Brickfield Stud, Newmarket, Suffolk

Archaeological Evaluation Report

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Client: George Lambton

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Archaeological Evaluation Report

Evaluation of Paddocks at Brickfield Stud, Newmarket

Archaeological Evaluation

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Table of Contents

List of Figures

List of Plates

List of Tables

Summary

Between the 27th January and 4th February 2014 Oxford Archaeology East carried out an archaeological evaluation, totalling 13 evaluation trenches, at Brickfield Stud, Exning Road, Newmarket. The trenches were targeted on possible archaeological features and anomalies identified by a geophysical survey (Schofield 2013). The evaluation recorded a sequence of activity spanning the prehistoric to post-medieval periods.

Evidence for prehistoric activity within the development area was recovered in the form of an Iron Age pit and ditch, along with residual material recovered from later contexts. Some of this material was derived from colluvial deposits, which might indicate that prehistoric settlement within the locality was situated on higher ground to the south of the development.

Evidence for a 2nd and 3rd century Romano-British enclosure system, aligned perpendicular to a putative Roman road, was uncovered. Sections of the metalled surface of the road were surviving in Trenches 11 and 12. This feature might represent a route connecting Margary's route 333, to the south, with Ely. Furthermore, it is tentatively suggested that this road could have a precursor connecting to the large Iron Age settlement identified at No. 7 The Highlands.

Taken at face value, the Roman finds assemblage is typical of low order settlements within the region, with little evidence for imported goods. However, the presence of ceramic building material may suggest the presence of a large Roman building, potentially a villa, in the vicinity of the development area. The faunal remains represent one of the larger assemblages recovered locally, which might also indicate settlement close by.

A number of medieval boundary ditches and post-medieval/modern features were also recorded.

1 INTRODUCTION

1.1 Location and scope of work

1.1.1 An archaeological evaluation was conducted at Brickfield Stud, Exning, Newmarket (TL 622 650) (Fig.1) in advance of the proposed construction of football pitches. This archaeological evaluation was undertaken in accordance with a Brief issued by Jess Tipper of Suffolk County Council Archaeology Service/Conservation Team (SCCAS/CT) (Planning Application F/2013/0060/FUL), supplemented by a Specification prepared by OA East (Spoerry 2013).

1.1.2 Prior to the archaeological evaluation, a detailed magnetometer survey was carried out by Britannia Archaeology Ltd (BA) over 11 hectares of land at Brickfield Stud (NGR TL 6245 6513). The survey was undertaken on behalf of Mr John Craven of at Suffolk County Council (SCC), in response to a request by Dr Jess Tipper of SCCAS/CT.

1.1.3 Survey conditions were good and a wide range of anomalies were identified. Many of these were interpreted as having an archaeological origin. These included parallel, straight double ditch type anomalies, interpreted as a potential Roman road, and perpendicular ditched enclosures, suggestive of a “ladder” settlement. Also recorded were discrete anomalies indicative of pit type features, linear trends of possible agricultural origin and possible geological anomalies (Schofield 2013).

1.1.4 The work was designed to assist in defining the character and extent of any archaeological remains within the proposed redevelopment area, in accordance with the guidelines set out in *National Planning Policy Framework* (Department for Communities and Local Government March 2012). The results will enable decisions to be made by SCC, on behalf of the Local Planning Authority, with regard to the treatment of any archaeological remains found.

1.1.5 The site archive is currently held by OA East and will be deposited with the appropriate county stores in due course.

1.2 Geology and topography

1.2.1 The site lies on a split in the bedrock geology between Holywell nodular chalk and Zig Zag chalk formations, with Melbourne rock member chalk forming a band between the two deposits. Sand and gravel river terrace superficial deposits have also been identified within the area (BGS).

1.3 Archaeological and historical background

1.3.1 The background presented below is largely drawn from a desk based assessment that was carried out for this development (Craven 2012).

Early Prehistoric

1.3.2 A number of flint assemblages have been identified in the area around Brickfields Stud, specifically at the Hamilton Stud (EXG 004), north of the site on the other side of the A14 (EXG 051), and the Newmarket Industrial Estate (EXG 079). These finds were located on the river terrace deposits that run approximately north to south perpendicular to the A14.

1.3.3 Scatters of struck flint have also been found in the region of Studlands Park and the industrial estate (EXG 006, EXG 007, EXG 008 and EXG 009). Although undated, these scatters are most likely related to Upper Palaeolithic or Early Mesolithic activity.

Later Prehistoric

1.3.4 Iron Age deposits have been found to the north of the site in the village of Exning specifically on Windmill Hill at 7 The Highlands (EXG 082). This excavation revealed a substantial assemblage of Iron Age pottery and struck flint, recovered from a single 4m wide ditch (Caruth 2006). It has been postulated that the large ditch was part of an enclosure around a substantial unknown Iron Age settlement.

1.3.5 Further excavation work in the region, at 8 The Highlands (EXG 090), revealed no archaeological features but isolated Iron Age finds where recovered from buried soil horizons.

Roman

1.3.6 There are a large number of Historic Environment Records (HER) relating to Roman activity around the area of Brickfields Stud. These include several wells located in the region to the south of the proposed development around Hamilton Stud (EXG 001, EXG 002 and EXG 023).

1.3.7 A group of natural springs (EXG 003) are also located near the development to the north-east of St. Wendred's Well (EXG 025). It has been suggested that these wells are related to a Roman bath house complex that is marked on the 1927 edition OS map and as 'Roman remains' on the 1959 edition.

Anglo-Saxon

1.3.8 A number of Saxon sites are located within a kilometre of the proposed development area. These lie primarily to the north and east within Exning, on Windmill Hill, which is reported as the location of an Anglo-Saxon cemetery (EXG 005). Two inhumation burials were excavated during the construction of house footings in the area of The Highlands (EXG 028).

1.3.9 Further evidence for Saxon occupation of the area is located directly to the north of the site on the other side of the A14. Two areas of excavation have been carried out in this region: the first on 'The Island' (EXG010), where a medieval moated site was found along with timber slots and features pre-dating the moat mound and associated with Thetford, St Neots and Pingsdorf wares. The second area of works (EXG 052) was located to the north-east in the area of Saxon settlement identified by the work on 'The Island'. This site revealed further timber slots, which contained Ipswich or Thetford ware pottery, and post-holes. Some of the features were interpreted as a hall type building *c.*12.5m long and 6.5m wide. Finds included grass tempered sherds and a rim of a probable Early Anglo-Saxon date. This supports the known documentary evidence, however, it was suggested that the works carried out at EXG 052 are more likely linked to Middle Saxon activity (Martin 1975).

1.3.10 Documentary evidence also links the village of Exning to a royal seat from as early as *c.*630 AD, that potentially endured into the 12th century (Martin 1975).

Medieval

1.3.11 Unsurprisingly, considering the possible Royal connection to Exning in the early medieval period, there are a number of medieval HER records in and around the proposed development.

1.3.12 The known historic core of Exning (EXG 098), as derived from map data, listed building locations and artefacts scatters lies just to the north of the proposed development area.

1.3.13 Occupation is known to have continued in the region of 'The Island' (EXG 010, Martin 1975) and although no structural evidence was located in the centre of the mound, it was suggested that a 'clunch' foundation wall was present on the site. Any settlement prior to the moated site may have been abandoned during the revolt of the Earls, following punitive ravaging *c.*1075.

1.3.14 The 13th and 14th century wares recovered from both the surface and under the mound suggest construction of the site occurred in this period. The relative paucity of finds material has been used to suggest occupation may have been short lived (Martin 1975). The small size of the mound may suggest that it related to the small manor of Well Hall.

1.3.15 Two linear fish ponds (EXG 040) are shown on the OS maps running north-west to south-east. It is suggested that they are medieval in date and potentially linked to 'The Island' moated manor house (EXG 010).

1.3.16 St Wendred's Well, also known as Seven Springs (EXG 025), is located within the vicinity of the proposed development. It is marked on the 1st edition OS map as St. Mindred's Well.

1.3.17 The Church of St Martin at Exning is also of medieval date, with the core dated as the late 12th century (EXG 031). A quarry pit was excavated at land adjacent to St. Martin's Church Hall. The evaluation recorded 13th-15th century pottery and associated features (EXG 091, Adams 2009).

1.3.18 Metal detected finds (EXG 051 and EXG 053) of medieval date have been located within 1km of the proposed development.

Post-medieval

1.3.19 There are a number of post-medieval HER records within the vicinity of the proposed development. These include a Dovecote (EXG 041), miscellaneous metal detected material (EXG 051, EXG 054), The mill house (EXG 063) and the old sewage works (EXG 079).

1.3.20 Further sites of interest include the Old Brickworks (EXG 048), located on Studlands park to the east, opened in 1900-1904 by Alfred Fisher. These brickworks were largely gone by the 1920's. Exning House and park (EXG 081), built in 1812 with a 55ha park, is notable for the planting of Beech, Lime and Horse Chestnut but no Oak.

1.3.21 The Barn, Harraton Court Stables (EXG 089), is an is an extremely rare example of a 19th century barn with most of its original slate roof intact. The barn had eleven bays and two threshing floors and is a valuable historic asset.

1.3.22 Finally, archaeological monitoring carried out at Exeter House, 2 Church Street identified post-medieval features including a pit, wall foundation trench and an unidentified structure (EXG 084, Brooks 2008).

Undated

1.3.23 Some undated records exist within 1km of the proposed development. These include an earthwork (EXG 047), which is believed to mark the former track way identified on the 1853 OS map, running past St. Mindred's Well between Exning and Favin's Head.

1.3.24 Evaluation work carried out at Exeter Stables identified undated archaeological features and two metal detected medieval coins (EXG 056). Archaeological monitoring at Pond House (EXG 080) identified a large medieval or post-medieval boundary sealed beneath a 19th century chalk surface.

1.3.25 Crop marks located to the west of the site (EXG 049) form a series of rectilinear features interpreted as drainage ditches for the low lying pasture. Further crop marks are also located in the vicinity (EXG 049). Three further archaeological evaluations, two located on Windmill Hill, failed to identify any archaeological deposits (EXG 086 and 95, EXG 096).

1.4 Acknowledgements

1.4.1 The author would like to thank Gary Robinson and George Lambton for their assistance. Matt Brudenell of Suffolk County Council for monitoring the works and Paul Spoerry who managed the project. Thanks also to Stuart Ladd, John Diffey, Robin Webb, Jemima Woolverton and Nick Cox for their hard work on site.

2 Aims and Methodology

2.1 Aims

2.1.1 The objective of this evaluation was to determine as far as reasonably possible the presence/absence, location, nature, extent, date, quality, condition and significance of any surviving archaeological deposits within the development area, specifically in relation to geophysical anomalies identified during previous works (Schofield 2013).

2.2 Methodology

2.2.1 The Brief required that thirteen 30m trenches were excavated to target geophysical anomalies (Tipper 2013) (Fig.1 & Fig. 2).

2.2.2 Machine excavation was carried out under constant archaeological supervision with a 360º mechanical excavator using a toothless ditching bucket.

2.2.3 The site survey was carried out by Stuart Ladd using Leica 1200 DGPS.

2.2.4 Spoil, exposed surfaces and features were scanned with a metal detector. All metal-detected and hand-collected finds were retained for inspection, other than those which were obviously modern.

2.2.5 All archaeological features and deposits were recorded using OA East's *pro-forma* sheets. Trench locations, plans and sections were recorded at appropriate scales and colour and monochrome photographs were taken of all relevant features and deposits.

2.2.6 Environmental samples were taken from a full range of features including pits, ditches and post-holes to give an indication of the state of preservation of material.

2.2.7 The site was excavated in dry and sunny weather.

3 RESULTS

3.1 Introduction

3.1.1 The results are presented below by trench, with the exception of Trenches 11 and 12, which contained the same features and are described together. No archaeological features or finds were found in Trenches 1, 10 and 13 (Plates 1, 10 & 13). Upon excavation, the geophysical anomalies that these latter trenches were targeted on were identified as natural peri-glacial features. These features were filled by a rust coloured deposit, likely to indicate that they were iron rich. The geophysical anomalies are presented here on the figures showing the trench plans, with those anomalies now recognised as having an archaeological origin being coloured differently to those for which a peri-glacial basis can now be argued.

3.2 Paddock 1 (Fig. 3)

Trench 2

3.2.1 Trench 2 was located within Paddock 1 close to the western edge of the site. The trench was 30m long and 1.6m wide. It was excavated through a layer of topsoil 0.6m deep onto the natural degraded chalk (Plate 2).

3.2.2 A single linear feature (**5**), identified by the geophysical survey, was excavated. Small gully or ditch **5** was 0.6m wide and 0.3m deep with a single fill (4) comprised of a topsoil derived dark grey-brown sandy clay. The looseness of the fill and its similarity to the topsoil would suggest it was a relatively modern feature perhaps associated with the brickworks the stud is named after.

Trench 3

3.2.3 This was the most northerly trench within Paddock 1, aligned on a north-north-west to south-south-east axis. The trench was excavated through topsoil, 0.3m thick, and subsoil, 0.46m thick, onto chalk natural. Two archaeological features were excavated within the trench (Plate 3).

3.2.4 The smaller of the two, most likely a hedge line (**7**), was aligned east to west at the southern end of the trench. It was 0.76m wide and 0.3m deep with shallow, gently sloping irregular sides and an irregular base. It contained a single fill (6) of dark reddish-brown clayey silt.

3.2.5 The larger feature was a ditch (**11**) at the northern end of the trench, aligned with the geophysical anomaly the trench was targeted on. Ditch **11** was not fully excavated but was 2.8m wide and over 0.9m deep with steep regular sides (Plate 14). It contained three fills. The primary fill (10) was at least 0.4m thick and composed of a light yellowish-brown sandy clay. The middle fill (9) comprised a light white-brown sandy clay with frequent fragments of re-deposited chalk that was 1.5m wide and 0.34m thick. Its chalky composition would suggest backfilling of the ditch with bank material, although it was unclear which side the bank was located on from the excavated section. The tertiary fill (8) comprised a mid yellowish-brown silty clay deposited via natural silting after the ditch had gone out of use. It contained a single sherd of Iron Age pottery as well as animal bone and residual worked flint (App. B.1, B.2 & C.1).

3.3 Paddock 2 (Fig. 4)

Trench 4

3.3.1 Trench 4, the southernmost trench in Paddock 2, was 30m long and aligned approximately north-east to south-west. It was machined through a layer of topsoil, 0.23m thick, and a layer of subsoil, 0.27m thick (Plate 4).

3.3.2 Four archaeological features were identified. A pit (**26**), that was not identified on the geophysical survey, was located at the western end of the trench (Plate 15). Pit **26** was 1.5m in diameter with a maximum depth of 0.46m. It contained three fills: The primary fill (25) was a light yellowish-brown firm sand, 0.32m thick, that contained worked flint (App. B.1). The secondary fill (24) was 0.11m thick and comprised a dark brownish-grey soft silty sand with frequent charcoal fragments; pottery, flint and bone were recovered from this deposit (App. B.1, B.2 & C.1). The tertiary fill (23) was a mid-yellowish-brown sandy silt, 0.24m thick, which produced animal bone and Early Iron Age pottery (App. B.2 & C.1).

3.3.3 The remaining archaeological features were part of a series of inter-cutting ditches that align with one of the geophysical anomalies that the trench was designed to target. The earliest ditch (**28**/**17**) was curvilinear in plan. In section it was U-shaped with regular, gently sloping sides and a concave base, 0.59m wide and 0.18m deep. It contained a single dark brown sandy silt fill (27/16 respectively).

3.3.4 Ditch **28**/**17** was truncated by ditch **22**, which was also curvilinear and aligned north to south. It was 1.2m wide and 0.61m deep and contained three fills (Fig. 7). The earliest of these (21) was a dark greyish-brown sandy silt, 0.26m thick. The secondary fill (20) was 0.06m thick and comprised a dark greyish-brown silty sand with frequent fragments of charcoal. The tertiary fill (19) was a light reddish-white clay with frequent chalk fragments, that may have been mortar, and was 0.04m thick.

3.3.5 Ditch **22** was in turn truncated by ditch **15**, which was aligned north-west to south-east and was 1.3m wide by 0.4m deep. It contained a single dark reddish-brown silty sand fill attributed to natural silting.

3.3.6 Finally, ditch **15** was re-cut by ditch **18**, which was 1.04m wide and 0.52m deep and contained two fills. The primary fill (13) was a mid reddish-brown silty sand, 0.16m thick and the upper fill (12) was a dark greyish-brown sandy silt, 0.34m thick. Undated pottery was recovered from fill 12 (App. B.3).

Trench 5

3.3.7 This trench was located to the north of Trench 4 on an approximately east-north-east to west-south-west alignment. It was cut through a layer of topsoil, 0.32m deep, and a layer of subsoil 0.2m thick. The base of the trench was chalk natural at the eastern end and a colluvial deposit (45) (Plate 5).

3.3.8 Two test pits were excavated by hand into deposit 45, a 0.18m thick, mid reddish-brown sand, which revealed a second colluvial deposit, which produced struck flint (App.B.1). The lower colluvial deposit (46) was a dark reddish-brown sand 0.27m thick and produced Early Iron Age pottery, animal bone and flint (App. B.1, B.2 & C.1).

3.3.9 The upper colluvial deposit was truncated by three ditches (**29**, **44** & **48**) that correspond to the geophysical anomalies the trench was targeted on. The westernmost ditch (**44**) was aligned north-west to south-east. In profile it was shallow, with gently sloping sides and a relatively flat base, 3.3m wide and 0.35m deep. It contained two fills. The primary fill (43) was a mid brownish-red silty sand, which produced a fragment

of Neolithic pottery and animal bone (App. B.2 & C.1), whilst the upper fill (42) was a reddish-brown silty sand, 0.3m thick. Fill 43 produced pottery dated to the mid to late 1st to 3rd century AD (App. B.3).

3.3.10 To the east, ditch (**29**) lay on the same alignment and had steep sides and a sharp break of slope onto a concave base. It contained four fills: primary fill 33 was a 0.13m thick and comprised a dark greyish-brown sandy silt with occasional sub-angular flints <20mm in size. The secondary fill (32) was a mid brownish-red sand likely to be redeposited colluvium. This was sealed by 31, a mid brown sandy silt 0.55m in thickness. A deposit of semi-articulated cattle bones was recovered from this fill along with Romano-British pottery (App. B.2 & C.1). The tertiary fill (30), which contained 12th-14th century pottery (App. B.2), was a dump of dark grey silty sand with frequent shell and charcoal inclusions; it is likely that this fill represented the final stages of backfilling the ditch.

3.3.11 The easternmost ditch (**48**) was 0.72m wide and 0.18m deep aligned north to south with gradually sloping sides and a concave base. A single fill of a light reddish-brown silty sand was identified (47) which contained fragments of animal bone and worked flint (App. B.1 & C.1).

Trench 6

3.3.12 This trench was aligned north-west to south-east, and was cut through a layer of topsoil with a maximum thickness of 0.4m and a subsoil layer 0.35m thick. It contained four archaeological features (Plate 6).

3.3.13 An undated ditch (**57**) was located at the north-west end of the trench on a north-south alignment. The ditch was 0.65m wide and 0.15m deep with shallow concave sides and a concave base. It contained a single fill (58) of a light yellowy-brown silty sand.

3.3.14 A small linear feature (**53**), 0.2m deep and 0.3m wide, was located at approximately the mid point of the trench, on a north-north-west to south-south-east alignment. The feature, which had steep sides and a concave base, contained a single fill (54) of mid reddish-brown sandy silt. Although a single struck flint was recovered from fill 54 (App. B.1), it is possible that this was a natural feature.

3.3.15 A possible pit or natural feature (**55**) was excavated at the north-west end of the trench. Feature **55** was at least 1.5m wide and 0.3m deep with an irregular base and sides. It contained a single fill (56) of mid yellowish-brown sandy silt. The pottery recovered from fill 56 dated from the mid to late 1st to 3rd centuries AD (App. B.2).

3.3.16 The most southerly feature was a steep sided, concave based post-hole (**51**) 0.5m in diameter and 0.44m deep (Fig. 7). It contained a single fill (52) of a mid yellowish-brown sandy silt with occasional small rounded flint and occasional chalk inclusions. No dating material was recovered from the post-hole and it is unclear whether it was an isolated feature or part of a structure.

Trench 7

3.3.17 This trench, which lay in the northern part of Paddock 2, was excavated through a 0.25m thick layer of topsoil into a subsoil and a colluvial deposit (35) (Plate 7) that together were on average another 0.35m thick. Colluvium 35 sealed a small curvilinear feature (**38**) that turned from an approximately north to south alignment onto an east to west alignment (Fig. 7). The ditch contained two fills, the primary fill (37) was a dark grey-brown sandy silt and the tertiary fill (36) was a mid reddish-brown sandy silt.

3.3.18 A possible post-hole (**40**) was found at the base of ditch **38**. Post-hole **40** was a sub-circular feature with steep sides and a shallow concave base, 0.18m wide and 0.10m deep. It contained a single fill of mid grey-yellow silty sand (39).

3.3.19 A further deposit of mid yellowish-brown sand (41) was identified at the north-west end of the trench. This was initially interpreted as backfill of a quarry pit however, no clear edge to the deposit could be identified, which may imply that it was a natural feature.

3.3.20 The geophysical anomaly the trench was targeted on was not identified.

Trench 8

3.3.21 Trench 8 was the northernmost trench in Paddock 2. It lay on a west-north-west to east-south-east alignment. It was the deepest trench excavated, cutting as it did through a layer of topsoil 0.3m thick, a mid greyish-brown silty clay buried plough soil (59) 0.4m thick, which produced pottery and CBM (App. B.3 & B.5) and a second buried soil or colluvium of yellowish-brown sandy clay (60), that was 0.3m thick (Plate 8). Struck flint was recovered from layer 60 (App. B.1). The lower buried soil sealed two ditches (**63** & **65**), which cut through a thick natural colluvial layer (66) up to 0.7m thick (Fig. 6).

3.3.22 The western ditch (**65**) was 1.6m wide and 0.45m deep with steep sides and a V-shaped base (Fig.9). It contained a single fill (64), comprised of a mid brownish-grey silty clay. Romano-British pottery dated to the mid 2nd to late 3rd centuries AD was recovered from this fill (App. B.2).

3.3.23 At the eastern end of the trench, ditch **63** was also V-shaped with steep sides, 2.5m wide and 1m deep (Fig. 6, Plate 16). It is likely that this ditch corresponds to the geophysical anomaly the trench was targeted on. Two deposits filled this feature, a greyish brown clay (62), probably formed through water deposited silt was sealed by fill (61), a brownish-grey sandy clay. Both fills contained pottery dated to the 2nd to 3rd centuries (App. B.2).

3.4 Paddock 3 (Fig. 5)

Trench 9

3.4.1 This trench lay in the western part of Paddock 3 and was located across two large, parallel geophysical anomalies on a north-north-east to south-south-west alignment. The trench was excavated through a layer of topsoil up to 0.32m thick and a layer of subsoil 0.15m thick (Plate 9).

3.4.2 Two large ditches (**71** and **75**) were located in the trench (Fig. 8) and correspond to the geophysical anomalies the trench was targeted on. Ditch **71** was 1.25m wide and 1.14m deep with stepped sides and a flat base. It contained four fills: the primary fill (70) comprised a mid brownish-grey clayey silt 0.32m thick. This was sealed by fill 69, a dark reddish-brown clayey silt that contained frequent animal bone (App. C.1) and sherds of Samian ware dated between 120-200AD (App. B.2). Overlying this deposit a mid reddish-brown clayey silt 0.52m deep (68). The tertiary fill (67) was 0.36m thick and comprised a dark greyish-brown clayey silt. This deposit most likely represented a dump of material dragged into the top of the ditch through manuring. The pottery recovered from this deposit was dated to the mid 2nd to late 3rd century AD (App. B.2).

3.4.3 The second ditch (**75**) was located at the northern end of the trench and contained three fills. The primary fill (74) was a slump of mid brownish-grey clayey silt formed shortly after the ditch was dug. An assemblage of Romano-British pottery and animal bone was recovered from fill 74 (App. B.3 & C.1). The secondary fill (73) was a 0.58m

thick mid greyish-brown clayey silt, which included a dump of Roman Ceramic Building Material (CBM) (App. B.5). Romano-British pottery and animal bone were also recovered from this fill (73) (App. B.3 & C.1). The location of the CBM suggests that the demolition debris from a nearby building was placed in the ditch to improve drainage (App. B.5). The tertiary fill (72) was a mid yellowish-brown clayey silt representative of the final silting of the ditch. Pottery, CBM and animal bone were recovered from fill 72 (App. B.3, B.5 & C.1).

Trenches 11 and 12

3.4.4 Trenches 11 and 12 (Plates 11 & 12) were located to target the same pair of linear features identified by the geophysical survey. Both were excavated through a layer of topsoil and a thin subsoil. Trench 12 was shortened due to the presence of trees at the eastern end.

3.4.5 Fragments of a metalled surface (76 and 78) made out of rolled flint gravel, <40mm in diameter, were located in these trenches. CBM was also recovered from within this make-up (App. B.5). This surface, which was laid down onto a buried subsoil (77 and 79), was significantly better preserved in Trench 11 (Plate 17). A monolith sample was taken through this deposit (77) but has not undergone assessment at this stage.

3.4.6 Surface 76=78 was bounded by re-cut north to south aligned ditches. The earliest phase of the western limit was demarcated by ditch **80**, which lay at the western end of Trench 12 and was a continuation of ditch **87** in Trench 11. Ditch **80=87** was between 0.97m and 0.5m wide and between 0.67 and 0.1m deep, with a steep sided, relatively flat based, V-shaped profile (Fig. 9). It contained a single fill (81=86) comprised of a mid greyish-brown sandy clay.

3.4.7 This feature was re-cut by ditch **82=85**, which truncated the earlier fill (81=86). Re-cut **82=85** was between 2.15 and 1.75m wide with a maximum depth of 0.39m (Fig. 9). In profile it had moderately sloped sides and a concave base forming a U-shaped profile. It contained a single fill (83=84), a mid yellowish brown sandy silt. CBM was recovered from fill 84 (App. B.5)

3.4.8 Approximately 15m to the east, ditch **89** bounded the eastern edge of the metalled surface. No continuation of this latter feature was seen in Trench 11 as a result of the shortening of the trench described above, but it can be clearly seen on the geophysical results (Adams 2013). Ditch **89** was 1.45m wide and 0.3m deep with a shallow elongated U-shaped profile. It contained a single fill (88) of mid yellowish-brown sandy clay, which also produced a fragment of CBM (App. B.5).

3.5 Finds Summary

Worked Flint (App. B.1)

3.5.1 A small assemblage of residual early prehistoric struck flint was recovered from within the colluvial deposits and the features that truncated the colluvial deposits.

Pottery (App. B.2-4)

3.5.2 Residual early prehistoric pottery was also recovered from ditch fills 42 and 43, which lay in close proximity to this flint work. The later prehistoric pottery assemblage comprised Early Iron Age sherds recovered from pit **26**. A single fragment of later Iron Age pottery was recovered from ditch **11**. The majority of the pottery recovered from the site comprised Roman Coarse wares with rare occurrences of fine ware generally dated to the 2nd or 3rd centuries. A single undated fragment of pottery recovered from ditch fill 61 may be of Saxon date.

Ceramic Building Material (App. B.5)

3.5.3 An assemblage of Roman CBM was recovered, primarily from ditch fill 73. This is indicative of the presence of a substantial roofed building, potentially a villa, in the vicinity of the proposed development.

3.6 Environmental Summary

Faunal remains (App. C.1)

3.6.1 A small assemblage of animal remains was recovered from the site, primarily from Roman deposits. The assemblage comprises a mix of domestic species, primarily cow, sheep and pig but horse, cat and domestic fowl are also present.

3.6.2 A notable assemblage of animal bone was recovered from Roman ditch fill 67. This comprised amphibian, fish and bird bone recovered in conjunction with a large quantity of burnt bone from various species including large mammals.

3.6.3 The animal bone seems to be the largest assemblage for the period recovered within the vicinity.

Environmental samples (App. C.2)

3.6.4 The material recovered from boundary ditches **15** and **22** is indicative of disposal of burnt food waste, and includes species such as Wheat, Corn Gromwell, Corncockle and Brome. The assemblage from fill 67 of Roman ditch **71** is likely to represent deliberate deposition and included charred barley.

4 Discussion and Conclusions

4.1 Discussion

Paddock 1 (Fig. 3)

4.1.1 A relatively low density of archaeological features were recorded in Trenches 2 and 3. These comprised features associated with prehistoric and post medieval activity.

Late prehistoric

4.1.2 Trench 3 contained the remnants of an undated hedge line parallel to and potentially associated with a large boundary ditch of later Iron Age date. The boundary is at right angles to the road identified in Paddock 3.

Post-medieval

4.1.3 Trench 2 contained a modern gully that may be associated with the known brick works.

Paddock 2 (Fig. 4)

4.1.4 Archaeological features and finds were recorded in all of the trenches in Paddock 2 (Trenches 4-8). These included remains dating from the late prehistoric through to the Roman and possibly Saxon or medieval period.

Prehistoric

4.1.5 Early Neolithic pottery and struck flint, likely to be of Late Mesolithic/Early Neolithic date, was recovered from features in Paddock 2 (App. B.1 & B.2). Much of this material was residually deposited in later features. It seems likely that the cause of this post depositional movement was the same processes that resulted in the deposition of layers of colluvium within this part of the proposed development area.

4.1.6 A large Early Iron Age pit (**26**) was excavated in Trench 4. This was the only feature of this date, although material from this period was also recovered from colluvium layer (46).

Roman

4.1.7 A series of ditches were located in this field on a broadly parallel alignment with the road identified in Paddock 3. These are thought to represent elements of an enclosure system. Burnt crop and food waste was recovered from these features, which would suggest some form of occupation in the vicinity, although no structures were identified. The Roman features within this Paddock 2 were dated to the 2nd to 3rd century (App. B.2).

Medieval

4.1.8 Buried soils at the northern end of the site, within Trench 8, are likely to be of early medieval or Late Roman date as they seal ditches **63** and **65**. It is also suggested that the undated ditches in Trench 4 are likely to be of this period, however, no conclusive dating was recovered and they may be a similar age to the Roman features.

Undated

4.1.9 Ditch **48** in Trench 5 was undated but may relate to the possible Romano-British ditches **57** and **63**. A single undated post-hole was excavated in Trench 6. An undated ditch (**38**) and a second possible post-hole (**40**) were also identified in Trench 7.

Paddock 3 (Fig. 5)

4.1.10 Of the trenches located in Paddock 3, Trenches 10 and 13 were devoid of archaeology. The remaining trenches all contained archaeological deposits dated to the Roman period.

Roman

4.1.11 A road surface bounded on both sides by ditches was recorded in Trenches 11 and 12 (Plate 17). This road can probably be associated with one previously excavated by Mortimer (2005) some four kilometres to the north, and is likely to be of Roman date. Also within Paddock 3 were two large boundary ditches (**75** & **71**) (Fig. 8) running perpendicular to the road surface located in Trenches 11 and 12. These are likely to be of mid 2nd to 3rd century date.

4.2 Conclusions

4.2.1 The evaluation recorded a sequence of activity spanning the prehistoric to post medieval periods. There is some evidence for prehistoric activity within the development area during this time, represented by the pit in Trench 4 and in the form of residual material recovered from later contexts. It is postulated that some later prehistoric settlement is located within the development area, in Paddock 2, but much of the earlier prehistoric material was derived from colluvial deposits, potentially indicating that the focus of early prehistoric settlement within the locality was largely situated further up-slope, to the south of the development, and this material was subsequently washed downslope into the development area.

4.2.2 A large number of the features recorded during the evaluation, especially those in Paddock 3, were associated with a 2nd and 3rd century Romano-British enclosure system, aligned perpendicular to a road. The finds assemblage, whilst broadly comprised of low status utilitarian coarse wares with little evidence for imported goods, also contained ceramic building material suggestive of a large Roman building, potentially a villa (App. B.5), located in the vicinity of the development area.

4.2.3 The metalled road and associated ditches exposed in Trenches 11 and 12 can perhaps be associated with one previously identified by Mortimer (2005) some 4km to the north during works on the Fordham Bypass, with which it aligns. It is suggested that this road connected Margary's route 333 - the Icknield Way - which is located to the south of the development area, with the Isle of Ely, and it would have turned north westwards in the vicinity of Soham to follow the high land and encounter the known causeways onto the Isle. If the road's alignment on this site and at Fordham 4km to the north is extrapolated southwards it passes the Rowley Mile and encounters the Icknield Way Roman Road, now the A1304, exactly where these roads are crossed by the Devils Dyke (Fig. 10). This suggests that the Devils Dyke may have been pre-dated by a similarly-aligned Romano-British boundary with roads radiating from the crossing point. Furthermore, the Roman Road recorded on the site could also connect with the large Iron Age settlement identified at 7 The Highlands, Windmill Hill, implying that the route has prehistoric origins. Additionally Mortimer (2005) postulated that the metalled surface at Fordham had either been extensively maintained or had been laid down during the Saxon period as Saxon pottery was recovered from a subsoil hollow underlying the surface. The latter interpretation is now clearly more likely. If this were the case then it is possible that this route continued to provide access to the Anglo-Saxon cemetery also located on Windmill Hill, north of the site. The fact that Exning is known to have been an important Anglo-Saxon royal estate centre perhaps suggests a reason for the

continuation of use and maintenance of existing routeways in the vicinity of this concentration of people and power in subsequent centuries.

4.2.4 With reference to the geophysical survey (Fig. 2), some of the geophysical anomalies identified have been demonstrated to be natural features, whilst the stronger responses have been shown to be archaeological. Furthermore, the evaluation revealed features characteristic of prehistoric settlement including a pit, post-hole and small gullies, that were not identified by the geophysical survey, suggesting that although good as an indicator of the presence of archaeological features, these results should not necessarily be assumed to represent the totality of the surviving remains.

4.3 Recommendations

4.3.1 Recommendations for any future work based upon this report will be made by the County Archaeology Office.

Appendix A. Trench Descriptions and Context Inventory

Trench 1						
General description					**Orientation**	E-W
Trench devoid of archaeology. Consists of soil and subsoil overlying a natural degraded chalk.					**Avg. depth (m)**	0.45
					Width (m)	30
					Length (m)	1.6
Contexts						
context no	**type**	**Width (m)**	**Depth (m)**	**comment**	**finds**	**date**
1	Layer	-	0.3	Topsoil	-	-
2	Layer	-	0.15	Subsoil	-	-
3	Layer	3.7	0.6	Fill of peri-glacial feature	-	-
Trench 2						
General description					**Orientation**	E-W
Trench consists of soil overlying a single archaeological gully					**Avg. depth (m)**	0.3
					Width (m)	1.6
					Length (m)	30
Contexts						
context no	**type**	**Width (m)**	**Depth (m)**	**comment**	**finds**	**date**
1	Layer	-	0.6	Topsoil	-	-
4	Fill	0.6	0.3	Fill of **5**	-	?post-med
5	Cut	0.6	0.3	Cut of small gully	-	?post-med
Trench 3						
General description					**Orientation**	NNW-SSE
Trench 3 consists of soil and subsoil overlying a degraded chalk natural cut by two linear features					**Avg. depth (m)**	0.76
					Width (m)	1.6
					Length (m)	30
Contexts						
context no	**type**	**Width (m)**	**Depth (m)**	**comment**	**finds**	**date**
1	Layer	-	0.3	Topsoil	-	-
2	Layer	-	0.46	Subsoil	-	-
6	Fill	0.66	0.15	Fill of **7**	-	-
7	Cut	0.66	0.15	Cut of hedge line	-	-
8	Fill	2.8	0.54	Fill of cut **11**	Pottery, bone, Flint	Later Iron Age
9	Fill	1.5	0.34	Fill of cut **11**	-	-
10	Fill	1.06	0.04	Fill of cut **11**	-	-

11	Cut	2.8	1	Cut of ditch	-	Later Iron Age

Trench 4

General description	**Orientation**	ENE-WSW
Trench consists of soil and subsoil sealing a group of inter cutting ditches and a pit cutting into a natural of degraded chalk	**Avg. depth (m)**	0.5
	Width (m)	1.6
	Length (m)	30

Contexts

context no	type	Width (m)	Depth (m)	comment	finds	date
1	Layer	-	0.23	Topsoil	-	-
2	Layer	-	0.27	Subsoil	-	-
12	Fill	1.1	0.34	Fill of re-cut **18**	Pottery	Undated
13	Fill	0.88	0.16	Fill of re-cut **18**	-	-
14	Fill	0.3	0.28	Fill of ditch **15**	-	-
15	Cut	1.3	0.4	Cut of ditch	-	-
16	Fill	0.6	0.18	Fill of **17**	-	-
17	Cut	0.6	0.18	Cut of gully	-	-
18	Cut	1.04	0.52	Re-cut of ditch **15**	-	-
19	Fill	0.6	0.04	Fill of **22**	-	-
20	Fill	0.4	0.06	Fill of **22**	-	-
21	Fill	0.96	0.26	Fill of **22**	-	-
22	Cut	1.2	0.61	Cut of ditch/gully	-	-
23	Fill	1.52	0.24	Fill of **26**	Bone, Pottery	Early Iron Age
24	Fill	0.87	0.11	Fill of **26**	Bone, Flint Pottery	Early Iron Age
25	Fill	1.5	0.32	Fill of **26**	Flint	-
26	Cut	1.5	0.46	Cut of Pit	-	Early Iron Age
27	Fill	0.59	0.18	Fill of **28**	-	-
28	Cut	0.59	0.18	Cut of gully	-	-

Trench 5

General description	**Orientation**	E-W
Trench consists of soil and subsoil overlying chalk natural and colluvium. The colluvium was cut by 3 ditches	**Avg. depth (m)**	0.44
	Width (m)	1.6
	Length (m)	30

Contexts

context no	type	Width (m)	Depth (m)	comment	finds	date
1	Layer	-	0.32	Topsoil	-	-
2	Layer	-	0.12	Subsoil	-	-

29	Cut	1.4	0.7	Cut of ditch	-	Romano-British/Medieval
30	Fill	0.2	0.05	Fill of **29**	Pottery, Bone	Medieval
31	Fill	1.4	0.55	Fill of **29**	Pottery, Bone	M2C-C3
32	Fill	0.88	0.04	Fill of **29**	-	-
33	Fill	0.8	0.13	Fill of **29**	-	-
42	Fill	3.3	0.3	Fill of **44**	Pottery, Bone	M/LC1 – C3
43	Fill	1.56	0.05	Fill of **44**	Pottery, Bone	Earlier Neolithic
44	Cut	3.3	0.35	Cut of Ditch	-	M/LC1 – C3
45	Layer	-	0.18	Colluvium in trench	Flint	-
46	Layer	-	0.27	Colluvium in trench under (45)	Flint, Bone. Pottery	Early Iron Age
47	Fill	0.72	0.18	Fill of **48**	Flint, Bone	-
48	Cut	0.72	0.18	Cut of Ditch	-	-
49	VOID					
50	VOID					

Trench 6

General description	**Orientation**	NW-SE
Trench consists of soil and subsoil overlying a natural of chalk and gravel cut by 2 linear features, a post hole and an irregular pit	**Avg. depth (m)**	0.44
	Width (m)	1.6
	Length (m)	30

Contexts

context no	**type**	**Width (m)**	**Depth (m)**	**comment**	**finds**	**date**
1	Layer	-	0.32	Topsoil	-	-
2	Layer	-	0.12	Subsoil	-	-
51	Cut	0.5	0.44	Cut of posthole	-	-
52	Fill	0.5	0.44	Fill of **51**	-	-
53	Cut	0.3	0.2	Cut of gully/nat feature	-	-
54	Fill	0.3	0.2	Fill of **53**	-	-
55	Cut	1.5	0.3	Cut of Pit?	-	M/L C1-C3
56	Fill	1.5	.3	Fill of **55**	Animal bone Pottery	M/L C1-C3
57	Cut	0.65	0.15	Cut of ditch/gully	-	-
58	Fill	0.65	0.15	Fill of **57**	-	-

Trench 7						
General description					**Orientation**	NW-SE
Trench consists of soil and subsoil overlying a disturbed natural of chalk sand and gravel. The natural was cut by a single linear feature and associated post hole					**Avg. depth (m)**	0.6
					Width (m)	1.6
					Length (m)	30
Contexts						
context no	**type**	**Width (m)**	**Depth (m)**	**comment**	**finds**	**date**
1	Layer	-	0.25	Topsoil	-	-
34	Layer	-		Subsoil	-	-
35	Layer	-		Colluvium	Flint	-
36	Fill			Fill of **38**	-	-
37	Fill			Fill of **38**	-	-
38	Cut			Cut of Ditch	-	-
39	Fill			Fill of Post hole	-	-
40	Cut			Cut of Post hole	-	-
41	Layer			Possible re-deposited natural	-	-
Trench 8						
General description					**Orientation**	NW-SE
Trench consists of soil, subsoil and colluvium overlying chalk natural. The colluvium is truncated by two ditches					**Avg. depth (m)**	1
					Width (m)	1.6
					Length (m)	30
Contexts						
context no	**type**	**Width (m)**	**Depth (m)**	**comment**	**finds**	**date**
1	Layer	-	0.3	Topsoil	-	-
59	Layer	-	0.3	Buried soil	Pottery, CBM	Medieval
60	Layer	-	0.3	Buried soil	Flint	?Early Medieval/Late Roman
61	Fill	2.55	0.8	Fill of **63**	Pottery	C2-C3
62	Fill	0.8	0.24	Fill of **63**	Pottery	C2-C3
63	Cut	2.55	1	Cut of Ditch	-	C2-C3
64	Fill	1.6	0.46	Fill of **65**	Pottery	MC2-LC3
65	Cut	1.6	0.46	Cut of ditch	-	MC2-LC3
Trench 9						
General description					**Orientation**	NNE-SSW
Trench consists of topsoil and subsoil overlying chalk cut by two ditches					**Avg. depth (m)**	0.47
					Width (m)	1.6

					Length (m)	28.8
Contexts						
context no	**type**	**Width (m)**	**Depth (m)**	**comment**	**finds**	**date**
1	Layer	-	0.32	Topsoil	-	-
2	Layer	-	0.15	Subsoil	-	-
67	Fill	1.25	0.36	Fill of **71**	Pottery, Bone	MC2-LC3
68	Fill	2.25	0.52	Fill of **71**	-	-
69	Fill			Fill of **71**	Bone, Samian ware	AD 120-200
70	Fill	0.74	0.32	Fill of **71**	-	-
71	Cut	1.25	1.14	Cut of ditch	-	MC2-LC3
72	Fill	3.15	0.4	Fill of **75**	Pottery, CBM, Bone	C2-C3
73	Fill	2.9	0.58	Fill of **75**	Pottery, CBM, Bone	LC3-EC4+
74	Fill	1.6	0.5	Fill of **75**	Pottery, Bone	LC1-C3
75	Cut	3.15	1.3	Cut of Ditch	-	C2-C3
Trench 10						
General description					**Orientation**	E-W
Trench devoid of archaeology. Consists of soil and subsoil overlying a natural degraded chalk.					**Avg. depth (m)**	0.43
					Width (m)	30
					Length (m)	1.6
Contexts						
context no	**type**	**Width (m)**	**Depth (m)**	**comment**	**finds**	**date**
1	Layer	-	0.2	Topsoil	-	-
2	Layer	-	0.23	Subsoil	-	-
Trench 11						
General description					**Orientation**	E-W
Trench consists of soil and subsoil overlying a chalk natural. A metalled surface bordered by two parallel north-south aligned ditches was located in this trench					**Avg. depth (m)**	0.43
					Width (m)	1.6
					Length (m)	30
Contexts						
context no	**type**	**Width (m)**	**Depth (m)**	**comment**	**finds**	**date**
1	Layer	-	0.3	Topsoil	-	-

2	Layer	-	0.13	Subsoil	-	-
76	Layer	1.5	0.03	Metalled surface	CBM	?Roman
77	Layer	1.5	-	Road make up deposit	CBM	?Roman
78	Layer	2.2	0.03	Metalled surface	-	?Roman
79	Layer	2.2	-	Road make up deposit	-	?Roman
84	Fill	1.75	0.3	Fill of **85**	CBM	?Roman
85	Cut	1.75	0.3	Re-Cut of Ditch **87**	-	?Roman
86	Fill	0.5	0.1	Fill of **87**	-	?Roman
87	Cut	0.5	0.1	Cut of Roadside Ditch	-	?Roman
88	Fill	1.45	0.3	Fill of Roadside Ditch **89**	CBM	?Roman
89	Cut	1.45	0.3	Cut of Roadside Ditch	-	?Roman

Trench 12

General description	**Orientation**	E-W
Trench consists of soil and subsoil overlying chalk natural and periglacial deposits. A single re-cut ditch was excavated towards the western end	**Avg. depth (m)**	0.5
	Width (m)	1.6
	Length (m)	28.8

Contexts

context no	**type**	**Width (m)**	**Depth (m)**	**comment**	**finds**	**date**
1	Layer	-	0.3	Topsoil	-	-
2	Layer	-	0.2	Subsoil	-	-
80	Cut	0.97	0.67	Cut of roadside ditch	-	?Roman
81	Fill	0.97	0.28	Fill of **80**	-	?Roman
82	Cut	2.15	0.39	Re-cut of Ditch **80**	-	LC1-C3
83	Fill	2.15	0.39	Fill of **82**	Pottery	LC1-C3

Trench 13

General description	**Orientation**	NE-SW
Trench devoid of archaeology. Consists of soil and subsoil overlying a natural degraded chalk.	**Avg. depth (m)**	0.68
	Width (m)	30
	Length (m)	1.6

Contexts

context no	**type**	**Width (m)**	**Depth (m)**	**comment**	**finds**	**date**
1	Layer	-	0.3	Topsoil	-	-
2	Layer	-	0.38	Subsoil	Pottery	Early Iron Age

APPENDIX B. FINDS REPORTS

B.1 The Worked Flint

By Anthony Haskins

Introduction

B.1.1 A small assemblage of flint (106 lithics) was recovered from Brickfields Stud, Newmarket. This report is a rapid assessment of the typologies and chronological indicators present within the assemblage.

Methodology

B.1.2 For the purposes of this report individual artefacts were scanned and then assigned to a category within a simple lithic classification system (Table 1). Unmodified flakes were assigned to an arbitrary size scale in order to identify the range of debitage present within the assemblage. Edge retouched and utilised pieces were also characterised. Beyond this no detailed metrical or technological recording was undertaken during the preliminary analysis. The results of this report are therefore based on a rapid assessment of the assemblage and could change if further work is undertaken.

Quantification

B.1.3 Of the material assessed, 13 of the lithics were naturally broken or plough struck material and were discarded from this assessment. The 16 fragments of burnt flint recovered derive from Roman contexts and have been ignored for the purposes of this report. A full catalogue of worked lithics is presented in Table 1 (below).

Results

B.1.4 The struck material was generally a locally available mid greyish-brown semi-translucent flint of moderate quality. Some of the material recovered, primarily the blade forms, was heavily recorticated, in contrast to the majority of the flakes, suggesting it is a multi-period assemblage. The flint is heavily rolled, suggesting that it has all been recovered from areas of secondary deposition.

B.1.5 The cores and core fragments recovered are all poorly made flake cores suggesting a later prehistoric date.

B.1.6 A mix of blades and flakes were recovered from the site. The blades, which are largely recorticated, suggest an early prehistoric element within the assemblage. This correlates with known finds of potentially Mesolithic flint work in the region of Brickfield Stud, particularly in the area of the Hamilton Stud, the Studlands estate and the neighbouring Newmarket industrial estate.

B.1.7 The poorly struck flakes within the assemblage suggest a later prehistoric element, either Bronze Age or Iron Age.

Discussion

B.1.8 The rolled nature of the flint suggests the majority of the assemblage was residual and not recovered from a location of primary deposition.

B.1.9 The concentration of early prehistoric flint work in the trenches, in conjunction with a large amount of colluvium, might suggest that the material is derived from further up slope from the trenching to the south of the proposed development.

The later prehistoric material was recovered from Paddock 2, in the region of dated Late Bronze Age or Early Iron Age features, suggesting it has been derived from nearby settlement.

Context			1	2	8	23	24	25	30	31	42	43	45	46	47	1	35	59	61	64	67	69	72	Totals
Trench			1	1	3	4	4	4	5	5	5	5	5	5	5	6	7	8	8	8	9	9	9	
Type	Sub type	Classification																						
core technology		SP/F																2						2
		Fragment		1	1																			2
flakes (>50mm)	secondary									1		1											1	3
	tertiary											1												1
flakes (>25mm <50mm)	primary			1															1					2
	secondary			1	7	1	2			1		1	1	1					3	2				20
	tertiary				1				1	1		1		2				1						7
	broken										1													1
flakes (>10mm <25mm)	primary				1		1					1												3
	secondary					1																		1
	tertiary				1	1	2																	4
blades (all sizes)	secondary				2		1			2		1		2										8
	tertiary				1		1	1		3		5		1			1							13
	broken													1										1
chunks/angular shatter (>50mm)					2																			2
chunks/angular shatter (<50mm)					1		3											1						5
retouched tools		Scraper								1														1
		misc retouched flake	1																					1
burnt flint (all types)							4						1	1						1	7	2		16
other		Natural flint and plough struck flint				2	2			1		1	3		2	1				1				13
Totals			1	3	17	5	16	1	1	10	1	12	5	8	2	1	1	4	4	4	7	2	1	106

Table 1: Flint catalogue

B.2 The Prehistoric Pottery

By Sarah Percival

Introduction

B.2.1 A total of 103 prehistoric sherds weighing 761g were collected from five features in Trenches 3, 4 and 5 and from subsoil in Trench 13. A small quantity of Earlier Neolithic pottery was recovered along with Early Iron Age Post Deverel-Rimbury sherds which form the majority of the assemblage (Table 2). One sherd is Later Iron Age and one sherd is not closely datable. The sherds are small and in poor condition. The average sherd weight is 7g.

Trench	Feature type	Feature number	Context	Spotdate	Quantity	Weight (g)
3	Ditch	11	8	Later Iron Age	1	12
4	Pit	26	23	Early Iron Age	17	96
	Pit	26	24	Early Iron Age	70	584
5	Colluvium	46	46	Early Iron Age	3	9
	Ditch	44	42	Earlier Neolithic	8	39
				Not closely datable prehistoric	1	3
			43	Earlier Neolithic	2	17
13	Subsoil	2	2	Early Iron Age	1	1
Total					**103**	**761**

Table 2: Quantity and weight of prehistoric pottery by feature

Methodology

B.2.2 The assemblage was analysed in accordance with the Guidelines for analysis and publication laid down by the Prehistoric Ceramic Research Group (PCRG 2010 Methodology.doc). The total assemblage was studied and a full catalogue was prepared. The sherds were examined using a binocular microscope (x10 magnification) and were divided into fabric groups defined on the basis of inclusion types. Fabric codes were prefixed by a letter code representing the main inclusion present (F representing flint, G grog and Q quartz). Vessel form was recorded; R representing rim sherds, B base sherds, D decorated sherds and U undecorated body sherds. The sherds were counted and weighed to the nearest whole gram. Decoration and abrasion were also noted. The pottery and archive are currently curated by OAE.

Earlier Neolithic

B.2.3 A total of ten sherds, weighing 56g, are earlier Neolithic Plain Bowl. The assemblage includes two rolled rims, perhaps from the same vessel and similar to examples found at Hurst Fen, Mildenhall (Longworth 1960, P8). All the sherds are made of the flint-tempered fabric typical of the earlier Neolithic in East Anglia (Table 3: Longworth 1960, 228). The sherds were recovered from two fills of ditch **44** in Trench 5 (Table 2) and probably represent material weathered into the ditch fill within subsoil.

B.2.4 Recent work by Whittle *et al.* suggests that Plain Bowl was in use in southern Britain from *c.*3855 – 3730 cal. BC (68%) until *c.*3355 – 3210 cal. BC (68%; Whittle *et al.* 2011, 762).

Fabric	Description	Quantity	Weight (g)	Number of vessels
F3	Common white angular flint >3mm, in a sandy clay matrix	1	3	
F4	Sparse to moderate medium burnt flint >2mm, in a sandy clay matrix	9	53	2
Total		**10**	**56**	**2**

Table 3: Earlier Neolithic fabrics

Early Iron Age

B.2.5 The Early Iron Age component of the assemblage comprises 91 sherds weighing 690g and includes rims from three vessels.

B.2.6 Four fabric types were identified, three contain angular flint inclusions and the fourth is sandy (Table 3). The range of fabrics compares well with Post Deverel-Rimbury sherds found previously in the parish at SHER EXG082 (Brudenell 2011) and from contemporary settlement evidence from Fordham Bypass (Percival 2005).

B.2.7 Vessel rims are all from slack-shouldered jars with long, upright or slightly concave necks (Brudenell 2012, fig, 4.1, form G2). One vessel has a hooked rim with fingertip-impressed decoration to the rim top. The other rims are both flattened and decorated on the rim top, one with fingertip-impressions and the other with incised slashes. Jars of this form are extremely prevalent within the Early Iron Age assemblage from EXG082.

Fabric	Description	Quantity	Weight (g)	Number of vessels
F1	Sparse to moderate medium burnt flint (> 1-2mm) in a sandy clay matrix	1	1	
F2	Moderate or common coarse and very coarse burnt flint (> 3-4mm) in a sand clay matrix.	26	312	1
F3	Moderate or common coarse burnt flint (>2-3mm) in a sandy clay matrix	33	231	
Q2	Moderate or common sand, with some sherds having very rare fine or medium burnt flint (>1-1.5mm)	3	27	
QF	Moderate or common sand with rare coarse flint (> 2-3mm)	28	119	2
Total		**91**	**690**	**3**

Table 4: Early Iron Age fabrics

B.2.8 A single, small curved body sherd may be from a cup. Base forms are simple and undecorated. Surface treatments include smoothing found on 34% (242g) of the assemblage, and rough wiping present on 44% (308g). A small number of sherds have finger-wiped surfaces similar to vessels found at Barham (Martin 1993, fig.19).

B.2.9 The majority of the assemblage came from pit **26**, Trench 4. Further sherds were also found from colluvium in Trench 5 and subsoil in Trench 13 (Table 1). It is likely that the larger and better preserved assemblage from pit **26** was probably deposited at or close to a time contemporary with Early Iron Age occupation at the site whilst the remainder of the assemblage is probably redeposited.

B.2.10 The pottery is an Early Iron Age Decorated Ware assemblage dated to *c.*800-350 BC. The site lies in an area where several large Post Deverel-Rimbury assemblages have been found including the Earliest Iron Age pottery from Exning (SHER EXG082, *c.*800-600/550 BC) and the substantial assemblage from Fordham Bypass and Landwade Road, Fordham which date to *c.*600-350 BC (Percival 2004, Braddock and Hill undated).

Later Iron Age

B.2.11 A single sherd in sandy fabric, from ditch **11**, Trench 8, may be later Iron Age (350-100/50BC).

B.3 The Romano-British and post-Roman Pottery

By Stephen Wadeson with Alice Lyons

Introduction

B.3.1 A small assemblage consisting of 127 sherds, weighing 1.241kg of pottery was recovered. Predominantly a Romano-British assemblage (mid/late 2nd to late 3rd/early 4th centuries AD), a smaller quantity of post-Roman material were also identified (Table 5). Recovered from 17 stratified deposits, the majority of the assemblage was retrieved from the fill of ditches (118 sherds, 0.9890kg, *c*. 80% by weight).

Period	Quantity	Quantity (%)	Weight (Kg)	Weight (%)	MSW (g)
Romano-British	124	97.6	1.181	95.2	9.5
RB/Medieval	1	0.8	0.001	0.1	1.0
Medieval	1	0.8	0.015	1.2	15.0
Modern	1	0.8	0.044	3.5	44.0
Total	**127**	**100**	**1.241**	**100**	**9.7**

Table 5: Quantity and weight of pottery by ceramic period
(MSW = Mean sherd weight)

B.3.2 The assemblage is fragmentary and abraded suggesting that the majority of the sherds were not recovered from their primary site of deposition. The pottery has an average sherd weight of *c.*10g. Most of the sherds have not retained their original surfaces or evidence of wear and use. The relatively poor condition of the pottery is attributed not only to the action of local soils but also post-depositional disturbance such as middening and/or manuring as part of the waste management during the Roman and post-Roman periods.

Methodology

B.3.3 The assemblage was examined in accordance with the guidelines set down by the Study Group for Roman Pottery (Webster 1976; Darling 2004; Willis 2004). The total assemblage was studied and a catalogue was prepared. A sample of the sherds were examined using a magnifying lens (x10 magnification). The pottery was divided into fabric groups defined on the basis of inclusion types present. The fabric codes (used primarily in the archive) are descriptive and abbreviated by the main letters of the title (Roman Sandy grey ware = RSGW); vessel form was also recorded.

Quantification

B.3.4 All sherds have been counted, classified and weighed to the nearest whole gram. Decoration and abrasion were also noted and a spot date has been provided for each individual sherd and context.

B.3.5 The site archive is currently held by OA East and will be deposited with the appropriate county stores in due course.

Sampling Bias

B.3.6 The evaluation was carried out by hand and feature selection made through standard sampling strategies. There are not expected to be any inherent biases. Where bulk samples have been processed for environmental and artefactual remains, there has also been some recovery of pottery. These are small quantities of abraded sherds and

have not been quantified unless no pottery was recovered during excavation, and serious bias is not likely to result.

Romano-British Pottery

B.3.7 A total of 124 Romano-British pottery sherds, weighing 1.181kg, representing *c.* 95% (by weight) of the total site assemblage were recovered from deposits within Trenches 4, 5, 6, 8 and 9. The majority of the pottery was recovered from ditches (116 sherds: 0.973kg), principally Trench 9 Ditch **71** (82 sherds: 0.730kg). The pottery is severely abraded, with few original surfaces surviving and has an average sherd weight of only 9.5g. Where the pottery can be dated it is characteristic of a mid Roman date (mid/late 2nd to late 3rd centuries AD).

B.3.8 The bulk of the assemblage consists of locally produced utilitarian domestic coarse wares (reduced and oxidised) with Romanised, micaceous sandy grey wares accounting for *c.*55% (by weight) of the assemblage. Clays with high silver mica most notably originate from the Wattisfield area in north Suffolk (Arthur 2004, 161-2), *c.* 40km to the east of the survey area. While the majority of these wares are undiagnostic those which can be identified comprise vessels imitating BB2 forms (Tyers 1996, 186-188).

B.3.9 Other coarse ware vessels include Horningsea-type storage jar fragments which were produced throughout most of the Roman period reaching their peak of distribution in the 2nd and 3rd centuries AD (Tomber and Dore 1998, 116; Evans 1991). In addition, small quantities of unprovenanced Shell tempered wares and several sherds from Black surfaced red ware vessels, including a copy of a fine ware indented beaker, were recovered.

B.3.10 Domestically produced fine wares are rare within the assemblage and consist mainly of Nene Valley colour coated products manufactured near to the Roman town of Durobrivae (Tyers 1996, 173-175; Perrin 1999, 87). An indented beaker with rouletted decoration (MC2-LC3/EC4) was recorded. Also recovered was a single heavily abraded rim fragment from a plain-rimmed dish (Perrin 1999, 101-103), which dates from the late 3rd/early 4th centuries. These later Nene Valley products more closely resemble utilitarian wares, which are thicker and more substantial than the earlier Nene Valley fine wares such as the rouletted beaker also found here.

B.3.11 Imported fine wares are limited to three sherds of Central Gaulish samian (Tomber and Dore, 1998, 32) from a mould decorated form 30 bowl with panel design from Lezoux (AD120-200).

Medieval Pottery

B.3.12 Recovered from context 30, Ditch **29**, a single rim sherd (15g) was the only medieval sherd recovered during evaluation. Produced in a micaceous medieval coarse ware fabric the rim is from a jar of in unspecific form and can be dated to the 12th to 14th centuries. The remaining three sherds from the context are abraded and have been tentatively identified as Roman, however these sherds may be of a medieval date.

Modern Pottery

B.3.13 A single rim sherd from a Refined red earthenware bowl (44g) was identified in the topsoil of Trench 6 and dates to the 19th century.

Discussion

B.3.14 This is a small abraded assemblage of Romano-British pottery the majority of which consists of mica rich sandy grey ware jar/bowl sherds probably produced in the

Wattisfield area of north Suffolk. Where the material can be dated it is typical of the mid Roman period, although a single example of a later Roman Nene valley colour coated dish (late 3rd to 4th century AD) was also found. It is worthy of note that the small sample includes few high status products such as samian (Tyers 1996, 105-114) and no specialist wares, such as amphora and mortaria (Tyers 1996, 85-104;116-135).

B.3.15 The small size and poor condition of this assemblage limits its potential for interpretation. What has been found to date, however, is typical of low order settlements in the region (Evans 2003,105).

B.3.16 The small number of post-Roman sherds also recovered suggesting low levels of settlement activity or waste disposal on site during the medieval and post-medieval periods.

Acknowledgements

B.3.17 Special thanks to Alice Lyons, OA East for her time and specialist knowledge of Roman pottery and Carole Fletcher OA East for her editorial skills and specialist knowledge of post-Roman pottery.

Fabric Codes

RSGW:	Roman Sandy Grey Ware	BSRW:	Black Surfaced Red Ware
RSOW:	Roman Sandy Oxidised Ware	HORN-TYPE:	Horningsea-Type Ware (Reduced and Oxidised)
RBSH:	RB Shelly Wares	NVCC:	Nene Valley Colour Coat
RBRW:	RB Red Ware	SACG:	Samian Central Gaulish (Lezoux)
RBRM:	RB Red Micaceous	MCWM:	Medieval coarse ware micaceous
RBRC:	RB Red Colour Coated	REFR:	Refined Red earthenwares
RBGM:	RB Grey Micaceous	SOW:	Sandy Oxidised Ware (RB or med)

Pottery Catalogue

R – Rim Sherd, B – Base Sherd, U – Undecorated Body Sherd, D – Decorated Body Sherd

Ceramic Period	Context	Fabric	Desc.	Qty	Wgt (kg)	Date	Context Date	Vessel Form
RB	1	RSGW	U	1	0.008	M/LC1-C3	TOPSOIL	
MOD	1	REFR	R	1	0.044	C19		Bowl
RB	2	BSRW	R	1	0.018	MC3+	SUBSOIL	Flanged Dish
RB	2	RSGW	D	1	0.025	C2-C3		
RB	2	RSGW	U	1	0.011	M/LC1-C3		
RB/MED	12	SOW	U	1	0.001	NCD	NCD	
?RB	30	RSGW	U	2	0.009	M/LC1-C3	C12-C14	
MED	30	MCWM	R	1	0.015	C12-C14		Jar
?RB	30	BSRW	U	1	0.009	LC1-C3		
RB	31	RBSH	U	3	0.016	M/LC1-C3	MC2-C3	
RB	31	RSGW	U	2	0.012	M/LC1-C3		
RB	31	RSOW	U	1	0.003	MC1-E/MC2		
RB	42	RSGW	D	1	0.012	M/LC1-C3	M/LC1-C3	
?RB	56	RSGW	D	1	0.001	M/LC1-C3	M/LC1-C3	

?RB	56	RSGW	U	1	0.003	M/LC1-C3		
RB	59	HORN-TYPE	R	1	0.027	C2-C3	C2-C3	Storage Jar
								?Lid
RB	59	RBGM	U	1	0.115	C2-C3		
RB	61	RSGW	U	3	0.019	LC1-C3	C2-C3	
RB	61	HORN-TYPE	U	1	0.029	C2-C3		Storage Jar
								Storage Jar
RB	61	HORN-TYPE	R	1	0.031	C2-C3		
RB	61	RBRW	U	1	0.005	LC1-C3		
RB	62	RSGW	U	1	0.014	C2-C3	C2-C3	Storage Jar
RB	64	SACG	U	1	0.001	AD120-200	MC2-LC3	
RB	64	RSGW	U	3	0.010	M/LC1-C3		
RB	64	NVCC	U	1	0.004	MC2-LC3/EC4		Indented Beaker
RB	64	NVCC	U	1	0.001	MC2-C3		Beaker
RB	64	RBSW	R	1	0.006	LC1-C3		Misc Jar
RB	67	RSOW	U	8	0.031	MC2-C3	MC2-LC3	
RB	67	NVCC	U	2	0.002	MC2-C3		Beaker
RB	67	RSGW	BU	43	0.486	MC2-C3		Misc Jars
RB	67	HORN-TYPE	U	1	0.020	C2-C3	MC2-LC3	Storage Jar
RB	67	RBSH	U	3	0.023	M/LC1-C3		?Beaker
RB	67	RBSW	R	1	0.008	MC2-C3		Indented Beaker
RB	67	BSRW	BD	21	0.141	MC2-LC3		
RB	69	SACG	D	3	0.019	AD120-200	AD120-200	Drag. 30 Bowl
RB	72	RSGW	U	1	0.007	M/LC1-C3	C2-C3	
RB	72	RBRC	R	1	0.002	C2-C3		
RB	73	RSGW	U	1	0.011	M/LC2-C3	LC3/EC4+	
RB	73	RBSH	U	1	0.007	M/LC2-C4		Misc Jar
RB	73	RBRM	U	1	0.002	M/LC1-C3		
RB	73	NVCC	R	1	0.004	LC3/EC4+		Plain Rim Dish
RB	74	RSGW	U	1	0.008	LC1-C3	LC1-C3	
RB	83	RBSH	U	1	0.010	LC1-C3	LC1-C3	
RB	83	RSGW	U	2	0.011	LC1-C3		
Total					**1.241**			

Table 6: Pottery Catalogue

B.4 The Early Saxon Pottery

By Sarah Percival

B.4.1 A single handmade rim sherd weighing 19g, found in the fill of ditch **63**, Trench 8 which also contained Roman pottery, is probably of Early Saxon date. The vertical, rounded rim is from a biconical jar made of silty fabric heavily tempered with organic material, probably grass. This inclusion has been burnt out of the surface of the fabric leaving characteristic elongated voids. The vessel is similar to examples found within several Early Saxon cemeteries from Suffolk, for example Flixton (Anderson 2012, fig.7.19, 8).

B.4.2 Grass-tempered vessels were believed to be more commonly in use in Suffolk in the 6th and 7th centuries (Tipper 2009).

B.5 The Ceramic Building Material

By Carole Fletcher with assistance from Stephen Wadeson

Introduction

B.5.1 The evaluation produced a small-moderate assemblage of 62 fragments of ceramic building material (CBM) weighing 14.032kg. The CBM assemblage includes Roman, medieval and post-medieval material, although the bulk of the assemblage is Roman.

B.5.2 The overall condition of the assemblage is moderately abraded and the average weight of brick and tile fragments from individual contexts is moderate at 226g. The quantities of material present are not sufficient to indicate the presence of a tiled or brick-built building on the site, however they indicate that a substantial Roman or Romano-British building existed in the vicinity of the site.

Methodology

B.5.3 The CBM was counted, weighed and classified by form; the small quantities of post-medieval CBM have been recorded to a basic level only. The Roman CBM has been more fully recorded including fabric using an alphanumerical indicator. Levels of abrasion and any evidence of re-use were noted, following the guidelines laid down by the Archaeological Ceramic Building Materials Group (ACBMG 2002). All the CBM has been quantified on a context by context basis into an Access 2000 database.

Assemblage

B.5.4 The assemblage of CBM can be divided into seven broad types.

CBM Type	Fragment Count	Weight (kg)
Brick	11	6.726
Brick or Tile	9	2.109
Imbrex	4	0.459
Semicircular or segmented brick	1	0.442
Tegula	7	3.400
Unclassified	22	0.707
Roof Tile (Medieval and Post-medieval)	8	0.189
Total	**62**	**14.032**

Table 7: CBM functional assemblage

B.5.5 CBM was recovered from a variety of features across the excavated area. The majority were however recovered from ditch **75**. The moderate nature of the majority of the fragments of CBM suggest that their deposition may be due to reworking and later

infilling of features rather than deliberate disposal after they were broken, suggesting that much of the CBM was not contemporary with the features from which it was recovered.

B.5.6 Within the CBM assemblage, six fabrics were tentatively identified and recorded. Fabric B2 is the most common followed by Fabric B3 which is possibly a coarser version of B2.

Brick/Tile	Brief Fabric Description
B1	Hard fired dull red fabric completely oxidised, with a slightly hackly fracture. Occasional moderate quartz, some voids in the matrix
B2	Dull brown-buff fabric to bright orange-red fabric completely oxidised, slightly hackly fracture.
B3	Bright orange-red fabric completely oxidised, slightly hackly fracture. Calcareous inclusions and grog or clay pellets, may be a coarse variant of fabric B2
B4	Sandy-silty matrix with clay pellets or grog and occasional swirls of poorly mixed red clay. Moderately well fired and oxidised dull red.
B5	Dull red fabric, sandier than fabric B2 and with fewer inclusions than B3
B6	Dull red fabric with grog or clay pellets and voids visible in the matrix

Table 8: Brick and Tile Fabrics

Discussion

B.5.7 The majority of the assemblage (by weight) is made up of brick fragments, the bulk of which was recovered from a single 1m-wide section excavated through ditch **75**, which the geophysical survey suggests is over 20m long. Very few of the CBM fragments show evidence of mortared surfaces although a single fragment of brick from ditch **75** appeared to have traces of *Opus Signinum* on one surface. Little reuse is demonstrated, with only two fragments having mortar on a broken edge and no remodelling of the CBM is observable. The majority of the assemblage consists of the types of Roman brick and tile recovered from many sites in the vicinity of Roman or Romano-British tile-roofed buildings, however the presence of a partial semi-circular or segmented brick (Brodribb 1987, 55-58), which could have formed part of a column or half column, may indicate that the building from which this CBM originated was substantial, possibly a villa.

B.5.8 The assemblage represents reuse of Roman CBM from a potentially sizeable building, possibly as an aid to drainage in ditch 75 where the bulk of the CBM was recovered. The small number of fragments of post-Roman CBM represent low levels of rubbish deposition and manuring activity in the post-Roman period.

Context	Cut	Weight (kg)	Count	Form	Period	Fabric	Abrasion	Re-use	Mortar present
1		0.045	2	Roof Tile	post-med		Moderate		
1		0.011	1	Unclassified	Unclassified		Moderate-abraded		
2		0.036	1	Roof Tile	medieval/post-med		Moderate		
59		0.059	1	Roof Tile	NCD		Moderate-abraded		
59		0.197	1	*Tegula*	Roman	Fabric 1	Moderate-abraded		
72	75	0.138	1	Brick	Roman	Fabric 2	Moderate-abraded		
72	75	0.035	1	Unclassified	Unclassified		Moderate-abraded		
73	75	0.645	2	Brick or Tile	Roman	Fabric 2	Moderate		
73	75	0.378	2	Brick or Tile	Roman	Fabric 3	Moderate		
73	75	0.274	2	Brick or Tile	Roman	Fabric 3	Moderate-abraded		
73	75	0.403	1	Brick or Tile	Roman	Fabric 5	Moderate		Traces of mortar or possibly lime wash over the upper surface
73	75	0.438	1	Brick or Tile	Roman	Fabric 6	Moderate		Traces of mortar on upper surface
73	75	0.374	2	Brick or Tile	Roman	Fabric2/3	Moderate		
73	75	0.993	1	Brick	Roman	Fabric 1	Moderate		
73	75	0.192	1	Brick	Roman	Fabric 1	Moderate		*Op sig* on upper surface, mortar on other surfaces
73	75	2.415	4	Brick	Roman	Fabric 2	Moderate		
73	75	0.972	1	Brick	Roman	Fabric 4	Moderate		Thin mortar on upper surface
73	75	0.601	1	Brick	Roman	Fabric 4	Moderate-abraded		
73	75	0.845	1	Brick	Roman	Fabric 5	Moderate		
73	75	0.570	1	Brick	Roman	Fabric 5	Moderate	Mortar on broken edge	Mortar on upper surface
73	75	0.017	1	Roof Tile	post-med		Moderate		
73	75	0.459	4	*Imbrex*	Roman	Fabric 2	Moderate-abraded		
73	75	0.787	1	*Tegula*	Roman	Fabric 2	Moderate		
73	75	2.304	4	*Tegula*	Roman	Fabric 3	Moderate		
73	75	0.043	1	Unclassified	Roman	Fabric 2	Moderate-abraded		

Context	Cut	Weight (kg)	Count	Form	Period	Fabric	Abrasion	Re-use	Mortar present
73	75	0.027	2	Unclassified	Roman	Fabric 3	Moderate-abraded		
73	75	0.114	8	Unclassified	Roman	Fabric 4	Abraded	Traces of mortar across broken surfaces	
73	75	0.068	7	Unclassified	Roman	Fabric 5	Abraded		
73	75	0.442	1	Special	Roman	Fabric 3	Moderate-abraded		
76	0	0.006	1	Roof Tile	post-med		Moderate		
77	0	0.016	1	Roof Tile	post-med		Moderate-abraded		
84	85	0.010	1	Roof Tile	medieval/post-med		Moderate		
88	89	0.112	1	*Tegula*	Roman	Fabric 2	Moderate-abraded		
88	89	0.006	1	Unclassified	post-med		Moderate-abraded		
Totals		**14.032**	**62**						

Table 9: CBM Catalogue

APPENDIX C. ENVIRONMENTAL REPORTS

C.1 The Faunal Remains

By Chris Faine

C.1.1 The faunal material was recovered largely from Romano-British features. 20 contexts contained faunal material. One hundred and sixty two fragments were recovered with 136 identifiable to species (83% of the total sample). No information regarding residuality or contamination is available to the author at this time. The preservation of the assemblage is generally good. The hand collected animal bone is stored in 2 boxes measuring 51×25×16cm. The bones are washed and bagged by context.

C.1.2 The total weight of the hand-collected bone is 5.9Kg. The entire assemblage was scanned initially by context, with all "countable" bones being recorded on a specially written MS Access database. The overall species distributions in terms of fragments (NISP), age-able mandibles, epiphyses and measurable/sex-able bones are shown in table 10. The counting system is based on a modified version of the system suggested by Davis (1992) and used by Albarella and Davis (1994). Completeness was assessed in terms of diagnostic zones (Dobney & Reilly, 1988). Ageing was assessed via tooth wear (Grant, 1982). Fish, amphibian and small mammals were not identified to species at this stage.

C.1.3 Cattle is the dominant taxon, along with smaller numbers of sheep remains (no goats were identified) and 4 horse fragments. A single pig element was recovered from context **30**. Other species are scarce and are represented by complete fowl and cat humeri from context **59**. Small mammal, fish and amphibian remains were recovered from several contexts, with context **67** containing examples of all three. Environmental samples from context **67** also contained 163g of burnt material including fragmentary medium mammal and bird remains. As one would expect given this species distribution the largest numbers of age-able epiphyses were recovered from the cattle and sheep assemblages, with no age-able pig or horse epiphyses being available. Nine age-able mandibles were recovered; 5 cattle, 4 sheep and 1 pig. Sex-able bones were scarce, consisting entirely of cattle metapodia.

C.1.4 This is an extremely small assemblage with limited potential for further analysis, although it is the largest bone assemblage to have been recovered from the immediate area (Brooks, 2008 Caruth, 2006 & Craven, 2012). Any further work would involve full analysis of the cattle remains in particular.

	Identifiable bones	Age-able epiphyses	Age-able mandibles	Measurable bones	Sex-able bones
Cattle (*Bos*)	50	26	5	14	4
Sheep/Goat (*Ovis/Capri*)	18	20	3	7	0
Pig (*Sus scrofa*)	1	0	1	1	0
Horse (*Equus)*	4	0	0	1	0
Cat (*Felix sylvestris*)	1	2	0	3	0
Fowl (*Gallus sp.*)	1	2	0	1	0
Amphibian	4	0	0	0	0
Fish	3	0	0	0	0
Bird	2	0	0	0	0
Large Mammal	34	0	0	0	0
Medium mammal	12	0	0	0	0
Small mammal	8	0	0	0	0
Total	**138**	**50**	**9**	**27**	**4**

Table 10: Animal bone catalogue

C.2 The Environmental samples

By Rachel Fosberry

Introduction

C.2.1 Thirteen bulk samples were taken during the evaluation phase of Brickfields Stud, Newmarket, Suffolk. Features sampled include ditches, pits and post holes with deposits dating from the Iron Age, Roman and Medieval periods. The purpose of this assessment is to determine whether plant remains are present, their mode of preservation and whether they are of interpretable value with regard to domestic, agricultural and industrial activities, diet, economy and rubbish disposal.

Methodology

C.2.2 The total volume (up to seventeen litres) of each of the samples was processed by tank flotation. The floating component (flot) of the samples was collected in a 0.3mm nylon mesh and the residue was washed through 10mm, 5mm, 2mm and a 0.5mm sieve. A magnet was dragged through each dried residue fraction prior to sorting for artefacts. Any artefacts present were noted and reintegrated with the hand-excavated finds. The dried flots were subsequently sorted using a binocular microscope at magnifications up to x 60 and a complete list of the recorded remains are presented in Table 11. Identification of plant remains is with reference to the *Digital Seed Atlas of the Netherlands* and the authors' own reference collection. Nomenclature is according to Stace (1997). Carbonized seeds and grains, by the process of burning and burial, become blackened and often distort and fragment leading to difficulty in identification. Plant remains have been identified to species where possible. The identification of cereals has been based on the characteristic morphology of the grains and chaff as described by Jacomet (2006).

Quantification

C.2.3 For the purpose of this initial assessment, items such as seeds, cereal grains and small animal bones have been scanned and recorded qualitatively according to the following categories

= 1-10, ## = 11-50, ### = 51+ specimens #### = 100+ specimens

Items that cannot be easily quantified such as charcoal, magnetic residues and fragmented bone have been scored for abundance

+ = rare, ++ = moderate, +++ = abundant

Results

Sample No.	Context No.	Cut No.	Feature Type	Trench	Volume processed (L)	Flot Volume (ml)	Cereals	Legumes	Weed Seeds	Charcoal	Hammerscale	animal bones	Fishbone	Amphibian bones	Marine molluscs	Pottery	Metal
1	12	15	ditch	4	20	300	####		###	++	#	##	#	#	#	#	#
2	20	22	ditch	4	8	90	###		#	+	#	#		#	#		
3	23	26	pit	4	20	30	#			+						#	
4	24	26	pit	4	20	100				+++		##				##	
5	25	26	pit	4	20	20	#			+	#						
6	37	38	Ditch	7	18	1	#			+	#						
7	30	29	Ditch	5	20	40	###		#	++	#	#			####	#	#
8	47	48	Ditch	5	20	20				+							
9	52	51	Post hole	6	20	20	#	#	#	+	#	#	#	#			
10	67	71	Ditch	9	20	30	##	#		++	#	#	#	###		#	#
11	61	63	Ditch	8	18	20	#			+	#	##		#		#	#
12	73	74	Ditch	9	20	30	#				#	#		#			
14	77			11	18	20	#			+	#						

Table 11: Environmental Samples from EXN102

C.2.4 Plant remains are preserved by carbonization and include cereal grains and weed seeds in addition to charcoal. Charred cereal grains are present several of the samples, most frequently in the samples dating to the medieval period. Free-threshing wheat (*Triticum aestivum sensu-lato*) predominates and barley (*Hordeum* sp.) and rye (*Secale cereale*) occur less frequently. Oats (*Avena* sp.) are present in two samples; most abundantly in Sample 7, fill 30 of pit **29** and, to a lesser extent in Sample 1, fill 12 of ditch **15**. Sample 1 contains the most significant charred cereal assemblage; a flot volume of 300ml was produced during flotation and this is almost entirely comprised of charred free-threshing wheat grain that contains a significant contaminating assemblage of corn gromwell seeds (*Lithospermum arvense*). Other weed seeds present include common knotgrass (*Polygonum aviculare*), Corncockle (*Agrostemma githago*), brome (*Bromus* sp.), and cornflower (*Centaurea* cf. *cyanus*). Sample 2, fill 20 of ditch **22** contains a similar assemblage to Sample 1 although the density of charred

remains recovered is lower. Chaff elements are notably absent suggesting the cereals represent fully-processed grain. Sample 7, also contains a large number of mussel shells with an approximate minimum number of individuals (MNI) of 250.

C.2.5 Sample 10, fill 67 of Roman ditch **71** contains an unusual assemblage of charred barley grains mixed with a significant quantity of bones; mainly burnt bird bones but with occasional fish and amphibian bones.

C.2.6 The samples taken from Iron Age pit **26** contain sparse quantities of charred grain, mainly barley. Sample 4, fill 24 is charcoal-rich.

C.2.7 Flake hammerscale was recovered in small amounts from many of the samples indicating that black-smithing activities were taking place in the vicinity. The hammerscale is most likely to date from the medieval period and the microscopic flakes could have found their way into earlier dating deposits through bioturbation.

Discussion

C.2.8 The environmental samples from Brickfields Stud have produced charred plant assemblages dominated by cereal grains. The samples from the earliest dated feature, Iron Age pit **26** did not contain sufficient material to be indicative of deliberate deposition unlike the uppermost fill of Roman ditch **71** which contains a rich deposit of burnt bones mixed with charred barley. The charred plant assemblages from the Roman or medieval boundary ditches **15** and **22** are indicative of the deliberate deposition of burnt food waste. Cereals are likely to have been accidentally burnt either when drying a cereal crop for storage or prior to milling (to harden the grain) or during food preparation. Legumes would have been a staple crop but they are usually under-represented in the archaeobotanical record as they are less likely to be exposed to fire than cereals were. Ditches **15** and **22** are possibly re-cuts of the same boundary ditch and are located close to a medieval moated manor house called 'The Island'. They could have been used as a convenient depository for waste-disposal.

C.2.9 The charred seed assemblage is consistent with what one would generally expect to find growing amongst cereal crops. Bromes are common crop contaminants that grow to the same height as the cereal crop, the grains are edible and so may not necessarily have been removed as a contaminant of the prepared grain especially if used for animal fodder. Corn gromwell, and corncockle are plants that grow in cultivated fields as crop contaminants and would have set seed and been harvested at the same time as cereal crops. They both produce large seed that are of a similar size to cereal grains so could not be removed by sieving and so they would have had to be picked out by hand prior prior to grinding/cooking grain. Corncockle seeds are large, black and rough and are extremely poisonous to both humans and livestock, even if cooked, so any contaminating seeds have to picked out by hand prior to consumption. Corn gromwell seeds look like small grey stones and would have been an unpalatable gritty addition to flour if ground with the wheat. The high concentration of corn gromwell contaminants in Sample 1 may have been the reason for its discard.

Statement of potential

C.2.10 The environmental samples taken during the evaluation of Brickfields Stud, Newmarket have provided evidence of domestic and culinary waste from all periods of occupation of the site. The charred plant assemblage from boundary ditch **15** has produced a quantifiable assemblage but it is considered that further analysis of this sample would not add to the interpretation of this deposit and further work is not recommended at this stage.

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APPENDIX E. OASIS REPORT FORM

All fields are required unless they are not applicable.

Project Details

OASIS Number	oxfordar3-170264		
Project Name	Evaluation of Paddocks at Brickfields Stud, Newmarket		
Project Dates (fieldwork) Start	01-01-2014	Finish	01-02-2014
Previous Work (by OA East)	No	Future Work	Unknown

Project Reference Codes

Site Code	EXN102	Planning App. No.	F/2013/0060/FUL
HER No.	EXN102	Related HER/OASIS No.	

Type of Project/Techniques Used

Prompt	Direction from Local Planning Authority - PPS 5
Development Type	Amenity Area (e.g. public open space)

Please select all techniques used:

☐ Aerial Photography - interpretation	☐ Grab-Sampling	☐ Remote Operated Vehicle Survey
☐ Aerial Photography - new	☐ Gravity-Core	☐ Sample Trenches
☐ Annotated Sketch	☐ Laser Scanning	☐ Survey/Recording Of Fabric/Structure
☐ Augering	☐ Measured Survey	☒ Targeted Trenches
☐ Dendrochronological Survey	☐ Metal Detectors	☐ Test Pits
☐ Documentary Search	☐ Phosphate Survey	☐ Topographic Survey
☐ Environmental Sampling	☐ Photogrammetric Survey	☐ Vibro-core
☐ Fieldwalking	☐ Photographic Survey	☐ Visual Inspection (Initial Site Visit)
☐ Geophysical Survey	☐ Rectified Photography	

Monument Types/Significant Finds & Their Periods

List feature types using the NMR Monument Type Thesaurus and significant finds using the MDA Object type Thesaurus together with their respective periods. If no features/finds were found, please state "none".

Monument	Period	Object	Period
Ditch	Roman 43 to 410	Pottery	Roman 43 to 410
pit	Iron Age -800 to 43	flint implement	Neolithic -4k to -2k
road	Roman 43 to 410	pottery	Bronze Age -2.5k to -700

Project Location

County	Suffolk	Site Address (including postcode if possible)	
District	Forest Heath	Brickfields Stud Exning Road Newmarket	
Parish	Exning		
HER	Suffolk County Council		
Study Area		National Grid Reference	TL 622 650

Project Originators

Organisation	OA EAST
Project Brief Originator	Jess Tipper
Project Design Originator	Paul Spoerry
Project Manager	Paul Spoerry
Supervisor	Anthony Haskins

Project Archives

Physical Archive	Digital Archive	Paper Archive
Location ...	Location ...	Location ...
Accession ID ...	Accession ID ...	Accession ID ...

Archive Contents/Media

	Physical Contents	Digital Contents	Paper Contents
Animal Bones	☒	☐	☐
Ceramics	☒	☐	☐
Environmental	☐	☐	☐
Glass	☐	☐	☐
Human Bones	☐	☐	☐
Industrial	☐	☐	☐
Leather	☐	☐	☐
Metal	☐	☐	☐
Stratigraphic		☐	☐
Survey		☐	☐
Textiles	☐	☐	☐
Wood	☐	☐	☐
Worked Bone	☐	☐	☐
Worked Stone/Lithic	☒	☐	☐
None	☐	☐	☐
Other	☐	☐	☐

Digital Media	Paper Media
☒ Database	☐ Aerial Photos
☐ GIS	☒ Context Sheet
☐ Geophysics	☐ Correspondence
☒ Images	☐ Diary
☐ Illustrations	☐ Drawing
☐ Moving Image	☐ Manuscript
☒ Spreadsheets	☒ Map
☐ Survey	☐ Matrices
☒ Text	☐ Microfilm
☐ Virtual Reality	☐ Misc.
	☐ Research/Notes
	☐ Photos
	☒ Plans
	☒ Report
	☒ Sections
	☐ Survey

Notes:

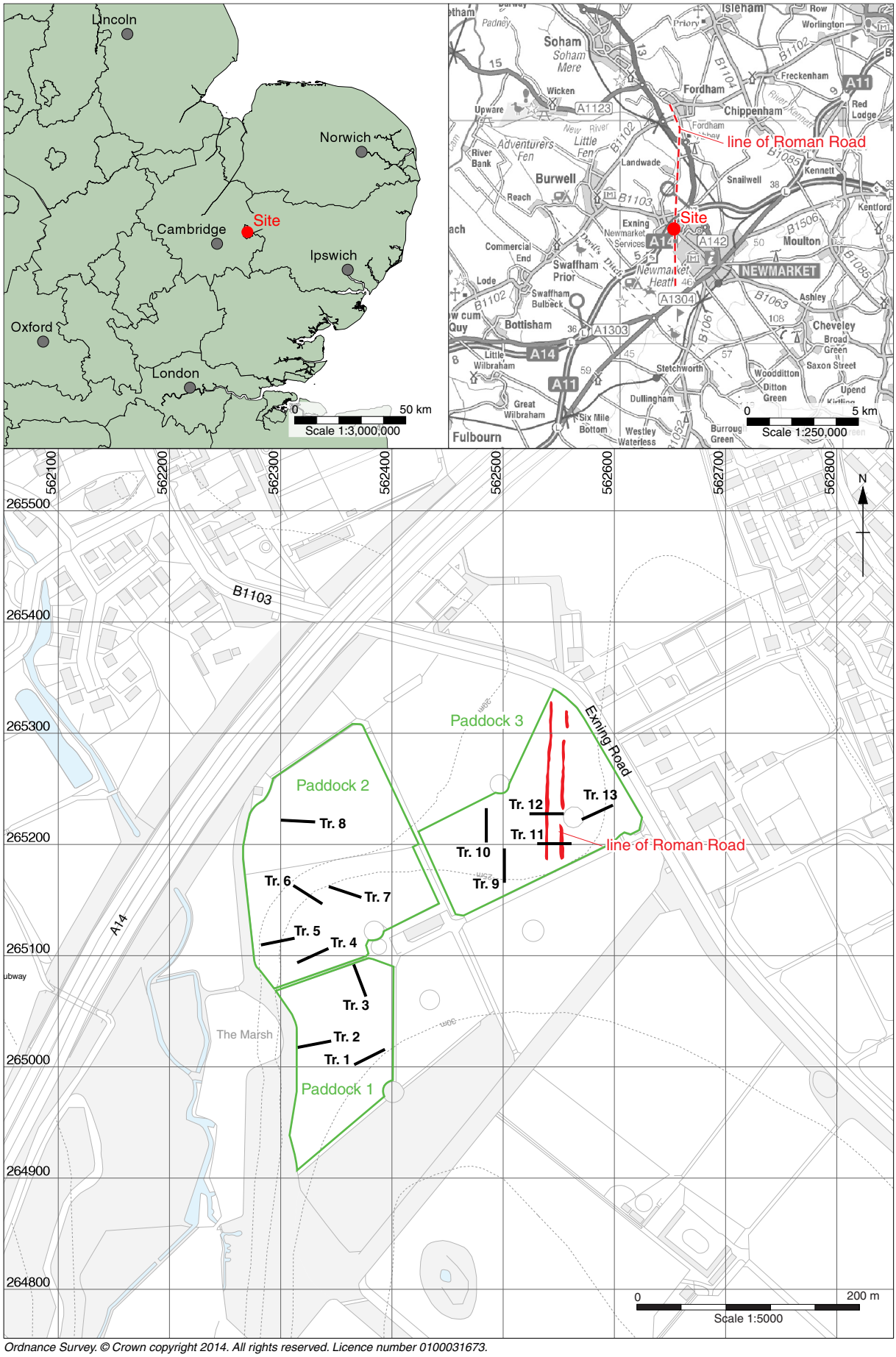

Figure 1: Site location showing trench positions (black)

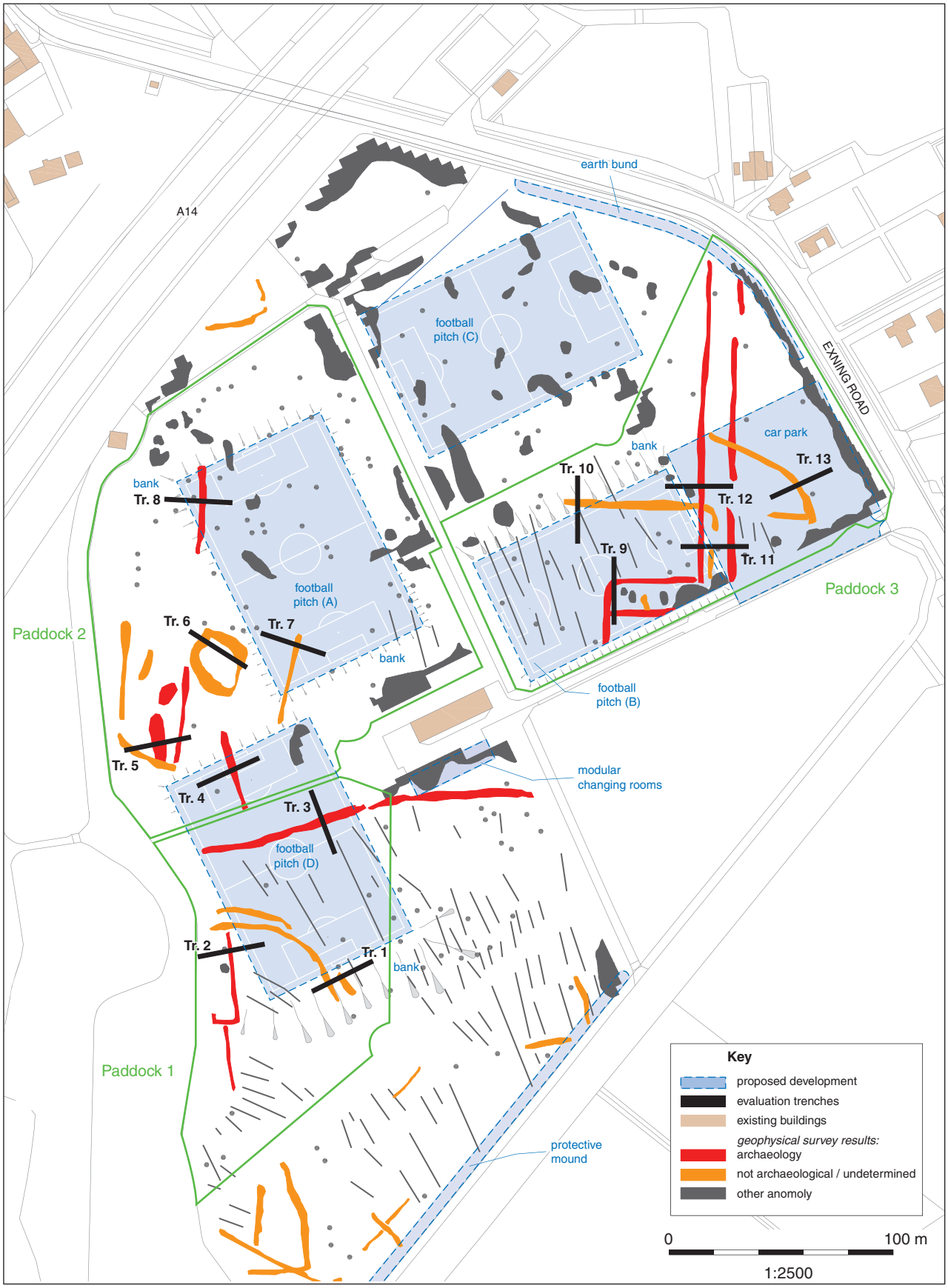

Figure 2 Site plan showing proposed development, geophysical survey results and evaluation trenches

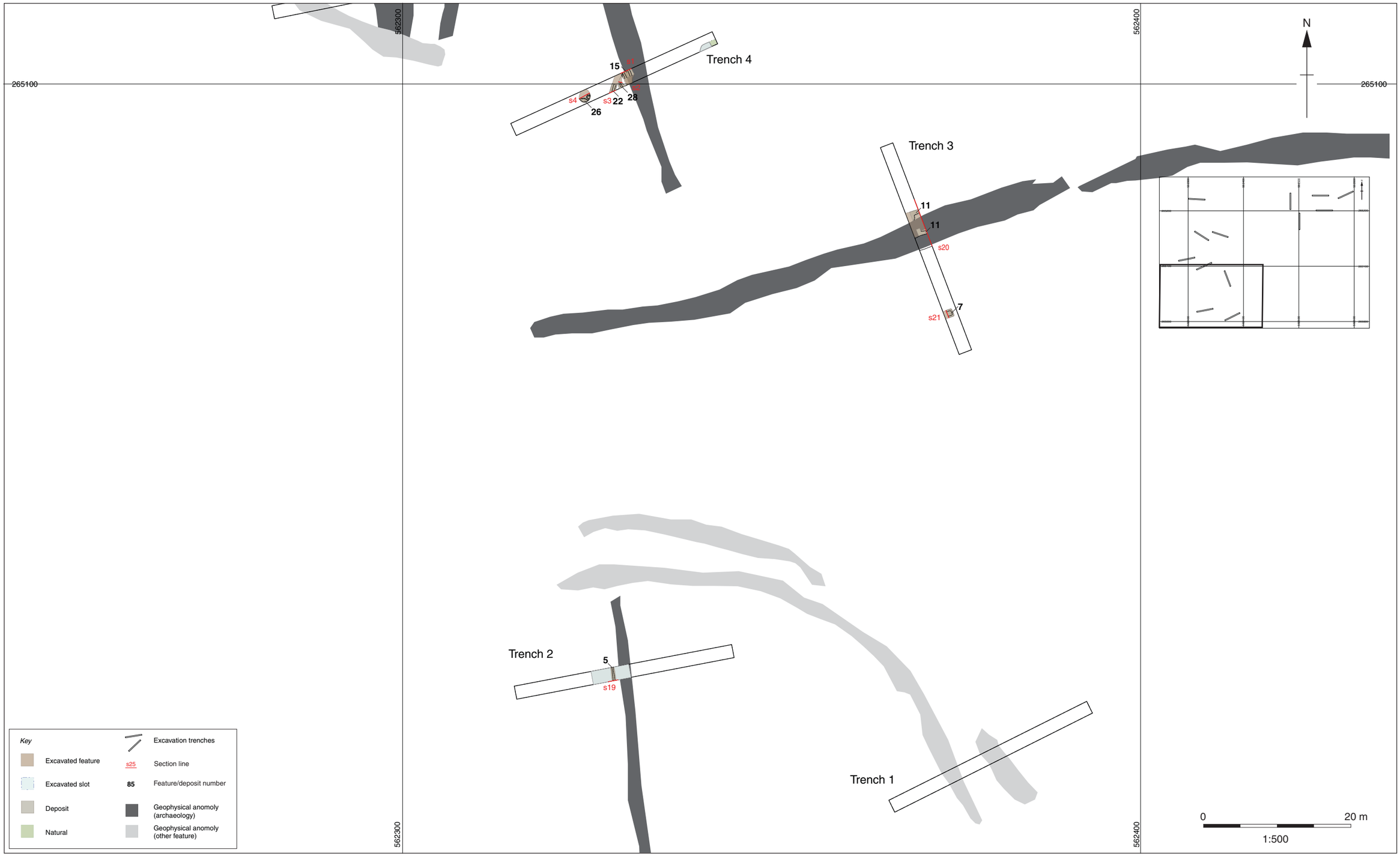

Figure 3: Location of Trenches 1 - 3

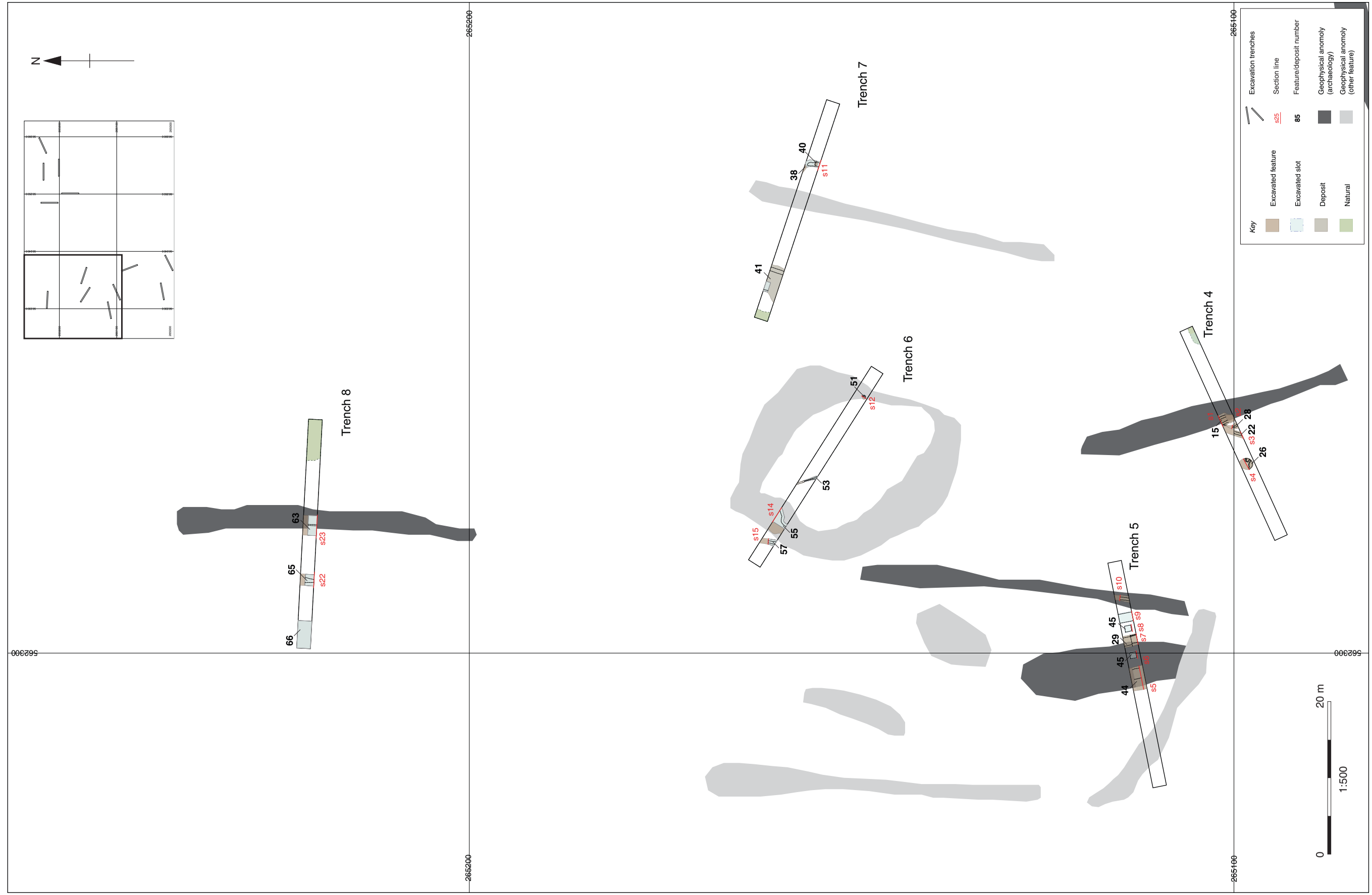

Figure 4: Location of Trenches 4 - 8

Figure 5: Location of Trenches 9 - 13

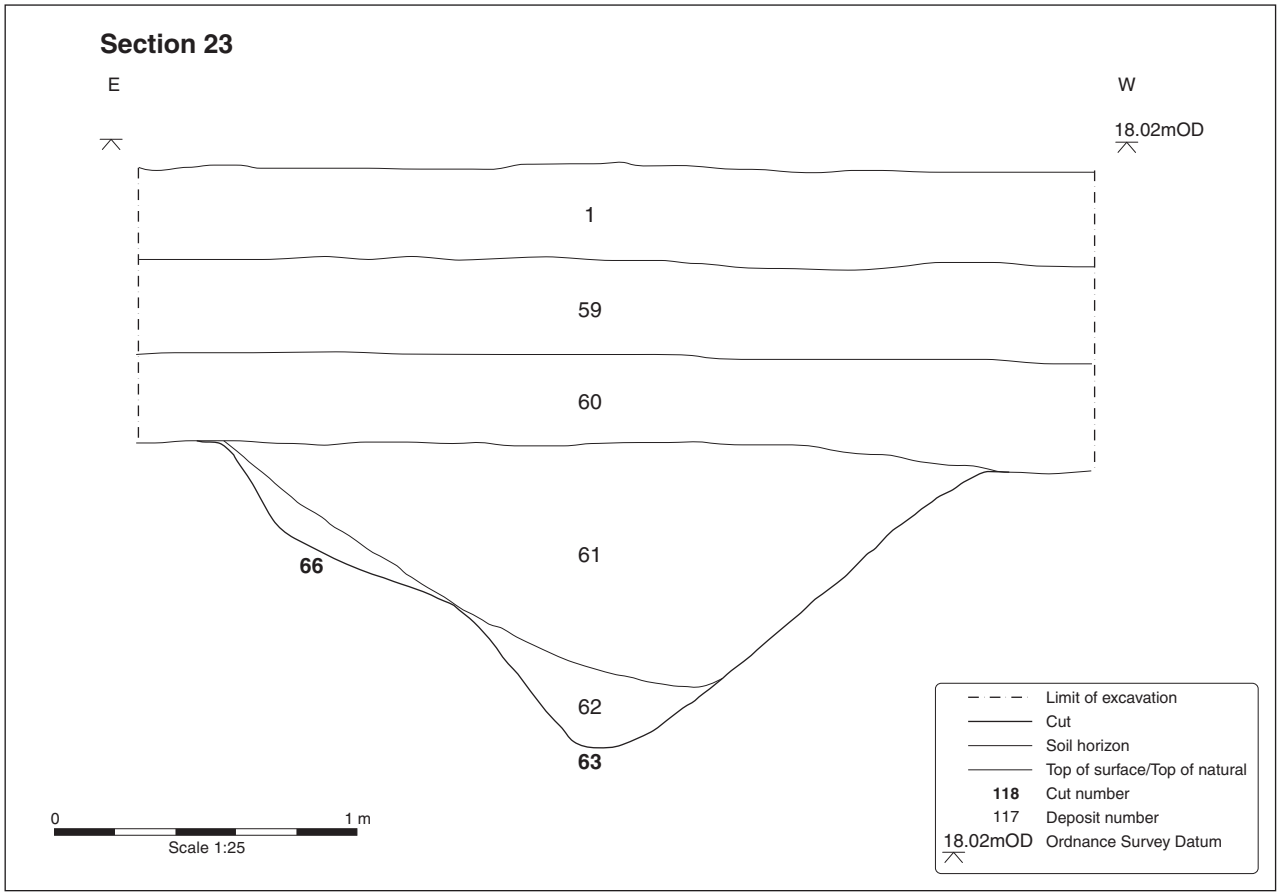

Figure 6: Section 23

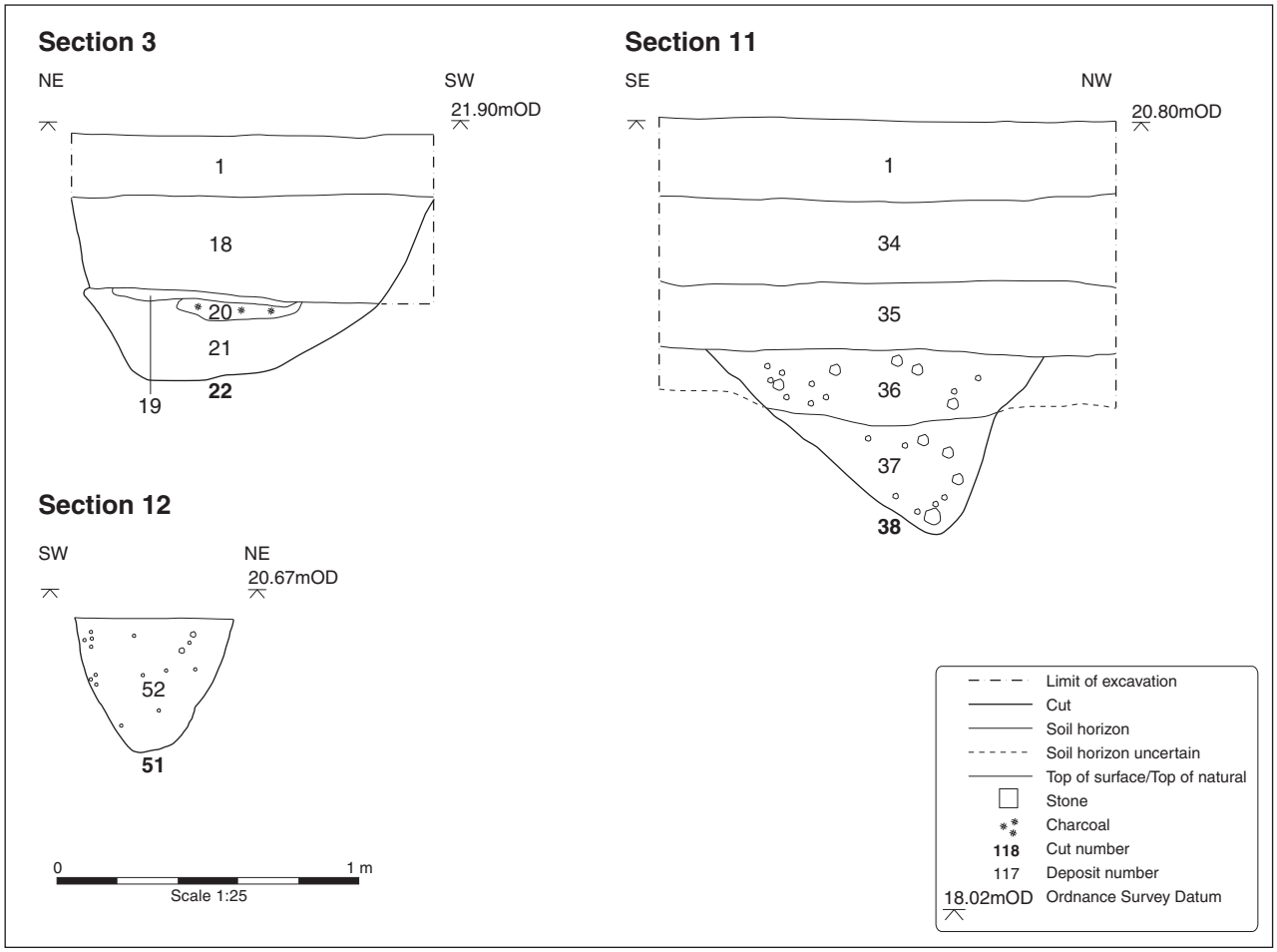

Figure 7: Sections 3, 11, and 12

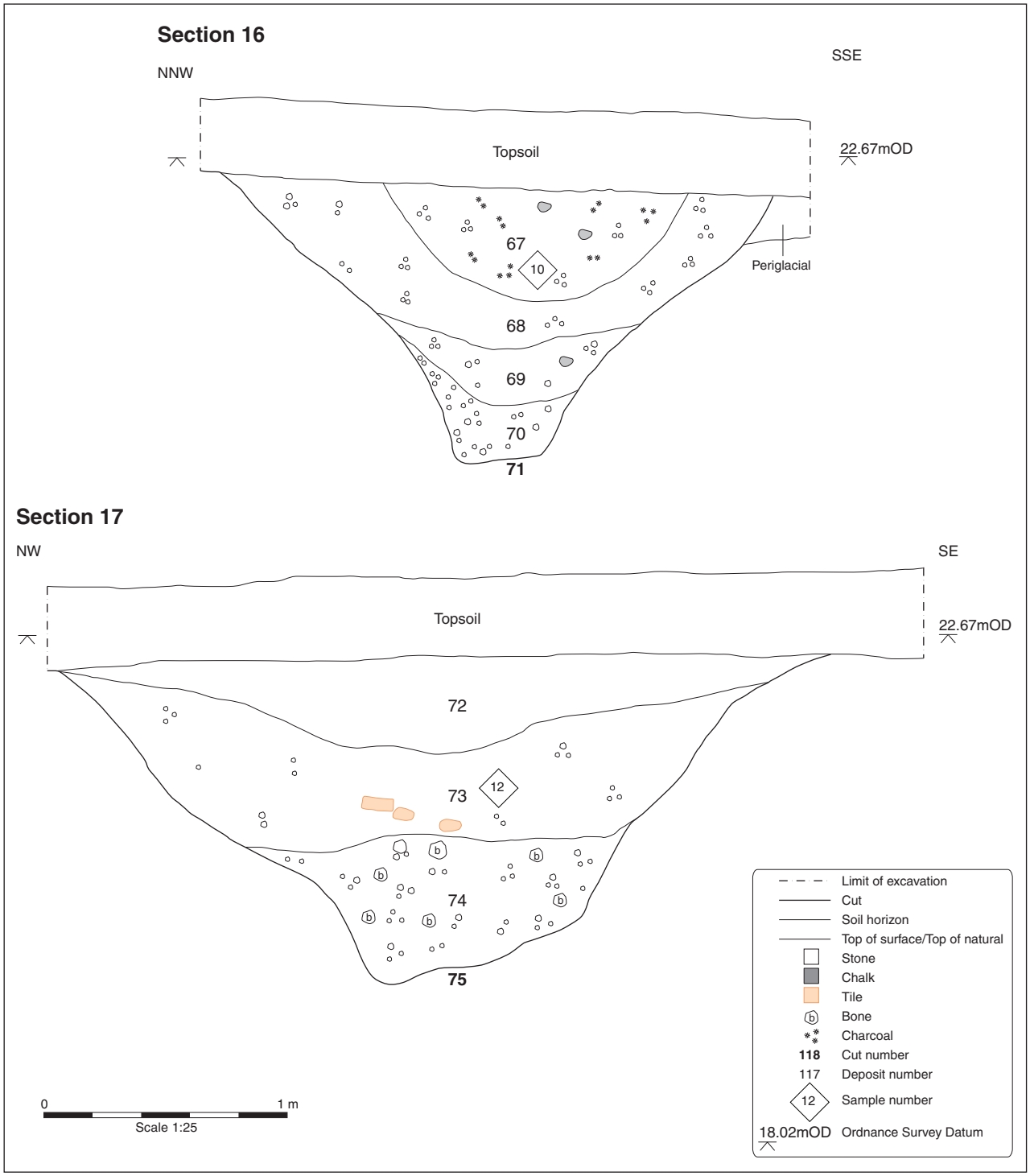

Figure 8: Sections 16 and 17

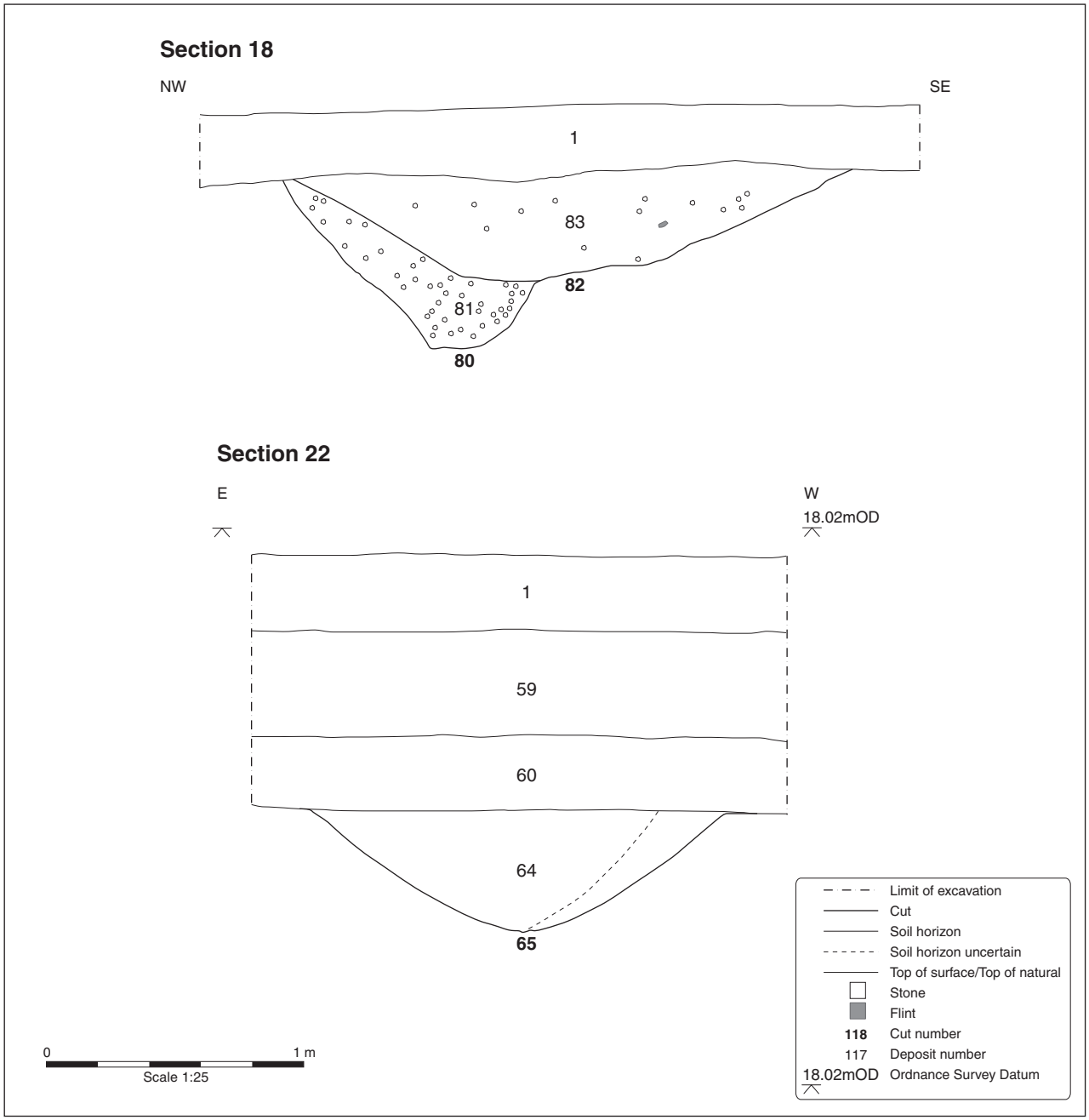

Figure 9: Sections 18 and 22

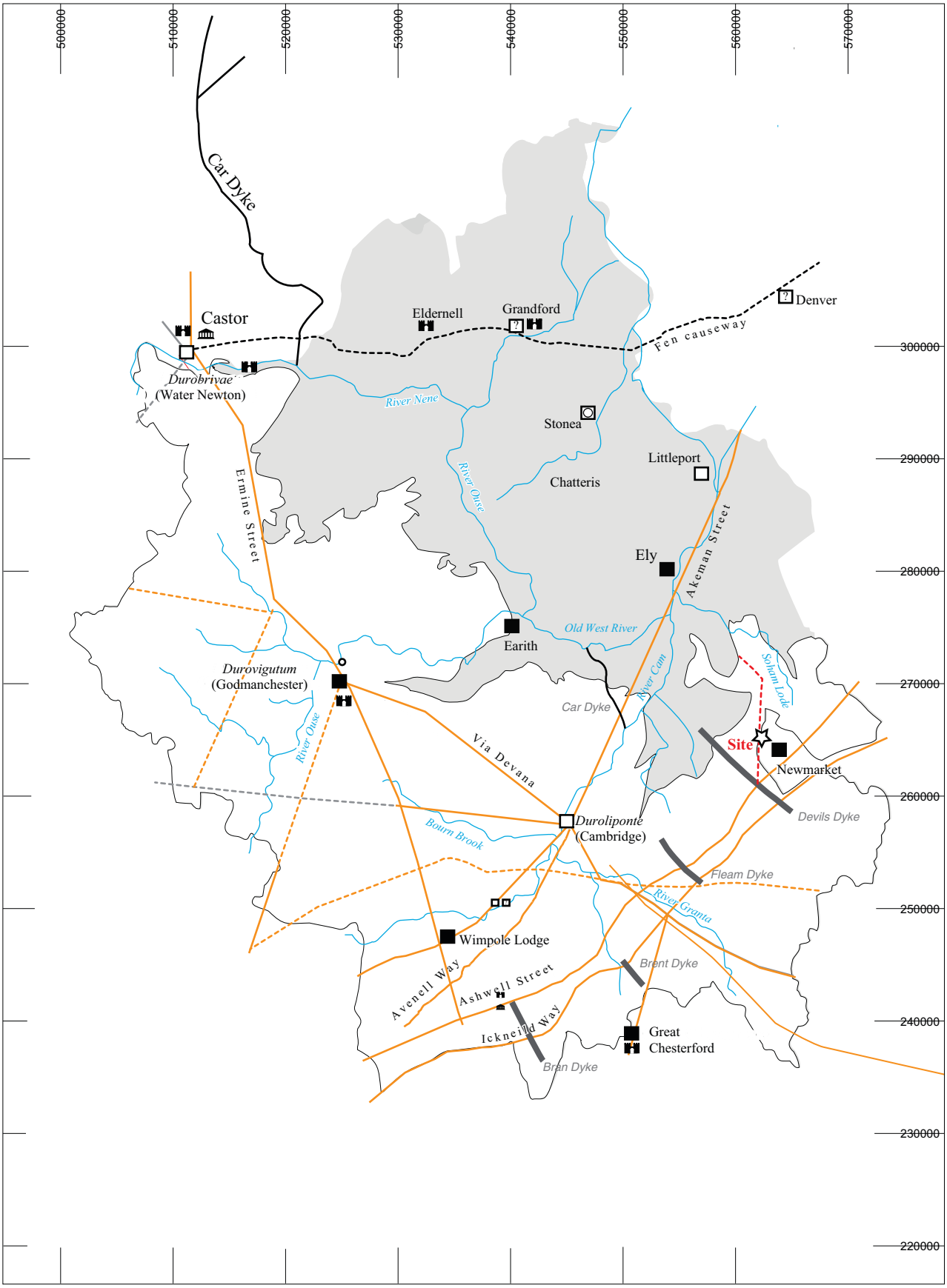

Figure 10: Roman Roads in the vicinity of the site

Plate 2 - Trench 2 facing west

Plate 1 - Trench 1 facing west

Plate 4 - Trench 4 facing east

Plate 3 - Trench 3 facing north

Plate 6 - Trench 6 facing north-west

Plate 5 - Trench 5 facing west

Plate 8 - Trench 8 facing north-west

Plate 7 - Trench 7 facing north-west

Plate 10 - Trench 10 facing north

Plate 9 - Trench 9 facing north

Plate 12 - Trench 12 facing east

Plate 11 - Trench 11 facing west

Plate 13 - Trench 13 facing north-east

Plate 14 - West facing Section of Ditch [11]

Plate 15 - South facing section of Pit [26]

Plate 16 - North facing section of ditch [63]

Plate 17 - Road surface (76) and make up (77)

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