Primark
78 Eden Street
Kingston-upon-Thames

Post-Excavation Assessment and Updated Project Design

for

RG Group

On behalf of

Primark

CA Project: 779021

CA Report: 17354

October 2017

Andover Cirencester Exeter Milton Keynes

Primark
78 Eden Street
Kingston-upon-Thames

Post-Excavation Assessment Report

CA Project: 779021
CA Report: 17354

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SUMMARY

Site Name:	78 Eden Street,
Location:	Kingston-upon-Thames
NGR:	518185 169235
Type:	Excavation and watching brief
Date:	March 2016 to February 2017
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A programme of archaeological investigation was undertaken by Cotswold Archaeology from April 2016 to January 2017 at the request of RG Group, on behalf of Primark, at 78 Eden Street, Kingston-upon-Thames (NGR: 518185 169235). An area of 0.07ha was excavated across the development area. Features dating from the Saxon to the modern period were recorded on the site of a demolished Quaker meeting house and former burial plot from which the majority of human remains had previously been removed.

The excavation recorded two late post-medieval buildings and yard surfaces which were likely to have formed part of the post-medieval Eden Street frontage. Following the removal of these, a number of large square postholes were identified in the north-western corner of site. A small circular cesspit or toilet was excavated that was cut through one of several medieval ditches. These were apparently multiple recuts of a boundary or drainage ditch. The earliest feature on site was a large ditch of Saxon date running close to the northern boundary of the site on a north-west to south-east alignment. The ditch contained moderate assemblages of animal bone, pottery and bloomery iron smelting debris. It possibly formed part of a larger boundary ditch beyond the extents of the site.

The watching brief identified one post-medieval well and the continuation of the Saxon ditch found during the excavation. It also revealed the remains of 17 modern Quaker burials in the eastern half of the site. Of these, as per an agreed Scheme of Investigation, four were removed and examined archaeologically. All of the human remains have now been reburied.

This document presents a quantification and assessment of the evidence recovered. It considers the evidence collectively in its local, regional and national context, and presents an updated project design for a programme of post-excavation analysis and reporting. This will allow appropriate publication of the results in the *Surrey Archaeological Collections*.

1 INTRODUCTION

1.1 From April 2016 through to January 2017 Cotswold Archaeology (CA) carried out an archaeological excavation and watching brief at the 78 Eden Street, Kingston-upon-Thames (centred on NGR 518179 169232; Fig. 1). The work was undertaken at the request of RG Group on behalf of Primark and in accordance with a detailed written scheme of investigation (WSI) produced by CA (2016a and b) and approved by the LPA acting on the advice of Gillian King, former Archaeology Adviser at the Greater London Archaeological Advisory Service (GLAAS).

1.2 In light of the fact that it was already known that there was a high potential for archaeological remains to be present, and due to time constraints for the construction programme, in consultation with Gillian King and the RG group an initial proposal for an evaluation on the site was abandoned in favour of going straight to excavation. Following the completion of the excavation at the end of May 2016 the remaining elements of site were removed and recorded under watching brief conditions. The fieldwork followed the Standard and Guidance for Archaeological Excavation (CIfA 2014), the Guidelines for Archaeological Projects in Greater London (GLAAS 2015), the Management of Research Projects in the Historic Environment (MORPHE): Project Manager's Guide (Historic England 2015a) and accompanying PPN3: Archaeological Excavation (Historic England 2015b). It was monitored by Gillian King, including site visits on the 14th and 28th of April and the 5th and 17th of May 2016.

Location, topography and geology

1.3 The site is bounded to the south by a Primark store and to the north by a 1960s building. The eastern side of the site is bounded by a yard, while Eden Street is located to the west (Fig. 2). The western half of the site was occupied by the former Friends Meeting House, before it was demolished in 2016. The eastern part of the site was heavily overgrown but formerly contained a burial ground, the burials from which were exhumed in 2010. The site is level and lies at a height of c.8.50m above Ordnance Datum (aOD).

1.4 The underlying geology of the site comprises gravel and sand deposits of the Reading and Woolwich Beds encountered at depth of 6.69m aOD, which was overlying London Clay Formation (BGS 2017).

2 ARCHAEOLOGICAL BACKGROUND

2.1 The archaeological and historical background to the site has been outlined in various Archaeological Desk-based Assessment reports (CgMs 1998; 2005; 2011, 2016). It is duly acknowledged that this work has largely been used as the basis of the summary of the known archaeological potential and historic land-use of the site prior to excavation which is presented below.

Prehistoric

2.2 Evidence for earlier prehistoric activity in the Kingston area comes in the form of limited finds of Palaeolithic and Mesolithic flint tools recovered from sites within town centre. Some Neolithic worked flint has been found locally including an axe head in Eden Street (MLO4250, TQ1806 6925) and a flint blade with further residual worked flint from 70-76 Eden Street (MLO62737, MLO65956, TQ1817 6920). Other Neolithic and Bronze Age activity has been indicated in the general area. This includes a brushwood platform on the edge of a palaeochannel at 59a and 59b Clarence Street (CgMs, 2016, 13) and a human skull was identified by excavations at Eden Walk in 1974-96. A large assemblage of Bronze Age weaponry possibly related to ritual offerings has been recovered from the Thames at Kingston, Iron Age activity in the area appears to have been focused away from Kingston towards the Old Malden and Tolworth areas although a possible Late Iron Sage and early Roman activity was excavated Fairfield West and Orchard Road (MLO3683 TQ18266918, MLO21145 TQ18266918) to the northwest of the site (CgMs, 2016)..

Roman

2.3 Roman activity in the area comes from several 19th century excavations in and around Eden Street. A small Roman alter was found there and a site north-east of 82 Eden street identified a silted river channel containing a large hoard of 350 predominantly fourth century coins, jeweller and rolled lead strips (MLO65957 TQ18176920). Excavations at 70-76 Eden Street revealed a pit containing Roman pottery and tile.

Anglo-Saxon

2.4 Excavations carried out at Eden Walk in 1974-96, 76 Eden Street in 1978, 82 Eden Street and 7-17 Lady Booth Street in 1989 have all produced quantities of chaff tempered pottery dating to between the 5th to 7th century AD. While the material at Eden Walk and 76 Eden Street may have been residual in nature,

the pottery recovered from 82 Eden Street and 7-17 Lady Booth Street was clearly *in situ*, identified within a truncated pit and a V shaped ditch, respectively.

2.5 In 1985, excavations at 23 Brook Street, to the south of Eden Street and Lady Booth Road, produced evidence of a possible sunken featured building or grubenhaus dwelling. The grubenhaus produced the broken sherds of at least twelve pottery vessels dated to between the 5th and 7th century AD.

2.6 This evidence suggests the possibility that the area surrounding the site was occupied by agricultural settlements in the Early to Middle Saxon period. These settlements possibly farmed the higher drier ground to the east, while being located at the edge of wetter marshy land to the west.

2.7 The excavations at Eden Walk identified two Late Saxon or perhaps Saxon-Norman ditches, interpreted as land drains. This suggests a continuation of agricultural activity, at least, in the area of the study site into the late Saxon period.

Medieval

2.8 In the Domesday Survey of 1086 Kingston is still described as a 'vill' held directly as part of the Kings personal estate. The population of 86 villains, 14 borders and 2 slaves (representing with their families perhaps 500 persons) were scattered throughout the manor from Ham to Old Malden. It is likely that within the area of the modern town, a village type settlement existed around the earliest version of the existing parish church.

2.9 Between c.1086 and c.1190 this village evolved into a small town. and the first Kingston Bridge across the Thames was constructed. Clattern Bridge across the Hogsmill appears to have been constructed toward the end of the twelfth century. Although the market is not recorded until 1242, it would appear that all the key elements of the urban topography of the Market Place were in place by c. 1200.

2.10 Heathen Street (now Eden Street) existed at least as early as 1315 when it was mentioned in a deed as "Ia Hethenstrate". The origin of the name is unknown. In the nineteenth century it was suggested that this had been the Jewish quarter; prior to the expulsion of the Jews from England in 1290 though there seems to be no contemporary evidence to support this. There is some suggestion that the

name originated from the low status of the inhabitants of this area in the medieval period, who would have been involved in "dirty" trades such as slaughtermen, skinners, tanning and the pottery making. A further alternative is that the name originated from the discovery in the medieval period of numerous "Heathen" Roman artefacts, as is well attested in later centuries.

2.11 Documentary evidence for Heathen Street in the late medieval period is sparse though in 1427, John Hunte "Skynner" held land there. The only surviving rental of the Kingston properties of Merton priory dates from about 1450. This document shows two tofts in Eden Street had once been held by "Geoffrey le Potter". The other properties recorded in the rental were houses with gardens, barns and in one case a “columbarium" or large Dovecote.

2.12 Archaeological investigations in 1968, 1977/78, 1989 and 1995 at 70-76 Eden Street revealed extensive evidence for pottery kilns of the late thirteenth and fourteenth century, associated with the "Surrey White Ware" industry. It is known that between 1264 and 1266 Kingston supplied King Henry III with some 3,800 pottery vessels, possibly from the Eden Street kiln site. While the Surrey White Ware industry appears to have collapsed in the fourteenth century "Redware" kilns were established in the Eden Walk area in the fifteenth century and appear to have survived into the sixteenth century.

2.13 The excavations at Eden Walk and further west at Union Street produced extensive evidence for late medieval and very early post-medieval slaughter yards. Evidence for the processing of animal by products such as hides and bone, confirm the documentary references to these trades for this area.

2.14 The site is located at the extreme eastern limits of the urban area of medieval Kingston, within the towns agricultural hinterland in an area characterised by dirty trades and by industrial and craft activities.

Post-medieval

2.15 During the sixteenth century the area of the study site appears to have included slaughter yards, tanners and skinners, properties in the area of the study site were largely given over to market gardening and orchards.

Quaker Burial Ground

2.16 The Quaker community in Kingston appears to have been well established by the 1650s, holding well attended meetings at the home of meal merchant John

Fielder. In 1663 the community purchased a plot of land in London Road for use as a burial ground and in 1673 the first Quaker meeting house was established in Kingston, probably at the corner of Eden Street and Union Street (CgMs 1998). The burial ground was in use from 1664 to 1814 and a total of 497 burials were recorded. It fell out of use when a new meeting house and Quaker burial ground was established at 78 Eden Street. Prior to the development of the 84 London Road site in 1997 the burial ground was archaeologically excavated (Kirk 1997).

2.17 The original meeting house (though much altered) still stood on site until its demolition in 2016. The house was built in 1773 at a cost of £533 8s 9d on 15 V2 rods of land purchased in 1771. The hall was concealed from view firstly by a hall, vestibule and room above, which were added to the northern front in the late nineteenth century and subsequently by the addition of larger hall. Finally in 1930, the caretaker's house was constructed in the remaining space between the earlier buildings and the street frontage.

2.18 The meeting house walls were constructed of reddish brown bricks in Flemish bond, with simple corbell cornice under the eaves supporting the hipped and slated roof which was subsequently flattened off in the middle. A massive beam ran between the centres of the end walls which originally supported both roof and ceiling frame. The latter was reconstructed in the 19th century with new support supplied by two subsidiary beams and suspended above the chapel from joists set beneath the originals.

2.19 Although the earliest burial at 78 Eden Street was thought to be in 1814, the first recorded burial was 1834 and the last in 1949. The burials were arranged on a grid system with some of the metal markers still surviving on the perimeter wall. All burials identified at the time were exhumed in 2010 by Lodge Brothers Funeral Directors, and reburied in Surbiton cemetery.

2.20 It is clear from the exhumation records, that although all known burials had been removed from the burial ground, though it would appear that the area closest to the Meeting House, and that along the northern boundary wall, were not allocated as burial plots. As the Quakers kept very accurate records, as evidenced by the results of the exhumations, it was assumed prior to excavation that these two areas would contain no graves and consequently that any underlying archaeological remains would have been less disturbed.

3 AIMS AND OBJECTIVES

3.1 The purpose of the archaeological excavation was to provide information to determine the date, nature, extent and state of preservation of any archaeological deposits within the area of the proposed redevelopment.

3.2 The specific research aims, as outlined in the WSI (CA 2015), of the excavation were to;

- To determine if archaeologically significant levels have survived on the site.
- To assess any possible evidence related to the medieval pottery kilns recorded on the adjacent 70-76 Eden Street site.
- To assess evidence for survival of prehistoric, Roman and early medieval finds and/or remains.

3.3 The potential and significance of these deposits will be assessed according to the research priorities set out in English Heritage Research Agenda (English Heritage 2005) or any more local or thematic research priorities such as *A Research Framework for London Archaeology* (Nixon *et al*. 2003), as necessary.

3.4 The excavation established that there was a high chance of *in situ* human remains still present within the burial ground. An addendum to the original WSI (CA 2016) was produced and approved, which set out a new set of objectives for the watching brief of the ground reduction works within the burial ground.

3.5 The investigation of the burials aimed to address the following specific objectives;

- To establish the minimum number of individuals remaining after the removal of burials in 2005 and 2010.
- to contribute to the information regarding the development of the cemetery through time, as inferred from the observed stratigraphic sequences and the obtained biographical data
- to establish what forms of cemetery management can be identified, e.g. stacking and charnel management

- to identify any Quaker funerary rites and processes pertaining to the treatment of the dead;
- Can different coffin types, furniture and fittings be identified? Is the range different from comparable cemeteries and what can this tell us about the status or specific burial rites of local populations?
- Are there any differences in the coffin furniture provided for men, women or children?
- To assess evidence for survival of prehistoric, Roman and early medieval finds and/or remains.
- What percentage of those buried can be identified from coffin plates or memorials and can this information be correlated with historical records?
- How do the burials compare to those from similarly dated post-medieval cemeteries both regionally and nationally?
- What is the demographic (age and biological sex) structure of the burial sample?
- What do the burial practices, health status, demography and artefacts indicate about the social status of those buried at the site and how does this compare to other regional burial grounds?
- to research any available biographical and historical sources to obtain further data about the use of the cemetery and the individuals interred
- to identify individuals from coffin plates and relate them to the biographical data
- to collect osteological data, where possible, which will contribute to understanding the demography of the sample, and of any pathologies present within the remains found within the Kingston cemetery
- to assess and analyse the data with specific reference and comparison to the Quaker Burial Ground on London Road to establish what differences and similarities can be identified in the osteological remains:

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- What percentage of those buried can be identified from coffin plates or memorials and can this information be correlated with historical records?
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- What is the demographic (age and biological sex) structure of the burial sample?
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4 METHODOLOGY

4.1 Fieldwork commenced with the removal of concrete slab covering the northern half of the excavation area by mechanical excavator with a toothless grading bucket, under archaeological supervision.

4.2 The archaeological features thus exposed were hand-excavated to the bottom of archaeological stratigraphy. All features were planned and recorded in accordance with CA Technical Manual 1: *Fieldwork Recording Manual* (CA 2013). Deposits were assessed for their environmental potential in accordance with CA Technical Manual 2: *The taking and processing of environmental and other samples from archaeological sites* (CA 2012). All artefacts recovered from the excavation were retained in accordance with CA Technical Manual 3: *Treatment of finds immediately after excavation* (CA 1995).

4.3 Many of the larger archaeological layers were, once recorded, excavated carefully using a mechanical excavator with a grading bucket under archaeological supervision.

4.4 The archaeological mitigation was split into two parts. An excavation was carried out across the western half of the site and a watching brief undertaken during the ground reduction of the Quaker burial ground in the eastern half of the site.

4.5 Where human remains were encountered and were considered to have been interred over 100 years ago they were removed archaeologically in accordance with conditions of burial license issued by the Ministry of Justice. All remains thought to be interred in the last 100 years were removed by an approved contractor employed by Andrew Lodge undertakers under archaeological supervision. The fieldwork was guided and the human remains condition was assessed by Sharon Clough (Osteoarchaeologist) of Cotswold Archaeology.

Sharon determined whether any particular inhumation should be subject to scientific analysis. The precise form of this analysis was discussed and agreed with the client, the Planning Archaeologist and the Great London Archaeological Advisor, giving consideration to the suitability of the sample size for analysis as discussed in recent standard documents (i.e. Advisory Panel on the Archaeology of Burials in England 2015).

4.6 A report on the archaeologically excavated human remains and the retrieved coffin furniture by Sharon Clough was approved by Laura O'Gorman, Assistant Archaeology Advisor, Planning Group: London, and Sylvia Warman, Science Advisor, London (both of Historic England) on 27th June 2017. With the approval, was permission for those remains to be re-interred together with the other human remains exhumed from the site (as per the terms of the burial licence). The remains were re-interred in the same plot as previous remains from the burial ground, in Surbiton Cemetery, Kingston upon Thames on 31st August 2017 in the presence of Oliver Good of Cotswold Archaeology.

4.7 Note that not every layer or deposit, including some mentioned in the finds texts, has been described or illustrated in the results section below or on the figures. Full details are, however, contained within the project archive and database.

5 RESULTS

Fieldwork summary

5.1 This section provides an overview of the excavation results. The excavation and the watching brief together identified 296 induvial contexts. This assessment report focusses on the key deposits. Detailed summaries of the recorded contexts, finds and environmental samples (biological evidence) are to be found in appendices 1, 2, 3, 4, 5 and 6 respectively.

5.2 The excavation revealed evidence for a single Anglo-Saxon ditch, nine medieval ditches and a medieval pit and the remains of the post-medieval frontage of Eden Street. Post-medieval remains included two brick buildings, associated yard surfaces, four postholes, two large pits and one cesspit or toilet. The excavation also identified seven undated postholes and two undated pits.

5.3 The watching brief identified the continuation of the Anglo-Saxon ditch to the east and a post-medieval well. The watching brief also uncovered the remains of 17 modern Quaker burials, including one buried in a lead coffin.

5.4 The allocation of features to periods is based on the dating of artefactual evidence recovered during the excavation. Some features did not produce any datable material and have been dated either by spatial and stratigraphic relationships with or similarity to, datable deposits. Artefacts from the following periods have been identified across this site:

- Phase 1: Early Anglo-Saxon (410 to 650AD)
- Phase 2: Medieval (1066 to 1540)
- Phase 3.1: Early Post-medieval (Mid 16th Century)
- Phase 3.2: Early Post-medieval (Late 16th to early 17th Century)
- Phase 4.1: Late Post-medieval (Early 17th to mid 17th Century)
- Phase 4.2: Late Post-medieval (Late 17th to early 18th Century)
- Phase 4.3 Late Post-medieval (Early 18th to late 18th Century)
- Phase 5: Modern (19th to 20th Century)
- Phase 6: Undated

Period 1: Early Anglo-Saxon (AD 410-1066)

5.5 Evidence for activity in the Anglo-Saxon period (Fig. 3) comes from a single feature, Ditch 10 (290; 328). Ditch 10 (Fig.10) was located in the northern half of the site. It ran from the north-west corner for 22m to the south-east before being truncated by the modern Quaker burial ground. The ditch measured on average 3.47m wide and 0.62m deep and had moderately steep sloping concave sides and a concave base. It contained a large assemblage of animal bone, typical of butchery activity, four residual sherds of late Roman pottery and 56 sherds of early Anglo-Saxon pottery were recovered from fills 291, 329, 330 and 331. This was the majority of the (56 of 58 sherds) of the pottery of this period recovered from the site. The range of fabrics and forms present is high, while the number of sherds is relatively low, and as some typical 5th- to early 6th-century forms are present, a date in the 5th to 6th century can be suggested for the activity. Some 2,419g of metalworking debris was recovered from three

contexts (291, 329 and 331) from this ditch (Appendix 5). This included one definite fragment of a furnace bottom which indicates bloomery iron smelting from context 329. This fragment weighs 1.8kg and represents (at most) 25% of the original piece of slag. The curvature of this fragment suggests an original diameter of 250mm which is consistent with the identification as a furnace bottom. The outer margins of the furnace bottom fragment show some traces of the ceramic lining of the furnace. Undated pit 323 was located just to the north-east of the ditch. Although no dating evidence was recovered from the feature, it is possible that based on its position that these two features were contemporary in date.

5.6 Within the Quaker burial ground Ditch 10 was heavily truncated by graves and the recent exhumation of their contents. The ditch probably formed part of a field boundary or drainage ditch, associated with the ditches identified in the Eden Walk excavations in the 1970s (Blackmore and Cowie 2008). The butchery material recovered from the ditch suggests that the slaughtering of animals and processing of carcasses was occurring in close proximity.

Period 2: Medieval (1066-1540)

5.7 Evidence for the medieval period (Fig.4) consists of ten ditches (1-8, 301 and 411), two post holes (267; 268) and a pit (9). Ditches 1-8 and 411 were located centrally within the site and ran, with the exception of ditch 7, out of the southern edge of the excavation area on a south-west/north-east alignment. The ditches (Figs. 11, 12 and 13) extended across the excavation area for an average 8m, until they turned to the north-west and terminated. The ditches covered an area 10m wide and were filled with similar dark greyish-brown sandy clay fills. Some primary deposits were identified within the larger ditches and may have represented the repeated re-cutting of the same boundary or drainage ditch over a fairly short space of time. Pit 9 was located at the terminal ends of ditches 2 and 5 and may form part of the same boundary.

5.8 Ditch 1 (361; 379; 382; 410) was positioned on the eastern edge of the spread of the ditches truncating Ditch 2. The ditch extended 11.6m to the north-west before it terminated. The profile of the ditch varied but it had predominately moderately steep sloping concave sides with a flat base. It measured *c.*1.83m wide and 0.41m deep. The ditch produced fragments of Ceramic Building Material (CBM) and five sherds (84g) of medieval pottery.

5.9 Ditch 2 (319; 332; 356; 358) was truncated by pit 341 and Ditch 1 and followed the same alignment as ditch 1. The ditch had steep concave sides and a flat base and measured 13.5m long, 1.59m wide and 0.47m deep. The ditch produced CBM (including a small amount of glazed medieval floor tile from fill 257; Appendix 7) and two sherds (45g) of medieval pottery (Appendix 2).

5.10 Ditch 3 (339; 366) ran for 7m before it was truncated by Ditch 2. Ditch 3 did not appear to continue on the northern side of Ditch 2 and must have terminated immediately or turned to the north-west before terminating. Ditch 4 ran for 6.7m and was only partially exposed due to heavy truncation by Ditch 3. Ditch 4 had moderately steep sloping concave sides and a flat base and measured on average 0.57m wide and 0.29m deep. The ditch produced CBM and 18 (233g) sherds of medieval pottery.

5.11 Ditch 411 ran for 3.6m until it was truncated by Ditches 4 and 5. Ditch 411 had stepped concave sides and a flat base and measured 1.7m wide and 0.32m deep. No datable material was recovered from the fills of Ditch 411 and this feature has been phased based on its spatial and stratigraphic relationships with nearby medieval features.

5.12 Ditch 5 (271; 317; 324; 346; 355; 368) ran for 7.3m before turning sharply towards the north-west and continuing for 3.2m before terminating. It was positioned between ditches 411 and 6, and truncated Ditch 6 as it turned to the north-west. Ditch 5 had steep concave sides and a flat base and measured on average 1.04m wide and 0.38m deep. The ditch produced CBM and 17 sherds of medieval pottery, (304g), including two thick-walled rim sherds from a possible industrial form. Two post-medieval sherds (140g) were also present.

5.13 Ditch 6 (276; 348; 370) was located just to the east of ditch 5, it ran out of the southern trench edge for 8m before terminating. Ditch 6 was truncated at its northern end by Ditch 5. Ditch 6 had steep concave sides and a flat base and measured on average 0.75m wide and 0.25m deep. The ditch produced CBM and one sherd (17g) of medieval pottery.

5.14 Ditch 7 (278; 314; 350) was a 5.9m long ditch segment. The southern terminal end was positioned 3.5m from the southern edge of the excavation between Ditches 6 and 8. Ditch 7 ran for 6m before it was truncated by ditch 5. It had steep to moderately sloping concave sides and a flat base and measured on

average 1.2m wide and 0.47m deep. The ditch produced undatable CBM and has been dated by its spatial relationship with dated medieval features nearby.

5.15 Ditch 8 (261; 280; 311; 352) was located to the west of Ditch 7. It ran for or 8m, curving round to the north before terminating just to the south of Ditch 5. Ditch 8 truncated Ditch 7. It had steep concave sides and a flat base and measured on average 0.95m wide and 0.31m deep. Ditch 8 contained a medieval horse harness pendant suspension mount recorded from ditch 261 (fill 262) (Appendix 4).

5.16 Pit 9 (308; 326) was positioned to the north-west of the terminal ends of Ditches 2 and 5. Pit 9 was oval in shape, had a steep concave sides and a wide flat base and measured 2.7m long, 1.5m wide and 0.18m deep. The pit produced CBM and has been dated by its spatial and stratigraphic relationship with dated medieval features nearby.

5.17 Ditch terminus 301 (Fig.13) was located 6.2m to west of Ditch 8 and ran for 2m on a broad north-south alignment before terminating. Ditch 301 measured 1.1m wide and 0.5m deep. CBM, metal objects and medieval pottery were recovered from the fills of this ditch. A copper alloy strip from fill 302 is a probable thimble or sewing ring fragment of post-medieval date. Ditch 301 was 10-15m to the east of the remaining ditches and followed a slightly different alignment. Ditch 301 did contain a similar fill sequence and had the same profile as Ditches 1-8. It seems possible therefore, that Ditch 301 may have formed part the western side of an enclosure or drove-way which would have been defined on its eastern side by Ditches 1 to 8. The presence of so many re-cuts of the same boundary might indicate high levels of water ingress across that part of the site.

5.18 Posthole 267 and posthole 268 was positioned adjacent to one another 2.96m north of the southern edge of the excavation area. They were both sub-rectangular in plan with vertical sides and concave bases and measured 0.41m long, 0.38m wide and 0.42m deep and 0.57m long, 0.5m wide and 0.41m deep respectively. The two postholes 267 and 268 produced 2 sherds (26g) and 27 sherds (212g) of medieval pottery respectively. The sherds from 268 were warped base sherds - probably a waster (Appendix 2). Samples from these two features produced small amounts of free-threshing wheat (*Triticum turgidum/aestivum* type) and barley (*Hordeum vulgare*) grain fragments, seeds of oat (*Avena* sp.) and vetch/wild pea (*Vicia/Lathyrus* sp.) and a bud (Appendix

11). Post-hole 268 also produced a single oyster shell (*Ostrea edulis) (Appendix 12).*

Period 3 Post-medieval (1540 to 1600)

5.19 During the early post-medieval period the site started to see a decline in activity. The site was occupied at this time by some sort of post built structure but this appears to have quickly gone out of use. The post-holes recorded did not form any particular shape even when undated post-hokes are taken into consideration. It seems possible therefore that the structure was some sort of stockade rather than a building. There is also evidence from this phase of a toilet or cess pit being dug, where the medieval ditches had been, which suggests that the site had become a convenient place to dump waste.

Period 3.1 Early Post-medieval (Middle 16th century)

5.20 Period 3.1 (Fig. 5) covers the earliest phase of post-medieval activity across the site, and includes two pits (248; 341), six postholes (228; 269; 283; 285; 299; 297) and one possible cesspit or toilet (344). The postholes were located in the south-western corner of the site. They did not form any clear structures. There were another seven undated postholes (282; 288; 304; 306; 307) in this same area, which might represent related features.

5.21 Pit 248 was only partially exposed in the south-west corner of the site (Fig.14). Pit 248 was sub-rounded in shape with steep concave sides and a flat base. It measured 7.4m long, 2.4m wide and 1.38m deep. The pit was recorded as possible quarry pit, however, only part of the feature was exposed and consequently it is difficult to interpret. It is possible that Pit 248 may have been part of the eastern edge of a large ditch curving to the north and south-west. However, if this were the case then it would have encroached on the line of Eden Street in the early post-medieval period. The pit contained a single sherd (220g) of a London-area early post-medieval red ware (PMRE) jar probably made in Kingston. This is unusual in having thumbed decoration on the neck rather than on an applied strip. It is of 16th century date (Appendix xx). It also contained CBM.

5.22 Pit 341 was located centrally within the site and truncated the earlier medieval Ditches 1 and 3. Pit 341 was circular in shape with near vertical sides and a flat base. It measured 2m in diameter and 0.6m deep. The pit contained no finds and was filled with redeposited natural and backfilled topsoil. Cesspit/toilet 344

(Fig. 13) was located centrally within pit 341 and was constructed using a wicker lining to support the edges of the pit. It is possible that pit 341 was excavated as part of the construction process for cesspit/toilet 344. Cesspit/toilet 344 had almost vertical sides and a flat base and measured 0.7m in diameter and 0.8m deep. It contained CBM, sixteen sherds (408g) of medieval pottery, nine sherds of post-medieval pottery (689g), animal bone and 154g of non-diagnostic ironworking slag. The medieval pottery included a thick-walled sherd body sherd with foot scar from a possible industrial form. The analysis of the environmental samples proved inconclusive, producing a few free-threshing wheat and barley grain fragments, seeds of oat and charcoal fragments which might be reflective of dispersed material, but did not show evidence for cess material within the pit (Appendix 5)

5.23 Six postholes (228; 269; 283; 285; 297; 299) were uncovered to the east of pit 248 (representative selection, Fig.15). Each of the postholes were broadly sub-rectangular in plan and had straight vertical sides and a flat base. The postholes were between 0.35-0.57m diameter and 0.15-0.41m deep. CBM and post-medieval pottery was recovered from the fill of postholes 269, 228 and 285 (1 (5g), 2 (38g) and 2 (2g) sherds respectively). Animal bone and post-medieval pottery (1 sherd, 220g) were recovered from posthole 248. Three sherds of medieval pottery (24g) and two sherds of post-medieval pottery (16g) were recovered from Posthole 297 (Appendix 2). Of the sampled postholes, 269, 285 and 297 produced either indeterminate grains (285) or free-threshing wheat (*Triticum turgidum/aestivum* type) and barley (*Hordeum vulgare*) grain fragments (269 and 297) while 288, 283 and 299 produced no charred plant remains (Appendix 11).

Period 3.2 Early Post-medieval (Late 16th to early 17th century)

5.24 Occupation of the site in the later 16th century and early 17th century (Fig. 6) is represented by four layers of demolition material, flooding residue and deliberately deposited redeposited natural (230; 231; 246; 247) and a single well (168).

5.25 Layer 230 was located in the south-west corner of the site, overlying the pit and postholes dated to Period 3.1. The layer consisted of a mid to dark greenish-brown clay sand containing moderate amounts of flint gravel, CBM and two sherds (45g) of post-medieval pottery. Layer 230 measured 6.7m long, 5m wide and 0.2m deep. Layer 230 likely resulted due to a build-up of demolition and

cess material. The presence of this layer may suggest that the site was unoccupied briefly, perhaps due to flooding.

5.26 Layer 231 partially covered part of layer 230.It consisted of dark grey sandy clay, moderate amounts of gravel and contained CBM, glass, one musket ball and four sherds (132g) of post-medieval pottery. The CBM included a single fragment (136g) of residual glazed medieval floor tile. The layer measured 11.5m long, 7.3m wide and 0.5m deep. The material appears to represent a build-up of demolition and domestic waste material, possibly caused by deliberate dumping.

5.27 Layer 247 (Fig. 16) was located centrally within the site and partially covered layer 231. Layer 247 consisted of light grey clay sand containing CBM, nine sherds (26g) of medieval pottery including a part of a waster (glaze over the sections of the sherd), 34 (560g) sherds of post-medieval pottery, glass, iron objects and large amounts of ash. The layer measured 8.24m long, 4m wide and 0.12m deep and is most likely a result of deliberate dumping rather a gradual build-up of material.

5.28 Layer 246 (fig.16) partially covered 247 and was made up of light yellow sandy gravel. The layer measured 12.5m long, 5.6m wide and 0.1m deep and contained three sherds (1249g) of post-medieval pottery. The layer appears to represent a dump of redeposited natural, possibly deliberately put down to create a work surface. Its strange sub-circular shape is probably a result of later truncation and this layer may have once covered more of the site.

5.29 Well pit 238 (Fig. 16) was located in the north-eastern corner of the site. It was circular in plan with steep concave side and measured 0.4m in diameter and more than 0.9m deep. The pit appears to have been excavated as a large construction pit for well 168 and was backfilled with several mixed deposits, which contained two sherds (38g) of post-medieval pottery, CBM and two nails. Well 168 was made out of red bricks, each measuring 0.14m long, 0.1m wide and 0.06m thick and was bonded with a lime mortar. The structure of the well measured 1.3m long, 1.1m wide and 0.33m deep.

Period 4: Late Post-medieval

5.30 The site began to change slowly during the early to mid-17th century (Fig. 7), becoming a place where people started to carry out low status tasks

represented by the occupation layers found across site and as a convenient place to dump building debris. Towards the end of the 17th century two brick structures were built on site, the development of which probably reflects a larger expansion of Kingston as a town. These buildings not appear to be lasted long and by the mid 18th century they have been pulled down and the Quakers have brought the site.

Period 4.1 Late Post-medieval (Early 17th to mid 17th century)

5.31 Phase 4.1 consisted of a pit (176) and five layers (108; 165; 206; 214; 219) and covers a short period of inactivity on the site from the early 17th to the mid 17th century.

5.32 Pit 176 was located along the northern edge of the site and was truncated by the edge of Structure 1 (see below 5.37). It was recorded as a sub-circular pit with steep concave sides and a flat base. It measured 2.1m long, 1.2m wide and 0.83m deep and contained ten sherds (182g) of post-medieval pottery.

5.33 Layers 108 and 219 are likely part of same deposit that was located across south-western corner of the site. Layer 219 was stratigraphically earlier than Structure 2 (see below 5.45). Both layers were dark brown clay sand deposits and covered an area that measured 9.5m long, 9m wide and 0.08m deep. They both contained moderate amounts of charcoal. Layer 108 produced 11 sherds of medieval pottery and 114 sherds of post-medieval pottery which included an unusually large, unglazed chicken feeder and a storage jar with finger-impressed rim (Appendix 2). Layer 108 also produced a silver coin, (Ra. 57), appears to be a coin of Charles I (identified from x-radiography). Heavy wear to the coin makes further identification difficult. Both layers most likely represent occupation deposits across this part of the site. A single sherd of residual Saxon pottery was recovered from layer 219.

5.34 Layers 165, 206 and 214 were found to the south of Structure 1 (below), and were stratigraphically later than layer 108. This relationship is not shown in the plan but is based on provisional analysis of stratigraphy on site and further work may elucidate this further. The earliest two layers (165; 206) were a mid greyish-brown sandy silt, which contained large amounts of building waste. Layer 165 also contained iron working debris, glass and animal bone. Although there was no direct relationship between the two layers, their spatial and

stratigraphic location to each other and the similar nature of the fills they are most likely part of the same deposit. Layer 165 measured 2.86m long, 1.96m wide and 0.15m deep and Layer 206 measured 0.95m long, 0.89m wide and 0.1m deep.

5.35 Layer 214 covered part of Layer 206. Layer 214 was a mid greyish brown sandy clay, which contained large amounts of flint, CBM and mortar. It measured 1.44m long, 0.63m wide and 0.06m deep. Layers 165, 206 and 214 appear to represent different phases of deliberate dumping of rubbish on site prior to the construction of Structure 1.

Period 4.2 Late Post-medieval (Late 17th to early 18th century)

5.36 Two brick structures (1 and 2), three possible floor surfaces (156; 200; 213), four layers (207; 216; 217; 226) and one well (387) were constructed in the late 17th to early 18th century (Period 4.2). Structures 1 and 2 had no direct stratigraphic relationship, but are thought to have been of a similar date due to the presence of artefactual evidence and because of the stratigraphic relationships between these structures and other deposits.

5.37 Structure 1 (148; 151; 154; 161; 171; 174; 197) was positioned in the north-western corner of the site (Figs. 18 and 22). The archaeological remains appear to represent the remains of the southern and western side of a south-west/north-east aligned brick built building. The structure was made up of six different walls. Due to modern truncation there was no direct relationship between walls 148, 154, 161 and 197, however, their relative positions suggest that they were part of the same structure. Wall 161 was most likely part of the south-western corner of the Structure 1 and would probably have formed the connection between walls 148 and 197 met had they not been truncated.

5.38 Walls 148, 161 and 197 were constructed using unfrogged bricks measuring approximately 0.2m long, 0.1m wide and 0.06m thick. The brick were bonded in the English style using lime cement. At its western end, Wall 148 survived to a height of 11 courses, measuring0.81m deep, in contrast to the eastern end where it was consisted of 7 courses measuring 0.5m deep. The difference in depth may be due to later truncation but it did appear that there was a deliberate attempt by the builders to deepen some parts of the wall. The difference in depths may be a result of different parts of the wall having to support different weights. As Wall 148 kinked to the south it deepened

suggesting that perhaps this kink would have supported a chimney stack or perhaps another storey.

5.39 On the south-eastern edge of Structure 1, Wall 151 formed a small a sub-rectangular alcove (1.2m^2) on what would have been an external part of the building. Wall 151 was represented by three courses of bricks, which similar to wall 148, were bonded in the English style using lime cement. Wall 151 measured 0.21m wide and 0.26m deep. and represented a later addition to the building. Within the alcove represented by wall 151 were several layers of material (216; 217). Layer 217 was a sandy gravel levelling layer, possibly for a floor surface, which was overlain by layer 216, a dark sandy clay occupation deposit. Unfortunately no dating evidence was recovered from either layer. The environmental samples taken from layer 216 produced small amounts of free-threshing wheat (*Triticum turgidum/aestivum* type) and barley (*Hordeum vulgare*) grain fragments (Appendix 11). It is possible that and the alcove formed some sort of external storage room.

5.40 Due to modern truncation on the western side of the Structure 1, the stratigraphic relationship between drain 171 and wall 174 with walls 148, 151 and 197 is unclear. Drain 171 had almost been completely truncated by modern service. Where it did survive it measured 0.4m long, 0.23m wide and 0.35m deep and was built from the same bricks used in Structure 1. Drain 171 lay on an east-west alignment would have probably been used to drain rain water or waste material from the structure toward Eden Street to the west. Wall 174 had also been heavily truncated by a modern pipe. It measured 0.25m long, 0.59m wide and 0.27m deep and was made using the same material as wall 148. Only two poorly preserved courses of bricks survived, which made it impossible to identify the type of brick bonding used. Wall 174 partially covered drain 171 and butted against wall 161 and appears to have been part of a later extension of Structure 1.

5.41 Wall 154 was located 1.5m to the south of the eastern end of Wall 148. Wall 154was orientated on a north-west/south-east alignment. The wall was heavily truncated by modern development. Wall 154 measured 1.13m long, 0.28m wide and 0.10m deep and was made up of one course of red bricks. The lack of structural remains make it difficult to interpret Wall 154, however, its alignment suggest that it was probably part of a later extension to Structure 1.

5.42 Three floor surfaces (156; 200; 202) were associated with Structure 1. Possible floor surface 200 was located to the north-west and inside the kink of Wall 148. Floor surface 200 consisted of a mixed layer of mortar and CBM and was covered partially along its north-western extent by two large floor tiles. One complete floor tile measures 300x280x35mm; it cannot be more closely dated than to the period spanning the 13th to 19th centuries. The floor surface measured 2.15m long, 0.9m wide and 0.06m deep and represents the remains of a heavily truncated interior floor surface within Structure 1.

5.43 Located just to the south of wall 154 was concrete surface 202. Surface 202 was rectangular in shape, was made up of a compact light yellow concrete and measured 1.06m long, 0.84m and 0.05m deep. Floor/ yard surface 156 (Fig. 19) was a rectangular brick surface, which was located 0.9m to the south-west of wall 148. The brick surface measured 1.6m long, 1.4m wide and 0.06m thick. The bricks used were similar to those used in 148 and were bonded using lime cement in an irregular bond pattern.

5.44 Both surfaces 156 and 202 were heavily truncated by later activity and would have most likely covered a much larger area. There was no direct relationship between Structure 1 and surfaces 156 and 202, however, the construction techniques and materials used, as well as their spatial and stratigraphic relationships with other deposits, mean that both surfaces probably represent different phases of the same yard surface associated with Structure 1.

5.45 Structure 2 (182; 185; 188; 222) was partially exposed in the south-west corner of the site (Figs. 17 and 22). It was a rectangular oblong shaped structure built from red brick and positioned on a south-west/north-east alignment. The structure measured 3.4m long, 3m wide and had an internal space of 8.51m². Much of the outline of the building was heavily truncated, leaving in most cases only one course bricks intact. Walls 182 and 185 formed the main structure of the building. They measured 0.23m wide on the south-eastern and north-western sides of the building and 0.45m wide on its north-eastern end. The walls measured on average 0.11m deep and were made up of bricks measuring 0.2m long, 0.1m wide and 0.06m thick. The walls were bonded with lime cement in what was most likely an English pattern.

5.46 Within in the north-eastern corner of Structure 2 were two internal features; Wall 222 and Hearth 188. Wall 222 ran out of north-eastern end of Structure 2 for

0.7m before it was truncated by Hearth 188. At its northern end the wall measured 0.61m and it narrows dramatically to 0.12m at its south-western end where it was truncated. The wall was constructed using the same techniques and materials used in the construction of Walls 182 and 185. Wall 222may have formed part of an original partition within the structure. Hearth 188 was a rectangular shaped brick built feature located in the north-east south corner of Structure 2. It was positioned on a north-east/south-west alignment with its south-western end facing into the centre of the structure. The hearth measured 0.8m long, 0.29m and 0.12m deep and it consisted of one course of bricks in a rectangular arrangement. The floor of the hearth was lined with bricks, which at its south-western end was level with the top of the surrounding walls. The hearth floor gradually tapered down towards its north-eastern end until it was level with the base of the wall. It was filled with a layer of charcoal (226). The presence of hearth 188 and wall 222 suggests that the original function of Structure 2 changed when hearth 188 was added to the building. As little remains of the internal features of the building, it is difficult to interpret the original function of the structure. The presence of hearth 188 suggests that Structure 2 may have been used as a small work shop, possibly a blacksmiths.

5.47 Well 387 (Fig. 19) was identified during the watching brief and was located along the northern edge of the site. The well was constructed from at least three courses of unfrogged bricks, which measured 0.15m long, 0.1m wide and 0.05m thick and used a stretcher bond. The well measured 1.22m diameter and had a minimum depth of 0.35m. It was not fully excavated due to health and safety concerns.

Period 4.3 Late Post-medieval (Mid to late 18th Century)

5.48 Two demolition layers (144; 190) and two pits (224; 260) represented activity on the site in the eighteenth century. Demolition layer 144 was located immediately to the south of Structure 1 and consisted of crushed brick, mortar and tile. and measured 3.5m long, 1.4m wide and 0.22m deep. The demolition deposit was most likely a direct result of the deliberate demolition of Structure 1 and partially covered floor surface 156.

5.49 Layer 190 partially covered the demolished remains of Structure 2. The layer consisted of light brownish grey sandy silt, with mortar and CBM inclusions. A mid to late 17th century trade token issued by William Marsham, a baker, from Richmond was recovered from this deposit (Appendix 3). The layer measured

2.7m long, 2.6m wide and 0.06m deep and was likely deposited following the collapsing or deliberate demolition of Structure 2.

5.50 Pit 224 was located on the north-western corner of Structure 2 where it deliberately truncates walls 182 and 185. The pit was semi-circular in plan with steep sloping concave sides and a flat a base. It measured 1.65m long, 0.61m wide and 0.06m deep. Although recorded as a pit during excavation it is possible that this is some sort of deliberate truncation of the north-west corner of Structure 2, perhaps to rob building materials for re-use.

5.51 Pit 260 was located just to the south-east of Structure 2. The pit was partially exposed along the southern edge of the excavation area. The pit was sub-circular in plan and measured 6m long, 2.65m wide and 0.7m deep. The pit contained one small medieval sherd (2g) of medieval pottery, four sherds (64g) of post-medieval pottery and large amounts of post-medieval waste material including large quantities of CBM. Therefore it was probably some sort of a rubbish pit.

Period 5: Modern (19th to 20th Century)

5.52 Period 5 is represented by the remains of the Quaker meeting house (124; 127; 130; 138), ancillary buildings (103; 115), the Quaker burial ground (392) and modern services (Fig.8).

5.53 The Quaker meeting house was demolished in 2016 and as a result there are detailed records and photographs of the buildings prior to demolition. Due to this level of record, the excavation only focused on the location of the foundations associated with this structure.

5.54 The area of the Quaker burial ground was reduced by mechanical excavation under watching brief conditions. A considerable amount of linear disturbance (surveyed, but not illustrated), some to a considerable depth, was noted from when the majority of the burials had been exhumed in 2010., The graves had been originally dug in rows and the undertakers confirmed that they had dug trenches from left to right starting at the far end and working towards the building filling the previous trench with the spoil from the next one being dug. The undertakers noted that there was a mixture of graves with single and double burials and possibly triple, and that the depth of some graves was surprisingly deep ranging as deep as 14’0’. The watching brief identified

seventeen burials in various states of preservation. Of the seventeen burials found four (393; 396; 415; 418, Fig. 20) were excavated archaeologically as per the WSI (CA 2016 a and b) and thirteen graves less than 100 years old were excavated by specialists contracted by the Andrew Lodge funeral directors under archaeological supervision. Full details of burials can be found in the skeletal remains section (Appendix 9).

Period 6: Undated

5.55 A number of undated features were uncovered across the site (Fig. 9) including four postholes (282; 288; 306; 307) and one pit (323). The postholes were located towards the south-western corner of the site. They may form part of the same structure or fence line as the postholes found in period 3.1 (228; 267; 268; 269; 283; 285; 297), they were covered stratigraphically by the same deposits however, they remain undated because of a lack of datable artefacts recovered from them

5.56 Posthole 282 was located 1.47m north of the southern edge of the excavation area. It was sub-rectangular in plan with steep vertical sides and a concave base and measured 0.59m long, 0.58m wide and 0.7m deep. Posthole 282 was sampled but produced no charred plant remains. Two very worn trade tokens of probable mid to late 17th century date were recovered from this feature, but their condition suggests that they may have been residual and so may be unreliable to use as secure dating evidence.

5.57 Posthole 288 was positioned 5m to the north of the southern edge of the excavation area posthole. It was sub-circular in plan with a concave profile and measured 0.45m long, 0.4m wide and 0.2m deep.

5.58 Posthole 306 was positioned 0.7m to the north-west of posthole 288 and 0.88m south of posthole 307. It measured 0.2m long, 0.17m wide and 0.07m deep and was sub-circular plan with a moderately sloping concave profile.

5.59 Posthole 307 was circular in plan with vertical sides and a concave base. It measured 0.28m in diameter and 0.17m deep and was located 0.88m north of posthole 306 and 1.45m from the western edge of the excavation area.

5.60 Pit 323 (Fig.21) was positioned 1.5m south of the northern edge of the excavation area and 0.25m north-east of Ditch 10. It was circular in shape with a moderate to steep sloping concave sides and concave base. The pit

measured 1.57m long, 1.51m wide and 0.54m deep. The pit was left undated because it did not produce any datable material, however, its spatial relationship with pit 323 and its stratigraphic relationship with layer 233 might suggest that it was Anglo-Saxon in date.

6 FACTUAL DATA AND STATEMENTS OF POTENTIAL

Stratigraphic record: factual data

6.1 Following the completion of the fieldwork an ordered, indexed, and internally consistent site archive was compiled in accordance with specifications presented in the Management of Research Projects in the Historic Environment (MORPHE): Project Manager's Guide (Historic England 2015a). A database of all contextual and artefactual evidence and a site matrix was also compiled and cross-referenced to spot-dating. The fieldwork archive (Table 1) is comprised of the following records:

Context sheets	422
Plans (1:10, 1:20, 1:100)	9
Sections (1:10, 1:20)	37
Sample sheets	16
Monochrome Films	?
Digital photographs	809
Matrices	1

Table 1: Archive summary

6.2 The survival and intelligibility of the site stratigraphy was good with archaeological remains having survived as negative features and positive features, although many later post-medieval features had been truncated modern buildings and services. Most stratigraphic relationships were fairly complex, however, despite a relative lack of dating evidence, most features have been assigned a preliminary period based on stratigraphic relationships with dated contexts and/or spatial association.

Stratigraphic record: statement of potential

6.3 A secure stratigraphic sequence is essential to elucidating the form, purpose, date, organisation and development of the various phases of activity represented. The site stratigraphy has been analysed as far as the evidence allows and features have been dated by associated finds, stratigraphic relationships and spatial logic where possible.

6.4 While the stratigraphic record forms a complete record of the archaeological features uncovered, the relative lack dating material from some contexts limits the potential for fully elucidating the function and development of the site. Further analysis should be restricted to aligning the results of the stratigraphic analysis to documentary evidence for the medieval and post-medieval period.

Artefactual record: factual data

6.5 All finds collected during the excavation have been cleaned, marked, quantified and catalogued by context. All metalwork has been x-rayed and stabilised where appropriate. The artefactual archive is summarised in Table 2.

Type	Category	Count	Weight (g)
Pottery	Romano-British	4	238
	Anglo-Saxon	58	1118
	Medieval	172	2339
	Post-medieval	372	8614
	Total	*606*	*12,309*
Ceramic building material		437	82,817
Clay tobacco pipe		84	369
Flint	Worked	4	91
Fired clay		1	2
Glass		118	1032
Metalwork	Iron	129	3512
	Copper alloy	58	69
	Copper alloy (coins/tokens)	6	
	Silver (coin)	1	
	Lead	8	96
Metalworking debris	Slag	33	2757
Stone	Building stone	4	3418
	Other stone (unworked)	3	2017
Mortar/plaster		10	401
Worked bone		2	9
Leather		1	3

Table 2: Quantification of finds recovered

The pottery

6.6 A total of 606 sherds of pottery, weighing 12,309g, was recovered, of Romano-British to post-medieval date (Appendix 2; Tables 5-7). The earliest material comprises four sherds of late Roman pottery, residual in Anglo-Saxon ditch 10. Almost all of the Saxon pottery from the site (56 of 58 sherds) was recovered from fills 291, 329, 330 and 331 of ditch 10, with single sherds also found in deposit 219 within Structure 2, and layer 233. A wide range of fabric types is represented, predominantly sandstone-tempered wares, indicative of Early Saxon occupation. Other fabrics include sand-tempered wares and chaff-tempered wares. The assemblage includes a number of elements diagnostic of form, including six rims –

two with short, upright necks, and one slightly beaded rim, typical of vessels of 5th to 6th century date. Everted rims are also present. A decorated body sherd and a burnished body sherd are both from carinated jars. Surface treatments include rustication (roughening of the external surface), wiping and scoring, burnishing and smoothing. As the range of fabrics and forms present in the Eden Street assemblage is high, while the number of sherds is relatively low, and as some typical 5th- to early 6th-century forms are present, a date in the 5th to 6th century can be suggested for the activity.

6.7 The medieval pottery assemblage comprises 172 sherds, weighing 2339g, half of which was residual in later features. Ten features contained pottery solely from this period - ditches 1, 3, 5, 6 and 403, postholes 267 and 268, possible pit 301, and foundation trenches 125 and 210. Layers 177 and 264 also contained small quantities of medieval pottery without any later sherds. The most commonly occurring fabrics are the Kingston-type wares, most of which derive from jugs, but jars, dishes and cauldrons are also represented. Of particular interest in this group are three thick-walled sherds from a possible industrial form, from ditch 5 (271) and pit 344. Several sherds represent wasters, including two with glaze over the sections of the sherds (layers 247 and 264), two warped base sherds (posthole 268) and an over-fired jug handle (pit 244). Other fabrics include smaller quantities of coarse Surrey-Hampshire border ware, in jug, jar and bowl forms; and single sherds of Limspfield-type ware, London-type ware, early Surrey ware, an unsourced sandy fabric and an unsourced sand and flint-gritted ware.

6.8 A wide range of post-medieval wares was recovered (372 sherds, 8614g), including vessels imported from France, Spain, Germany and China. The red wares comprise the largest component of the assemblage, with Surrey-Hampshire border red ware (RBOR) the most commonly occurring. The majority derive from bowls, but jars and dishes are also represented. They include an unusually large, unglazed chicken feeder and a storage jar with finger-impressed rim, both from layer 108. The London-area post-medieval red wares (PMR, PMRE, PMSRG and PMSRY) include jar and bowl forms, and a possible cauldron. Unusually, a jar, in an early type (PMRE) but probably made in Kingston, has thumbed decoration on the neck rather than on an applied strip. It is of 16th century date and was recovered from pit 248. Other red wares comprise fragments in a London-area post-medieval bichrome red ware, a single sherd from a butterpot in a Midlands Purple (layer 162) and three mug sherds in Essex-type post-medieval black-glazed red ware (1580-1700). White

wares from the local Surrey-Hampshire border industry were also fairly frequently encountered (69 sherds, 1004g), with brown (BORDB), green (BORDG) or yellow (BORDY) glaze. The most common forms are chamber pots and tripod pipkins, but porringers, other bowls, dishes, a flask, lid and skillet are also present.

6.9 Tin-glazed wares (56 sherds, 515g, 16th to 19th centuries) include drug jars, an ointment jar, porringers, plates, dishes and chamber pots. Most of the stoneware sherds derive from German Frechen types (1550-1700). Amongst the English white salt-glazed stonewares (1720-1770) are mugs, bowls, saucers and a lid; one has scratch blue decoration. Other wares include small quantities of Cistercian ware (*c* 1500–1600), Staffordshire-type slipware (1660-1730), Chinese blue and white porcelain (1590-1900), Martincamp-type ware vessels from Normandy (1480-1650) and a Spanish micaceous fabric (1270-1650).

Coins, tokens and jetton

6.10 Seven coins or tokens (Appendix 3; Table 8) were recorded from one of four deposits or as an unstratified object. Of the group, six are copper alloy and one is a possible silver coin, of post-medieval date. The silver coin, recorded from hearth waste layer 219 (Ra. 57), appears to be a coin of Charles I (identified from x-radiography). The other coin, recovered from foundation trench 210 (Ra. 5), is a rose farthing of Charles I, dateable from 1637 to 1644.

6.11 All four of the tokens appear to be trade tokens issued in the mid to late 17th century as a consequence of shortages of ‘small change’ (Williamson 1889) or low denomination coinage. Of the group, two recorded from posthole 282 are too worn to attribute to a place or person of issue. An unstratified item (Ra. 59) was issued by Gyles Pierce of Chiswick (Williamson 1889, Chiswick no. 6). The fourth, recovered from rubble layer 190 (Ra. 3) was issued by William Marsham, a baker, from Richmond (*ibid.,* London no. 232). Both districts are relatively close to the site, with the furthest (Chiswick) only 10km to the north, and are probably indicative of local trade. The single jetton, Ra. 52, was recorded from foundation trench 210. It was issued by Wolf Laufer of Nuremburg between 1650 and 1700 AD. The jetton depicts Louis XIIII of France on the obverse and a crowned shield of arms with blazon of three fleurs de lis.

Metalwork (excluding coffin fittings)

6.12 A total of 195 items of metal was recorded from 33 deposits and as unstratified material (Appendix 4; Table 9). The assemblage comprises 129 of iron, 58 of copper alloy and eight of lead alloy. The majority of were recovered from demolition or dump deposits and floor/foundation or occupation layers.

6.13 The assemblage as a whole indicates activity in the post-medieval period, extending into the 19th century. Some evidence for earlier (medieval) activity is present, particularly amongst the copper alloy group. The majority of items are fixtures and fittings (predominantly iron nails), probably associated both with the burials and with buildings occupying the site. Domestic activity is also represented, including 51 copper alloy pins, of a type used for sewing or fastening items of dress, from the medieval to modern period. A modern iron buckle was also recorded. Other copper alloy objects include a horse harness pendant suspension mount, of medieval date (ditch 261), a spherical weight, also of medieval date (layer 109) and a seal-top spoon, of 17th century date (layer 277). The lead includes four fragments of window came, two items of lead shot and a lead weight.

Metalworking debris

6.14 The industrial debris from Eden Street includes just over 2.5kg of metalworking debris (Appendix 5; Table 10). The assemblage includes one definite fragment of a furnace bottom (from context 329, Early Saxon Ditch 10) which indicates bloomery iron smelting. This fragment weighs 1.8kg and represents (at most) 25% of the original piece of slag. The outer margins of the furnace bottom fragment show some traces of the ceramic lining of the furnace. The metalworking residues recovered at Eden Street provide positive (if limited) evidence for the primary production (smelting) of iron.

Mixed finds (Appendix 6, Table 12)

Clay tobacco pipe

6.15 A total of 84 fragments from clay tobacco pipes, weighing 369g, was recovered. Most (76 pieces) are from the stem of the pipe, with eight bowls represented. One, from layer 145, has the maker's initials, 'W' W', on either side of the bowl. All are of late 17th to 18th century date. The vast majority of fragments derive from a series of post-medieval and modern layers, with one stem fragment from modern foundation trench 136 and two stem fragments from clay step 224.

Glass

6.16 A total of 118 fragments (1032g) of glass was recovered from 20 deposits, most representing a series of post-medieval layers (Table 12). The window glass (58 fragments, 278g) is mostly colourless, or has a slight natural blue/pale green colouring, but is highly degraded. Its uniform thickness is indicative of an 19th/20th century date. The remainder of the group (60 fragments, 754g) comprises vessel glass, including 36 fragments from wine/spirits bottles of post-medieval date. Two fragments of pharmaceutical bottles, small cylindrical phials with rounded base and simple, narrow neck with out-turned rim, were also recorded.

Building stone

6.17 A piece of sandstone building stone was recovered from the lower fill of Saxon ditch 10 (fill 329; 1873g). Three adjoining pieces of limestone (1545g), part of a walling or flooring brick/block, were recorded from medieval pit 344.

Mortar and plaster

6.18 Fragments of lime mortar were recovered from feature 238 (25g), layer 253 (72g), ditch 265 (77g) and posthole 283 (11g). A fragment of plaster, 12mm thick, that had been pressed over a joint, probably a timber lathe on a wall or ceiling, was recovered from pit 176 (53g). A fragment from layer 146 (47g) has a coarse lime render, overlaid by a finer finish and painted a pale blue. Two fragments, also from layer 146, may be a cement-based render, laid on in two coats, the finer one to the surface, and originally painted with a blue distemper but later covered with an oil-based cream-coloured paint (116g).

Worked bone

6.19 A waste piece of worked bone from layer 227 (Ra. 60) has three wide teeth cut into one end, presumably an offcut from a comb or similar object. A second piece of worked bone, from post-medieval layer 219, had been shaped into a circular, grooved object with highly polished surfaces, possibly a gaming piece or decorative fitting (Ra. 58).

Worked flint

6.20 Four prehistoric worked flint items (91g) were recovered from four deposits. The items are in relatively good condition, despite being redeposited within later features. The assemblage comprises two flakes, recorded from clay step backfill 218, and

Anglo-Saxon ditch 10 (fill 369). A further two items are retouched. An end-scraper, produced by retouching the distal end was recovered from ditch 10 (fill 330). An unusual piece, recovered from ditch 5 (271, fill 252), is similar in form to oblique arrowheads of the Neolithic period. However, whilst the item bears the triangular shape and edge retouch expected, it has only been worked on the dorsal face. Arrowheads would require bi-facial working and as such it is probable that this piece was used in another capacity, possible as a scraper.

Leather

6.21 Part of a leather strip, 80mm in length and 13mm wide, has at least 13 perforations with copper alloy eyelets, and was recovered from the topsoil.

Ceramic building material (CBM)

6.22 The assemblage (Appendix 7: Table 13) comprises whole and fragmentary bricks (34 pieces, 24,175g), fragments of tile (including peg, ridge and pan; 356 pieces, 56,749g), drain pipe (6 pieces, 981g) and glazed tiles (5 pieces, 216g). The remaining 36 pieces (696g) are considered too fragmentary to identify thickness or original function. Little of the material recovered is intrinsically dateable; the group spans the medieval to post-medieval periods, with some material (noteably the glazed drain and brick fragments) dateable to the 19th century or later. The majority of items (59%) were recorded from feature fills including pits, postholes and ditches, the remainder came from a series of layers and other deposits.

Coffin Furniture

6.23 The small assemblage (Appendix 8: Table 14) comprised six coffin plates, two copper alloy grips and the iron fittings from a child's grave (395). The plates were mostly brass and trapezoid shaped though one (dated 1887) was shield-shaped. The inscriptions themselves are without flourishes and iconography. The lettering was plain, serifed in the earlier plates and sans serif in the later ones, reflecting changes in wider society regarding font types. The plates may have been painted black and in one instance the outline of the plate in white paint was still visible. Three grips and an unidentified metal object were recovered.

Artefactual record: statements of potential

Pottery

6.24 The Saxon pottery from the site is not the first to be found in this part of Kingston, but it is among the earliest stratified material and is certainly the largest known group of its date. The present finds comprise a range of fabrics and forms, and are of considerable interest in adding to our understanding of early post-Roman activity in Kingston. Their importance is, however, significantly increased by the fact that the majority are stratified. As such, they are of local and regional significance. Most early Anglo-Saxon settlements in the lower Thames valley are located close to tributaries of the Thames, but they are usually (at least to some extent) upstream, on higher ground, presumably for protection from flooding. Here, however, the site is low-lying and quite close to the Thames, and must have been so in the 5th/6th centuries AD. As such it can be grouped with the South Lane site, which is closer to the Thames, and contemporary Thames-side settlements at Hammersmith and Mortlake, all of which have produced similar pottery fabrics and forms (Cowie and Blackmore 2008, 36–54; 113–4).

6.25 The medieval and post-medieval pottery has provided chronological information for the site and evidence for domestic and possible industrial activities. The presence of Kingston-type ware wasters and the relatively large number of sherds in whiteware and greyware are not unexpected, given the proximity of the Eden Street kiln complex. The site sequence, however, extends beyond the period of manufacture of medieval whiteware in the vicinity, with evidence for 16th- to 18th-century activity also recovered. These finds have potential for comparison with other excavated assemblages from Kingston, not only in relation to the medieval whiteware kilns, but also to subsequent domestic occupation in the neighbourhood.

Coins and tokens

6.26 The coin group is small, however it does have some potential to provide some precise date markers useful (depending on the context in which they were found) for the interpretation and phasing of the site.

Metalwork

6.27 The metalwork assemblage is a sizeable group, although dominated by nail fragments and post-medieval to 19th century items. It is of limited range, although it

does contain a number of items that are intrinsically interesting and/or which are individually dateable.

Metalworking debris

6.28 Although not a large assemblage, a significant proportion was recovered from the Saxon ditch. Very little is known about iron smelting during the Anglo-Saxon period although is some evidence for 'slag-pit' furnaces from the eastern part of England (Table 11). The material has potential to contribute to our understanding of the nature of primary metal production in post-Roman societies (Bayley *et al.* 2008, 68).

Other finds

6.29 The CBM, stone, mortar, plaster and glass provide evidence for the range and variety of building materials in use on the site, but were recovered in small quantities, limiting the potential for further work. Evidence for domestic activity is provided by a number of the other finds. The consumption of wine and spirits is suggested by the types of vessel glass present, the glass also reveals evidence of the use of pharmaceutical liquids. The clay tobacco pipes provide evidence of tobacco smoking on the site during the later 17th to18th centuries. The worked bone objects are too fragmentary to securely identify and as such are limited in their value. The worked flints hint at possible earlier activity on the site.

Biological record: factual data

6.30 All ecofacts recovered from the excavation have been cleaned, marked, quantified and catalogued by context. A total of 16 bulk samples were taken for the recovery of environmental remains.

Type	Category	Count
Human bone	Inhumation burials	4
Animal bone	Fragments	1,237
Samples	Environmental	16

Table 3: Summary of biological evidence

Human bone

6.31 Four burials and four disarticulated deposits were archaeologically recovered from the Friend's Meeting House burial ground (Appendix 9; Tables 15 and 16). These are all considered to date to the early phase of burial starting in 1813-1830 (before those named on a plan of 1948). The inhumation burials comprised one child and three adults. Of the adults, two were female and one was probably male. The disarticulated remains were all from adult individuals.

Animal bone

6.32 A small assemblage of animal bone was recovered from early medieval to modern features (Appendix 10, Tables 17 to 20). It was generally in fairly good condition. Some of the material showed signs of canid gnawing or butchery marks. A group of crania (cattle skull and a red deer skull) and vertebrae fragments from Ditch 10 (291), may have resulted from the deposition of butchery waste or (less likely) provide evidence for a high-status site (red deer and possibly wild pig). There were no deposits of skin-processing or craft-working waste. The wider assemblage was dominated by cattle bones, followed by sheep/ goat and pig. Despite the presence of sieved samples and the proximity of the site to the river Thames, the absence of fish remains is notable, particularly in the medieval period when there was a well-established urban fish trade.

Plant macrofossil and charcoal

6.33 The charred plant assemblages (Appendix 11; Table 21) from features of all the periods are very small, although free-threshing wheat (*Triticum turgidum/aestivum* type) and barley (*Hordeum vulgare*) grain fragments, seeds of oat (*Avena* sp.) and vetch/wild pea (*Vicia/Lathyrus* sp.), goosefoot (*Chenopodium* sp.) and (*Corylus avellana*) shell fragments were present. The charcoal assemblages were also poor, with low numbers of charcoal fragments greater than 2 mm recorded. The plant macrofossils not appear to be related to any domestic activities taking place in the immediate vicinity.

Marine shell

6.34 Twenty-six shells, all oyster (*Ostrea edulis)*, representing 20 minimum number of individuals, were collected from post-medieval layer 106 and from the fill 255 of posthole 268 (Appendix 12, Table 22). Right valves were more numerous than left valves and the shells were well preserved with more being measurable than not.

The shells were generally well shaped, indicative of shells from a laid oyster bed with space to grow.

Biological record: statements of potential

Human bone

6.34 This small assemblage of skeletal remains has revealed the wide range of individuals who were former members, associated with and/or relatives of the members of the Quaker meeting house in Eden Street, Kingston-Upon-Thames. It has potentially identified individuals who were not commemorated by grave markers or coffin plates. These burials date to the earliest phase of burial in the 'new' burial ground. It was previously considered that the burials did not take place until 1834, but documentary research and presence of unidentified burials have demonstrated that burial took place here from 1813. Two burials which may be named individuals would date to 1818 and 1827. Both pre-date the registration act 1837, which means a death certificate was not compulsory at the time they died. Further research into cause of death will not be possible, which potentially may have furthered personal identification. The human bone has been fully recorded and re-interred.

Animal bone

6.35 Sample sizes are small for each respective phase, and there is little to be gained from further analysis, particularly in the absence of detailed phasing, so no further work is recommended.

Plant macrofossil and charcoal

6.36 Further analysis of the charred plant assemblages has no potential to provide more detailed information on the range of crops and activities taking place on site. Due to the general paucity of charcoal recovered, there is no potential for analysis to provide detailed information on the species composition and the management and exploitation of the local woodland resource. Therefore no further work is proposed on these samples.

Marine shell

6.37 The assemblage is too small to draw any clear conclusions about the nature and likely source of the oyster bed. No further work is proposed on this small assemblage.

7 SUMMARY STATEMENT OF POTENTIAL

7.1 The primary aims and objective of the excavation and watching brief were to assess whether any archaeological remains survived the development of the Quaker Meeting House in the late 18th century. The results of the excavation demonstrated significant survival of archaeological remains across the western half of the site despite the development of the Quaker Meeting House. The excavation and later watching brief, were able to confirm that any archaeological remains that were present in the eastern half of the site had been completely truncated by the excavation of graves in the burial ground and the subsequent exhumation of their contents.

7.2 Where archaeological features were encountered, they represented evidence of activity from the Anglo-Saxon, medieval and post-medieval periods. The excavation did not, however, find any evidence for pottery kilns or pottery manufacture activities within the boundary of the site.

Prehistoric and Roman residual material

7.3 Four prehistoric worked flint items (just 91g) were recovered from four deposits, one of which was the Anglo-Saxon ditch 10 (fill 369). An upper fill (331), of the same ditch also contained four sherds of late Roman pottery dating to after 250 AD. These artefacts suggest that there was likely to have been a limited amount of activity in the general area before the Anglo-Saxon period. They have limited potential to add further to our understanding of the site.

Anglo-Saxon

7.3 The Anglo-Saxon activity on site is represented by a single ditch (10), which traversed the site from the north-western corner towards the south-east, before it was truncated in the burial ground. In plan, the ditch appears to be curving round to the south-west, in the north-western corner, and to the south at its eastern end. This change in orientation hints at the possibility of the ditch having formed part of a large sub-circular enclosure, or possibly part of a rounded corner of a large boundary or drainage ditch. We should approach this interpretation with some caution however, because the top of the ditch had been heavily truncated by later features.

7.4 Preliminary examination of the Anglo-Saxon pottery from the basal to upper fills of the ditch (58 sherds, 1,118g) revealed that there was a wide range of fabrics and a

number of separate vessels present. Recent analyses of Early Saxon assemblages have shown that those with a wide range of fabrics tend to be early, ie of 5th- to early 6th-century date, while those with fewer fabric types date to the mid/later 6th or earlier 7th century (Jarrett 2002, 199; Blackmore 2008, 157; Blackmore and Vince 2008a, 153–6; Cowie and Blackmore 2008, 151–3). The former represent a period of migration and adaptation, while the latter reflect more stable settlement and acculturation. As the range of fabrics and forms present in this Eden Street assemblage is high, while the number of sherds is relatively low, and as some typical 5th- to early 6th-century forms are present, a date in the 5th to 6th century can be suggested for the activity.

7.5 Archaeological investigations at 82 Eden Street carried out in 1990 and 1991 by the Department of Greater London Archaeology (Blackmore and Cowie 2008), produced middle Anglo-Saxon material. That site was positioned adjacent to the north-western edge of the present site and identified the remains of one possible Anglo-Saxon ditch and a later sunken feature building (SFB) or pit (Blackmore and Cowie 2008). The ditch ran on a north-south alignment and would have continued past the eastern end of the site as it ran south. The size, shape and location of the ditch suggest that it is not directly related to Ditch 10, although they may be contemporary in date. The ditch found during the 82 Eden Street excavations had a ‘V’ shaped profile and a width of 1m. This profile was very different from Ditch 10. Further evidence for the Anglo-Saxon period comes from an SFB found during the Bittoms excavations, 0.5km to the south-west of the site, and ditches located during the Eden Walk excavations in the 1970s (CgMs 1998).

7.6 The limited topographic analysis and archaeological excavations carried out in Kingston suggests that the Eden Street area would have been comprised of wet low lying ground truncated by small water channels. Clear evidence of an Anglo-Saxon settlement at Kingston is lacking archaeologically although it seems likely that the focus of any settlement activity would have been on higher ground, possibly on a gravel island formed by the Hogsmill stream and the Thames. Ditch 10 is probably part of an ancillary drainage system, which would have supported the outlying areas of the settlements. The animal bone recovered from the fill of Ditch 10 points to butchery of livestock and animals more generally associated with high status sites occurring nearby, an activity which would have normally take place on the out-skirts or outside of a settlement. The recovery of ironworking debris including a furnace

bottom also is also suggestive of an activity that normally took place beyond the domestic locale.

Medieval (13th to 15th century)

7.7 Another aim of the fieldwork was to assess any possible evidence related to the medieval pottery kilns recorded on the adjacent 70-76 Eden Street site, 40m to the south of the site (Miller and Stephenson 1999). The medieval period was represented on site by nine ditches, one ditch terminus and one pit. The excavation was unable able to confirm an absence of features related to the 14th century Surrey Whiteware Kilns, identified during excavations at 70-76 Eden Street. This result was surprising given the close proximity of the sites, however, the lack of kiln activity may be due to the absence of brickearth within the site. The kilns found during the 70-76 Eden street excavations were all dug into the underlying clay brickearth. Clearly the terrace gravels and sands encountered within the site were not conducive for kiln construction. Of note in this regard however were several sherds representing wasters, including two with glaze over the sections of the sherds (layers 247 and 264), two warped base sherds (posthole 268) and an over-fired jug handle (pit 244). See the finds potential above.

7.8 During the late medieval period, the Eden Street is thought to have been used for tanning and animal processing (CgMs 1998), as well as pottery production. Unfortunately the archaeological remains of medieval date found on site produced very little evidence for any of these activities. Ditches 1 - 8 appear to be different phases of the same enclosure, with pit 9 possibly forming part of one of the phases. Due of the limited nature of the excavation, it is hard to interpret these ditches with any real certainty but it seems likely that they formed part of some sort of livestock corral. If the slaughtering of animals was occurring within the Eden Street area then holding areas would be needed for the livestock prior to slaughter. Ditch terminus 301 was located to the north-west of ditches 1 - 8 and represents the terminal end of a separate ditch. Although information is limited, it is possible that ditch terminus 301 formed the western boundary of same enclosure formed by ditches 1 - 8.

Post-medieval

7.9 The post-medieval period forms the bulk of the archaeological deposits and artefacts recovered from the site and were split into five clear phases of activity. The Quaker Meeting house that occupied the site was built in 1773 and therefore the post-medieval phases that pre-date its construction cover a period of around 250 years.

7.10 The desk based assessment (CgMs 1998) included a copy of an unprovenanced 17th century map of Eden street area, which shows the presence of a building and an attached garden plot on site. More interesting, however is a map dated to 1743, which although shows the site completely empty, also shows that it was butted by two distinctive buildings to the north and to the south.

7.11 The first post-medieval phase on site consisted of several large postholes, a large pit and possible toilet or cess pit. The postholes, whether examined as a group or together with the undated postholes do not appear to form particular shape or structure. This may mean that part of the structure fell outside the boundary of the site or that the postholes were not structural in nature and perhaps formed some sort of stockade or fence line. The large rectangular shape of some the postholes suggests that they must have been structural in nature and perhaps the basis of some sort of temporary structure. The pit located in the south-western corner of the site was perhaps a of quarry pit. The lack of finds recovered from its fill suggests that it was backfilled fairly quickly. The construction of the toilet or cess pit supports this idea that during this period the site was not predominantly domestic in nature, as it would have likely been placed in unused area of site, probably at the back of a garden plot or tenement.

7.12 The site was apparently subject to a period of inactivity during between the 16th to the 17th century. During this period several deposits built up across the site, probably caused by the deliberate dumping of material and the gradual accumulation of deposits caused by weathering processes. Well 168 was also attributed to this phase of activity but appears to have been constructed after these deposits had accumulated. The well must have been associated with a nearby structure, probably located to the north of the site.

7.13 The site in the early to middle parts of the 17th century started to see an increase in activity, represented on site by several thin charcoal layers (108; 219), which covered the south-western corner of site. A coin dating from the reign of Charles I was recovered from layer 219. Although these layers appear to represent a period of occupation on or near to the site, unfortunately the finds and environmental material recovered is inconclusive, limiting possible interpretation. It seems likely, however, that the site during this period formed an open space between tenements, possible in use as a yard or work surface.

7.14 Several deliberate dumps of material were deposited in the north-western corner of the site and seemed to focus around the location of Structure 1. These deposits post-dated charcoal layers to the south but pre-dated both pit 176 and Structure 1. These layers were not seen elsewhere on site, which may suggest that they were related to the development of Structure 1, possibly for the levelling of this area or to raise the ground surface prior to construction.

7.15 Shortly after these layers were deposited, the development of two brick buildings, Structure 1 and 2 occurred on site. Both buildings have been attributed to the same periods of occupation, based on their stratigraphic relationship to similar deposits. However, coins and trade tokens from associated features suggest that Structure 2 may have been earlier.

7.16 Structure 1 appeared to form the south-western end of a fairly large building, which would have run parallel to Eden Street and probably formed part of the street frontage. The building had been heavily truncated by later development and the eastern extent was completely destroyed. At some point an external sub-circular annex was constructed against south-western facing wall of the structure. The function of this annex is difficult to interpret, however, the enclosed space it formed was small, and therefore it was probably used as a form of external storage. Drain 171 and Wall 174 also represent some form of external building on the south-western corner of Structure 1, however, due to modern truncation it is difficult to interpret its function. The wall foundations along the south-western end of the structure varied in depth and appeared to be a deliberate attempt by the builders to strengthen different parts of the wall. As the wall kinks to the south-west the foundations deepened, which may indicated the presence of a chimney stack. One internal floor surface survived within the structure however, it was also heavily truncated and only consisted of two large in situ floor tiles. A jetton depicting Louis XIIII of France and issued by Wolf Laufer of Nuremburg between 1650 and 1700 AD was found above the floor surface (Appendix xx). The jetton dates the floor surface to the late 17th century, although it is possible that the coin was residual.

7.17 Structure 1 had two associated external floor surfaces positioned to the south-west of the building. The was no direct relationship between brick floor 156 or concrete surface 202, however, it seems likely that they were different phases of the same

surface and most likely formed some sort of yard surface and/or access to the rear of Structure 1.

7.18 Structure 2, although heavily truncated, showed evidence of two stages of development. The main shape of the building does not appear to have changed over time, but internally the north-eastern corner of the structure was altered from its original shape. A sub-circular brick structure or partition in the north-eastern corner this was removed and an 'oblong' shaped hearth was added. Exactly what the building was used for is open to conjecture, however, the introduction of a hearth suggests that at some point its function may have changed. The location of Structure 2 away from the Eden Street frontage, as well as its relatively small size, suggests that perhaps this was some sort of out house or work shop that would been attached to a larger building located to the south-west. The large amount of coal and burnt material found within the structure probably means that it was associated with industrial activity such as iron working or other forms of 'hot works'. An early 17th century coin was found in layer 219, directly below Structure 2, and a mid to late 17th century trade token was recovered from demolition layer 190, which covered large parts of Structure 2. These coins date the structure firmly to the middle of the 17th century and also suggest that it was in use for a fairly short period of time.

Quaker burials

7.19 The small assemblage of skeletal remains recovered has revealed the wide range of individuals who were former members, associated with and/or relatives of the members of the Quaker meeting house in Eden Street. The analysis has also potentially identified individuals who were not commemorated by grave markers or coffin plates. These burials date to the earliest phase of burial in the 'new' burial ground. It was previously considered that the burials did not take place until 1834, however, documentary research and presence of unidentified burials have demonstrated that burial took place here from 1813 (monthly meeting minutes, first burial- "John Hayman in the new ground"). This overlapped with the 'old' burial ground at London Road where the last internment was thought to be 1814. The two burials, who may be named individuals would date to 1818 and 1827.

7.20 Despite the small number of individuals examined, there are examples of the more rare pathological lesions. The burials reflect the social changes in the early 19th century and the changing membership of the Quaker congregation. The work

demonstrates the benefits of archaeological recording removal and study of human remains.

8 STORAGE AND CURATION

8.1 The archive is currently held at CA offices in Andover, whilst post-excavation work proceeds. Upon completion of the project and with the agreement of the legal landowners, the site archive and artefactual collection will be deposited with the Museum of London Archaeological Archive (LAARC code: EEN 16), which has agreed in principle to accept the complete archive upon completion of the project.

9 UPDATED AIMS AND OBJECTIVES

9.1 To fulfil the potential of the site data, the following updated objectives have been set out to provide a framework for the proposed further analysis:

Objective 1: Further refine the early chronology of the site

9.2 While many of the more chronologically precise artefacts recovered from the site were from statigraphically imprecise layers or deposits, and the assessment of the animal bone has demonstrated some intrusive material, or mixing of contexts, the Saxon pottery shows some potential for refining the early chronology of the site. This should be pursued.

Objective 2: Carry out further documentary research of post-medieval Kingston in order to help interpret Structures 1 and 2.

9.3 A detailed analysis of the post-medieval documentary sources for this area should be undertaken to further explore the possibility of discovering the function and occupants of Structures 1 and 2.

Objective 3: Compare the Saxon and medieval remains uncovered during the excavation to those from other archaeological sites in the area.

9.4 A number of excavations have been carried out in close proximity to the site and in Kingston as a whole. These excavations have uncovered a number of Saxon, medieval and post-medieval remains. Comparisons to such sites will allow us to contextualise the recorded Saxon, medieval and post-medieval archaeology and may help with the understanding of the post-medieval development around Eden Street.

Objective 4: Analysis of Saxon Pottery

9.5 The following are preliminary suggestions related to the pottery; more questions will undoubtedly arise as the analysis progresses.

- What is the full range of fabrics, and can the source of the calcareous and sandstone-tempered wares be pinned down?
- Although it is a very small assemblage, could a chronological sequence be seen in the finds from different fills of the ditch?
- How does the assemblage compare with those from other sites in Kingston?
- How does it fit within the pattern of early Saxon settlement in the lower Thames valley?

Objective 5: Analysis of the Saxon metallurgical debris

9.6 The metalworking residues recovered at Eden Street provide positive (if limited) evidence for the primary production (smelting) of iron in the Saxon period. Very little is known about iron smelting during the Anglo-Saxon period. The Saxon The UK research framework for archaeometallurgy (Bayley et al 2008, 68) stresses the need to:

- Investigate the nature of primary metal production in post-Roman societies.
- Investigate continuity versus replacement for iron technology and production in the early medieval period, particularly comparing different areas of the British Isles.
- Develop provenancing tools to clarify the nature of trade in metals both within the British Isles and with external areas.
- Further investigate the nature and production of early medieval steel.

Objective 6: Consideration of commerce and industry

9.7 Consider the evidence retrieved from the site for industrial activities and trade, etc., particularly in the light of patterns suggested by nearby sites. The ’Saxon (AD410-1066) research priorities’ (Nixon *et. al.* 2003, 53) suggests that ‘there is almost no evidence in London of production or trade in the early Saxon period’. While the complete absence of fish bones from environmental samples from the site is notable, there is some potential to add to the S7 framework objective ‘understanding the mechanisms of the economy’.

Objective 6: Knowledge of burial practice

9.8 Add to the available body of knowledge of post-medieval burial practices in Kingston upon Thames. The 'London After 1500 Research Priorities' (Nixon *et. al*. 2003, 72) note that: 'From the 16th century refugees, minorities and non-conformists were settling in London and establishing their own places of worship, and the identification and recording of these structures (and associated burial grounds), whether as standing buildings or archaeologically, should receive a high priority for their potential contribution to a better understanding of development of cultural diversity in the City.

L6 Framework objectives:

• Establishing how the material expression of religious belief changed through the Reformation and subsequent religious upheavals

• Identifying the extent to which religious minorities and non-conformists had a distinct material culture in London, and developing archaeological models for future analysis'

9.9 In the course of the project, and with great help from Graham Torr and Andrew Lodge, CA has acquired copies of documentary evidence regarding the Friends Meeting House and Burial Ground and of an archive of digital photographs of coffin furniture. With permission, copies of these will be made available as part of the digital archive to aid future research.

10 PUBLICATION

10.1 The results from the investigations of the 78 Eden Street are of local and, in part, regional significance and merit publication. The excavations revealed the remains of two post-medieval structures, which provide an interesting insight into the life and development of Eden Street Kingston in the 18th and 17th century. It is proposed that a report will be published in the *Surrey Archaeological Collections*. A provisional synopsis has been prepared, though following discussion with the editors, some of the proposed content may be presented as supplementary data through the SAC pages of the ADS (Archaeological Data Service) website.

Provisional synopsis of Proposed Report

Archaeological Excavations at 78 Eden Street,

Kingston Upon Thames, 2016–17

by Oliver Good and TBC

with contributions by Lyn Blackmore, Sharon Clough, David Dungworth, Matilda Homes, Grace Perpetua Jones, Katie Marsden, Jacqui Pearce and Sarah Wyles.

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	Approximate pages @ 800 words/page	18

Tables	
Pottery	2
Metalworking residues	1

Illustrations	
Location of site	1
Site plan with phasing	2
Documentary	1
Pottery	2
Metalworking debris	2
metalwork	0.5
	12

Total publication estimate - maximum of 30 pages

Project team

10.2 The analysis and publication programme will be quality assured by **Martin Watts MCIfA** (Head of Publications: HoP) **Karen Walker MCIfA** (Principal Post-Excavation Manager) and managed by who will contribute to the discussion as senior author and co-ordinate the work of the following personnel:

Oliver Good PCIFA (Project Officer: PO):
Post-excavation phasing, draft report preparation, research and archive

Grace Jones MCIfA (Senior Finds Officer: FO):
Specialist report preparation and liaison, post-excavation phasing.

Sarah Wyles ACIfA (Senior Environmental Officer: EO)
Specialist report preparation plant macrofossil, molluscs and liaison

Dan Bashford **ACIfA** (Senior Illustrator: ILL):
Production of site plans, sections and artefact drawings

Jon Bennett ACIfA (Geomatics Officer: GO):
GIS applications

10.3 Contributions by the following external consultants will be managed by the Finds Manager:

- **Llyn Blackmore**, (Consultant, MoLA) medieval and post-medieval pottery
- **Jacqui Pearce**, (Consultant, MoLA) Saxon Pottery
- **Dr David Dungworth** (Consultant) Archaeometallurgical residues

10.4 Contributions by the following external consultants will be managed by the Environmental Officer:

- **Dr Matilda Holmes** (Consultant) - Zooarchaeologist

10.5 The final publication report will be edited and refereed internally by CA senior project management, and externally refereed by the editorial board of the Sussex Archaeological Society.

11 TASK LIST

TASK	PERSONNEL	DURATION/ COST
Project Management		
	SPM	**5**
Stratigraphic Analysis		
	PO	**5**
	FM	2
Research, comparanda		
	PO	**3**
Pottery		
Analysis and report	FM Ext.	3 FEE
Illustration	SI	5
Metal artefacts		
Report preparation	FO	1
Illustration	SI	1
Metalworking debris		
	Ext.	**FEE**
Preparation of publication report		
Abstract and introduction	PO	1
	SI	
Excavation results	PO	4
	SI	2
Compilation of specialist reports, tables etc.	PO	2
Discussion, conclusions	PO	3
	SI	
Acknowledgements, bibliography	PO	0.5
Editing	SPM	2
Submission to external referees		
Revisions	PO	1
	SI	0.5
	SPM	1
SUBMISSION OF PUBLICATION TEXT		
Archive		
Research archive completion	PO	1
	FO	3
Scanning		FEE
Deposition		FEE
Publication		
Printing	*SAC*	FEE

12 TIMETABLE

12.1 It is expected that the further analysis, reporting and illustration work will be completed within six to nine months of the approval of the post-excavation assessment.

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13.2 Andrew Lodge of Lodge Brothers Funeral Directors and his team are thanked with regard to their work with the human remains. Graham Torr of the Kingston Quakers has been hugely helpful and generous in providing information regarding the burials and other aspects of the former Quaker Meeting House and Burial Ground and is sincerely thanked. External consultants include: for pottery, Lyn Blackmore and Jacqui Pearce (MoLA), for metalworking residues, David Dungworth, for conservation Pieta Greaves and for animal bone, Matilda Homes.

13.3 For Cotswold Archaeology, the fieldwork was undertaken by Oliver Good, assisted by Adam Howard, Natasha Djukic, Francesco Catanzaro, Tony Brown, Ed Grenier, Jack Martin-Jones, Tim Street, Keighley Wasenczuk and Emily Stynes. The fieldwork was managed by Damian De Rosa and the post-excavation works by Karen Walker. Specialist reporting was undertaken by Sharon Clough, Grace Perpetua Jones, Katie Marsden and Sarah Wyles.

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APPENDIX 1: STRATIGRAPHIC ASSESSEMENT BY OLIVER GOOD

A total of 296 contexts was recorded during the watching brief and excavations and are detailed in Table 4, below:-

Phases	**No. of Contexts**
Natural	2
1 – Anglo-Saxon Early Anglo-Saxon (410 to 650AD)	8
2 – Medieval (1066 to 1540)	80
3.1 – Early Post-Medieval (Mid 16th Century)	19
3.2 – Early Post-Medieval (Late 16th to early 17th Century)	15
4.1 - Late Post-Medieval (Early 17th to mid 17th Century)	13
4.2 - Late Post-Medieval (Late 17th to early 18th Century)	63
4.3 - Late Post-Medieval (Early 18th to late 18th Century)	14
5 – Modern (19th to 20th Century)	66
6 – Unphased	16

Table 4: Stratigraphic assessment summary

The most significant contexts relate to Phases 2, 4.2 and 5 (209 contexts) representing approximately 70% of the total records. The contexts from these periods represent one phase of medieval activity on site consisting of several re-cuts of the same ditch and one singular ditch terminus. Contexts from phase 4.2 represent two brick built structures with associated floor surfaces. Phase 5 relates to construction of the Quaker meeting house and the associated burials.

APPENDIX 2: POTTERY BY LYN BLACKMORE AND JACQUI PEARCE WITH CONTRIBUTIONS BY GRACE PERPETUA JONES

A total of 606 sherds of pottery, weighing 12,309g, was recovered. The assemblage ranges in date from the late Romano-British period though to the post-medieval period. It is moderate condition, with an average sherd weight of 20.3g. The material is discussed by period below.

Romano-British pottery

Four sherds of Romano-British pottery were recovered (238g), all residual in ditch 10. The group was recorded to the project Access database, referencing the relevant type series where appropriate (Tomber and Dore 1998; Young 2000). They comprise a sherd from a mortarium in an Oxford red-slipped ware (Young 2000, C97), two greyware sherds from a large jar, decorated with tooled horizontal and wavy lines, and an oxidised sherd. The mortarium copies samian form 45, a wall-sided mortaria, and is decorated with rouletted bands at the top and bottom of the wall. It is commonly occurring type in late 3rd to 4th century contexts (Young 2000, 173).

Anglo-Saxon pottery

The Saxon pottery assemblage from this site totals 58 hand-collected sherds and one sherd recovered by sieving (33 ENV, 0.4 EVE, 1.118kg). The sherds were recorded directly onto an Excel spreadsheet, using standard codes for fabric, form and decoration and noting by sherd count, estimated number of vessels (ENV), estimated vessel equivalent (EVE), weight in grams and vessel thickness. The fabric codes and their expansions are shown in Table 5.

Fabrics and forms

The assemblage comprises sherds in 15 fabric types which fall into four main groups, as shown in Table 5. The fabric codes are primarily mnemonic and based on the dominant or most diagnostic inclusions, subdivided by letters ‘A’, ‘B’ , ‘C’ etc, and with additional suffixes such as ‘O’, ‘C’ or ‘OC’ to denote more the presence of organic or calcareous matter, and ‘I’ for iron pellets/oxides. For the most part the fabrics fit with those recorded for other sites in the London region, but a few new codes have been created to cater for specific variations.

Sand-tempered wares (ESAN, ESGS)

The 13 sand-tempered sherds (10 ENV, 377g) fall into a number of sub-types (Blackmore 2008, 176). Fabric ESANA, which is probably fairly local, is the most common, with 11 sherds, while two sherds, including one with rusticated surface treatment, are in the same fabric but also contain organic matter; one sherd is in an iron-rich variant, possibly made of white-firing clay (ESANEI; ditch 10, fill 330), while one could contain inclusions derived from the Lower Greensand (ESGS).

Sandstone-tempered wares (ESST)

This is the largest group, with 36 sherds (16 ENV, 539g) falling into two main groups: finer and coarser (Blackmore 2008, 177–8). The former comprise fabrics ESSTB and ESSTD, the temper of which, although containing occasional coarse inclusions, is fairly evenly sized. The coarse variant, ESSTC, contains irregularly sized, ill-sorted inclusions of coarse-grained sandstone (up to 4mm), mainly composed of quartz and feldspar derived from glacially transported deposits. Both groups include sherds with some organic matter (ESSTBO, ESSTDO) and/or calcareous inclusions (ESSTCC, ESSTCOC, ESSTDC); the latter include sherds that in the past would have been recorded as containing oolitic limestone (ESOL, ESSTOL; ibid, 178) but which could equally be tufa or from a similar non-limestone deposit. Of these, ESSTDC is the most common sub-type by both sherd and vessel count (6 sherds, 4 ENV). At least six sherds from two vessels contain both fine and coarse sandstone inclusions (ESSTM). The presence of sandstone-tempered wares is one of the main indicators of Early Saxon occupation. Their source is unknown, but as the ware type occurs on sites along the lower Thames there may be more than one production centre, including North London for the coarse wares and perhaps the Surrey-Hampshire borders for some of the finer variants (Blackmore and Vince 2008a, 154–5).

Chaff-tempered wares

Discounting the sandy wares with sparse organic matter, two sherds, both from ditch 10 (fill 329), contain more abundant plant matter. One is a large flaring base sherd in the sandy fabric ESANA which contains not only chaff but actual seeds and seed impressions, which was recorded as chaff-tempered ware with moderate to abundant sand (CHFS). This ware type is present, but generally uncommon in early to mid 5th-century contexts, but became increasingly common during the 6th century and is the dominant ware type in 7th to earlier 8th-century contexts in Lundenwic (Blackmore and Vince 2008a, 153–4; 2008b, 179–81; Blackmore 2012, 233–7).

Other wares (ESMS)

Five sherds (4 ENV) contain mixed sands with scattered coarse sandstone and/or flint, notably a rim from ditch 10 (fill 330) which contains a large flint inclusion measuring at least 12mm (thickness 3mm). This sherd is burnished, while the two joining sherds from fills 330 and 331 of ditch 10, which appear to contain grog, are coarse-slipped. In general, however, the surfaces of these wares are dull and smooth rather than sparkly and abrasive. In addition, there are three small flakes from [331] which are mainly vitrified and could represent hearth lining.

Forms

Although most sherds are body fragments, there are six rims, one base and a sufficient number of diagnostic features to allow some comments to be made on the group. No examples of the carinated bowl form typical of the 5th century were found (Blackmore 2008, 185–6), but the decorated sherd from layer 219, another from fill 329 and possibly one from 331, both of ditch 10, are probably from carinated jars (ibid, 183). Some rims are everted, but the coarse-slipped jar from fill 291 and the rim

from fill 331 have short upright necks, a form which is typical of the 5th and 6th centuries (Blackmore 2008, 184); the small rim from fill 329 is slightly beaded but belongs to the same tradition.

In addition, there are sherds from two vessels with coarse-slipped surfaces (fill 291 of ditch 10), and rusticated surfaces. The former is a roughening the surface of the pot, either when still wet, or by adding a slip containing coarse gritty inclusions, as seen on a rim from fill 291, and another vessel from fills 330 and 331 (joining sherds). Five sherds from another vessel from (fill 291) have a roughly wiped and scored outer surface and may also belong to this group. This tradition (also known as Schlickung), can be taken as a type fossil of the 5th to early 6th centuries AD (Hamerow 1993, 34–7). Originally a Continental tradition, several examples are known from sites in the Thames valley (Blackmore 2008, 188–9), including Kingston (Jarrett 2002, 198; unpublished, Kingston Museum); the rim from fill 291 is very like a find from Hammersmith (Blackmore 2008, fig 39, <P82>). Two examples of rustication are present, one formed by pinched impression (fill 330), the other by finger nail impressions (fill 329). Other surface treatment includes burnishing (ie tooled and polished), smoothing (not burnished as such) and wiping, both internally and externally and in various combinations. A highly polished internal burnish is usually found on bowls and in association with a coarse-slipped or rusticated surface, and so may have a functional, rather than a decorative purpose. Evidence for use is rare but one sherd from fill 329 has internal sooting, while food deposits are present on the inner surface of the rusticated sherd from fill 330.

Distribution and dating

Most pottery is from ditch 10, with seven sherds from three vessels (184g) found in fill 291, and 47 sherds from intervention 328. Of these, 24 sherds (13 ENV, 374g) are from the lowest fill (329). Slightly less pottery was found in the overlying fill (330; 17 sherds, 10 ENV, 199g) while only eight sherds (6 ENV, 180g) were found in the uppermost fill (331), which also contained four sherds of late Roman pottery dating to after 250 AD; this context did, however, contain the largest single piece of Saxon pottery from the site, the complete base and part of the lower body of a small jar (form uncertain). Three sherds also came from layers 219 and 233.

Recent analyses of Early Saxon assemblages have shown that those with a wide range of fabrics tend to be early, ie of 5th- to early 6th-century date, while those with fewer fabric types date to the mid/later 6th or earlier 7th century (Jarrett 2002, 199; Blackmore 2008, 157; Blackmore and Vince 2008a, 153–6; Cowie and Blackmore 2008, 151–3). The former represent a period of migration and adaptation, while the latter reflect more stable settlement and acculturation. As the range of fabrics and forms present in the Eden Street assemblage is high, while the number of sherds is relatively low, and as some typical 5th- to early 6th-century forms are present, a date in the 5th to 6th century can be suggested for the activity.

Medieval and post-medieval pottery

A total of 544 sherds of medieval and post-medieval pottery, weighing 10,953g, was recovered from 58 contexts and as unstratified finds. The pottery from each context was quantified by number and weight, and recorded using the Museum of London fabric codes (Table 6). A site-specific form series was devised to record the rim forms. Other salient details, such as rim diameter, decoration and evidence of use, have also been recorded. The information is held in the project Access database.

Medieval

The medieval pottery assemblage comprises 172 sherds, weighing 2339g, but half was residual in later features and layers (Table 7). Ten features contained pottery solely from this period - ditches 1, 3, 5, 6 and 403, postholes 267 and 268, possible pit 301, and foundation trenches 125 and 210. Layers 177 and 264 also contained small quantities of medieval pottery without any later sherds. The most commonly occurring fabrics are the Kingston-type wares, most of which derive from jugs, but jars, dishes and cauldrons are also represented. Of particular interest in this group are three thick-walled sherds from a possible industrial form. Two are from the rim of the vessel - it is undifferentiated from the body, rounded and flattened on top, recovered from ditch 5 (271); the third is a body sherd with foot scar, from pit 344. The inside of the vessel was scraped prior to firing; there is no evidence of use. They may derive from a deep crucible or perhaps part of a distilling vessel, such as a collecting jar. Several sherds represent wasters, including two with glaze over the sections of the sherds (layers 247 and 264), two warped base sherds (posthole 268) and an over-fired jug handle (pit 244).

Other fabrics include smaller quantities of coarse Surrey-Hampshire border ware, in jug, jar and bowl forms; and single sherds of Limspfield-type ware, London-type ware, early Surrey ware, an unsourced sandy fabric and an unsourced sand and flint-gritted ware.

Post-medieval pottery

A wide range of post-medieval wares was recovered, including vessels imported from France, Spain, Germany and China. Martincamp-type ware vessels from Normandy, of late 15th to mid-17th century date, comprise flasks and a spherical costrel (postholes 269 and 283; layers 108 and 204). A single abraded sherd in a Spanish micaceous fabric, of late 14th to mid-17th century date, was recovered from layer 108. Most of the stoneware sherds derive from German Frechen types (1550-1700), including two with coats-of-arms medallions (layers 190 and 231). Amongst the English white salt-glazed stonewares (1720-1770) are mugs, bowls, saucers and a lid; one has scratch blue decoration. One sherd from a small cup in Cistercian ware, made in the Midlands and northern England, dates to c 1500–1600 (layer 119). There are eight sherds in Staffordshire-type slipware (1660-1730) from layers 104, 105, 118, 144 and 145. Tin-glazed wares (56 sherds, 515g) include drug jars, an ointment jar, porringers, plates, dishes and chamber pots. Later imports, of 17th to 18th century date, are represented by plate, saucer and bowl forms, in Chinese blue and white porcelain. Two creamware dishes (1740-1830) were recovered from layers 104 and 105.

The red wares comprise the largest component of the assemblage, with Surrey-Hampshire border red ware (RBOR) the most commonly occurring. The majority derive from bowls, but jars and dishes are also represented. They include an unusually large, unglazed chicken feeder and a storage jar with finger-impressed rim, both from layer 108. A bowl from pit 176 has a green glaze on the interior. One dish, from the topsoil, has trailed slip decoration (RBORSL). The London-area post-medieval red wares (PMR, PMRE, PMSRG and PMSRY) include jar and bowl forms, and a possible cauldron. Unusually, a jar, in an early type (PMRE) but probably made in Kingston, has thumbed decoration on the neck rather than on an applied strip. It is of 16th century date and recovered from pit 248. Other redwares comprise fragments in a London-area post-medieval bichrome red ware, a single sherd from a butterpot in a Midlands Purple (layer 162) and three mug sherds in Essex-type post-medieval black-glazed red ware (1580-1700). White wares from the local Surrey-Hampshire border industry were also fairly frequently encountered (69 sherds, 1004g), with brown (BORDB), green (BORDG) or yellow (BORDY) glaze. The most common forms are chamber pots and tripod pipkins, but porringers, other bowls, dishes, a flask, lid and skillet are also present.

Statement of potential and recommendations for further analysis

Anglo-Saxon

Anglo-Saxon settlement in Kingston in the 5th to 6th century mainly developed in two different areas which are both linked and separated by the Hogsmill River (Hawkins 1998, 275–8; Cowie and Blackmore 2008, 113–4). The present site is to the east of the central island, which fronts onto the Thames and is bounded by the Hogsmill. The Saxon pottery discussed here is not the first to be found in this part of Kingston, but it is among the earliest stratified material and is certainly the largest known group of its date. Other early Saxon sherds were found in a water channel on Eden Walk, either in 1974 (sitecode KES74; Richardson 1977, 38; Webster and Cherry 1975, 228) or in 1976 (sitecode KB 6; Webster and Cherry 1977, 247). The pottery from 82 Eden Street, some also from a large ditch, others from a pit or part of a building, could be later. It was provisionally dated to the 7th to 8th centuries on the presence of chaff-tempered ware and Ipswich-type ware, but most of the pottery has been missing since c 1990, before it could be illustrated (Cowie and Blackmore 2008, 108–9). The only other published assemblage of comparable date from Kingston, therefore, is that from South Lane, in the area to the south of the Hogsmill (excavated by Pre-Construct Archaeology), which yielded 105 sherds in 18 different fabrics (site codes ELK96, SLK96, ELA98; Jarrett 2002; Cowie and Blackmore 2008, 60–1). A further 38 sherds of Early to Middle Saxon pottery and five loomweights were also been found at to the east at the Bittoms, adjacent to the South Lane site (ibid, 109– 13).

The present finds comprise a range of fabrics and forms, and are of considerable interest in adding to our understanding of early post-Roman activity in Kingston. Their importance is, however, significantly increased by the fact that the majority are stratified. As such, they are of local and regional significance. Most early Anglo-Saxon settlements in the lower Thames valley are located close to tributaries of the Thames, but they are usually (at least to some extent) upstream, on higher ground, presumably for protection from flooding. Here, however, the site is low-lying and quite close to the

Thames, and must have been so in the 5th/6th centuries AD. As such it can be grouped with the South Lane site, which is closer to the Thames, and contemporary Thames-side settlements at Hammersmith and Mortlake, all of which have produced similar pottery fabrics and forms (Cowie and Blackmore 2008, 36–54; 113–4).

Medieval and post-medieval

The pottery has provided chronological information for the site and evidence for domestic and possible industrial activities. The presence of Kingston-type ware wasters and the relatively large number of sherds in whiteware and greyware are not unexpected, given the proximity of the Eden Street kiln complex. The site sequence, however, extends beyond the period of manufacture of medieval whiteware in the vicinity, with evidence for 16th- to 18th-century activity also recovered. These finds have potential for comparison with other excavated assemblages from Kingston, not only in relation to the medieval whiteware kilns, but also to subsequent domestic occupation in the neighbourhood.

The pottery has been fully recorded. A publication report should be produced, to include details of form and discussing the assemblage in its wider regional context, as well as in relation to other finds from the site. Up to 11 vessels should be illustrated.

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Table 5: Key to the fabric codes and their expansions (in alphabetical order), with quantification by sherd count, vessel count and weight * = new code

Fabric code	Expansion and description	No.	ENV	Wg. (g)
Chaff-tempered wares				
CHFS	Chaff-tempered ware with moderate to abundant sand (up to 1mm) and fine grits	1	1	129
CHSF	Chaff-tempered ware, fine with sparse chaff in a silty matrix with groundmass of fine sand	1	1	12
Sand-tempered wares				
ESANA	Sand-tempered, abundant fine to medium quartz sand (up to 1mm) and sparse very fine flint	10	7	312
ESANAO	As ESANA with sparse organic inclusions	2	2	52
ESGS	Greensand quartz-type inclusions, miscellaneous	1	1	13
Sandstone-tempered wares				
ESSTB	Sandstone-tempered, fine sandstone	8	2	60
ESSTBO	As ESSTB with organic inclusions	3	2	17
ESSTC	Sandstone-tempered, coarse sandstone with large quartz grits	4	3	31
ESSTCC	As ESSTC with calcareous matter	3	1	38
ESSTCOC*	As ESSTC with organic and calcareous inclusions	3	1	12
ESSTD	Sandstone-tempered, abundant evenly-sized sandstone-tempered	2	1	24
ESSTDC	ESSTD with calcareous matter	6	4	261
ESSTM	Sandstone-tempered, mixed coarse and cemented inclusions	6	2	86
Other wares				
ESMS	Mixed sand and sandstone temper	5	4	68
MISC	Unidentified	3	1	3

Table 6: Quantification of medieval and post-medieval pottery, by ware type

fabric code	Fabric name	Number	Weight (g)
Medieval			
CBW	Coarse Surrey-Hampshire border ware	20	324
ESUR	Early Surrey ware	1	13
KING	Kingston-type ware	133	1886
KING GREY	Kingston-type reduced ware	10	53
KING RED	Kingston-type red ware	3	11
LIMP	Limspfield-type ware	1	14
LOND	London-type ware	1	6
	Local fabric, CW sandy with flint	2	16
	Med sandy coarseware	1	16
Post-medieval			
BORD	Surrey-Hampshire border white ware	3	16
BORDB	Surrey-Hampshire border white ware with brown glaze	2	16
BORDG	Surrey-Hampshire border white ware with green glaze	30	363
BORDY	Surrey-Hampshire border white ware with clear (yellow) glaze	34	609
CHPO BW	Chinese blue and white porcelain	4	36
CREA	Creamware	3	67
CSTN	Cistercian ware	1	5
ENGS	English brown salt-glazed stoneware	2	50
FREC	Frechen stoneware	21	448
GERST	unsourced German stoneware	1	20
MART	Martincamp-type ware	5	54
MPUR	Midlands purple ware	1	40
PMBL	Essex-type post-medieval black-glazed red ware	3	61
PMBR	London-area post-medieval bichrome red ware	9	10
PMR	London-area post-medieval red ware	35	743
PMRE	London-area early post-medieval red ware	34	2182
PMSRG	London-area post-medieval slipped red ware with green glaze	1	41
PMSRY	London-area post-medieval slipped red ware with clear (yellow) glaze	2	2
RBOR	Surrey-Hampshire border red ware	94	2912
RBORSL	Surrey-Hampshire border red ware with slip-trailed decoration	1	26
SPAM	Merida-type micaceous ware	1	9
STSL	Staffordshire-type combed slipware	8	183
SWSG	white salt-glazed stoneware	17	175
SWSG SCRB	white salt-glazed stoneware with scratch blue decoration	1	17
SWSL	dipped white salt-glazed stoneware	1	6
TGW	English tin-glazed ware	4	21
TGWA	London tin-glazed ware with blue- or polychrome-painted decoration and external lead glaze (Orton style A)	4	74

TGWB	London tin-glazed ware with manganese-mottled glaze (Orton style B)	1	5
TGWC	London tin-glazed ware with plain white glaze (Orton style C)	34	329
TGWD	London tin-glazed ware with blue- or polychrome-painted decoration and external lead glaze (Orton style D)	9	78
TGWH	London tin-glazed ware with pale blue glaze and dark blue decoration (Orton and Pearce style H)	5	15
UN sandy		1	1
Total		**544**	**10953**

Table 7: Quantification of medieval and post-medieval pottery, by feature/layer and period

	Medieval		**Post-medieval**		**Total**	
Feature/layer	**Number**	**Weight (g)**	**Number**	**Weight (g)**	**Number**	**Weight (g)**
?pit 301	5	67			5	67
Ditch 1 [361]	4	64			4	64
Ditch 1 [379]	1	20			1	20
Ditch 2 [356]	2	45			2	45
Ditch 3 [366]	18	223			18	223
Ditch 5 [271]	9	185	2	140	11	325
Ditch 5 [317]	7	108			7	108
Ditch 5 [368]	1	11			1	11
Ditch 6 [348]	1	17			1	17
Ditch 403	1	17			1	17
Pit 176			10	182	10	182
Pit 228			2	38	2	38
Pit 248			1	220	1	220
Pit 260	1	2	4	64	5	66
Pit 344	16	408	9	689	25	1097
Posthole 267	2	26			2	26
Posthole 268	36	211	1	1	37	212
Posthole 269	3	19	1	5	4	24
Posthole 283			3	16	3	16
Posthole 285			2	2	2	2
Posthole 297	3	24	2	16	5	40
Feature 238			2	38	2	38
Foundation trench 125	1	18			1	18
Foundation trench 210	2	4			2	4
Modern pipe 110			4	92	4	92
Charcoal spread 108	11	268	114	1993	125	2261
Demolition layer 106			6	76	6	76
Demolition layer 119			7	128	7	128

Demolition layer 144	1	44	10	131	11	175
Demolition layer 165			4	53	4	53
Demolition layer 178			4	28	4	28
Demolition layer 230			2	45	2	45
Demolition layer 231			4	132	4	132
Demolition/dump 192			1	34	1	34
Hearth waste 219			11	233	11	233
Layer 145	6	64	19	305	25	369
layer 146	6	82	7	111	13	193
Layer 177	3	54			3	54
Layer 216	5	12	1	3	6	15
Layer 227			3	110	3	110
layer 233	1	6	1	90	2	96
Layer 264	2	41			2	41
Occupation layer 118			6	55	6	55
Occupation layer 201			1	4	1	4
Occupation layer 204			1	8	1	8
Occupation layer 207			5	61	5	61
Rubble deposit 104			18	261	18	261
Rubble layer 190	1	7	4	56	5	63
Waste deposit 162	1	18	25	511	26	529
Waste deposit 247	9	26	34	560	43	586
Waste dump 179			2	42	2	42
Redeposited natural 246			3	1249	3	1249
Redeposited natural 367	4	96			4	96
Topsoil			30	673	30	673
Unstratified	9	152	6	159	15	311
Total	**172**	**2339**	**372**	**8614**	**544**	**10953**

APPENDIX 3: COINS AND PARANUMISMATICS BY KATIE MARSDEN

Seven coins or tokens were recorded from four deposits and as an unstratified object. Of the group, six are copper alloy and one is a possible silver coin. A preliminary catalogue has been produced for this assessment with items recorded directly to an MS Access database. The objects have been listed individually by material and deposit class in Table 8. Objects requiring cleaning and/or illustration are also indicated.

The metalwork is currently stored in air-tight plastic containers and with humidity control as appropriate. The metal artefacts were examined by a specialist conservator (Pieta Greaves) and assessment included x-radiography (plates 1-4) to facilitate identification and clarify constructional

and compositional details. The extent of corrosion/fragmentation is variable; the possible silver coin displays heavy corrosion.

Four of the group were recovered from occupation layers, including hearth waste deposits and floor foundations. Two were recovered from postholes and one as an unstratified item.

Range and variety

The group comprises four tokens, two coins, and one jetton, broadly of post-medieval date. The silver coin, recorded from hearth waste layer 219 (Ra. 57), appears to be a coin of Charles I (identified from x-radiography). Heavy wear to the coin makes further identification difficult. The other coin, Ra. 5 recovered from foundation trench 210 (Ra. 5), is a rose farthing of Charles I, dateable from 1637 to 1644.

All four of the tokens appear to be trade tokens issued in the mid to late 17th century as a consequence of shortages of 'small change' (Williamson 1889) or low denomination coinage. Of the group, two recorded from posthole 282 are too worn to attribute to a place or person of issue. An unstratified item (Ra. 59) was issued by Gyles Pierce of Chiswick (Williamson 1889, Chiswick no. 6). The fourth token, recovered from rubble layer 190 (Ra. 3) was issued by William Marsham, a baker, from Richmond (*ibid*., London no. 232). Both districts are relatively close to the site, with the furthest (Chiswick) only 10km to the north, and are probably indicative of local trade.

The single jetton was recorded from foundation trench 210 (Ra. 52). It was issued by Wolf Laufer of Nuremburg between 1650 and 1700 AD. The jetton depicts Louis XIIII of France on the obverse and a crowned shield of arms with blazon of three fleurs de lis.

Summary

The coin group is small, however, (dependent on the context from which they were recovered) it does provide precise date markers, possibly useful for the interpretation and phasing of the site. A coin list, which includes details of site phasing, issue date (or range) and classification where apparent should be produced for publication.

References

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Table 8: Summary of coins and tokens

Context	Material	Ra. No	Type	Denomination	Issued by	Comment	Ct.	Wt. (g)	Date	Recommendation
0	Copper alloy	59	Ttrade token	farthing	Guy Pierce of Chiswick	G.P both sides	1	1	M-L C17	illustrate
190	copper alloy	3	Trade token	farthing	William Marsham in Richmond	The bakers arms	1	1	M-L C17	illustrate
211	Copper alloy	5	Coin	farthing	Charles I	rose	1	1	1625-1649	
211	Copper alloy	51	Jetton	n/a	Wulf Laufer	Louis XIIII French coin style	1	4		illustrate
256	Copper alloy	0	Trade token	farthing	illegible	CA visible	1	1	M-L C17	
256	Copper alloy	0	trade token	farthing	illegible	illegible	1	1	M-L C17	
219	Silver	57	Coin	illegible	Possible Charles I	Rev. legend on xray poss. CHRI…	1	1	1637-1644	inc. xray image?

APPENDIX 4: METALWORK BY KATIE MARSDEN

A total of 195 items of metal was recorded from 35 deposits and as unstratified material. The coffin fittings are discussed separately (Appendix 8) and are not included here. A preliminary catalogue has been produced for this assessment with items recorded directly to an Access database. The objects have been classified by material type in Table 9 and objects requiring illustration are also indicated.

The metalwork is currently stored in air-tight plastic containers with humidity control as appropriate. The metal artefacts were examined by a specialist curator (Pieta Greaves) and assessment included x-radiography (plates) to facilitate identification and clarify compositional details. The extent of corrosion and fragmentation is variable, although as to be expected, the copper and lead alloy objects are generally in a more stable condition than those made of iron.

Summary

The metal group comprises 129 items of iron, 58 of copper alloy and 8 of lead alloy. Over half (52%) derive from demolition or dump deposits and floor/foundation or occupation layers. A further 31% came from foundation trench 210 and the rest from a range of features including a ditch, pits, postholes, graves and modern pipe fills. The assemblage as a whole indicates activity in the post-medieval period, extending into the 19th century. Some evidence for earlier (medieval) activity is present, particularly amongst the copper alloy group. The majority of items are fixtures and fittings, probably associated both with the burials and with buildings occupying the site. Domestic activity is also represented, including items associated with dress (scissors, pins).

Range and Variety: Iron

Of the 129 items of iron, the overwhelming majority are nails or nail fragments, occurring in a variety of sizes. The nails are of a standard, hand-forged form, comprising a square-sectioned shank and flat head. Such forms were introduced in the Roman period and continue relatively unchanged into the post-medieval period. Consequently, close dating for this group is not possible although a post-medieval date is likely. Of the remaining items, most are too fragmentary or corroded to ascertain form or date. The exception is a possible bucket handle from layer 144 and a buckle frame recorded from waste deposit layer 247, the latter is rectangular and double looped, of probable modern (19th century) date.

Range and Varity: Copper Alloy

Of the 58 copper alloy items, 51 are short and slender wire pins with a rounded knopped head. Pins of this form were typically produced from the medieval period to well into the 19th century and were used for sewing and also fastening items of dress (Margeson 1993). A number of additional copper alloy pins, of similar form, are present within 11 corroded pieces of unidentified iron from waste deposit 162, but visible only on the x-radiograph.

The remaining seven items in this group comprise one item of horse equipment, three items typical of domestic activity and three items that are too fragmentary to identify original function. One of the earliest dateable objects in the metalwork assemblage comprises a medieval horse harness pendant suspension mount recorded from ditch 261 (fill 262). Mounts like these would have been attached via the rivets to leather straps on the horse harness from which pendants displaying the lord's livery were hung (Griffiths 1995, fig. 52, no. 76). Also of medieval date is a spherical weight with suspension loop, recorded from layer 109 and belonging to the domestic group. The loop is made of copper alloy wire, inserted into the spherical body. Other items in this group include a seal-top spoon, Ra. 56, recorded from layer 277 and dateable to the 17th century (Noel Hume 1969), and a handle fragment from a pair of post-medieval scissors recorded from pit 176. A strip recorded from pit or ditch 301 (fill 302) is a probable thimble or sewing ring fragment of post-medieval date.

A fragment of possible copper alloy working waste was recorded as an unstratified find, but without supporting contextual evidence cannot be used to indicate that craft activities were taking place at the site. A decorative bar, possibly gilded, was recovered from waste dump deposit 179. The remaining item is of probable medieval or later date, although original function is uncertain.

Range and Variety: Lead Alloy

The eight items of lead or lead alloy form a disparate group. Four fragments of probable lead came were recorded from waste dump deposit 179 and floor deposit 211. Leaded came windows were first developed in the medieval period and continue in use into the 20th century. As such they cannot be closely dated but it is likely that they are associated with the Quaker meeting house.

Two items of lead shot were recorded; one from demolition layer 235 bears markings that indicate that it was unwadded when fired. It is of post-medieval date, in contrast to the item recorded from waste dump deposit 179 which is a pistol or fowling shot of probable 19th or 20th century.

The remaining two items include a rectangular weight, perforated for suspension, recorded from ditch 261 (fill 262). Weights of this and similar form change little and so are difficult to precisely date. Possible suggested uses include net weights for fishing and rabbiting. A small bar, apparently complete but of uncertain date, was recovered from waste deposit layer 247.

Statement of Potential and recommendations for further analysis

The metalwork assemblage is a sizeable group, although dominated by nail fragments and post-medieval to 19th century items. It is of limited range, although it does contain a number of items that are intrinsically interesting and/or which are individually dateable. The group is adequately preserved and no further conservation is necessary.

For purposes of publication it is recommended that an illustrated catalogue is prepared for selected items of individual interest (Table 9) and/or which are independently dateable by form. It is recommended that the scissors, harness fitting and spoon are illustrated.

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Table 9: Summary of metalwork

Context	Ra. No.	Material	Type	Classification	Date	Ct.	Wt. (g)	Comment	Recommendation
109	0	Copper alloy	Weight		medieval	1	10		
162	0	Copper alloy	Pin		med-C19	1	>1		
164	0	Copper alloy	Pin		med-C19	1	>1		
177	0	Copper alloy	Scissors	handle	Pmed	1	13		illustration/ photo
179	0	Copper alloy	Bar	decorative	prob. Pmed	1	3	gilded	
211	4	Copper alloy	Pin		med-C19	49	6		
262	0	Copper alloy	Harness fitting	suspension mount	MC12-C15	1	13		Illustration
262	0	Copper alloy	Waste?		na	1	5		
277	56	Copper alloy	Spoon	seal-top	C17	1	15		Illustration
302	0	Copper alloy	Strip		na	1	2		
179	0	Lead alloy	Strip	window came?		3	28		
211	0	Lead alloy	Strip	window came?		1	6		
231	0	Lead alloy	Shot	pistol or fowling	C19 onwards	1	10		
235	0	Lead alloy	Shot	unwadded	Pmed	1	19		
247	0	Lead alloy	Bar			1	3		
262	0	Lead alloy	weight	suspended		1	30	large	
0	0	Iron	Nail			3	25		
0	0	Iron	Nail			1	12	large	
105	0	Iron	Sheet			4	271	curved bars, possibly bucket handle fragments	
106	0	Iron	Nail			1	17	probable	
107	0	Iron	Object			1	540		
108	0	Iron	Nail			1	14	nails and fragments	

108	0	Iron	Nails			8	221		
111	0	Iron	Nails			2	37	possible bar	
144	0	Iron	Object			4	173		
146	0	Iron	Nail			1	31		
162	0	Iron	Blade			2	158	?bar	
162	0	Iron	Nails			9	78	small nails	
164	0	Iron	Nail			1	9		
165	0	Iron	Bar			1	76		
165	0	Iron	Nail			1	7		
165	0	Iron	Nail			2	36		
178	0	Iron	Object			1	26	Rectangular block with ovoid hole in centre	
179	0	Iron	Nail			4	15		
190	0	Iron	Nail			2	22		
177	0	Iron	Nail			4	26		
201	0	Iron	Nail			3	17		
207	0	Iron	Nail			4	30		
211	0	Iron	Nails			10	106		
211	44	Iron	Object			1	483		
218	0	Iron	Nail			1	11	Double rectangular frame, broken and corroded	
219	0	Iron	Nail			1	10	inc. one large	
219	0	Iron	Nail			1	7	possible nails; one circular plate, one rod	
227	0	Iron	Nail			5	40		

229	0	Iron	Nail			1	15	Inc. two curving pieces	
235	0	Iron	Nail			1	11	Large head	
242	0	Iron	Nail			1	14		
247	0	Iron	Buckle			1	42		
247	0	Iron	Nails?			3	90	Probably nails concreted to stones	
247	0	Iron	Object			2	17	Circular section bar with flared tapered end	
247	0	Iron	Rove			1	77	Fragments	
247	0	Iron	Sheet			3	99		
256	0	Iron	Nail			1	13		
233	0	Iron	Nail			1	12		
262	0	Iron	Nail			1	6		
300	0	Iron	Nails?			3	55		
302	0	Iron	Object			1	1		
357	0	Iron	Object			2	12		
162	0	Iron/ copper alloy	Nails/pins		med-C19	28	550	Cu. Al. pins only visible in xray	

APPENDIX 5: METALWORKING DEBRIS BY DAVID DUNGWORTH

Methods

All of the material submitted for assessment was examined visually and recording following standard guidance (Historic England 2015). The material was weighed and selected fragments were photographed. The main categories of material identified include the following:

Furnace Bottom	Large accumulations of slag which formed close to the base of an iron bloom smelting furnace. These are usually black (although the surfaces are often weathered and brown-orange in colour) and have a density consistent with a fayalitic (Fe2SiO4) composition (typically 4g/cm3). Where complete, furnace bottoms usually show an underside which has taken up the impression of the pit at the base of the furnace. Partially vitrified ceramic from the furnace structure often adheres to the outer margins of a furnace bottom. Furnace bottoms are typically 250–300mm in diameter and when complete can weigh in excess of 10kg. The accumulation of large masses of smelting slag in a furnace bottom indicates that the slag was not tapped from the furnace. This technology was widely used in the Iron Age and the Saxon period.
Slag Cake	Plano-convex lumps of fayalitic slag (usually 75–150mm in diameter) are typically the product of iron smithing (McDonnell 1991). Large versions may represent the remains of slag left within the base of a smelting furnace (see furnace base).
Non-diagnostic Ironworking Slag	Fragments of ironworking slag (fayalitic) which lack any diagnostic surface morphology that would allow a distinction to be made between smelting and smithing.
Hammerscale	Fragments of slag and oxidised iron that are produced during the smithing of iron (including the initial consolidation of an iron bloom). Hammerscale can be present as small flakes or as small spheres (Dungworth and Wilkes 2009)
Vitrified Ceramic	Ceramic materials which have been highly fired and have begun to vitrify and melt. Fragments of smithing hearths and/or smelting furnaces usually have an outer, oxidised-fired surface and an inner, reduced-fired (and partially vitrified) surface.
Vitrified Fuel Ash	Amorphous lumps of slag formed by the vitrification of the ash of wood and/or other organic materials. Characterised by a very low density (often caused at least in part by a high porosity). Varied in colour but often green or black (although the outer surfaces frequently weather to a cream-grey colour.
Soil Concretion	Amorphous lumps of soil (often with numerous stone inclusions) concreted with iron compounds. This material occurs naturally and does not relate to any industrial process.

Results

The industrial debris from Eden Street includes just over 2.5kg of metalworking debris (Table 10). The assemblage includes one definite fragment of a furnace bottom (Figure 1) from Ditch 10, (context 329) which indicates bloomery iron smelting. This fragment weighs 1.8kg and represents (at most) 25% of the original piece of slag. The curvature of this fragment suggests an original diameter of 250mm which is consistent with the identification as a furnace bottom. The outer margins of the furnace bottom fragment show some traces of the ceramic lining of the furnace (Figure 1).

Bloomery iron smelting is a process used for the direct manufacture of iron and was widely used until the 17th century. Iron ore was heated with charcoal in a furnace where it was reduced into a solid lump (bloom) of iron while any waste material formed a slag (dominated by the mineral fayalite, Fe2SiO4). Bloomery iron smelting is commonly divided into two technologically significant categories depending on the way in which the formation and separation of slag (and bloom) was managed. Furnaces in the Roman and medieval periods were usually operated so that smelting slag collected at the base of the furnace and was periodically tapped (allowed to flow out as sheets of slag). Such tap slag has a highly distinctive morphology but is absent from the Eden Street assemblage. During the Iron Age and the Early and Middle Saxon periods, bloomery iron smelting did not involve tapping. Instead the slag was allowed to accumulate at the base of the furnace (and commonly in a pit or cavity at the base of the furnace). Early medieval bloomery iron smelting in northern Europe commonly produced large accumulations of slag (Schlackenklotz) at the base of the furnace which were left in situ (Pleiner 2000). This style of iron smelting appears to have been brought to England in the 5th century by Anglo-Saxon migrants and was widely used until the Late Saxon period (Boyer and Keys 2013; Haslam 1980; McDonnell in Hammerow 1993).

Table 10: Summary of material examined

Context	Dating		Description and comments	Weight (g)
291	Early Saxon	Ditch 10	Non-diagnostic ironworking slag	118
329	Early Saxon	Ditch 10	Soil concretion	288
329	Early Saxon	Ditch 10	Furnace bottom	1829
329	Early Saxon	Ditch 10	Non-diagnostic ironworking slag	57
331	Early Saxon	Ditch 10	Slag cake	127
345	Early post-medieval	Pit / toilet 344	Non-diagnostic ironworking slag	154
226	Post-medieval	Ditch fill	Vitrified fuel ash	19
226	Post-medieval	Ditch fill	Non-diagnostic ironworking slag	16
226	Post-medieval	Ditch fill	Hammerscale	12
266	Post-medieval	Ditch fill	Non-diagnostic ironworking slag	104
253	Modern	Layer	Vitrified fuel ash	5
105	Modern	Topsoil	Vitrified ceramic (reduced fired)	28

The presence of a fragment of furnace bottom in an Early Saxon context is consistent with current understanding of iron smelting technology in Britain. The remaining slag from Saxon contexts is largely non-diagnostic; although it could relate to the identified iron smelting, it could also have been produced by iron smithing. The fragments of slag cake from context [331] could represent either a smithing slag cake or a smelting furnace bottom (Figure 2); the diameter is estimated to be 160mm which is small for the former but large for the latter. The soil concretion from context [329] does not constitute evidence for any sort of metalworking. The material from later contexts includes some non-diagnostic ironworking debris (which may be residual) as well as some vitrified fuel ash and vitrified

ceramic. The presence of hammerscale in context [226] indicates that some iron forging occurred; however, it is unclear whether or not this is residual.

Conclusions

The metalworking residues recovered at Eden Street provide positive (if limited) evidence for the primary production (smelting) of iron. Very little is known about iron smelting during the Anglo-Saxon period, despite the abundant evidence for the fabrication of iron and steel artefacts known from the metallographic examination of finished objects (eg Blakelock and McDonnell 2007).

There is some evidence for 'slag-pit' furnaces from the eastern part of England. Large slag blocks have been found at a number of sites, including Mucking, Essex (McDonnell in Hammerow 1993) and Aylesham, Norfolk (Tylecote 1986, Fig 81). This technology is well known on the continent and is likely to have been introduced by the Anglo-Saxons. Broadly similar smelting which made use of non-tapping furnaces and yielded furnace bottoms or slag cakes (of early and/or middle Saxon date) is known from a score of sites (Table11); however, the evidence from many of these sites is unpublished (or only partially published) and little of the known evidence has been subjected to systematic scientific study (Figure 3).

Table 11: Summary of Early and Middle Saxon bloomery iron smelting evidence from England

Site	**Date**	**Source**
Aylesham	Early Saxon?	Tylecote 1986
Bermondsey	Middle Saxon	Boyer and Keys 2013
Bestwall	5th–10th centuries	Ladle 2012
Billingford	7th–8th centuries	Wallis 2011
Burlescomb	8th–10th centuries	Reed *et al* 2006
Catholme	5th–7th centuries	Losco-Bradley and Kinsley 2002
Clearwater	8th–9th centuries	Pine *et al* 2009
Dulverton	5th–7th centuries	Gill Juleff *personal communication*
Dunkswell	7th–9th centuries	Griffiths and Weddell 1996
Heybridge	Middle Saxon?	Adkins 1989; Wallis and Waughman 1998
Lyminge	Middle Saxon	Lynne Keys *personal communication*
Millbrook	8th–9th centuries	Tebbutt 1982
Mucking	Early Saxon	Hammerow 1993
Quarrington	5th-6th centuries	Taylor 2003
Ramsbury	Middle to Late Saxon	Haslam 1980
Rockingham	5th–9th centuries	Bellamy *et al* 2001
Romsey	Middle Saxon?	McDonnell 1988
Warbleton	7th century	Beswick 1978; 1979
Wittering	6th–8th centuries	Wall 2012
Witton	5th-6th centuries	Lawson 1983

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Figure 1. Furnace bottom fragment from context [329]. Top image shows the outer surface with traces of the ceramic lining/structure of the furnace. Middle image shows the top surface and shows that this

fragment represents 20-25% of the original furnace bottom. Bottom image shows flint and concreted soil adhering.

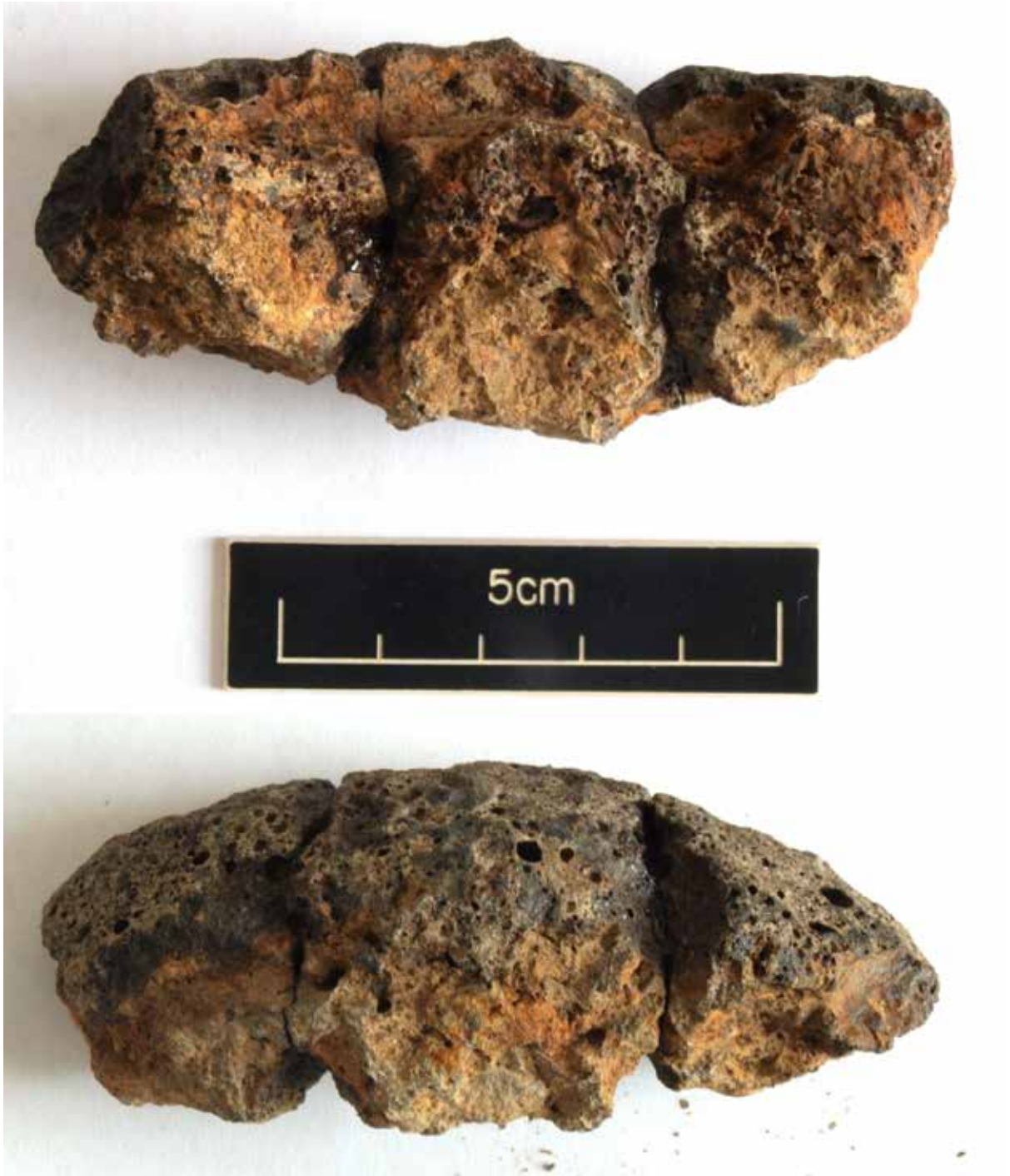

Figure 2. Slag cake joining fragments (reassembled) from context [331]

Figure 3. Map of England showing principal known iron smelting sites of the early and Middle Saxon periods.

APPENDIX 6: MIXED FINDS BY GRACE JONES

Clay tobacco pipe

A total of 84 fragments from clay tobacco pipes, weighing 369g, was recovered. Most (76 pieces) are from the stem of the pipe, with eight bowls represented. The more diagnostic pieces are of late 17th to 18th century date. The vast majority of fragments derive from a series of post-medieval and modern layers, with one stem fragment from modern foundation trench 136 and two stem fragments from clay step 224.

The complete bowls from the site are all very similar in size and shape, indicating contemporaneity. Three bowls were recovered from layer 219, one with a spur has a milled ring around the top of the bowl, the internal diameter of the bowl is 13mm; both traits, and the shape of the bowl, are consistent with a later 17th century date. The other two bowls have flat heels and a plain ring around the top. A single bowl from layer 108 has a flat base and milled ring around the bowl; the internal diameter is 12mm. One from layer 146 has a slightly larger bowl, with milled ring around the top and an internal diameter of 14mm. Fragments from a second bowl from this context have a flat heel.

The lower bowls of two pipes from layer 145 have flat heels, one incorporates the maker's initials on either side of the bowl. This practice of including the initials in the mould was commonplace from the later 17th century through to the mid-19th century, with the initial of the first name shown on the left (in this case 'W') and the family name on the right (less clear, but probably also 'W') (Ayto 1979, 28).

Glass

Grace Jones and Katie Marsden

A total of 118 fragments (1032g) of glass was recovered from 20 deposits, most representing a series of post-medieval layers (Table 12). Few came from negative features, with two pieces of window glass from foundation trench 210 and three small pieces of vessel glass from possible medieval posthole 283.

Table 12: Quantification of glass, by type and feature/layer

	Vessel glass		**Window glass**		**Total**	
Feature/layer	***No.***	***Wg (g)***	***No.***	***Wg (g)***	***No.***	***Wg (g)***
Unstratified	2	63			2	63
Topsoil 105	5	174			5	174
Layer 106	1	44			1	44
Layer 108	21	118	2	5	23	123
Layer 119	1	17			1	17
Layer 144	1	14			1	14
Layer 145	6	60	3	7	9	67
Layer 146	4	43	1	1	5	44
Layer 162	3	27			3	27
Layer 165	2	35			2	35

Pit 176	1	10			1	10
Layer 178	3	115	13	82	16	197
Layer 179	4	21	36	181	40	202
Foundation trench 210			2	1	2	1
Layer 231	1	1			1	1
Layer 247	2	11			2	11
Layer 253			1	1	1	1
Posthole 283	3	1			3	1
Total	**60**	**754**	**58**	**278**	**118**	**1032**

Window Glass

Window glass amounting to 58 fragments (278g) was recorded from eight deposits. Of this group, the majority of fragments are colourless, or with a slight natural blue/pale green colouring. The window glass group is highly degraded, the result of which is obscuring compositional details, although the uniform thickness is indicative of a 19th/20th century date.

Vessel Glass

The remainder of the group (60 fragments, 754g) comprises vessel glass, including 36 fragments from wine/spirits bottles of post-medieval date. The dark green colouring of this material is consistent with the 'high lime low alkali' type of vessel manufacture, characteristic of the mid 17th to later 19th centuries (Dungworth 2005). Amongst the vessel glass is the finish from a wine bottle, comprising the cracked-off lip with flat top and string rim, the latter designed to facilitate attaching a wire or thread to secure the cork (Jones 1986, 33). The type is of mid to late 18th century date. A similar fragment was also recorded from topsoil layer 105. The majority of the other fragments cannot be securely identified to contents type, the exception is the squared base of a spirits bottle from layer 108.

Two fragments of pharmaceutical bottles, small cylindrical phials with rounded base and simple, narrow neck with out-turned rim, were recorded. These bottles include a medium green rim, a Hume (1969) type 13, from layer 145, and a Hume type 14, a colourless base recovered from layer 165. A further 22 fragments comprise colourless or pale green vessel body fragments. Whilst no features indicative of form are present, the colour is indicative of a late 18th to 19th century date.

Other building materials

A piece of building stone – a sandstone block with quarrying marks on one face and measuring 130mm x 100mm x 100mm, was recovered from the lower fill of Saxon ditch 10 (fill 329; 1873g). Three adjoining pieces of limestone, part of a walling or flooring brick/block, were recorded from medieval pit 344. Together they measure 290mm x 110mm x 50mm and appear to have one partially dressed edge; a flat face may result from being split along the natural bedding planes. Two pieces of mudstone (339g) and one of ironstone (1678g) were recovered from post-medieval layer 108, all unworked.

Fragments of lime mortar were recovered from feature 238 (25g), layer 253 (72g), ditch 265 (77g) and posthole 283 (11g). A fragment of plaster, 12mm thick, that had been pressed over a joint, probably a timber lathe on a wall or ceiling, was recovered from pit 176 (53g). A fragment from layer 146 (47g) has a coarse lime render, overlaid by a finer finish and painted a pale blue. Two fragments, also from layer 146, may be a cement-based render, laid on in two coats, the finer one to the surface, and originally painted with a blue distemper but later covered with an oil-based cream-coloured paint (116g).

Worked bone

A waste piece of worked bone from layer 227 (Ra. 60) has three wide teeth cut into one end, presumably an offcut from a comb or similar object. A second piece of worked bone, from post-medieval layer 219, had been shaped into a circular, grooved object with highly polished surfaces, possibly a gaming piece or decorative fitting (Ra. 58).

Worked Flint Katie Marsden

Four prehistoric worked flint items (91g) were recovered from four deposits. The items are in relatively good condition, despite being redeposited within later features. The assemblage comprises two flakes, recorded from clay step backfill 218, and Anglo-Saxon ditch 10 (fill 369). A further two items are retouched. An end-scraper, produced by retouching the distal end, was recovered from ditch 10 (fill 330). An unusual piece, recovered from ditch 5 (271, fill 252), is similar in form to oblique arrowheads of the Neolithic period. However, whilst the item bears the triangular shape and edge retouch expected, it has only been worked on the dorsal face. Arrowheads would require bi-facial working and as such it is probable that this piece was used in another capacity, possible as a scraper.

Leather

Part of a leather strip, 80mm in length and 13mm wide, has at least 13 perforations with copper alloy eyelets, and was recovered from the topsoil.

Statement of potential and recommendations for further work

The stone, mortar, plaster and glass provide evidence for the range and variety of building materials in use on the site, but were recovered in small quantities, limiting the potential for further work. The vessel glass is indicative of domestic activity in terms of the consumption of wine and spirits, and the use of pharmaceutical liquids. The clay tobacco pipes provide evidence of tobacco smoking on the site during the later 17th to18th centuries. The worked bone objects are too fragmentary to securely identify and as such are limited in their value. The flint assemblage is small and largely redeposited within later features. As the material could indicate earlier phases of occupation of the site, a short note for publication should be prepared.

The recording carried out at this stage is sufficient and no further analysis is necessary. The details held on the database and in this report should be considered in the future reporting and interpretation of the site. The building stone from ditch 10 should be discussed in its regional context.

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APPENDIX 7: CERAMIC BUILDING MATERIAL (CBM) BY KATIE MARSDEN

A total of 437 fragments (82,817g) of ceramic building material was recovered from 69 deposits and as unstratified material. Full quantitative recording, including thickness (where preserved) and dimensions for complete items, was undertaken and recorded directly to an MS Access database. Fabric codes are based on the fabric series issued by Museum of London Archaeology (2014a and 2014b) and listed in Table 13. A representative sample will be retained for deposition and the rest discarded.

Summary

The assemblage comprises whole and fragmentary bricks (34 pieces, 24,175g), fragments of tile (including peg, ridge and pan; 356 pieces, 56,749g), drain pipe (6 pieces, 981g) and glazed tiles (5 pieces, 216g). The remaining 36 pieces (696g) are considered too fragmentary to identify thickness or original function and so fabric has not been recorded for these items. Little of the material recovered is intrinsically dateable; the group spans the medieval to post-medieval periods, with some material (noteably the glazed drain and brick fragments) dateable to the 19th century or later. The majority of items (59%) were recorded from feature fills including pits, postholes and ditches, the remainder came from a series of layers and other deposits.

Range and Variety

Within the brick and tile groups, a range of fabrics were recorded (Table 13). The majority of ridge, peg and flat tiles occur in silty fabrics, and the brick in sandy fabrics. Almost all are pink or orange-fired. A restricted fabric range is recorded in the pan tile group, limited to two.

The bulk of the assemblage (81%) consists of tiles, with roofing forms (including ridge and peg tiles) dominating. A small proportion (1%) of pan tiles, dateable from the mid 17th centuries (MoLA 2014c), were recorded. Few fragments of floor tile were recovered, including one where the full dimensions were preserved. This complete tile, recorded from floor surface 200, measures 300x280x35mm and occurs in a silty fabric similar to MoLA fabric 2816; it cannot be more closely dated than to the period spanning the 13th to 19th centuries. Medieval glazed floor tiles recorded from occupation layer 204, demolition layer 231 and ditch 356 (fill 357) hint at earlier building phases on the site but are likely to be residual. This is reinforced by the small numbers recorded within the assemblage.

The brick group constitutes 8% of the assemblage, although few are complete. The majority of complete bricks occur in MoLA fabric code 3033, correlating to ‘Tudor’-type red bricks. This style has a long date range: mid 15th to 17th century both in London (MoLA 2014c) and the surrounding counties (Ryan 1996). Of the remainder, none are frogged, a technique seen on 19th and 20th century bricks (Ryan 1996), indicating an earlier date.

The remainder of the assemblage comprises drainpipes of probable 19th and 20th century date.

Statement of Potential and Recommendations for Further Work

As can be expected with urban sites, the CBM group is fairly large and contains a range of fabrics. The dating of the group, on the whole, indicates significant buildings of medieval and post-medieval date. Its potential to inform the site phasing and indicate activity further is limited.

To ensure accurate recording, a representative sample of fabrics should be compared to the London CBM fabric reference collection, held at the Museum of London. As full recording is complete, further work is unnecessary, although a short publication, taken from this report, should be produced for publication.

References

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Museum of London Archaeology 2014b *Medieval and Post-medieval Roof Tile Fabrics* MoLA, London

Museum of London Archaeology 2014c *Medieval and Post-medieval Ceramic Building Materials Fabrics: Dating* MoLA, London

Ryan, P. 1996 *Brick in Essex* Chelmsford, Essex

Table 13: CBM fabric descriptions and MoLA codes

Type	MoLA Code	Description	Date Range	No.	Wt. (g)
Brick	3033	Orange/red fine fabric with a scatter of quartz. Calcium carbonate, black iron oxide and occasional flint/pebble inclusions	1450-1700	8	11005
Brick	3037	Light brown or orange-red fine sandy texture with hard, pellet-like clay inclusions	1400-1660	1	246
Brick	3041	Light red/brown fabric with moderate calcium carbonate, occasional quartz and ash fragments. Lumpy texture	1360-1400	2	2753
Brick	3042	Maroon fabric with yellow speckled clay matrix, reddish-maroon clay inclusions, occasional sandy lenses and scatter of calcium carbonate	1400-1900	13	4746
Brick	3208	Yellow/pink/light brown, fine silty fabric with occasional burnt out organic voids	1600-1800	1	1434
Brick	3217	Orange, sandy fabric with common quartz and cream silty bands. Occasional darker rounded inclusions and clay bands. Some flint/pebbles	1400-1900	3	1677
Drainage tile	2281	Orange, sandy fabric with abundant quartz grains, iron oxide and occasional silty inclusions	1750-1900	4	374
Tile	2274	Brownish-red, fine sandy fabric, abundant small quartz and occasional red and black iron oxide	1080-1350	37	4251
Tile	2277	Orange-red, some with grey core, large inclusions throughout clay matrix	1200-1480	26	2321
Tile	2816	Orange/red fine sandy with frequent quartz inclusions, silty streaks and occasional red iron oxide	1200-1800	84	21005
Tile	3062	Orange fabric with common quartz, cream pellets, red clay/iron oxide and occasional flint inclusions	1200-1800	8	1958
Tile	3085	Pink/light brown fabric with scatter of red clay inclusions and small quartz	1630-1850	4	532
Tile	3205	Orange fabric with numerous cream silty bands and rounded inclusions	1200-1800	174	24434
Tile	3225	Orange silty clay fabric with scatter of very small white speckles, quartz and black iron oxide	1630-1850	1	88
Tile	3245	Yellow lumpy fabric with scatter of quartz, white calcium carbonate and black iron oxide	unknown	3	649
Tile	3265	Orangey-brown fabric with scattered small quartz with occasional larger quartz	unknown	24	2246
		Uncertain fabrics	unknown	44	3099
		Total		**437**	**82,818**

APPENDIX 8: COFFIN FURNITURE BY SHARON CLOUGH

Introduction

Limited quantities of coffin fittings were recovered during the archaeological phase of work. These comprised six coffin plates, two copper alloy grips and the iron fittings from the child's grave 395. Although most of the fittings were from disturbed contexts, the known date range and individuals from the burial plot plan have allowed a more meaningful examination.

19th century funerary custom

Attitudes to burial changed from the 18th century onwards, and in the Victorian period, especially after the middle of century when municipal cemeteries were established (privately and city-run), towards a 'beatification of death'. Iconography moved towards a theme of remembrance, sentimentality and the natural world. The death rituals were entangled with social status and grew to be very extravagant and costly. It is against this general backdrop which we must view the material culture of the funeral from the Quaker burial ground.

The coffin in this period was the standard coffin shape, single-break. The lids were flat and it was customary to cover the coffin in fabric and hold it in place with upholstery pins/studs. Decorative metal handles, known as grips, would be placed on the sides used to steady the coffin as it was being carried. The backing plate to the grip became increasingly decorative. On the lid of the coffin would be a plate (breastplate or departum plate) detailing the individual inside (Litten 1991). Decorative pressed tin decorations were also popular. As a Quaker burial ground the decoration on the coffin would be expected to be simple and plain, so as not to display wealth and to exemplify the tenets of Quakerism of simplicity, modesty, equality and community.

Archaeological excavations have recorded numerous coffins and their fittings from 18th and 19th century burial grounds one of the first was the Crypt at Christ Church Spitalfields, London (Reeves and Adams 1993, and Cox 1996). The taxonomy from this site and the numerous others since reported in published and unpublished excavation reports are used for comparison. The results are also compared with the earlier Quaker burial ground at London Road (Bashford and Sibun 2006, Bashford and Pollard 1998) of which this site is the continuation, or 'new ground'.

Results

The majority of the graves were exhumed in 2005 or 2010 (Pers comm Andrew Lodge). Therefore the coffin furniture recovered during the archaeological phase of work on the site was mostly identified in the backfill of graves. Coffin plates were though photographed by the undertakers where recovered during their exhumation and these have been included where appropriate.

Breastplate plates (also known as *departum* or *depositum* plate) –
26 individuals were identified from photos taken at the time of exhumation by the Lodge Brothers. John Malcomson had two, a lead and a ?tin-coated one.

Six further coffin plates (Fig. 23, Photographs 1-6), were recovered from backfill 392, of these, four were known individuals exhumed in 2010 and one was an un-known individual, who was on the monthly meeting minute's list (Pers comm Graham Torr), and his lead coffin was recovered and a further plate was illegible.

The plates were mostly brass and trapezoid shaped. One was shield-shaped dated 1887, similar to one recovered from the London Street Quaker burial ground dated 1743. There was also a shield-shaped one from the Littlemore Baptist burial ground dated 1879 (Clough 2010). This demonstrates that this style was used for over 100 years.

In contrast to the earlier method of identifying individuals through the use of upholstery pins at the London Street cemetery (22 coffins) all the biographical details were recorded on breastplates at Eden Street. The authors note that the use of upholstery pins for biographies started 1660-75 and appeared to have been used until 1796. The cemetery at Eden Street began 1813. The use of plates also likely reflects the ease of availability of these plates through the development of machinery and the funerary trade and is not an indication of a move away from simplicity.

The inscriptions themselves are without flourishes and iconography, as seen at the rich vaulted burials of Christchurch Spitalfields. The lettering was plain, serifed in the earlier plates and sans serif in the later ones, reflecting changes in wider society regarding font types. The plates may have been painted black and in one instance the outline of the plate in white paint was still visible. The use of month names instead of numbers is notable. The 1834 book of discipline states "dates may be expressed in figures" (Stock 1998). This is due to the notion that month names were pagan in origin and therefore not to be used. Only the plate of John Harris has the "9th Month" stated in place of September. However, it must be borne in mind that persons buried in the cemetery were often spouses, children or those yet to become full Quaker members, as recorded in the minutes meeting book by the note "NM" – not in membership. They were therefore not obliged to adhere to the recommended disciplines.

William Wilkins was one such, noted as "NM" in the minutes book, he had a lead coffin and his breastplate used the month name. His breastplate also stated "Esqr" a title not seen on any others. Esquire was a title used by the Landed gentry to denote someone above the rank of Gentleman. It later became used to denote those of a position of standing in society, such as a barrister, judge, physician, military men etc. The use of the term on a breastplate dating to 1830 would infer that William Wilkins fell into this latter category and held a position of standing in society.

Table 14: Detail from the breastplates recovered

Named individual	Breastplate style detail	Metal	Biographic data
William Wilkins	Trapezoid shape. 410mm x 300mm. Possibly painted black. Incised lettering serifed. Linear detailing on the lettering. All capitals.	Brass	WILL^{m}. WILKINS / ESQ^{R}/ DIED/ 26th. FEB^{Y}./ 1830/ AGED 85 YEARS
Elizabeth Long	Shield-shaped. 400x 350mm. Inlaid lettering in serif text. Name all capitals. The rest in gothic text mixed upper and lower case. May have been painted white.	Tin?	ELIZABETH LONG/ Died 17th Dec^{r}./ 1887/ Aged 63 Years
Samuel Fry	Trapezoid shape. White painted border. Gothic script except name which is all capitals and serifed. 410 x 300.5 mm.	Brass	SAMUEL FRY/ Passed away/ 28th Sept^{r}. 1890/ In his 56th. Year/
John Harris	Trapezoid shape. 360 x 280mm. Painted black with white edging. Plain lettering – sans serif. All capitals incised.	Brass	JOHN HARRIS/ DIED 13th. / OF THE 9TH MONTH/ 1896/ AGED 79 YEARS
Frederick Willis	Trapezoid shape. Plain lettering, sans serif. All uppercase. 305 x 230mm.	Brass	FREDERICK WILLIS/ DIED 14th APRIL/ 1936/ IN HIS 73rd YEAR
'Blank'	Trapezoid shape. 305 x 240mm. Lettering completely obscured.	Tin-plated Iron	?

Grips.

Three grips and an unidentified metal object were recovered (Fig. 24, Photographs 7-10). The grips were three different types made from copper alloy (brass) and iron. From the grave 396 (SK 398), fill 397, were recovered three small grips, one partial grip, eleven nails and two screws. The grip plates had not survived as all the fittings were made of iron, which had probably been dipped in tin. The corrosion meant that the x-rays were used to determine the shape of the grips. They were a simple rounded type with an oval centre. They were the same as the Kingston London Street type 'X' which were also for a child's grave. The child in the grave is potentially William London who died in 1818. This suggests the style continued for a long period. This date also fits with the identification of the nails. The first nail making machine was invented in 1811, cut nails had been made since the late 16th century (Taylor 1999). It wasn't until mid-19th century that they were mass produced and cheap to purchase. The nails from the coffin, therefore may have been hand made, or cut, as the heads are missing it is not possible to determine which. Machine made screws with blunt ends were also being made by the end of the 18th century.

Fill 402 had a grip re-deposited into the backfill. This grip was large and made of brass and probably was coated in a black lacquer. The grip plate had been made in two separate pieces. These were socketed into the grip via a hinge. The grip had a square profile with a pyramidal end. It was socketed into the rectangular bar which was incised with a 'column' style design. The design was fully articular

and three dimensional (not flat backed). It had a long bar handle, 210mm, with 25mm diameter. The grips plates were both 100 x 90 mm and a symmetrical stylised design. The style reminiscent of the art nouveau and art deco periods at the beginning of the 20th century. As burials continued at the cemetery until the 1950s it is quite possible this grip belonged to one of the more recent coffins exhumed in 2010.

Fill 409 had single grip with plate made of brass. The grip was curved with inward pointing arms slotted into a protruding square pedestal. The back of the grip was flat, whilst the front was tapered evenly from the centre creating a raised central ridge. In the centre of the grip were five ridges. The two square ended plinths were moulded part of the plate. The plate was a symmetrical stylised design 170x 80mm. It was similar to type BBM2 which dated 1813-1842 (Boston, Boyle and Witkin 2006) and OLR7 type dating 1821-1849 (Boyle, Boston and Witkin 2005).

Fill 394 (grave 393, SK 395) contained an iron object whose function was not clear. It was a bracket 150 x 90 mm, with a u-shaped section which had a 50mm gap. Then a demi-arched section extending away. It is surmised that this may be a temporary support for a coffin where it would hook over a wooden beam which would span the length of the grave and then the coffin would sit on the arch part. However, this purely speculation.

It is notable that there were no upholstery pins recovered. This may be due to the level of disturbance from the exhumations. However, it could be that the coffins were not covered in cloth, as was the tradition in the 19th century. Upholstery pins were used in the London Street burials to record biographical detail and decoratively in a very small number of instances.
Two lead coffins were removed during the archaeological phase of work. Further lead coffins may have been removed from the 2010 phase as the lead breastplates for two individuals are amongst the photographs.

Notes on the burial plot plan observed brick shaft graves for three plots. Vaults and other structures were discouraged, as noted in Quaker documentation, but a family vault was uncovered during the London Street excavation of the Quaker burial ground. Brick shaft graves would also allow ease of access for multiple interments. Thus may have been allowed on the grounds that a husband and wife were intended for the plot.

Statement of Potential and Recommendations for Further Work
The archaeologically recovered coffin furniture has been fully recorded, and re-interred with the human remains. Digital photographs of the object form a visual record and should be archived.

Coffin Plates – 2010 photographs
Photographs were taken by the undertakers during the exhumation process of a further 33 breastplates. These photographs have kindly been supplied to CA. Of these four were illegible and

two were the lead inner breastplate. The remainder ranged in date from 1860-1952. If these are arranged chronologically they demonstrate the change over time of the types of plates and style of writing. It is suggested that these photographs should also form part of the digital archive.

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APPENDIX 9: HUMAN SKELETAL REMAINS BY SHARON CLOUGH

Summary

Four burials and four disarticulated deposits were recovered from the Friend's Meeting House burial ground, Eden Street, Kingston-upon-Thames (Fig. 20). These are all considered to date to the early phase of burial starting in 1813-1830 (before those named on the 1948 plan). All those named on the 1948 burial plan were removed by undertakers (Lodge Brothers funeral directors in 2010) and re-interred in Surbiton cemetery.

A further 13 burials were identified and removed by the undertakers, two of which were contained in a lead coffin. As detailed in the WSI (CA, 2016) human remains from within lead coffins were not to be examined. The other burials were thought to be from more recent interments (less than 100 years) and not within the scope of archaeological investigation.

The inhumation burials comprised one child and three adults. Of the adults two were female and one was probably male. The disarticulated remains were all from adult individuals.

Methodology

All skeletal material was examined and recorded in accordance with national guidelines (Hillson 1996a; Brickley and McKinley 2004; Mays *et al*. 2004).

Biological Age Assessment

Aging is a highly variable process whose causative factors and biological mechanics are not fully understood (Cox 2000). In addition, 'biological age' does not always equate to 'chronological age' or 'social age' (Lewis 2007) of which adulthood is primarily a culturally defined concept (Cox 2000, Lewis 2007). With this in mind, a multi-method approach was taken (Table 15) to provide a range of estimates. Then each indicator was weighted on reliability. Where only one (less reliable) method was available, then this individual was determined to be only Adult or Subadult.

Table 15: Macroscopic techniques used

Pubic symphysis – Brooks and Suchey 1990
Auricular surface – Lovejoy *et al.*1985
– Buckberry and Chamberlain 2002 (used for older adults)
Cranial suture closure – Meindl and Lovejoy 1985
Sternal Rib ends – Işcan and Loth 1984 & 1985
Epiphyseal fusion – McKern and Stewart 1957, Webb and Suchey 1985
Dental eruption – Moorees, Fanning and Hunt 1963, AlQahtani 2009

Sex Estimation

The biological sex of all adult skeletons was based on examination of standard characteristics of the skull and pelvis (Ferembach *et al*. 1980; Schwartz 1995), with greater emphasis on features of the latter as they are known to be more reliable (Cox and Mays 2000). Measurements of the femoral and humeral heads were employed as secondary indicators (Giles 1970). Adult skeletons were recorded as male, female, probable male (male?), probable female (female?), or indeterminate depending on the degree of sexual dimorphism of features. No attempt was made to sex subadults defined as individuals below 20 years of age for whom there are no accepted methods (Cox 2000), with the exception of adolescent skeletons whose innominate bones had fused and where preservation was adequate.

Skeletal condition and completeness

The completeness of each skeleton was classified as a percentage of the whole and divided into four groups , 0-25% 25-50% 50-75% and 75+%. The condition of the bone surface of each skeleton was recorded in detail with reference to different anatomical areas (skull, arms, hands, legs and feet) after McKinley (2004, 16) and given an overall summary score.

Metrics

Measurements of long bones were used to estimate stature in adults (Trotter 1970). Measurements of other long bones and skulls were taken (where appropriate) and used in the calculation of indices to explore variation in the physical attributes of the population.

Nonmetric

The presence or absence of frequently recorded non-metrical cranial and post-cranial traits were scored (Berry and Berry 1967; Schwartz 1995; Hillson 1996).

Dental

Dentition was recorded using the Palmer notation. Caries were graded into small (<1mm), medium (2-4 mm) and large (>4 mm). Abscesses were recorded with reference to Dias and Tayles (1997). Periodontal disease and dental enamel hypoplasia were graded using Ogden 2008. Calculus was graded per tooth (flecks, slight, medium, heavy after Brothwell 1981) and recorded as sub and supra gingival.

Pathology

Skeletal pathology and/or bony abnormality was described and differential diagnoses explored with reference to standard texts (Ortner and Putschar 1981; Resnick 1995; Aufderheide and Rodriguez-Martin 1998).

Results

Due to the low number of individuals, the skeletons are discussed separately, below.

All the bones were grade 0 or 1 surface preservation and there was a low level of fragmentation.

Skeleton 395

Comprised the right clavicle and scapula, right ribs four lumbar vertebrae and left ilium. The skeleton had probably been truncated by later graves.

Non-fusion of some epiphyses (iliac crest, medial clavicle, annulus of vertebral bodies) indicated that this was a young adult individual. The age range for fusion of these areas is 16-22 years. As there was a limited quantity of the skeleton available for observation a more accurate age could not be ascertained.

The ilium was morphologically male.

Pathology - all the 10 right ribs had lamellar new bone growth on the visceral surface. It extended from the head all along the shaft to sternal end, white or grey in colour. Lowest rib 11 or 12 head end only was involved. The clavicle also had smooth shiny surface of lamellar new bone on the superior and inferior shaft. Lamellar-type new bone suggests a healed stage of periostitis (infection of the outer surface of the bone).

Pulmonary tuberculosis (TB) is a possible diagnosis. Evidence suggests (Roberts *et al.*1998, Santos and Roberts 2001, Mays *et al.* 2001, Mays, Fysh and Taylor 2002) that new bone formation on ribs is often the result of pulmonary tuberculosis and where identified on the visceral surfaces TB should be considered a possibility. Further work by Matos and Santos (2006) demonstrated that new bone formation on the visceral surface of the ribs was present in 90.5% of individuals who died from pulmonary TB. The bony lesions mainly presented as the lamellar type and it also occurred on nine clavicles. Although not pathognomonic of TB, new bone formation is a useful criterion for differential diagnosis.

TB was the most commonly cited cause of death for those buried in Bethnal Green, London (Ives 2015). The privately owned burial ground was open between 1840 and 1855. Archaeological excavation of a part of the cemetery recovered 1033 burials, of these 306 had coffin plates which matched death certificates from the archives. 16% of deaths were attributed to TB and a further 13% to respiratory infection. This indicates that TB and other respiratory infections were a very common cause of death in London and environs (e.g. Kingston-upon-Thames) at this time. TB has been described as the most common cause of death in the early 19th century in Britain (Aufderheide and Rodriguez-Martin 1998:130) and affected all classes of people.

The rib lamellar bone could also result from some other long-term pulmonary infection.

Of the individuals identified from the Monthly Meeting Minutes 1812-1834 (kindly provided by Graham Torr) and not previously re-interred, there is only one individual who's age and sex corresponds with the osteological age range and sex. Thomas Ross was 19 years old when he died in 1827. He was

from Wandsworth and buried at Kingston. He is recorded as 'Not in Membership' (NM). It is therefore possible that the skeleton 395 is the remains of Thomas Ross.

Skeleton 398

Comprised the majority (95%) of the individual from within a wooden coffin (iron nails present). Green staining to the frontal bone and right mandible indicated the former presence of a copper alloy object; this was likely to have been a shroud pin.

This individual was 6-7 years of age at the time of death. The long bone epiphyses were unfused, dental eruption was used to determine the age at death. The unfused long bones were also measured and the average age for long bone length charts by Maresh (1970) corresponded with the dental age.

As a non-adult with an unfused pelvis, no attempt was made to estimate sex for this individual.

There were two ossicles in the left lambdoid suture. These are small islands of bone within the suture line of the cranium. The most common location is the lambdoid suture.

Pathology – The deciduous dentition had four teeth affected by dental caries. These were the mandibular deciduous first molars and the right second molar and the maxilla left first molar. They were all occlusal except the maxilla.

Sugar in the diet is a well-established cause of caries. By the early 19th century sugar was regularly consumed by the middle classes, but not cheap enough to be readily consumed by the lower classes. Per capita consumption of sugar by the beginning of the 19th century was 18lbs per person per year. It is therefore unsurprising to find a large number of caries in the deciduous dentition of a child from this period.

Enamel hypoplasia was identified on the mandibular permanent first incisors. A single line low down on the tooth crown. This indicated a growth-arrest event towards the end of the development of the incisor crown, approximately 3-5 years.

The list of individuals pre-1830 from the monthly meeting minutes has only one child. This is William London who died in 1818 aged 7 years. He was son of Joseph and Elizabeth from Richmond, Surrey and not in membership. It is therefore quite possible that the skeleton 398 is the remains of William London.

Skeleton 416

Comprised the majority of the post-cranial skeleton of an adult individual. The skull was absent, and likely to have been removed by later truncation. Nine coffin nails (417) were recovered from around the skeleton indicating the presence of a coffin.

The pelvis was available for estimation of sex and age. This individual was female and likely to have been in her 50s or 60s at the time of death. Aging adults over 45 years is less accurate, so the true age at death may be greater or lesser than the range given.

Non-metric traits – left and right femoral plaque. The aetiology of this extension of the joint surface is currently unclear but may be an indication of an activity stress marker.

Left and right calcaneal facet absent. Variation in type and number of facets which articulate with the talus are many, however complete absence is rarer.

Stature - 165.74 cm Left femur, Left tibia 167cm, left humerus 158cm (lower limb more reliable than upper). Average height at other Quaker burial grounds, 1.61m females from Kings Lynn (Mahoney in Brown 2005) and 1.60m females from the earlier Kingston Quaker burial ground (Sibun and Start 2006 in Bashford and Sibun 2006), Coach Lane females mean 1.60m (Proctor *et al.* 2016) This indicates that this female individual was above average height, but well within the range.

Platymeric index Femur – 96 = 85.0-99.9 eurymeric, moderate

Platycnemic index Tibia – 80 = >69.9 eurycnemic (broad, wide)

These indices indicate that the upper and lower legs were both rounded in dimension. Muscle use dictates the shape of the leg bones and a flattened femur is usually seen in more physically active individuals. The average female platymeric index from London Street (Bashford and Sibun 2006) was 86, with range of 70.51-106.13.

Pathology – The axial skeleton displayed multiple 'punched-out' lytic lesions. There was no remodelling or reactive bone. The size varied, from pin-prick to 5mm. Areas where bone was thin the lesions went all the way through. The bones involved were ribs, vertebrae, sacrum, scapula, pelvis. There was some minor involvement of the femoral head, humeral head, inferior and superior tibial shafts. There was no skull to examine. The hands and feet were completely unaffected as were most long bone shafts. Differential diagnosis of either multiple myeloma or metastatic carcinoma. Diffuse, sharp-edged lytic lesions with none-remodelled margins are a feature of multiple myeloma. Plasma cells from within the bone marrow stimulate osteoclastic activity and inhibit osteoblastic response, causing the characteristic osteolysis (destruction of bone tissue) (Resnick 2002). The cause of the disease is unknown, though there is some familial connection. Most individuals are over 40 years old and there is a slight male tendency.

Differential diagnosis with metastatic carcinoma, these will normally exhibit an osteoblastic response (bone growth), however, not always, depending on the location of the primary tumour (Waldron 2009). Breast cancer, for instance, is by far the most common cause of metastasis to bone in females. The lesions are mainly lytic and occur most frequently in the femur, the axial skeleton and the skull. The lytic lesions are of variable size and show undercut edges with no evidence of healing or remodelling and sclerosis is not common. The absence of the skull prevents diagnosis.

Death by cancer was 1% of the causes in the Bethnal Green named individuals (Ives 2015). Below 1% rate is also observed across Britain (Roberts and Cox 2003: 352) for neoplastic disease. Cases from Christ Church Spitalfields and Bristol (St Augustine the less) represent secondary tumours

associated with breast cancer. Cross Bones burials ground, London, had a case of multiple metastatic lesions (sites quoted in Roberts and Cox 2003).

There were seven females on the pre-1830 list of individuals: the youngest 38 and oldest 86 years. Without further evidence it would not be possible to determine which of these is most likely to be SK 416.

Skeleton 419

Comprised the cranium of a female only.

Pathology – Hyperostosis Frontalis Interna (HFI), the frontal bone was thick and heavy with bilateral nodular smooth bone surrounding the frontal crest. This is commonly observed condition in older adult females over the age of 60 years. The precise aetiology is poorly understood, but the impact of industrialisation with increased longevity for women, leading to a lifetime's over-exposure to oestrogen may play a role. HFI was found to be present in 18.9% of females from St Bride's crypt, London (Bekvalac, Western and Farmer 2015) compared to modern incidence of 51.3%. 85.7% were in adults over 50 years.

The cranium in addition had on the ectocranial surface micro-porosity across the central parietal and frontal bones, what is often described as 'orange peel' effect. The surface was also swollen and slightly lumpy. This porosity has variably been interpreted as early or healed stage porotic hyperostosis (anaemia), scalp infection or as part of vitamin C or D deficiency. The lack of further skeletal elements prevents diagnosis.

This cranium was recovered *in situ,* and likely to have been part of a skeleton removed in 2010.

Comparison with the 'old' Quaker burial ground London Street, Kingston-upon-Thames.

Dental caries. Tooth evidence from the London Street assemblage suggests their diet was probably lower in sugar and highly processed carbohydrates. This is despite 64% of individuals having at least one carious lesion. 5.4% of the total teeth had carious lesions. However the authors do not attempt to contrast this with the antemortem loss rate. SK 398 with the four caries appears to be a higher rate than found in the earlier cemetery. Perhaps this is an indication of the wide availability of sugar and highly processed carbohydrates compared to the earlier period.

There is no mention of neoplastic disease from the London Street cemetery. This is not unexpected as has been discussed previously; it is not a common finding and is highly correlated with increased longevity.

There was also no TB identified from London Street. Syphilis and osteomyelitis were both identified, and only one instance of a left and right rib 'infective'. This makes the tentative diagnosis of TB

present on SK 395 very interesting. Perhaps reflecting the different social conditions of the early 19th century.

Disarticulated

A number of disarticulated remains were recovered from a variety of re-deposited fills (Table 16).

392 was the context given to the disarticulated remains from the backfill of graves which had previously had the occupants removed by the undertakers in 2010. These are likely 'missed' elements of individuals.

405 was a modern dumped deposit observed during the underpinning of a neighbouring building to the street front of the site. This comprised animal bone skull and human ribs. The presence of human ribs from this context is surprising, but may indicate that soil was moved around the site from the burial ground area.

422 backfill of grave 418 which had been removed by undertakers in 2010. These elements all from the right side may represent further missed elements of the skeleton 419.

Table 16: The human remains recovered disarticulated

Fill number	Skeletal elements present	Other
392	Left humerus (304mm), left and right tibia shafts. Left ilium (Male?) and right pubis (Female?).	Female pubic fragment aged to 45+. The left ilium, the acetabulum was porous and the spongy bone had become enlarged and more disorganised. Left tibia had healed periostitis on the lower shaft.
392	Thoracic vertebrae, 3x lumbar vertebrae, sternum and xyphoid, left ilium (Female?), right scapula, left radius (215mm).	1x coffin nail. Ilium had minor acetabular lipping 1-2mm. The age from auricular surface 45-55y.
405	6 Right ribs (articulate).	Cow skull also in deposit. The rib ends have ossification of cartilage starting.
422	Right clavicle, right ulna, right tibia (322mm with, 314mm without)	2x coffin nails. Clavicle had concrete adhering to shaft. Medial end of clavicle cleft extending 10mm. Possibly a developmental defect, or result of damage to epiphyseal plate before fusion, or healed fracture.

Statement of Potential and Recommendations for Further Work

This small assemblage of skeletal remains has revealed the wide range of individuals who were former members, associated with and/or relatives of the members of the Quaker meeting house in Eden Street, Kingston-Upon-Thames. It has potentially identified individuals who were not commemorated by grave markers or coffin plates. These burials date to the earliest phase of burial in the 'new' burial ground. It was previously considered that the burials did not take place until 1834, but the documentary research and presence of unidentified burials have demonstrated that burial took place here from 1813 (monthly meeting minutes first burial- "John Hayman in the new ground"). This

overlapped with the 'old' burial ground at London Road where the last internment was thought to be 1814. The two burials which may be named individuals would date to 1818 and 1827. Both pre-date the registration act 1837, which means a death certificate was not compulsory at the time they died. So further research into cause of death will not be possible, which potentially may have furthered personal identification.

The disarticulated material demonstrates that the recovery of remains by the undertakers in 2010 was not thorough and that archaeological recovery is a more complete and accurate way to record and remove human remains.

Despite the low number of individuals, there are examples of the more rare pathological lesions. The burials reflect the social changes in the early 19th century and the changing membership of the Quaker congregation.

Statement of Potential and Recommendations for Further Work

The human bone has been fully recorded and re-interred as per the conditions of the Burial Licence. The results should be incorporated into the publication report.

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Skeleton Catalogue -

Skeleton Number: 398

Sex: indeterminate

Age: 6-7 years

Height: N/A

Humerus - L 195, R 197. Radius - L 144, R 145. Ulna - L 154, R 156. Femur - L 253, R 253. Tibia - L 206, R 206. Fibula L 205.

Completeness: 95%

Condition: (McKinley 2004) grade

Pathologies: None. Non-metric : 2 left lambdoid ossicles.

Dental: Caries 4.

Maxilla Left

1	2	3	4	5	6	7	8
U					1	U	
a	b	c	d	e			
4	4	4	1	1			

Maxilla Right

1	2	3	4	5	6	7	8
U					1	U	
a	b	c	d	e			
4	4	4	1	1			

Mandible Left

1	2	3	4	5	6	7	8
1					1	U	
a	b	c	d	e			
	4	1	1	1			

Mandible Right

1	2	3	4	5	6	7	8
1					1	U	
a	b	c	d	e			
	1	1	1	1			

1= present in alveolar, 2- loose, 3- lost antemorterm, 4- lost post mortem alveolar present. U – unerupted

Skeleton Number: 395

Sex: Male

Age: 16-22 years

Height: N/A

Completeness: right scapula & clavicle, left ilium, right ribs, lumbar vertebrae. 25%

Condition: (McKinley 2004) grade 1

Pathologies: 10 right ribs have lamellar new bone growth on the interior surface (visceral). It stretches from the head all along the shaft to sternal end, white or grey in colour. Lowest rib 11 or 12 head end only. Clavicle also has smooth shiny surface superior and inferior shaft. Probable infection TB? no lytic lesions and no TV spine to examine. Lung infection at healing/healed stage.

Skeleton Number: 416

Sex: Female

Age: 50s-60s

Metrics: (Maximum length) Clavicle L 138mm, R 135mm. Humerus L 299mm. Radius L 219mm. Ulna L 241mm. Femur L 452mm. Tibia L 364mm, R 368mm.

Completeness: Mostly complete post-cranial skeleton 75+%

Condition: (McKinley 2004) grade 1

Pathology: multiple myeloma or metastatic carcinoma.

Non-metric: bilateral femoral plaque. Bilateral calcaneal facet absent.

Skeleton Number: 419

Sex: Female

Age: Probably over 45 years

Height: N/A

Completeness: 0-25 % (cranium only)

Condition: (McKinley 2004) grade 1

Pathology: HFI - hyperostosis frontalis interna. Endocranial surface of frontal bone very thick and heavy. Particularly bilateral nodular thickening surrounding frontal crest. Smooth but irregular contouring. Additionally - ectocranial micro porosity across the central parietal and frontal bones. surface also swollen and slightly lumpy. 'orange peel'.

APPENDIX 10: ANIMAL BONE BY MATILDA HOLMES

Background

A small amount of animal bone was recovered from early medieval to modern features. It was in fairly good condition, although with some possible mixing of deposits. No further analysis is recommended.

Methods

All bones and teeth were recorded, although for some elements a restricted count was employed to reduce fragmentation bias: vertebrae were recorded when the vertebral body was present, and maxilla, zygomatic arch and occipital areas of the skull were identified from skull fragments. A basic recording method was employed to assess the potential of the animal bone assemblage. The number of bones and teeth that could be identified to taxa were noted, as well as those used to age the major domesticates (tooth wear and bone fusion). The quantity of bones likely to be useful for metrical data was also recorded. Other information included condition and the incidence of burning, gnawing and butchery marks. All fragments were recorded by context including those that could not be identified to taxa. Recording methods and analysis are based on guidelines from Baker and Worley (2014).

Summary of Findings

Bones were in fair condition, although some, particularly those from contexts 345 (medieval) and 219 (post-medieval) were in highly variable states of preservation, implying some intrusive material, or mixing of contexts (Table 17). Bone was available from environmental samples and hand recovery. Roughly 10% of contexts had bones that showed signs of canid gnawing, indicating that there was some delay between disposal and burial allowing dogs time to chew them. A similar proportion of the assemblage bore butchery marks, suggesting that it had undergone processing, and a group of crania and vertebrae fragments from medieval context 291 may have resulted from the deposition of butchery waste. There were no deposits of skin-processing or craft-working waste.

An unusual group of bones were recovered from Anglo-Saxon ditch 10 (intervention 328, upper fill 331), comprising a group of horse bones (femur, tibia and metacarpal); the tibia from a very large pig, possibly wild; a cattle skull; and a red deer skull with antlers. This group is not typical of domestic refuse. Rather, it represents butchery waste (horse remains and crania) or evidence for a high-status site (red deer and possibly wild pig). The wider assemblage was dominated by cattle bones, followed by sheep/ goat and pig (Tables 18 and 19), with a few bones of canis (dog or fox), equus (horse or donkey), felis (domestic or wild cat), birds (domestic fowl and goose) and wild taxa (red deer, hare/ rabbit). Despite the presence of sieved samples and the proximity of the site to the river Thames, the absence of fish remains is notable, particularly in the medieval period when there was a well-established urban fish trade.

Potential and Significance

The presence of sieved samples means that there is optimal opportunity for the recovery of bones from the smallest of taxa. There is some indication of redistribution of animal remains in the paucity of teeth recovered compared to the number of bones. This is reflected in the availability of tooth wear data, which is scarce compared to the amount of potential ageing data from long bone fusion (Table 20). Sample sizes are small for each respective phase, and there is little to be gained from further analysis, particularly in the absence of detailed phasing.

Further Work

No further analysis of the assemblage needs to be undertaken, although a mention of the taxa present should be made in any future publication.

References

Baker, P and Worley, F 2014 *Animal Bones and Archaeology: Guidelines for Best Practice.* Portsmouth: English Heritage

Table 17: Preservation and bone modifications observed on the bones for each context

	Preservation						Bone Modification		
Phase	Good	Good-fair	Fair	Poor	Fair-poor	Good-poor	Gnawed	Butchered	Burnt
Early medieval			3				1	1	
Medieval	1	1	5	1		1	4	2	
Medieval/ post-medieval				2					
Post-medieval	1	4	13		3	1	5	7	
Modern	1		2						
Total N contexts	3	5	23	3	3	2	10	10	0
Proportion (%) of all contexts	8	12	58	8	8	5	26	26	

Table 18: Number of fragments recorded for the major domesticates, birds and other taxa

	Cattle		Sheep		Pig		Bird	Other	Total	Other taxa
Phase	Bones	Teeth	Bones	Teeth	Bones	Teeth				
Early medieval	16	1	7		6	2	2	4	38	Equus, red deer, domestic fowl
Medieval	61	12	4	4	8	7	3	14	113	Canis, equus, red deer, domestic fowl, goose
Medieval/ post-medieval	2	1	1						4	
Post-medieval	21	4	34	7	7	1	6	1	81	Hare/ rabbit, domestic fowl
Modern			4						4	
Total	100	18	50	11	21	10	11	19		

Table 19: Number of bones identified to taxa from samples

Phase	Cattle	Sheep/ goat	Micro mammal	Amphibian
Medieval	1	1	1	24
Post-medieval		3		
Total	1	4	1	24

Table 20: Number of bones and teeth likely to provide ageing and metrical data for the major domesticates.

MWS= mandibular wear stage; TWS= wear from individual teeth; fusion= bone fusion; meas= metrical data

	Cattle				Sheep/ goat				Pig			
Phase	MWS	TWS	Fusion	Meas	MWS	TWS	Fusion	Meas	MWS	TWS	Fusion	Meas
Early medieval			8	6			4		1		4	
Medieval	5	2	45	50	1	3	3		1	1	5	9
Medieval/ post-medieval			1									
Post-medieval			13	5	2	3	21	23	1		3	4
Modern							4	7				
Total	5	2	67	61	3	6	32	30	3	1	12	13

APPENDIX 11: PLANTMACROFOSSIL EVIDENCE BY SARAH WYLES

A series of 16 environmental samples (186 litres of soil) were processed from a range of layers, postholes, pits and ditches of mainly medieval and post-medieval date with the intention of recovering environmental evidence of industrial or domestic activity on the site. In addition charcoal fragments were hand collected from ditch 403. The bulk samples were processed by standard flotation procedures (CA Technical Manual No. 2).

Preliminary identifications of plant macrofossils are noted in Table 21, following nomenclature of Stace (1997) for wild plants, and traditional nomenclature, as provided by Zohary *et al.* (2012) for cereals. The presence of mollusc shells has also been recorded in a number of these samples. Nomenclature is according to Anderson (2005) and habitat preferences according to Kerney (1999) and Davies (2008). The flots varied in size with low to moderately high numbers of rooty material and modern seeds. The charred material comprised varying levels of preservation.

Period 2 Medieval

Small quantities of charred plant remains were recovered from postholes 267 and 268 (samples 7, 8). These remains included free-threshing wheat (*Triticum turgidum/aestivum* type) and barley (*Hordeum vulgare*) grain fragments, seeds of oat (*Avena* sp.) and vetch/wild pea (*Vicia/Lathyrus* sp.) and a bud.

Low numbers of charcoal fragments greater than 2 mm were present in these samples. A shell of the intermediate species *Cornu aspersum* was recorded from fill 255 (sample 8) of posthole 268. These assemblages appear to be representative of dispersed material.

A small amount of charred material was recorded from fill 302 (sample 15) of ditch terminus 301. This included few free-threshing wheat and barley grain fragments, seeds of oat and vetch/wild pea, hazelnut (*Corylus avellana*) shell fragments and charcoal fragments. This assemblage is likely to be indicative of dispersed material.

Fragments of a piece of roundwood charcoal were hand collected from fill 404 of ditch 403.

Period 3.1 Early post-medieval

A few charred cereal remains were recorded from three of the five sampled postholes (samples 9, 12 and 14), features, 269, 285 and 297. These remains included free-threshing wheat (*Triticum turgidum/aestivum* type) and barley (*Hordeum vulgare*) grain fragments. Low numbers of charcoal fragments greater than 2 mm were present in four of the five sampled postholes. Again these assemblages appear to be representative of dispersed material.

Fill 345 (sample 16) of pit 344 contained a few free-threshing wheat and barley grain fragments, seeds of oat and charcoal fragments. This may also be reflective of dispersed material.

Period 3.2 Early post-medieval

Layer 247 (sample 5) produced a small number of free-threshing wheat and barley grains and a moderate quantity of charcoal fragments.

Period 4.1 Late post-medieval

Low levels of charred plant remains were recovered from layers108 and 219 (samples 1 and 3). These remains included free-threshing wheat and barley grain fragments, seeds of goosefoot (*Chenopodium* sp.) and charcoal fragments. The charcoal included round wood pieces. Again these assemblages appear to be representative of dispersed material.

Period 4.2 Late post-medieval

Layer 216 (sample 2) contained a few free-threshing wheat and barley grain fragments, a small number of charcoal fragments and a shell of the intermediate species *Cochlicopa lubrica.* No charred remains were recorded from layer 226 (sample 4).

Period 6 Undated

Small quantities of charcoal fragments but no charred plant remains were recovered from postholes 282 and 286 (samples 10 and 11). There is no indication of the likely date of these features from the environmental material.

Statement of Potential and Recommendations for Further Work

The charred plant assemblages recorded from these periods are very small and do not appear to be related to any domestic activities taking place in the immediate vicinity. Further analysis of the charred plant assemblages has no potential to provide more detailed information on the range of crops and activities taking place on site. Therefore no further work is proposed on these samples.

There is no potential for the analysis of the charcoal assemblages to provide detailed information on the species composition and the management and exploitation of the local woodland resource during these periods. This is due to the general paucity of remains recovered. Therefore no further work is proposed on these samples.

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Table 21: Palaeoenvironmental remains

Feature	Context	Sample	Processed vol (L)	Unprocessed vol (L)	Flot size (ml)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes	Charcoal > 4/2mm	Other	Analysis
Period 2 -. Medieval														
Postholes														
267	254	7	3	0	5	10	*	-	Wheat grain frag	*	Bud	-/*	-	-
268	255	8	9	0	20	5	**	-	F-t wheat + barley grain frags	**	*Avena, Vicia/Lathyrus*	*/**	moll-t (*)	-
Ditch terminus														
301	302	15	8	0	5	10	*	-	F-t wheat + barley grain frags	*	*Avena, Vicia/Lathyrus, Corylus avellana* shell frag	*/*	-	-
Ditch														
403	404											**/**		-
Period 3.1 -. Early post-medieval														
Postholes														
269	270	9	8	0	5	60	*	-	F-t wheat + barley grain frags	-	-	*/*	-	-
283	257	6	14	0	70	15	-	-	-	-	-	*/*	coal, Sab/f (*)	-
285	286	12	6	0	5	10	*	-	Indet grain frag	-	-	*/*		-
297	298	14	9	0	2	10	*	-	F-t wheat + barley grain frags	-	-		-	-
299	300	13	15	0	5	10	-	-	-	-	-	-/*	coal, Sab/f (*)	-
Pit														
344	345	16	17	20	40	20	*	-	F-t wheat + barley grain frags	*	*Avena*	*/*	Sab/f (****)	-
Period 3.2 -. Early post-medieval														
Layer														
	247	5	6	0	30	2	*	-	F-t wheat + barley grain frags	-	-	**/**	-	-
Period 4.1 -. Late post-medieval														
Layers														
	108	1	16	24	430	2	*	-	F-t wheat grain	*	*Chenopodium*	**/**	coal, Sab/f (*)	-
	219	3	18	0	325	2	*	-	F-t wheat + barley grain frags	-	-	*/**	coal, Sab/f (*)	-
Period 4.2 -. Late post-medieval														
Layers														
	216	2	15	0	10	25	*	-	F-t wheat + barley grain frags	-	-	-/*	moll-t (*)	-

	226	4	18	10	120	2	-	-	-	-	-	-	metal working debris	-
Period 6 -. Undated														
Postholes														
282	256	10	15	0	40	5	-	-	-	-	-	-/*	coal, Sab/f (*)	-
288	289	11	9	0	10	5	-	-	-	-	-	-/*	coal	-

Key: * = 1–4 items; ** = 5–19 items; *** = 20–49 items; **** = 50–99 items; ***** = >100 items, Sab/f = small animal/fish bone, Moll-t = land snails

APPENDIX 12: MARINE SHELL BY SARAH WYLES

A total of 26 shells, representing 20 minimum number of individuals, were collected from period 3 post-medieval layer 106 and from fill 255 of period 2 mid-late medieval posthole 268. All the shells have been tabulated by species and context in Table 22. All of the marine shells recovered were those of oyster (*Ostrea edulis*). These were recorded as measurable and unmeasurable left and right valves. Right valves were more numerous than left valves and the shells were well preserved with more being measurable than not.

The oyster shells were examined in more detail for traces of infestation and physical characteristics. The shells were generally well shaped, indicative of shells from a laid oyster bed with space for the shells to grow. One left valve had a misshapen heel. Some of the shells showed traces of infestation by the polychaetic worm *Polydora ciliata*, a species which is widespread and is most prevalent on hard, sandy or clay grounds particularly in warm shallow water. Calcareous tubes left by polychaetic worms, such as *Pomatoceros triqueter* and *Hydroides norvegica*, were observed on a few of the shells. Notches caused by the opening of shells ready for consumption were visible on a number of shells.

Statement of Potential and Recommendations for Further Work

The assemblage is too small to draw any clear conclusions about the nature and likely source of the oyster bed. No further work is proposed on this small assemblage.

References

Barrett, J.H and Yonge, C.M. 1958 *Collins pocket guide to the Sea Shore*, London, Collins

Yonge, C.M. 1960 *Oysters*, London, Collins

Table 22: Marine shell quantification

Context	Featur	Feature type	Oyster					Comments
			L	UML	R	UMR	Total (MNI	
106		layer	1	1	19	0	19	Notches, chalky deposits, oyster spats attached on two shells, Calcareous tubes on one shell, two shells infested by *Polydora ciliata,* one irregular heel on left valve
255	268	posthole	0	1	0	0	1	Traces of infestation - *Polydora ciliata*

Key: LV = left valve, UMLV = unmeasurable left valve, RV = right valve, UMRV unmeasurable right valve, MNI = minimum number of individuals

APPENDIX 13: OASIS REPORT FORM

PROJECT DETAILS	
Project Name	Primark, 78 Eden Street, Kingston-upon-Thames
Short description	A programme of archaeological investigation was undertaken by Cotswold Archaeology from April 2016 to January 2017 at the request of RG Group, on behalf of Primark, at 78 Eden Street, Kingston-upon-Thames (NGR: 518185 169235). An area of 0.07ha was excavated across the development area. The excavation identified two late post-medieval buildings and yard surfaces immediately pre-dating the meeting house, which were likely to have formed part of the post-medieval Eden Street frontage. Following the excavation and removal of the late post-medieval structures and deposits, a number of large square postholes possibly forming some sort of structure were identified in the north-western corner of site. Located towards the centre of the site a small circular cesspit or toilet was recorded, which contained possible evidence of a wicker lining. The pit cut through and post-dated one of several medieval ditches, the function of which are unknown but are multiple phases of the same boundary or drainage ditch. A large ditch, orientated approximately east to west, was recorded running close to the northern boundary of the site on a north-west to south-east alignment. The ditch was the earliest feature on site and dates to the Anglo-Saxon period. The ditch contained large amounts of animal bone, pottery and metal slag material and is possibly part of a larger boundary ditch. The watching brief identified one post-medieval well and the continuation of the Saxon ditch found during the excavation. It also recovered the remains of 17 Modern Quaker burials found in the eastern half of the site.
Project dates	March 216 to February 2017
Project type	Excavation and Watching Brief
Previous work	Desk Based Assessment (CgMs 2011)
Future work	Unknown
PROJECT LOCATION	
Site Location	78 Eden Street, Kingston-upon-Thames, Greater London
Study area (M^2/ha)	0.072 Ha
Site co-ordinates	518185 169235
PROJECT CREATORS	
Name of organisation	Cotswold Archaeology
Project Brief originator	
Project Design (WSI) originator	Cotswold Archaeology
Project Manager	Damian De Rosa and Karen Walker
Project Supervisor	Oliver Good
MONUMENT TYPE	

SIGNIFICANT FINDS		
PROJECT ARCHIVES	Intended final location of archive (museum/Accession no.)	
Physical		Pottery, animal bone, CBM, glass, coins, flint clay tobacco pipe, slag, worked bone, cu alloy, iron, lead
Paper		Context sheets, matrices, drawing sheets
Digital		Database, digital photos, survey
BIBLIOGRAPHY		

CA (Cotswold Archaeology) 2017 Primark, 78 Eden Street, Kingston-upon-Thames, Post-Excavation Assessment Report and Updated Project Design (October 2017)

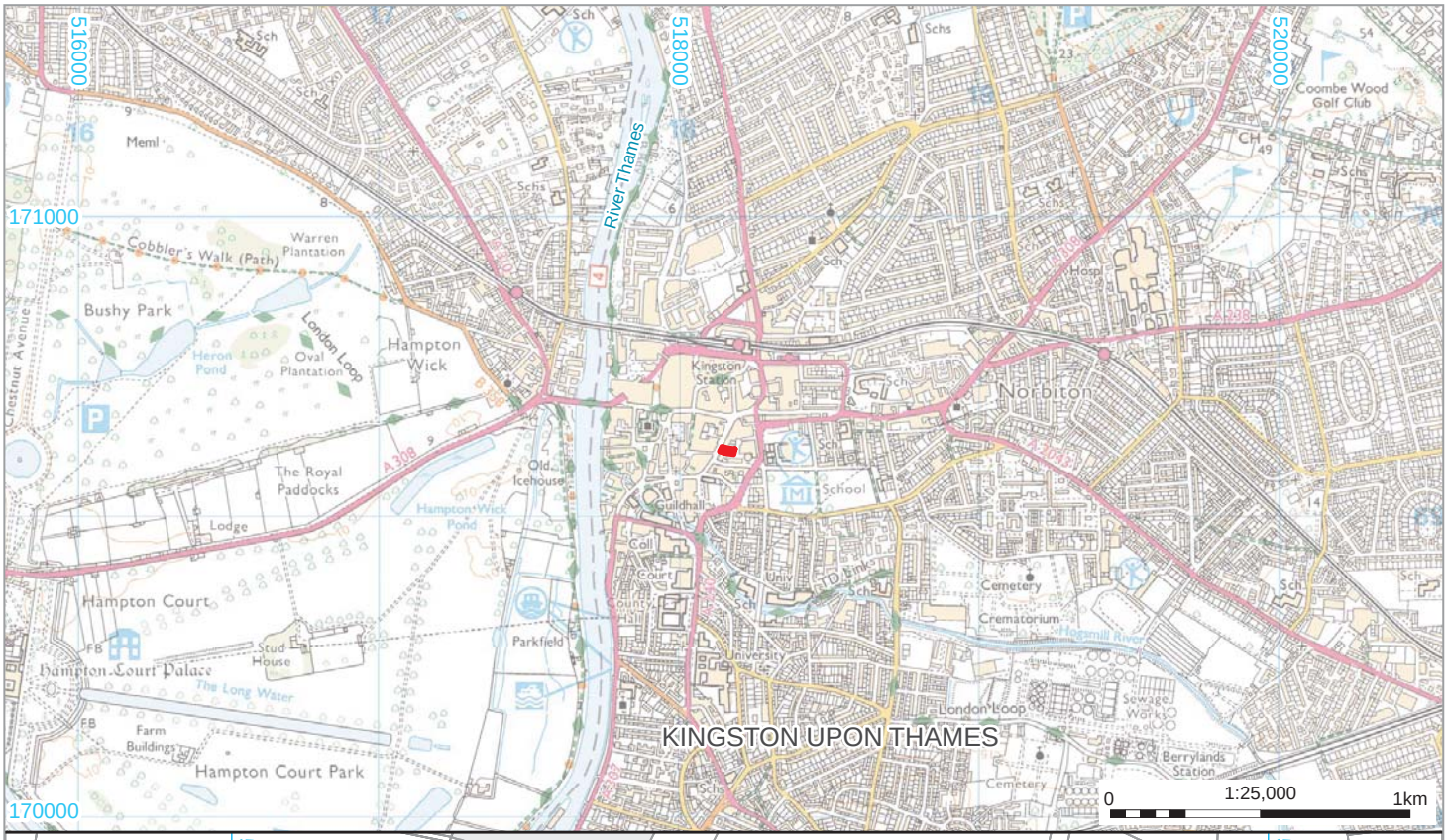
CA (Cotswold Archaeology) 2016a Primark, 78 Eden Street, Kingston-upon-Thames Written Scheme of Investigation for an Archaeological Strip, Map and Record Excavation (March 2016)

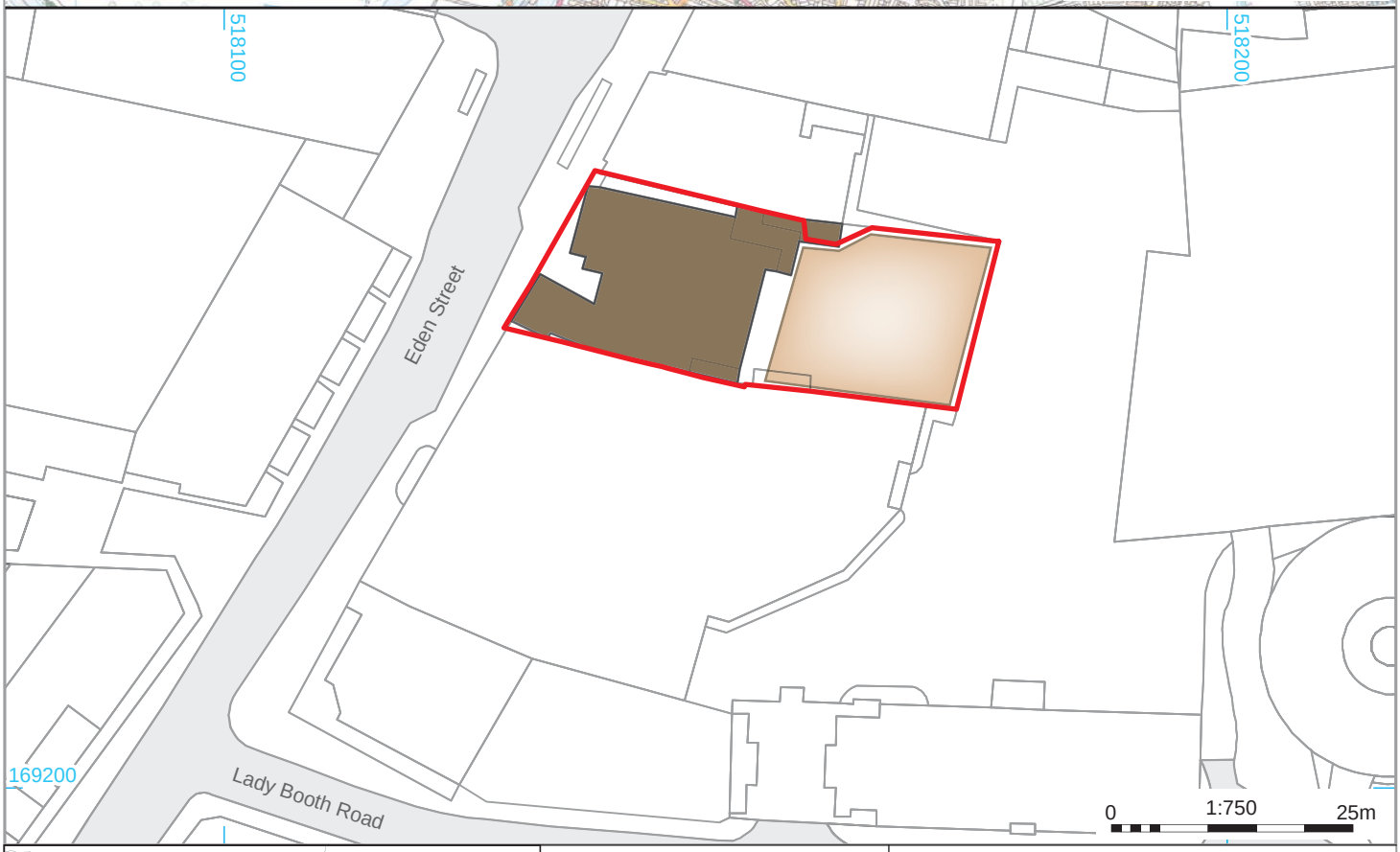
CA (Cotswold Archaeology) 2016b 78 Eden Street, Kingston-upon-Thames. Addendum to approved Written Scheme of Investigation for Excavation (June 2016)

CgMs Consulting 1998 Archaeological Desk-based Assessment, 78 Eden Street, Kingston-upon-Thames (Friends Meeting House)

CgMs Consulting 2005 Archaeological Desk-based Assessment, 78 Eden Street, Kingston-upon-Thames (Friends Meeting House), Revised May 2005

CgMs Consulting 2011 Archaeological Desk-based Assessment, 78 Eden Street, Kingston-upon-Thames (Friends Meeting House) Revised December 2011





N

The site

Former Friend Meeting House buildings

Former Burial Ground

Cotswold Archaeology

Andover 01264 347630
Cirencester 01285 771022
Exeter 01392 826185
Milton Keynes 01908 564660
w www.cotswoldarchaeology.co.uk
e enquiries@cotswoldarchaeology.co.uk

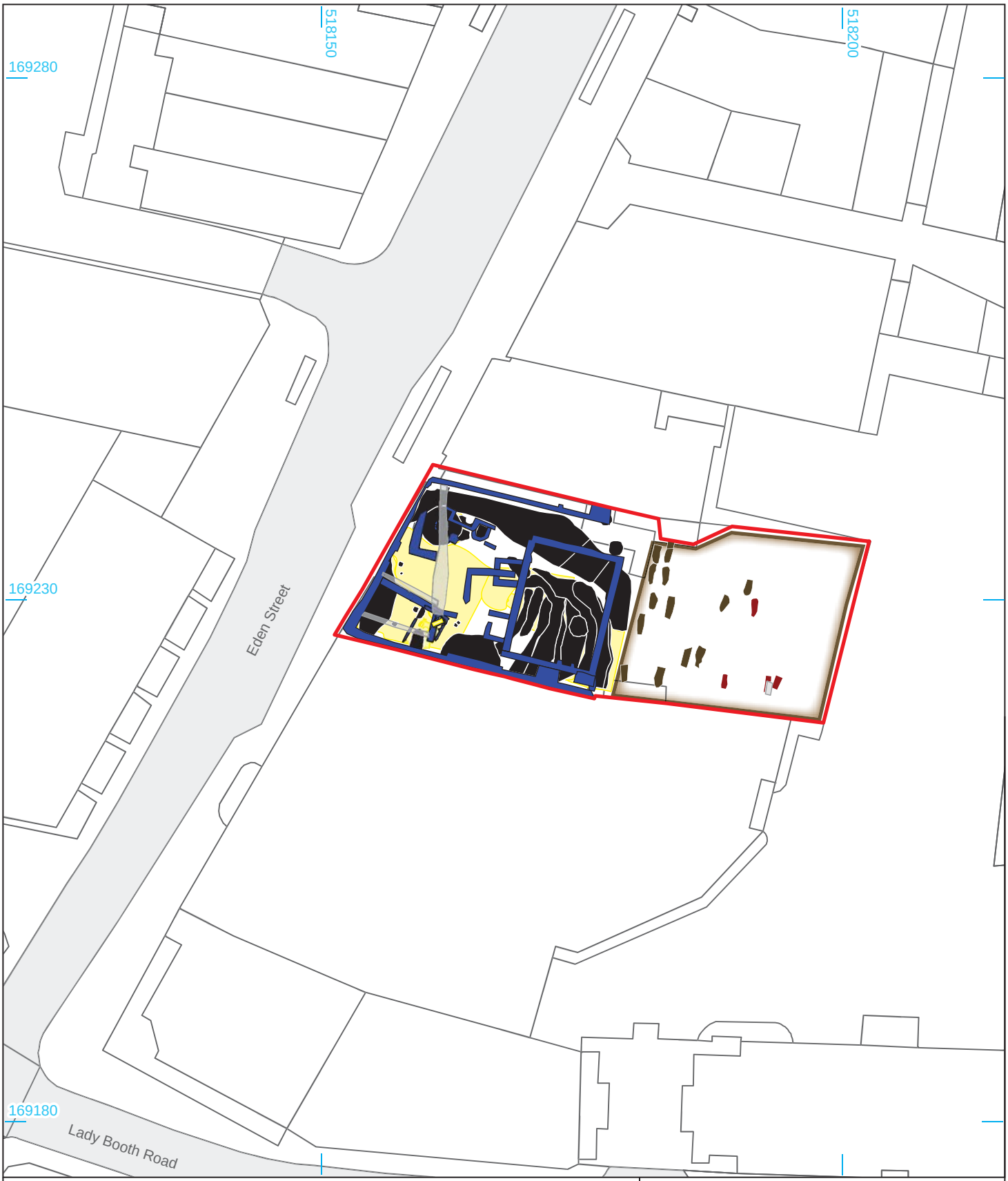
PROJECT TITLE

Primark, 78 Eden Street, Kingston, Greater London

FIGURE TITLE

Site location plan

DRAWN BY	EE	PROJECT NO.	779021	FIGURE NO.
CHECKED BY	DJB	DATE	21/08/2017	1
APPROVED BY	KW	SCALE@A4	1:25,000	



Site boundary

Burial ground

Burial excavated by CA

Burial exhumed 2016-17 during construction works

Archaeological feature

Structure

Layer

Modern

N

0 1:500 25m

Cotswold Archaeology

Andover 01264 347630
Cirencester 01285 771022
Exeter 01392 826185
Milton Keynes 01908 564660
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e enquiries@cotswoldarchaeology.co.uk

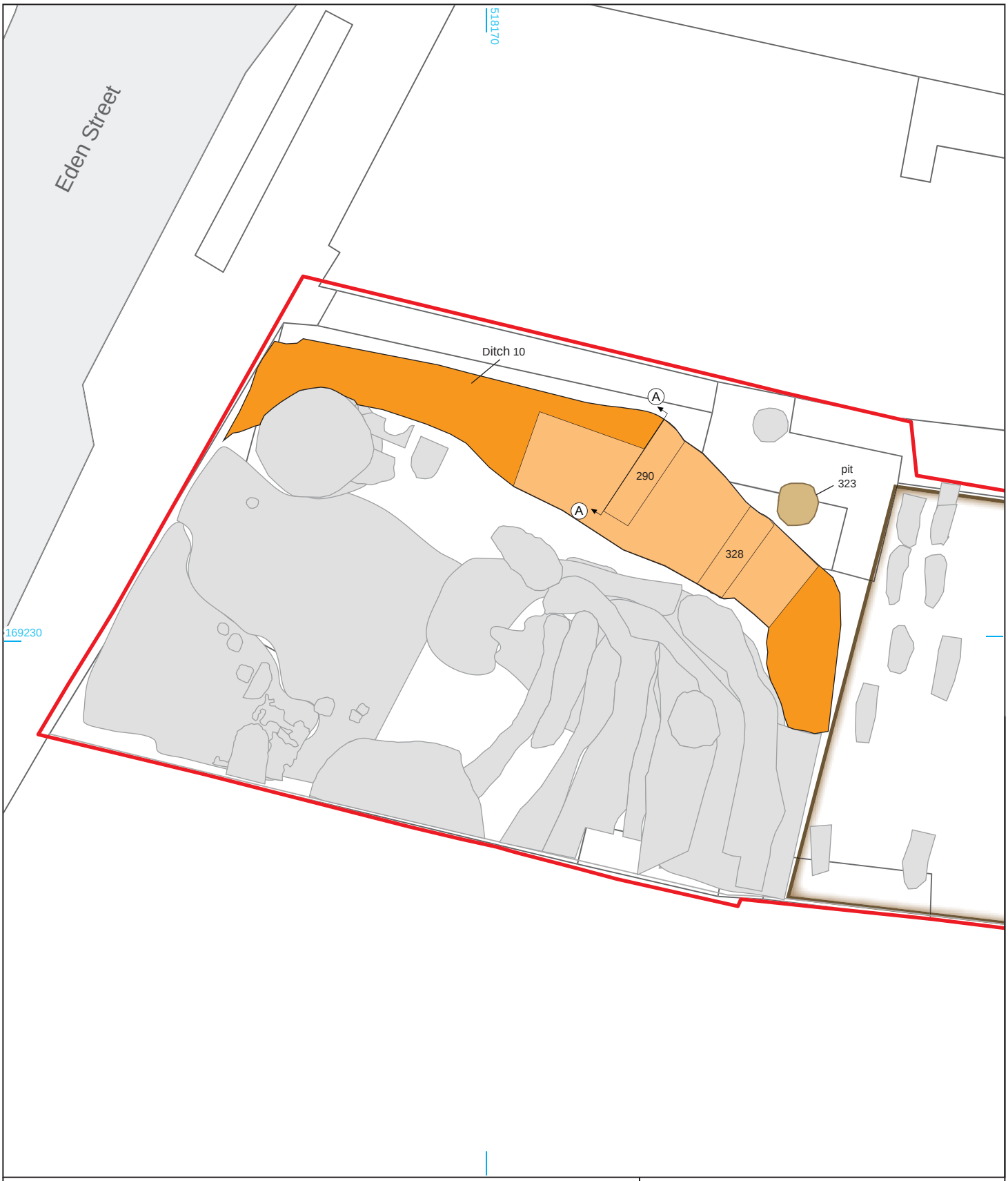
PROJECT TITLE

Primark, 78 Eden Street, Kingston, Greater London

FIGURE TITLE

Plan of site

DRAWN BY	EE	PROJECT NO.	779021	FIGURE NO.
CHECKED BY	DJB	DATE	04/09/2017	2
APPROVED BY	KW	SCALE@A4	1:500	



Site boundary

Phase 1 - Anglo-Saxon
(excavated/unexcavated)

Unphased

Other phases

Section location

N

0 1:200 10m

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Primark, 78 Eden Street, Kingston, Greater London

FIGURE TITLE

Phase 1 - Anglo-Saxon

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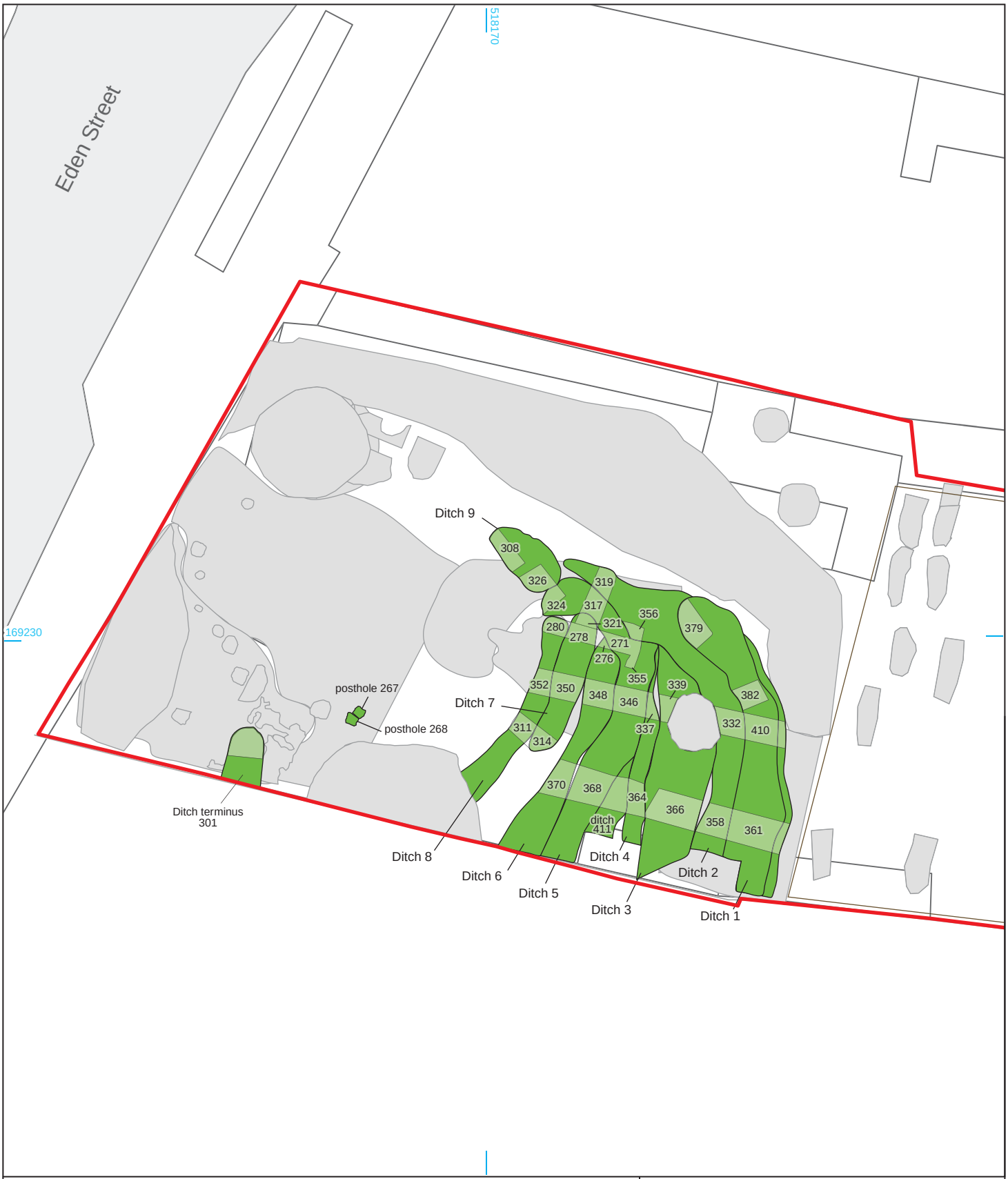
APPROVED BY	**KW**	*SCALE@A4*	**1:200**	



Site boundary

Phase 2 - Medieval
(excavated/unexcavated)

Other phases

Section location

N

0 1:200 10m

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FIGURE TITLE
Phase 2 - Medieval 13-15th Century

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APPROVED BY	KW	SCALE@A4	1:200	

Site boundary

Phase 3.1 - Early Post Medieval
(excavated/unexcavated)

Other phases

Section location

N

0 1:200 10m

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FIGURE TITLE
Phase 3.1 - Early Post Medieval

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APPROVED BY	KW	SCALE@A4	1:200	

Site boundary

Phase 3.2 - Early Post Medieval

Other phases

N

0 1:200 10m

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FIGURE TITLE

Phase 3.2 - Early Post Medieval

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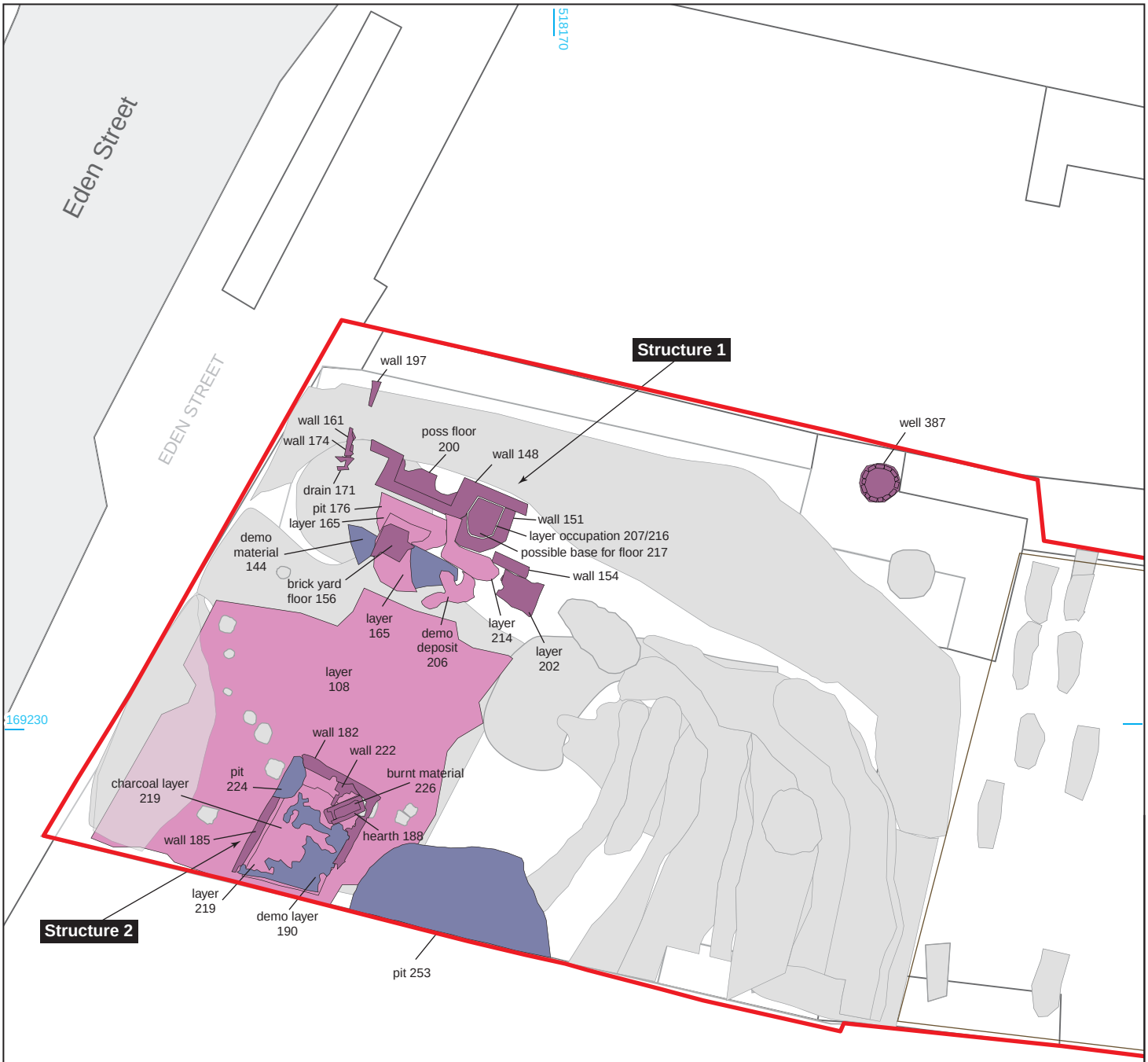
APPROVED BY	KW	SCALE@A4	1:200	



Site boundary

Phase 4.1 - Late Post Medieval

Phase 4.2 - Late Post Medieval

Phase 4.3 - Late Post Medieval

Other phases

N

0 1:200 10m

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FIGURE TITLE

Phases 4.1, 4.2 and 4.3 - Late Post Medieval

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518150

518170

518190

169250

169230

EDEN STREET

Car Park

pipe trench

wall 103

wall 130

wall 138

wall 127

pipe trench

wall 115

pipe trench

wall 124

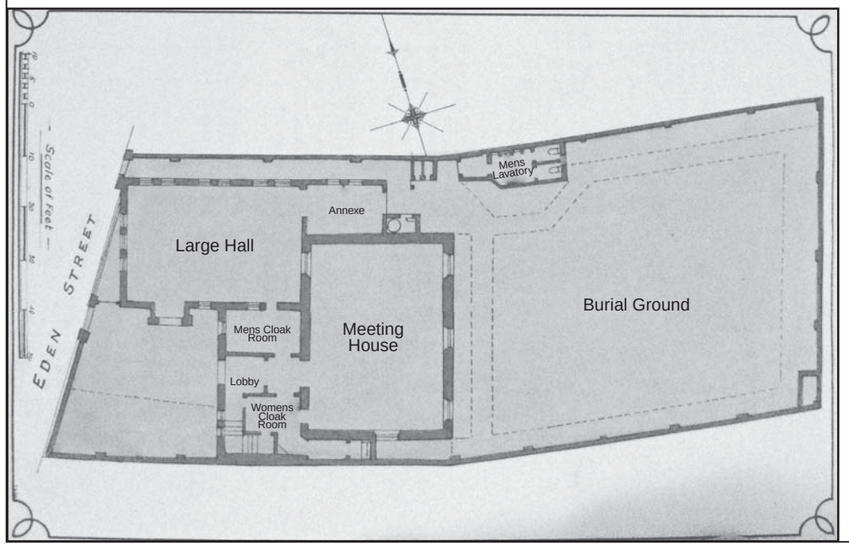
grave 415

grave 396

grave 418

grave 393

Quaker Grave Yard 392



Plan of the Meeting House from a Deed, dated 19th June 1946, kindly supplied by Graham Torr

N

Site boundary

Quaker Grave Yard

Burial excavated by CA

Burial exhumed 2016-17

Phase 5 - Modern

Other phases

0 1:200 10m

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FIGURE TITLE

Phase 5 - 18th Century to Modern

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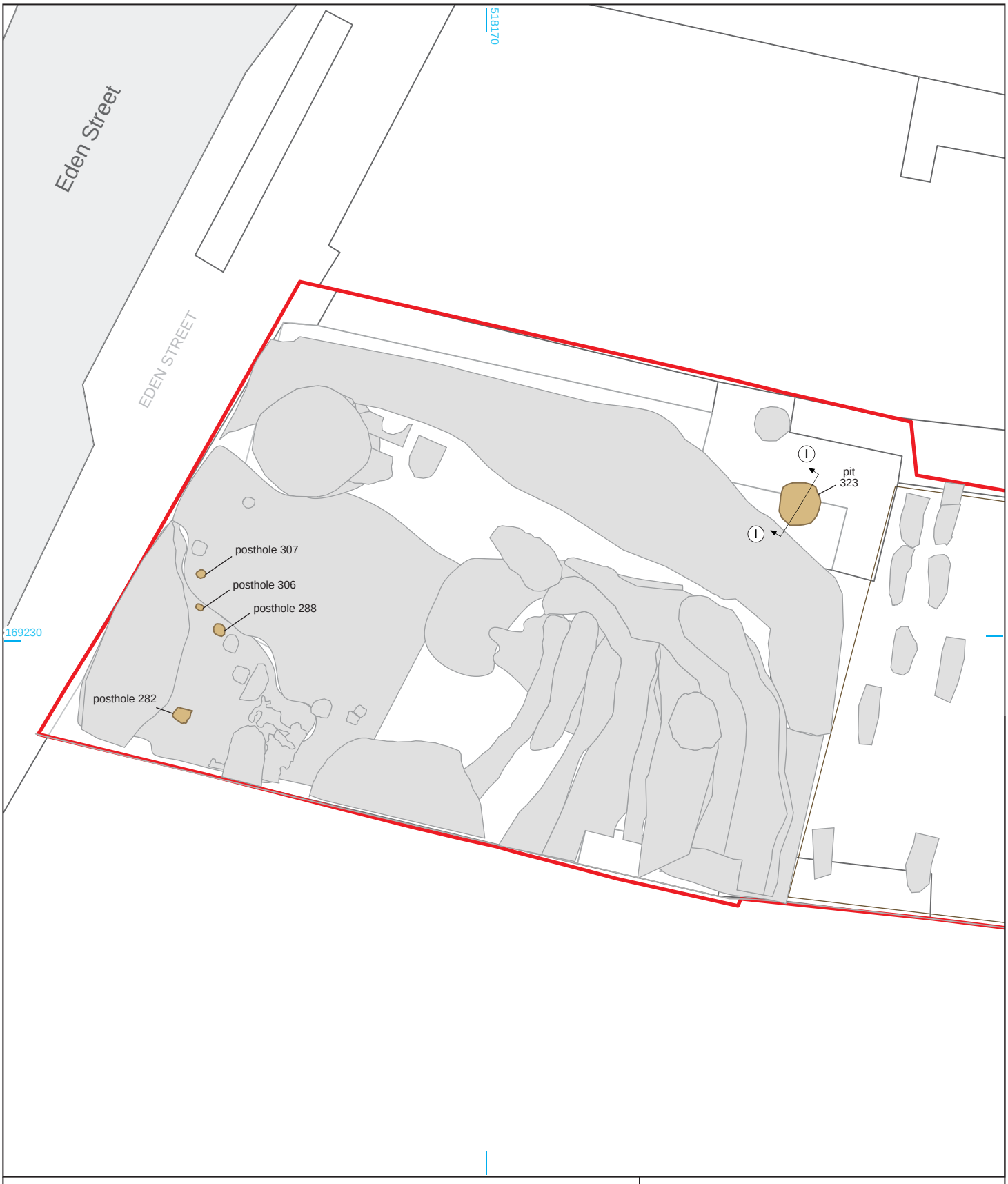
APPROVED BY	**KW**	*SCALE@A3*	**1:200**	



Site boundary

Unphased

Other phases

Section location

N

0 1:200 10m

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FIGURE TITLE

Unphased

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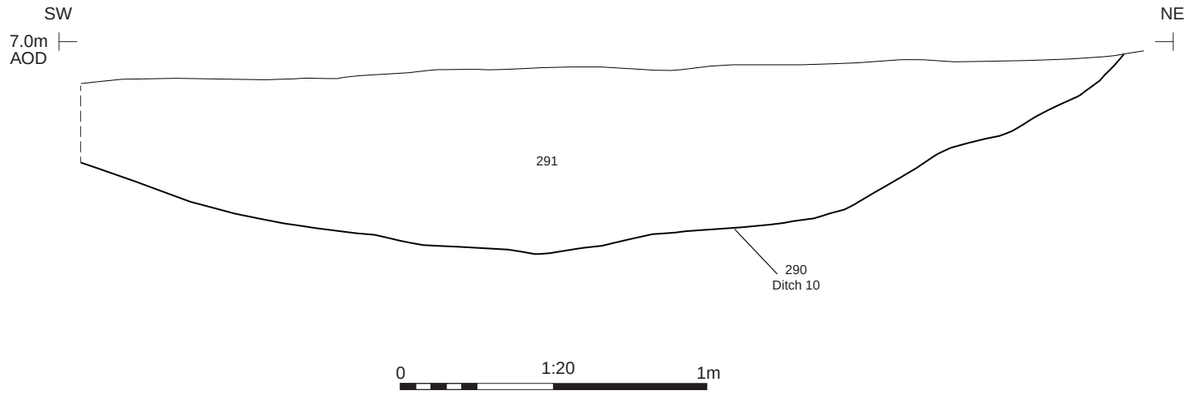
APPROVED BY	KW	SCALE@A4	1:200	

Section AA



Anglo-Saxon Ditch 10, looking north-west (2m scale)

Post excavation of Anglo-Saxon Ditch 10, looking north-west (1m and 2m scale)

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FIGURE TITLE

Anglo-Saxon Ditch 10, section and photograph

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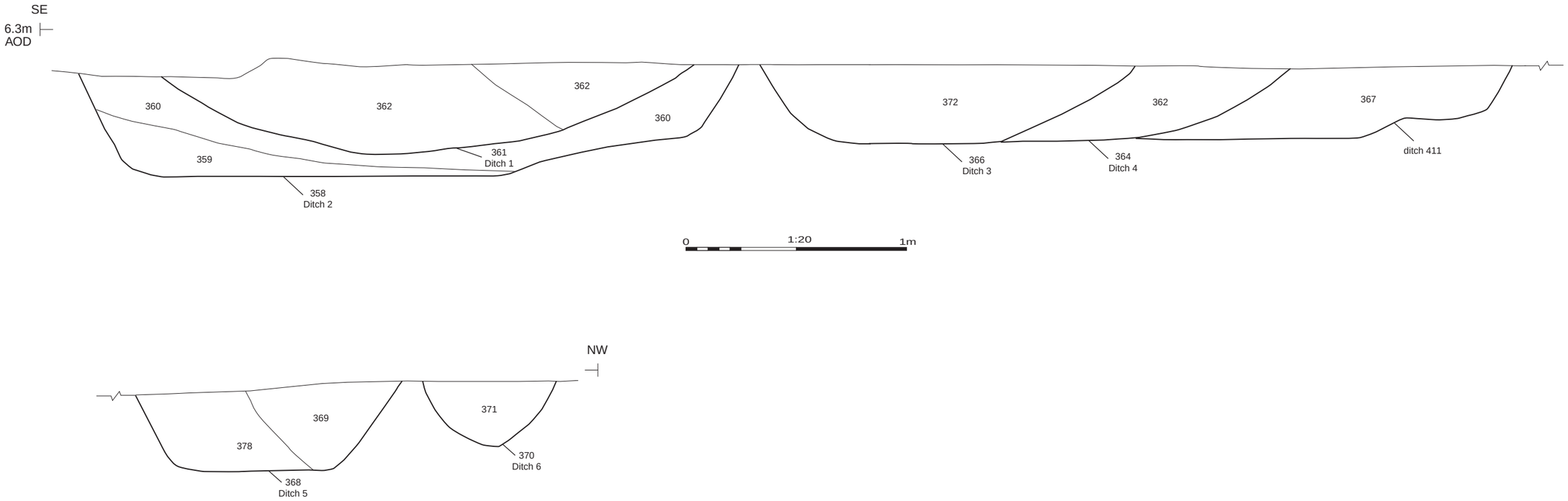
APPROVED BY	**KW**	*SCALE@A3*	**1:20**	

Section BB



Ditches 1 to 6 (361, 358, 366, 364, 368 and 370), looking south-west (2m scales)

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FIGURE TITLE
Ditches 1 to 6, section and photograph

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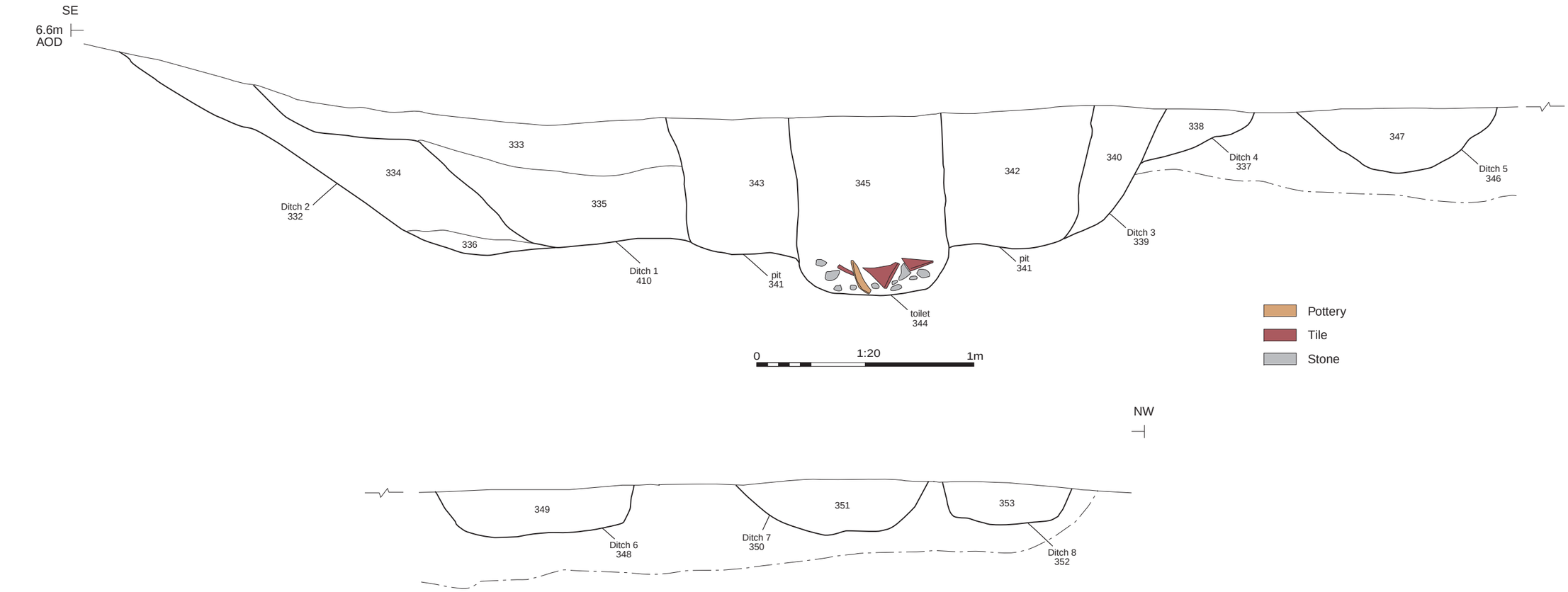
Section CC



Ditches 1 to 8 (410, 332, 339, 337, 346, 348, 350 and 352), looking south-west (2m scales)

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FIGURE TITLE

Ditches 1 to 8, section and photograph

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Toilet 344, looking south-west (1m and 0.3m scale)

Ditch terminus 301, looking south-west (1m scale)

Overhead photograph of ditches 1 to 9, looking north-east (1m and 2m scale)

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FIGURE TITLE

Photographs

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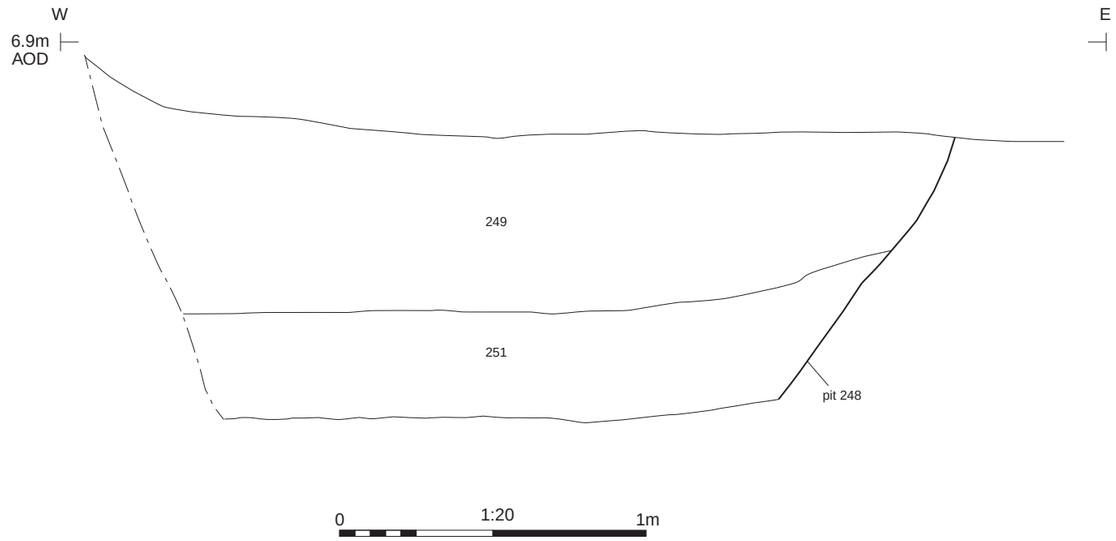
APPROVED BY	**KW**	*SCALE@A3*	**NA**	

Section DD



Pit 248, looking north-east (2m scale)

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FIGURE TITLE

Pit 248, section and photograph

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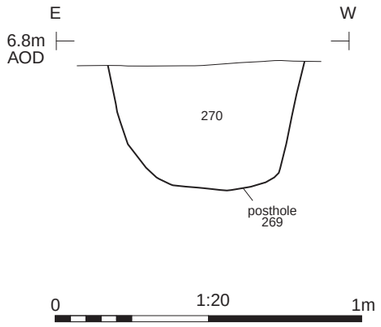
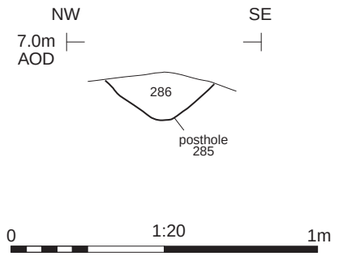
Section EE



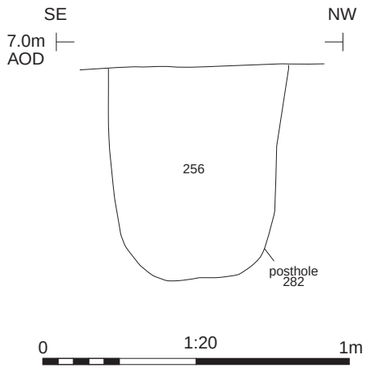
Posthole 269, looking south (0.3m scale)

Section GG



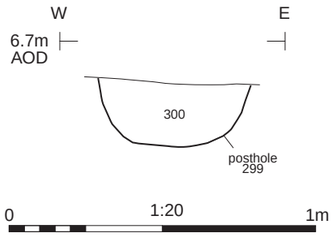
Posthole 285, looking north (0.3m scale)

Section FF



Posthole 282, looking south (0.3m scale)

Section HH



Posthole 299, looking north (0.3m scale)

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Postholes, sections and photographs

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Layer 246, looking south-west (1m and 2m scale)

Layer 247, looking north-west (1m and 2m scale)

Overhead photograph of site, looking north-east (1m and 2m scale)

Well pit 238, looking north-west (1m and 2m scale)

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FIGURE TITLE

Photographs

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APPROVED BY	**KW**	*SCALE@A3*	**NA**	

Pre-excavation photograph of Structure 2, looking north-west (1m and 2m scale)

Post-excavation photograph of Structure 2, looking south-west (1m and 2m scale)

Post-excavation photograph of Structure 2 showing wall 222 and hearth 188 in detail.

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FIGURE TITLE

Structure 2, photographs

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Structure 1: walls 161 and 174, and drain 171, looking west (1m scale)

Wall 197 in northern corner of Structure 1, looking north-west (0.5m scale)

Overhead Structure 1 photograph, looking south-west (1m and 2m scales)

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FIGURE TITLE

Structure 1, photographs

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APPROVED BY	**KW**	*SCALE@A3*	**NA**	

Pre-excavation photograph of Structure 1 showing brick yard surface 156, demolition material 165 and well 168 looking south-west (1m and 2m scales)

Overhead photograph of well 387, looking south-west (1m scale)

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FIGURE TITLE

Photographs of wells 168 and 387

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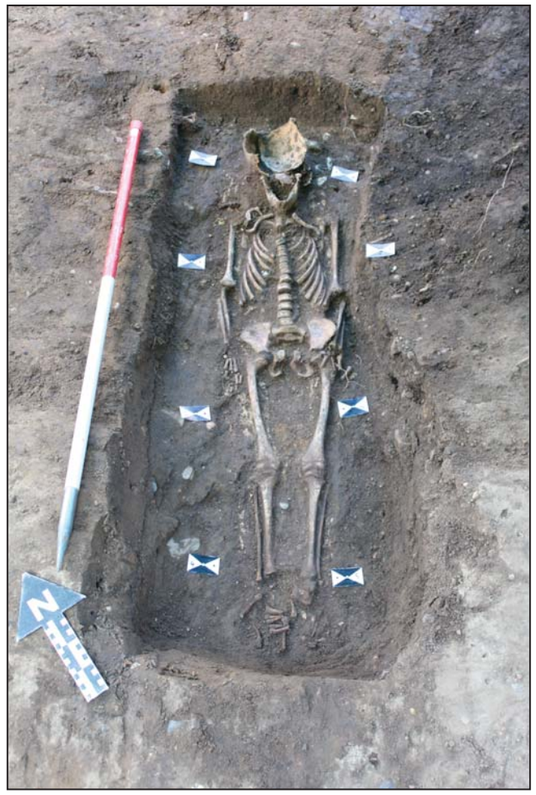
APPROVED BY	**KW**	*SCALE@A4*	**NA**

FIGURE NO.

19

Grave 393,
looking north-east (1m scale)



Grave 396,
looking north-east (1m scale)

Grave 415,
looking south-west (2m scale)

Grave 418 and modern grave digger trench 421,
looking north-east (2m scale)

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FIGURE TITLE

Grave photographs

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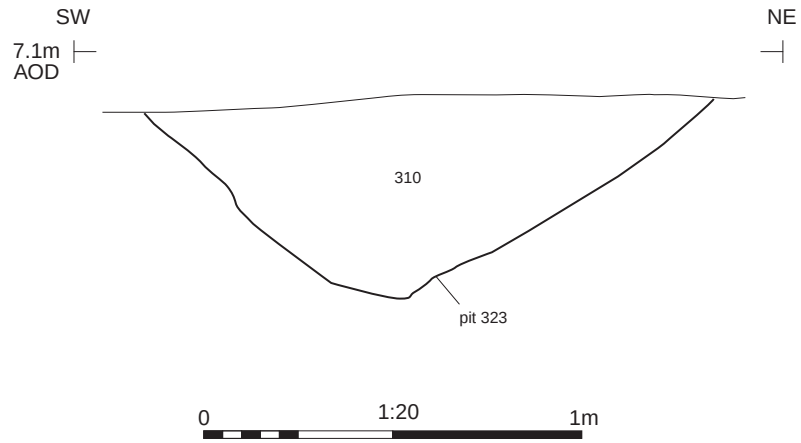
APPROVED BY	**KW**	*SCALE@A3*	**NA**	

Section I I



Pit 323, looking north-west (1m scale)

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Pit 323, section and photograph

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FIGURE NO.

21

Photograph showing the excavation of Structure 1

Photograph showing the excavation of Structure 2

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FIGURE TITLE

Photographs of works on site

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1

Breastplate for William Wilkins

2

Breastplate for Elizabeth Long

3

Breastplate for Samuel Fry

4

Breastplate for John Harris

5

Breastplate for Frederick Willis

6

Blank breastplate

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FIGURE TITLE
Photographs

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APPROVED BY	KW	SCALE@A3	NA	

7

Grave 396 (SK 398), fill 397; three small grips, one partial grip, eleven nails and two screws

8

Fill 402; grip

9

Fill 409; grip

10

Fill 394 (grave 393, SK 395); iron object

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FIGURE TITLE

Photographs

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APPROVED BY	**KW**	*SCALE@A3*	**NA**	

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