, took place at this location in the post-medieval

period. If the 1999 gas pipeline and LG Access Road sites are part of a continuous linear settlement along the edge of the gravel terrace, its total extent would be *c* 600m, from the Manor Way track in the north, to the Access Road centreline in the south. The inland extent of the settlement is uncertain, as the gas pipeline excavation was only 20m wide. There is no indication of cropmarks or geophysical survey anomalies extending inland at this location, but this may be a matter of poor visibility on the head deposits in comparison with the gravels (ECC 2011). Within the LG Access Road corridor the 12th-16th century features appear to be confined to a narrow strip, no more than 50m wide, closely following the edge of the terrace, which would have been tidal foreshore prior to land reclamation in the 17th century.

1.4.14 The ECC FAU excavation revealed a considerably wider range of features and artefacts than are apparent in the Access Road excavations, including more direct evidence for structures, and stratified occupation deposits. They included two cobbled surfaces (the largest 25m wide and 0.2m thick). Given the landscape context, close to the head of a large tidal creek, these surfaces are perhaps best interpreted as ‘hards' for pulling boats up onto the shore. The largest cobbled surface lay alongside a broadly contemporary large, rectangular timber building (10m by at least 9m). The cobbled surface was partly overlain by an 'occupation layer' which produced a variety of finds including 'the handle of a late medieval copper alloy chafing dish, an almost complete late medieval Surrey white ware dripping dish, and a 16th century carved bone toothpick with a head in the shape of a unicorn'. A second, smaller cobbled surface, possibly a kiln or oven, a pit, postholes and other features, were also recorded in the same area (Peachey and Dale 2005).

1.4.15 The area of medieval activity south of Great Garlands Farm is located at the very edge of the gravel terrace. The earliest map consulted, Chapman and André’s map of 1771, clearly shows a creek extending through the marshes to the foot of the terrace at this point, which is named as ‘Carter’s Creek’ on the 1st Edition OS (Fig 13). The surviving earthworks at that location support the interpretation of the site as a wharf, noting a flat area surrounded by a substantial (*c* 2m high) sea wall (OA166) at the foot of the terrace immediately SE of Great Garlands Farm, with two level platforms beside the sea wall (OA46 and 161).

1.4.16 It may be no coincidence that the end date for these foreshore sites coincides broadly with the documented onset of large scale, systematic land reclamation in the early 17th century. The construction of sea walls might well have rendered the wharf stranded behind them unusable, as well as radically altering the pattern of land-use in the marshes.

# 2 AIMS AND METHODOLOGY

## 2.1 Aims

2.1.1 The main project aims are as follows:

- Identify any archaeological remains or significant deposits that may be removed or impacted during the formation of the road, in order to develop a further understanding of past human activity and changing environments and landscapes within the local area.
- Test and investigate the nature of potential archaeological features identified by desk-based assessment and field surveys.
- Investigate the extent, condition, nature, character, quality and date of any archaeological and palaeoenvironmental remains encountered.
- Preserve by record any significant archaeological features or deposits that may be removed during construction of the road.

2.1.2 The phase 1 mitigation has the following specific aims:

- Clarify the archaeological potential of the interface between mitigation zones 2 and 3, previously defined by the geoprospection surveys. In particular the intention is to investigate the potential for significant archaeology in shallow alluvial deposits close to the terrace edge.
- Determine the approximate date range and extent of any significant remains.
- Gain further data on the geostratigraphy of the upper alluvial sequence at London Gateway, which will feed into a developing model of estuarine evolution at the site.
- Understand the likely impact, if any, of the development of the upper alluvial sequence.
- Identify the location and extent of any waterlogged organic deposits and establish the potential for preservation of archaeological and palaeoenvironmental remains.
- Further elucidate the relationship of the Holocene deposit sequence at Shell Haven to local and regional models.

## 2.2 Methodology

***Phase 1 mitigation: preliminary earthworks and historic sea wall***

2.2.1 The interface zone between the river terrace and alluvial floodplain has been identified since the original ES as a particularly likely location for important archaeological discoveries, which could be very well preserved in waterlogged conditions. In the WSI it was envisaged that a continuous trench would be excavated to a typical of 1m depth around the western end of the Phase 1 Access Road, which could be expanded or reduced in extent depending on the archaeological potential of the deposits encountered. As the upper alluvium was found to have very limited archaeological potential, the extent of the trench was minimised, as shown on Figure 3. Within the trench, a series of five test pits were dug to investigate the archaeological potential of the alluvium to a maximum depth of 3.5m.

2.2.2 The Phase 1 investigation also required investigation and recording of surface historic landscape features within the Access Road and adjacent Admin Building plot. A series of sea banks and drains survive as earthworks throughout the reclaimed marshland between the former oil refinery and the river terrace. The earthworks are located adjacent to Carter's Creek and probably date from the reclamation of the marshland in the early 17th century. Similiar features formerly extended throughout the Admin Building plot, but those in the eastern part of the site were levelled when the Shellhaven West oil refinery was developed, from the late 1960s.

2.2.3 All excavations and surveys have been completed in accordance with standard methods detailed in the AMF and site specific APD.

***Phase 3 mitigation: strip, map and sample excavation***

2.2.4 The Phase 3 mitigation area was divided into Areas A-H for recording purposes, based on breaks between the excavation areas resulting from exclusion corridors around services and hedgerows. Area A lay at the north-western end of the route and Area H at the south-eastern end (Fig. 4). Areas D and F were not in the event stripped and Area E contained no archaeological features. Appendix A contains a complete list of archaeological context numbers. At the start of the excavation each area was assigned a block of context numbers, as follows:

*Table 1: Context number blocks assigned to each Phase 3 mitigation area*

| Area | Context block |
|---|---|
| A | 1000s |
| B | 2000s |
| C | 3000s |
| D | 4000s (no context numbers assigned) |
| E | 5000s |
| F | 6000s (no context numbers assigned) |
| G | 7000s (no context numbers assigned) |
| H | 8000s |

2.2.5 Two 23 ton 360° tracked mechanical excavators, fitted with toothless ditching buckets, were used to strip the topsoil and plough-disturbed soil from the site under close archaeological supervision, to a typical depth of *c* 0.6m. Exceptionally heavy rainfall and poor ground conditions prevented the use of dump-trucks. An amendment to the WSI allowed the excavation to be limited

to a series of 10m wide strips, leaving unexcavated strips for spoil storage in between. 10m is the maximum width that an excavator can strip cleanly without double-handling the spoil.

2.2.6 In addition to the SMS excavation, two areas of known archaeological interes were subject to targeted investigation and recording during construction works. These included sections through High Road (following removal of the existing tarmac road surface) and through a hedgerow marking the boundary between the Thames terrace edge and floodplain (following ecological mitigation).

2.2.7 Certain areas were excluded from formal excavation. Safety margins *c* 20m wide were left on either side of existing services, and 5m margins on either side of extant hedgerows for ecological reasons. Most of these areas were subsequently monitored under watching brief conditions during the construction earthworks (Figs. 3 and 4).

2.2.8 Archaeological features and deposits have been mapped and excavated in accordance with methods and procedures detailed in the APD and AMF.

# 3 RESULTS

## 3.1 Phase 1 Access Road

***Conditions during fieldwork***

3.1.1 The investigation encountered wet weather conditions, but as the trenches were of limited extent and backfilled rapidly, flooding was not a significant problem during the Phase 1 investigation.

***Phase 1 Access Road trenching (Figs 5 and 6)***

3.1.2 No archaeological features were identified during the excavation of Trenches 1a and 1b. A rectangular cut (1016, Fig. 5), observed near TP3 in Trench 1a, was only apparent in plan, but as it's shape is very regular it is interpreted as a machine-cut geotechnical test pit.

3.1.3 The sediment sequence generally consisted of relatively homogeneous inorganic alluvial silty clays (Table 2). However a thin, localised organic horizon, a buried soil or peat, was recorded at a depth of 2.3 - 2.4m below ground level in TP1. It is also recorded at a depth of 1.4m - 1.6m in TP2, although only faintly visible. The peat horizon in TP1 produced three sherds of hand-made, coarse, flint-tempered pottery of probable Bronze Age or early Iron Age date.

*Table 2: Summary of the alluvial sequence in Trenches 1a and 1b*

| Trench logs | Depth (below ground level) | Context Description | Interpretation |
|---|---|---|---|
| Section 1 | 0.0 - 0.2m | Dark grey brown clayey silt | Topsoil |
| | 0.2 - 1.5m | Mid orange brown clay | Alluvium |
| | 1.5 - 2.5m | Mid blue brown clay | Alluvium |
| | 2.5 - 3.0m | Dark blue grey clay | Alluvium |
| | 3.0 - 3.3m | Mid grey brown clayey silt | Alluvium |
| Section 2 | 0.0 - 0.2m | Dark grey brown clayey silt | Topsoil |
| | 0.2 - 0.6m | Mid orange brown clay | Alluvium |
| | 0.6 - 0.7m | Mid-dark brown orange clay | Alluvium |
| | 0.7 - 0.9m | Mid grey blue clay | Alluvium |
| | 0.9 - 1.2m | Mid blue brown clay | Alluvium |
| Section 3 | 0.0 - 0.2m | Dark grey brown clayey silt | Topsoil |
| | 0.2 - 1.4m | Mid orange brown clay | Alluvium |
| | 1.4 - 1.6m | Dark orange brown silty clay | Alluvium |
| | 1.6m+ | Mid blue brown clay | Alluvium |
| Section 4 | 0.0 - 0.2m | Dark grey brown clayey silt | Topsoil |
| | 0.2 - 0.8m | Mid orange brown clay | Alluvium |
| | 0.8 - 2.0m | Mid grey blue clay | Alluvium |
| | 2.0 - 3.5m | Dark blue grey clay | Alluvium |

***Sea wall earthwork survey and section (Trench 2, Fig. 6 and Plate 2)***

3.1.4 The sea walls and associated earthwork features have, for the most part, been preserved *in situ* beneath the road embankment, although localised disturbance resulted from the excavation of drainage ditches around the outer edge of the embankment. A topographical survey was completed as a record

of the earthwork features before burial (Fig. 6, Plate 2). In addition, a 21.5m long, machine-cut profile was recorded through the earthen bank and the associated drainage ditches on either side (Trench 2; Fig. 3 and Plate 2). The bank at this point was 1.2m thick at the highest surviving point, comprising a simple clay bund construction, with no surviving indication of internal structures. It comprised a shallow topsoil of friable dark orange brown silty clay (0.15m thick) overlying a firm reddish brown silty clay (0.9m thick) with little internal variation. The latter was interpreted as redeposited alluvium, upcast from the drainage ditches flanking the sea wall. It was heavily oxidised, with no potential for organic preservation. Two ditches revealed in plan to the north and south of the wall (3.0m and 3.9m wide respectively) were not excavated as they have been preserved *in situ*. The uppermost fill of the ditches is a greyish brown silty clay.

3.1.5 No artefactual evidence for the date of construction of the earthworks was recovered during the investigation. They were probably part of the primary phase of post-medieval reclamation in the Stanford-le-Hope Marshes, as it lies alongside Carter's Creek, a major watercourse. As noted above, documents in the Essex Record Office suggest that a date in the early 17th century (*c* 1623) is most likely date for the first large scale, systematic reclamation of the marshlands in this area.

***Finds summary***

3.1.6 The alluvial sediments in Trench 1a (TP1) contained three sherds of pottery, recovered from a single context. These are all in coarse flint-tempered fabrics and consist of featureless body sherds. They are not closely dateable and have been spot-dated broadly to the Bronze Age or early Iron Age. The sherds derive from a localised thin organic peat/ soil horizon in Trench 1a (TP1). The quantity of prehistoric pottery recovered is very small, possibly from a single vessel, and found in an alluvial layer rather than a clear archaeological context. Nevertheless it suggests some level of later prehistoric activity in the vicinity, and provides some dating evidence for the formation of the upper alluvium.

***Environmental summary***

3.1.7 No palaeoenvironmental samples were recovered during Phase 1 of investigation.

## 3.2 Phase 3 mitigation: Strip, map and sample excavation

***Conditions during fieldwork***

3.2.1 Although the ground on the river terraces is normally well-drained, exceptionally heavy rainfall made working conditions difficult during the Phase 3 excavations. The NW and SE parts of Area A, and the southern part of Area H were affected by localised flooding. However, the wet conditions did not significantly affected archaeological visibility in most of the stripped areas.

Ephemeral prehistoric archaeological features, including boundary ditches, post holes and pits were successfully identified and recorded.

***Soil sequence***

3.2.2 The topsoil in this area was a 0.2 - 0.3m thick dark grey brown silty sand with frequent gravel inclusions, which had been subject to intensive ploughing. This overlay plough-disturbed mid-orange brown clayey sand subsoil. The underlying geology varied, typically comprising sandy clay undifferentiated head deposit in Areas A, E, G and H. In Areas B and C the natural geology comprised river terrace gravel, which was exposed at the southern end of Area A, in a band on either side of High Road.

3.2.3 A series of irregular features was found distributed throughout the north-west end of Area A, cut into the surface of the head deposits (Plate 3). These were inspected by a specialist geoarchaeologist to determine whether they represent natural or archaeological features. The dense array of sub-surface features exhibited a range of different forms and depths. Some of the features appeared to have an irregular sinuous form, while others were discrete oval features of various sizes, exhibiting deeper scour-like profiles. The larger of the oval group also contained central gravel concentrations. The features were typically filled with a soft pale greyish brown clayey silt with frequent partially sorted sub-rounded gravels (20%). In most cases, no signs of worked flint or other archaeological finds were identified during surface inspection of the fills, which are predominantly inorganic. Occasional pieces of post-medieval or victorian tile and one piece of pottery were recovered from the surface of small number of the features. One investigated gully produced charcoal but no dateable artefacts. No evidence of frost action was identified within the fills that would suggest a peri-glacial origin for these features.

3.2.4 With the exception of two features tentatively interpreted as possible archaeological features, the vast majority of these features were considered to be of natural origin. The oval features with gravel concentrations were probably either large tree-throw holes or areas of root disturbance, suggesting that the northern-western part of Area A was formerly covered by woodland. No dating evidence was recovered for its clearance. The sinuous gully forms were probably erosional gullies of uncertain age.

***General distribution of archaeological features (Figs 7-9)***

3.2.5 Archaeological features were in general very sparsely distributed.

3.2.6 No definite early prehistoric features were identified. A small assemblage of worked flint was recovered, mostly as residual material from later contexts. The recovered assemblage is of mixed date. The scarcity of worked flint bears out the largely negative results from fieldwalking surveys. There was a slight concentration of Neolithic/ early Bronze Age flint in Area H, which might suggest low level domestic activity close to the former Thames foreshore.

3.2.7 Significant individual later prehistoric features included a rich pit deposit in Area A, which contained 90 sherds from a single Deverel-Rimbury vessel (of middle Bronze Age date), in association with a significant assemblage of ceramic oven or hearth furniture. A total of 74 other sherds of later prehistoric pottery, including Bronze Age and Iron Age material, has been recovered from 18 widely distributed contexts in Areas A, B, C, E and H, the majority in small quantities from the fills of ditches and pits.

3.2.8 No Romano-British or Anglo-Saxon artefacts have been recovered, which is also very unusual for the Thames terraces in Essex, given the extent of the stripped areas.

3.2.9 The majority of archaeological features and deposits were found in association with two distinct sites of predominantly medieval and early post-medieval date, located at the SE end of Area A (on the north side of High Road) and the SE end of Area H (adjacent to the river terrace edge).

***Mitigation areas***

*Area A: Prehistoric features (Fig. 7)*

3.2.10 A small circular pit (1004), with a shallow bowl-shaped profile, located near the eastern edge of the site, produced 90 fragments from a Deverel-Rimbury ware vessel (Plate 4). The pit fill was a dark brown sandy silt with frequent charcoal inclusions. The vessel has two bands of decoration, the first consisting of a finger-impressed cordon a third of the way down. The second, more unusual, is a ring of impression approximately 5mm in diameter and spaced 40mm apart which does not penetrate the vessel. The vessel can be dated to the middle Bronze Age (c 1600-1000 BC). Within the same feature were five fired clay cylindrical pedestals and a complete conical pedestal. In addition to being used in pottery production, pedestals of this type are often found on Bronze Age settlement sites and seem to have had a generalised function as oven or hearth furniture. Soil samples taken from the pit were wet-sieved and the flots contained 33.6 grams of cremated bone, although none of the fragments could be positively identified as human (See Appendix C). Charcoal and other charred plant remains were present in the fill of the pit, but only in small fragments that were not identifiable to species, and in low concentrations.

3.2.11 A cluster of large postholes or small pits was excavated near the eastern edge of Area A (Fig. 10, Plate 6). No discernible structure could be identified from their layout. Several of the pits produced Iron Age pottery indicating that they date from the period c. 800BC – AD 43. A large quantity of fired clay was recovered from one of pits (1012) which appears to have formed part of a permanent structure, such as a kiln or oven. They are perhaps most likely to be integral pedestals from a kiln. A discoloration to the surface possibly suggests salt production, although no traces of white salt glaze are visible. Soil samples from 13 of the features in this group were wet-sieved (Appendix C) but produced very poor assemblages of charcoal and charred plant remains. Cereal grains occurred in a number of the samples, but were for the most part too poorly preserved to allow identification.

3.2.12 Excluding the Deverel-Rimbury vessel, a total of 17 later prehistoric sherds were recovered from 8 widely dispersed contexts in Area A.

3.2.13 A single sherd of Iron Age pottery was recovered from a ditch which crossed Area A on a north-south alignment. A single sherd cannot be considered reliable dating evidence, but the alignment was notably different from that of the surrounding post-medieval field system, which is aligned north-west to south-east. Two linear cropmarks to the east are on a similiar alignment and may have been part of a contemporary field system (Fig. 7). One of these was investigated in the High Road area and proved to be stratigraphically earlier than the medieval enclosures in the same area, but it produced no artefacts. The relationship of this ditch to High Road was investigated further when the road surfaces were removed during the watching brief. No sign of the possible prehistoric ditch (1179) was found underlying, or to the south of the road.

Unfortunately the relationship was obscured by modern disturbance, including service trenches and recutting of the roadside ditch (Fig. 11).

*Area A: Medieval and post-medieval features (Fig. 7)*

3.2.14 At the southern end of Area A, a series of north-west to south-east aligned small rectilinear ditched enclosures was identified, forming a series of small plots lined along the north side of High Road. Many of the enclosure ditches produced very small quantities of medieval and early post-medieval artefacts. A large hollow within the centre of the southern excavation area may have served as a drainage pond (1146), as two ditches (10089, 1163) emptied into it. Within the enclosures a total of 13 pits were identified, four of which (1125, 1129, 1159, 1188; Plates 8 and 9) produced a very small assemblage of slightly worn fragments of medieval pottery. This consists primarily of Mill Green cookware suggesting a 13-14th century date. No clear evidence for buildings was identified, although some of the pits and gullies could represent footings of timber buildings. The very small pottery assemblage recovered perhaps argues against interpreting this site as domestic in character.

3.2.15 A pond (1005, Plate 5) was excavated near the eastern edge of Area A, which produced both medieval and post medieval artefacts.

3.2.16 Various other boundary ditches and pits were excavated within Area A, but did not produce any dating evidence.

*Area B (Fig. 8)*

3.2.17 Archaeology in Area B was very sparsely distributed indeed. Two pits (2009, 2019) produced 2 sherds of Iron Age pottery each. An east-west aligned ditch at the northern end of the stripped area produced no dating evidence, but is on a similiar alignment to the possible later prehistoric field system referred to above (para 3.2.13).

3.2.18 Two further discrete features were excavated but produced no dating evidence. Several flints were recovered from the area including a bladelet and a piercer. These have been dated to the later prehistoric period and are thought to be residual rather than contemporary with the excavated features.

*Area C (Fig. 8)*

3.2.19 Within Area C were three linear features, possibly forming a trackway junction. The most significant was a shallow linear feature which changed alignment from NE-SW to NW-SE within the excavation area. This feature produced several small and abraded sherds of Iron Age pottery, insufficient to be certain of the date. The very shallow and irregular profile suggests that it may be a worn trackway rather than a ditch. It lay parallel to a small gully which produced no dating evidence but is likely to be contemporary. It also appeared to be contemporary with a small gully on a N-S alignment with which it formed a junction.

*Area E (Fig. 8)*

3.2.20 Three small pits or postholes were excavated within Area E, one of which (5003) was securely dated to the Iron Age, producing 19 sherds of pottery. No structure was discernible and no other further features were identified.

*Area G (Fig. 8)*

3.2.21 No archaeological features were identified in Area G.

*Area H (Figs 9 and 12)*

3.2.22 The only clear evidence for prehistoric activity in Area H was northwest-southeast aligned ditch (8087) at the northern end of the stripped area (Plate 14), which produced seven sherds of Iron Age pottery. The ditch through Area H (Fig. 9) and was not visible as a cropmark or detected by geophysical survey prior to excavation. Other features produced occasional sherds of late prehistoric pottery but are uncertainly dated.

3.2.23 A large ditch (8057/8021) on a northeast-southwest alignment, which terminated within the site, is of uncertain date, but could be among the earliest features within Area H (Plate 12). Given the large size and location of the ditch, following the terrace edge, this may have been a long-standing boundary. The lower fills of the feature were very hard to distinguish from the surrounding natural and suggest a slow infilling process. The fill produced several worked flints with a wide date range, from the Mesolithic period through to the Bronze Age, including a single platform core. Several fragments of undiagnostic ceramic building material (CBM) were also recovered. It is not possible to date the feature securely on this basis. It seems likely that the mixed assemblage of prehistoric worked flint is residual in later contexts. The most solid dating evidence comes from a 16th century pit, which was cut into the top of the ditch after it had largely infilled. It is perhaps contemporary with the medieval activity, but the absence of diagnostic medieval finds argues against this.

3.2.24 Evidence of medieval activity was concentrated at the south-east end of Area H, adjacent to the river terrace edge and what would have been a tidal foreshore beside Carter's Creek prior to reclamation in the 17th century. The dated medieval features consist mostly of discrete features such as pits and ponds:

3.2.25 A pond/ waterhole (8101) was recorded towards the southern edge of the site, which produced a substantial quantity of pottery (207 sherds) dating from the 13-14th centuries.

3.2.26 A nearly complete calf skeleton was recovered from a large pit (8018) near the north edge of the site. Four fragments of late medieval / early post-medieval pottery were recovered from around the calf, as well as several contemporary CBM fragments. Bone fusing and dental wear suggest an age of death at 2 - 2.5 years. After death the body appears to have been dumped in the pit without the meat or hide being removed first. Neither butchery marks

nor pathologies were identified on the bones. Death by disease might explain why the carcase was not butchered.

3.2.27 Three parallel ditches (8067, 8027, 8069) crossing the area on a northeast-southwest alignment were probably dug primarily with drainage in mind as they run parallel to the terrace edge. The south-eastern ditch produced 18 sherds of 13-14th century pottery (presumably residual), as well as 24 sherds of 16th century pottery. The central ditch was cut by two small pits at its terminal end. Two undated ditches, both considerably smaller than those described above, ran on a perpendicular alignment to the terrace edge (8083, 8076).

3.2.28 A large pond or waterhole (8008) excavated near the northern edge of the area had steep sides and a flattish base and was dated to the 16th century by pottery finds. Several pieces of animal bone from the fills were identified as owl. Cut marks were identified on a cattle metatarsal recovered from the same feature. To the west of this another steep-sided pit, oval in shape, produced 16th century pottery from the fill, but no evidence for its function. The pit was cut into the top of the large undated ditch described above (8023).

3.2.29 Two small discrete pits excavated along the eastern edge of the excavation area were rich in charcoal, but contained no dateable artefacts. Processing of environment samples established that one of the pits (8030) contained a substantial amount of charred bone, initially thought to be a human cremation burial. However specialist assessment has identified only one fragment which has the potential to be human bone. The rest is either positively identifiable as animal bone or lacks any distinguishing traits.

3.2.30 Several undated features were present in the vicinity of the medieval features, including a circular pit (8049, Plate 13) with near vertical sides, which was excavated to depth of *c*1m without the bottom being reached. It could possibly be a well or waterhole.

***Finds summary***

3.2.31 Overall, artefacts were relatively sparse, although a moderate quantity was recovered from the main concentrations of features in the south-east end of Area A and the south-east corner of Area H. The following is a brief summary of the artefacts recovered during the works. More detailed assessments of the material are contained in Appendix B.

*Struck and burnt flint*

3.2.32 A small assemblage of struck and burnt flint was recovered from Areas A, B, C, E and H. These amounted to 108 struck pieces (including material from sieved residues), 248 pieces of burnt unworked flint weighing 1248g, and 17 natural fragments. The flint was concentrated in a few contexts in Areas A and H. The material recovered includes probable Mesolithic, Neolithic and middle-late Bronze Age groups, some of which are likely to be contemporary with their contextual environment.

3.2.33 The most coherent groups include those from ditch fills 8058 (residual in a post-medieval context) and 8060 (undated context) the fills of a post-medieval ditch in Area H. It is possible that some form of buried soil or negative feature may have been truncated by this ditch, incorporating the earlier material into its lower fills. This would seem far more likely than a Neolithic date for the ditches inception. These assemblages and some of the residual tools found nearby appear to indicate a limited level of domestic activity along the terrace edge during the Neolithic or early Bronze Age.

*Pottery*

3.2.34 A total of 693 sherds of pottery weighing 13,779g was recovered from 58 contexts, with the highest concentrations from Area A and Area H. Of these, 515 were of medieval or post-medieval date and 178 were identified as prehistoric. 58% of the prehistoric pottery was retrieved from a single middle Bronze Age pit (1003) in Area A and is from a single vessel identified as a Deverel-Rimbury corded urn. The remaining prehistoric pottery dates from the Iron Age.

3.2.35 The medieval pottery falls into two distinct chronological phases dating from the 13th – 14th centuries and the 15th - 17th centuries respectively. This assemblage is comparable to the material recovered during the evaluation (OA 2010a) and the nearby Coryton to Mucking Gas Pipeline excavations (Peachey and Dale, 2005).

*Fired Clay*

3.2.36 A total of 692 fired clay fragments, weighing 9386g, was recovered from 9 contexts. With the exception of two fragments, the material consists of a sandy clay fabric utilising brickearth clays. The assemblage includes a significant group of middle Bronze Age oven or hearth furniture, recovered from a single context (1003), consisting of 5 cylindrical drum-shaped pedestals and a conical pedestal or support. A second assemblage of material was recovered from a small Iron Age pit which may have derived from a single broken structure forming part of an oven or hearth.

*Ceramic building material*

3.2.37 Ceramic building material was recovered from ditches, pits, and ponds in Areas A and H. In total 193 fragments weighing 21.77kg were recovered, dating from the mid-late medieval and early post-medieval period. Two fragments retrieved from Area E were dated to the 19th-20th century. The assemblage consists primarily of roof tile and brick fragments. The roof tile probably derived from peg tile, though some of the thinner pieces could be from ridge tiles. A single floor tile, coated with an amber glaze, was recovered from a pit in Area A. The brick fragments are all similar in character and markings on the fragments indicate manufacture using a wooden mould. A significant proportion, over 50% of the bricks show evidence of burning, sooting and in one case thick vitrification, an indication that the bricks were probably used in hearths, fireplaces or chimneys.

*Animal bone*

3.2.38 A total of 736 bones were retrieved from 20 contexts in Areas A and H, 218 of which derived from an articulated calf skeleton from a medieval pit in Area H. The assemblage has been dated to the medieval and post-medieval period, with the exception of a single burnt bone assemblage from the Deverel-Rimbury pit deposit in Area A, which dates from the middle Bronze Age. The small bone assemblage from Area A consists primarily of cattle and horse, with some sheep/goat and red deer present. In addition to the common domestic animals, owl, wood mouse and frog bones were recovered from Area H.

*Worked stone*

3.2.39 Nineteen pieces of stone were retained, seven of which are considered to be artefact fragments. Two medieval whetstones of Norwegian Rag, and two joining fragments of lava quern were recovered from Areas A and H respectively. Other significant pieces include a sandstone block and a limestone slab that may have been imported from the continent.

***Environmental summary***

3.2.40 In total 24 environmental bulk samples were retained for the recovery of charred plant remains and artefacts. The samples were taken from a combination of pits and ditches. Low levels of cereal grains were recovered from all of the samples, and poor preservation limited the potential for identifying charred remains. Charcoal was retrieved from the majority of the samples, usually in highly fragmented pieces with few over 4mm in size. The potential for identification to species is generally poor.

3.2.41 The largest number of samples was recovered from prehistoric features, including the middle Bronze Age pit and a group of Iron Age pits or postholes, all in Area A. In general the prehistoric samples have limited potential to shed light on the functions of the features investigated, or for the recovery of reliably *in situ* material for radiocarbon dating.

3.2.42 The samples from medieval contexts also have limited potential for elucidating the function of various pits investigated in Area H.

# 4 DISCUSSION

***Reliability of field investigation***

4.1.1 The Access Road Phase 1 investigation permitted a reliable assessment of the deposits encountered. As there was no flooding of the trenches and the stratigraphic sequence was simple, all deposits could be viewed clearly without the need for manual access to the deep test pits. The main limitation lay in the limited depth of investigation, as the full depth of Holocene alluvium at this location is in excess of 4m deep (OA 2010b, Fig. 8).

4.1.2 The areas stripped during the Phase 3 mitigation were very substantial and permit a reliable characterisation of landscape evolution within the limits of the Access Road corridor, even though prolonged poor weather conditions led to more limited excavation than originally planned. The features encountered were truncated by plough action, and any occupation horizons had been removed, as is typically the case in arable landscapes with shallow soil sequences. However the survival of ephemeral later prehistoric features in most areas indicates that erosion has not been excessive. The absence of early prehistoric, Roman and Anglo-Saxon remains within the stripped area is therefore likely to reflect a genuine absence of settlement of those periods within the stripped areas.

***Objectives and results***

4.1.3 The Phase 1 mitigation added further data on the alluvial sediment sequence at the terrace/ floodplain interface, but provided limited new information in addition to that already recovered during the evaluation. The underlying terrace gravel was not encountered in any of the deep inspection pits, confirming the results from previous investigations, which suggest that the surface of the gravel dips sharply downwards from the terrace edge, possibly as a result of lateral incision by a former channel. The presence of a localised peat/buried soil horizon within the alluvium had not been seen in the previous evaluation trenches but is not unexpected. No new palaeoenvironmental samples were recovered.

4.1.4 The trenching successfully investigated the archaeological potential of the upper part of the alluvial sequence within the Access Road and Admin Building plots. These deposits were affected by localised groundworks including drainage ditches and balancing ponds in the main Access Road construction, as well as band drainage in the Preliminary Earthworks and Admin Building plots. No *in situ* archaeological deposits were encountered within the area of trial trenching. The only cut feature identified was a deep, regular rectangular pit, thought to be a modern machine-cut test pit.

4.1.5 There is a possibility that earlier prehistoric remains may be present at depths greater than 3.5m. However, investigation to this depth was not justified as the extent of groundworks required to access the full depth of the alluvial

sequence would have caused a greater archaeological impact than the proposed band drains.

4.1.6 The sea wall earthwork investigation (Trench 2) provided limited evidence for the structural form of the primary sea defences in this part of Stanford-le-Hope Marshes. The results suggested that a simple clay bund construction was used. It is possible that any supporting timber structures may have decayed, but there was no evidence for this in the excavated section. No dating evidence was found to support or disprove the early 17th century date suggested by documentary sources for primary land reclamation in the Fobbing Marshes area (Sparkes 1965).

4.1.7 The Phase 3 mitigation uncovered evidence for activity during the prehistoric, medieval and post-medieval periods. Evidence for early prehistoric activity was limited to struck flints from a wide range of dates from the Mesolithic to the Bronze Age, most of which were residual in later contexts.

4.1.8 The earliest *in situ* archaeology encountered comprised an apparently isolated middle Bronze Age pit near the north-east edge of Area A, which contained 90 pottery sherds from a single Deverel-Rimbury style cordoned urn (c.1600 - 1000BC) and a group of middle Bronze Age fired clay cylindrical objects identified as oven furniture (pedestals). Similiar cylindrical objects from Bronze Age sites in southern England have been found in largest quantity on pottery production sites, but they seem to have been used as generic hearth or oven furniture and can occur in a variety of contexts. The pit also produced a small assemblage of burnt bone (not identifiable to species). The charred plant remains recovered from the pit were surprisingly poor and uninformative.

4.1.9 Iron Age features were more widespread, but consist mostly of ditches forming an extensive field system, rather than settlement features. Excluding the Deverel-Rimbury vessel described above, 74 sherds of later prehistoric pottery, mainly of Iron Age date, were recovered in total, from 18 widely distributed contexts in Areas A, B, C, E and H, predominantly from pit and ditch fills. A tight cluster of small pits or postholes near the north-east edge of Area A appeared to be of Iron Age date. The features may have been postholes forming a small structure, but they formed no clear pattern. Several linear boundary ditches or trackways also produced Iron Age pottery. These are very insecurely dated, as few sherds of pottery were recovered from each feature, but they nevertheless suggest that the landscape was characterised by rectilinear fields system in the Iron Age. The late prehistoric boundaries in Areas C-H followed the same alignment as the surrounding modern pattern of rectilinear fields, while two ditches investigated in Area A are on a distinctly contrasting north-south alignment. The excavated ditches may be related to similiarly aligned cropmarks in the surrounding area, particularly those in the vicinity of High Road.

4.1.10 No substantive evidence for Romano-British or Anglo-Saxon settlement was found within the excavated area. Cropmark evidence suggests that traces of a significant settlement, probably of late Iron Age and/or Roman date, lies c 300m to the south-west of the Access Road, but the route was designed to

avoid it. An undated deposit of unidentifiable burnt bone was recovered from an isolated small pit in Area H. If it is a part of a human cremation burial or pyre deposit a later prehistoric or Roman date would be most likely.

4.1.11 More substantial evidence was found for medieval and early post-medieval settlement activity, concentrated in two separate areas. Firstly, a series of small enclosures lined along the north-west side of High Road contained several pits which produced pottery dating predominantly from the late 13th-early 14th century, although a few contexts in this area contained pottery of late 16th-17th century date. The ceramic building material recovered also suggests some post-medieval activity at this location. The pottery assemblage from this site is very small and contains a limited range of material. The enclosures lie adjacent to a former settlement named 'Eve's Cottage', as shown on the 1898 Ordnance Survey map. The evidence suggests that this house plot on the north side of High Road in the 19th century may have originated in the late 13th/ early 14th century as a row of cottages, or similar low status rural dwellings. A targeted watching brief during the removal of the existing High Road recorded the continuation of these enclosures, but did not identify any evidence for features pre-dating the road.

4.1.12 The second focus of medieval and post-medieval activity was identified at the south-east end of Area H, at the boundary between the Thames river terrace and floodplain, south of Great Garlands Farm. The pottery from this area falls into two period groups: A medieval phase dating from the late 13$^{th}$ - early 14th century and an early post-medieval phase dating from the late 15$^{th}$ - 16th century. The latest artefacts date from *c* 1600. Four ditches were recorded in this area, all aligned parallel to the terrace edge, of which three contained medieval pottery and one produced no datable artefacts. A medieval pit was found to contain a complete articulated calf skeleton. Two large post-medieval pits or ponds were also identified in this area. The pottery assemblage from this site is larger than the assemblage from Area A, and appears more diverse, with some unusual vessels, including possible continental imports.

***Interpretation and significance***

*Later prehistoric periods*

4.1.13 The later prehistoric activity is generally very ephemeral and sparsely distributed. The middle Bronze Age pit is an isolated feature within the stripped area. The character of the artefact assemblage from this feature, including the Deverel-Rimbury vessel, a small amount of burnt bone and a set of complete fired clay objects, is more suggestive of a ritual deposit rather a storage pit. A series of circular cropmarks to the north-east of Area A may be prehistoric barrows and it would not be unexpected to find pit deposits of this date and character in association with a barrow cemetery (Fig. 2). Middle Bronze Age structured pit deposits of this type are relatively commonplace in the region and occur in a variety of contexts. Deverel-Rimbury vessels are found used as funerary urns but in some cases are associated with only token quantities of cremated human bone, while other examples have no evidence for funerary associations. Three dispersed buried pot deposits of middle

Bronze Age date were found in the London Gateway Rail Corridor excavations, *c* 1km to the south-west, one of which contained a deposit of charred flax seeds. None of them were associated with human remains (OA 2012a).

4.1.14 Evidence for field boundaries and trackways falls into two main phases: A tenuously dated but convincing Iron Age phase of field boundaries, and the medieval/ post-medieval field system which has survived in use to the present. The evidence for continuity in land-use between these two periods is equivocal. The Iron Age boundaries at the north-west end of the route are on a north-south alignment, markedly different from the surrounding post-medieval boundaries and the line of High Road. Investigation of the relationships between the Iron Age and post-medieval medieval phases, particularly in the High Road section, failed to establish conclusively whether the prehistoric ditches respect the line of the road or underlie it. The differing alignments suggest that there is no continuity between the Iron Age and post-medieval field systems in this area. In contrast, in the south-east end of the site (Areas C-H) the Iron Age and post-medieval boundaries follow parallel alignments, but this may be coincidence, as the boundaries of both periods appear to derive their orientation from the nearby river terrace edge.

4.1.15 The limited artefactual evidence recovered from a thin peat or buried soil horizon within the Phase 1 mitigation investigation indicates later prehistoric activity in the general vicinity. Given the proximity of the site to the gravel terrace this is as expected. The Bronze Age or early Iron Age pottery sherds recovered during the Phase 1 mitigation and the Iron Age pottery found during the evaluation (Trench 28, OA 2010b) were recovered at 2.3m and 1.0m respectively below existing ground levels. They may be broadly in stratigraphic sequence, but cannot be considered reliable dating evidence in themselves since isolated finds in alluvial deposits are likely to have been reworked from their original point of deposition. In general terms the alluvial deposits encountered are most likely to be of later prehistoric through to post-medieval date. There were no indications of timber structures or preserved wood of any kind.

*Medieval and post-medieval periods*

4.1.16 The group of medieval and early post-medieval features in Area H appears to be the southern periphery of a more extensive medieval/ post-medieval site which is centred *c* 200m north of the Access Road. The site lies within the lands of ‘Old Garlands’, a small historic manorial estate in the south-east of Stanford-le-Hope Parish (Fig.13). There is slight documentary evidence that a settlement named ‘Garland’ existed in the area in the 13th century. According to a lease dated 1614 the estate in the early 17th century consisted of a “Messuage called Old Garlandes, 4 closes of upland ground (30 acres), a wick house and 5 marshes (70 acres) all in Stanford-le-Hope and in tenure of Francis Shawe [citizen and cloth-worker of London]”. Given its location, clustered around the head of the historic ‘Carter’s Creek’, the archaeological site probably represents a wharf associated with Old Garlands. The site was first identified during a watching brief on the Coryton to Mucking Gas Pipeline

in 1999. The archaeological evidence here was more complex than found in the Access Road, including extensive cobbled surfaces (possibly 'hards' for pulling boats up onto the shore) and at least one large timber building, as well as kilns and other features suggestive of craft industrial activity. The dating of artefacts recovered from the gas pipeline excavation matches that from the Access Road excavation, indicating apparently distinct medieval and early post-medieval phases. The apparent absence of late 14th/ early 15th century artefacts may reflect a reduction in activity in the period following the Black Death. A series of extant earthworks forming sea walls and platforms, clustered around the head of Carter's Creek, is likely to be contemporary. One of the fields in the same area is called 'Saw Pit Field' on the 1848 Tithe Map, indicating that wood-working, and very likely boat-building, took place at this location at some time in the post-medieval period.

4.1.17 The end date for the activity beside Carter's Creek as indicated by archaeological evidence (*c* 1600) seems broadly coincident with the acquisition of the Old Garlands estate by the Hawkins Hospital in 1592 and with extensive systematic reclamation of the marshlands in the Fobbing/ Stanford-le-Hope area in *c* 1623. The latter in particular may have led to the abandonment of the probable wharf on Carter's Creek.

***Landscape development***

4.1.18 The small worked flint assemblage appears to indicate a limited level of domestic activity along the terrace edge during the Neolithic or early Bronze Age. Otherwise little evidence for early prehistoric activity was encountered.

4.1.19 No evidence was recovered for late Iron Age/ Romano-British or Anglo-Saxon settlement within the route. The absence of settlement features of these periods does not imply that the land was deserted, as the cropmark evidence suggests that the road corridor lies between intensively settled areas, but rather that land-use was confined to agricultural activities which have left no detectable trace.

4.1.20 The identified later prehistoric and medieval/ post-medieval sites appear to reflect periodic and temporary expansions of settlement into lands usually given over predominantly to arable and pasture. The north-west section of the Access Road route may well have been wooded prior to post-medieval enclosures. A dense distribution of tree root holes were found which were not apparent elsewhere within the route, and no definite archaeological features were found in this area.

4.1.21 As expected, geology and soils appear to be an important factor in the distribution of settlements and routeways. The majority of the Access Road corridor was characterised by undifferentiated head deposits and contained few archaeological features, predominantly field boundaries. The only convincing evidence for domestic/ agricultural settlement within the excavation was a row of medieval/ post-medieval cottages found lined along High Road, which occupies a band of river terrace gravels. Overlaying 19th century historic maps onto modern BGS mapping (Fig.2) shows that the medieval/ post-medieval settlements in the immediate vicinity of the route,

such as Broadhope Farm (OA41, no longer extant), Old/ Great Garlands Farm (OA56), and Old Hall, Corringham (OA161) are located on slightly higher, drier areas of terrace gravel, whereas areas of head deposits are occupied by fields and woodland. The lanes linking the settlements also show a marked preference for following the terrace gravel.

4.1.22 Archaeological cropmarks in the vicinity are also concentrated predominantly on the terrace gravels (ECC 2011). An important objective of the excavation was to establish whether the cropmarks reflect real patterns in the distribution of past human settlement, or differential visibility of archaeological features on different soil types. The excavations results generally confirm that in this particular area, the distribution of settlement features really is concentrated on the terrace gravels. However there are important exceptions, including the isolated middle Bronze Age pit and the Iron Age pit group (which may not be settlement sites *per se*). The extensive medieval and early post-medieval site to the south of Great Garlands Farm is also located on head deposits in a band following the terrace edge. In this case the head of Carter's Creek appears to be the main focus of activity, overriding the usual preference for building on gravel.

***Conclusions***

4.1.23 The excavation results broadly confirm the predictions made on the basis of the non-intrusive surveys and trial trenching. However the density of features, and the quantity of artefacts recovered, is less than expected, particularly in areas of river terrace gravel, given the extent of cropmark sites on either side of the route. The negative evidence derived from stripping such large areas is important for understanding the distribution of archaeological cropmarks on the gravel terraces of south Essex.

4.1.24 Archaeological sites of later prehistoric, medieval and post-medieval date have been identified which shed light on the development of the local landscape, although they have limited potential for further detailed analysis. It is recommended that the results from the Access Road excavations should be written up in a combined publication with the nearby London Gateway Rail Corridor excavation.

## 4.2 Acknowledgements

4.2.1 Oxford Archaeology would like to thank Marcus Pearson, Emma Deary and Chris Wild, Chris Webb and Emma Pearson of DP World London Gateway's Environment Team, and Gill Andrews (LG Archaeological Liaison Officer) for facilitating the works, and Richard Havis (Essex County Council Historic Environment Branch) for monitoring and advice during the fieldwork.

4.2.2 Brian Dean supervised the Phase 1 mitigation fieldwork John Boothroyd supervised the Phase 3 mitigation fieldwork on behalf of OA, under management of Stuart Foreman. Rose Grant, Mike Green, Lindsey Kemp, Laura King, Alex Latham, Emily Plunkett, Charles Rousseaux, Dan Strachan and Ashley Strutt assisted with the excavations.

## 4.3 Location of the archive

4.3.1 The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with Thurrock District Museum in due course.

## APPENDIX A - PHASE 3 MITIGATION CONTEXT INVENTORY

| Cxt | Type | Width | Depth | Description | Finds | Spot date |
|---|---|---|---|---|---|---|
| 1000 | Layer | - | 0.30 | Topsoil | | |
| 1001 | Layer | - | 0.10 | Subsoil | Pottery, CBM | Post Medieval |
| 1002 | Layer | - | - | Natural | | |
| 1003 | Fill | | | Fill of pit 1004 | Pottery, Animal Bone, Fired Clay | Bronze Age |
| 1004 | Cut | | | Cut of pit | | |
| 1005 | Cut | | | Cut of pond | | |
| 1006 | Fill | 3.80 | 0.40 | Fill of pond 1005 | Pottery, Animal Bone, CBM, Worked Stone | Medieval |
| 1007 | Fill | 0.90 | 0.32 | Fill of pond 1005 | | |
| 1008 | Fill | 1.10 | 0.30 | Fill of pond 1005 | Pottery | Post Medieval / Modern |
| 1009 | Fill | 0.56 | 0.14 | Fill of pond 1005 | Pottery, CBM | Medieval |
| 1010 | Fill | 2.20 | 0.10 | Fill of pond 1005 | Animal Bone | |
| 1011 | Fill | 1.10 | 0.12 | Fill of pond 1005 | CBM | Medieval - Early Post Medieval |
| 1012 | Cut | 0.88 | 0.22 | Cut of posthole | | |
| 1013 | Fill | 0.88 | 0.22 | Fill of posthole 1012 | | |
| 1014 | Fill | 0.88 | 0.10 | Fill of posthole 1012 | Fired Clay | Bronze Age |
| 1015 | Cut | 3.00 | 0.20 | Treethrow | | |
| 1016 | Fill | 1.00 | 0.11 | Fill of treethrow 1015 | | |
| 1017 | Fill | 0.80 | 0.09 | Fill of treethrow 1015 | | |
| 1018 | Cut | 0.48 | 0.29 | Cut of posthole | | |
| 1019 | Fill | 0.48 | 0.29 | Fill of posthole 1019 | | |
| 1020 | Fill | 0.22 | 0.19 | Fill of posthole 1019 | Pottery | Iron Age |
| 1021 | Cut | 0.48 | 0.30 | Cut of posthole | | |
| 1022 | Fill | 0.48 | 0.30 | Fill of posthole 1021 | | |
| 1023 | Fill | 0.22 | 0.13 | Fill of posthole 1021 | Porttery | Iron Age |
| 1024 | Cut | 0.51 | 0.34 | Cut of posthole | | |
| 1025 | Fill | 0.51 | 0.34 | Fill of posthole 1024 | | |
| 1026 | Fill | 0.20 | 0.18 | Fill of posthole 1024 | Pottery, Animal Bone | Iron Age |
| 1027 | Cut | 0.47 | 0.30 | Cut of posthole | | |
| 1028 | Fill | 0.47 | 0.08 | Fill of posthole 1027 | | |
| 1029 | Fill | 0.47 | 0.22 | Fill of posthole 1027 | Pottery, Fired Clay | Iron Age |
| 1030 | Cut | 0.70 | 0.38 | Cut of posthole | | |
| 1031 | Fill | 0.70 | 0.30 | Fill of posthole 1030 | | |
| 1032 | Fill | 0.22 | 0.22 | Fill of posthole 1030 | Pottery | Iron Age |
| 1033 | Cut | 0.57 | 0.25 | Cut of posthole | | |
| 1034 | Fill | 0.57 | 0.14 | Fill of posthole 1033 | | |
| 1035 | Fill | 0.57 | 0.15 | Fill of posthole 1033 | Fired Clay | Bronze Age - Iron Age |
| 1036 | Cut | 1.20 | 0.20 | Cut of treethrow | | |
| 1037 | Fill | 1.20 | 0.07 | Fill of treethrow 1036 | | |
| 1038 | Fill | 1.18 | 0.13 | Fill of treethrow 1036 | | |
| 1039 | Cut | 1.32 | 0.10 | Cut of treethrow | | |
| 1040 | Group | - | - | Group of posthole | | |
| 1041 | Fill | 1.32 | 0.10 | Fill of treethrow 1039 | | |
| 1042 | Cut | 0.42 | 0.18 | Cut of posthole | | |
| 1043 | Fill | 0.42 | 0.18 | Fill of posthole 1042 | | |
| 1044 | Cut | 0.92 | 0.36 | Cut of posthole | | |
| 1045 | Fill | 0.92 | 0.36 | Fill of posthole 1044 | | |
| 1046 | Fill | 0.36 | 0.21 | Fill of posthole 1044 | Pottery | Iron Age |
| 1047 | Cut | 0.52 | 0.21 | Cut of posthole | | |
| 1048 | Fill | 0.52 | 0.21 | Fill of posthole 1047 | | |

| Cxt | Type | Width | Depth | Description | Finds | Spot date |
|---|---|---|---|---|---|---|
| 1049 | Cut | 0.98 | 0.32 | Cut of linear terminus | | |
| 1050 | Fill | 0.95 | 0.19 | Fill of terminus 1049 | Animal Bone, CBM | Medieval - Early Post Medieval |
| 1051 | Fill | 0.95 | 0.32 | Fill of terminus 1049 | | |
| 1052 | Cut | 1.00 | 0.27 | Cut of pit | | |
| 1053 | Fill | 0.95 | 0.12 | Fill of pit 1052 | | |
| 1054 | Fill | 1.00 | 0.21 | Fill of 1052 | | |
| 1055 | Cut | 0.55 | 0.14 | Cut of posthole | | |
| 1056 | Fill | 0.55 | 0.14 | Fill of posthole 1055 | | |
| 1057 | Fill | - | - | Fill of pond 1005 | | |
| 1058 | Fill | 1.80 | 0.20 | Fill of pond 1005 | | |
| 1059 | Fill | 0.60 | 0.16 | Fill of pond 1005 | | |
| 1060 | Fill | 1.40 | 0.06 | Fill of pond 1005 | | |
| 1061 | Fill | 0.50 | 0.08 | Fill of pond 1005 | | |
| 1062 | Fill | 0.90 | 0.04 | Fill of pond 1005 | | |
| 1063 | Fill | 0.70 | 0.06 | Fill of pond 1005 | | |
| 1064 | Fill | 0.54 | 0.04 | Fill of pond 1005 | | |
| 1065 | Fill | 1.20 | 0.20 | Fill of pond 1005 | | |
| 1066 | Fill | 1.40 | 0.12 | Fill of pond 1005 | | |
| 1067 | Fill | 1.20 | 0.10 | Fill of pond 1005 | | |
| 1068 | Fill | | | Fill of pond 1005 | | |
| 1069 | Fill | 0.60 | 0.08 | Fill of pond 1005 | | |
| 1070 | Fill | 1.30 | 0.04 | Fill of pond 1005 | | |
| 1071 | Fill | 0.80 | 0.12 | Fill of pond 1005 | | |
| 1072 | Fill | 1.40 | 0.12 | Fill of pond 1005 | | |
| 1073 | Fill | 0.90 | 0.10 | Fill of pond 1005 | | |
| 1074 | Fill | 3.40 | 0.42 | Fill of pond 1005 | | |
| 1075 | Fill | 1.15 | 0.22 | Fill of pond 1005 | | |
| 1076 | Fill | 2.94 | 0.16 | Fill of pond 1005 | | |
| 1077 | Fill | 1.54 | 0.22 | Fill of pond 1005 | | |
| 1078 | Cut | 1.70 | 0.47 | Cut of pit | | |
| 1079 | Fill | 1.20 | 0.45 | Fill of pit 1078 | | |
| 1080 | Fill | 1.20 | 0.47 | Fill of pit 1078 | | |
| 1081 | Cut | 0.92 | 0.32 | Cut of ditch | | |
| 1082 | Fill | 0.92 | 0.25 | Fill of ditch 1081 | Animal Bone, CBM | Medieval - Early Post Medieval |
| 1083 | Fill | 0.47 | 0.07 | Fill of ditch 181 | | |
| 1084 | Find Ref | - | - | Find reference | Pottery, Animal Bone | Medieval |
| 1085 | Cut | 0.37 | 0.13 | Cut of pit | | |
| 1086 | Fill | 0.37 | 0.13 | Fill of pit 1085 | | |
| 1087 | Cut | 0.46 | 0.10 | Cut of pit | | |
| 1088 | Fill | 0.46 | 0.10 | Fill of Pit 1087 | Pottery | Iron Age |
| 1089 | Cut | 0.77 | 0.34 | Cut of pit | | |
| 1090 | Fill | 0.77 | 0.34 | Fill of pit 1089 | | |
| 1091 | Cut | 0.47 | 0.11 | Cut of pit | | |
| 1092 | Fill | 0.47 | 0.11 | Fill of pit 1091 | Fired Clay | |
| 1093 | Fill | - | 0.40 | Fill of pit 1004 | | |
| 1094 | Cut | 1.70 | 0.40 | Cut of ditch | | |
| 1095 | Fill | 1.70 | 0.40 | Fill of ditch 1094 | | |
| 1096 | Cut | 0.60 | 0.27 | Cut of posthole | | |
| 1097 | Fill | 0.45 | 0.28 | Fill of posthole 1096 | Worked Stone | |
| 1098 | Fill | 0.14 | 0.25 | Fill of posthole 1096 | | |
| 1099 | Fill | 0.21 | 0.24 | Fill of posthole 1096 | | |
| 1100 | Cut | 0.50 | 0.17 | Cut of ditch | | |
| 1101 | Fill | 0.50 | 0.17 | Fill of ditch 1100 | | |
| 1102 | Cut | 0.80 | 0.19 | Cut of ditch | | |

| Cxt | Type | Width | Depth | Description | Finds | Spot date |
|---|---|---|---|---|---|---|
| 1103 | Fill | 0.80 | 0.19 | Fill of ditch 1102 | CBM | Medieval - Early Post Medieval |
| 1104 | Cut | 0.82 | 0.22 | Cut of pit | | |
| 1105 | Fill | 0.82 | 0.22 | Fill of pit 1104 | | |
| 1106 | Cut | 0.70 | 0.26 | Cut of ditch | | |
| 1107 | Fill | 0.70 | 0.26 | Fill of ditch 1106 | | |
| 1108 | Cut | 0.50 | 0.24 | Cut of pit | | |
| 1109 | Fill | 0.50 | 0.24 | Fill of pit 1108 | | |
| 1110 | Cut | 0.54 | 0.26 | Cut of pit | | |
| 1111 | Fill | 0.54 | 0.26 | Fill of pit 1110 | | |
| 1112 | Cut | 0.68 | 0.34 | Cut of pit | | |
| 1113 | Fill | 0.68 | 0.34 | Fill of pit 1112 | | |
| 1114 | Cut | 0.96 | 0.28 | Cut of ditch | | |
| 1115 | Fill | 0.96 | 0.28 | Fill of ditch 1114 | | |
| 1116 | Cut | 1.68 | 0.20 | Cut of ditch | | |
| 1117 | Fill | 1.68 | 0.20 | Fill of ditch 1116 | Pottery | Iron Age |
| 1118 | Cut | 0.72 | 0.22 | Cut of pit | | |
| 1119 | Fill | 0.72 | 0.22 | Fill of pit 1118 | | |
| 1120 | Cut | 0.98 | 0.20 | Cut of Ditch | | |
| 1121 | Fill | 0.98 | 0.20 | Fill of Ditch 1120 | | |
| 1122 | Cut | 0.84 | 0.30 | Cut of ditch terminus | | |
| 1123 | Fill | 0.84 | 0.30 | Fill of terminus 1122 | | |
| 1124 | Group | - | - | Ditch 1116 and 1122 | | |
| 1125 | Cut | 2.42 | 0.61 | Cut of pit | | |
| 1126 | Fill | 0.52 | 0.61 | Fill of pit 1125 | Pottery | Medieval |
| 1127 | Cut | 1.30 | 0.34 | Cut of pit | | |
| 1128 | Fill | 1.30 | 0.34 | Fill of pit 1127 | | |
| 1129 | Cut | 0.64 | 0.05 | Cut of pit | | |
| 1130 | Fill | 0.64 | 0.05 | Fill of pit 1129 | Pottery | Medieval |
| 1131 | Fill | 2.40 | 0.61 | Fill of pit 1126 | | |
| 1132 | Cut | 0.28 | 0.08 | Cut of ditch | | |
| 1133 | Fill | 0.97 | 0.26 | Fill of pit 1137 | CBM | Medieval - Early Post Medieval |
| 1134 | Fill | 0.28 | 0.08 | Fill of ditch 1332 | | |
| 1135 | Cut | 1.07 | 0.22 | Cut of ditch | | |
| 1136 | Fill | 1.07 | 0.22 | Fill of ditch 1135 | | |
| 1137 | Cut | 0.97 | 0.26 | Cut of Pit | | |
| 1138 | Cut | 1.06 | 0.15 | Cut of Ditch | | |
| 1139 | Fill | 1.06 | 0.15 | Fill of ditch 1138 | | |
| 1140 | Cut | 0.60 | 0.12 | Cut of ditch | | |
| 1141 | Fill | 0.60 | 0.12 | Fill of ditch 1140 | | |
| 1142 | Cut | 0.90 | 0.15 | Cut of pit | | |
| 1143 | Fill | 0.90 | 0.15 | Fill of pit 1142 | | |
| 1144 | Cut | 0.90 | 0.09 | Cut of pit | | |
| 1145 | Fill | 0.90 | 0.09 | Fill of pit 1144 | CBM | Medieval - Early Post Medieval |
| 1146 | Cut | 7.05 | 0.44 | Cut of hollow | | |
| 1147 | Fill | 7.05 | 0.08 | Fill of hollow 1146 | | |
| 1148 | Fill | 7.05 | 0.12 | Fill of hollow 1146 | | |
| 1149 | Fill | 7.05 | 0.20 | Fill of hollow 1146 | Animal Bone, CBM | Medieval - Early Post Medieval |
| 1150 | Fill | 7.05 | 0.12 | Fill of hollow 1146 | | |
| 1151 | Fill | 7.05 | 0.20 | Fill of hollow 1146 | | |
| 1152 | Fill | 0.20 | 0.10 | Fill of hollow 1146 | | |
| 1153 | Fill | 7.05 | 0.20 | Fill of hollow 1146 | CBM | Medieval - Post Medieval |
| 1154 | Cut | 1.10 | 0.36 | Cut of pit | | |
| 1155 | Fill | 0.20 | 0.34 | Fill of pit 1154 | | |

| Cxt | Type | Width | Depth | Description | Finds | Spot date |
|---|---|---|---|---|---|---|
| 1156 | Fill | 0.90 | 0.36 | Fill of pit 1154 | CBM | Post Medieval |
| 1157 | Cut | 1.10 | 0.33 | Cut of ditch | | |
| 1158 | Fill | 1.10 | 0.33 | Fill of ditch 1157 | | |
| 1159 | Cut | 1.74 | 0.84 | Cut of pit | | |
| 1160 | Fill | 1.74 | 0.84 | Fill of pit 1159 | Pottery, Animal Bone, CBM, Worked Stone | Medieval |
| 1161 | Cut | 0.66 | 0.17 | Cut of ditch | | |
| 1162 | Fill | 0.66 | 0.17 | Fill of ditch 1161 | CBM | Medieval - Post Medieval |
| 1163 | Cut | 1.37 | 0.38 | Cut of ditch | | |
| 1164 | Fill | 0.67 | 0.13 | Fill of ditch 1163 | Pottery | Medieval |
| 1165 | Fill | 0.44 | 0.06 | Fill of ditch 1163 | | |
| 1166 | Fill | 0.67 | 0.27 | Fill of ditch 1163 | Animal Bone | |
| 1167 | Void | - | - | Void | | |
| 1168 | Void | - | - | Void | | |
| 1169 | Void | - | - | Void | | |
| 1170 | Void | - | - | Void | | |
| 1171 | Void | - | - | Void | | |
| 1172 | Void | - | - | Void | | |
| 1173 | Fill | 0.85 | 0.12 | Fill of ditch 1174 | | |
| 1174 | Cut | 0.85 | 0.12 | Cut of ditch | | |
| 1175 | Cut | - | 0.12 | Cut of ditch | | |
| 1176 | Fill | - | 0.07 | Fill of ditch 1175 | | |
| 1177 | Cut | 1.30 | 0.17 | Cut of ditch | | |
| 1178 | Fill | 1.30 | 0.17 | Fill of ditch 1177 | Pottery | Medieval |
| 1179 | Cut | 0.80 | 0.26 | Cut of ditch | | |
| 1180 | Fill | 0.80 | 0.26 | Fill of ditch 1179 | | |
| 1181 | Fill | 0.80 | 0.22 | Fill of ditch 1179 | | |
| 1182 | Cut | 0.60 | 0.50 | Cut of posthole | | |
| 1183 | Fill | 0.50 | 0.08 | Fill of posthole | | |
| 1184 | Cut | 0.88 | 0.18 | Cut of ditch | | |
| 1185 | Fill | 0.88 | 0.18 | Fill of ditch 1184 | Pottery, Animal Bone, CBM | Medieval |
| 1186 | Group | - | - | Group | | |
| 1187 | Group | - | - | Ditches 1174 + 1184 | | |
| 1188 | Cut | 0.84 | 0.10 | Cut of pit | | |
| 1189 | Fill | 0.84 | 0.10 | Fill of pit 1188 | Pottery, Animal Bone | Medieval |
| 1190 | Void | - | - | Void | | |
| 1191 | Void | - | - | Void | | |
| 1192 | Void | - | - | Void | | |
| 1193 | Void | - | - | Void | | |
| 1194 | Fill | - | 0.15 | Fill of posthole 1182 | Fired Clay | |
| 1195 | Cut | 1.20 | 0.28 | Cut of ditch | | |
| 1196 | Fill | 1.20 | 0.28 | Fill of ditch 1195 | Pottery, Animal Bone | Post Medieval |
| 1197 | Cut | 1.06 | 0.17 | Cut of ditch | | |
| 1198 | Fill | 1.06 | 0.17 | Fill of ditch 1197 | Pottery, CBM | Medieval |
| 1199 | Cut | 0.61 | 0.14 | Cut of ditch | | |
| 1200 | Fill | 0.61 | 0.14 | Fill of ditch 1199 | | |
| 1201 | Cut | 0.44 | 0.10 | Cut of ditch | | |
| 1202 | Fill | 0.44 | 0.10 | Fill of ditch 1201 | Pottery | Medieval |
| 1203 | Cut | 0.56 | 0.16 | Cut of ditch | | |
| 1204 | Fill | 0.56 | 0.16 | Fill of ditch 1203 | | |
| 1205 | Cut | 0.51 | 0.25 | Cut of posthole | | |
| 1206 | Fill | 0.51 | 0.25 | Fill of posthole 1205 | | |
| 1207 | Cut | 0.59 | 0.11 | Cut of ditch | | |

| Cxt | Type | Width | Depth | Description | Finds | Spot date |
|---|---|---|---|---|---|---|
| 1208 | Fill | 0.59 | 0.11 | Fill of ditch 1207 | | |
| 1209 | Cut | 1.29 | 0.16 | Cut of ditch | | |
| 1210 | Fill | 1.29 | 0.16 | Fill of ditch 1209 | Pottery, CBM | Medieval |
| 1211 | Cut | 0.18 | 0.02 | Cut of ditch | | |
| 1212 | Fill | 0.18 | 0.02 | Fill of ditch 1211 | | |
| 1213 | Cut | 0.22 | 0.04 | Cut of ditch | | |
| 1214 | Fill | 0.22 | 0.04 | Fill of ditch 1213 | | |
| 2000 | Layer | - | 0.30 | Topsoil | | |
| 2001 | Layer | - | 0.20 | Subsoil | | |
| 2002 | Layer | - | - | Natural | | |
| 2003 | Cut | 0.92 | 0.09 | Cut of ditch | | |
| 2004 | Fill | 0.92 | 0.09 | Fill of ditch 2004 | | |
| 2005 | Cut | 0.93 | 0.29 | Cut of ditch | | |
| 2006 | Fill | 0.93 | 0.29 | Fill of ditch 2005 | | |
| 2007 | Cut | 0.94 | 0.35 | Cut of ditch | | |
| 2008 | Fill | 0.94 | 0.35 | Fill of ditch 2007 | | |
| 2009 | Cut | 2.10 | 0.10 | Cut of pit | | |
| 2010 | Fill | 2.10 | 0.10 | Fill of Pit | Pottery | Bronze Age - Iron Age |
| 2011 | Void | - | - | Void | | |
| 2012 | Void | - | - | Void | | |
| 2013 | Cut | 1.20 | 0.20 | Natural disturbance | | |
| 2014 | Fill | 1.20 | 0.20 | Natural disturbance | | |
| 2015 | Cut | 0.24 | 0.11 | Cut of posthole | | |
| 2016 | Fill | 0.24 | 0.11 | Fill of posthole 2015 | | |
| 2017 | Cut | 2.05 | 0.30 | Cut of pit | | |
| 2018 | Fill | 2.05 | 0.10 | Fill of pit 2017 | Fired Clay | |
| 2019 | Fill | 2.05 | 0.20 | Fill of pit 2017 | Pottery | Iron Age |
| 2020 | Group | - | - | Ditches 2003 2005 2007 | | |
| 3000 | Layer | - | 0.30 | Topsoil | | |
| 3001 | Layer | - | 0.20 | Subsoil | Pottery | Iron Age |
| 3002 | Layer | - | - | Natural | | |
| 3003 | Cut | 0.84 | 0.14 | Cut of pit | | |
| 3004 | Fill | 0.84 | 0.14 | Fill of pit 3003 | | |
| 3005 | Cut | 0.32 | 0.06 | Cut of posthole | | |
| 3006 | Fill | 0.32 | 0.06 | Fill of posthole 3005 | | |
| 3007 | Cut | 0.54 | 0.08 | Cut of ditch | | |
| 3008 | Fill | 0.54 | 0.08 | Fill of ditch 3007 | | |
| 3009 | Cut | 2.25 | 0.18 | Cut of pit | | |
| 3010 | Fill | 2.25 | 0.18 | Fill of pit 3009 | | |
| 3011 | Cut | 0.60 | 0.31 | Cut of ditch | | |
| 3012 | Fill | 0.60 | 0.31 | Fill of ditch 3011 | | |
| 3013 | Cut | 3.45 | 0.20 | Cut of ditch | | |
| 3014 | Fill | 3.30 | 0.12 | Fill of ditch 3013 | Pottery | Iron Age |
| 3015 | Cut | 3.72 | 0.16 | Cut of ditch | | |
| 3016 | Fill | 0.83 | 0.06 | Fill of ditch 3015 | | |
| 3017 | Fill | 3.23 | 0.14 | Fill of ditch 3015 | Pottery | Iron Age |
| 3018 | Fill | 0.60 | 0.09 | Fill of ditch 3015 | | |
| 3019 | Cut | - | 0.14 | Cut of ditch | | |
| 3020 | Fill | - | 0.14 | Fill of ditch 3019 | | |
| 3021 | Cut | - | 0.18 | Cut of ditch | | |
| 3022 | Fill | - | 0.18 | Fill of ditch 3021 | Pottery | Iron Age |
| 3023 | Cut | - | - | Cut of ditch | | |
| 3024 | Fill | - | - | Fill of ditch 3023 | | |
| 3025 | Cut | 1.00 | 0.09 | Cut of ditch | | |
| 3026 | Fill | 1.00 | 0.09 | Fill of ditch 3025 | Pottery | Iron Age |
| 3027 | Group | - | - | 3013, 3015, 3023 | | |

| Cxt | Type | Width | Depth | Description | Finds | Spot date |
|---|---|---|---|---|---|---|
| 3028 | Group | - | - | 3007 | | |
| 5000 | Layer | - | 0.35 | Topsoil | Pottery, CBM | Post Medieval |
| 5001 | Layer | - | 0.10 | Subsoil | | |
| 5002 | Layer | - | - | Natural | | |
| 5003 | Cut | 0.33 | 0.11 | Cut of posthole | | |
| 5004 | Fill | 0.33 | 0.11 | Fill of posthole 5003 | Pottery | Bronze Age - Iron Age |
| 5005 | Cut | 0.22 | 0.13 | Cut of posthole | | |
| 5006 | Fill | 0.22 | 0.13 | Fill of posthole 5005 | | |
| 5007 | Cut | 0.30 | 0.11 | Cut of posthole | | |
| 5008 | Fill | 0.30 | 0.11 | Fill of posthole 5007 | | |
| 7000 | Layer | - | 0.30 | Topsoil | | |
| 7001 | Layer | - | 0.10 | Subsoil | | |
| 7002 | Layer | - | - | Natural | | |
| 8000 | Layer | - | 0.25 | Topsoil | Pottery, CBM | Modern |
| 8001 | Layer | - | 0.28 | Subsoil | Pottery | Medieval |
| 8002 | Layer | - | - | Natural | | |
| 8003 | Cut | 1.10 | 0.26 | Cut of ditch | | |
| 8004 | Fill | 0.93 | 0.20 | Fill of ditch 8003 | | |
| 8005 | Cut | 0.45 | 0.20 | Cut of ditch | | |
| 8006 | Fill | 0.45 | 0.20 | Fill of ditch 8005 | | |
| 8007 | Fill | 1.10 | 0.07 | Fill of ditch 8003 | | |
| 8008 | Cut | 4.10 | 0.83 | Cut of pond | | |
| 8009 | Fill | 2.08 | 0.42 | Fill of pond 8008 | Pottery, Flint, CBM, Animal Bone | Post Medieval |
| 8010 | Fill | 1.25 | 0.26 | Fill of pond 8008 | CBM | Post Medieval |
| 8011 | Fill | 1.11 | 0.49 | Fill of pond 8008 | | |
| 8012 | Fill | 0.61 | 0.15 | Fill of pond 8008 | Pottery, CBM | Post Medieval |
| 8013 | Fill | 0.87 | 0.53 | Fill of pond 8008 | Pottery, CBM | Post Medieval |
| 8014 | Cut | 2.80 | 1.20 | Cut of pond | | |
| 8015 | Fill | 2.80 | 1.00 | Fill of pond 8014 | Pottery, Animal Bone | Post Medieval |
| 8016 | Fill | 1.30 | 0.30 | Fill of pond 8014 | Pottery | Post Medieval |
| 8017 | Fill | 1.20 | 0.26 | Fill of pond 8014 | Pottery, Animal Bone, CBM | Post Medieval |
| 8018 | Cut | 3.30 | 0.80 | Cut of pit | | |
| 8019 | Fill | 3.30 | 0.80 | Fill of pit 8018 | Pottery, Animal Bone, CBM | Post Medieval |
| 8020 | Find | - | - | Articulated cow | Animal Bone | |
| 8021 | Cut | 2.10 | 0.60 | Cut of ditch | | |
| 8022 | Fill | 2.30 | 0.40 | Fill of ditch 8021 | | |
| 8023 | Cut | 6.00 | 0.54 | Cut of pit | | |
| 8024 | Fill | 1.60 | 0.40 | Fill of pit 8023 | Pottery, Animal Bone, CBM | Post Medieval |
| 8025 | Cut | >1.00 | 0.09 | Cut of pit | | |
| 8026 | Fill | >1.00 | 0.09 | Fill of pit 8025 | | |
| 8027 | Cut | 0.45 | 0.28 | Cut of ditch | | |
| 8028 | Fill | 0.45 | 0.28 | Fill of ditch 8027 | Pottery, Animal Bone | Medieval |
| 8029 | Fill | 1.00 | 0.26 | Fill of pond 8008 | | |
| 8030 | Cut | 0.42 | 0.13 | Cut of pit | | |
| 8031 | Fill | 0.50 | 0.36 | Fill of pit 8030 | | |
| 8032 | Fill | 0.42 | 0.13 | Fill of pit 8030 | Animal Bone | |
| 8033 | Cut | 0.55 | 0.04 | Cut of ditch | | |
| 8034 | Fill | 0.55 | 0.04 | Fill of ditch 8033 | | |
| 8035 | Cut | 0.37 | 0.12 | Cut of pit / posthole | | |
| 8036 | Fill | 0.37 | 0.12 | Fill of pit 8035 | | |
| 8037 | Cut | 1.28 | 0.17 | Cut of pit | | |

| Cxt | Type | Width | Depth | Description | Finds | Spot date |
|---|---|---|---|---|---|---|
| 8038 | Fill | 1.28 | 0.17 | Fill of pit | Pottery | Medieval |
| 8039 | Cut | 0.36 | 0.06 | Cut of pit / posthole | | |
| 8040 | Fill | 0.36 | 0.06 | Fill of pit 8039 | Animal Bone | |
| 8041 | Cut | 0.80 | 0.27 | Cut of ditch | | |
| 8042 | Fill | 0.80 | 0.27 | Fill of ditch 8041 | Pottery, Animal Bone, CBM | Post Medieval |
| 8043 | Cut | 0.60 | 0.27 | Cut of pit | | |
| 8044 | Fill | 0.60 | 0.28 | Fill of pit 8043 | | |
| 8045 | Cut | 2.10 | 0.33 | Cut of treethrow | | |
| 8046 | Fill | 2.10 | 0.04 | Fill of treethrow 8045 | | |
| 8047 | Fill | 2.10 | 0.22 | Fill of treethrow 8045 | Pottery | Post Medieval |
| 8048 | Fill | 2.10 | 0.33 | Fill of treethrow 8045 | | |
| 8049 | Cut | 1.80 | >0.80 | Cut of possible well / pit | | |
| 8050 | Fill | 1.80 | 0.80 | Fill of pit 8049 | | |
| 8051 | Cut | 2.17 | 0.21 | Cut of treethrow | | |
| 8052 | Fill | 2.12 | 0.14 | Fill of treethrow 8051 | | |
| 8053 | Fill | 2.17 | 0.10 | Fill of treethrow 8051 | Pottery | Medieval |
| 8054 | Cut | - | - | Cut of treethrow | | |
| 8055 | Fill | - | - | Fill of treethrow 8054 | | |
| 8056 | Fill | - | - | Fill of treethrow 8054 | | |
| 8057 | Cut | 2.94 | 0.46 | Cut of ditch | | |
| 8058 | Fill | 2.94 | 0.46 | Fill of ditch 8057 | Pottery, CBM | Post Medieval |
| 8059 | Layer | >1.40 | 0.32 | Colluvial | | |
| 8060 | Layer | >1.40 | 0.50 | Alluvial | | |
| 8061 | Cut | 0.72 | 0.12 | Cut of ditch | | |
| 8062 | Fill | 0.72 | 0.12 | Fill of ditch 8061 | Pottery | Iron Age |
| 8063 | Cut | 0.80 | 0.15 | Cut of pit | | |
| 8064 | Cut | 0.70 | 0.14 | Cut of pit | | |
| 8065 | Cut | 0.75 | 0.40 | Cut of treethrow | | |
| 8066 | Fill | 0.75 | 0.40 | Fill of treethrow 8065 | | |
| 8067 | Cut | 0.80 | 0.10 | Cut of ditch | | |
| 8068 | Fill | 0.80 | 0.10 | Fill of ditch 8067 | Pottery | Medieval |
| 8069 | Cut | 0.90 | 0.32 | Cut of ditch | | |
| 8070 | Fill | 0.90 | 0.32 | Fill of ditch 8070 | Pottery, CBM | Medieval |
| 8071 | Cut | 0.50 | 0.16 | Cut of ditch | | |
| 8072 | Fill | 0.50 | 0.16 | Fill of ditch 8071 | | |
| 8073 | Layer | 0.04 | 0.65 | Finds rich overburden | Pottery, CBM | Medieval |
| 8074 | Cut | 0.36 | 0.04 | Cut of ditch terminus | | |
| 8075 | Fill | 0.36 | 0.04 | Fill of ditch 8074 | Pottery | Medieval |
| 8076 | Cut | 0.26 | 0.03 | Cut of ditch terminus | | |
| 8077 | Fill | 0.26 | 0.03 | Fill of ditch 8076 | | |
| 8078 | Cut | 1.50 | 0.28 | Cut of pit | | |
| 8079 | Fill | 0.30 | 0.04 | Fill of pit 8078 | | |
| 8080 | Fill | 1.50 | 0.24 | Fill of pit 8078 | | |
| 8081 | Cut | 0.70 | 0.29 | Cut of ditch terminus | | |
| 8082 | Fill | 0.70 | 0.29 | Fill of ditch 8081 | Pottery | Medieval |
| 8083 | Cut | 0.40 | 0.05 | Cut of ditch | | |
| 8084 | Fill | 0.40 | 0.05 | Fill of ditch 8083 | | |
| 8085 | Cut | 0.64 | 0.06 | Cut of ditch terminus | | |
| 8086 | Fill | 0.64 | 0.06 | Fill of ditch 8085 | | |
| 8087 | Cut | 1.65 | 0.32 | Cut of ditch | | |
| 8088 | Fill | 1.65 | 0.32 | Fill of ditch 8087 | | |
| 8089 | Fill | 0.51 | 0.09 | Fill of ditch 8087 | Pottery, Fired Clay | Iron Age |
| 8090 | Cut | 0.20 | >0.20 | Cut of field drain | | |
| 8091 | Fill | 0.20 | >0.20 | Fill of field drain 8090 | Pottery, CBM | Medieval |
| 8092 | Cut | 0.79 | 0.11 | Cut of pit | | |
| 8093 | Fill | 0.79 | 0.07 | Fill of pit 8092 | | |

| Cxt | Type | Width | Depth | Description | Finds | Spot date |
|---|---|---|---|---|---|---|
| 8094 | Fill | 0.79 | 0.04 | Fill of pit 8092 | Pottery | Medieval |
| 8095 | Cut | 0.46 | 0.10 | Cut of posthole | | |
| 8096 | Fill | 0.46 | 0.10 | Fill of posthole 8095 | | |
| 8097 | Fill | 0.80 | 0.15 | Fill of pit 8063 | Pottery, Fired Clay | Medieval |
| 8098 | Fill | 0.70 | 0.14 | Fill of pit 8064 | | |
| 8099 | Fill | 2.10 | 0.20 | Fill of ditch 8021 | | |
| 8100 | Fill | 1.78 | 0.16 | Fill of pit 8023 | | |
| 8101 | Cut | 5.17 | 0.24 | Cut of hollow | | |
| 8102 | Fill | 5.17 | 0.24 | Fill of hollow 8101 | Pottery, Animal Bone, Worked Stone | Medieval |
| 8103 | Cut | - | - | Cut of treethrow | | |
| 8104 | Fill | - | - | Fill of treethrow 8103 | Pottery | Iron Age |
| 8105 | Cut | - | - | Cut of ditch | | |
| 8106 | Fill | - | - | Fill of ditch 8105 | Pottery | Iron Age |
| 8107 | Layer | >1.00 | >0.50 | Alluvial layer | Pottery | Iron Age |

# APPENDIX B - FINDS REPORTS

## A.1 Struck and burnt flint

Michael Donnelly (OA)

### Introduction

*A.1.1* A small assemblage of struck and burnt flint was recovered from Areas A, B, C, E and H. These amounted to 108 struck pieces (including material from sieved residues), 248 pieces of burnt unworked flint weighing 1248g and 17 natural fragments. The flint was concentrated in a few contexts in Areas A and H. The material recovered includes probable Mesolithic, Neolithic and middle-late Bronze Age groups, some of which are likely to be contemporary with their contextual environment.

### Methodology

*A.1.2* The artefacts were catalogued according to OA South's standard system of broad artefact/debitage type (Bradley 1999), general condition noted and dating was attempted where possible. Unworked burnt flint was quantified by weight and number. The assemblage was catalogued directly onto an Open Office spreadsheet. During the initial analysis additional information on condition (rolled, abraded, fresh and degree of cortication), and state of the artefact (burnt, broken, or visibly utilised) was also recorded. Retouched pieces were classified according to standard morphological descriptions (e.g. Bamford 1985, 72-77; Healy 1988, 48-9; Bradley 1999). Metrical and technological attribute analysis was undertaken and included the recording of butt type (Inizan et al. 1993), termination type, flake type (Harding 1990), hammer mode (Onhuma and Bergman 1982) and the presence of platform preparation and edge abrasion.

### Area A

*A.1.3* Area A yielded the second largest assemblage at 34 pieces, only three of which were sieved chips. Many of the recovered pieces were retouched and broken but burning was very rare. This included eight pieces from context 1006 (the fill of a post-medieval pond) consisting of an end scraper, a retouched flake and six unmodified flakes. The flakes are typical of middle to late Bronze Age knapping with prominent bulbs, unprepared platform margins and thick squat forms. The retouched flake also fits this mould with a cortical platform, it has ventral, scaler retouch along its left edge in a slightly concave arc. The end scraper does not fit well with the rest of the assemblage as it is slightly elongated and regular in form with a heavily faceted platform. It is in a much poorer state than the other pieces from 1006 and is most likely a residual late Neolithic or early Bronze Age piece. Five natural fragments were also recovered from here.

*A.1.4* The remainder of the Area A assemblage included a hollow scraper on a thermal chunk and a scraper-piercer combination tool, both from context 1001: a distal piercer on a regular side trimming flake with a trimmed right edge of probable Neolithic date, an oblique straight end scraper from context 1082, possibly a hafted tool and likely to be of Mesolithic or early Neolithic date; and a blade, three bladelets and a blade-like flake also of Mesolithic or early Neolithic date. One of these (sf 1001) from context 1053 may in fact be a heavily worn narrow blade microlith. However, it is more likely to be a heavily damaged bladelet.

*A.1.5* There were also many flakes and some irregular waste. The flakes are a mix of forms typical of later prehistoric knapping and others that have been more carefully prepared and struck. This second group is most likely to be Mesolithic or Neolithic in date. Many of the pieces from Area A are in poor condition, which contrasts with the largest assemblage from Area H. This clearly shows that much of the assemblage is residual.

**Area B**

*A.1.6* This area yielded a small collection of struck and burnt flint recovered in bulk samples taken from contexts 2010 and 2018. Context 2010 produced some sieved chips alongside two squat flakes and a narrow bladelet. Context 2118 contained a piercer or heavily nosed scraper. Some of the flakes recovered are typically later prehistoric in character while the narrow bladelet would generally be seen as dating to the Mesolithic to early Neolithic. The piercer is undiagnostic.

**Area C**

*A.1.7* Area C produced a small flake-dominated assemblage of 7 pieces scattered over five contexts. Six are flakes, four of which are broad, thick, squat and hard-hammer struck and are almost certainly of middle-late Bronze Age date. The seventh piece is a small multi-platformed flake core on a small gravel pebble with a bi-directional flaking pattern and evidence of a third truncated platform. The core is undiagnostic but would not be out of place alongside the flakes in a later Bronze Age assemblage.

**Area E**

*A.1.8* All four pieces from Area E were recovered from context 5000 (topsoil) and are in quite poor condition. They include a blade-like flake and a probable core tablet reused as a hammerstone that are likely to be Mesolithic or early Neolithic in date. The remaining two flakes are largely undiagnostic but one is fairly squat and is more typical of later prehistoric knapping.

**Area H**

*A.1.9* This area produced the largest assemblage at 57 pieces, only one of which was a sieved chip. This included five retouched pieces (8.93%) as well as many broken and burnt examples. The material was concentrated in a limited number of contexts, 8058 (10), 8060 (9), 8088 (5), 8089 (5), 8106 (6) and 8107 (5), and these also contained many pieces of burnt unworked flint (44 pieces, 637g). Some of these small assemblages, such as 8058 and 8060 displayed very low levels of edge damage suggesting that they had not moved far, if at all.

*A.1.10* Despite their discovery in ditch fills below other fills with medieval material, contexts 8058 and 8060 contained many pieces typical of more controlled early prehistoric knapping strategies most likely of Neolithic or early Bronze Age date. This included several tools and many thin regular flakes, sometimes displaying platform faceting. One quite heavy piercer from context 8060 was invasively flaked on its ventral side and had edge trimming along its dorsal left and central dorsal ridge to form the piercer or borer tip. A similar piece, an awl from context 8058 also had this dual dorsal ridge and edge trimmed point. This context also contained a burnt and fragmented flint knife with very regular parallel dorsal ridge scars. One bladelet was also present as was a 'janus' double ventral flake often used for fine tool blanks such as arrowheads. Context 8058 also contained 6 pieces of burnt unworked flint weighing 80g, while 8060 had 24 pieces (127g).

*A.1.11* Fills 8088 and 8089 were both from ditch 8087. Context 8088 contained some flakes and a core on a large flake, while context 8089 contained a small collection of flakes and irregular waste including at last one piece struck from a chalk derived nodule. These were largely undiagnostic but could be seen as being more typical of later prehistoric knapping. At least one flake looked early in date with a soft-hammer bulb, regular form and is likely to be residual.

*A.1.12* Ditch fill 8106 contained several squat flakes and pieces of irregular waste alongside a large core on a thermal fracture with unprepared platform margins and platform spurs. All are typical of middle-late Bronze Age knapping.

*A.1.13* Colluvial/alluvial layer 8107 contained five flakes in good condition and included two examples that looked typically early prehistoric in character. Lastly, a possible microburin or end truncated bladelet was recovered from ditch fill 8062 and is clearly residual. It is in quite good condition and may also be derived from a now truncated buried soil or colluvial/alluvial horizons.

**Discussion**

*A.1.14* The assemblages are small but still contain key information for the understanding of human activity at this site. The flint is generally in quite mixed condition with many pieces displaying high levels of edge damage and cortication indicating residual material. These can be contrasted with some of the groups from Area H that appear quite fresh. Much of the flint was struck from beach or gravel pebbles or weathered nodules from secondary sources. This includes some bullhead bed material. One piece does display chalk cortex and must have been obtained from a primary source.

*A.1.15* The most coherent groups include those from ditch fills 8058 (residual in a post-medieval context) and 8060 (undated context), the fills of a post-medieval ditch in Area H. It is possible that some form of buried soil or negative feature may have been truncated by this ditch, incorporating the earlier material into its lower fills. This would seem far more likely than a Neolithic date for the ditches inception. These assemblages and some of the residual tools found nearby appear to indicate a limited level of domestic activity along the terrace edge during the Neolithic or early Bronze Age.

*A.1.16* These assemblages from Area 8 include high incidences of tools, broken pieces and burning and are all indicative of domestic activity. A similiarly high proportion of tool forms dating to the middle Neolithic were discovered in a foreshore context at Stanford Wharf Nature Reserve (Anderson-Whymark 2012). Also of note is the small level of possible Mesolithic or early Neolithic activity shown by the low blade levels including several narrow bladelets and by one putative microburin or end truncated piece. The quantities recovered suggest only occasional visits by mobile groups. These findings can be seen as a continuation of some of the activity identified at Stanford Wharf Nature Reserve (Biddulph *et al.* 2012). Also of note are the small collections of middle-late Bronze age material that are contemporary with at least one pit and may also help to date the inception of the field systems found here. These clusters have low levels of flakes coupled with relatively high levels of cores indicating expedient use of secondary sources.

*A.1.17* There is little requirement for further work, the natural fragments and the burnt unworked flint can be discarded. Some of the key elements may require illustration and/or photographing for any final report. There may also be some requirement to integrate this material into the other London Gateway assemblages, should the need arise.

*Table 3: The flint assemblage by Area*

| Category type | A | B | C | E | H | Total |
|---|---|---|---|---|---|---|
| Flake | 16 | 2 | 6 | 2 | 38 | 64 |
| Blade | 1 | | | | 1 | 2 |
| Bladelet | 3 | 1 | | | 2 | 6 |
| Blade-like | 1 | | | 1 | | 2 |
| Irregular waste | 4 | | | | 8 | 12 |
| Chip | | | | | | |
| Sieved Chips 10-4mm | 3 | 1 | | | | 4 |
| Sieved Chips 4-2mm | | 1 | | | 1 | 2 |
| Rejuvenation flake core tablet | | | | 1 | | 1 |
| Core single platform flake | | | | | 1 | 1 |
| Core multi platform flake | | | 1 | | | 1 |
| Core on a flake | | | | | 1 | 1 |
| Scraper end | 1 | | | | | 1 |
| Scraper other | 2 | | | | 1 | 3 |
| Awl | | | | | 1 | 1 |
| Piercer | 1 | 1 | | | 1 | 3 |
| Microburin | | | | | 1 | 1 |
| Knife other | | | | | 1 | 1 |
| Retouch other | 1 | | | | | 1 |
| Retouched flake | 1 | | | | | 1 |
| **Total** | **34** | **6** | **7** | **4** | **57** | **108** |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Burnt unworked flint No./g** | 170/390g | 24/188g | | 10/33g | 44/637g | 248/1248g |
| **No. burnt (exc. chips) (%)** | 1/31 (3.23%) | 1/4 (25%) | | | 7/56 (12.5%) | 8/102 (7.84%) |
| **No. broken (exc. chips) (%)** | 8/31 (25.81%) | | 2/7 (28.57%) | | 13/56 (23.21%) | 23/102 (22.55%) |
| **No. retouched (exc. chips) (%)** | 6/31 (19.35%) | 1/4 (25%) | | | 5/56 (8.93%) | 11/102 (10.78%) |

## A.2 Prehistoric Pottery

Lisa Brown (OA)

### *Phase 1 mitigation: Preliminary earthworks and historic sea wall*

*A.2.1* A total of three sherds of pottery were recovered from a single context. These are all in coarse flint-tempered fabrics and consist of featureless body sherds. They are not closely dateable have been spot-dated to the Bronze Age or early Iron Age. The sherds were recovered from a localised organic peat/ soil horizon in Trench 1a (TP1). The quantity of prehistoric pottery is very small, possibly from a single vessel, and found in an alluvial layer rather than a clear archaeological context. Nevertheless it suggests some level of later prehistoric activity in the vicinity.

### *Phase 3 mitigation: Strip, map and sample excavation*

*A.2.2* **Context 1003**: 90+ sherds, including the rim of a very large Deverel-Rimbury cordoned urn in coarse flint-tempered fabric. The cordon sits probably 1/3 of the way down from the rim and is finger-impressed. The flattened, slightly incurving rim is also treated with deeply impressed finger tipping. An interesting feature of this urn is the additional decoration just below the rim edge – circular impressions made by an implement *c* 0.5mm in diameter spaced at *c* 40mm intervals all around the outer edge. These do not penetrate/perforate the vessel and so are clearly decorative rather than otherwise functional (eg for suspension or tying down a cover). Date: Middle Bronze Age (*c* 1600-1000 BC).

*Table 4: Spot-dating and description of late prehistoric pottery by context*

| Cxt | Fabric | Form | No. of sherds | Wt(g) | Spot date |
|---|---|---|---|---|---|
| 1020 | Fine grade flint in sandy micaceous clay | | 1 | 1 | Later Prehistoric |
| 1023 | Common very fine flint in micaceous sandy clay | Flat base | 2 | 44 | Iron Age |
| 1026 | Sparse fine flint (some burnt) in micaceous sandy clay | - | 1 | 5 | Iron Age |
| 1029 | Smooth fine clay with sparse fine grey flint | Flat base | 3 | 17 | Iron Age |
| 1029 | Common fine-medium flint in fine sandy clay | - | 2 | 6 | Iron Age |
| 1032 | Medium grade flint in smooth micaceous clay | - | 4 | 12 | Later Prehistoric |
| 1032 | Fine smooth clay, no inclusions | Flat base | 1 | 8 | Iron Age |
| 1046 | Common medium flint in micaceous sandy clay | - | 1 | 5 | Iron Age |
| 1088 | Common very fine flint in highly micaceous sandy clay | - | 1 | 20 | Iron Age |
| 1117 | Common medium grey flint in micaceous sandy clay | - | 1 | 4 | Iron Age |

| Cxt | Fabric | Form | No. of sherds | Wt(g) | Spot date |
|---|---|---|---|---|---|
| 2010 | Sparse fine flint in micaceous sandy clay | - | 1 | 6 | LBA-EIA |
| 2010 | Abundant medium coarse flint in micaceous sandy clay | - | 2 | 15 | LBA-EIA |
| 2019 | Abundant fine flint in smooth clay | - | 1 | 4 | Iron Age |
| 2019 | Sparse fine flint in micaceous smooth clay | Upright jar rim | 1 | 34 | EIA? |
| 3001 | Abundant fine flint in micaceous sandy clay | - | 1 | 10 | Iron Age |
| 3014 | Sparse fine flint in micaceous clay | - | 2 | 8 | Iron Age |
| 3017 | Fine flint in friable clay | - | 4 | 6 | Iron Age? |
| 3022 | Abundant fine-medium flint in micaceous sandy clay | - | 1 | 18 | Iron Age |
| 3026 | Abundant fine flint in micaceous sandy clay | - | 2 | 5 | Iron Age |
| 5004 | Smooth micaceous clay with sparse fine flint | | 15 | 54 | LBA-IA? |
| 5004 | Medium coarse white flint in fine micaceous clay | - | 3 | 27 | LBA-IA |
| 8062 | Fine flint in fine micaceous sandy clay | - | 1 | 2 | Iron Age |
| 8089 | Common fine flint in micaceous sandy ware | Bowl sherd | 1 | 3 | EIA? |
| 8089 | Fired clay | | 1 | 4 | Prehistoric |
| 8089 | Common medium fine flint in micaceous sandy ware | - | 6 | 50 | Iron Age? |
| 8089 | Micaceous sandy ware | Inturned rim – Plainware? | 1 | 8 | LBA-EIA? |
| 8089 | Abundant medium coarse grey flint in micaceous sandy clay | - | 4 | 40 | MBA-EIA |
| 8089 | Abundant very coarse flint in micaceous sandy clay | Flat base large vessel | 1 | 36 | MBA? |
| 8104 | Common fine flint in micaceous sandy clay | Flaring rim of bowl | 1 | 3 | EIA |
| 8106 | Common fine-medium flint in micaceous sandy ware | - | 1 | 7 | Iron Age |
| 8106 | Abundant very fine flint in micaceous sandy clay | Bowl sherds | 6 | 21 | EIA |

| Cxt | Fabric | Form | No. of sherds | Wt(g) | Spot date |
|---|---|---|---|---|---|
| 8107 | Fine flint in smooth fine clay | Crumb | 1 | 1 | Prehistoric |

## A.3 Medieval Pottery

John Cotter (OA)

*Table 5: Spot-dating and identification of medieval pottery*

| Cxt | Spot date | No. of sherds | Wt(g) | Comments |
|---|---|---|---|---|
| 1001 | c1475-1550 | 3 | 40 | Fresh body sherds. Unglazed early Fabric 40 (PMRE). 2 vessels - oxidised & reduced. |
| 1006 | c1270-1350 | 8 | 98 | Minimum 6 vessel. All fairly worn. Including pad base from a Saintonge bright green-glazed jug (c1275-1350) with patches of glaze surviving - the base edge possibly sooted from use? 2 body sherds Mill Green ware (c1270-1350) with allover exterior white slip. Others unslipped/glazed. Worn rod handle from green-glazed Kingston-type ware jug (c1240-1400). Unusual sub-squared rim from large jar/cooking pot in fine oxidised Mill Green-style fabric but with moderate coarse angular flint inclusions & rounded quartz. |
| 1008 | c1881-1909 | 4 | 110 | Near-complete ointment pot in refined white earthenware (REFW) Diam. 47mm, height 34mm. Lengthy black transfer-printed inscription including 'Holloway's Universal Family Ointment for the cure of ?Distours & violent tumours, inveterate ulcers etc etc…sold in pots …244 Strand, London etc....' (Similar to eg from Combe Down Mines, Bath). 1x residual worn handle sherd (62g) late medieval oxidised ware - poss Mill Green or early Fabric 40 with traces of broad white slip stripe down back of handle |
| 1009 | c1100-1250 | 1 | 11 | Worn sag base reduced sandy-shelly cooking pot. Sooted. |
| 1084 | c1270-1350 | 1 | 5 | Body sherd Mill Green jug. White slip under mottled green glaze. |
| 1126 | c1270-1350 | 35 | 877 | Large fresh sherds including (reconstructable) profile - Probable Mill Green coarseware cooking pot with blocked neckless rim (otherwise poss Fabric 21?). Probably 2-3 cooking pots - all with interior glaze on lower walls/base & heavily sooted exterior. 1 oxidised cooking pot body sherd with some flint temper. 3x sherds Mill Green fineware jugs - possibly from a single vessel, including 2 decorated with slip lines & dots & 1 sag base with widely spaced thumbed feet. 1x residual cooking pot sag base in reduced grey sandy-shelly ware (mainly sand). |
| 1130 | c1270-1350 | 3 | 117 | Probably 1 vessel - poss joins with sherds in context 1126 - Large fresh sherds from lower part in Fabric 21. Cooking pot, heavily sooted exterior. |
| 1160 | c1270-1350 | 9 | 163 | Body sherd 1x slightly worn Mill Green jug body/handle stub with allover exterior white slip. 5x hard late medieval redwares (possibly Mill Green or possibly L14/15C??). 3x body sherds from an unusual thin-walled Fabric 20 greyware jug (or Midlands Reduced ware?) with horizontal bands of combed decoration. |
| 1164 | c1270-1550? | 1 | 3 | Uncertain. Small body sherd in fine Fabric 40 or Mill Green with decayed yellow-brown glaze. Exterior worn. |
| 1178 | c1270- | 1 | 11 | Glazed body sherd from Mill Green jug. Reduced, with no slip. |

| Cxt | Spot date | No. of sherds | Wt(g) | Comments |
|---|---|---|---|---|
| | 1350 | | | |
| 1185 | c1270-1350 | 1 | 143 | Complete base from small drinking jug with plain splayed base. Diam. 60mm. Unglazed coarse sandy orange Fabric 21 or possibly Mill Green coarseware? Base angle chipped & slightly worn/abraded. Medium-coarse rounded/polished quartz temper. |
| 1189 | c1270-1350 | 1 | 27 | Fresh bowl rim - probably Mill Green coarseware. Sub-flanged. Unglazed. Soot on exterior. |
| 1196 | c1550-1700 | 1 | 8 | Basal floor from green-glazed Border ware dish. |
| 1198 | c1200-1400? | 1 | 12 | Body sherd. Slightly worn. Probably Fabric 20 greyware(?), Probable jug with possible traces of incised horizontal line decoration. |
| 1202 | c1270-1350 | 1 | 19 | Body sherd. Mill Green jug with combed decoration through white slip under green glaze. |
| 1210 | c1250-1550 | 2 | 68 | Worn Fabric 21 jar/cistern rim with muddy concretions on interior. Also smaller body sherd in Fabric 21 in reduced grey fabric - probable sooted cooking pot. |
| 5000 | c1850-1925 | 1 | 38 | Worn body sherd. Dense Fabric 40 - Probable 19th century flowerpot with pale green paint exterior & pinkish paint interior. |
| 8000 | c1900-1970+ | 2 | 22 | Collared rim Fabric 40 flowerpot made in a mould. 1x Fabric 40 glazed body sherd - 18th/19th century. |
| 8001 | c1270-1350 | 2 | 20 | Fresh plain glazed jug body sherd with brown glaze - probably Mill Green (otherwise early Fabric 40?). Fresh neckless cooking pot rim in coarse orange Fabric 21 with rounded quartz grits in fine matrix (Mill Green variant?) |
| 8009 | c1550-1600 | 32 | 679 | All Fabric 40 post-medieval redware (PMR) and/or/ post-medieval red earthenware (PMRE). Mostly fresh including large joining sherds from sagging base of a water-sprinkler or watering can in smooth early Fabric 40 with numerous small holes pierced through base. Wall sherd from a strainer/colander with perforations & interior clear glaze. Probably 12+ vessels represented, including a rim jar/pipkin (diam. 150mm) with collared rim & rilled exterior in PMRE-style fabric with reduced greenish glaze. Joins sherds from context 8012. Worn rim from a large 16th century-style pitcher with pulled lip. 1 other sag base jar with interior glaze. Jug neck body sherd with bold ribbing/cordons. 1x small unglazed probably 16century body sherd with white slip decoration. |
| 8012 | c1550-1600 | 45 | 1148 | Nearly all Fabric 40. Fresh large sherds incl JOINS with (8009). Incl sherds from large Dutch-style skillet/frying pan. Jugs. Glazed barrel-shaped mug (cf Colchester report 2000). Storage jar rim. Bo from brown glazed jug copying ?Frechen stoneware drinking jug? Also 2x joining fresh sherds Raeren stoneware mug (c1475-1550/60). 1x bo tin-glazed ware prob Netherlandish maiolica charger-type dish with polychrome dec incl concentric blue bands defining central roundel containing traces of blue & green dec (prob floral or fruits) with radial strokes of blue outside roundel, all on pale blue-tint background with white or clear lead glaze ext. 2x bo F40 with white slip dec, 1x fresh conical ?bowl rim with bold annular/ribbed dec ext in stoneware style. 1x v unusual large |

| Cxt | Spot date | No. of sherds | Wt(g) | Comments |
|---|---|---|---|---|
| | | | | collared/lid-seated rim (diam c350mm) with thumbed dec on lower rim projection, in hard dull brown fabric like a Roman grog-tempered ware (not recog by PEd Biddulph or P Booth), contains v fine organic material & fine mical plus rare v coarse ?chert pebbles, some coarse quartz, v crudely made - poss an Iberian oil/storage jar (cf eg in Colchester Museum)? Or poss industrial ceramic? 1x pale F40 strainer bo |
| 8013 | c1475-1550/75 | 3 | 49 | Bos early F40 incl bo from large glob jar/cpot with ext rilling - slightly worn. 1x bo with int glz |
| 8015 | c1475-1550/75? | 2 | 8 | 2x bos. Poss early F40. 1 sl worn with AO wh slip. Other with thin wh slip dec on sl reduc background |
| 8016 | c1475-1550/75? | 2 | 31 | 1x fresh flat base poss early F20 with patchy int glaze. 1x narrow sooted strap handle in gritty Mill Green ware poss w splash glaze 14/15C |
| 8017 | c1525-1575/1600? | 21 | 181 | Basal ?dish bo in fine yellow glazed whiteware, sl worn, prob Border ware (F42/BORDY) or Beauvais post-med whiteware? Fresh early F40 bos incl several unglazed late white-slip decorated jugs/jars - prob E-M16C plus few transitional sandier F21/40 sherds. Some F40 clear glazed |
| 8019 | c1475-1550/75 | 4 | 37 | All early F40 bos. 1 glazed. 1 poss with white slip lines |
| 8024 | c1475-1550? | 13 | 173 | Fresh bos prob early F40 incl 2 with white slip line dec (1 reduced with 'black & white' effect), 1 other basal sherd with allover wh slip underside. F21/40 flat ?jar base with int glaze. Small plain evert jar rim prob early F40. Worn prob residual Mill Green jug handle stub with AO wh slip/green glaze, worn bo F20. Small worn bo light brown glaze Scarborough ware (I?) with iron-rich pelllet dec |
| 8028 | c1270-1350 | 5 | 34 | 2x fresh bos from 2 Mill Green jugs - 1 with wh slip dec under clear glaze, other with AO wh slip under green glaze. MG coarseware cpot rim. Bo F20. Small bo prob Scarborough ware |
| 8038 | c1270-1350 | 7 | 42 | Fairly small bos & bases. 2x Mill Green ware from 2 jugs with wh slip. 2x plain unglz Mill Green ?) incl sag base. 1x small sag base prob green-glazed Kingston-type ware. 1x unusually fine smooth reduc F20 greyware ?jug bo with bands of combed wavy dec (or poss a reduc unglazed MG?). 1x small coarse F20 bo, 1 x sparse shellly |
| 8042 | c1550-1580/1600 | 25 | 242 | Mosty early F40 incl rims from 2 flanged rim bowls w int glz, prob 3-4 F40 vess. 1x Frechen/Colgne stonware Bartmann jug with trace of beard & part of circular medallion with classical bust. 1x prob residual Cheam whiteware drinking with short upright rim & green glaze splashes. 2x greyware F20 incl 1 sparse shell |
| 8047 | c1475-1550 | 1 | 10 | Fresh bo early F40 with white slip dec, unglazed |
| 8053 | c1270-1350? | 25 | 108 | All bos. 2 joining fresh bos from glossy green-glazed globular ?cup or drinking jug in Tudor Green-style tradition with int & ext glaze on buff fine sandy fabric - poss Late Med Herts Glazed ware (LMHG |

| Cxt | Spot date | No. of sherds | Wt(g) | Comments |
|---|---|---|---|---|
| | | | | c1340-1450)? Or poss a Scarborough ware oddity? Remainder c1270-1350 incl 2x fresh Mill Green jug sherds with combed dec & several sherds (1 vess) unglazed with white slip. c7x F20 jar/cpot bos |
| 8058 | c1475-1550 | 1 | 1 | Small bo in Raeren stoneware - poss mug? Grey with clear salt glaze int & ext |
| 8068 | c1270-1350 | 2 | 22 | 1x small worn unglazed Mill Green ware? 1x worn larger sherd Scarborough I ware possibly from a rod handle broken longitudinally, or D-section thick applied limb or helmeted knight's head from a knight jug? |
| 8070 | c1270-1350 | 6 | 33 | Mainly Mill Green ware incl joining bos with white slip dec. 2x harder unglz (1 vess) bos MG/F40? 1x worn bo F20 |
| 8073 | c1270-1350 | 4 | 62 | Worn bo Mill Green jug with AO wh slip. 2x prob MG gritty coarseware incl sooted bo & thick sagging jar base with int greenish glaze. 1x squared pale F20 grey cpot rim from small vess |
| 8075 | c1270-1350? | 1 | 5 | Bo fine micaceous grey ware with mod coarse quartz. Poss Mill Green coarseware reduced? Sooted ext. otherwise poss Roman? |
| 8082 | c1150-1300 | 12 | 74 | 2-3 vess prob cpots in shelly-sandy ware with sparse dissolved shell like London SSW (c1140-1220) incl flanged/squared cpot rim. Some sooted |
| 8091 | c1270-1350 | 2 | 11 | Small bo Mill Green jug with wh slip & green glz - sherd has unusually large flint inclusion/flake 10mm across causing spalling. 1x bo MG coarseware sooted basal bo |
| 8094 | c1270-1350 | 4 | 14 | Small sl worn bos. Incl Mill green jug with white slip dec. Bos F21 incl jug with white slip. 1x gritty MG coarseware? |
| 8097 | c1250-1400? | 14 | 165 | Fresh, mostly. Nothing v distinctive. Prob joining sherds from sag base in F21 with int glaze & heavy int sooting. Fresh bowl/skillet rim in smooth Mill Green-like fabric with moderate rounded quartz grits & rare shell, micaceous, ext heavily sooted & rim with hint of a handle. Small bos bright orange F21 with glaze. Sl worn basal sherd shelly-sandy ware like London EMSS with row of dimples int, sooted ext |
| 8102 | c1270-1350 | 206 | 3074 | Fresh but fragmentary collection - all contemporary high medieval wares incl Mill Green glaze & dec jug sherds & bases. Mostly Fab 21 orange sandy wares incl dripping pan & unusual pad base dish/skillet profile (cf Woolwich London ware kilns), cpots, jugs. Greyware cpots & jugs. Grey shelly-sandy cpots with squared rims & unusual tubular handled greyware skillet with incised gridded pattern on top handle. 5 sh from min 2 Scarborough Phase II jugs incl 1 large highly dec with lozenge panel made of green-glz scales & thumbed base; 1x sherd from shield of Scarboro I knight jug. 1x bo small Kingston ware jar (sooted). 1x unglz flat base Saintonge ware standard jug. Several worth ILLUS for publication |
| **TOTAL** | | **515** | **7995** | |

## A.4 Ceramic building material

Cynthia Poole (OA)

*A.4.1* Ceramic building material was recovered from ditches, pits and ponds in Areas A and H, together with a small quantity from the topsoil in Area E. The assemblage is modest in size, amounting to 193 fragments (21.77kg) and uniform in character consisting entirely of mid-late medieval – early post medieval (Tudor) pieces, apart from two recent pieces of brick and roof tile (19th-20th century) from Area E.

*A.4.2* The assemblage has been recorded for archive and fabrics were briefly characterised, though no detailed descriptions have been made. The dominant fabrics were a fine sandy clay (F) and a fine clay fabric, sometimes laminated or with a grey core and with no visible inclusions (D). Fabric C was similar but contained scattered sparse coarse quartz sand. Fabric E was a laminated clay with cream streaks and small clay pellets. Fabrics B and G contained abundant medium-coarse sand, whilst B was differentiated by scattered ferruginous grits.

### Roof tile

*A.4.3* The majority of the roof tile was flat tile, and most pieces are probably derived from peg tile, though some of the thinner pieces could be from ridge tiles. A proportion, which retained evidence of the peg hole could be positively identified as peg tile. No complete tiles survived. Most measured 13-15mm thick, though they ranged from 10 to 17mm, with some tending to thicken to the edges. Two complete widths of 140 and 165mm survived. Most were fairly well finished with even surfaces and angular arrises, though minor irregularities were sometimes present and a number of finger prints were visible from handling especially around the edges. Peg holes were nearly all cylindrical or conical ranging in size from 10-16mm diameter. One partial peghole may have been square. Another peghole was unusually small measuring only 3mm diameter and must have been intended for a nail, though there is nothing in the character of the tile to suggest it was any later in date than the others.

*A.4.4* One fragment of roof tile had been roughly chipped to form a circular disc c70mm diameter. The function is unknown, though discs of this sort are usually thought to have been used as pot lids.

*A.4.5* Four fragments of glazed ridge tile were found. These were slightly thinner than the peg tiles measuring 11-13mm thick. Examples of both angular and curved profiles survived and all had evidence of a thin amber or brown glaze partly covering the surface. On one the glaze formed a broad margin adjacent to the tile end. On no fragment did the apex of the tile survive to establish whether they were crested ridge tiles. Glazed roof tiles normally date to the 13th-14th centuries. The character and finish of the peg tile is consistent with a High Medieval or Late Medieval date.

### Floor tile

*A.4.6* A single floor tile was recovered from pit 1159, associated with peg and ridge tile. It measured 26mm thick by over 75mm wide and had a plain surface patchily coated with an amber glaze and straight smooth vertical sides partly coated with glaze. There is a void in the surface, possibly where an organic inclusion burnt out, which may have resulted in making this a 'second'. There was no keying on the underside, but it has taken up the stamped pattern of an encaustic decorated tile which included part of a dotted circle. It is uncertain whether it had been accidentally stamped or whether it arose from resting on a stamped tile. It was made in a sandy

fabric of different character to the roof tile suggesting it came from a non-local source, possibly from the production centre at Penn in Buckinghamshire. It is also dated to the 13th-14th centuries, contemporary with the associated roof tile.

**Brick**

*A.4.7* The brick is all similar in character and is probably of late medieval or early post-medieval (Tudor) date. It is hand made using a wooden mould, which sometimes left striations on the sides when removed and occasionally evidence of a ridge along the base arris where clay had squeezed under the mould. The upper surface was usually well smoothed, sides flat and slightly rough or creased and the base rough, pitted or in rare instances with organic impressions of grass or turf. Two bricks from pond 8008 had indented borders 11-13mm wide on the top surface. The bricks ranged in size from 40 to 62mm thick and 100-118mm wide. A number of individual bricks varied considerably in thickness (42-46mm, 44-51mm, 47-62mm, 54-66mm) or width (106-118mm). It is possible that some were deliberately tapered for use in arches over doors or windows, though it is more likely a reflection of the standard of manufacture.

*A.4.8* Over 50% (wt) of the brick had evidence of burning, sooting or in one case thick vitrification, suggesting the brick may have been used in a fireplace, chimney or oven. One of these had a heavily worn base surface suggesting it had been reused as flooring.

**Discussion**

*A.4.9* The brick and tile forms a uniform assemblage dating between 13th and 15th or possibly 16th centuries. In general it is not heavily abraded and though no complete items survive the general condition suggests it derives from buildings in the area. The quantity suggests the ceramic building material was used in conjunction with other building materials, such as timber framed buildings with tiled roofs. The brick was possibly only used in selected areas such as ovens or fire places or areas subjected to greater wear or weathering such as doorways or quoins. The presence of the glazed ridge tile and the floor tile suggests these were used on a limited scale to display status or wealth.

## A.5 Fired Clay

Cynthia Poole (OA)

*A.5.1* Fired clay was recovered from nine contexts, the majority pit and posthole fills concentrated in Area A. The assemblage amounted to 692 fragments (9386g), of which 506 fragments (1338g) were recovered as a result of sieving, accounting for all the fired clay from five contexts. The sieved material had a mean fragment weight (MFW) of 2.6g compared to an overall MFW of 13.6g or 43.3g for the hand recovered material alone. The overall MFW is fairly typical for assemblages of fired clay, but that for the hand recovered material is unusually high and is accounted for by the well-preserved artefacts and large structural blocks from contexts 1003 and 1014. The assemblage has been fully recorded on an Excel spreadsheet and selected non-diagnostic material discarded. Fabrics were assigned to those identified at Stanford Wharf Nature Reserve (Poole 2012).

*A.5.2* Most of the fired clay was assigned to the sandy clay fabric (FC3), which utilised brickearth clays. Only two pieces and briquetage sherds were assigned to different fabrics: one was organic tempered (FC2), one contained burnt flint grit (FC4) and

the briquetage included a chaff tempered silty clay (X2) and a sandy fabric tempered with coarse burnt flint grit (X7).

**Oven and hearth structure (Bronze Age)**

*A.5.3* The largest group of oven or hearth structure came from context 1014 (cut 1012), which is likely to derive from a single broken structure. The larger blocks have one or two surfaces surviving, generally roughly moulded with both flat and curved surfaces present. Where there is a second surface this generally forms an edge at right angles, the two joining in a gently curving angle. The largest piece has two surfaces at right angles with a single small wattle impression 12mm diameter on the broken back face. The front or upper surface is pierced by a large rectangular opening with one straight vertical edge and one bevelled. This could be an opening in the wall of an oven or the kerb for a semi-enclosed structure. Firing was variable with colours ranging through cherry red, orange-brown and black at the surface, whilst the core was poorly fired to a purplish/maroon grey colour.

*A.5.4* Most other pieces interpreted as oven or hearth structure have only a single moulded surface, except for two with a small stem impression (7mm dia) on the back and one with straw impressions. It is likely that most of the non-diagnostic material derives from oven or hearth structures.

*A.5.5* A significant group of oven or hearth furniture was also recovered from context 1003 and consisted of five cylindrical drum shaped pedestals of middle Bronze Age type and an unusual conical pedestal or support, presumably of the same date. The cylindrical pedestals had straight or slightly barrel-shaped profiles with flat ends pierced by an axial perforation measuring 18- 23mm in diameter. The pedestals measured 110mm-120mm in diameter by 83mm tall. All five were very similar in character suggesting they were made as a group. The conical pedestal was nearly complete, and two additional small broken fragments with converging surfaces may derive from similar objects.

*A.5.6* The cylindrical pedestals, though traditionally regarded as loomweights, have more recently been found associated with evidence for Bronze Age pottery production at Tinney's Lane, Sherborne, Dorset (Tyler and Woodward 2012). This object type is commonly found on Bronze Age settlements and it is likely they had a generalised function as oven or hearth furniture and were not exclusive to pottery production. The association here with the conical pedestal is further confirmation of their function as oven or hearth furniture rather than loomweights. The following items were included in this group:

1. Cylindrical pedestal: 25% complete. Squat cylindrical pedestal with a flat slightly domed end and a vertical slightly concave side surface. The cylindrical to slightly oval axial perforation was placed slightly off-centre. One end is fired deep red, grading to yellowish brown elsewhere. Diameter: c 120mm; height: >67mm; weight: 271g; perforation diameter: 25mm. Fabric: FC3. Date: MBA. Context: 1003.

2. Cylindrical pedestal: 50% complete. Squat cylindrical MBA pedestal with flat ends and convex curving sides forming barrel shaped profile. Roughly central axial cylindrical perforation. Diameter: 115mm; height: 80mm; weight: 596g; perforation diameter: 23mm. Fabric: FC3. Date: MBA. Context: 1003.

3. Cylindrical pedestal: 25% complete. Squat cylindrical MBA pedestal with flat even end and vertical slightly concave curving side surface. Cylindrical-oval axial perforation appears to be slightly off-centre. One end is fired deep red grading to

yellowish brown around the sides.Diameter: 110mm; height: >57mm; weight: 336g; perforation diameter: 18mm. Fabric: FC3. Date: MBA. Context: 1003.

4. Cylindrical pedestal: <20% complete. Partial fragment of cylindrical pedestal. Relatively little of the external moulded surface survives. Central axial cylindrical perforation. Diameter: 110mm; height: >55mm; weight: 186g; perforation diameter: 18mm. Fabric: FC3. Date: MBA. Context: 1003.

5. Cylindrical pedestal: 50% complete. Squat cylindrical MBA pedestal with flat ends and convex curving sides forming barrel shaped profile. Roughly central cylindrical axial perforation. Diameter: 83mm; height: 115mm; weight: 560g; perforation diameter: 21mm. Fabric: FC3. Date: MBA. Context: 1003.

6. Conical pedestal: 95% complete, probably surviving to within a few millimetres of its full height. This piece had a flat base that had been pressed onto a smooth surface sprinkled with chaff, leaving chaff impressions in the surface, and it had fired orange-red. From the oval base the clay had been drawn up and moulded to a conical knob with finger mark depressions and hollows in the surface. The upper part was asymmetrically placed, so the foot splayed out more towards one end. The top was broken, but part of the sides was starting to curve in suggesting little was missing. Base: length 84mm; width: 62mm. Top: length38mm, width: 32mm; height: c 54mm; weight: 165g; perforation diameter: mm. Fabric: FC3. Date: MBA. Context: 1003.

*A.5.7* A group of fired clay from context 1029, recovered entirely by sieving, comprised a variety of hand-moulded items associated with one of the briquetage sherds. These include fragments of flat plaques or possibly oven lining, a hand squeezed lump and two small props or pedestals. The general character of these pieces is similar to the furniture commonly associated with salt working, made by pressing the soft unfired clay into place as needed to stabilise containers and fired during the evaporation or drying process. Although they are not diagnostic in terms of date, the fabrics suggest that they are more likely to be of late Bronze Age - Iron Age date, rather than Roman. The following items were included in this group:

7. Hand squeezed lump: c 80% complete. This had one fairly flat surface burnt or fired black and probably forming the base. The opposite side was rounded and drawn up into a rounded knob. Though generally orange brown in colour, it had areas of cherry red mottles, which may indicate an association with salt working or the use of salt marsh clays in the fabric. The sandy fabric contained small burnt red flint grit 1-3mm. The addition of burnt flint grit to fired clay fabrics is more common in the late Bronze Age, though not exclusive to this period. Length: >50 mm; width: 47mm; height: 40mm; weight: 58g. Fabric: FC4. Date: ~. Context: 1029.

8. Prop/support: 100% complete. Small triangular moulded lump with flat base, fired grey and a roughly moulded top. This probably represents some sort of wedge or prop. The fabric is orange – greyish brown fine sandy clay with chaff inclusions. Length: 38mm; width: 22mm; height: 27mm; weight: 18g. Fabric: FC2. Date: ~. Context: 1029.

9. Prop/support: 100% complete. Roughly pyramidal shaped object with narrow sub-square top into which something has been pressed to form a shallow flat recess with straight side. Possibly a pinch prop or support for briquetage vessel. Length: 25-40mm; width: 25-35mm; height: 26mm; weight: 14g. Fabric: FC3. Date: ~. Context: 1194.

10. Plaque: two flat fragments with roughly moulded surface. Possibly part of a flat plaque or pieces of oven lining. Thickness: 10-13mm; weight: 21g. Fabric: FC3. Date: ~. Context: 1029.

**Briquetage**

*A.5.8* Two sherds of briquetage were recovered from contexts 1029 and 1035. The following items were included in this group:

9. Small flat sherd in a silty chaff tempered fabric.Wall thickness: 5mm; weight: 2g Fabric: X2. Date: ~. Context: 1029.

10. This sherd came from the lower wall including part of the base angle of a circular flared vessel. The reddish orange colour and lack of white salt glaze or other salt colours suggests it is part of salt mould rather than an evaporating vessel. Flint tempered briquetage was not found at Stanford Wharf Nature Reserve (Poole 2012) suggesting this is of an earlier date possibly of late Bronze Age or early Iron Age when flint tempered ceramics and fired clay are more common. Diameter of base: c 200mm; height: >27mm; wall thickness: 7-10mm; weight: 11g. Fabric: X7. Date: ?LBA-EIA. Context: 1035.

## A.6 Worked Stone

Ruth Shaffrey (OA)

*A.6.1* A total of 19 pieces of stone were retained during the excavation out of which seven were artefact fragments and the remainder were unworked.

*A.6.2* As the assemblage was so small it has been fully recorded. Unworked and un-utilised stone was not recorded and can be discarded. Other stones were examined with the aid of a x10 magnification hand lens where required for identification.

*A.6.3* Two whetstones of a very pale grey schist were recovered from contexts 1160 (3 adjoining fragments) and 8102. These are probably a very pale Norwegian Rag and are typically medieval in date. Two adjoining fragments of a lava rotary quern were found in 1006 – the centre does not survive so not much can be said about its form. Two other pieces of stone comprise a sandstone block (1097) and a limestone slab (1006). Neither of these retain tool marks or definite evidence of working, but both seem likely to have been used structurally, the slab possibly in a floor. The slab is of a strikingly white crystalline limestone, which was almost certainly imported, possibly from the continent.

*Table 6: Worked stone catalogue*

| Cxt | No. of sherds | Description | Notes | Size | Lithology | Area/ pot context spot date |
|---|---|---|---|---|---|---|
| 1160 | 3 | Whetstone | three adjoining fragments, two fractured along bedding and one at the end. Fatter at one end and narrower in the middle | Measures 135 x 23 x 25mm | Schist, very pale grey | Area A - 13th-14th century |
| 1097 | 1 | Block | No obvious tooling but appears to be a block suitable for building | Measures 150 x 95 x 82 | Fine grained pale greyish red slightly micaceous sandstone | Area A - None |
| 1006 | 1 | slab | Not obviously worked or shaped. Naturally flat slab but of very pure white limestone, possibly flooring> | Measures 98 x 84 x 25 | white crystalline limestone or marble | Area A -13th-14th century |
| 1006 | 1 | Rotary quern, probably upper | Disc type with flat roughly worked base and slightly concave pecked grinding surface. Vertical straight edges though a bit damaged. Centre is missing | Measures 32mm thick x approx 450mm diameter | Lava | Area A - 13th-14th century |
| 8102 | 1 | Whetstone | could be raw material that has been used - not perfectly finished all over | Measures 102 x 35 x 30 | Schist, very pale grey | Area H -13th-14th century |

## A.7 Metal finds

Ian R Scott (OA)

*A.7.1* The metal finds assemblage comprises 25 objects (28 fragments) including 3 copper alloy objects (5 fragments) and 1 lead object (1 fragment). The ironwork is for the most part heavily encrusted and some objects have only been provisionally identified. Radiographs of the ironwork will be required for more detailed identification and further analysis. One object in particular, a clump of ironwork from context 8013, will require a radiograph to establish what objects have become fused together.

*A.7.2* The metal finds have been recorded onto a database. In most instances finds have been measured if appropriate.

*A.7.3* The assemblage is small and comprises mainly nails and structural items included clench nails and roves, and a number of miscellaneous pieces of metalwork. Other items include 3 pieces possibly from two different horseshoes (context 1009) of late medieval or early post medieval date, and a side bar from an 18th-century snaffle bit (context 8010). The only personal item is an incomplete dress or sewing pin in three pieces (context 8010). This is a drawn wire pin with a wire wound head and dates to the late medieval or early post medieval period. There is a copper alloy washer (context 1006) which may have been machine cut. There is a copper alloy ring (context 1160, SF 1002) which cannot be closely dated. It has signs of thinning of the hoop through wear.

*A.7.4* Apart from the pin and the horseshoe fragments and snaffle bit side bar, the finds cannot be dated typologically. As a whole the assemblage is of limited interest, However the ironwork should be sent for radiography to allow confirm the provisional identifications or to facilitate closer identification.

*Table 7: Summary quantification of metal finds by context and function (object and fragment counts)*

| Context | | Function | | | | | | Totals |
|---|---|---|---|---|---|---|---|---|
| | | Transport | Personal | Structural | Nails | Misc | Query | |
| 1001 | Count | | | 1 | | | | 1 |
| | Fragts | | | 1 | | | | 1 |
| 1006 | Count | | | 1 | 0 | 2 | | 3 |
| | Fragts | | | 1 | 0 | 2 | | 3 |
| 1009 | Count | 2 | | | | | | 2 |
| | Fragts | 3 | | | | | | 3 |
| 1149 | Count | | | | | 1 | | 1 |
| | Fragts | | | | | 1 | | 1 |
| 1156 | Count | | | | | 1 | | 1 |
| | Fragts | | | | | 1 | | 1 |
| 1160 | Count | | | | | 1 | | 1 |
| | Fragts | | | | | 1 | | 1 |
| 1166 | Count | | | | | | 1 | 1 |
| | Fragts | | | | | | 1 | 1 |
| 8001 | Count | | | | | | 1 | 1 |
| | Fragts | | | | | | 1 | 1 |
| 8010 | Count | 1 | 1 | 3 | 2 | | 1 | 8 |
| | Fragts | 1 | 3 | 3 | 2 | | 1 | 10 |
| 8013 | Count | | | | 1 | | 1 | 2 |
| | Fragts | | | | 1 | | 1 | 2 |
| 8024 | Count | | | | 2 | | | 2 |
| | Fragts | | | | 2 | | | 2 |
| 8070 | Count | | | | 1 | | | 1 |
| | Fragts | | | | 1 | | | 1 |
| 8102 | Count | | | 1 | | | | 1 |
| | Fragts | | | 1 | | | | 1 |
| **Total** | **Count** | **3** | **1** | **6** | **6** | **5** | **4** | **25** |

| Context | | Function | | | | | | Totals |
|---|---|---|---|---|---|---|---|---|
| | | Transport | Personal | Structural | Nails | Misc | Query | |
| **Total** | **Fragts** | **4** | **3** | **6** | **6** | **5** | **4** | **28** |

## A.8 Glass

Ian R Scott (OA)

*A.8.1* A single small piece of vessel glass comprising a thin-walled body sherd in olive green metal was recovered from context 1006. The sherd is undiagnostic in form. It is too thin-walled to be a sherd from a wine bottle.

# APPENDIX C - ENVIRONMENTAL REPORTS

## A.9 Animal bone

Lena Strid (OA)

*A.9.1* The faunal remains from excavation Areas A and H mainly derived from the medieval/post-medieval period. A single middle Bronze Age pit deposit from Area A included five antler fragments from red deer. Excluding a cattle burial from Area H, a total of 518 bones were retrieved. The bone condition was good to fair, suggesting the bones had not been lying on the surface for long periods of time before being disposed of. Only 6 fragments showed carnivore gnaw marks, probably from dog.

### Area A

*A.9.2* The animal bone assemblage from Area A is dominated by bones from cattle and horse (Table 8). Sheep/goat and red deer are the only other identifiable animals. Judging by bone surface structure and epiphyseal fusion, most animals were adults or sub-adults. One humerus from a juvenile cattle or horse was found in a post-medieval pond in Area A (1005). Butchery marks were absent. Pathologies comprised fusion of two cattle tarsal bones from pit (1159), possibly a sign of degenerative joint disease or muscle strain.

*Table 8: Bones per taxon and feature in Area A*

| | **Pit** | **Pond** | **Post hole** | **Ditch** | **Ditch** | **Hollow** | **Pit** | **Ditch** | **Ditch** | **Pit** | **Ditch** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **1004** | **1005** | **1024** | **1049** | **1081** | **1146** | **1159** | **1163** | **1184** | **1188** | **1195** |
| **Cattle** | | | | 1 | 8 | 2 | 2 | | 1 | | |
| **Sheep/goat** | | 1 | | | | | 1 | | | | |
| **Horse** | | | | | 14 | | 1 | 1 | | | |
| **Red deer** | 5 | | | | | | | | | | |
| **Medium mammal** | | | | | | | 1 | | | | |
| **Large mammal** | | 3 | | | 7 | 1 | 2 | 1 | | | 1 |
| **Indeterminate** | | 2 | 1 | | 77 | 3 | | | | 5 | |
| | | | | | | | | | | | |
| **TOTAL** | 5 | 6 | 1 | 1 | 106 | 6 | 7 | 2 | 1 | 5 | 1 |
| **Weight (g)** | 15 | 52 | 0 | 186 | 2442 | 170 | 143 | 164 | 2 | 7 | 34 |

### Area H

*A.9.3* Apart from the common domestics, cattle, sheep/goat, pig and horse, the animal bone assemblage from Area H also includes owl, woodmouse and frog (Table 9). The owl bones may later be identified to species with the help of an extensive reference collection. Bone surface structure and epiphyseal fusion suggest that most, if not all animals were adults or sub-adults. Bones from juveniles were absent from the assemblage. Cut marks proximally on a cattle metacarpal from pond (8008) suggest skinning or disarticulation of the joint. This bone also had large exostoses laterally on the proximal part of the shaft. The aetiology is unclear, but may be connected to muscle strain. The only other bone with pathologies was an owl ulna from the same feature, which had fractured mid-shaft. A callus had formed, indicating that the bone was healing when the animal died. Restricted flight ability may have made survival difficult.

*Table 9: Bones per taxon and feature in Area H*

| | **Pond** | **Pond** | **Pit** | **Pit** | **Ditch** | **Pit** | **Pit** | **Ditch** | **Hollow** |
|---|---|---|---|---|---|---|---|---|---|
| | **8008** | **8015** | **8018** | **8023** | **8027** | **8030** | **8039** | **8041** | **8101** |
| Cattle | 2 | 1 | 223* | | 1 | | | | 2 |
| Sheep/goat | 2 | | | | | | | 1 | |
| Pig | | | 2 | 1 | | | | | |
| Horse | | | 1 | | | | | | |
| Owl | 3 | | | | | | | | |
| Woodmouse | | | 1 | | | | | | |
| Frog | | | 2 | | | | | | |
| Medium mammal | | 2 | | 1 | | | | 1 | 1 |
| Large mammal | 1 | 1 | 36 | 1 | | | | | 2 |
| Indeterminate | 4 | 1 | 252 | | | 31 | 11 | 2 | 4 |
| | | | | | | | | | |
| **TOTAL** | **12** | **5** | **517** | **3** | **1** | **31** | **11** | **4** | **9** |
| **Weight (g)** | **311** | **318** | **14504** | **50** | **20** | **27** | **0** | **32** | **138** |

* incl. 218 bones from an articulated cattle skeleton.

### Cattle Burial

*A.9.4* Pit (8018) contained the almost complete skeleton of a sub-adult male cattle. The distal epiphyses on the tibia were fusing, suggesting an age at death of 2-2.5 years (Table 10). This is consistent with the dental wear analysis, which gives an estimated age at death of 30-36 months (Table 11). The bones were in a very good condition. Neither butchery marks nor pathologies could be observed, suggesting that the animal had died of natural causes and the carcass had been dumped in the pit without any recovery of hide or meat.

*Table 10: State of epiphyseal fusion of articulated cattle skeleton. Fusion age according to Habermehl (1975, 104-105).*

| Element | Fusion age | Unfused | Fusing | Fused |
|---|---|---|---|---|
| Acetabulum | 7-10 months | | | x |
| Scapula | 7-10 months | | | x |
| Radius (px) | 12-15 months | | | x |
| Humerus (di) | 15-20 months | | | x |
| Phalanx 2 | 15-18 months | | | x |
| Phalanx 1 | 20-24 months | | | x |
| Metacarpal (di) | 2-2.5 years | x | | |
| Metatarsal (di) | 2-2.5 years | x | | |
| Tibia (di) | 2-2.5 years | | x | |
| Calcaneus | 3 years | x | | |
| Femur (px) | 3.5 years | x | | |
| Humerus (px) | 3.5-4 years | x | | |
| Radius (di) | 3.5-4 years | x | | |
| Ulna (px) | 3.5-4 years | x | | |
| Ulna (di) | 3.5-4 years | x | | |
| Femur (di) | 3.5-4 years | x | | |
| Tibia (px) | 3.5-4 years | x | | |

*Table 11:. Dental wear stages of articulated cattle skeleton, using Grant's (1982) tooth wear stages. Estimated age according to Halstead (1985).*

| | Tooth wear stages | | | | Estimated age |
|---|---|---|---|---|---|
| | dp4 | M1 | M2 | M3 | |
| Left | k | j | f | b | 30-36 months |
| Right | k | j | g | b | 30-36 months |

## A.10 Burnt bone

Mark Gibson (OA)

### Introduction

*A.10.1* An assemblage comprising two small, widely separated deposits of burnt bone was submitted for assessment, neither of which is certainly human.

*A.10.2* Deposit 1003 was unurned and recovered from a pit in Area A containing an assemblage of fired clay objects (probably hearth furniture) and the remains of a Deverel-Rimbury bucket urn of middle Bronze Age date. It is not clear whether the deposit is a funerary one.

*A.10.3* The second deposit (8032) was unurned and was recovered from a shallow pit or post-hole (8030) in Area H, which produced no other artefacts and is currently undated.

### Methodology

*A.10.4* The whole of deposit 1003 was recovered from a soil sample (100) which derived from the pit fill surrounding the pottery and fired clay fragments. Wet-sieving was undertaken by passing the material through varying sieve sizes, which sorted the cremated bone into groups comprising fragments that were >10mm, 10-4mm and 4-2mm in size. Sieving the samples in this way allows the degree of fragmentation to be explored.

*A.10.5* The larger bone fragments from cremation deposit 8032 were separated by hand during excavation in the field. The pit fill was 100% sampled (sample no. 120) and was subjected to wet sieving in order to recover the smaller cremated bone fragments.

*A.10.6* The potential of the deposits for full analysis was assessed by following the guidelines set out by Mays *et al* (2004). This involved recording the deposit weights (in grams) and, based on macroscopic examination, analysis of fragment sizes and colour. 'Potential for full analysis' refers to the level of information that may be gained from detailed examination of the deposits (for example, whether it is redeposited pyre debris or a cremation burial). Information may be gained about aspects of the funerary rite (for example, whether certain elements were selected for burial), and will allow the estimation of biological parameters (i.e. minimum number of individuals represented, age and sex) and evaluation of the health status of the population through the identification of pathological conditions. Thus, highly fragmented deposits containing limited diagnostic elements are considered to be of low potential, whereas deposits containing frequent diagnostic elements are considered to be of high potential.

### Results

*A.10.7* The results of the assessment are presented in Table 12. Deposit 8032 was by far the largest deposit, with 209.9g of bone. This deposit had a reasonable percentage of fragments that were over 10mm in size, but only one fragment had the potential to be human bone. The remainder lacked any diagnostic features. This severely limits the potential for this deposit to yield information on MNI, age, sex or pathology. The potential of deposit 8032 is therefore low.

*A.10.8* Deposit 1003 had much lower bone weights. It comprised only 33.6g of bone, with only a single fragment greater than 10mm in size. Most fragments were 10-4mm in size, though the 4-2mm fragments were also numerous. No identifiable fragments were recovered from this deposit and no features which could confirm it as being human were observed. This deposit is judged to have low potential for further analysis.

*A.10.9* The remains from both contexts were buff white in colour, which indicates that intense combustion of all the organic components of the bone had taken place. However, this was not uniform as the deposits also contained a very small number of black and blue-grey, fragments. The colour of burnt bone can vary depending on numerous factors such as the quality of fuel, favourable weather conditions and the quality of the pyre/fire construction.

*Table 12: Results of the assessment of cremated bone*

| Context | Colour of bone | Total weight of bone | Degree of fragmentation | Deposit type | Comments and potential for full analysis |
|---|---|---|---|---|---|
| 1003 | Buff white, few light blue and black frags | 33.6 g | Majority of bone is 10-4 mm, with numerous fragments 4-2mm. A single fragment was >10mm Max. frag. size 16mm | ? | No landmarks identified to confirm if bone is human or animal. Low potential |
| 8032 | Mostly buff white, few black frags | 209.9 g | Bone mostly 10-4mm or 4-2 mm, some >10mm. Max frag size 37mm | Unurned burnt bone deposit within pit. | Some identifiable fragments as long bone or cranial vault. Some identified as animal bone, one frag potentially human fibula. No landmarks identified to confirm if its human or animal. Low potential |

*A.10.10* In conclusion, deposit 1003 contained no identifiable fragments at all and could be animal or human. The middle Bronze Age pit from which it was recovered (1004) contained no clear evidence for a funerary function.

*A.10.11* Deposit 8032 may derive from a human cremation burial or pyre deposit, but little else can be said about it in the absence of more identifiable fragments. It is undated as no other artefacts were recovered from pit 8030.

*A.10.12* Both deposits have low potential for full analysis and no further work is proposed.

## A.11 Environmental samples

By Julia Meen

### Introduction

*A.11.1* Twenty-four environmental bulk samples were taken for the recovery of charred plant remains and artefacts during excavations on the London Gateway Access Road (COARD12) during late 2012. These samples were taken from groupings of postholes dated to the middle Bronze to Iron Age, and also from a medieval pit. Further samples were taken from features associated with an Iron Age pit/posthole cluster, for recovery of material for radiocarbon dating to demonstrate whether or not they are contemporary. The purpose of this report is to assess the range of environmental material recovered from each sample and their potential for further interpretation.

### Methodology

*A.11.2* Each sample was processed by water flotation using a modified Siraf style flotation machine. The flots were collected on 250µm meshes and the heavy residues were sieved to 500µm and dried in a heated room, after which the residues were sorted by eye for artefacts and ecofactual remains. The dried flots were scanned for plant remains using a binocular microscope at approximately x15 magnification and identifications made with reference to published guides and the comparative seed collection held at OAS, and with guidance from Shelia Boardman. Plant nomenclature follows Stace (2010).

### Results

*A.11.3* Sample <100> was taken from context (1003) of pit [1004], a feature which also contained a middle Bronze Age bucket urn. The sediment was a mixture of yellowish brown (10YR 5/4) and dark greyish brown (10YR 4/2) sandy silt loam. Twenty litres of sediment was processed, producing a flot of 40ml in volume, of which 100% was scanned. The flot contained abundant modern root and straw, as well as modern seeds. A small number of modern snails were also present. Charcoal was present, although mostly as small fragments, with a low number (<25) greater than 4mm in size. One small indeterminate cereal grain was noted, although this was in a poor state of preservation. No other charred seeds or cereal material was noted.

*A.11.4* Sample <101> was taken from context (5004) of pit [5003], dated on the basis of associated pottery to the late Bronze Age or Iron Age. The sediment was a yellowish brown (10YR 5/6) silt loam. Eight litres of sediment was processed, producing a flot of 35ml, of which 100% was scanned. The flot was composed almost entirely of fragmented charcoal, with occasional modern intrusions (roots and seeds). The charcoal was mostly small in size, with few (<25) items greater than 4mm.

*A.11.5* Sample <102> was taken from context (1020), a fill of posthole [1018]. Although it contained no dating evidence within its fill, the posthole formed part of a pit/posthole cluster confirmed as prehistoric in date, and is thought to be contemporary. The sediment was a yellowish brown (10YR 5/4) clay with flint pebbles. Ten litres was processed, producing a flot of 10ml, of which 100% was scanned. Abundant modern root was present. Charcoal was mostly fragmentary, with a low number of pieces greater than 4mm in size. Occasional (<25) glume bases of wheat (*Triticum* sp.) were present, as well as rare, poorly preserved indeterminate cereal grain, and

a single occurrence of oat or brome grass (*Avena/Bromus* sp.). The weed seed assemblage was limited to a fragment of a legume (*Fabaeceae*) and one other charred seed. Two detached embryos were also noted.

*A.11.6* Sample <103> was taken from context (1023), a fill of posthole [1021], dated to the Iron Age. The sediment was a yellowish brown (10YR 5/4) clay loam. Ten litres were processed, producing a flot of 25ml, of which 100% was scanned. Modern root was frequent, and although charcoal was frequent, only a small percentage was greater than 4mm in size. A small number (<25 items) of weed seeds was present, including a small grass, a seed of Chenopodium type, a Polygonaeceae, and a small legume. A fragment of oat (*Avena* sp.) awn and several glume bases of wheat were also noted, as well as an indeterminate cereal grain.

*A.11.7* Sample <104> was taken from context (1026), the fill of posthole [1024], dated to the Iron Age. The sediment was a yellowish brown (10YR 5/6) clay loam. Ten litres were processed, producing a flot of 15ml, of which 100% was scanned. A small number of indeterminate cereal grains, together with occasional wheat glume bases, were present, as well as a single charred example of Prunus cf spinosa (blackthorn: sloe stone). Charcoal was present but was mostly fragmentary, with very little greater than 4mm in size. Modern root also occurred frequently in the sample.

*A.11.8* Sample <105> was taken from context (1029), a fill of posthole [1027], dated to the Iron Age. The sediment was a yellowish brown (10YR 5/4) clay loam. Ten litres of sediment were processed, producing a flot of 50ml, of which 100% was scanned. The flot, besides frequent modern root, consisted almost entirely of charcoal, with abundant items large enough to be potentially identifiable. One seed of dock (*Rumex* sp.) and one belonging to the Cyperaceae family were also present.

*A.11.9* Sample <106> was taken from context (1032), a fill of posthole [1030]. The feature was undated but is associated with the area of prehistoric activity. The sediment was a yellowish brown (10YR 5/4) clay loam with flint pebbles. Ten litres was processed, producing a flot of 30ml, of which 100% was scanned. The flot contained abundant modern root, and mostly fragmentary charcoal, with only a low number of items greater than 4mm in size. Two poorly preserved cereal grains, one of which could be identified as wheat, were present, as well as rare wheat glume bases. Charred seeds consisted of three of Chenopodium type, a small grass, and a small legume.

*A.11.10* Sample <107> was taken from context (1035), a fill of posthole [1033]. The feature was undated but is associated with the area of prehistoric activity. The sediment was a yellowish brown (10YR 5/4) clay loam with occasional flint pebbles and10L was processed, producing a flot of 15ml, of which 100% was scanned. The flot was dominated by modern root, with some fragmentary charcoal, very little of which was potentially identifiable. There were also occasional seeds of Chenopodium type, possibly modern.

*A.11.11* Sample <108> was taken from context (1014), a fill of posthole [1012]. The feature was undated but is associated with the area of prehistoric activity. The sediment was a yellowish brown (10YR 5/6) clayey silt and 10L was processed, producing a flot of 20ml, of which 100% was scanned. Modern root was frequent in the sample, with charcoal present but mostly fragmentary. A low number of cereal grains was observed, two of which are identifiable as wheat (*Triticum* sp.).

*A.11.12* Sample <109> was taken from context (1016), from tree throw [1017]. The feature was undated but is associated with the area of prehistoric activity. The sediment

was a yellowish brown (10YR 5/4) clay loam with abundant flint pebbles and 20L were processed, producing a flot of 10ml, 100% of which was scanned. The flot was mostly composed of modern roots and seeds, with charcoal limited to unidentifiable small flecks. One poorly preserved indeterminate cereal grain and a seed of ivy-leaved speedwell (*Veronica hederifolia*) were present, although the latter may be a modern intrusion.

*A.11.13* Sample <110> was taken from context (1043), a fill of posthole [1042]. The feature was undated but is associated with the area of prehistoric activity. The sediment was a yellowish brown (10YR 5/6) silty clay. Five litres was processed, producing a flot of 20ml, 100% of which was scanned. The flot was almost entirely composed of modern root, with charcoal low in quantity and small in diameter.

*A.11.14* Sample <111> was taken from context (1046), a fill of posthole [1044], dated to the Iron Age. The sediment was a brown (10YR 5/3) clay loam and 10L were processed, producing a flot of 150ml, 100% of which was scanned. The flot was almost entirely composed of charcoal, with abundant items of a potentially identifiable size. A small quantity of modern root and rare wheat glume bases were also noted.

*A.11.15* Sample <112> was taken from context (1048), a fill of posthole [1047]. The feature was undated but is associated with the area of prehistoric activity. The sediment was a yellowish brown (10YR 5/4) silty clay and 5L were processed, producing a flot of 15ml, of which 100% was scanned. The flot was composed of modern root, sand and charcoal flecks, with occasional potentially modern Chenopodium type seeds.

*A.11.16* Sample <113> was taken from context (1086), a fill of pit [1085]. The feature was undated but is associated with the area of prehistoric activity. The sediment was a brown (10YR 5/3) slightly clayey silt, with few inclusions and 10L were processed, producing a flot of 10ml, of which 100% was scanned. The flot was mostly composed of modern root and sand, with occasional Chenopodium type seeds, again potentially modern. Charcoal was present, but rarely of a size likely to be identifiable.

*A.11.17* Sample <114> was taken from context (1088), a fill of pit [1087], dated to the Iron Age. The sediment was a yellowish brown (10YR 5/4) slightly clayey silt, with occasional flint inclusions. Nine litres were processed, producing a flot of 50ml, 50% of which was scanned. The flot was mostly made up of charcoal, much of which was fragmentary, although a significant quantity (25-50 items) were greater than 4mm in size. Rare grains of indeterminate cereal grain and a single example of bedstraw (*Galium* sp.) were also present.

*A.11.18* Sample <115> was taken from context (1092), a fill of pit [1091]. The feature was undated but is associated with the area of medieval activity in Area A. The sediment was a brown (7.5 YR 5/4) slightly clayey silt and 10L were processed, producing a flot of 20ml, of which 100% was scanned. Abundant modern root was present. Charcoal was mostly fragmentary, with very few items of a size likely to be identifiable. The flot was otherwise fairly poor in terms of charred material, with a small fragment of indeterminate cereal grain, two fragments of root, and a single seed of bedstraw (*Galium* sp.).

*A.11.19* Sample <116> was taken from context (2010), a fill of pit [2009], dated to the late Bronze Age or early Iron Age. The sediment was a yellowish brown (10YR 5/4) clay loam with flint pebbles. Fourteen litres were processed, producing a flot of 5ml, of which 100% was scanned and proved to be was very poor, being mostly composed

of modern roots and insects and small charcoal flecks. However, a reasonable quantity (>25 items) of charcoal were recovered from the greater than 4mm heavy residue fractions.

*A.11.20* Sample <117> was taken from context (2018), a fill of pit [2017]. The feature was undated but is associated with the area of prehistoric activity. The sediment was a dark greyish brown (10YR 4/2) gravelly loam and 27L were processed, producing a flot of 20ml, of which 100% was scanned. Much of the flot was composed of powdery charcoal, with a low number of items potentially identifiable. However, the lack of larger charcoal items having floated appears to be due to the encrustation of the charcoal with iron from the surrounding soil, and a large number (>100) of these bigger, heavier pieces were recovered from the residues. A reasonable number (25-50) of cereal grains were also present, although they were mostly in a fairly poor state of preservation. Both wheat and possibly barley (*Hordeum* sp.) were noted, with the remainder indeterminate. A low number of small charred weed seeds were observed, including stinking chamomile ( cf. *Anthemis cotula*) and a fragment of a *Caryophyllaceae*. Rare glume bases of wheat were present.

*A.11.21* Sample <118> was taken from context (1194), a fill of posthole [1182]. The feature was undated but is associated with the area of medieval activity. The sediment was a brown (10YR 5/3) clay loam and 5L were processed, producing a flot of 225ml, approximately 50% of which was scanned. Only charcoal was observed in this sample, with abundant items potentially identifiable, although many were encrusted with iron.

*A.11.22* Sample <119> was taken from context (8019), a fill surrounding calf burial (8020) in cut [8018]. The feature is associated with the area of medieval activity in Area H. The sediment was a yellowish brown (10YR 5/6) silty clay loam. The 40L sample produced a flot of 25ml, of which 100% was scanned. Modern root, invertebrates and chaff were common, indicating that material from a recent ploughing had been worked into the deposit. Snails were common, although these may again be modern intrusions. Charred material was limited to small charcoal flecks.

*A.11.23* Sample <120> was taken from (8032), a fill of pit [8030]. The feature was undated but is associated with an area of medieval activity in Area H. The sediment was a dark greyish brown (2.5Y 4/2) clay loam with frequent burnt bone. This context was identified in the field as a possible cremation. The 10L sample was fully processed, producing a flot 100ml in volume, of which approximately 50% was scanned. The flot was almost entirely composed of charcoal, with frequent items greater than 4mm in size. A charred seed of dock and a half seed of bedstraw were also noted. The burnt bone is assessed in Appendix C, A.8. No definite human bone was identified.

*A.11.24* Sample <121> was taken from context (8040), the fill of pit [8039], thought in the field to be a possible cremation. The feature was undated but lies in an area of predominantly medieval activity in Area H. The sediment was a brown (7.5YR 5/4) clay loam with a small quantity of burnt bone and the entire 4L were processed, producing a flot of 50ml, of which 100% was scanned. The flot was almost entirely composed of charcoal, of which the majority was powdery or splintered, with a relatively low percentage potentially identifiable. Three charred weed seeds were noted. A small amount of animal bone was recovered, but no human remains, which suggests that it is not a cremation burial.

*A.11.25* Sample <122> was taken from context (8094), a burning layer within pit [8092], dated on the basis of associated pottery to c 1270-1350. The sediment was a yellowish brown (10Y 5/4) clay loam and only 2L in volume. The sample produced a

flot of 5ml, of which 100% was scanned and proved to be mainly composed of modern roots and charcoal. However, a number of small charred Asteracaeae seeds were noted, cf. *Anthemis/Matricaria/Tripleurospermum* type, as well as a probable ribwort plantain (Plantago lanceolata) and a small number of other types. Occasional indeterminate cereal grains and a single example each of wheat and oat/brome grass were also noted.

*A.11.26* Sample <123> was taken from context (8089), the top fill of ditch [8087], dated to the middle or late Bronze Age to early Iron Age. The sediment was an olive brown (2.5Y 4/3) clay loam. The entire 7L were processed, producing a flot of 15ml, of which 100% was scanned. The flot contained abundant modern root as well as sand, and although charcoal was present, very little is likely to be of identifiable size. A small number of poorly preserved, indeterminate cereal grains and rare wheat glume bases were present. Occasional weed seeds were noted, mostly of small legumes.

**Discussion**

*A.11.27* Cereal grains occurred in a number of the prehistoric samples. These were for the most part too poorly preserved to allow identification. However, occasional examples were identified as wheat, and occasional wheat glume bases confirm that a species of *Triticum* was present in the environs, perhaps supplemented by the barley hinted at by a single, unconfirmed grain from undated context (2018). This low concentration of cereal grain most likely represents background material, and it is difficult to make inferences about the storage or processing of crops at the site based on this slight evidence. It is unfortunate that many of the suspected prehistoric features as yet do not have secure dating, especially as few of the currently dated features produced any material of interpretable value. The exception may be the sample from context (8089), potentially middle Bronze Age and therefore one of the oldest samples from the site, which produced a small number of both cereal grain and weed seeds.

*A.11.28* The weed seeds in the prehistoric samples were limited in range and number, and those present tended to be robust species more likely to survive post-depositional processes, reflecting the poor overall preservation of the assemblages. They provide little evidence of the surrounding environment, although the occurrence of stinking chamomile (as provisionally identified in context 2018) is usually taken to be indicative of arable cultivation, and in particular, the cultivation of heavier soils following the development of plough technology in the Roman period. Analysis of assemblages from nearby Stanford Wharf Nature Reserve suggest that the local environment contained a variety of vegetation zones in close proximity to one another, including arable and pasture land, waste ground, shingle beach and peat bog (Hunter 2012).

*A.11.29* The single medieval sample, from context (8094), produced only a very small amount of material, although this is in part due to the small sample size (2L). Nevertheless, the sample contained several types of charred weed seed and evidence of cereal utilisation of at least one cereal type.

*A.11.30* Many of the samples contained modern intrusions, particularly of roots, seeds, insects and burrowing snails. The cattle burial showed evidence of material from recent ploughing being worked into the context.

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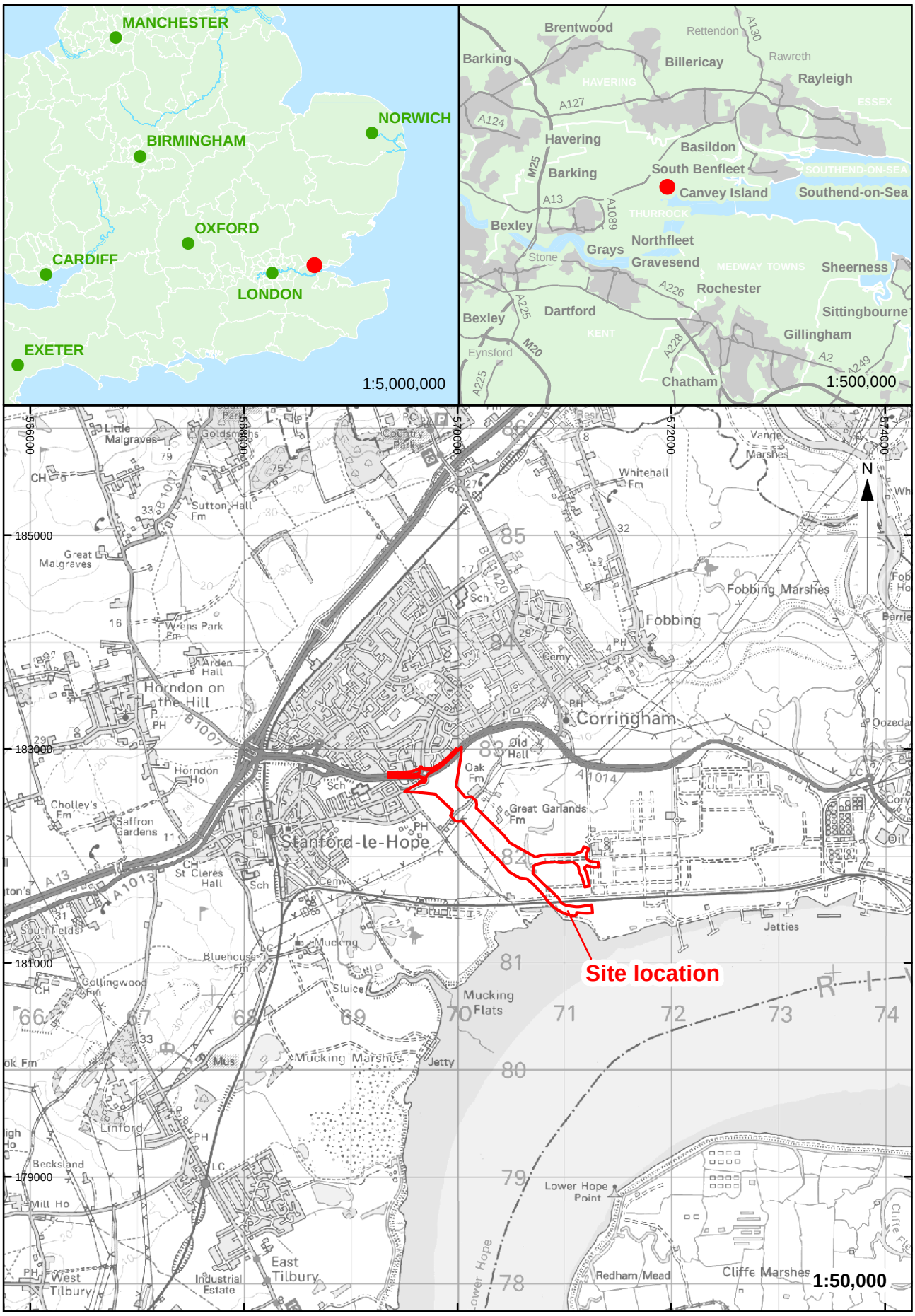




Figure 1: Site location map

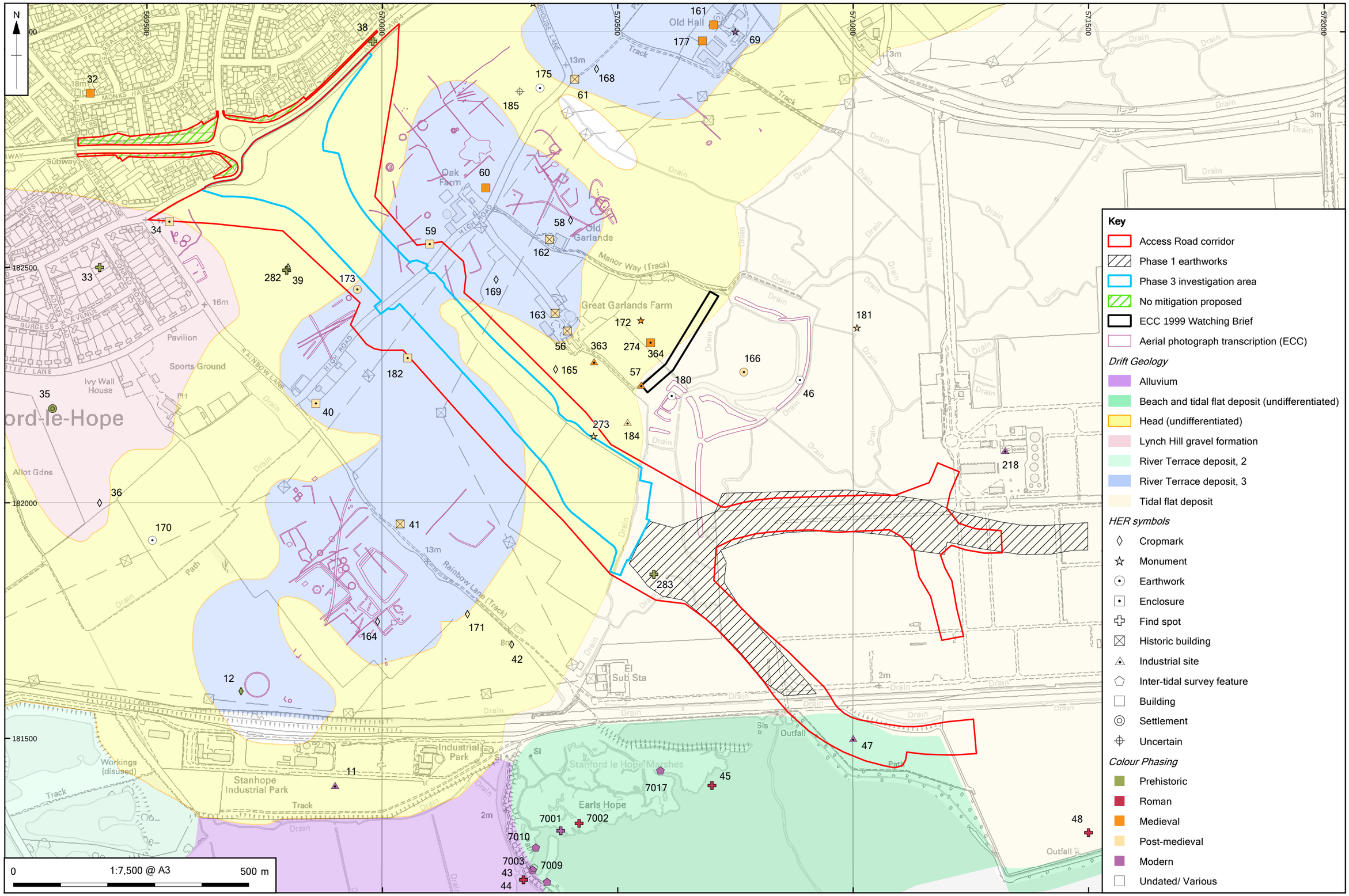


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Figure 2: Access Road corridor in relation to baseline data

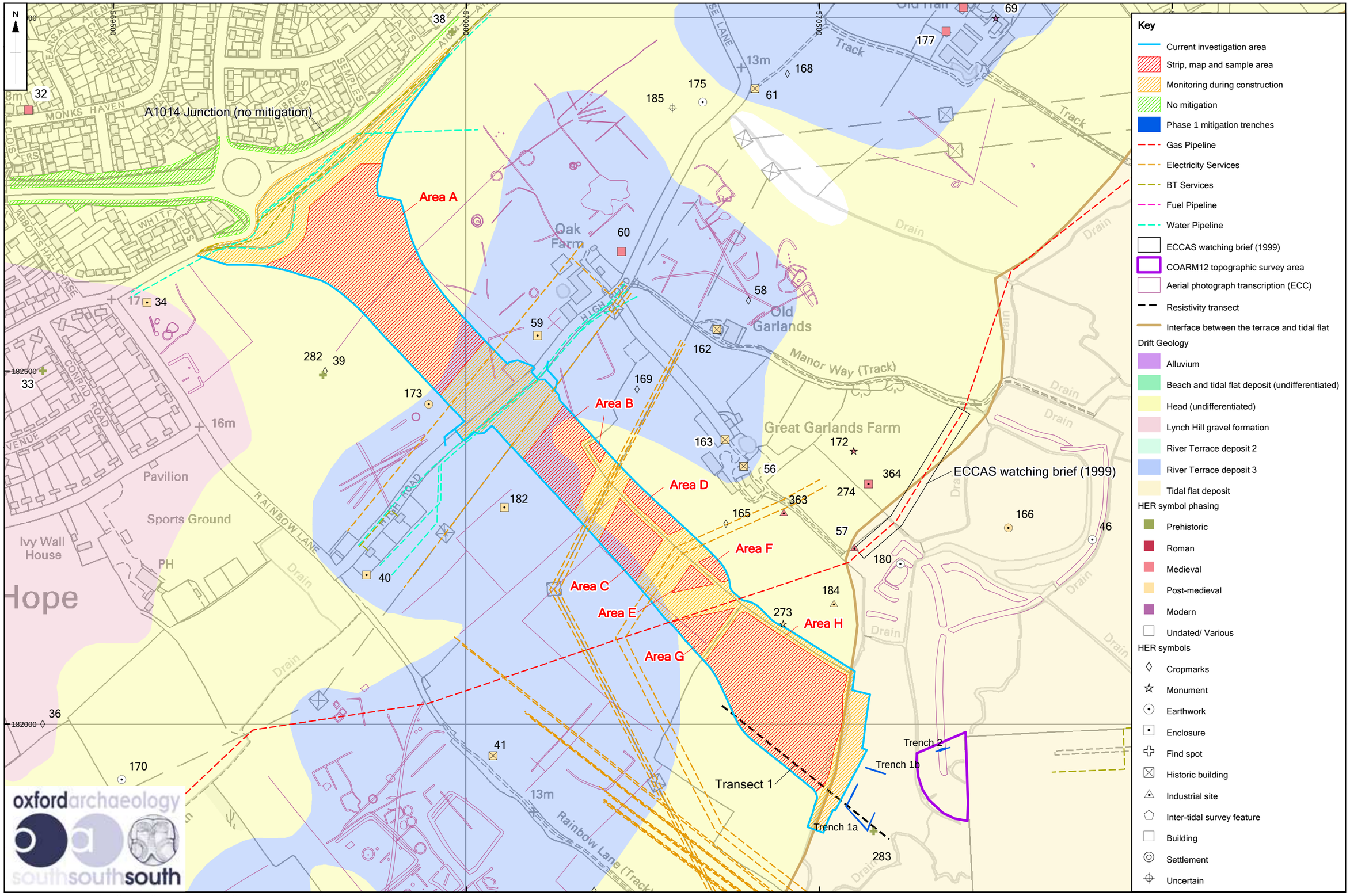




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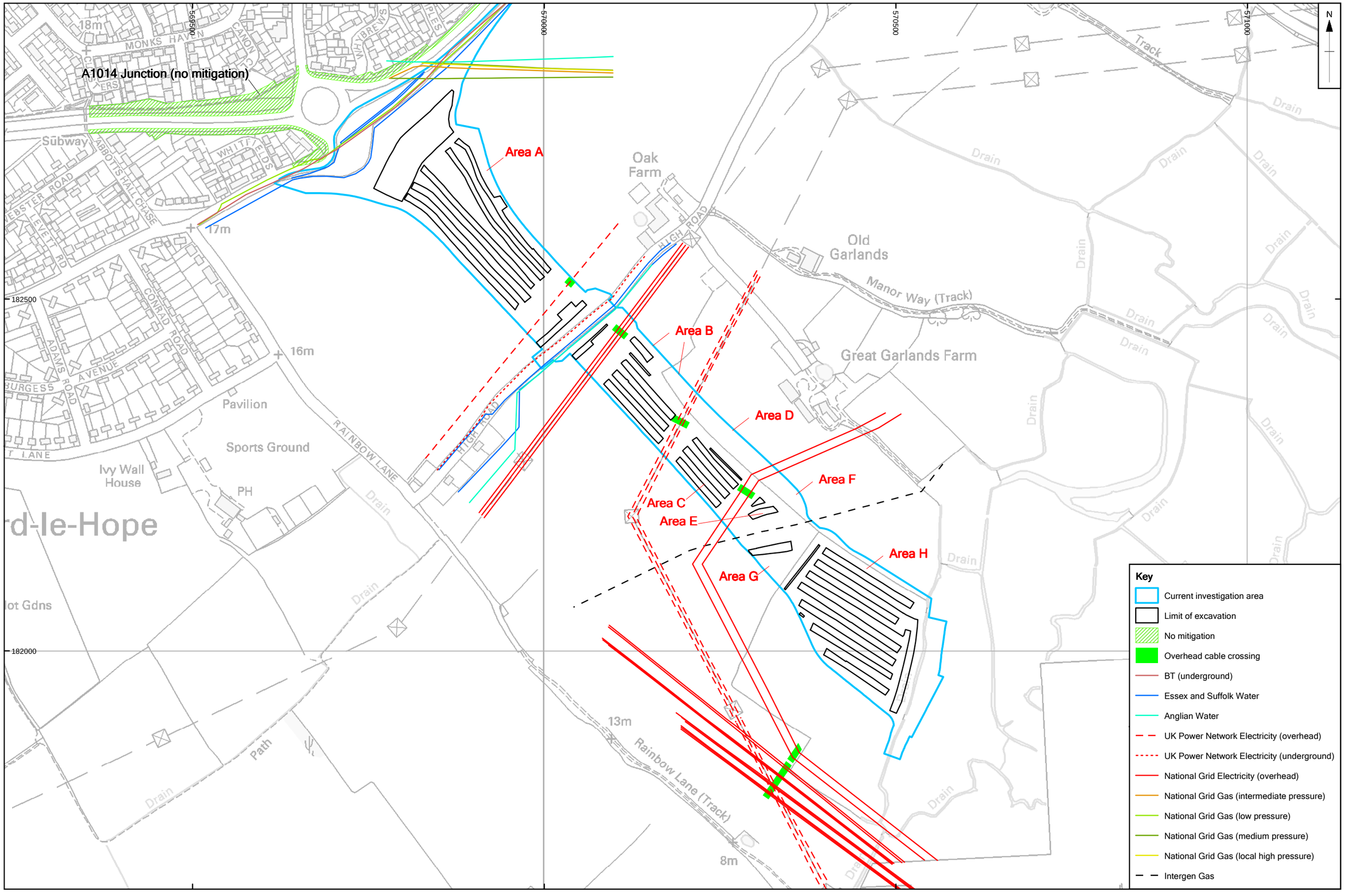
Figure 3: Archaeological mitigation methods

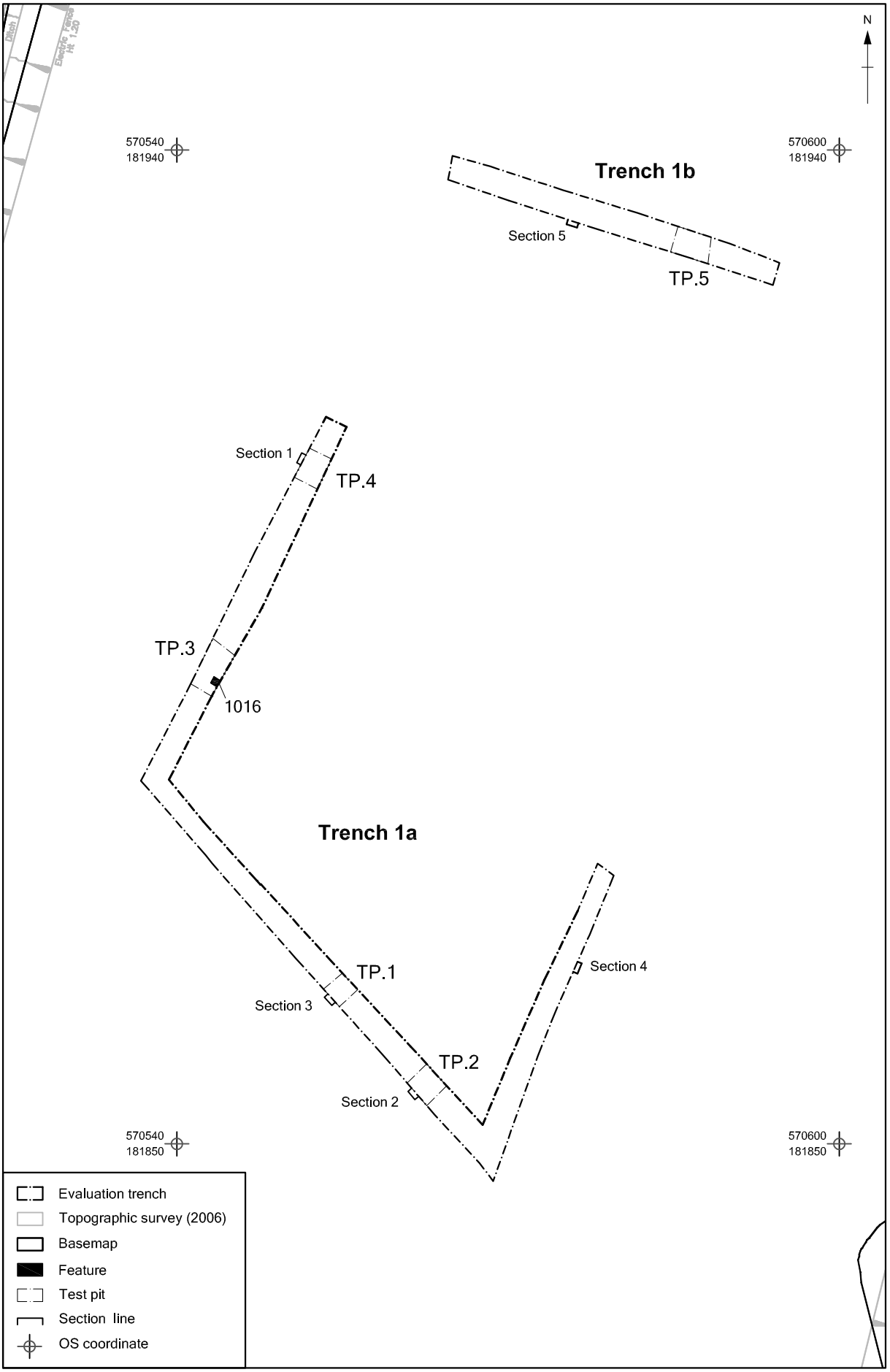







0 1:5,000 @ A3 250 m

Figure 4: Limits of SMS excavation and areas for monitoring during construction








0 20 m

1:500 at A4

Figure 5: Trenches 1a and 1b

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570720
181980

4.15 mOD
4.15 mOD
3.97 mOD
3.85 mOD
4.05 mOD
3.9 mOD
3.74 mOD
3.9mOD
3.7 mOD
4.24 mOD
4.0 mOD
3.6 mOD
3.7 mOD
4.11 mOD
4.16 mOD
4.25 mOD
4.25 mOD
4.0 mOD

570630
181870

570720
181870

Limit of survey area
Major break of slope/contour line
Minor contour or base line
Spot height
Hachure
Average contour height

CHECKED BY: MB 16.03.2012



0 20 m

1:400 at A4

Figure 6: Topographic survey of sea walls within Access Road and Admin Building plots

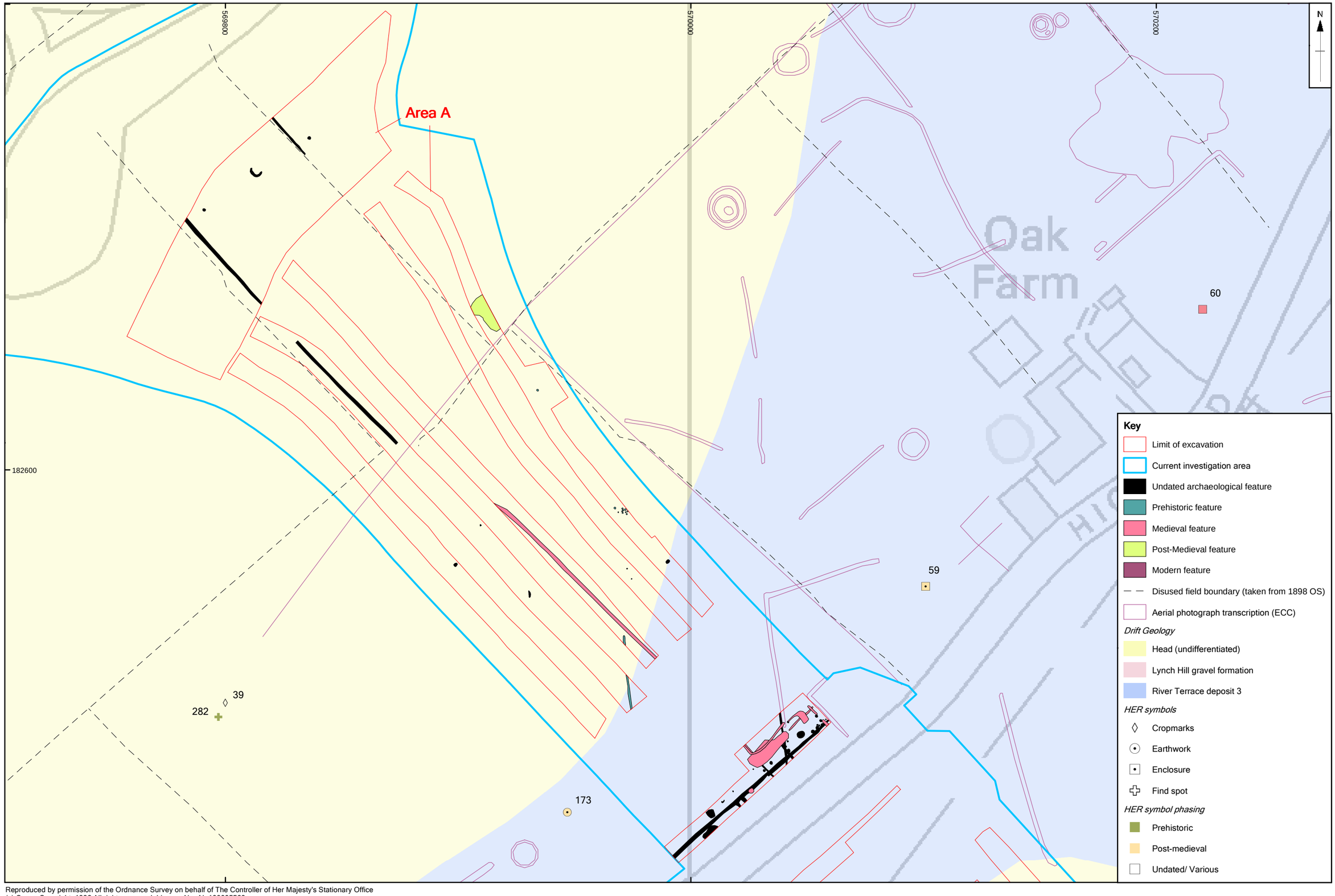




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Figure 7: Area A results

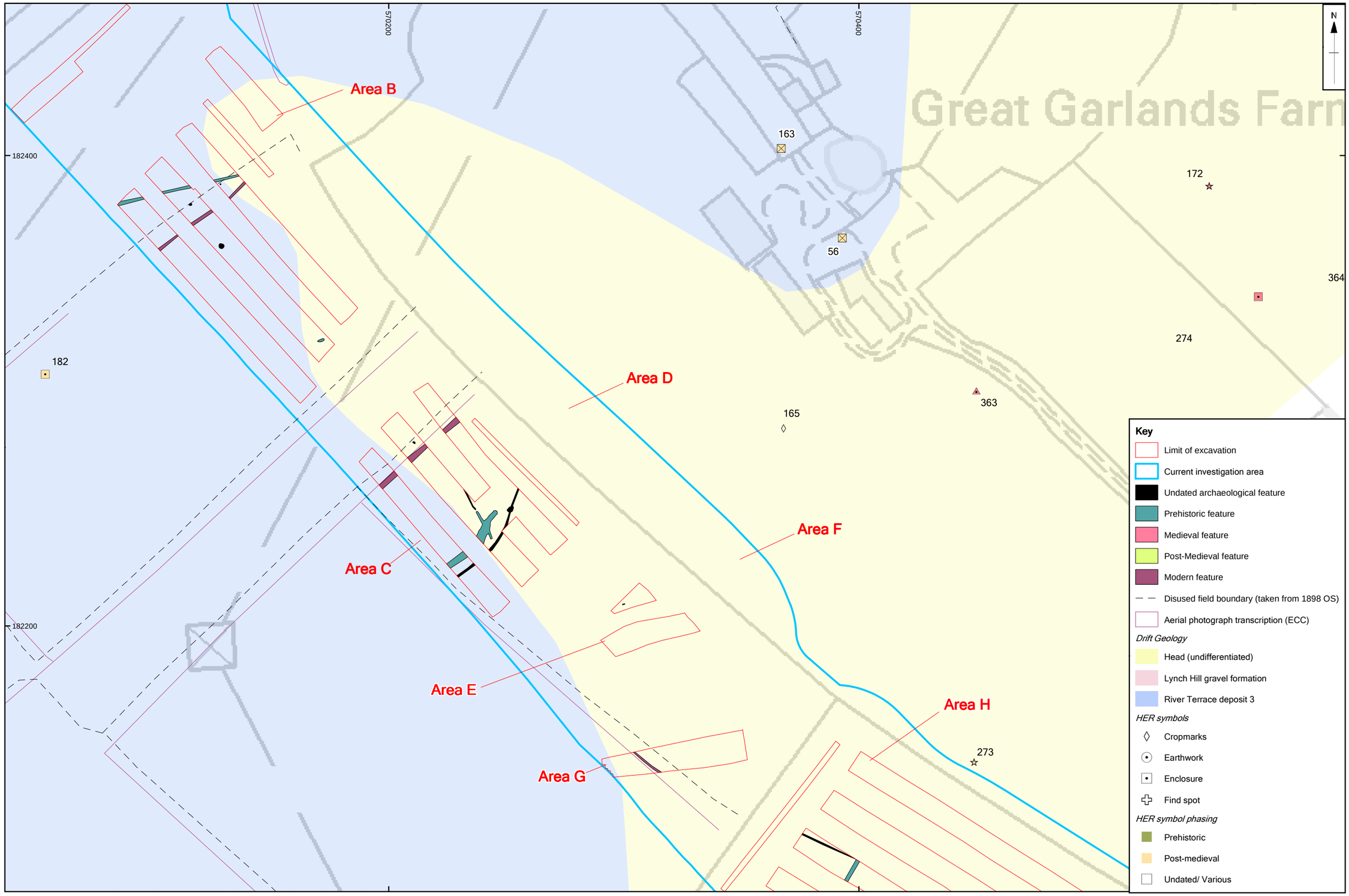






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Figure 8: Areas B - G results

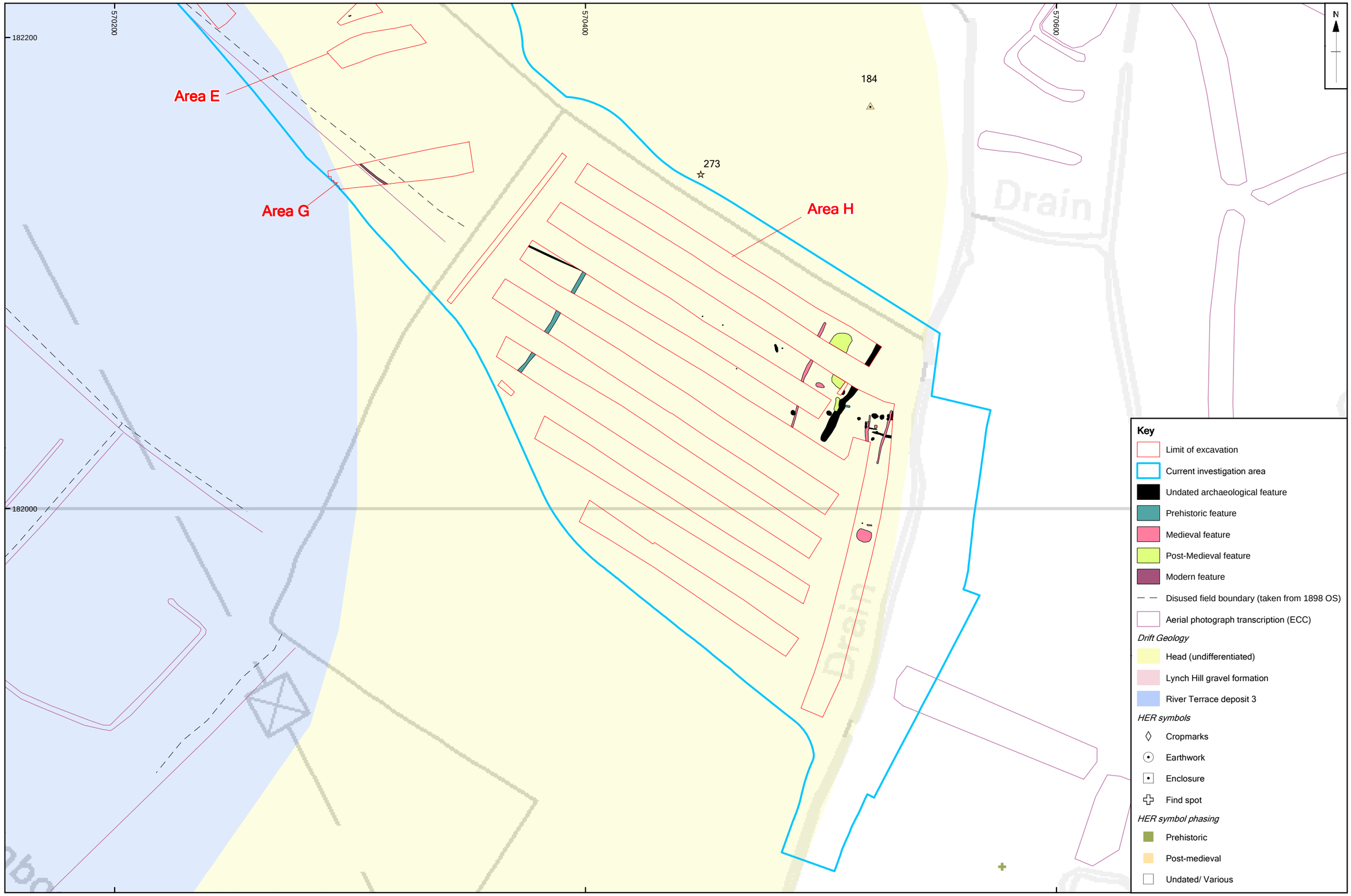






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Figure 9: Area H results

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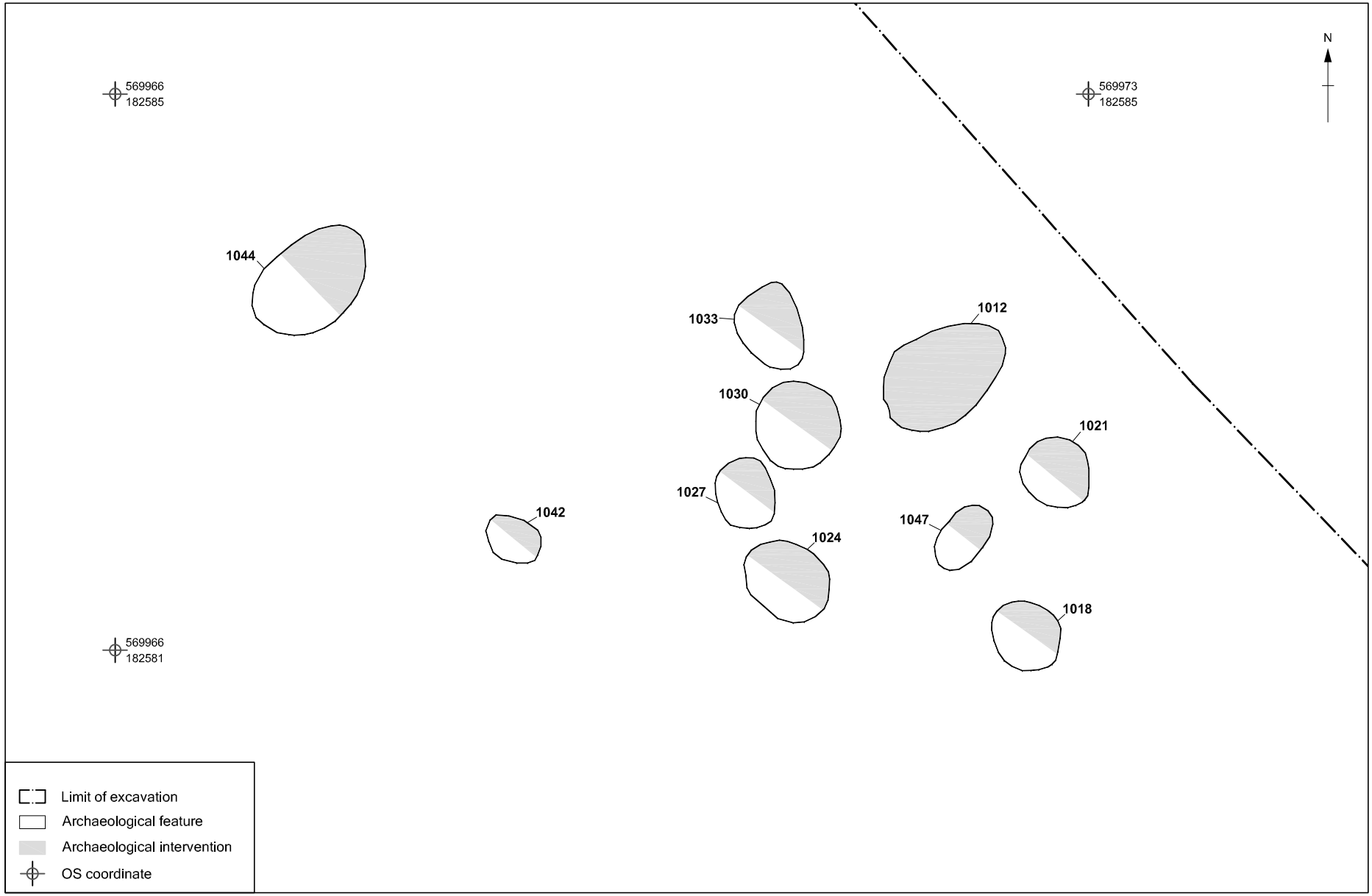


Figure 10: Area A showing a cluster of prehistoric features

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Excavation
Watching Brief

10067
10080
10038
10076
10073
10082
10065
10089
10091
10093
10087
10085

570010
182430

10061
10103
10101
10056
10097
10099
10095

High Road

570070
182460

Limit of excavation
Archaeological feature
Archaeological intervention
OS coordinate



0 10 m

Scale at A3 1:250

Figure 11: Area A showing medieval/ post-medieval site north of High Road

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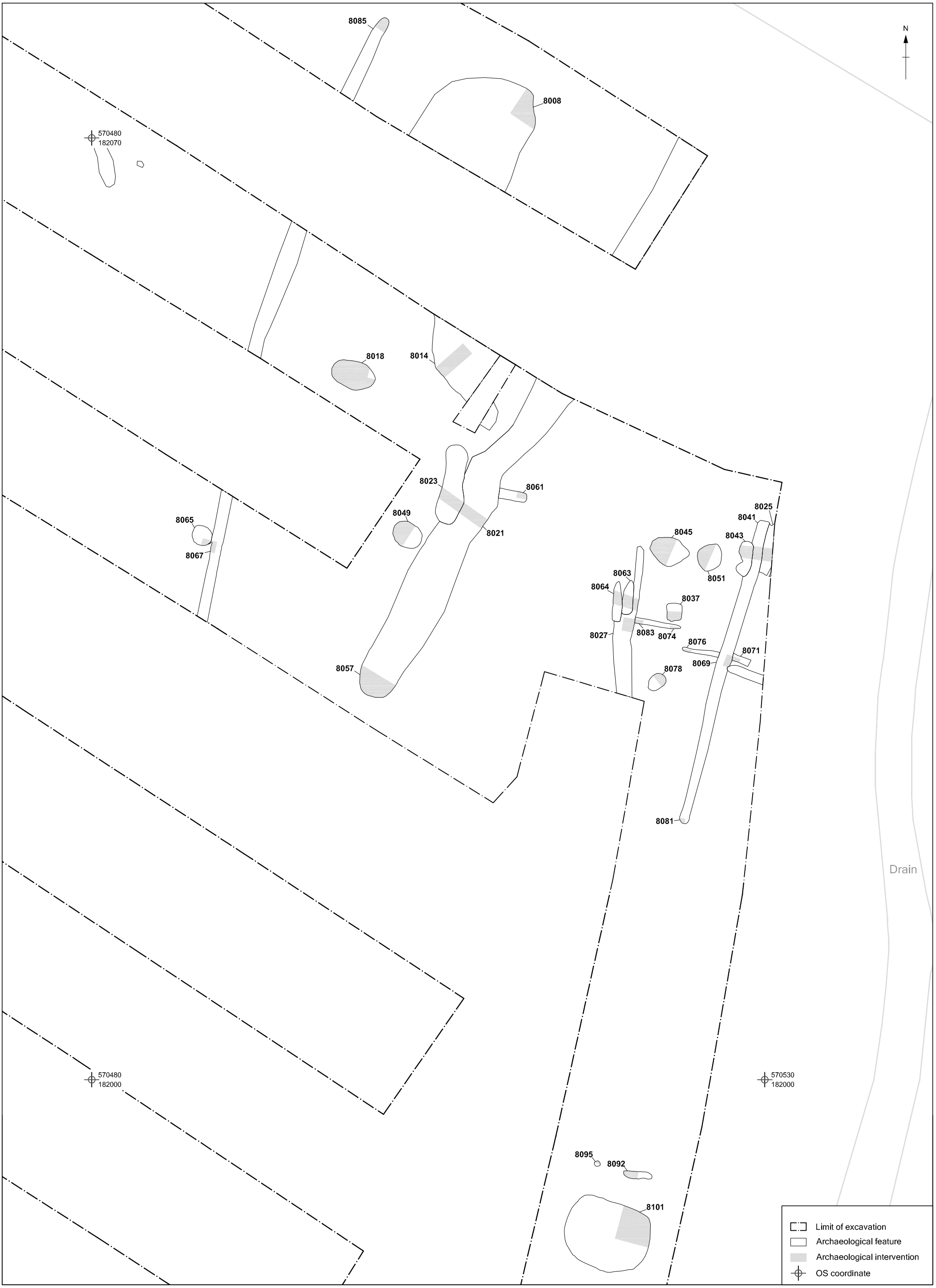




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Scale at A3 1:250

Figure 12: Area H showing medieval/ post-medieval site south of Great Garlands

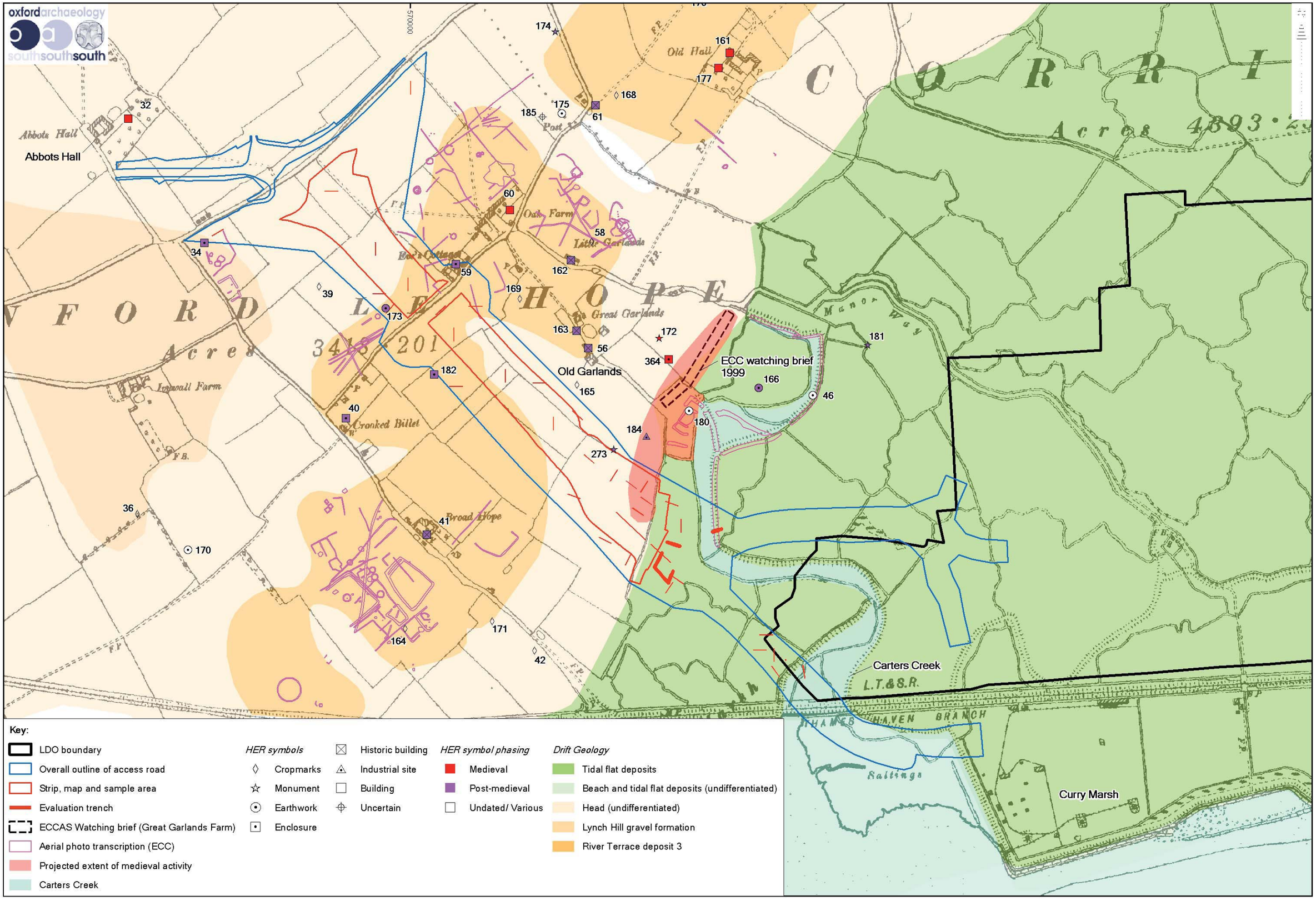


Figure 13: Medieval / Post-Medieval settlement in the Access Road area

Plate 1: Phase 1 mitigation trenches under excavation

Plate 2: Phase 1 mitigation, historic sea wall section

Plate 3: Extensive tree throw holes at north-west end of Area A

Plate 4: Area A, middle Bronze Age pit 1004

Plate 5: Area A, 19th century pond 1005

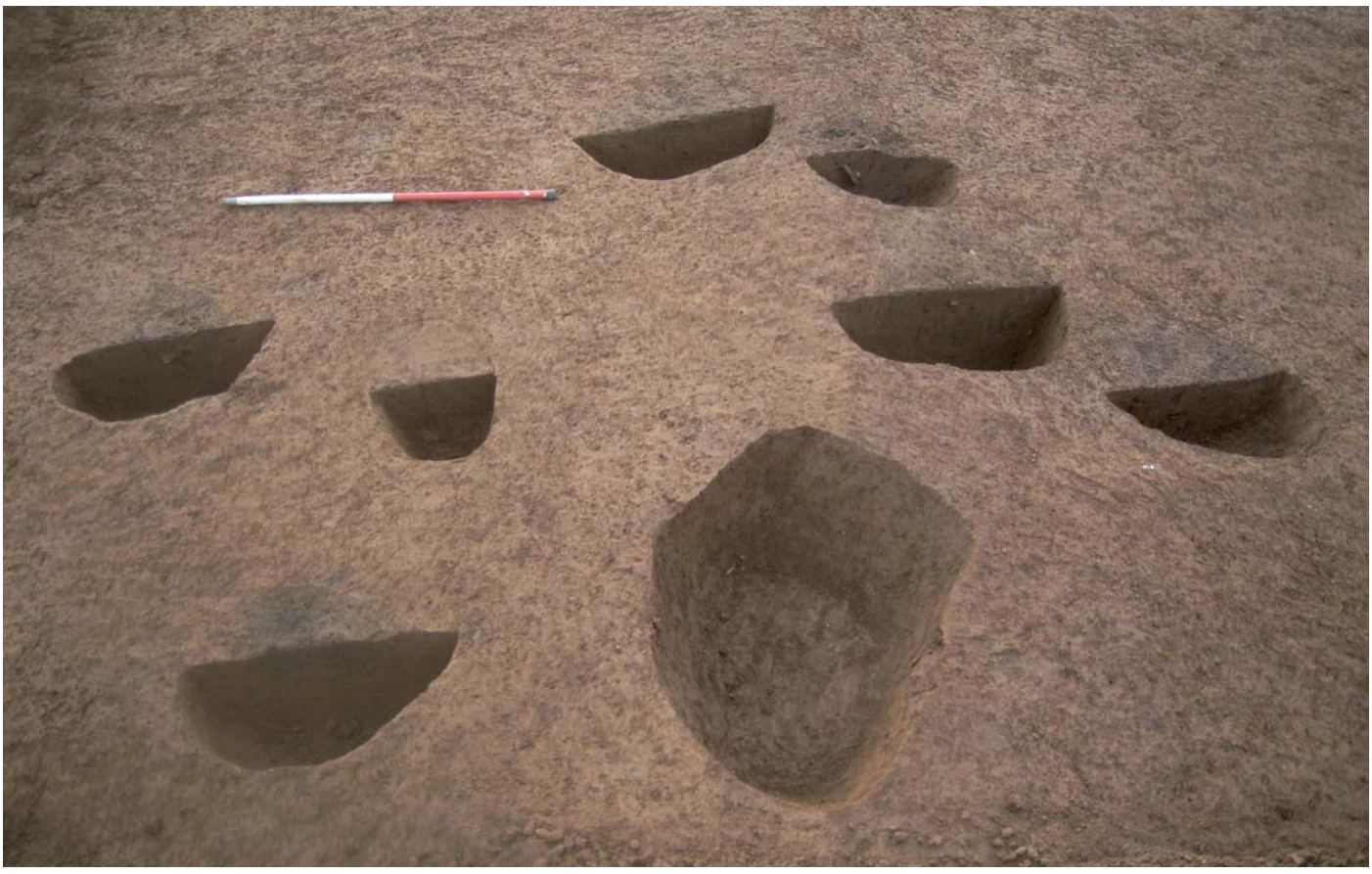

Plate 6: Area A, pit cluster

Plate 7: Area A, ditch 1094


Plate 8: Area A, medieval pit 1125

Plate 9: Area A, ditch and medieval pit 1159

Plate 10: Area H, post-medieval pond 8014

Plate 11: Area H, medieval calf skeleton 8020


Plate 12: Area H, ditch 8021

Plate 13: Area H, pit / possible well 8049


Plate 14: Area H, Iron Age ditch 8087


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