



UNIVERSITY OF
LEICESTER

Archaeological Services

**An Archaeological Evaluation at
132-144 Highcross Street, Leicester.**

NGR: SK 58189 04445

By Dr Gavin Speed



ULAS Report No 2018-048


© ULAS 2018

**An Archaeological Evaluation at
132-144 Highcross Street,
Leicester**

NGR: SK 58189 04445

Dr Gavin Speed

For: Living Choice Investments Ltd

Filename/Version	Checked by	Date
2018-048	 Richard Buckley	13/04/2018

University of Leicester

Archaeological Services

University Rd., Leicester, LE1 7RH

Tel: (0116) 2522848 Fax: (0116) 2522614

ULAS Report Number 2018-048

©2018

YA.3.2018

CONTENTS

Summary	6
1. Introduction	6
2. Site Description, Topography and Geology	6
3. Historical and Archaeological Background	8
3.1 Prehistoric	9
3.2 Roman	9
3.2 Anglo-Saxon to medieval	10
3.3 Post-medieval (AD 1475-1799)	12
3.4 19th century to present	12
4. Aims and Objectives	13
5. Methodology	18
6. Results	19
6.1 Trench 1	19
6.2 Trench 2	28
6.3 Trench 3	32
6.4 Trench 4	40
7. Finds & Environmental Evidence	49
7.1 The Roman Pottery (by Elizabeth Johnson)	49
Assemblage size and condition	49
Methodology	49
Results	50
Statement of Potential	52
References	52
7.2 The medieval and post-medieval pottery and ridge tile (by Deborah Sawday)	53
Introduction and overview	53
Condition	53
Discussion	54
Conclusion	54
References	55
7.6 The Small Finds (by Nicholas J. Cooper & Richard Buckley)	55
Introduction	55
Catalogue	55
Statement of Potential	57
References	57
7.7 The Roman Building Materials (by Jennifer R. McNulty)	57
Roman ceramic building material	58
Tesserae	59
Construction Stone	59
Potential	59
Reference	59
7.8 Painted Wall Plaster (by Heidi Addison)	59
7.9 Industrial Residues (Heidi Addison)	60
7.10 Animal Bone (by Will Johnson)	60
Introduction	60
Provenance and dating	60
Methodology	60

Results.....	61
Discussion.....	68
7.9 Charred Plants Remains (Adam Santer & Rachel Small).....	70
Introduction.....	70
Methodology.....	70
Results.....	70
Discussion.....	71
Statement of Potential.....	71
Bibliography.....	72
8. Discussion.....	73
Archaeological Survival.....	73
Roman.....	73
Medieval and Post-Medieval Period.....	75
Archaeological Impact Assessment.....	75
North area 136-144 Highcross Street.....	75
South area 132-134 Highcross Street.....	77
9. Conclusion.....	78
10. Archive.....	78
11. Publication.....	78
12. Bibliography.....	79
13. Acknowledgements.....	80

FIGURES

Figure 1: Site location within the UK, county of Leicestershire.....	7
Figure 2: View of mid 19th century buildings at 132-134 Highcross Street (sketch by John Flower c.1850).....	13
Figure 3 Location of trial trenches.....	19
Figure 4: Plan of Trench 1.....	21
Figure 5: Section 1, Trench 1, showing Roman street, looking west.....	22
Figure 6: Section 2, Trench 1, showing Roman street, looking east.....	23
Figure 7: Section 3, Trench 1, showing Roman wall and layers, looking north.....	24
Figure 8: View of brick cellar at no.142 Highcross Street, looking NW, 1m scale.	25
Figure 9: View of brick cellar at no.142 Highcross Street, looking west.....	25
Figure 10: View of stone wall [10], (8), and sand / gravel layers (13) and (14) in trench section. Note removed brick cellar walls visible on right (looking north),	26
Figure 11: Left: mortar floor (6), and brick wall (17) behind, looking east. Right: mortar floor looking south, note stone wall (7) towards top of section. Both 1m scale.....	26
Figure 12: Worked stone blocks from No.142 Highcross Street (1m scale).....	27
Figure 13: Roman street under No.140 Highcross Street (looking NE and E).....	27
Figure 14: View of Roman street in Trench 1, note camber on left. Gravels truncated by brick and stone cellars on either side. Looking west, 1m scale.	28
Figure 15: Plan of Trench 2.....	29
Figure 16: Section 4, Trench 2 north side.....	30
Figure 17: Section 5, Trench 2 south side.....	31
Figure 18: Trench 2, brick cellar wall removed, showing Roman soils below medieval / post-medieval soils, looking NE, 1m scale.....	32
Figure 19: Plan of Trench 3.....	34
Figure 20: Section 6 (photogrammetry & interpretation), Trench 3, west-side.....	35

Figure 21: Section 7 (photogrammetry & interpretation), Trench 3, east-side.....	36
Figure 22: View of brick cellar, Trench 3, looking NW, 1m scale.....	37
Figure 23: View of brick cellar, Trench 3, looking NW, 1m scale.....	37
Figure 24: View of wall trench [52], road gravels (43) on right, layers including floor (55) on left, looking west, 1m scale.....	38
Figure 25: View of pit [87], prior to excavation cutting into Roman street (43). Looking east, 1m scale.....	38
Figure 26: View of NE corner of Trench 3, looking east towards Trench 4 (partly excavated), 1m scales.....	39
Figure 27: View of Trenches 3 and 4 in relation to the wider setting.....	39
Figure 28: Plan of Trench 4.....	42
Figure 29: Section 8, Trench 4, north-side.....	43
Figure 30: Sections on side of robber trench [68], Trench 4.....	44
Figure 31: View of Trench 4, working shot after initially opened.....	45
Figure 32: View of <i>opus signinum</i> floor (60), looking south, 1m scales.....	45
Figure 33: View of Trench 4, looking west, 1m scale.....	46
Figure 34: Left: view of demolition layer (80) sample excavated, right: revealing well preserved <i>opus signinum</i> floor (79).....	46
Figure 35: View of <i>opus signinum</i> floor (79), note quarter round moulding on left and robber [68] on right, looking south.....	47
Figure 36: View of <i>opus signinum</i> floor (79), note quarter round moulding on right and robber [68] on left, looking north-east.....	47
Figure 37: Left: robber trench [68], Right: detail of edge of robber [68] and of <i>opus signinum</i> floor (79), note edge of wall plaster.....	48
Figure 38: View of painted quarter round moulding between floor <i>opus signinum</i> (79) and wall (69).....	48
Figure 39: 1st century AD continental one-piece brooch, SF1 context (62).....	56
Figure 40: Saxo-Norman spindle whorl, SF9, context (88).....	57
Figure 41: organic impressions on underside of imbrex.....	58
Figure 42: Roman phase evidence in relation to known Roman buildings / streets in surrounding area.....	74
Figure 43: Medieval / post-medieval evidence in relation to 1888 Ordnance Survey map.....	75
Figure 44: Profile along Trench 4 (including part of Trench 1 & 3).....	76
Figure 45: Proposed development plan.....	76
Figure 46: Photos of mosaic fragments from 1928 excavation at 132 Highcross Street (from HER archives, photos by Mark Evans LCC).....	77

TABLES

Table 1: Summarised Leicestershire Roman pottery fabric series.....	49
Table 2: Quantified Roman pottery.....	49
Table 3: The medieval pottery and ridge tile site totals by fabric, sherd number, weight (grams), minimum vessel count and average sherd weight (ASW).....	53
Table 4: The medieval pottery and ridge tile by context, fabric/ware, number and weight (grams).....	54
Table 5: tesserae by context, count and weight.....	59
Table 6 Painted wall plaster.....	59
Table 7 Number/percentage of bone fragments by context.....	60
Table 8: Number of hand-recovered bones in each context.....	62

Table 9: NISP and %NISP for the assemblage	62
Table 10: Number of specimens by species and element	63
Table 11 Epiphyseal fusion data, ages in months, based on table from Reitz and Wing (2008: 72).....	64
Table 12: Description of type, location and action that caused butchery marks on specimens.....	66
Table 13: Charred plant remains present in samples. Key: <i>C = plants of cereal fields; G = grassland; S = shrubbery; W = woodland; V = various habitats.</i>	71

An Archaeological Evaluation at 132-144 Highcross Street, Leicester.

Dr Gavin Speed

Summary

University of Leicester Archaeological Services (ULAS) carried out an archaeological field evaluation by trial trenching on part of a site at 132-144 Highcross Street, Leicester (SK 58189 04445).

The investigation revealed significant archaeological evidence, consisting of a Roman street, along with at least two large Roman buildings. The one on the north of the street contained two rooms with remarkably well preserved opus signinum floors and painted quarter-round mortar mouldings at the wall/floor junction. Another Roman building to the south of the street contained a sunken-floored room, perhaps evidence for a hypocaust. Medieval evidence consisted largely of garden soils and backyard pits. Elsewhere Victorian brick cellars removed most of the street frontage remains, with the exception of some stone walls behind the brick walls in places.

The site archive will be held by Leicester Arts and Museums Service, under accession number YA.3.2018.

1. Introduction

This report provides details of the results of an archaeological field evaluation by trial trenching of part of a site at 132-144 Highcross Street, Leicester (SK 58189 04445) in February 2018. Planning permission is to be sought for the construction of a mixed use 6-8 storey building, mainly shops at street level with apartments above (Figure 45). In view of the fact that the proposed development lies in an area of high archaeological potential for remains of the Roman and medieval period in particular, in accordance with National Planning Policy Framework (NPPF) Section 12 *Conserving and Enhancing the Historic Environment*, the Planning Authority required trial trenching initially to provide preliminary indications of the character and extent of any heritage assets present. This information would then enable an assessment to be made of the impact of the development on such remains and determine the need for any further archaeological work. The methodology for the evaluation was detailed in a Written Scheme of Investigation (Speed 2018) which was approved by the planning authority before work commenced.

2. Site Description, Topography and Geology

The Site lies on the western side of Highcross Street, on the opposite side of the road to the church and churchyard of All Saints'. The currently unoccupied (but under redevelopment) site of the former Maxim and Stibbe building lies directly to the south surrounded by timber hoardings. To the north is a small rectangular area currently in use to house site cabins for the nearby development at the former All Saints Brewery site, which lies opposite the site to the south-east. The Site contains a small garage building and another adjacent structure at the southern end of the site. To the north is a temporary structure and an area of hard standing used as a car wash. The northern part of the site is a car park. The area is open to the street frontage although the car park and car wash sites are bordered by metal fencing. The rear of the site, to the west, is partially surrounded by a brick wall, which may be Victorian. The Site area is 1648 m². The northern half of the site (the car park) is the only area currently available for archaeological evaluation by trial trenches (868m²), the southern half (unavailable) is 780m².

The Site lies at a geological interface between glaciofluvial deposits of Bytham sands and gravels in (British Geological Survey, 2013). The land lies at a height of *c.*59 metres OD, Highcross Street slopes downwards from south to north (59.18-58.65 metres OD).

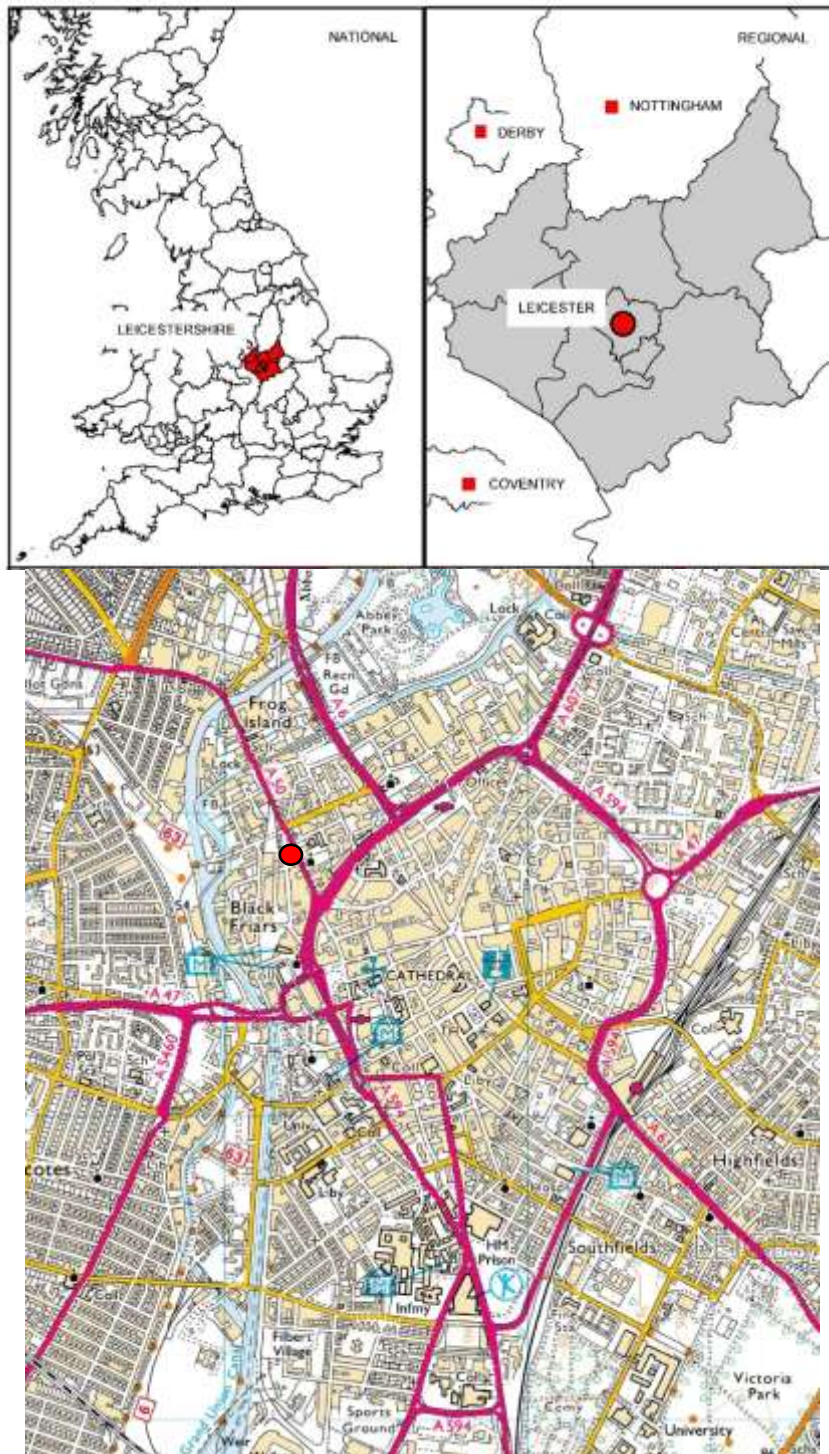


Figure 1: Site location within the UK, county of Leicestershire.

Reproduced from the Explorer 1:25 000 map by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office. © Crown Copyright 2005. All rights reserved. Licence number AL 100029495



Figure 2: Detailed Site location (plan provided by client).

3. Historical and Archaeological Background

The site is located within the walls of Roman and medieval Leicester, on the western side of Highcross Street, once one of the main thoroughfares of the town, and is close to the site of the former north gate. There have been many archaeological investigations in the immediate vicinity, ranging from small watching briefs and evaluations to large, open area-excavations. An evaluation by trial trenching of the former Pretty Legs factory at 71 Great Central Street, just to the north of the assessment area, identified areas of well-preserved Roman and medieval archaeology despite extensive deep cellaring (Thomas 2006). Similarly a small watching brief at 61a Great Central Street identified possible late medieval/early post-medieval deposits (Derrick & Warren 2001). Most importantly in the context of the proposed development, are the large excavations at the former Maxim and Stibbe Buildings, immediately to the south. Trial trenching here in 2001 revealed significant Roman remains surviving between the factory basements (Meek 2001). An open-area excavation was subsequently undertaken in 2016-2017 and revealed some of the most important archaeological remains discovered in this part of the city in recent years including large portions of Roman streets, town houses and other buildings, including walls and highly decorated mosaics, which were lifted and preserved. Medieval activity was also recorded, including evidence for medieval properties fronting on to what is now Highcross Street (Speed 2017, forthcoming).

To the east of the Site, recent excavations of the former All Saints' Brewery site recorded significant survival of Roman archaeology across the site, including parts of a street, evidence of stone and timber buildings, a mosaic pavement, pits and yard surfaces. Medieval archaeology survived to a lesser extent, predominantly in the form of pits and garden soils but close to the Highcross Street frontage was a considerable depth of medieval and post-medieval archaeology including stone boundary walls, a stone cellar and a potential medieval building (Morris 2012 & forthcoming).

Further afield, to the east, were the extensive excavations of the Highcross Retail Quarter: Vine Street, Vaughan Way and Freeschool Lane (Higgins *et. al* 2009; Gnanaratnam 2009; Coward & Speed 2009) and excavations on Blue Boar Lane and Highcross Street (Cooper & Wachter *forthcoming*; Derrick 2005). South of the assessment area is the Jewry Wall site. Seminal excavations here by Kathleen Kenyon in the late 1930s recorded an extensive, very well preserved Roman public bathing complex (Kenyon 1948). To the west, numerous excavations have taken place in the Bath Lane area since the 1950s (Clay & Mellor 1985), the most recent being excavations by ULAS on the former Merlin Works site (Kipling 2008) and at Westbridge Wharf (Cooper 2010); and excavations on Bath Lane and Blackfriars Lane by Birmingham Archaeology (Paul & Mann 2010). There are currently excavations underway at Alexander St (Wardell Armstrong / ULAS). These have all recorded significant Iron Age, Roman and medieval archaeology.

3.1 Prehistoric

The later development of the Roman and medieval town of Leicester has meant that much of the evidence of the prehistoric settlement of the area has been lost or at least severely truncated. There is some evidence for circular Iron Age buildings south of the application area at St. Nicholas Circle (Clay & Pollard 1994; Clay & Mellor 1985). For the most part, evidence for the earlier settlement of the town comes from the discovery of findspots for artefacts, including pre-Roman pottery fragments, metalwork and flan trays found on Blackfriars Street and Bath Lane to the south of the site that may indicate coin manufacture from the Iron Age period (Gnanaratnam 2003; Kipling 2008). The distribution of Iron Age artefacts throughout the town suggests a lowland settlement of around 8 hectares, with high-status settlement and contact with the Roman world before the Roman conquest of Britain in AD 43. Recent archaeological excavations on Bath Lane suggest that the settlement was enclosed with substantial ditches. It would be this settlement that would later become the Civitas Capital (*Ratae Corieltavorum*) during the Roman period (MLC72). There is evidence for Iron Age activity in the vicinity of the assessment area from the excavations beneath a Roman mosaic at Blackfriars and around the Great Central Street area, to the south-west of the assessment area which suggests occupation, metal working and a burial. Within the 150m radius of the site there are two findspots for prehistoric artefacts. These are for two stone axes found in the area round the Great Central Station 120m south-west of the assessment area (MLC618 & MLC870). However, their provenance is unreliable.

3.2 Roman

There is some evidence that a small fortlet was established at Leicester after the Roman conquest (Clay & Pollard 1994). By the early 2nd century A.D, a more formal street pattern appears and this may have been when the Roman town Ratae was established as local tribal capital. Timber buildings have been discovered beneath the later defences of the town suggesting a rapid expansion (Buckley & Lucas 1987; Priest 2005). The town was laid out in rectangular blocks (*insulae*). Evidence for the road system has been found throughout the recent excavations, and 130m to the east of the assessment area. Later in the 2nd century, a major scheme of public and private building was undertaken including the construction of the Forum, the Basilica, the Jewry Wall Baths, the Market Hall (*macellum*), plus a variety of domestic, commercial and industrial premises, including palatial townhouses (e.g. Clay & Mellor 1985; Clay & Pollard 1994; Higgins 2009). There are several town houses recorded from the Blackfriars area to the south-west of the current assessment area indicated by the discovery of mosaic fragments, wall fragments and tessellated floors.

During construction of the Bryant Hosiery factory, opposite Great Central Street Station in 1913, the remains of a Roman pavement were found whilst digging the foundations (SMR ref. LC35 and 708). It was made of brick and stone tesserae bedded on concrete, c.5.5m² in size and lay at a depth of 1.83m beneath the ground surface. The factory was situated within the rear gardens of Nos. 130 and 132 Highcross Street, and fronted onto Great Central Street. (ELC156, Haverfield 1918 Archaeological Journal 75).

In 1923 a chance discovery of a heavily disturbed tessellated pavement led to a small archaeological investigation in 1928 prior to the construction of the garage at 132 Highcross Street. A very disturbed pavement, along with evidence of two possible buildings of Roman date were discovered. It is unclear how much archaeology was investigated and/or destroyed. A plan held in the archives at Jewry Wall (A141 1960), shows an architect's plan of the site dated 1928, that includes the building of No.132 Highcross Street, with what appear to be archaeological findspots indicated on it (see section 8 for full discussion on this).

The recent excavations at the former Maxim and Stibbe building here have revealed very significant Roman remains (Speed 2017). There are also further reports of Roman mosaics at All Saints' Open, 40m north of the site (MLC177), another 110m south-west of the site (MLC175), and 65m south and south-west of the site (MLC157 & MLC160).

The evaluations at the Pretty Legs factory to the north of the site revealed significant evidence for Roman remains including walls, floors, pits, ovens and other features (MLC2471). There is also a report of a large mosaic (the 'Cyparissus Pavement') to have been found on Highcross Street in 1675, although the exact location is contested (MLC1047), and seems likely to have lain further south. Another mosaic was found in 2012 south of All Saints' Church (MLC2429). Further evidence for houses, including tessellated floors were found during the recent excavations at Highcross Street, 50m to the south-east of the assessment area (Morris 2012 and forthcoming).

Further to the south-west of the application area is the site of Blackfriars mosaic (MLC50), which lay at the southern end of the Great Central Railway platform. This was lifted in 1977 for display in the Jewry Wall Museum. Archaeological excavation beneath the mosaic identified evidence for the town house it came from as well as earlier phases of timber buildings dating back to the mid-1st century AD. The mosaic, and therefore the Roman floor level inside the townhouse, was recorded at c.56.65m aOD (Clay & Mellor 1985). Further north, near the former Great Central Railway engine turntable, fragments of stone columns, gravel surfaces, stake holes and numerous Roman finds were discovered in c.1900 (MLC1111).

There are many archaeological artefact findspots in the vicinity of the assessment area. These include metalwork including brooches, hooks, needles and pins (MLC1041 & MLC1058). Further metalwork includes coins, keys, rings and a seal box (MLC1038) and a linchpin (MLC1098). A pot full of Roman coins was found in 1718 at Northgate Street/ Highcross Street, 100m north of the assessment area (MLC1076 & MLC2687). Another coin hoard was found 100m south-east of the assessment area in 1805 (MLC1037). Other Roman finds include spindle whorls (MLC1089), pottery vessels (MLC1043), and other artefacts (MLC1072, MLC2583).

3.2 Anglo-Saxon to medieval

Until comparatively recently there was a dearth of evidence for the nature of occupation in Leicester immediately after the end of Roman administration in AD 410. Archaeological excavations have now produced evidence for post-Roman Anglo-Saxon sunken-featured buildings (*Grubenhäuser*) to the south of the town, (outside the South Gate) and within the north-east quarter of the walled area at Vaughan Way and Freeschool Lane. At Sanvey Gate and Vine Street to the south-east of the assessment area, post-built structures from this period have also been suggested (Jarvis 2012, Higgins et. al. 2009).

The dating of Saxon finds from both intra- and extra-mural excavations suggests Early Anglo-Saxon occupation within the town during the 5th, 6th and 7th centuries. In the Middle Saxon Period, *c.* 7th and 8th centuries, there is as yet no archaeological evidence for settlement within the town walls (there are indications activity immediately to the south of the south gate could be mid-Saxon (Speed 2014, 81), although the town is known to have been the seat of a Saxon bishop from the 670s, suggesting it was a centre of some importance. The Domesday Book indicates that by 1086, Leicester was a flourishing borough with six churches and 320 houses (Ellis 1978) suggesting significant growth in the late Anglo-Saxon period, *c.* 9th-10th century. That the town was definitely occupied during the latter period has been confirmed by archaeological finds of timber buildings on plots fronting the medieval High Street (modern Highcross Street). It has been suggested that the line of this street – including its extra-mural continuation to both the north and south, is the most likely focus for activity of this period (Courtney 1998).

By AD 877 the town had fallen under Danish control, becoming one of the five Burhs of the Danelaw until it was recaptured by Lady Aethelflaed in AD 918. Archaeological evidence for settlement in Leicester between the late 7th and mid-9th century is sparse and the Danish interlude appears to have left little trace, apart from a few residual Scandinavian-style artefacts and a number of street names ending in ‘gate’ – from the Danish *gata* meaning ‘street’. There are two Anglo-Saxon findspots in the area. Two annular brooches were found on a site 45m south-east of the assessment area (MLC992), and an Anglo-Scandinavian style alloy pendant was found nearby (MLC993).

By the 13th century the town consisted of a core of occupation broadly corresponding to the area within the Roman walls with suburbs outside each of the gates, including the North Suburb which lies 150m to the north of the assessment area lies (MLC33). Billson notes that in the 13th and 14th centuries, the district was occupied mainly by dyers and fullers and was known as ‘Walkercrofts’, land divided into plots by ditches and dykes or raised paths (‘Benacre’ and ‘Acedyke’) (Billson 1920). Nearby Soar Lane was also known as Fullers Street or Walker Lane, a ‘Walker’ being another name for a fuller, a person who cleansed cloth (*Ibid* 17).

The Friaries were established in Leicester in the 13th century and included the Friary of the Dominicans (Black Friars), which would have lain to the south-west of the assessment area (MLC64). The church of the Black Friars was possibly constructed on the site of the earlier parish church of St. Clements. St Clement’s had been a very poor parish and its church was in the ownership of the Canons of Leicester Abbey until 1291, when it was possibly given by them to the Friars Preachers or Black Friars (Billson 1920). The exact nature of the friary is unknown but would have comprised the church, cloister, dormitories and a refectory. By the 14th century it housed 30 friars. The friary was dissolved by Henry VIII and the church demolished soon after 1538. Little of the friary has been found, except for a section of its southern precinct wall recently excavated on the Merlin Works site (Kipling 2008), but it is thought to have covered approximately 16 acres of the quarter (Billson 1920).

The Domesday Book (1086) records six churches in Leicester. St. Margaret’s lies outside the town walls, with the other five inside the walls. All Saints’ Church lies 40m to the north-east of the assessment area on the opposite side of Highcross Street. This is possibly Norman in date, but may be earlier (MLC40). The adjacent cemetery may be earlier than the church (MLC1800). St. Peter’s Church was located 110m south-east of the assessment area on the southern side of Vaughan Way and was dismantled in 1573 (MLC61), where the modern Highcross shopping centre now stands. In 2005-6 a substantial part of the graveyard was excavated, along with the church and what was believed to be a medieval hall. Some 1340 burials were recovered, 25 coffined burials from the church, the remainder outside (Gnanaratnam 2003 & Cooper 2006) (MLC171). Some burials date from the 10th-11th century indicating that the church is probably a pre-Conquest foundation.

Highcross Street was, during the medieval period, Leicester’s main thoroughfare. As well as the extant 12th-century All Saint’s Church (MLC40) the street contains, at 107-9 Highcross Street, the former

Cross Keys Inn (MLC71), a Grade II listed building, parts of which have been dated to the 14th century. Whilst on the opposite side of Highcross Street, 30m to the north of the assessment area, excavations on Great Central Street have found evidence of a stone building which may be the vicarage for All Saints' Church (MLC2013) (Thomas 2006). Further north is the site of the town's medieval north gate (MLC129), demolished in the late 18th century.

South of All Saints' Church, opposite the assessment area are the sites of the St John's Hospital (MLC149), a 12th-century complex including a hospital, cemetery and chapel (MLC148) last recorded in the 16th century; and the 14th century Shirehall (MLC153) and County Gaol (MLC154). Recent archaeological investigation on these sites has found evidence of occupation dating back to the 10th century with extensive evidence of medieval activity close to the Highcross Street frontage including a stone wall which might be part of St John's Hospital and a small stone building of probably medieval date (Morris 2012). The archaeological survival along this site's street frontage is remarkably similar to that excavated *c.*100m to the south during excavations on Freeschool Lane (Coward & Speed 2009), which uncovered extensive evidence for well-developed street properties from the late Anglo-Saxon period through to the present day. In places, medieval archaeology was only *c.*0.4m below present street level.

Medieval findspots in the area include a monastic seal, found 100m west of the assessment area (MLC735), tiles, mouldings and window glass 35m to the north-east (MLC713), pottery 130m to the south-west (MLC2586), a coin 40m to the west (MLC2566) and 30m to the south-east (MLC1750). A metal crucible found 100m to the north of the site may suggest a metal working site (MLC120).

Leicester's south suburb has produced considerable evidence for earthen defences or bulwarks thrown up around the town during the Civil War, when it was besieged twice in 1645. The eastern suburb seems to have been similarly protected, but whether this was also the case for the north suburb is by no means clear. There is a reference from 1645-46 when payment was made for paving part of the street in the North Gate where the bulwark was (Courtney and Courtney 1992). Certainly, the defenders during the first siege deliberately burned down many properties to open up areas surrounding the town to render them more defensible. This may have included property around the northern limits of the north suburb. Here also, there was destruction from the siege itself, when St Leonard's church was destroyed together with property at north bridge (Courtney and Courtney 1992).

3.3 Post-medieval (AD 1475-1799)

By the end of the medieval period, Highcross Street was replaced as the main street through Leicester by the present High Street (formerly Swinesmarket) but remained fairly densely occupied throughout the post-medieval period with a number of important buildings on its frontages including: St John's and Bent's Hospitals (MLC150), the Town Gaol (MLC151), the All Saints' Brewery (MLC1377) and All Saints' Vicarage (MLC2013).

3.4 19th century to present

In the late 19th century, the area immediately east of the Great Central Railway saw alterations to the street grid with the construction of Great Central Street to replace Charlotte Street (now beneath the station). Wright's Directory of 1891 shows that within the assessment area numbers 132 and 134 were both houses owned by Miss Vaughan and William Bramley respectively. Numbers 136-8 were occupied by John Jeays, a broker, George Barden, bootmaker was at 140. Number 142 was occupied by Edward Thurlby, and a builder, Jason Widdowson, was at 144.

132 Highcross Street was an early 18th-century town house in red brick (MLC2068), No 132 was a building demolished in the 1970s (reference in Transactions 1977-1978). Miss Emily Elisabeth Vaughan lived at 132 Highcross Street in 1891. Listed as 'gentry' in The Kelly's Directory of Leicester

for 1888. Sketch by John Flower identified by Neil Finn (Leicestershire Historian 2008 p.42). Shows a “double pile, wide-frontage house... and beyond that a boundary wall with gate and trees behind”. The construction of Great Central Street, and the erection of the Bryant’s factory decreased the size of the garden of No.132 considerably. This residence had ceased to be the residence of Ms. Vaughan by 1902 and was turned into a children’s receiving home by 1906 and by 1920 was the Leicester Working Boys Home.

The same John Flower sketch shows a jettied building between 132 and 134 (this had had been demolished by the 1st edition OS in 1887 and replaced by a covered archway giving access to a pair of properties erected at the back of the plot). An 1848 sketch shows a crown-post and collar purlin roof structure (roofs of this type were common in the later 13th and 14th centuries in this region – similar seen at 107 Highcross St see Hartley in Transactions 1988, 83-5). The building on right of the 14th century building is no.134, with sign showing ‘Sharp Builder Garden Chair Maker’.



Figure 2: View of mid 19th century buildings at 132-134 Highcross Street (sketch by John Flower c.1850).

From the end of the 19th century through to the present day, domestic occupation throughout the wider area was gradually replaced by factories, foundries and hosiery works. There is a former hosiery factory, which incorporated the firm of H.E Allsopp Ltd, adjacent to the site, most likely dating from 1917 (MLC1447).

Through the rest of the 19th and 20th century the area saw mixed development, with residential premises slowly giving way to predominantly commercial and industrial sites. In the late 1950s-mid 1960s, Vaughan Way was constructed dividing the north-west quarter from the rest of the city. In recent years, the prosperity of the area has diminished. Commercial and industrial premises have become empty and in many cases demolished in advance of prospective development.

4. Aims and Objectives

The broad aims of the archaeological investigation were:

The purpose of the archaeological work may be summarised as follows:

- To identify the presence/absence of any archaeological deposits.

- To establish the character, extent, date range and significance for any archaeological deposits to be affected by the proposed ground works.
- To advance understanding of the heritage assets
- To produce an archive and report of any results.

The project has the potential to contribute to the following research themes outlined as regional research priorities in the East Midlands Archaeological Research Framework (<http://archaeologydataservice.ac.uk/researchframeworks/eastmidlands/wiki/>)

Roman

5.1 Chronology

1. How can we enhance our knowledge of developing pottery industries, particularly during the Conquest period and 3rd to 4th centuries?
2. How may information on temporal and regional variations in pottery typology and vessel fabrics best be disseminated?
3. How may our understanding of sites known only from metal-detected and fieldwalking finds be enhanced?
4. How can we advance our knowledge of the chronology of metal finds, particularly brooches?

5. What are the priorities for scientific dating, particularly radiocarbon, and how may targeted dating programmes be developed?

5.2 The military impact

1. How far was the military conquest a motor of social and economic change?
- 2. To what extent is** the pivotal location of the region between civil south and military north reflected in the archaeological record?
- 3.** Can we define more closely the distribution of early military sites and their periods of use?
4. How did the supply needs of military garrisons and armies along the northern frontier affect the economy and transport infrastructure?
5. How did the withdrawal of Roman political and financial support impact upon the established society and economy?

5.3 Growth of urban centres

1. What spurred the foundation of extramural settlements (vici) next to early forts and how was the development of vici and forts related?
2. How does the distribution of towns correlate with Iron Age foci, and how far may their social, political and economic roles have overlapped?
3. What processes drove the growth of secondary urban centres?
4. How were towns organised, what roles did they perform and how may their morphology and functions have varied over time?
- 5. How and why did the urban landscape** change in the late Roman period, and what roles may fortifications have played in this period?

5.4 Rural settlement patterns and landscapes

1. How did the Conquest impact upon rural settlements and landscapes?
2. How and why did settlement forms and building traditions vary within the region and over time?
3. How did rural settlements relate to each other and to towns and military sites, and how may this have varied regionally and over time?

4. How did field and boundary systems relate to earlier systems of land allotment, and how did these boundary networks develop over time?
5. What patterns can be discerned in the location of settlements in the landscape?
6. Can we elucidate further the daily life of settlements and their role in the processing and marketing of agricultural products?

5.5 The agricultural economy

1. How is the upland-lowland divide manifested in the regional agricultural economy and other aspects of the archaeological record?
2. How did integration into the Roman Empire impact upon the agrarian economy, including the introduction of new crops, herbs and fruits?
3. What is the evidence for the diet of people of high and low status in urban and rural settlements, especially those close to military sites?
4. Can we chart more closely the processes of agricultural intensification and expansion and the development of field systems?
5. Can we define more precisely the networks developed for the trade and exchange of agricultural produce and fish?

5.6 Artefacts: production, distribution and social identity

1. What resources moved in and out of the region during this period?
2. How can we add to our understanding of the nationally important iron and lead industries?
3. How may studies of the production, movement and consumption of pottery contribute to understanding of the regional economy?
4. What production techniques and exchange networks were involved in the manufacture and marketing of salt and building materials?
5. How can we utilise most effectively the regional coin resource as evidence for the transition to a monetary economy?
6. What can artefact research contribute to studies of eating, drinking and other manifestations of social identity?

5.7 Roads and waterways

1. Can the chronology of road construction and links between road building and campaigns of conquest be clarified?
2. How were roads, rivers and artificial waterways integrated?
3. To what extent may communication routes have been influenced by Late Iron Age settlement patterns and routes of movement?
4. How may roads and waterways have impacted upon established communities and how may roads have influenced urban morphology?

5.8 Ritual and religion

1. How far is the location of religious sites related to Late Iron Age activity and to what extent may structured deposition of human/animal bones in settlement/boundary features have continued?
2. How far may data from surveys and the Portable Antiquities Scheme assist in locating religious or ritual sites?
3. Can we elucidate the beliefs and practices associated with religious or ritual foci and may certain classes of site have been associated with particular activities?
4. Why have so few early Roman burials been found, and may practices have varied regionally and between different communities?
5. What may studies of later Roman inhumation cemeteries teach us about changing burial practices and demography?

Early Medieval

6.1 Demography and the identification of political and social groups

2. What was the relationship between indigenous communities and Germanic populations, and how may this have varied spatially and over time?

3. How may studies of sites yielding late Roman metalwork elucidate further the relationship between indigenous and Germanic populations?

5. How can we refine our understanding of the chronology and process of Scandinavian immigration during the ninth and tenth centuries?

6.3 Roads and rivers: transport routes and cultural boundaries

1. To what extent were Roman roads used and maintained from the fifth century, and may some have acted as social or political boundaries?

6.4 Rural settlement patterns

1. What impact may Germanic and Scandinavian immigration have had upon established rural settlement patterns, and how may place-name evidence contribute to studies of settlement evolution?

3. Can spatial and temporal variations in the morphology, functions and status of settlements be defined more precisely?

6.5 Inland Towns, 'central places' and burhs

1. How may Anglo-Saxon and British communities have utilised late Roman towns and their immediate environs?

3. What was the impact of the Danish occupation upon urban development and what were the differences between Danish and non-Danish burhs and other urban settlements?

6.6 Industry, trade and the emergence of a monetary economy

6. Can additional fabric analyses clarify further the production and distribution of Anglo-Saxon pottery, particularly that produced in Charnwood Forest?

High Medieval

7.1 Urbanism

1. How did the major towns and smaller market towns of the region develop after the Norman Conquest, both within the urban core and in suburban and extra-mural areas?

2. Can we define more closely the industrial and trading activities associated with towns and the nature and extent of urban influence upon the countryside?

1. How and where was post-Conquest pottery manufactured and distributed, and what communication systems were employed?

2. By what means were the extractive mineral industries controlled or organised by royal, monastic or lay lords?

3. Can we identify, investigate and date sites associated with the region's key extractive industries (especially iron, coal, lead and alabaster), the production and distribution of cloth and leather-work, and freshwater or marine fishing?

4. Can we develop a typological classification of buildings associated with medieval industrial and commercial activities and can we identify sub-regional and chronological patterning?

7.7 The agrarian landscape and food-producing economy

5. What may fish bones and other environmental data contribute to studies of the exploitation and distribution of freshwater and marine fish?

Post-medieval

8.1 Urbanism: morphology, functions and buildings

1. Can we elucidate the roles of towns as social, administrative, industrial and commercial centres, their integration within regional marketing systems and their relationship to communication routes?

2. How were towns organised and planned, and how did population growth impact upon their internal spatial organisation?

3. What was the impact of religion, urban government, civic pride and class structures upon town planning and architecture (e.g. public buildings such as town halls or prisons and water management structures)?

4. What can studies of environmental data, artefacts and structural remains tell us about variations in diet, living conditions and status?

5. Can we recognise the emergence of the poorer classes in the developing suburbs?

6. How can we advance studies of building plans and standing remains, especially where hidden inside later buildings, and of caves and cellars?

8.3 Agricultural landscapes and the food-producing economy

3. What changes and improvements occurred in animal husbandry and the use of animals (e.g. new breeds, traction and traded animal products)?

4. What garden plants and crops were grown in the countryside and urban market gardens, and what new types were introduced?

5. How did the diet, living conditions and status of rural and urban communities compare?

8.5 Industry and communications

1. Can we elucidate the organisation of the workplace, gender differences at work and the development of industrial processes (especially the nationally important lead, coal and tanning industries)?

3. Can we identify domestic buildings adapted for the textile industry?

4. How were transport infrastructures improved and how was this related to the developing urban and market hierarchy?

5. What may be learned of the material culture of industrial workers?

6. What can we deduce from factory/non-factory production data about the changing economy (especially patterns of marketing and consumption)?

8.8 Material culture

1. How was pottery distributed across the region and can we identify competition between regional potteries?

2. Can we establish a dated type series for ceramics (building in particular upon unpublished urban pit and well groups)?

3. Can we identify the changing material culture of the urban and rural poor, the emerging middle classes and the aristocracy?

4. Were there different patterns of consumption between town and countryside and between different agricultural regions?

5. What may be deduced about the symbolic use of material culture (e.g. in social competition)?

5. Methodology

All fieldwork followed a written scheme of investigation for archaeological excavation (Speed & Buckley 2018), agreed with the City Archaeologist at Leicester City Council, as a condition of planning. The work followed the Corporate Institute for Archaeologists *Code of Conduct* (CIfA 2014a) and adhered to their *Standard and Guidance for Archaeological Excavations* (CIfA 2014b). Internal monitoring procedures were undertaken including visits to the Site by the project manager. These ensured that project targets were met and professional standards were maintained. Provision was made for external monitoring meetings with the City Archaeologist at Leicester City Council, and the Client.

The proposed area to be archaeologically investigated initially covered the car park area to the north (the southern part of the site was still in use by printers and car wash). Four trenches (see Fig.6.) were excavated by 360 machine to the top of archaeological deposits or to natural ground (whichever was reached first). Three further trenches would be examined in the southern half of the site when it became available. Trenches were examined by hand cleaning and any archaeological deposits located were planned at an appropriate scale. Archaeological deposits were sample-excavated by hand as appropriate to establish the stratigraphic and chronological sequence, recognising and excavating structural evidence and recovering economic, artefactual and environmental evidence. The ULAS recording manual was used as a guide for all recording. Individual descriptions of all archaeological strata and features excavated or exposed will be entered onto pro-forma recording sheets. Any archaeological deposits located will be planned and sample-excavated by hand as appropriate to establish the stratigraphic and chronological sequence. Where possible, modern intrusions will be initially excavated to provide a 'window' through stratified deposits in order to determine their nature, date and depth.

A record of the full extent in plan of all archaeological deposits encountered will be made using a Topcon differential Global Positioning System (dGPS) directly tied to the Ordnance Survey grid (sub-centimetre accuracy). Elevations and sections of individual layers of features will be drawn where required. The OD height of all strata and features are immediately recorded on the dGPS survey. The relative height of all principal strata and features were recorded. Where detailed plans or sections of archaeological features are required these were recorded using Structure-from-Motion photogrammetry [this is a versatile and rapid tool for capturing high-resolution 3D surfaces with complete texture and sub-centimetre accuracy]. It is created using multiple images from a digital SLR camera and processed with Agisoft Photoscan. The resulting models are georeferenced, tied to the above dGPS survey. This is undertaken following ULAS SfM methodology guidelines, with reference to Historic England 'Photogrammetric Applications for Cultural Heritage (2017). The OD height of all principal strata and features was calculated and indicated on the appropriate plans. The Site has been given the Leicester Arts and Museums Service accession number: YA.3.2018.

6. Results

The results are presented below in trench order, describing the contextual / stratigraphic detail / evidence for each phase of activity. Four joining trenches were excavated (Figure 3), exposing an area of 265m² (30% of an available 868 m²). Archaeological contexts are assigned as a cut number [***] or fill number (***)).

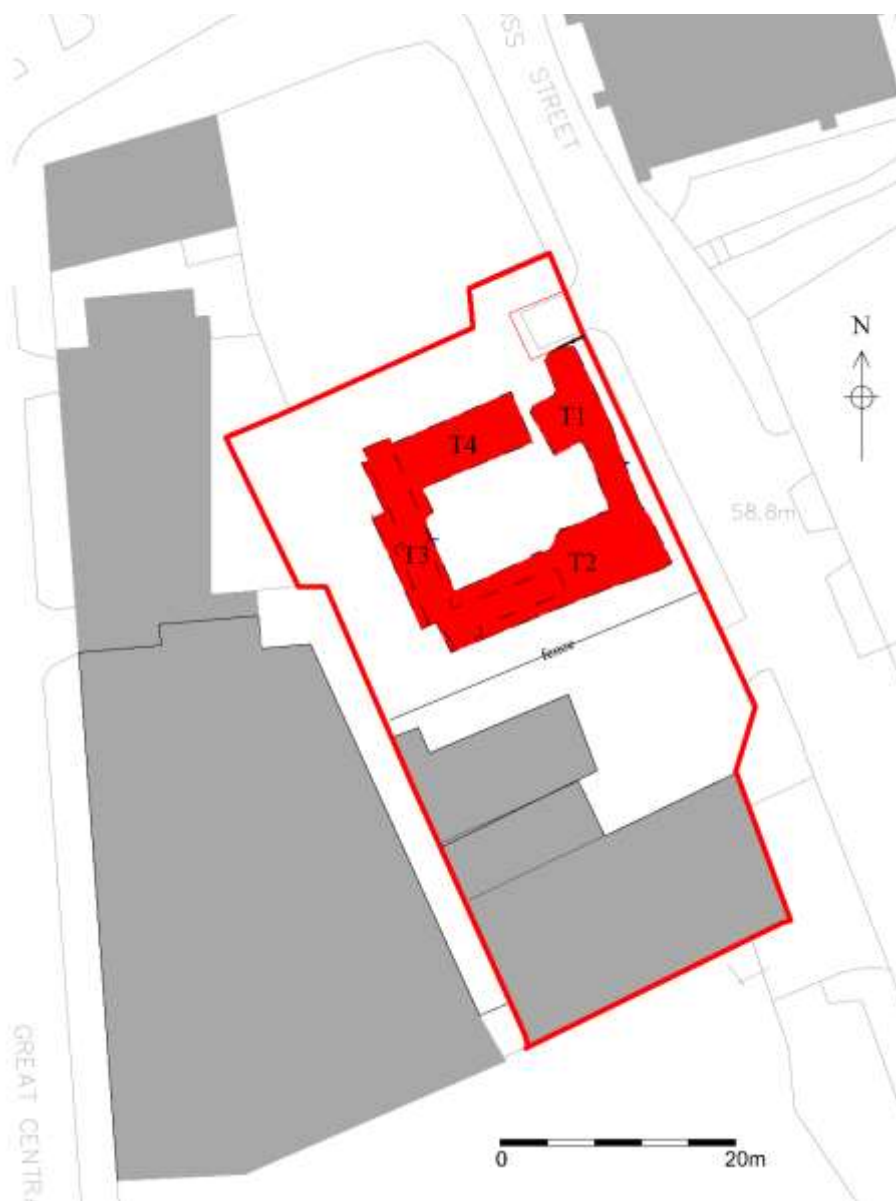


Figure 3 Location of trial trenches

6.1 Trench 1

Trench 1 was located parallel to Highcross Street (NW-SE orientation), it was 14.6m long, and generally 2.5m wide (Figure 4). It covered plots No.140 and 142 Highcross Street.

Initial machining removed modern tarmac and underlying hardcore. Within the plot of No.142 was a 2.5m deep brick cellar (Figure 8). The brick floor was reached (and removed) on the west-side (leaving cellar backfill in on east-side adjacent to the modern street for safety). Below the floor were natural sands and gravels. The cellar showed evidence for inter-connected doorways.

On the west side, two small doorways led west and further back from the frontage. One was removed to assess the archaeological potential behind the brick cellar walls. This trench extension revealed a stone wall [9], (7) behind the brick wall (on the same NW-SE orientation). The wall consisted of rounded granite blocks, seen at a height of 57.90m OD. This is likely to be a medieval / post-medieval rear wall of a building preceding the 19th century brick building. Worked stone fragments were retrieved from the cellar backfill (Figure 12). Perhaps associated with this wall was a small patch of mortar floor (6), seen at 57.64m OD. Against the west edge of wall (9) was a large pit [11], this contained dark silts (12) and was over 2.25m deep. This was sealed by garden soils (16). Pit [11] cut a series of sand and gravel layers (13) on the north-side of the trench. A single sherd of Roman pottery was recovered from (13), which dates to c.AD100-120, a single sherd of mid 11th-13th century AD pottery was also recovered. These layers were associated with stone wall [10], (8). Wall [10] was 0.7m+ high and 0.6m wide. It consisted of mortared granite (and one small piece of tile). It was seen at 57.45m OD. The upper part had been robbed ([47], (77)). On its east-side were further sand and gravel compacted layers (14), likely the same as (13). These were also at least 0.6m deep. Overlying these were garden soils (16).

Further south, under the former plot of No.140 Highcross Street, no cellar was encountered. This resulted in good survival of a Roman street (2). The Roman street was cut by a stone wall on its north side [5] (1). This was seen to run across the width of the trench (1.8m+), c.0.35m wide. It consisted of Dane Hills sandstone and some cobbles, bonded by a pale yellow-brown mortar. This wall was behind the brick cellar wall of No.140/142.

An area c.1.2m by c.1.8m area of compacted orange sand and gravel (2) was uncovered c.1.7m below the modern Highcross Street at 57.80m OD (Figure 13). This is indicative of a Roman street, believed to be the east-west Roman street running between *Insulae* IXb and III. It was cut by Roman walls (and robber trenches) on either side, making the width of the street just 3 metres, much wider than the same street found in Trench 3. Overlying the road gravels was a light grey-brown fine sandy-silt (3). Ranging in thickness from 0.1-0.2m, this may be late Roman (or early post-Roman / 5th century) soil build up over the final street metalling. The road gravels were 0.8-1m thick, with clear evidence for at least 8 sequences of road metallings. The surviving width of the road was 2.2m on the east side and 3.4m on the west side. A camber could clearly be seen on the south side (on the west side of the trench). The projected width of the street from the top of the camber is c.4.5-5m. Below the earliest street gravels was a medium reddish-brown sand (4), (0.18m thick). This was only visible in the trench sections. This could be an early Roman or Iron Age soil.

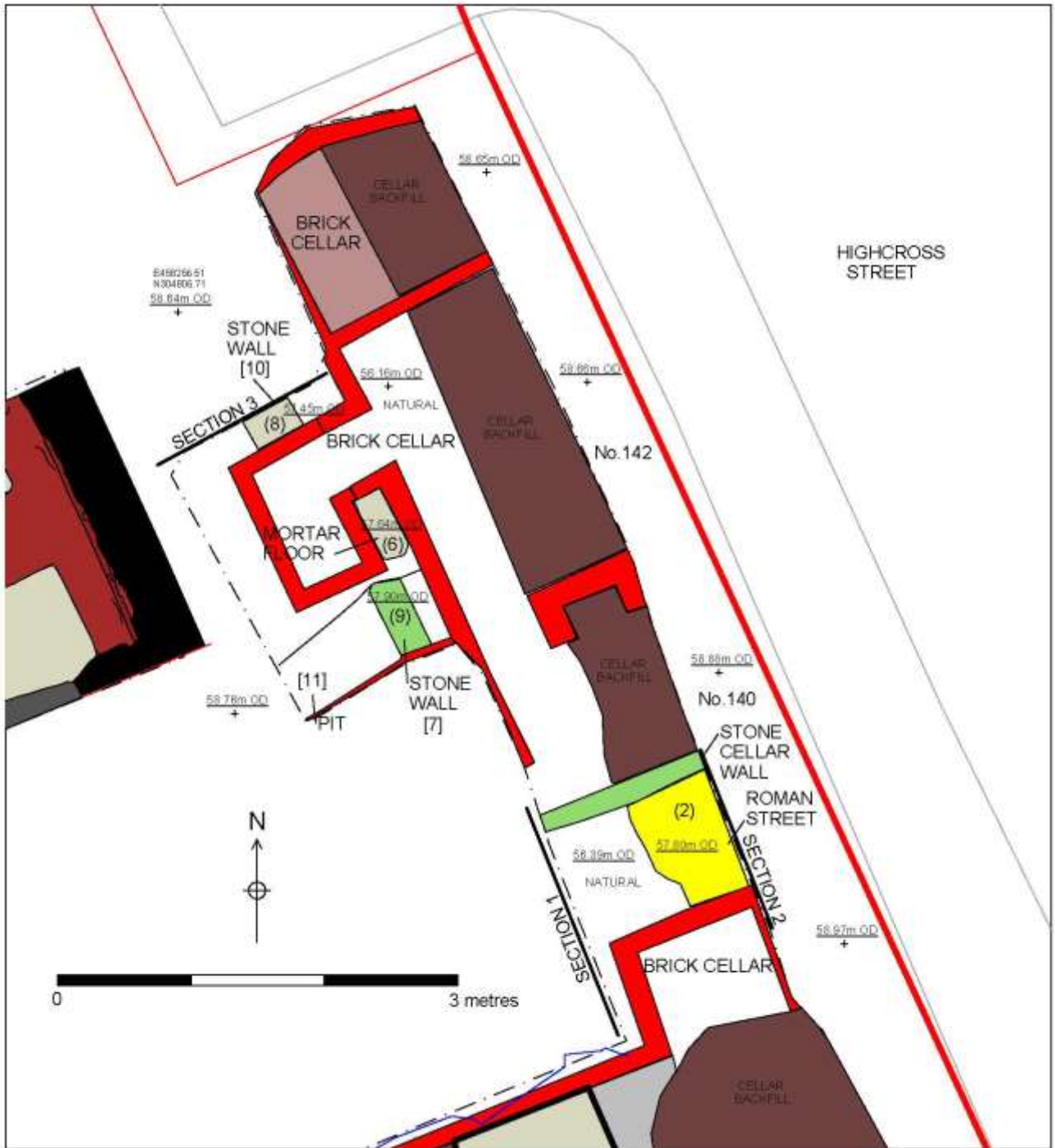


Figure 4: Plan of Trench 1

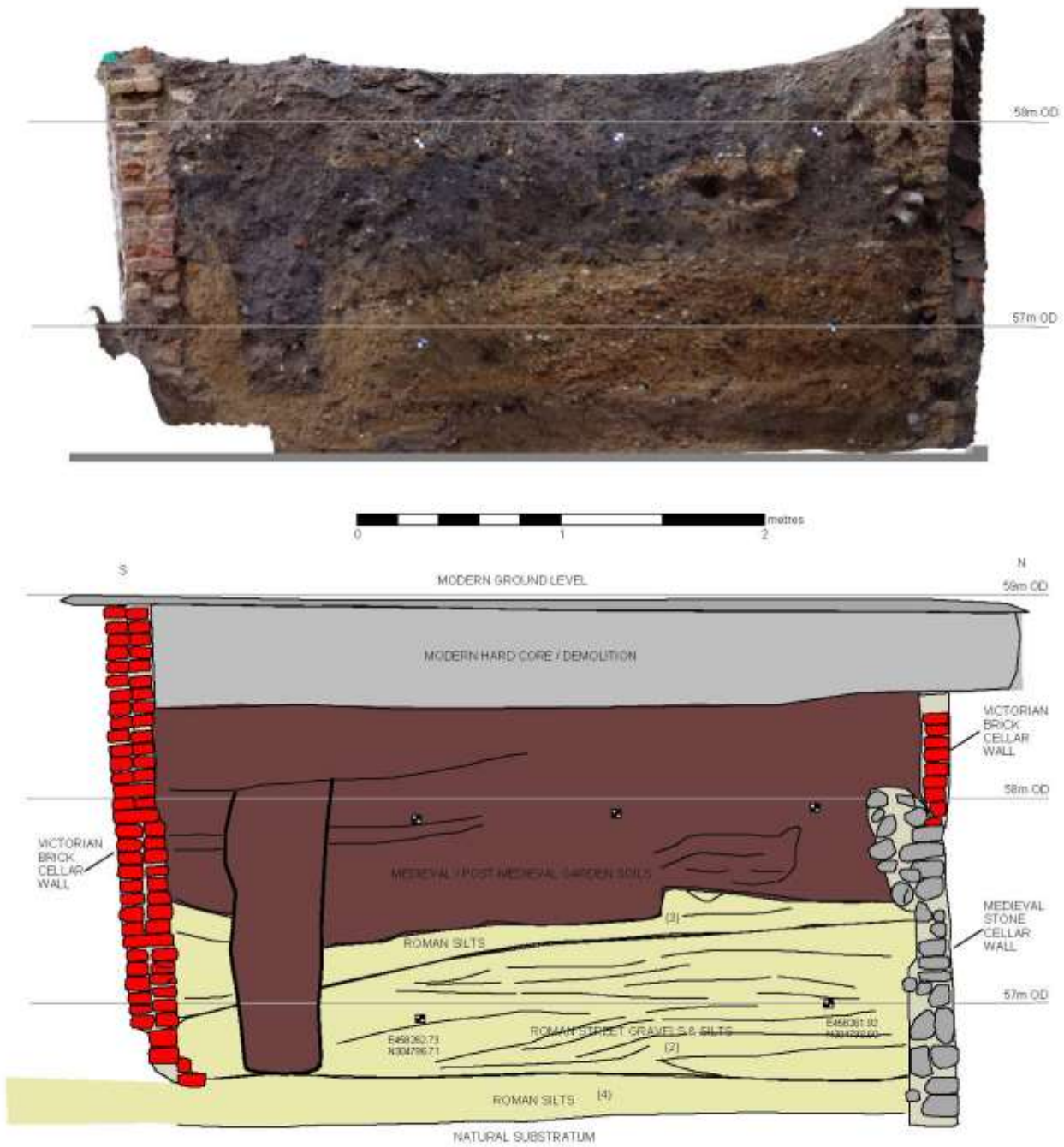


Figure 5: Section 1, Trench 1, showing Roman street, looking west

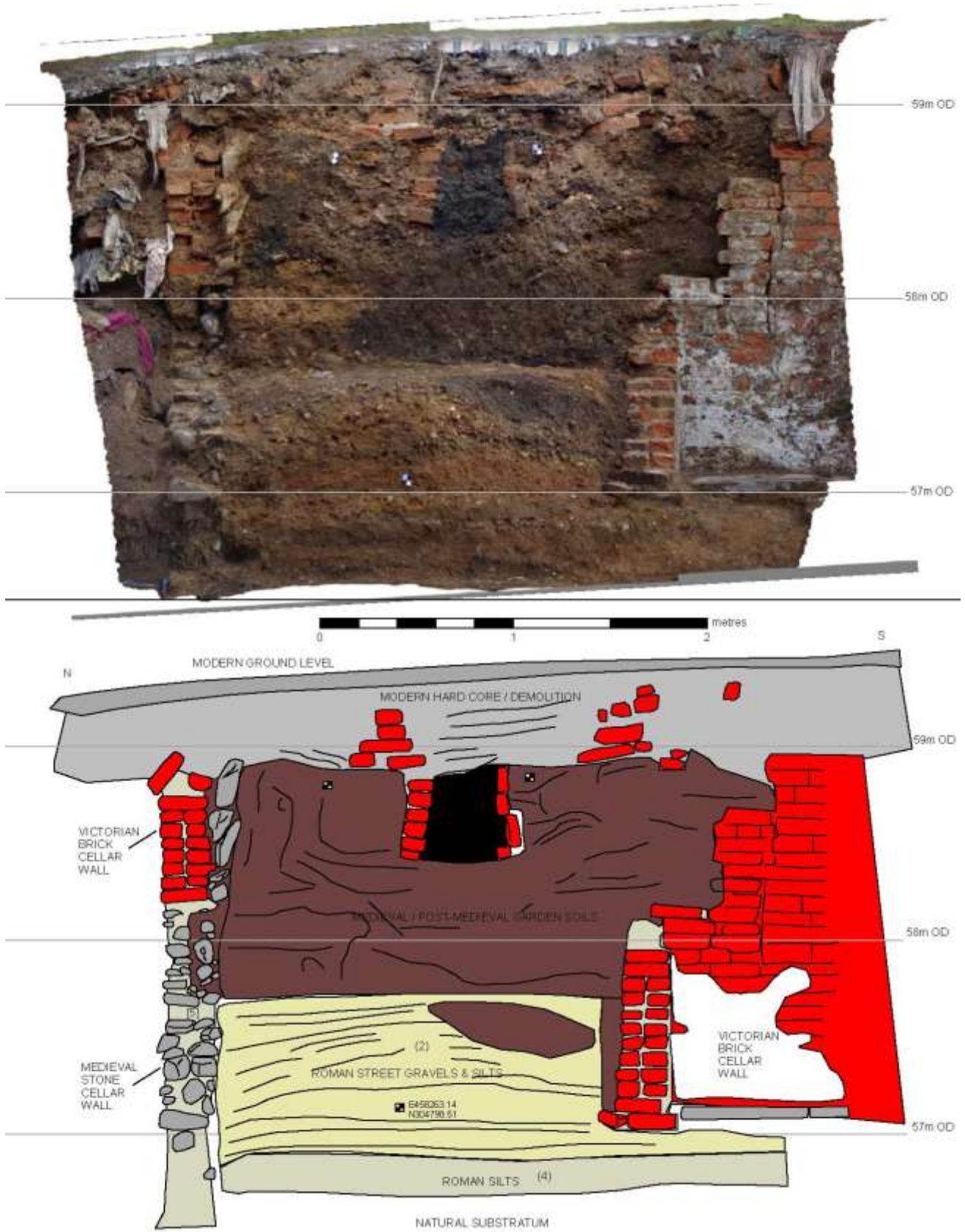


Figure 6: Section 2, Trench 1, showing Roman street, looking east

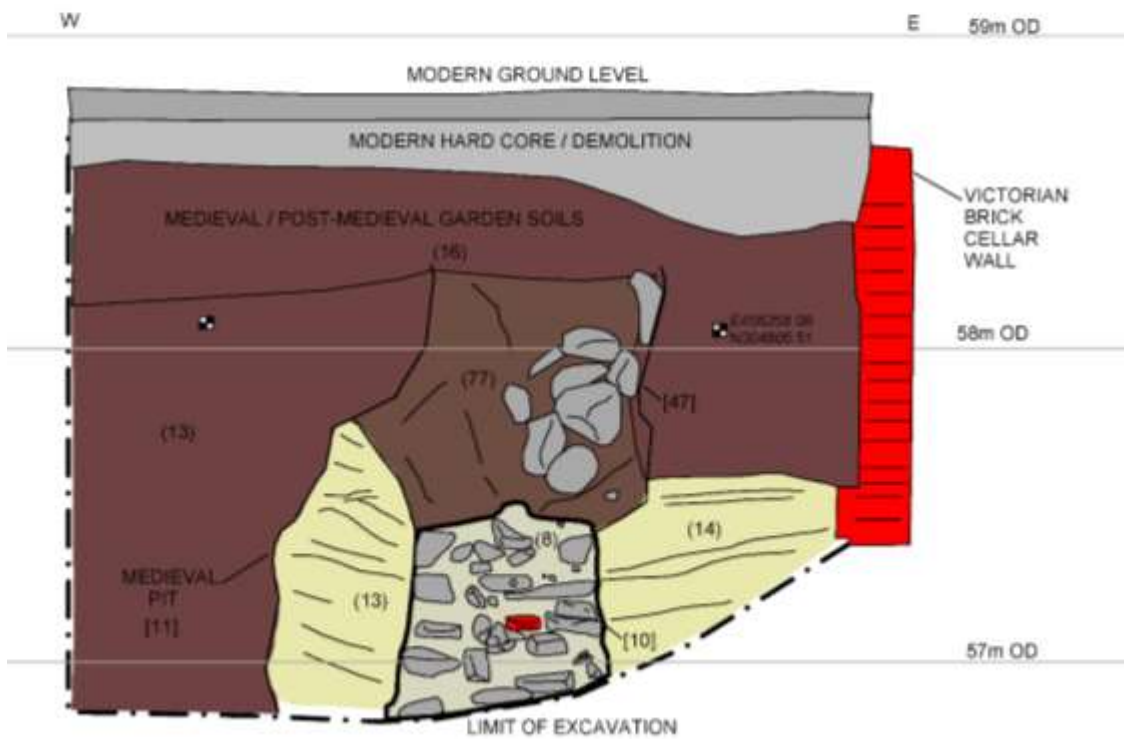


Figure 7: Section 3, Trench 1, showing Roman wall and layers, looking north



Figure 8: View of brick cellar at no.142 Highcross Street, looking NW, 1m scale.



Figure 9: View of brick cellar at no.142 Highcross Street, looking west.



Figure 10: View of stone wall [10], (8), and sand / gravel layers (13) and (14) in trench section. Note removed brick cellar walls visible on right (looking north),



Figure 11: Left: mortar floor (6), and brick wall (17) behind, looking east. Right: mortar floor looking south, note stone wall (7) towards top of section. Both 1m scale.



Figure 12: Worked stone blocks from No.142 Highcross Street (1m scale)



Figure 13: Roman street under No.140 Highcross Street (looking NE and E)



Figure 14: View of Roman street in Trench 1, note camber on left. Gravels truncated by brick and stone cellars on either side. Looking west, 1m scale.

6.2 Trench 2

Trench 2 was located perpendicular to Highcross Street (E-W orientation), it was 22.2m long, and 4.8-5.5m wide.

Initial machining removed modern tarmac and underlying hardcore. The trench was over plot 136 Highcross Street. At the street frontage a deep cellar (roughly 2.5m deep) had removed virtually all trace of earlier archaeological evidence. The brick cellar belonged to No.136, its backfill consisted of modern brick demolition material and a significant quantities of modern fabric rolls. The brick cellar extended 9.5m back from the street frontage. Part of the concrete slab floor was removed and earlier archaeological features were investigated at a depth of 56.66m OD. A brick well was located in the SW corner of the cellar, this was capped with a piece of large slate. This cut into a dark grey-brown clay silt layer **(20)**. This contained four sherds of mid 13th century AD pottery.

A NE-SW orientated robber trench **[18]** was located under the cellar floor. It was 0.7m wide, and at least 2.6m long (cut by a medieval pit **(20)** at its west-end), and continued under the cellar floor at the east-end. The robber trench was only 0.2m deep, clearly severely truncated by the cellar and cut into a orange-brown sand and silt layer **(21)**. This was 0.15m thick and contained a single sherd from a grey ware jar from the late 1st-2nd century AD onwards (not closely datable).

The north side wall of the brick cellar was removed to assess for levels archaeological survival (the south side was left in for safety reasons). The section revealed a series of Roman soils **(24)** and **(25)**, at 57.75m OD, below the mixed medieval / post-medieval soils **(16)**. The Roman layers were cut by a large pit **[26]**. The compacted sands and gravels were 1.2-1.4m thick and likely relate to the southern edge of the E-W Roman street seen in Trench 1.

Beyond the cellar to the west was a brick well **[28]** **(29)** **(30)**. This cut into numerous garden soils **(16)**. Various medieval / post-medieval pits (**[33]**, **[36]**, **[40]**) were located across the length of the trench including what appeared to be a stone-lined cess pit (**[36]**), at 59.96m OD. The pit was constructed with sandstone blocks. Between these pits a mid brown grey silt-sand **(39)**, probably represents a Roman soil layer. Thirteen sherds of pottery were recovered from this layer, comprising a mixture of grey, white and oxidised sandy wares, overall a date towards the middle of the 2nd century, c.AD120-150, can be suggested for this group.

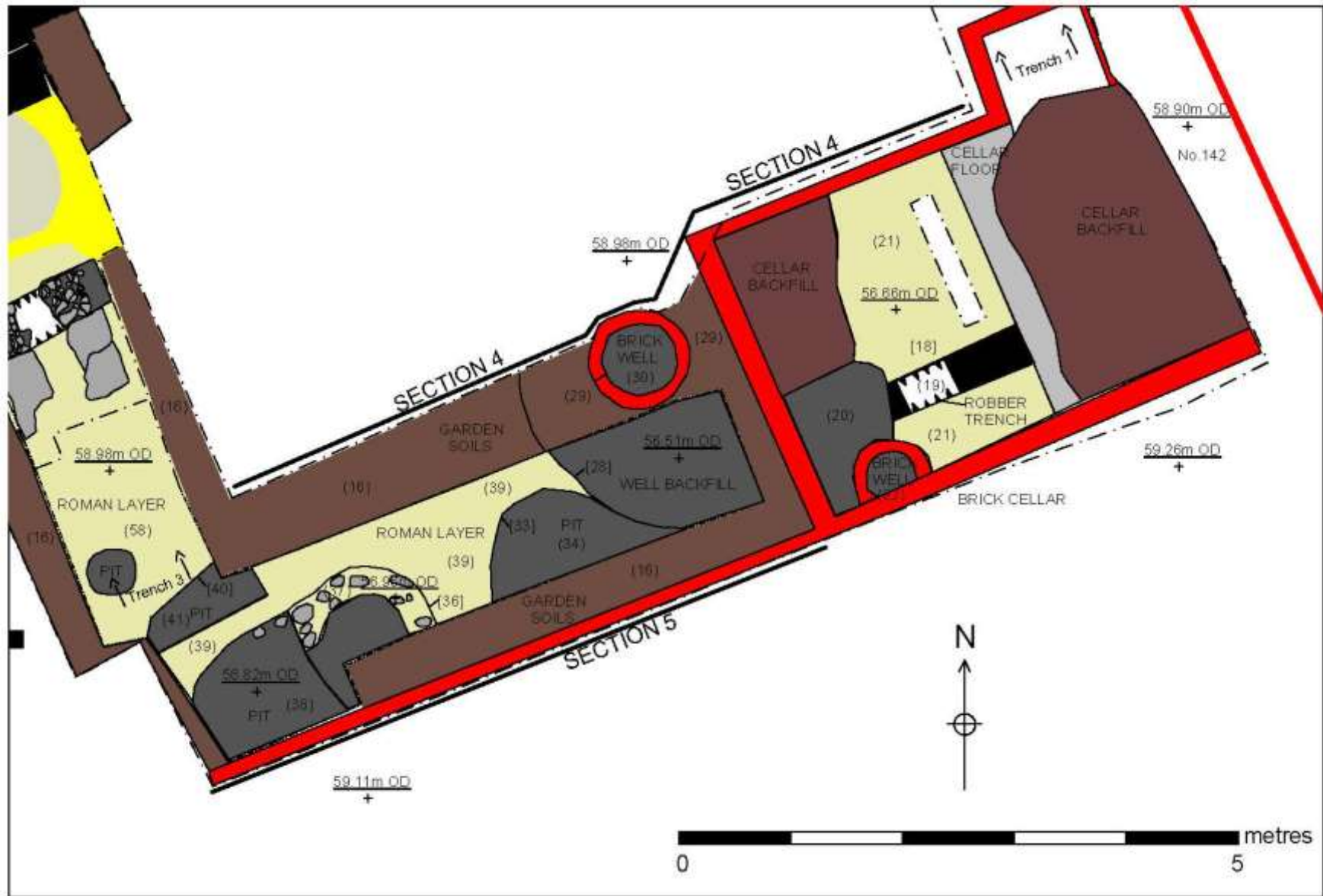


Figure 15: Plan of Trench 2

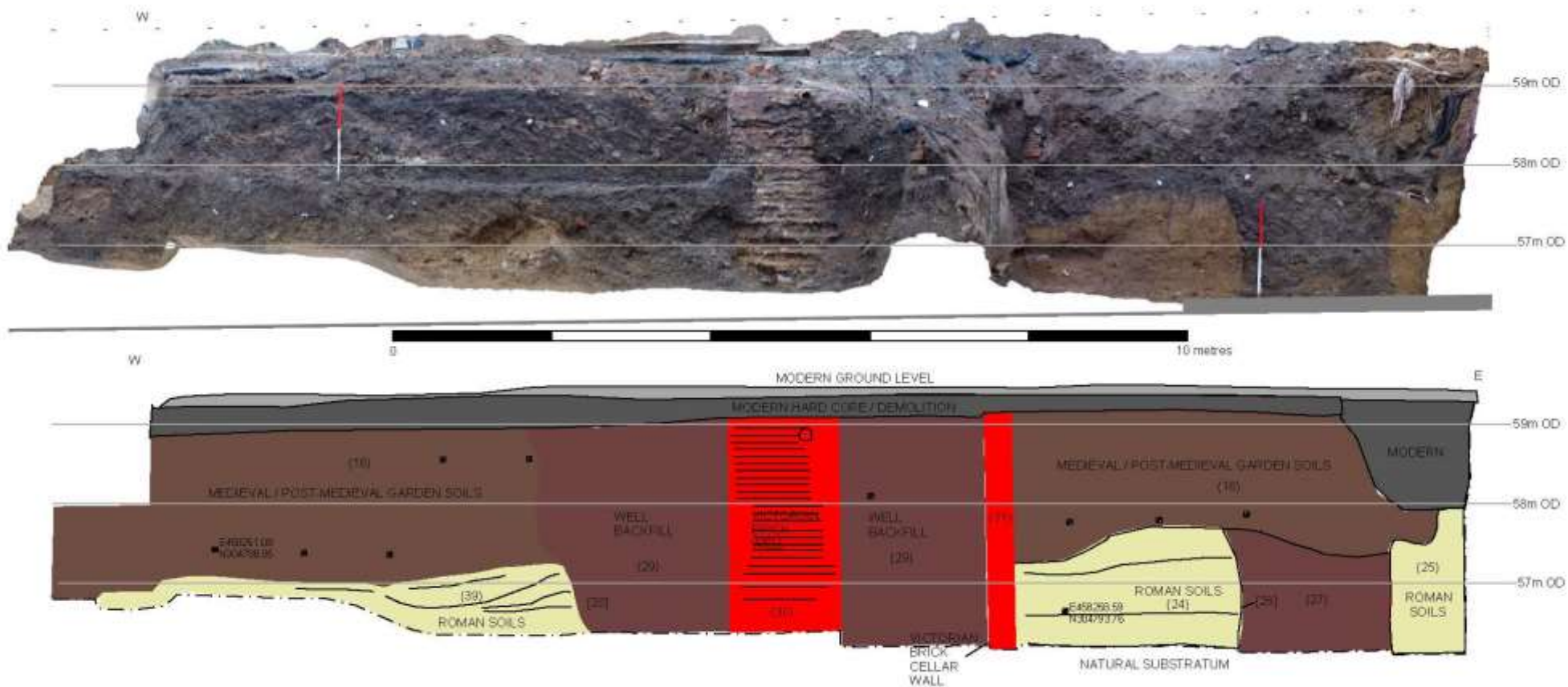


Figure 16: Section 4, Trench 2 north side

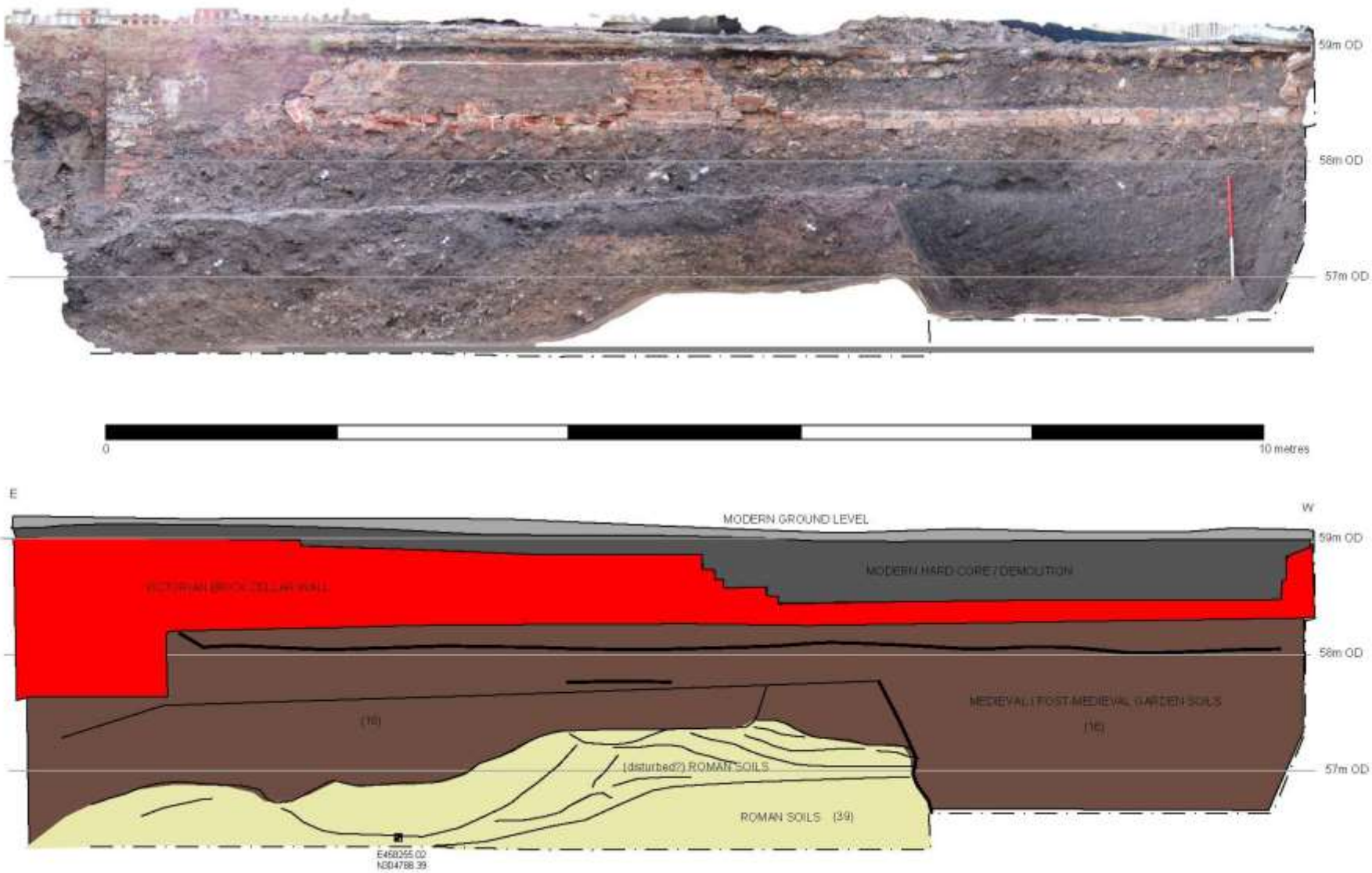


Figure 17: Section 5, Trench 2 south side



Figure 18: Trench 2, brick cellar wall removed, showing Roman soils below medieval / post-medieval soils, looking NE, 1m scale

6.3 Trench 3

Trench 3 was located parallel with Highcross Street (NW-SE orientation, 20m back from the street frontage). 14.5m long, and generally 2.7-3.7m wide.

Initial machining removed modern tarmac and underlying hardcore. Below this, garden soil (16) was dark grey sandy-silt mixed with some building rubble. This was believed to be extensively disturbed medieval and post-medieval garden soil.

Roughly in the middle of Trench 3 a *c.*2.9m by *c.*3.2m area of compacted orange sand and gravel was uncovered *c.*1.8-2m below ground level (56.57m OD). In section, this could be seen to be a *c.*0.85m thick sequence of cambered surfaces (sloping down on south-side) laid over *c.*60mm of pale grey silt (54), possibly a preserved turf-line or early 'topsoil'. This is indicative of a Roman street (43), believed to be the east-west Roman street running between *Insulae* IXb and III. It was cut by Roman walls (and robbers) on either side, making the width of the street just 3 metres, much narrower than the same street found in Trench 1.

To the south of the Roman street (in *Insula* IXb), was evidence for a large Roman structure. An NE-SW orientated stone wall [52] contained a single course of un-bonded large angular granite blocks acting as foundations stones (53). The wall is likely to have been part of a mid to late Roman structure fronting onto the narrow street. The remaining stone footings and superstructure had been 'robbed'

[119] (89). The robber wall trench could be seen high in the trench sections (1.35m below the surface), indicating the wall was upstanding for many centuries. It is on a similar property boundary to medieval stone wall (122) and Victorian brick wall (between plots 140-142), both were seen on the east-side trench section, along with a series of layers on the north side of the robber that look more distinct than simply garden soils (121).

Covering all of the southern half of the trench (i.e. from the wall / robber [52] / [119] southwards) was a 0.3m thick layer of light yellow sands and silts, mixed with mortar fragments and small granite pieces (58). This was a clearly distinct layer below the dark garden soils (16), seen at 56.55m OD. This may be a Roman demolition layer. A small area of this was removed close to the roadside wall [52], it contained no finds. Below this was a dark black/brown silt-clay (81) layer, 0.13m thick. Within this was a single sherd of pottery dated from the 2nd century AD onwards. Below this was layer (82), a dark black/brown silt-clay with pink clay lumps throughout and small charcoal flecks. Roman pottery and animal bone was retrieved from this layer. A coin of Constantine I AD 330-35 (SF5) indicates a late Roman date for this deposit. A medieval dress pin (SF6) was likely to have been intrusive. A soil sample contained cereal grains and wild seeds (sample 2). Below this was a thin dark black/brown silt with charcoal flecks throughout (83). Below this was a compact mortar floor (55) = (57) at 55.90m OD. This was 0.04-0.15m thick, and abutted wall [52] (to curved upwards, lapping up against the wall), indicating the two are associated. Below the floor was a thin compact make-up layer (56), consisting of light yellow-brown silt. The mortar floor (55) is much lower than the *opus signinum* floors in Trench 4, and as seemingly related to wall [52], it would seem to represent a sunken-floored room, or a room with underfloor heating.

In the middle of the trench on the west-side was a brick-lined cellar. Unlike the other cellars encountered in Trenches 1 and 2, this was not previously backfilled and appeared as an open void during machining (Figure 22). Photos were taken looking into the small square room (Figure 23). It contained two furnaces or fire places and had burnt residues all over the walls and brick-arched ceilings. This likely relates to All Saints Foundry (though shown as a stable on the 1892 Goad plan). For safety reasons the furnace room/cellar was backfilled with bricks and mixed hardcore material.

Cutting into the Roman street gravels (43) on the south edge of the trench was a modern (19th/20th century) pit [44] (45) on the west-edge of the trench. This contained pipe stem in a dark black grey sandy clay backfill (45). This was cutting an earlier pit [87], that also cut into the Roman street (Figure 25). Pit [87] also abutted the robber trench on the north side of the street. The pit was sub-square with straight sides, its base was not reached. The backfill consisted of a very dark grey-brown silty clay and sand (88). Within this was a mixture of early medieval pottery (11th-12th centuries AD), along with 24 sherds of Roman pottery (mainly 3rd-4th centuries AD), and animal bone. The pit also contained a bone spindle whorl (SF9) thought to be Saxo-Norman in date, but possibly earlier based on a similar example from Bonners Lane (Finn 2004, 106) believed to be mid Anglo-Saxon. The medieval pottery may have come from a separate intercutting pit, though this could not be clarified. A few pieces of Roman CBM were recovered from this pit (mainly roof tile), including a fragment of box tile (indicating hypocaust building in the vicinity). Also of note is a piece of micaceous sandstone with a right-angle and a burnt surface, possibly indicative of use in a hypocaust system.

To the north of the Roman street (43) (in Insula III) was evidence for another large Roman building. Cutting into the street was a NE-SW orientated robber trench [48] which contained a light yellow-brown backfill (49), notably lighter in colour compared to the other robber trenches. The wall is likely to have been part of a mid to late Roman structure fronting onto the narrow street and may have been robbed of its stone in the Roman period, as another NE-SW orientated robber wall trench [50] (51), cut [48].

To the north of the two robber trenches was modern truncation, down to an early Roman sandy soil layer (61), seen at 55.78m OD. Cutting into (61) was a large pit [107] (62). The pit was over 2.2 metres

long and 2m wide, and at least 0.6m deep. This contained a light green-brown sandy silt (62). Large quantities of Roman pottery (196 sherds weighing 2.957kg) was recovered dating to late 1st to early 2nd century AD. A rare second half of the 1st century AD brooch (SF1) and early Roman coin (SF7) also indicate an early Roman date. One magnetic fragment of vitrified ceramic hearth lining suggests the possibility of iron smithing in the vicinity.

The sections at the north-end of the trench showed over 1m of Roman stratigraphy under an *opus signinum* floor (60) to the east and north (Figure 26). Therefore an additional trench was excavated (Trench 4) to characterise the archaeological deposits in this area (Figure 27).

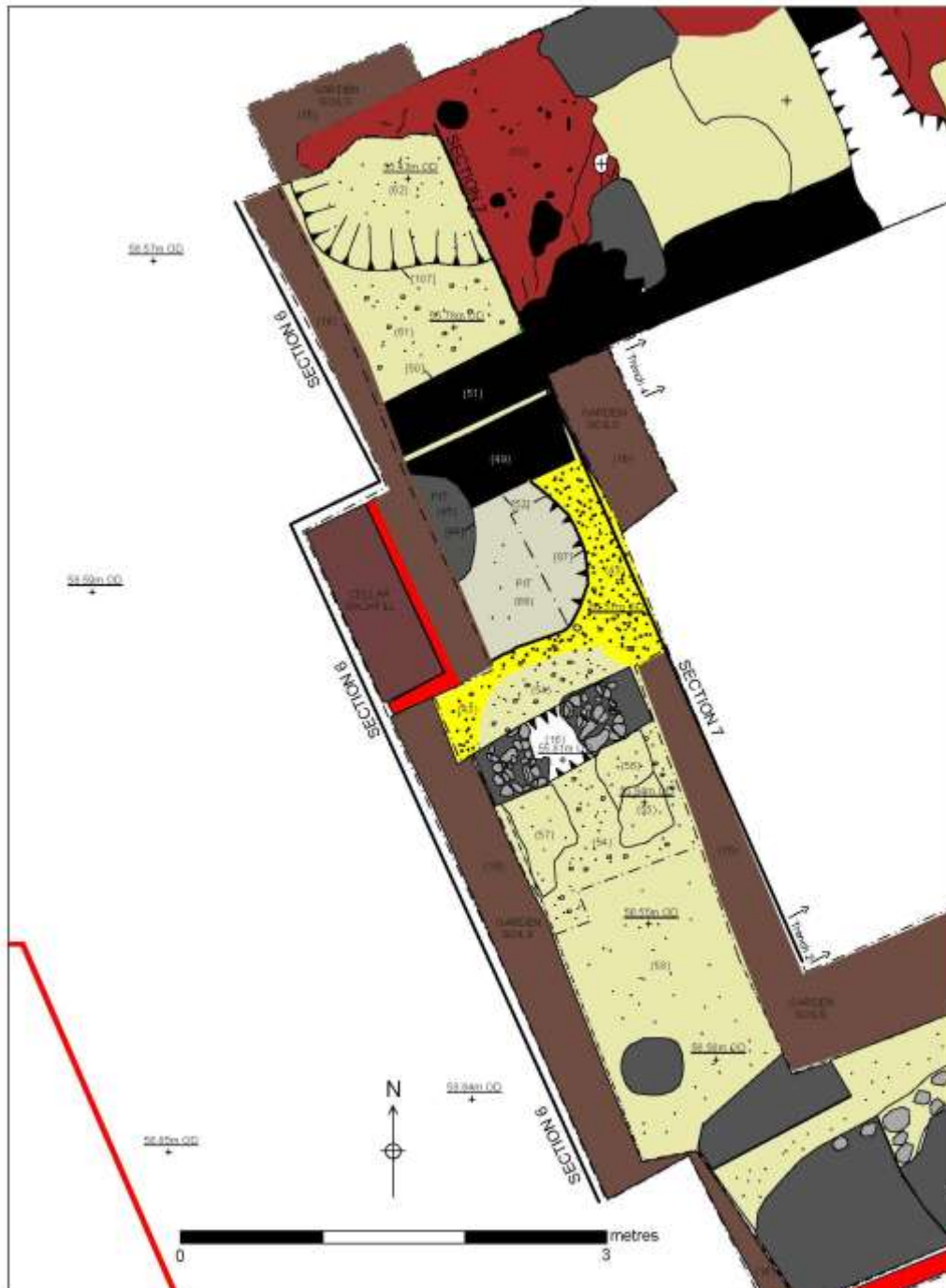


Figure 19: Plan of Trench 3

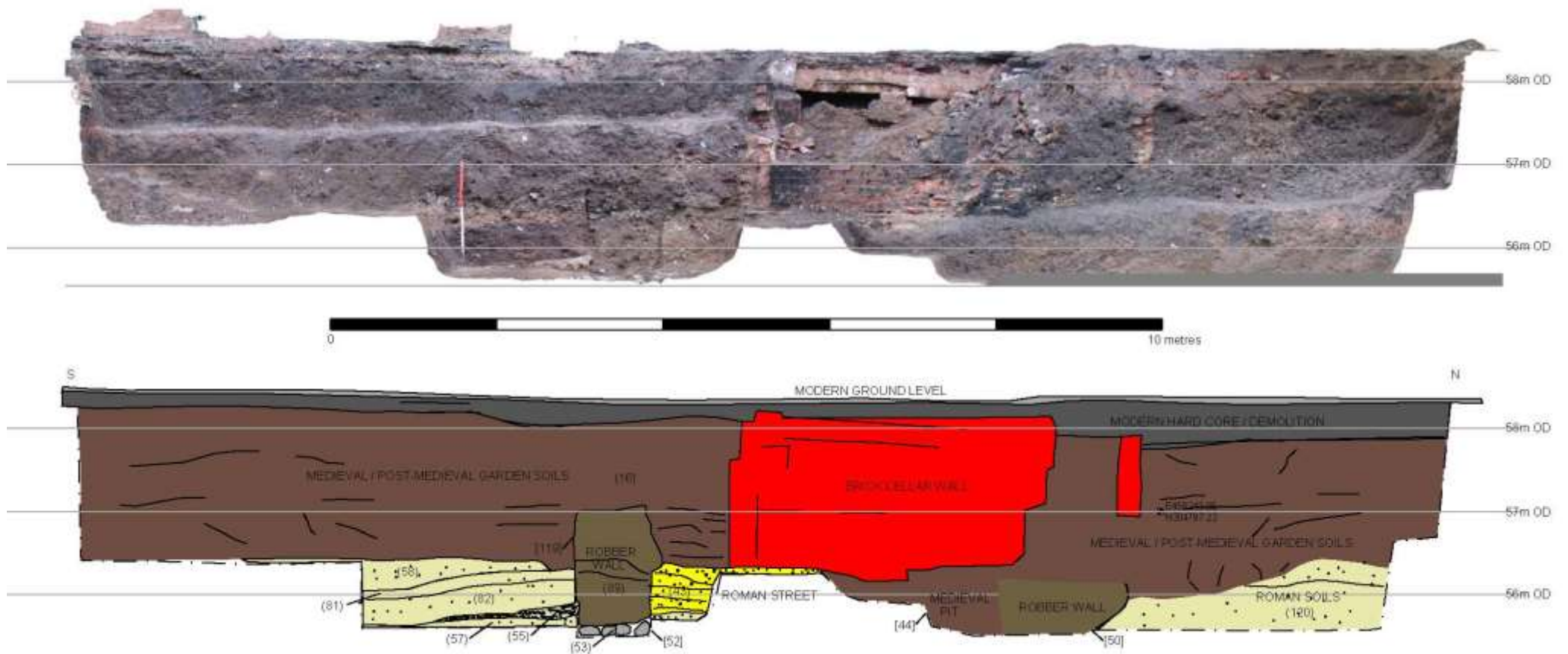


Figure 20: Section 6 (photogrammetry & interpretation), Trench 3, west-side

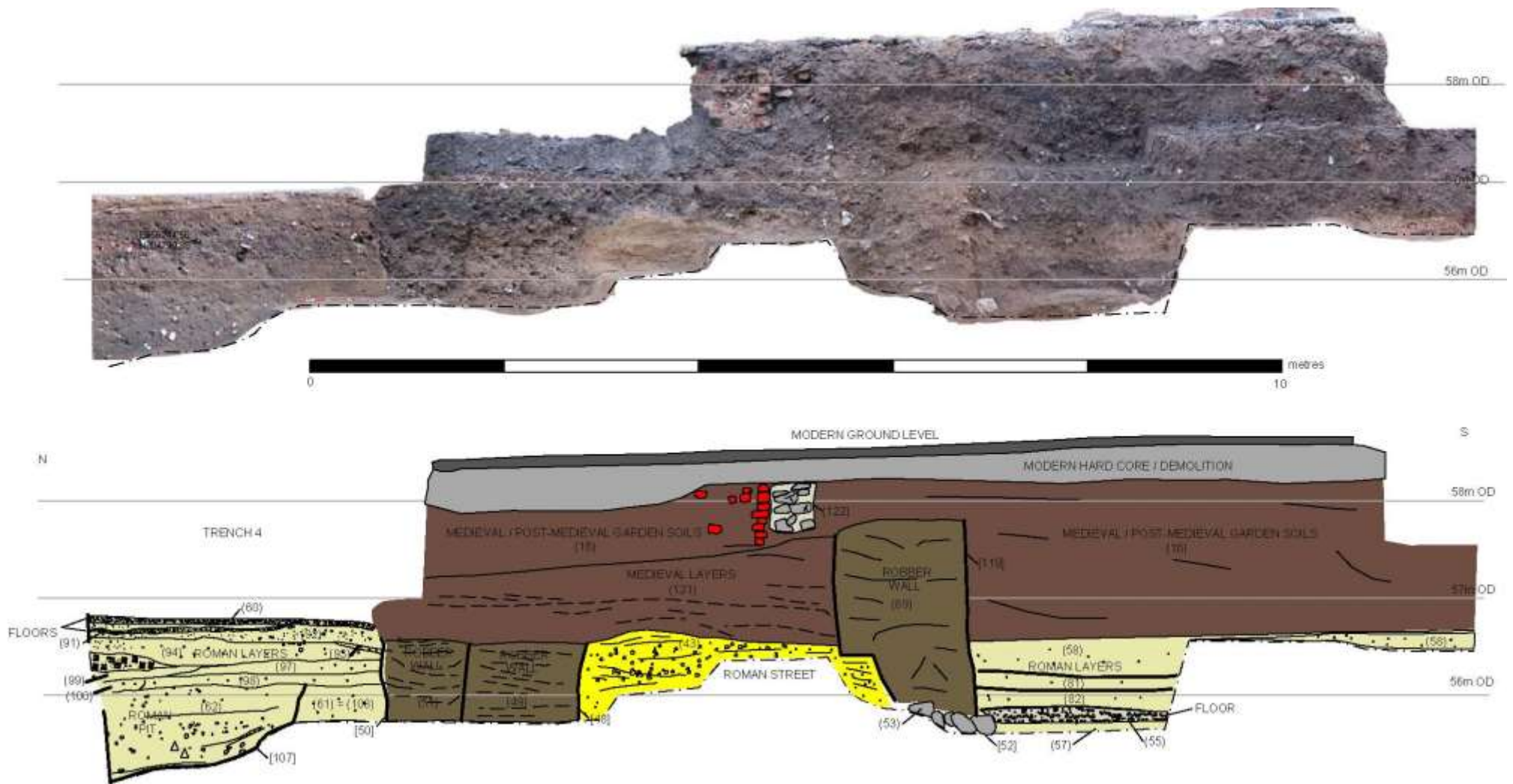


Figure 21: Section 7 (photogrammetry & interpretation), Trench 3, east-side



Figure 22: View of brick cellar, Trench 3, looking NW, 1m scale



Figure 23: View of brick cellar, Trench 3, looking NW, 1m scale



Figure 24: View of wall trench [52], road gravels (43) on right, layers including floor (55) on left, looking west, 1m scale



Figure 25: View of pit [87], prior to excavation cutting into Roman street (43). Looking east, 1m scale



Figure 26: View of NE corner of Trench 3, looking east towards Trench 4 (partly excavated), 1m scales



Figure 27: View of Trenches 3 and 4 in relation to the wider setting

6.4 Trench 4

Trench 4 was located perpendicular to Highcross Street (NE-SW orientation), it was 11.4m long, and 4.5m wide.

Initial machining removed modern tarmac and underlying hardcore. As per the other trenches, below this was a garden soil (16) of dark grey sandy-silt mixed with some building rubble. This was believed to be extensively disturbed medieval and post-medieval garden soil.

After removal of the medieval garden soils two rooms of a Roman structure were discovered, consisting of *opus signinum* floors and robber walls, reached at 56.79m OD. The floors were remarkably well preserved with very little disturbance across the length of the trench. The robber trenches seen in Trench 3 continued along the south part of the trench on a NE-SW alignment, and further connected robber wall trenches were located midway along the trench ([68]) and at the east-end (123). The evidence indicates these two rooms formed part of a larger Roman townhouse situated in the southern part of Insula III continuing to the north.

An *opus signinum* floor (*Latin meaning Roman floor of lime concrete containing crushed brick and ceramic fragments which give a reddish colour*) (60) was seen at the west-end of Trench 4. The floor was 0.1m thick and survived remarkably well. It covered an area roughly 3.8m by 3.4m. Dents in the floor could indicate furniture damage. There are suggestions of two post-holes cutting the floor surface, though these were left unexcavated to preserve them *in situ*. Post-hole [125] was remarkably circular and measured 0.4m diameter, it was filled with a dark silt (126). Post-hole [127] lay 1m south, sub-circular it measured 0.25m diameter, it was also filled with a dark silt (128). If these are post-holes it would indicate a post-use activity within this Roman building.

A further piece of *opus signinum* floor lay 1.64m to the east (70), it covered an area *c.*1.5m by *c.*1.1m. This was identical to (60) and is likely part of the same room. It showed some evidence for fire damage. It abutted the robber trench [68] forming the east-end of a room ('room 1', total room size is 7m+ E-W, 3.5m+ N-S).

Overlying the *opus signinum* floor (60) was a dark soil (42) which appeared slightly lighter in colour than the overlying garden soils (16). Within this soil 28 sherds of mid-3rd to 4th century Roman pottery, along with a single sherd of 13th century medieval pottery, and a fragment of medieval roof tile was recovered. The section visible in the NE corner of Trench 3 (Figure 21) showed that *opus signinum* floor (60) overlay a thin layer of mid orange-brown sandy-silt (90). A make-up layer (63) could be seen on the surface of the trench (close to robber [68]), this is likely to be the same as (90), this contained four sherds of 12th-century medieval pottery, retrieved from the surface, and may be intrusive material. Below this was another surface (91), this was light yellow-brown consisting of lime mortar and sand. Below this was a levelling layer (92), consisting of a mid yellow brown lime mortar pieces and sand. A very thin 'domestic debris' layer (93) consisted of dark grey-brown sandy-silt lay below this. Below this was a thicker soily layer (0.3m), (94) consisting of a mid brown sandy-silt (94). Below this was a demolition layer (95) consisting of a light yellow brown sandy-silt. Under this was a mid grey-brown silt (99), followed by another thin mid grey-brown sandy silt (98). Below this was pit [107], described in Trench 3 section above. In total over 1m of Roman stratigraphy was visible in the section.

Between the two areas of *opus signinum* floor [(60) & (70)] was a possible pit (43). This could conceivably be another robber trench (making floor (70) a narrow corridor). This was cut by pit [66]. This was oval shaped and filled with a mid grey brown sandy silt (67), thought to be medieval.

Midway along Trench 4, robber trench [68] was orientated NNW-SSE, this was 1.7m deep, 0.85m wide, and contained some fragments of large granite blocks. It was fully excavated to the base of the robber / wall cut and no *in situ* foundations or substructure were present. This connects with robber

trench [64]. A small assemblage of Roman pottery dating from the 2nd through to the 4th centuries was recovered, along with medieval pottery ranging in date from the 10th through to the 14th centuries AD. The sides of the robber provided a useful insight into the underlying stratigraphy (see Figure 30). Both sections revealed a similar sequence of deposits to those described in the section under floor (60) (see Section 7, Figure 21). They showed *c.*1.3m of Roman stratigraphy. At the top was a demolition layer (80), overlying floor (79) in Room 2. Roman make-up layer (63) was visible in the west section (Room 1) which formed the foundation for the *opus signinum* floor [(60) & (70)] above. Below this was a thin mortar layer, perhaps a surface. Below this was a make-up layer consisting of yellow-brown silt-sand (110). A white-yellow floor surface (116) was below this. A firm layer of pink clay and small mortar patches (113) was below this floor, along with small areas of silty-clay (111), and silts (112). Below this was a mid brown silt (114), 0.3m thick, perhaps an early Roman soil. A further similar light yellow silt (115) lay below this. Natural sands and gravels were reached at 55.60m OD.

To the east of robber trench [68], in an adjacent room ('Room 2') a thin (0.2m) demolition layer (80) spread across the entire width and length of the room to the next robber wall [123] (124) (4.5m E-W, 4.1m N-S) at 56.96m OD. This layer consisted of mixed yellow (crushed mortar) and red and black (heat affected) silt. Granite blocks and other smaller tile fragments were also frequent. Some of this layer was sample excavated (contained pottery indicating a 3rd century AD date), revealing the well-preserved *opus signinum* floor (79) below. This was virtually identical to floor (60). The floor continues beyond the edge of the trench to the north. The south edge is truncated by medieval / post-medieval pits [72] and (75). E-W robber [64] does not appear to continue eastwards beyond N-S robber [68]. Room 2 extends further south, as shown by a red quarter-round moulding of red mortar at the junction of floor and wall (the latter had been robbed (69)). The quarter-round moulding was 3.3m long and painted red.

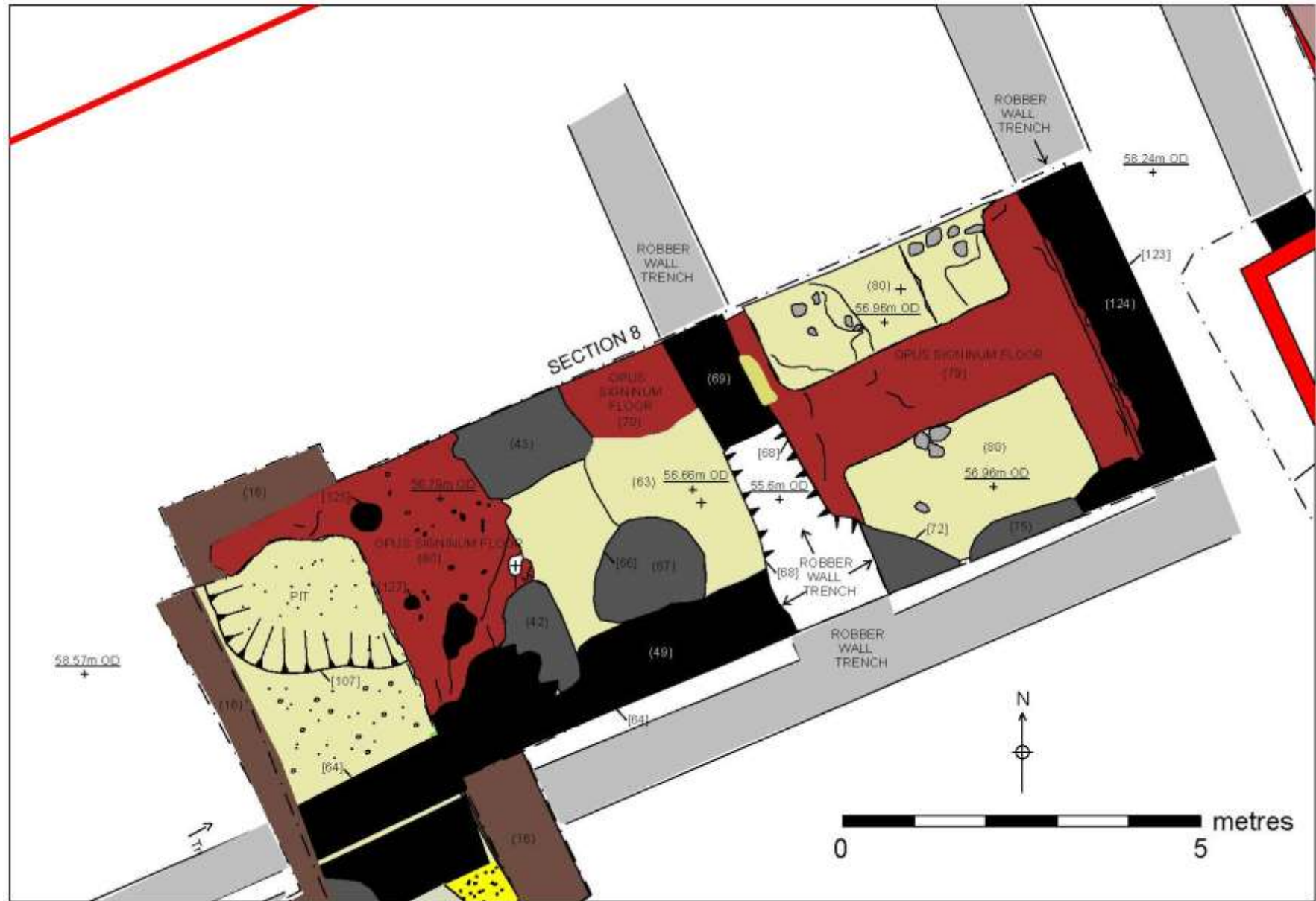


Figure 28: Plan of Trench 4

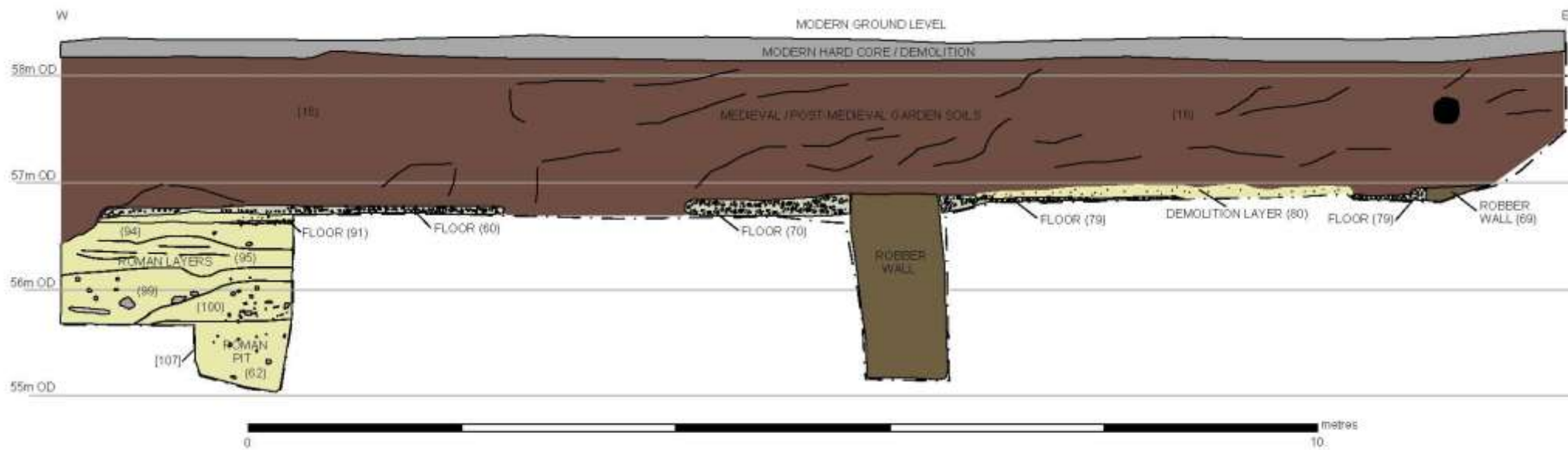


Figure 29: Section 8, Trench 4, north-side

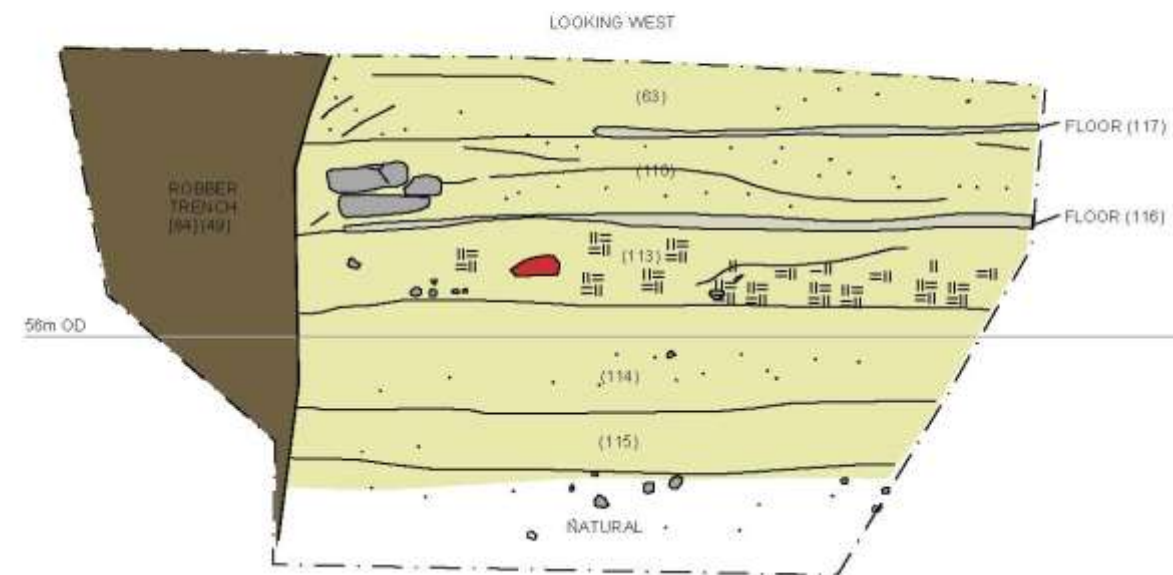
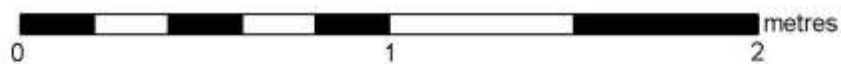
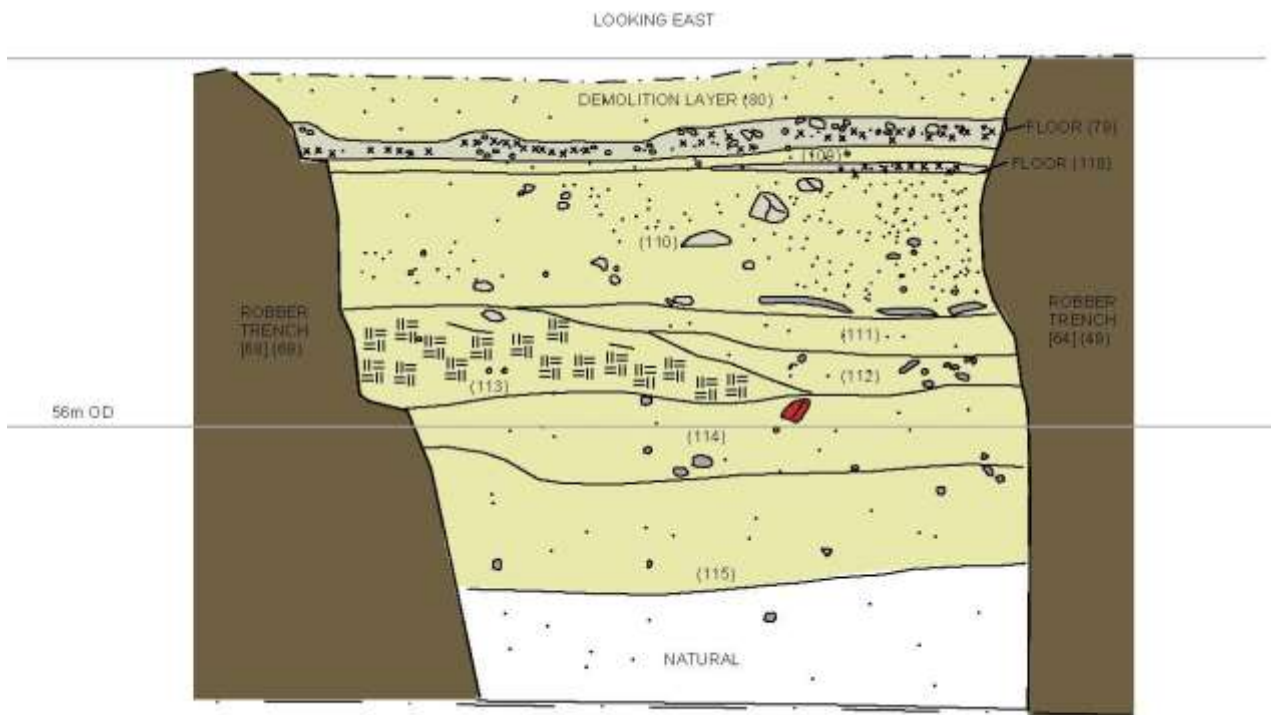


Figure 30: Sections on side of robber trench [68], Trench 4



Figure 31: View of Trench 4, working shot after initially opened



Figure 32: View of *opus signinum* floor (60), looking south, 1m scales



Figure 33: View of Trench 4, looking west, 1m scale



Figure 34: Left: view of demolition layer (80) sample excavated, right: revealing well preserved *opus signinum* floor (79)



Figure 35: View of *opus signinum* floor (79), note quarter round moulding on left and robber [68] on right, looking south



Figure 36: View of *opus signinum* floor (79), note quarter round moulding on right and robber [68] on left, looking north-east



Figure 37: Left: robber trench [68], Right: detail of edge of robber [68] and of *opus signinum* floor (79), note edge of wall plaster



Figure 38: View of painted quarter round moulding between floor *opus signinum* (79) and wall (69)

7. Finds & Environmental Evidence

7.1 The Roman Pottery (by Elizabeth Johnson)

Assemblage size and condition

An assemblage comprising 280 sherds of Roman pottery weighing 4.725kg with an EVEs value of 5.11 was retrieved from the excavations. The material was recovered from nine contexts within four trenches. The average sherd weight of 16.9g suggests good levels of preservation, and the condition of the material is generally very good. In addition, 17 sherds (443g) of re-deposited pottery was recovered.

Methodology

The pottery was examined in hand specimen using a binocular microscope at x15 magnification and classified using the Leicestershire fabric series for Roman pottery as summarised below (Pollard 1994). Specific fabrics were assigned to all sherds wherever possible within the archive dataset, however, in this report the generic ware groups summarised in the table below are used for clarity of quantified data presentation.

Table 1: Summarised Leicestershire Roman pottery fabric series.

Fabric	Description	Fabric	Description
AM	Amphorae	MO	Mortaria
BB1	Black Burnished ware	OW	Oxidised sandy wares
C	Colour-coated wares	Samian	Gaulish samian wares
CG	Calcite gritted (shelly) wares	SW	Sandy wares (Early Roman)
GT	Grog-tempered wares (Early Roman)	WS	White-slipped wares
GW	Grey sandy wares	WW	White wares
MG	Mixed-gritted wares (Early Roman)		

Table 2: Quantified Roman pottery.

Fabric	Sherds	% Sherds	Weight (g)	% Weight	EVEs	% EVEs	ASW (g)
AM	2	0.7%	297	6.3%	0	0.0%	148.5
BB1	7	2.5%	91	1.9%	0.1	2.0%	13.0
C	7	2.5%	158	3.3%	0.15	2.9%	22.6
CG	11	3.9%	297	6.3%	0.33	6.5%	27.0
GT	18	6.4%	431	9.1%	0.155	3.0%	23.9
GW	149	53.2%	2136	45.2%	2.365	46.3%	14.3
MG	6	2.1%	212	4.5%	0	0.0%	35.3
MO	8	2.9%	509	10.8%	0.275	5.4%	63.6
OW	7	2.5%	79	1.7%	0.1	2.0%	11.3
Sam	37	13.2%	279	5.9%	1.51	29.5%	7.5
SW	13	4.6%	170	3.6%		0.0%	13.1
WS	1	0.4%	5	0.1%	0.125	2.4%	5.0
WW	14	5.0%	61	1.3%	0	0.0%	4.4
Total	280	100.0%	4725	100.0%	5.11	100.0%	16.9

Quantification was by sherd count, weight (grams) and estimated vessel equivalents (EVEs based on rim values). Average sherd weights (ASW) have also been calculated to provide an indication of the condition of the material and levels of preservation within the assemblage. Vessel forms were assigned where diagnostic sherds allowed, using the Leicestershire Museums form series and other published typologies. The dataset was recorded and analysed within an Excel workbook, which forms the archive record.

Results

Trench 1

Sand and gravel layer (13).

A single sherd (12g) of pottery was recovered from a sand and gravel layer (13) within Trench 1. The vessel is a Central Gaulish samian ware Drag. 18/31 dish, a form which dates to the first half of the 2nd century. The fabric suggests a Les Martres-des-Veyre source, which indicates a date from *c.*AD100-120 (Webster 1996, 32-35).

Trench 2

Layer (21); Roman soil layer (39).

A single sherd (6g) from a grey ware jar was recovered from Layer (21) within Trench 2. Unfortunately, the sherd is undiagnostic and not closely datable, therefore a date from the late 1st-2nd century onwards is all that can be given.

Thirteen sherds (94g) of pottery were recovered from a Roman soil layer (39), comprising a mixture of grey, white and oxidised sandy wares, along with grog-tempered and Black Burnished wares. The earliest datable vessel is a grog-tempered storage jar with incised wavy line decoration, dating to the mid-late 1st century. The white ware flagons and an oxidised ware small jar or beaker date to the late 1st-2nd century. A Black Burnished ware jar is the latest datable vessel however, as the sherd is a plain body sherd, a date from *c.*AD120 onwards is all that can be given in the absence of any diagnostic features (Holbrook and Bidwell 1991). The remaining pottery consists of six grey ware jars, though one could be a beaker or small jar. Two rims are present; an everted rim and a lid-seated necked rim. Both these forms suggest a date from the late 1st century to the middle of the 2nd century (Johnson 2009, 27). Overall, a date towards the middle of the 2nd century, *c.*AD120-150, can be suggested for this group, based on the grey ware rim forms and the presence of Black Burnished ware.

Trench 3

Layer (81); Pit [87] (88).

A single sherd (19g) of pottery was recovered from a layer (81), situated below a demolition layer (58), within Trench 3. The vessel is a grey ware bowl or wide-mouthed jar with a rounded out-curved rim; a long-lived form dating from the 2nd century onwards.

Twenty-four sherds (917g) of pottery were recovered from a pit, [87] (88), encompassing a variety of fabric types including amphora, mortaria, samian and colour-coated wares, alongside oxidised and grey sandy wares. The sherd of amphora is from a *Cam* 186A amphora, associated with the importation of fish sauce and dating from the mid-1st century to the early 2nd century in Britain. The fabric is comparable to that produced in the Cadiz region of Spain (Peacock and Williams 1986, 120-121). Three mortaria are present, two from the Lower Nene Valley and one from the Mancetter-Hartshill industry. One of the Nene Valley vessels is a hammerhead form with painted bands on the flange, indicating a mid-3rd to 4th century date. The other two are undiagnostic base sherds and as such are not closely datable. The oxidised ware vessel is a Hadham burnished jar base from the pottery industry based at Little Hadham and Much Hadham in Hertfordshire. Hadham products as far north as Leicester generally date to the 3rd and 4th centuries (Tyres 1999, 168-169). Colour-coated wares from the Lower Nene Valley also suggest a late Roman date for this group. The vessel forms present comprise a 4th century plain rimmed dish, an abraded dish or bowl dating to the 3rd or 4th century, and a beaker base dating from the late 2nd-early 3rd century onwards (Howe *et al* 1980, 16-25). In addition, a colour-coated ware beaker with a dark, matt outer slip and roulette decoration could be from Colchester, and most likely dates to the 2nd or 3rd century (Tyres 1999, 167-168). The grey wares include a range of jars and bowls. A bead and flanged bowl dates from the mid-3rd to 4th century, whilst an East

Midlands Burnished type jar also dates to the 3rd or 4th century (Todd 1968; Pollard 1986, 5). The remaining identifiable vessels comprise two necked jars, one with a squared out-curved rim and one with an everted rim. Both date from the late 1st-2nd century onwards. Finally, a 2nd century Central Gaulish samian ware Drag.33 cup is probably residual in this group. Some post-Roman material was also present in this context.

Trench 4

Garden soil (42); Pit [107] (62); Robber Trench [68] (69); Demolition spread (80).

The majority of the Roman pottery assemblage was recovered from Trench 4, most of which came from pit [107] (62). The assemblage comprises 240 sherds weighing 3.677 kg, with an EVEs value of 4.19; accounting for 85.5% by sherd count, 77.8% of the weight and 82% of the EVEs within the site assemblage as a whole.

Garden Soil (42). Twenty-eight sherds (483g) were recovered from a garden soil layer (42), which overlay a Roman *opus signinum* floor (60). The material is mixed, ranging in date from the 2nd century to the mid-3rd-4th century. The fine wares comprise a samian ware Drag.31 bowl from Central Gaul dating to the second half of the 2nd century; a Colchester colour-coated ware beaker dating to the 2nd-3rd century; and a Lower Nene Valley colour-coated ware flagon dating to the 3rd-4th century (Howe *et al* 1980, 22-23; Webster 1996, 32-35; Tyres 1999, 167-168). A Lower Nene Valley hammerhead mortarium also dates from the mid-3rd to 4th century. Two Black Burnished ware vessels are present; a domed lid with burnished swirls on the outer surface (Holbrook and Bidwell Form 64) dates to the 2nd century, whilst a bowl body sherd dates from *c.*AD120 onwards (Holbrook and Bidwell 1991, 113). The oxidised wares comprise a small jar or beaker, a jar or bowl, and a deep bowl with a plain rim dating from the mid-2nd century onwards. Grey wares form the largest part of the group and include a plain rim dish, a necked jar with everted rim and a bead and flanged bowl. The first two vessels date from the 2nd century onwards, whilst the bowl dates from the mid-3rd to 4th century. Overall, a mid-3rd to 4th century date can be given to the group, based on the presence of late colour-coated wares, mortaria and a bead and flanged grey ware bowl.

Pit [107] (62). A substantial assemblage totalling 196 sherds weighing 2.957kg and with an EVEs value of 3.315, was recovered from a pit [107] (62). The earliest datable coarse wares comprise a range of grog-tempered, mixed-gritted, shell-tempered and sandy wares, often referred to as “transitional” wares, dating to the mid-1st century or mid-late 1st century (Pollard 1994, 74-75), and account for 22.4% of the sherds in the group (though only 7.1% of the EVEs). The forms present include storage jars with combed decoration, fine carinated and cordoned jars, s-shaped necked jars with beaded or rolled rims and beakers including a fine grog-tempered ware butt beaker. A single sherd (214g) from a South Spanish Dressel 20 olive oil amphora is also present. This type of amphora is the most common type found in Leicester, and dates from the late 1st century through to the early 3rd century (Peacock and Williams 1986, 136).

Grey wares form the largest single fabric group, accounting for 54.1% of the sherds (50.4% by EVEs). Jars are the most common vessel type, with identifiable forms including a neckless channel rim jar, everted rims, and s-shaped jars with everted or beaded rims. Styles of decoration present include rustication, barbotine ring and dot motifs, burnishing, cordons and rouletting. These types of vessel date from the late 1st century to the middle of the 2nd century. Other grey wares include a lid and a platter base. The platter dates to the mid-late 1st century, has two concentric parallel lines in the middle with an incised wavy line between them, and is clearly derived from imported Gallo-Belgic wares. Lids are also most common during the 1st and 2nd centuries. Two fine vessels are most likely beakers, but could be small jars. One has an everted rim, whilst the second is represented by a fine, thin walled body sherd with very fine rouletting. This second vessel is not local and could be from either the South Midlands or the London/Kent area (N. Cooper, *pers. comm.*). None of the grey wares need date beyond the middle of the 2nd century, and a late 1st-early 2nd century date is possible.

The remaining coarse wares comprise small quantities of white, white-slipped and oxidised wares. The white ware vessels are almost all flagons, including one from the Verulamium region dating to the late 1st-early 2nd century. A very fine white ware (WW3) beaker with roulette decoration dating to the late 1st-2nd century is also present (Pollard 1994, 71-72). A white-slipped screw neck flagon also dates to the late 1st-2nd century. The oxidised ware jar base is coarse, with a fabric that looks less well prepared or sorted than fully “Romanised” oxidised wares, suggesting it is early, probably dating within the second half of the 1st century.

A significant quantity of South Gaulish samian wares were retrieved, all dating within the 1st century and accounting for 16.8% of the sherds (38.8% of the EVEs) within the group. The forms present comprise five Drag.18 plates, five Drag.15/17 platters, four Drag.27 cups and one Drag.37 decorated bowl. The Drag.15/17 platter form dates to the mid-late 1st century, however it is less common towards the end of the 1st century as the Drag.18 plate rose in popularity during the Flavian period. Two vessels in particular have well defined moulding and very glossy red slips, suggesting a date nearer the middle of the 1st century (Webster 1996, 30).

Overall, a late 1st-early 2nd century date is most likely for this pit group, based on the grey wares; however, a substantial portion of the material dates within the 1st century, as the transitional coarse wares and samian fine wares combined account for 39.2% of the sherds and 45.9% of the EVEs.

Robber Trench [68] (69). A small quantity of pottery (eight sherds, 170g) was recovered from a north-south robber wall trench [68] (69). The earliest datable vessel is a 2nd century samian ware Drag.33 cup from Central Gaul. Two grey ware jars are not closely datable and a Lower Nene Valley mortarium can be only be dated from the mid-2nd century onwards. The rest of the material is later in date, including a Hadham jar or bowl and two East Midlands Burnished type ware jars, both dating to the 3rd or 4th centuries. The latest datable vessel is a Lower Nene Valley colour-coated ware flanged bowl. The form is derived from the samian Drag.38 and dates to the late 3rd-4th century (Howe *et al* 1980, 24-25; Webster 1996, 32-25; Tyres 1999, 168-169). Some post-Roman pottery was also recovered from this context.

Demolition Spread (80). A further eight sherds (67g) of pottery was recovered from a demolition spread (80), which overlay an *opus signinum* floor (79). The vessels present comprise a Black Burnished ware jar and dish with intersecting arc decoration, grey ware jars and bowls, and two later shell-tempered wares from the Harrold industry in Bedfordshire. The shell-tempered ware jar rims are rounded and out-curved, but not hooked like the latest Harrold forms. In this respect, a 3rd century date is most likely (Brown 1994).

Statement of Potential

The site is situated in close proximity to the former Stibbe factory site, where substantial Roman buildings and evidence for extensive activity during the Roman period were discovered. The pottery assemblage from this evaluation indicates significant potential for the discovery of more activity throughout the Roman period, possibly connected to that from the Stibbe site. The pottery ranges in date from the mid-1st century through to the 4th century, with a particularly coherent group of early Roman material retrieved from pit [107] (62) in Trench 4. Further work at this site would undoubtedly provide an opportunity to enhance our understanding of this part of Roman Leicester.

References

- Brown, A. E., 1994: A Romano-British Shell-Gritted Pottery and Tile Manufacturing Site at Harrold, Bedfordshire. *Bedfordshire Archaeology* **21**: 19-107.
- Holbrook, N. and Bidwell, P., 1991: *Roman Finds from Exeter*. Exeter Archaeological Reports: Volume 4. Exeter: University of Exeter Press.

- Howe, M. D., Perrin, J. R. and Mackreth, D. F., 1980: *Roman Pottery from the Nene Valley: A Guide*. Peterborough City Museum Occasional Paper No. 2. Peterborough: Peterborough City Museum.
- Johnson, E., 2009: The Roman Pottery. Pp 14-42 in Buckley, R., Cooper, N. and Browning, J.: *The Excavation of St Peter's Church and Graveyard, Vaughan Way, Leicester 2004-2006. Volume 2: The Specialist Reports*. Unpublished ULAS report 2009-158.
- Peacock, D. P. S. and Williams, D. F., 1986: *Amphorae and the Roman economy: an introductory guide*. London: Longman.
- Pollard, R., 1994: The Iron Age and Roman Pottery. Pp 51-114 in Clay, P. and Pollard, R., *Iron Age and Roman Occupation in the West Bridge Area, Leicester. Excavations 1962-1971*. Leicester: Leicestershire County Council Museums, Arts and Records Service.
- Todd, M., 1968: The Commoner Late Roman Coarse Wares of the East Midlands. *Antiquaries Journal* **48**: 192-209.
- Tyres, P., 1996: *Roman Pottery in Britain*. London and New York: Routledge.
- Webster, P., 1996: *Roman Samian Pottery in Britain. Practical Handbooks in Archaeology no. 3*. York: Council for British Archaeology.

7.2 The medieval and post-medieval pottery and ridge tile (by Deborah Sawday)

Introduction and overview

The pottery assemblage was made up of 44 sherds, weighing 831 grams. A fragment of medieval ridge tile, weighing 79 grams was also recorded. The finds ranged in date from late Saxon/earlier medieval to the late medieval.

Condition

The condition of the pottery and the ridge tile was fairly good with little abrasion and but with a relatively low average sherd weight of 18.8 grams for the former and 79 grams for the latter.

The material was examined under an x20 binocular microscope and catalogued with reference to current guidelines (MPRG 1998, MPRG 2016) and the ULAS fabric series (Davies and Sawday 1999, Sawday 2009), (Table 3).

Table 3: The medieval pottery and ridge tile site totals by fabric, sherd number, weight (grams), minimum vessel count and average sherd weight (ASW).

Fabric	No.	Gr	ASW	% of total by sherd
Pottery				
Late Saxon/Earlier Medieval				
LI/SN	2	4	2	
ST1/2	7	72	10.2	
RS	21	451	21.4	

PM	10	192	19.2	
OS	1	17	17	
Sub Total	41	736	17.9	93.18
Medieval				
CC1	3	95		
Sub Total	3	95	31.66	6.81
Site Totals	44	831	18.8	99.99
Ridge Tile				
Later Medieval				
MP	1	79	79	2.27
Site Totals	1	79		

Discussion

Over ninety per cent, by sherd numbers of the albeit small assemblage, dated to the late Saxon/early medieval periods (table 1). Most of the pottery was recovered from trench 4; and the largest groups occurred in two pits in this trench and trench 3. More finds occurred in the garden soil, which also produced the ridge tile fragment, above the *opus signinum* floor also in trench 4. A few more sherds occurred in the demolition layer in the same trench. Sherds were also recovered from layers in trenches 1 and 2 (table 2).

Conclusion

Whilst no evidence was found of the buildings fronting on to the medieval Highcross Street; the finds, the majority of which occurred in the backyard of the medieval plots fronting on to the street, provide evidence of activity of occupation on part of what had been a major thoroughfare of the medieval town from the 11th if not the 10th centuries. Hence, they provide a useful addition to the documentary evidence which records occupation within the town and the northern suburbs by the 13th century.

Table 4: The medieval pottery and ridge tile by context, fabric/ware, number and weight (grams)

Context	Fabric/ware	No	Gr	Comments
POT				
13 T1 layer	ST1/2 – Stamford ware	1	10	Mid-11th – mid 13th C
20 T2 layer	PM – Potters Marston	4	161	12-mid-13th C. includes thumbled bowl rim & 2 jars one unusual with stabbed circular decoration on rim top and early thin walled body sherd
42 T4 garden soil	CC1 - Chilvers Coton	1	20	Flat base, green glaze
63 T4 demolition	PM – Potters Marston	4	3	Thin walled – 12th C.
69 [68] pit T4	ST1/2 – Stamford ware	3	31	Mid-11th – mid 13th C
69	L1/SN –Lincoln/St Neots	2	4	?10th – 11th C+
69	OS – Oxidised sandy	1	17	Flat base - ?11th -12th C
69	CC1 - Chilvers Coton	1	57	Highly decorated jug fragment, c.1250-1300+
69	CC1 - Chilvers Coton	1	18	Rilled jug neck, hard fired ?Warwicks fabric SQ51 14th C+
88 [87] pit T3	ST2 – Stamford ware	3	31	1 vessel – mid 11th -12th C
88	PM – Potters Marston	2	28	Collared jar – 12th C.
88	RS – Reduced Sandy	21	451	Jar – 1 pot. Mix of inclusions, quartz, calcite etc., ?11th - 12th C. Similar rim in T1-T2 at Northants.
RIDGE TILE				

42 T4	MP – Midland Purple	1	79	Highly fired, c.1375-1550
-------	---------------------	---	----	---------------------------

References

- Connor, A., and Buckley, R., 1999 *Roman and Medieval Occupation in Causeway Lane, Leicester*, Leicester Archaeology Mon. **5**.
- Davies, S., and Sawday, D., 1999 'The Post Roman Pottery and Tile' in A. Connor and R. Buckley, 1999, *Roman and Medieval Occupation in Causeway Lane, Leicester*, Leicester Archaeology Monograph 5, 165-213.
- MPRG, 1998 *A Guide to the Classification of Medieval Ceramic Forms*. Medieval Pottery Research Group Occasional Paper **1**, London.
- MPRG *et al*, 2016 *A Standard for Pottery Studies in Archaeology* Medieval Pottery Research Group Occasional Paper, London.
- Sawday, D., 2009, 'The medieval and post medieval pottery and tile' in J. Coward and G. Speed, *Urban Life in Leicester: An Archaeological Excavation at Freeschool Lane. Vol 2 Specialist Reports* ULAS Report No.2009-140,36-182.)

7.6 The Small Finds (by Nicholas J. Cooper & Richard Buckley)

Introduction

A total of nine objects were recovered, including a copper alloy Roman brooch, two copper alloy Roman coins, a bone spindle whorl and a medieval dress pin shaft. Five of the objects come from pit fill (62) dating to the second half of the 1st century AD. The objects are catalogued below in order of functional category.

Catalogue

Objects of Roman Dress

1) Sf1 (62) Copper alloy one piece brooch. Surfaces rather corroded. Complete except for lower half of the pin, now missing. A spring of eight turns has a superior chord which is secured by hook which is folded back over the head. The bow is broad and of flat section, the upper part with a semi-circular curve, and the lower part straightening and flaring slightly to a squared-off foot. The long, solid catch plate begins at the junction between the upper and lower halves of the bow. There is a faint central moulding down the centre of the upper bow which terminates in a transverse groove at the bottom of the curve. Length 47mm.



Figure 39: 1st century AD continental one-piece brooch, SF1 context (62)

Although corrosion perhaps hides the ‘eye’ decoration which is a feature of the type, it clearly belongs to the group of continental one-piece brooches, dating to the second half of the 1st century AD, which include the ‘Eye’, and the more sharply-angled ‘Knickfibel’ and is paralleled by an example from Richborough in Kent (Bayley and Butcher 2004, 58, fig.41.35 Class T40). Such brooches were brought in by the army as they are common at the forts along the Rhine and Danube frontier and several came from Claudian levels at Colchester (Bayley and Butcher 2004, 148). They are not very common in Britain and this is the only example known to have come from Leicester in recent times.

2) Sf3 (62) Copper alloy. Length of pin shaft bent at one end. Probably a brooch pin. Broken length 32mm.

Unidentified objects of Roman date

3) Sf4 (62) Copper alloy. Miscellaneous fragment. Length 20mm

4) Sf8 (62) Copper alloy. Two amorphous fragments. Length of largest 16mm.

Object of medieval dress

5) Sf6 (82) Copper alloy. Medieval dress pin shaft with head missing. Incomplete length 47mm, diameter 1mm. Pins of this type, with thin shafts made from drawn wire become common during the 14th century when they were used to secure veils and headdresses (Egan and Pritchard 1991, 297).

Object relating to Saxo-Norman textile manufacture

6) Sf9 (88) Bone. Femoral head spindle whorl. Largely complete but damaged around the circumference. Hemispherical whorl manufactured from the femoral head of a large mammal. Fairly straight-sided central perforation. Diameter 42mm, height 30mm, diameter of perforation 11mm. Spindle whorls using femur heads are most common in the 10th to 11th centuries, although earlier examples are known (Walton Rogers 1999, Table 177). Examples from Leicester are known from Bonners Lane (Harvey 2004) and Freeschool lane (Cool 2009, 211, fig.30.37).



Figure 40: Saxo-Norman spindle whorl, SF9, context (88)

Fastening and fittings of probable Roman date

7) (80) Iron nail. Flat round head and upper shaft. Width of head 20mm. A typical carpentry nail.

Roman Coins

8) Sf7 (62) Copper alloy. Very worn Early Roman coin fused to mineralised wood. Illegible. Diameter 28mm. Probably a 1st or 2nd century *As* judging by the size.

9) Sf5 (82) Copper alloy. Constantine I AD 330-35. Obv: [CONSTANTINO] POLIS. Rev: Victory on prow. Diameter 17mm.

Statement of Potential

A small but interesting assemblage of finds demonstrating the occurrence of diagnostic object types in well-stratified deposits associated with other classes of material such as pottery. There is potential therefore to elucidate the chronological and functional character of the site with a much larger assemblage if further work is undertaken.

References

- Bayley J and Butcher S., 2004 *Roman Brooches in Britain*. London: Society of Antiquaries of London.
- Cool H.E.M. 2009 'The small finds' in J. Coward and G. Speed *Urban Life in Leicester: an Archaeological Excavation at Freeschool Lane*. ULAS report 2009-140 Vol 2, 194-251.
- Egan, G. and Pritchard, F., 1991 *Medieval Dress Accessories from Excavations in London c.1150-c.1450*. Museum of London. London: HMSO
- Harvey, D. 2004 'The small finds' in N. Finn, *The Origins of a Leicester Suburb: Roman, Anglo-Saxon, medieval and post-medieval occupation at Bonners Lane*. British Archaeological Report 372.
- Walton Rogers, P. 1997 *Textile Production at 16-22 Coppergate*. Archaeology of York 17/11. York: York Archaeological Trust.

7.7 The Roman Building Materials (by Jennifer R. McNulty)

Roman ceramic building material

A total of 4,495g of Roman ceramic building material was recovered from 45 contexts. These were catalogued according to type, count and weight (Table 1). McComish, 2015 was used in the classification of the ceramic building materials.

Table 1, ceramic building materials by context, count and weight.

Context	Type	Count	Weight (g)	Sample Kept?	Comments
39	Imbrex	1	53	no	slight lip on one end
39	Unident.	1	79	no	
42	Unident.	1	43	no	
62	Unident.	1	11	no	
69	Tegula	1	95	no	
80	Imbrex	13	1098	yes	one join between two fragments
80	Tegula	8	366	yes	
80	Unident.	6	161	yes	
88	Tegula	6	1025	yes	one cut-out
88	Imbrex	2	883	yes	
88	Wall	1	454	yes	
88	Boxflue	1	168	yes	
88	Unident.	3	59	yes	
Total		45	4495		

The majority of the Roman tile recovered was heavily fragmented, with an average fragment weight of approximately 100g, and likely represents demolition debris from a building in the vicinity. Unidentifiable fragments made up approximately one quarter of the assemblage and imbrex was the most common identified type (35.5%). Most of the assemblage has a typical hard-fired sandy fabric apart from three fragments from context (80). These fragments have not been fired as highly as the rest of the tile from this context and the fabric is poorly sorted with common to abundant sub-angular and sub-rounded grog/clay pellet inclusions. One fragment of imbrex in this group appears to have organic impressions on the underside (Figure 1). These fragments have been retained to reflect this variation in fabric if further detailed analysis is undertaken.



Figure 41: organic impressions on underside of imbrex

Tesserae

Three large blue stone tesserae were recovered from three contexts, providing some evidence for tessellated flooring. These have been recorded by count and weight (Table 5) and have been discarded.

Table 5: tesserae by context, count and weight.

Context	Count	Weight (g)
13	1	22
23	1	29
88	1	18

Construction Stone

One construction stone, weighing 2,274g, was also recovered from context (88). It is a micaceous sandstone with a right-angle and a burnt surface, possibly indicative of use in a hypocaust system. It has been discarded.

Potential

This assemblage is well stratified and well preserved, as approximately three-quarters of the ceramic building materials were identifiable. The presence of several large fragments, particularly in contexts (80) and (88), suggests that further work will uncover more ceramic building material. This will undoubtedly allow for a better understanding of building and room construction in this area.

Reference

McComish, J.M. 2015. *A Guide to Ceramic Building Materials*. York Archaeological Trust, York.

7.8 Painted Wall Plaster (by Heidi Addison)

A total of 1,147g of painted wall plaster and mortar, was collected from two contexts (60) and an unstratified context. The material was counted and weighed by context (Table 1.)

Table 6 Painted wall plaster

Context	Weight (g)	Description
60	930	1 fragment of <i>opus signinum</i> . Mixed aggregate and crushed tile in buff lime mortar. Depth 60 mm.
69	168	3 ?plain light pink fragments of painted wall plaster with abraded paint surfaces. Lime mortar.
	6	1 fragment plain red painted wall plaster. Lime mortar.
U/S	43	1 fragment of plain burgundy. Abraded surface. Fine lime mortar. *discarded*
Total	1147	

A sample of *opus signinum* floor was taken from a floor surface (60), typically compacted with flint pebbles, sand, crushed ceramic tile fragments in a lime mortar matrix for strength and durability. The addition of the ceramic tile fragments gives the mortar its waterproofing quality.

There were just four small fragments of painted wall plaster from (69): three plain light pink and one red, with a lime mortar. The abraded surface of the unstratified fragment appears to be plain burgundy with a fine lime mortar.

Although the current assemblage is small, the fact that the bases of walls and the floors of rooms have been recognised during the evaluation may suggest that a larger quantity of wall plaster directly related to the building remains could potentially be found if further work is undertaken, which is an unusual occurrence in Leicester where floor and walls are rarely preserved.

7.9 Industrial Residues (Heidi Addison)

The evaluation provided limited evidence with only one magnetic fragment of vitrified ceramic hearth lining 58g from (62), suggesting the possibility of iron smithing in the vicinity.

7.10 Animal Bone (by Will Johnson)

Introduction

This report presents the analysis of a small assemblage of animal bone recovered during excavations off Highcross Street, Leicester.

Provenance and dating

In total, 347 fragments of bone were recovered by hand during the excavation of eight contexts. The majority of excavated bone (280 fragments – 80.7%) came from two pit fills, (62) from [107] and (88) from [87]. Other contexts included three soil layers (14 fragments), a layer of burning (1 fragment), a sand/gravel layer (5 fragments) and a demolition spread (47 fragments). The assemblage size is too small to allow for comparisons between feature types.

All contexts were dated to the Roman period between the 1st and 4th centuries AD. Too few contexts produced sufficient bone of a secure enough date that changes over time at the site could be investigated.

Table 7 Number/percentage of bone fragments by context

Context	Cut	Description	Period	no. fragments	%
13		Sand/gravel layer	Roman?	5	1.4
21		Layer	Roman	1	0.3
39		soil layer	Roman	6	1.7
62	107	Pit fill	Roman	194	55.9
80		Demolition Spread	Roman	47	13.5
81		Layer	Roman	7	2.0
83		Burnt layer	Roman	1	0.3
88	87	Pit fill	Roman	86	24.8
Total				347	100

Methodology

Identification to element and taxon was attempted on all fragments of animal bone through comparison with reference material held at the School of Archaeology and Ancient History, University of Leicester. Recorded information was compiled directly into a standardised Excel spreadsheet.

Determination between sheep and goat was attempted on elements listed in Boessneck (1969) and also through examination of the mandibular dentition following the criteria defined by Halstead and Collins (2002).

Anatomical zones present were recorded following the eight zones defined by Serjeanston (1996) for mammals and following Cohen and Serjeanston (1996) for birds. Grant's (1982) system was used to record mandibular tooth wear in cattle, sheep/goat and pigs. For horse, tooth crown heights of cheek-teeth were measured following Levine (1982). Epiphyseal fusion data was recorded for post-cranial elements and ages were estimated for these following the suggested age ranges in Reitz and Wing (2008). Where identified, pathologies were recorded in full following Thomas and Worley (2014). Where appropriate a differential diagnosis was carried out considering all potential causes of lesion formation. Measurements were taken on all mammal teeth and bones where possible following the criteria defined by Von den Driesch (1976) and Davis (1992).

Butchery was recorded by type as either a chop, cut or saw mark and the location was described. Burnt bone was recorded using four stages, unburnt, singed, burned and calcined. Preservation was recorded on a four-point scale following the criteria defined by Harland *et al.* (2003). Weathering was recorded following Behrensmeyer (1978).

Joining fragments and those known to belong to the same bone were reassembled and the resulting specimen counted as one, although a record of the original number of fragments present was retained. The 'Number of Identifiable Specimens' (NISP) was calculated by counting the number of bones and loose tooth specimens (Wolverton 2002).

Results

Preservation and Taphonomy

Reassembly of joining fragments reduced the total number of excavated bone from 347 fragments to 340 total specimens. From this point onwards the analysis will refer to the number of *specimens*.

A very small proportion (3.2%) of bones were described as being in 'excellent' condition, all deriving from (80), characterised by a fresh or glossy surface. The majority of the bones (90.8%) were of 'good' condition, showing only localised flaking on the surface. A small proportion (6%) were described as 'fair', with flaking of the bone noted on up to 49% of the bone surface. Surface weathering was only noted on less than 1% of specimens, the only notable example being a cattle mandible from (21) which showed severe cracking of the cortical surface.

No notable differences were noted in the preservation levels between the pits fills; (62), (88), and the layers; (13), (21), (39), (80), (81) and (83). Preservation levels were variable within demolition layer (80) with a number of specimens in 'excellent' condition. It is possible that these were incorporated at a later date or that disturbance may have caused differential preservation across the layer.

Gnawing was identified on 7% of specimens and in all cases was characteristic of canine destruction with the presence of pitting and broad scoring of the bone as a result of teeth being dragged across its surface (Binford 1981: 46-47). No burning of any level was noted on any of the specimens.

Overall preservation posed very few issues for identification with a good level of preservation of surface detail present meaning that identification of bones to element and species was not impaired. The good preservation is further highlighted by the survival of a number of delicate bones including those of juvenile birds.

A relatively high proportion (31.2%) of bone was deemed indeterminate although this was likely inflated by a number of contexts with large quantities of bone which hindered attempted re-joining of fragments. 33% of specimens could be identified to species with a further 23% of the assemblage being composed of ribs of which no attempt was made to identify to the species level.

Taxon and Element Representation

The table below shows the total numbers of excavated bone from each context dated to the Roman period (Table 2). The assemblage included the main domesticates of cattle, sheep/goat, pig and chicken. A partial dog skeleton was recovered from (88). Fox bones, probably deriving from a single individual were recovered from (80) as well as a stray find of a cat radius.

Table 8: Number of hand-recovered bones in each context.

Context	Cut	Description	Cattle	Sheep/ goat	Pig	Chicken	Dog	Cat	Fox	Large Mammal	Medium Mammal	Chicken- size Bird	Indet	Total
13		Sand/gravel layer								2			3	5
21		Layer	1											1
39		soil layer	1		1					1			1	4
62	107	Pit fill	29	26	9	3				34	27	3	61	192
80		Demolition Spread	6	6	1			1	6	4	2		19	45
81		Layer		1		1					3		2	7
83		Burnt layer										1		1
88	87	Pit fill	6	13	4	1	9			17	13	2	20	85
Total			43	46	15	5	9	1	6	58	45	6	106	340

Sheep/goat (36.8%) and cattle (34.4%) were the most common taxa within the identified assemblage and were fairly evenly represented. Pig was the next most common (12%). The three main domesticates accounted for 83.2% of the identified assemblage. Of the other species present dog was most abundant (7.2%) followed by fox (4.8%), chicken (4%) and cat (0.8%).

Table 9: NISP and %NISP for the assemblage

Taxon	NISP	% NISP
Cattle	43	34.4
Sheep/goat	46	36.8
Pig	15	12.0
Chicken	5	4.0
Dog	9	7.2
Cat	1	0.8
Fox	6	4.8
Total	125	100

Species distinction between sheep and goat was attempted on a number of post-cranial elements and teeth. In all instances where the species could be identified it was determined that the elements belonged to sheep rather than goat.

A number of bird bones could not be identified to specific species and were placed into the category of chicken-sized bird. This included a furculum, sternum fragment, two coracoids and an ulna. The coracoids were identified to chicken/pheasant as was the sternum fragment. The ulna was a proximal end from a juvenile individual and the features were insufficiently formed to allow identification although chicken is likely.

For cattle and sheep/goat whole carcasses seem to have been distributed across the site, with elements from all parts of the body represented in fairly equal proportions. A much smaller quantity of pig bones is present and there is an absence of limb bones, with all elements deriving from the axial skeleton with the exception of a metacarpal and phalanx. Chicken is represented by long bones and a scapula. Dog was represented by a partial skeleton from which the entire cranium and one mandible were present as well as the axis, a cervical vertebra, a left radius and left metacarpals 2-5. The fox bones probably also came from a single individual and comprise multiple cranial elements including both mandibles and a fragment of maxilla as well as a left radius. Cat was represented by the find of a single left radius, this is likely to be an intrusive find.

It is worth noting the presence of a large number of rib fragments were present within the assemblage with 49 identified as belonging to large mammals (14.1% NSP) and 30 from medium mammals (8.6% NSP).

Whilst a reasonable number of loose teeth were recovered, this made up only 19% of all teeth within the assemblage, with the other 81% of teeth in situ within mandibles or maxillae. A low proportion of loose teeth indicates the assemblage is well preserved and has received little disturbance.

Table 10: Number of specimens by species and element

Element	Cattle	Sheep/goat	Pig	Chicken	Dog	Cat	Fox	Total
HEAD								
Horncore	3							3
Cranium					1			1
Maxilla		2	3				1	6
Mandible	4	5	3		1		2	15
Teeth	1	6	4				2	13
SPINE								
Atlas		1						1
Axis		1	1		1			3
Cervical	1	2			1			4
Thoracic	3	1						4
Lumbar	1	2	2					5
SCAPULAE								
Scapula	4	2		1				7
FORELIMB								
Humerus	1	4		1				6
Ulna	2							2
Radius	2	3		1	1	1	1	9
PELVES								
Pelvis	2	2						4
HINDLIMB								
Femur	2	1		1				4
Tibia	1	7						8
FEET								
Naviculo-Cuboin	1							1
Astragalus	1							1
Calcaneum	2							2
Metacarpal	1	4	1		4			10
Metatarsal	5	2						7
Phalanx 1	4	1	1					6
Phalanx 2	2							2

Tarsometatarsus				1				1
Total	43	46	15	5	9	1	6	125

Due to the small assemblage size MNI was not calculated as it would not provide any meaningful information or realistically reflect the number of animals deposited at the site.

Specimens of interest include the partial dog skeleton from (88) from which the entire cranium is present including 14 of the maxillary teeth. A piece of iron, likely a nail, is corroded onto the right side of the skull just above the mastoid process. This is probably due to chance preservation and is unlikely to be significant. The right mandible is also present. These will be discussed in detail below in the pathologies section.

Age structure

Two cattle mandibles could be aged. One from (21) had P3, P4 and M1 present. P4 had a recorded wear stage of 'C' while M1 had a wear stage of 'G'. This allowed the mandible to be aged to a minimum of eight months old.

A cattle mandible from (62) had a dP4, M1 and M2 present. M1 was recorded as wear stage 'C' whilst M2 was only just coming into wear which allowed the mandible to be aged 8-18 months.

A sheep mandible also from (62) had P2, P3, dP4 and M1 present. dP4 had a wear stage of 'E' whilst M1 was only just coming into wear returning an age 6-12 months for the animal.

Fusion data could be recorded for 50 bones (Table 5), of which 27 were fused, 6 were fusing, 16 were unfused and the cat radius from (80) had a fused proximal end and unfused distal end.

Table 11 Epiphyseal fusion data, ages in months, based on table from Reitz and Wing (2008: 72)

Context	Cut	NISP	Bone	Taxa	Pfusion	Dfusion	Age
39		1	Phalanx 1	Pig	Fused		24+
39		4	Phalanx 1	Cattle	Fused		18+
62	107	1	Calcaneum	Cattle	Fused		36+
62	107	1	Metatarsal	Cattle		Unfused	≤36
62	107	2	Metatarsal	Cattle		Fused	24+
62	107	1	Cervical Vertebra	Sheep/goat	unfused	unfused	≤60
62	107	1	Humerus	M Mammal		Fusing	N/A
62	107	1	Humerus	Sheep/goat	Unfused		≤42
62	107	1	Humerus	Cattle		Fused	18+
62	107	1	Lumbar Vertebra	Cattle	Fusing		84-108
62	107	1	Metacarpal	Cattle		Fused	24+
62	107	1	Metacarpal	Sheep/goat		unfused	≤28
62	107	1	Radius	Cattle	Fused		18+
62	107	1	Radius	Sheep/goat	Fusing		36-42
62	107	1	Tibia	Sheep/goat	Unfused	Unfused	≤24
62	107	2	Tibia	Sheep/goat		Unfused	≤24
62	107	1	Tibia	Sheep/goat		Fused	15+
62	107	1	Tibia	M Mammal	Unfused		N/A
62	107	1	Ulna	Cattle	Unfused		42+
80		1	femur	Cattle		Fused	42+
80		1	Humerus	Sheep/goat		fused	3+

80		1	Phalanx 1	Sheep/goat		fused	6+
80		1	Radius	Cattle	fused		12+
80		1	Radius	Fox	fused	fused	N/A
80		1	Radius	Cat	fused	unfused	N/A
80		1	Tibia	Cattle	fused		42+
81		1	Cervical Vertebra	Sheep/goat		fusing	48-60
88	87	1	Axis	Sheep/goat	fusing	unfused	48-60
88	87	1	Axis	Pig		unfused	≤84
88	87	1	Cervical Vertebra	Dog	fused	fused	N/A
88	87	1	Humerus	Sheep/goat	unfused	unfused	≤10
88	87	1	Lumbar Vertebra	Pig	fusing	unfused	48-84
88	87	1	Lumbar Vertebra	Pig	unfused	unfused	8≤84
88	87	1	Lumbar Vertebra	M Mammal	unfused	unfused	N/A
88	87	1	Metacarpal 2	Dog		fused	8+
88	87	1	Metacarpal 3	Dog		fused	8+
88	87	1	Metacarpal 4	Dog		fused	8+
88	87	1	Metacarpal 5	Dog		fused	8+
88	87	1	metapodial	Sheep/goat		unfused	≤28
88	87	1	Metatarsal	Sheep/goat		fused	18+
88	87	1	Radius	Sheep/goat		unfused	≤42
88	87	1	Radius	Sheep/goat	fused		3+
88	87	1	Radius	Dog	Fused	Fused	11+
88	87	1	Thoracic Vertebra	Sheep/goat		unfused	≤60
88	87	1	Tibia	Sheep/goat		fused	15+

The fusion data indicates the presence of animals from a range of ages at the site including some very young animals such as a sheep/goat that was under ten months, likely indicating that animal breeding was taking place at or near to the site.

A number of animals were slaughtered while the vertebrae centrum plates were in the process of fusing onto the bodies. Vertebrae are the last fusing elements in mammals (Reitz and Wing 2008: 72) so these animals were just reaching full skeletal maturity.

Older cattle and sheep/goat bones were also present indicating the potential exploitation for secondary products before slaughter.

Sex

A sheep/goat pelvis from (62) had a very narrow ventro-medial border of the acetabulum. In male animals this border is generally around twice as wide as in females of a corresponding size (Boessneck 1969, 345). Therefore, due to the narrowness of the border the pelvis was judged to have belonged to a female animal.

Two pig mandibles from (62), potentially deriving from a single individual, had large canines with a triangular shaped root which was still open. Male pig canines grow constantly, hence require an open root, and length is controlled through sharpening against the upper canines, producing characteristic attrition facets (Hillson 2005, 129), allowing both mandibles to be identified as male.

A chicken tarsometatarsus from (88) had a spur attachment scar. This meant that the bird was a male.

Butchery

A small number of specimens (12.6%) displayed butchery marks (Table 6). A range of activities were displayed including disarticulation of the skeleton through chopping and dismemberment through cutting, portioning of joints, de-fleshing and three examples of skinning, including evidence from a fox mandible and maxilla.

The frequent use of heavy chopping tools in the disarticulation of the carcass became common in the Roman period whilst the knife also continued to be use albeit more infrequently (Grant 1987, 55). Two cattle metatarsals from (62) had distinctive spiral fracture breaks through the distal metaphysis indicating they had been butchered. Butchery of this nature on metapodials is associated with intensive use of the carcass and the extraction of marrow (Grant 1987, 57).

The presence of a number of split vertebrae within the assemblage is notable. This is indicative of suspension of the carcass and is typical of medieval rather than Roman butchery (Grant 1987, 56). The presence of split vertebrae within this assemblage may therefore indicate later disturbance to the contexts.

Table 12: Description of type, location and action that caused butchery marks on specimens

Context	Cut	Element	Taxon	Butchery	Butchery Location	Action
39		Rib	Large mammal	Cuts	Multiple parallel cuts across shaft	Defleshing
62	107	Metatarsal	Cattle	Cut	Cut on posterior proximal metaphysis below articular surface	Dismembering
62	102	Metatarsal	Cattle	Spiral fractures?	Two metatarsals showed spiral fracture above the distal metaphysis possibly associated with deliberate breaking	Marrow extraction?
62	107	Tibia	Sheep/goat	Chops	Multiple parallel chops into distal metaphysis	Disarticulation
62	107	femur	Chicken	Cut	Posterior diaphysis across shaft	Defleshing
62	107	Metacarpal	Medium mammal	Cut	Posterior diaphysis across shaft	Defleshing
62	107	Mandible	Pig	cuts	Multiple parallel cuts on medial surface below tusk	Skinning
62	107	Mandible	Cattle	Cuts	Multiple parallel cuts on the medial surface below condyle	Dismembering
62	107	Mandible	Large mammal	cut	Anterior of condyle	Dismembering
62	107	Ulna	Cattle	Cut	Across posterior of ulna crest	Dismembering
62	107	Cervical Vertebra	Cattle	chop	Shallow chop beside lateral facet	Disarticulation
62	107	Cervical Vertebra	Sheep/goat	Chop	Vertebra split along midline	Splitting carcass
62	107	Scapula	Chicken	cut	Lateral edge of scapula blade at midpoint	Defleshing
62	107	Humerus	Cattle	Chop	Chop through distal articulation	Disarticulation
62	107	Rib	Large mammal	Chops, cuts	4 ribs chopped through shaft, 2 ribs cut across shaft	Portioning and defleshing
62	107	Ribs	Medium mammal	chops, cuts	2 ribs cut across shaft	Portioning and defleshing

80		Tibia	Sheep/goat	Chops	Parallel chops into lateral surface of diaphysis	Portioning?
80		Mandible	Fox	Cuts	Multiple cut marks across mandible below premolars	Skinning
80		Maxilla	Fox	Cuts	Multiple cuts above premolars	Skinning
80		Humerus	Sheep/goat	chop	Chop through distal metaphysis	Disarticulation
80		Atlas	Sheep/goat	cuts	Parallel cuts posterior of cranial facet	Dismembering
80		Ribs	Large mammal	chop	3 ribs chopped through shaft	Portioning
81		Ribs	Medium mammal	cut	Cut across shaft	Defleshing
81		Cervical Vertebra	Sheep/goat	chop	Vertebra split along midline	Splitting carcass
88	87	Tibia	Sheep/goat	cut	Cut across posterior diaphysis	Defleshing
88	87	Thoracic Vertebra	Sheep/goat	chop	Chop into lateral body	Splitting carcass?
88	87	Lumbar Vertebra	Medium mammal	chop	Vertebra split along midline	Splitting carcass
88	87	Pelvis	Cattle	chop	Chop through acetabulum	Disarticulation
88	87	Horncore	Cattle	chop?	Chopped through to separate from base?	Removal for craft?
88	87	Ribs	Medium mammal	Chops, cuts	2 Ribs chopped through shaft	Portioning and defleshing
88	87	Ribs	Large mammal	Chops, cuts	7 ribs chopped through shaft, 2 cut across shaft	Portioning and defleshing

Pathologies

A large mammal rib from (13) had a plaque of compact bone growth on the lateral surface of the shaft. This was roughly oblong in shape and covered the full width of the rib shaft and spread approximately 2cm along the shaft. The new bone was all smooth compact bone, suggesting that it had remodelled and the lesion was not active at the time of the animal's death. This lesion may potentially have been caused by a fracture, the new bone formation caused by the creation of a fracture callus.

A pig phalanx 1 from (39) exhibited a plaque of new bone growth on the anterior surface of the phalanx, just below the proximal articulation. The lesion was discrete with a well-defined margin and was roughly circular in shape. The bone formation was porotic woven bone and no remodelling was observed, indicating the lesion was active at the time of death. This is likely a periosteal reaction, potentially due to minor traumatic injury or infection, leading to inflammation of the surrounding soft tissue (Bartosiewicz and Gal 2015, 193).

Two sheep/goat lumbar vertebrae from (62) had ankylosed. The vertebral facets were ankylosed with very limited associated new bone growth, giving the appearance that the two vertebrae are merely wedged together. Only one of the vertebrae bodies was present and this showed no pathological changes. Ankylosis of vertebral facets has been linked to old age in animals as well as congenital conditions (Bartosiewicz and Gal 2015, 236).

The dog cranium and right mandible from (88) displayed extensive pathological changes, a summary of which is given here. The mandible displayed extensive bone growth on the ventral surface, extending medially and laterally to give the mandible a swollen appearance. The bone is compact and forms a layer with an irregular surface, including multiple fine pores. Multiple cloacae are present including a discrete, smooth walled circular aperture on the ventral surface of the mandible approximately half a centimetre in diameter. A further cloaca was present on the medial surface, also circular and smooth walled and a quarter of a centimetre in diameter. Two possible additional cloacae were observed, one

at the on the medial surface near the joint area between the two mandible halves and one on the ventro-lateral surface. Both have been areas are obscured by damage to the bone. These lesions are diagnostic of osteomyelitis, a non-specific infection of the bone marrow, characterised by the presence of pus-producing bacteria. This osteomyelitis is likely to be a secondary pathology, resulting from an oral cavity alveolar infection spreading to adjacent tissues (Nieberle and Cohrs 1970, 403).

The mandible also shows ante-mortem tooth loss. Only the buccal surface of the tooth sockets survives and this has been remodelled to result in the loss of all visible tooth sockets save for M2 and M3. Both the M2 and M3 sockets show remodelling of the alveolar bone in their base, meaning that these teeth were also lost ante-mortem although later than the other teeth as the inter-socket walls still remain. The bone along the edge of where the sockets used to be is smooth and has a rounded edge, showing that remodelling had taken place after the loss of the teeth and the lesion was in the process of healing.

The cranium also exhibits pathology related to the teeth. The right maxilla shows severe pitting and remodelling away from the line of the teeth, leading to the exposure of roots, mostly focused around the area of P4 and M1. The left maxilla also shows pitting in the bone around P4 but is unaccompanied by receding bone. This is highly consistent with periodontal disease, chronic inflammation of the gums mainly caused by diet (Bartosiewicz and Gal 2015, 357). The right maxillary P4 and M1 both showed severe calculus deposition, forming a band that extended half a centimetre from the tooth surface on both. Many of the teeth show defects in the enamel, resulting in a chipped appearance and the exposure of dentine. The left maxillary P4 is missing part of the medial pillar on the lingual side. It is unclear whether these defects are the result of damage to the enamel or the failure of the enamel to properly form.

Additionally as small area of bone formation was noted on the surface of the right orbit. This was a roughly circular area of porotic compact bone creating a thin layer approximately a centimetre in diameter. This type of periosteal reaction is idiopathic and no cause can be suggested.

Discussion

An assemblage numbering 340 specimens was recovered during excavation and 33% were identified to both element and species. The assemblage was mainly recovered from two pits dated to the Roman period 1st-4th century AD.

Identified species included the main domesticates cattle, sheep/goat, pig and chicken. Wild animals were also present represented by fox and it is also possible the single cat bone came from a wild rather than domestic animal. Wild cats were hunted for their fur (Gidney 1999, 317) and its presence in the same context as the fox bones which provided evidence for skinning may relate to this. Overall, there was minimal evidence from wild species suggesting that hunting played a limited role at the site.

It is likely the animals were raised and slaughtered in a local area, indicated by the presence of bones from very young animals. There is evidence for a mixed usage of the animals with some likely raised primarily for meat whereas others were of an age that suggested their use for secondary products. Butchery patterns reveal intensive use of animal carcasses in order to fully utilise the resources. There is also evidence for craft activities at the site with horn cores and fox and pig mandibles showing signs of skinning. In the absence of positive evidence for goats and in keeping with other assemblages from the region, most of the sheep/goat bones likely derived from sheep. Older individuals were probably used for the collection of milk and wool.

A partial dog skeleton was also recovered. It is likely that this was an animal kept as a pet as it suffered from severe pathologies to its mandible and maxillae which showed some signs of healing, indicating the dog survived for a period with these injuries, a feat that would have required human intervention.

The presence of carnivores such as dogs is also attested to at the site through a number of gnawed specimens.

The assemblage represents a mixture of domestic waste and waste from craft activities. Context (62) contained high status pottery associated with dining. It is therefore possible that this assemblage is, at least in part, comprised of dining waste. This is supported by the presence of a large number of rib fragments and the presence of a number of bird bones belonging to chickens including a juvenile specimen. However, the context is not comprised purely of dining waste with the presence of horn cores and other non-meat bearing elements indicating a mixed deposit.

Statement of potential

Further work could be carried out on the assemblage, most notably a more detailed recording and diagnosis of the pathologies present on the dog remains from (88) could be beneficial in shedding light on the treatment of dogs in the period. Should further excavation work be carried out at the site analysis of the bone is highly recommended as the bone is well preserved with a large number of complete elements being present allowing for a lot of data to be retrieved. Furthermore, the presence of rare finds including the remains of a fox that showed signs of being skinned indicate the high potential of any faunal assemblage. It should be possible to reveal both animal husbandry strategies, diet and craft activities in greater detail should a larger assemblage from the site be available for study in the future. In addition further sampling is recommended as this would allow for the recovery of smaller fauna allowing a more detailed investigation of the nature of animal exploitation at the site.

Bibliography

- Bartosiewicz, L. and Gal, E. 2015. *Shuffling Nags, Lame Ducks: The Archaeology of Animal Disease*. Oxford: Oxbow Books.
- Behrensmeyer, A. K. 1978. *Taphonomic and ecologic information from bone weathering*. *Paleobiology* 4: 150-162.
- Binford, L. 1981. *Bones: Ancient Men and Modern Myths*. New York: Academic Press.
- Boessneck, J. 1969. Osteological differences between sheep (*Ovis aries* Linne) and goats (*Capra hircus* Linne). In D. Brothwell (ed.), *Science in Archaeology*, 331-358. London: Thames and Hudson.
- Cohen, A. and Serjeantson, D. 1996. *A Manual for the Identification of Bird Bones from Archaeological Sites*. London: Archetype Publications.
- Davis, S. J. M. 1992. *A Rapid Method for Recording Information about Mammal Bones from Archaeological Sites*. London: English Heritage Ancient Monuments Laboratory.
- Gidney, L. 1999. The animal bones. In A. Connor and R. Buckley (eds.), *Roman and Medieval Occupation in Causeway Lane, Leicester*, 310-329. Leicester Archaeology Monographs No. 5. Leicester: University of Leicester Archaeological Services.
- Grant, A. 1982. The use of tooth wear as a guide to the ageing of domestic ungulates. In B. Wilson, C. Grigson, and S. Payne (eds.), *Ageing and Sexing Animal Bones from Archaeological Sites*, BAR British Series 109, 91-108. Oxford: Archaeopress.
- Grant, A. 1987. Some observations on butchery in England from the Iron Age to the medieval period. *Anthropozoologica Special Edition* 1: 53-59.
- Halstead, P. and Collins, P. 2002. Sorting the sheep from the goats: morphological distinctions between the mandibles and mandibular teeth of adult *Ovis* and *Capra*. *Journal of Archaeological Science* 29: 545-553.
- Harland, J. F., Barrett, J. H., Carrott, J., Dodney, K. and Jaques, D. 2003. *The York System an Integrated Zooarchaeological Database for Research and Teaching*. http://intarch.ac.uk/journal/issue13/harland_index.html (07.09.2013).

- Hillson, S. 2005. *Teeth* (2nd edition). Cambridge Manuals in Archaeology. Cambridge: Cambridge University Press.
- Levine, M. A. 1982. The use of crown height measurements and eruption-wear sequences to age horse teeth. In B. Wilson, C. Grigson, and S. Payne (eds.), *Ageing and Sexing Animal Bones from Archaeological Sites*, BAR British Series 109, 223-250. Oxford: Hadrian Books.
- Nieberle, K. and Cohrs, P. 1970. *Lehrbuch der Speziellen Pathologischen Anatomie der Haustiere 2*. Stuttgart: Paul Parey.
- Reitz, E. and Wing, E. 2008. *Zooarchaeology* (2nd edition). Cambridge: Cambridge University Press.
- Serjeantson, D. 1996. The animal bones. In S. Needham and T. Spence (eds.), *Runnymede Bridge Research Excavations, Volume 2, Refuse and Disposal at Area 16 East, Runnymede*, 94-201. London: British Museum Press.
- Thomas, R. and Worley, F. 2014. Recording pathology. In P. Baker and F. Worley (eds.), *Animal Bones and Archaeology: Guidelines for Best Practise*, 34-35. Portsmouth: English Heritage.
- von den Driesch, A. 1976. *A Guide to the Identification of Animal Bones from Archaeological Sites: as Developed by the Institut für Palaeoanatomie, Domestikationsforschung und Geschichte der Tiermedizin of the University of Munich*. Peabody Museum Bulletin 1. Cambridge, Massachusetts: Peabody Museum of Archaeology and Ethnology, Harvard University.
- Wolverton, S. 2002. NISP: MNE, and %whole in analysis of prehistoric carcass exploitation. *North American Archaeologist* **23** (2): 85-100.

7.9 Charred Plants Remains (Adam Santer & Rachel Small)

Introduction

During an archaeological evaluation at the site, two soil samples were processed for the analysis of charred plant remains. Sample 1 was from the fill (62) of an early Roman pit and sample 2 was from a spread overlaying a floor layer (82), the deposit was late Roman in date. The analysis of the charred plant remains recovered from these samples are presented here, together with a discussion of what they can potentially tell us about past diet and crop husbandry strategies at the site.

Methodology

Samples 1 and 2 were a dark grey/brown silty sand and were processed in a York tank using a 0.5mm mesh with flotation into a 0.3mm sieve. The flotation fractions (flots) were sorted for plant remains and other artefacts under an x10-40 stereo microscope. The residues were air dried and sorted in their entirety for artefacts. Plant remains were identified by comparison to modern reference material available at ULAS and their names follow Stace (1991). The plant remains were quantified as follows: each whole grain or those representing over 60% of the specimen was counted as one; for chaff, each glume base was counted as one; and for seeds each fragment was counted as one, except for legumes where each cotyledon was counted as 0.5 (identifications and counts are listed in table 1).

Results

Charred plant remains were present in both samples. Sample 1 contained only a single plant remain, a barley (*Hordeum vulgare* L.) grain, this was equivalent to 0.12 items per litre. Sample 2 contained a moderate density of plant remains at 7.71 items per litre. The plant remains were of a good preservation and it was possible to identify the vast majority to species. There was little evidence of bioturbation (rootlets, insects *etc.*) within the contexts.

In sample 2, there was a relatively even split between cereal grains and wild seeds. A fragment of hazel nut shell (*Corylus avellana* L.) was also present. It was possible to identify the majority of the cereal grains (75%) to species, and this included glume wheat (*Triticum* spp.) and barley (*Hordeum vulgare* L.). A variety of wild seeds were present including typical cereal field weeds such as stinking

chamomile (*Anthemis cotula* L.) which is generally found on heavy clay soils, grasslands plants including common knapweed (*Centaurea nigra* L.), and elder which is a typical woodland shrub.

Table 13: Charred plant remains present in samples. Key: *C* = plants of cereal fields; *G* = grassland; *S* = shrubbery; *W* = woodland; *V* = various habitats.

Discussion

To conclude, the wheat and barley grains likely represent food spillage and the hazelnut shell food waste that was burnt on a hearth. The wild seeds likely represent waste from processing the grain, this

Sample	1	2	
Context	62	82	
Date	Early Roman	Late Roman	
Feature type	Pit	Floor layer	
Grains			
<i>Triticum</i> sp.		13	Glume wheat
<i>Hordeum vulgare</i> L.	1	2	Barley
Cereal		5	Cereal
Nuts			
<i>Corylus avellana</i> L. (nutshell fragment)		2	Hazel nutshell fragments
Wild seeds			
Poaceae (large)		17	Large grass
<i>Sambucus nigra</i> L.		5	Elder (W/S)
<i>Anthemis cotula</i> L.		3	Stinking chamomile (C)
<i>Centaurea nigra</i> L.		1	Common knapweed (G)
<i>Rumex</i> sp.		1	Dock (V)
<i>Vicia</i> sp.		6	Vetch (V)
Total	1	55	
Sample volume (L)	8	7	
% Analysed	100	100	
Items per litre	0.13	7.86	

may have been burnt on the hearth as tinder, and processing would have taken place on a small scale day-to-day basis. The species present suggest that the cereals were likely grown in the nearby environment (heavy clay soils are typical of Leicestershire). The ash from the hearth would have formed a general scatter across the site collecting in open features such as the pit and floor surface. This composition of the samples and maximum density of items per litre is similar to Gimbro Farm, Leicestershire (9.2 items per litre) and Market Overton, Rutland (7 items per litre) (Monckton 2011, 134).

Statement of Potential

Charred plant remains are preserving at the site and in moderate densities. If further excavation is carried out, sampling is highly recommended. A larger dataset would allow for more identifications and spatial analysis, which would potential help to answer regional research aims for the period including ‘arable farming methods’ and ‘variety of foods available’ (Monckton 2001, 35).

Bibliography

- Monckton, A. 2001. *An Archaeological Resource Assessment and Research Agenda for Environmental Archaeology in the East Midlands*. Available at: <https://www2.le.ac.uk/services/ulas/images/east-mid-research-framework/emidenv.pdf> (accessed 06 March 2018).
- Monckton, A. 2011. The Regional Setting and Comparison with Other Sites, in. J. Thomas (ed.). *Two Iron Age 'Aggregated' Settlements in the Environs of Leicester: Excavations at Beaumont Leys and Humberstone*. Pp. 133-136.
- Stace, C. 1991. *New Flora of the British Isles*. Cambridge: Cambridge University Press.

8. Discussion

Archaeological Survival

The evaluation recorded significant survival of Roman archaeology across the site, including parts of a street, evidence of stone buildings with good survival of *opus signinum* floors, and early Roman pits. Medieval archaeology survives to a far lesser extent, predominantly in the form of pits and garden soils. Across much of the site, archaeology was typically found *c.* 1m below present ground level sealed beneath thick deposits of medieval and post-medieval garden soil.

Roman

This phase of evaluation has provided an extremely useful window into the nature of the archaeology within the proposed development area and its current state of preservation. The archaeological evaluation has shown very good survival of Roman buildings and associated deposits. It has the potential to add significant new understandings to this part of Roman Leicester. The outstanding survival of the *opus signinum* floor over a large area is a rare surviving example for Leicester.

The earliest activity came from a large pit [107] (62). The pit was over 2.2 metres long and 2m wide, and at least 0.6m deep. This contained a light green-brown sandy silt (62). Large quantities of Roman pottery, and a brooch date to the late 1st to early 2nd century AD. A well-preserved assemblage of animal bone was present, including dining waste (chicken), and animal processing waste (horn cores).

The compacted gravel street metalling for the east-west Roman street running between *Insulae IXb* to the south and *Insulae III* to the north was recorded in Trenches 1 and 3. This stretch of Roman street has never been discovered (or documented) before, although its projected line was presumed from earlier discoveries immediately to the east (Higgins *et. al.* 2009, 22; Morris 2012, 35). On Vine Street evidence suggests that it was first laid out sometime between *c.* 100-120 AD. The street appears to narrow dramatically from its intersection with the N-S street (under the modern Highcross Street) in Trench 1 (width *c.* 5.5m), to just 3.3m in Trench 3. The street appears to have been wider, but the two buildings on either side of it appear to have cut into the edge of the street. Parallels for this have been seen in numerous excavations across the city (most recently at the adjacent, Stibbe), but never before creating such a narrow street width. The road gravels were 0.8-1m thick, with clear evidence for at least eight sequences of road metallings.

The building to the north of the Roman street (*Insulae III*) appears to have been a large townhouse, perhaps fronting onto what is now Highcross St, and continuing to the north. If the stone wall in Trench 1 is also Roman, this could be part of the same structure seen in Trenches 3 and 4. Two of the rooms contained large stretches of *opus signinum*. The quarter-round moulding (or ovolo) of *opus signinum* at the junctions of the floor and walls in Trench 4 is the longest surviving example seen in Leicester in modern times. Recently unpainted moulding was recorded in the large townhouse at Stibbe (in *Insula IXb* directly to the south), and painted examples in a small 2nd-century roadside structure in the south area of Leicester (Southgates, M.Morris pers. comm.). These could be decorative elements to a room (like a modern skirting board). Alternatively they could be utilised for waterproofing for use in bath suites. As seen at a Roman villa at Eccles, Kent (a small apse room thought to contain water (Detsicas 1969, 103), and in Exeter a heated room (with underlying radiating flues) contained *opus signinum* with quarter-round moulding (Fox 1948, 102).

The building(s) to the south of the Roman street (*Insulae IXb*) are a little harder to understand at present. The base of a robber wall in Trench 2 could indicate a small roadside structure (fronting onto Highcross St, and continuing to the south). The wall and floor in Trench 3 perhaps show evidence for a large building adjacent to the side road, the mortar floor would seem to represent a sunken-floored room, or (more-likely) a room with underfloor heating, the presence of box flue tile from a nearby pit

further indicates hypocaust in the vicinity. This could be part of the large high-status townhouse containing fine mosaics at Stibbe to the south (Speed 2017).

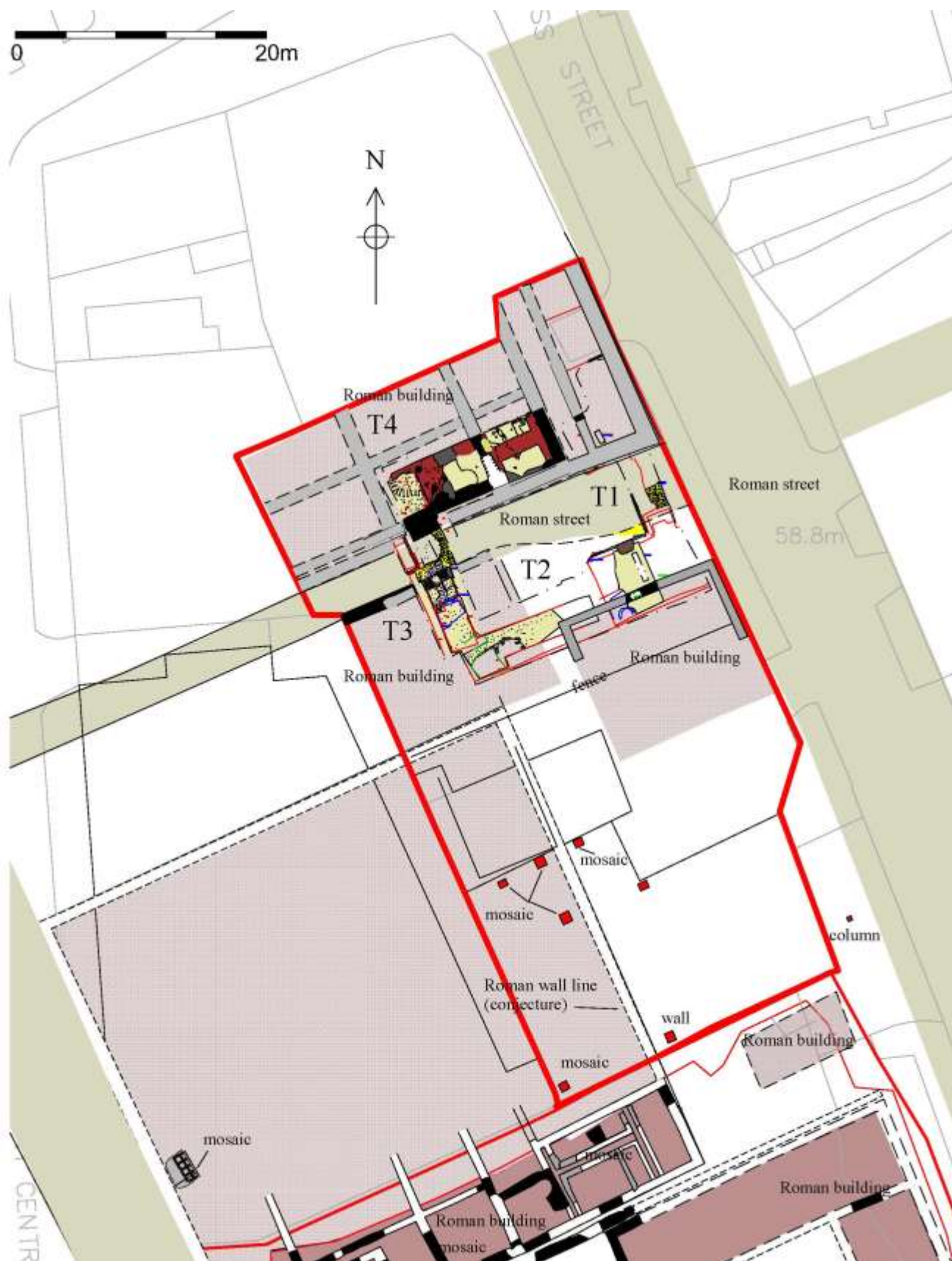


Figure 42: Roman phase evidence in relation to known Roman buildings / streets in surrounding area

Medieval and Post-Medieval Period

There was relatively poor survival for medieval and post-medieval structures. Along the street frontage the Victorian brick cellars had removed almost all trace of any earlier buildings (with the exception of stone walls behind the brick cellar walls in plot 142). There was extensive evidence for medieval / post-medieval soils and pits, these were all typically characteristic of the sort of pits found in medieval and post-medieval back yards in Leicester and were comparable with similar activity found on the Vine Street site (Higgins *et. al* 2009) to the east and Freeschool Lane (Coward & Speed 2009) to the south.

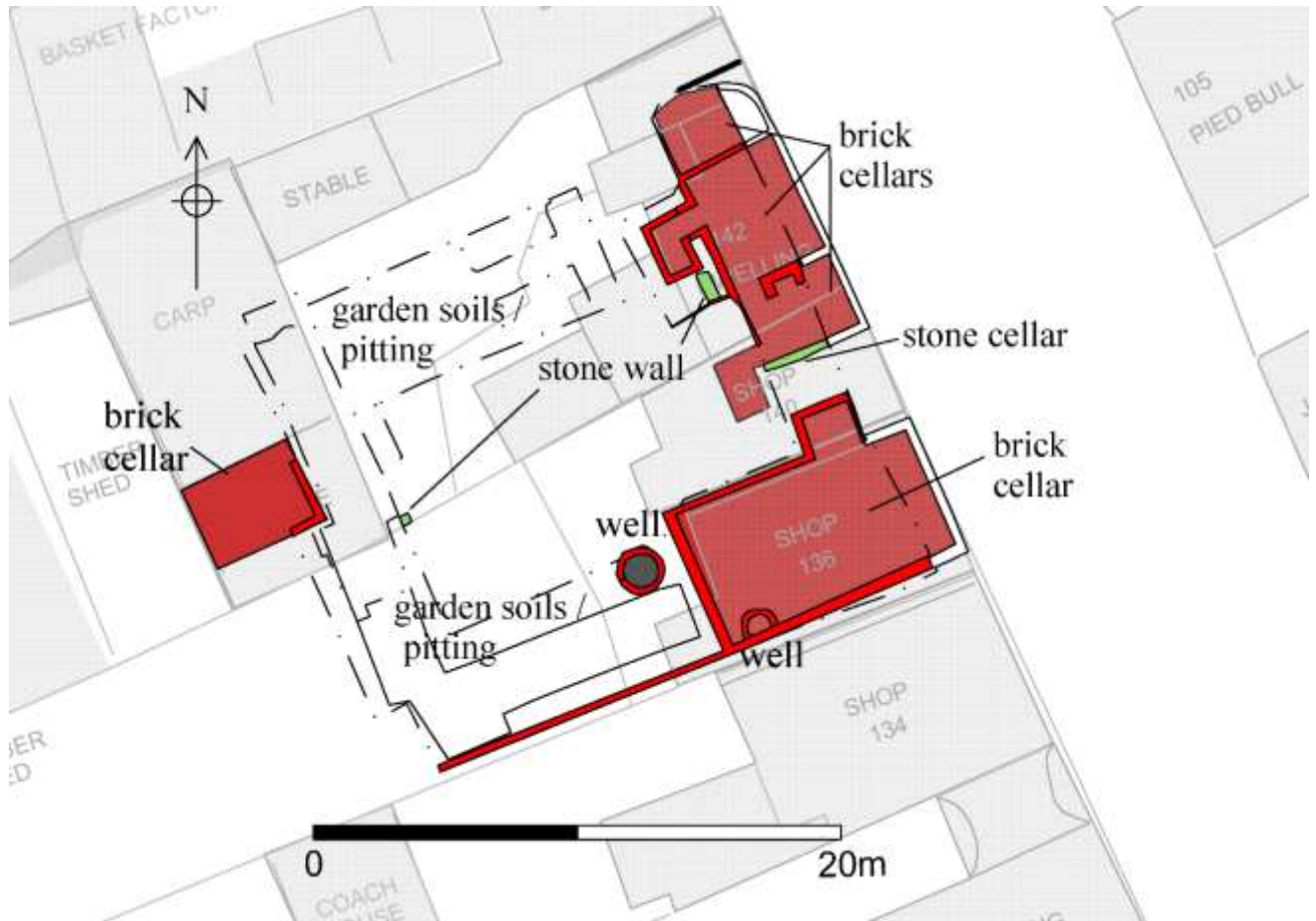


Figure 43: Medieval / post-medieval evidence in relation to 1888 Ordnance Survey map

Archaeological Impact Assessment

In order to assess the potential impact of the proposed development (as known at the time of writing) upon the buried archaeological remains a comparison has been made between the archaeological information obtained from this investigation (including level aOD and significance of deposits), and the outline groundwork proposals (Figure 45). The latter do not include proposed formation levels aOD or piling strategy, so a detailed assessment is not possible.

North area 136-144 Highcross Street

The footprint of the proposed development covers most of the northern half of the Site. The Roman archaeology in Trenches 3 and 4 begin at 1.4-1.7m below the modern surface. The excavated sections show 1-1.3m of Roman layers below this (see profile, Figure 44). It is likely that the Roman archaeology survives well north and west of these trenches. In other areas (such as most of Trenches 1 and 2) there is poor survival of archaeological deposits. Meaning the proposed development would have a far lesser impact.

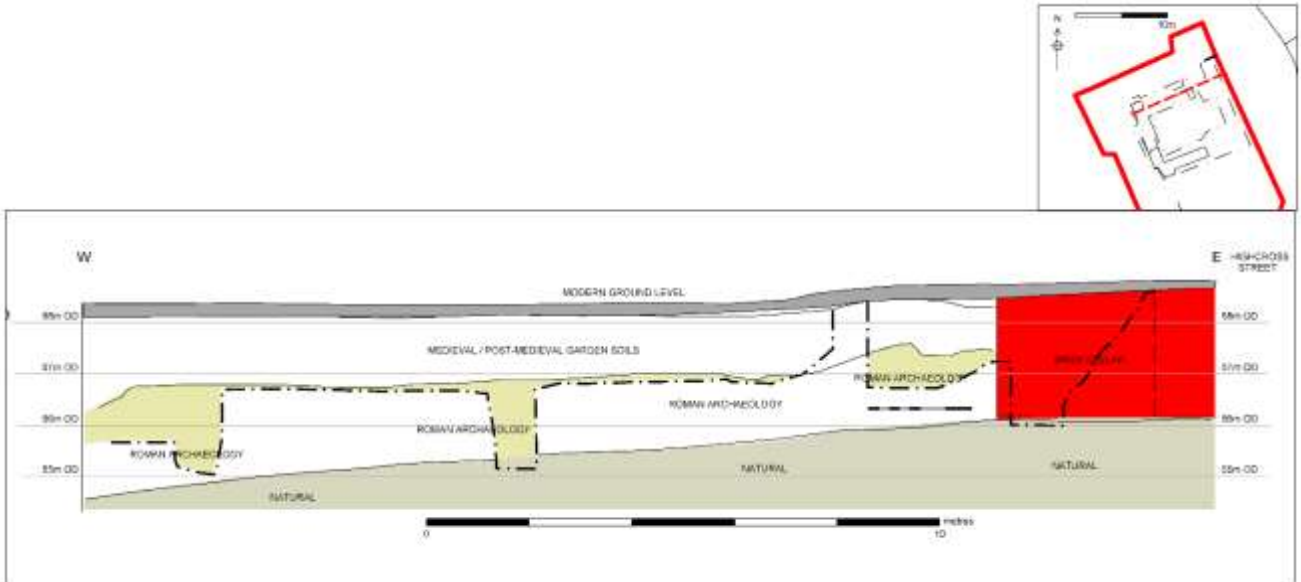


Figure 44: Profile along Trench 4 (including part of Trench 1 & 3)

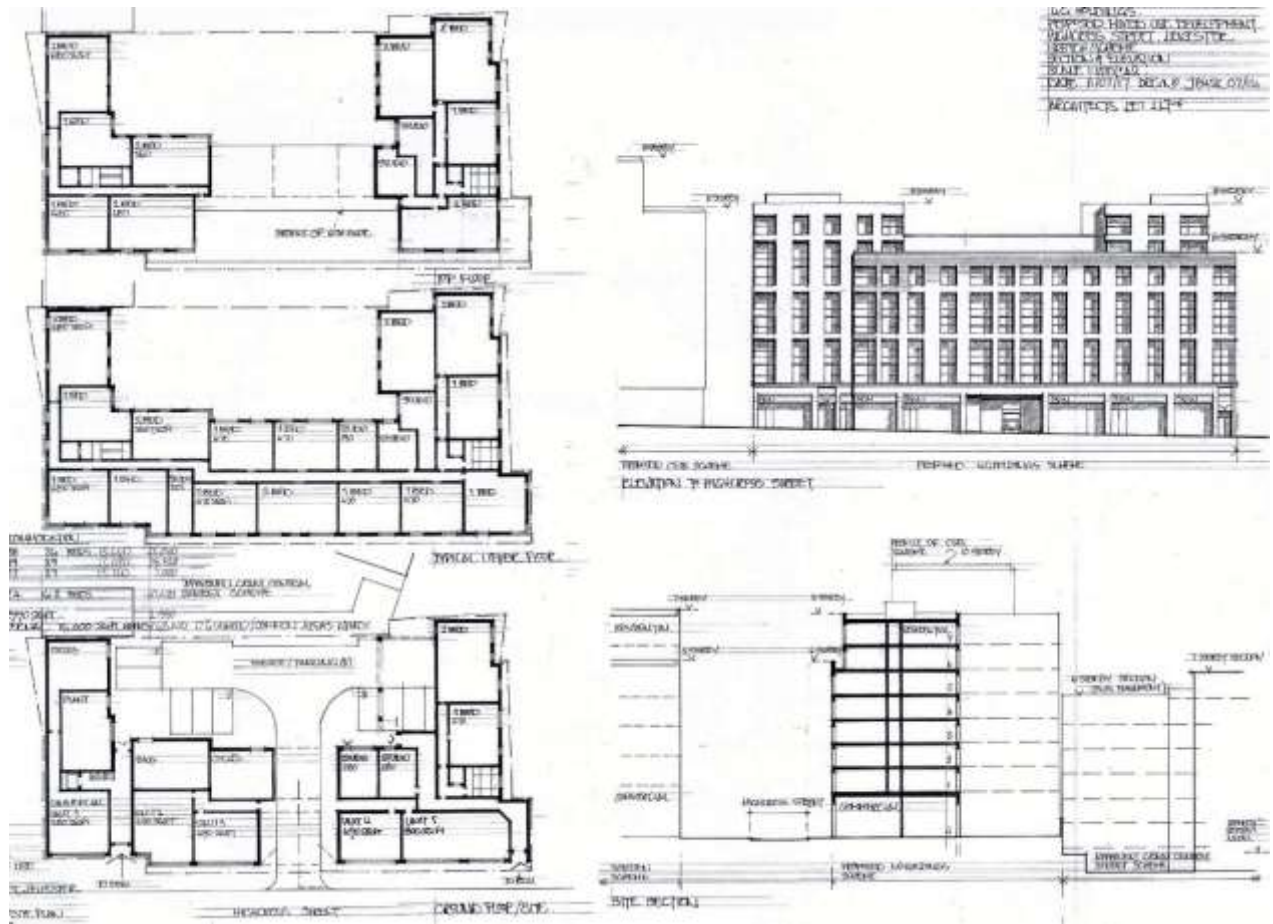


Figure 45: Proposed development plan

South area 132-134 Highcross Street

The southern half of the Site has not been evaluated due to upstanding buildings (printers and car wash still in use). However, a significant amount of archaeological work has been undertaken on all sides of the south area that an assessment of the archaeological potential can be offered. The footprint of the proposed development covers most of the southern half of the Site, especially the frontage and far southern edge.

Medieval / post-medieval street frontage

132 Highcross Street was an early 18th century town house in red brick, demolished in 1970s (reference in Transactions 1977-1978). It is most likely to have had substantial cellars (similar to those seen at Nos.136 and 142). These may have removed most of any earlier building evidence. Between Nos.132-136 a small 14th century timber building is known from 19th century sources, this was demolished in 1848 (Finn 2008, 42). At the far south-end of the Site (now occupied by the printers / former garage), no building is shown on any early map source. However, 1960s Goad maps show this building as having sunken petrol tanks. There may therefore be limited survival in some places for medieval archaeological deposits, with isolated areas of major truncation. Better survival may be more likely further back from the street frontage.

Roman buildings

The potential for Roman buildings is high. Excavations immediately to the south in 2016-2017 (Speed 2017) revealed significant Roman building remains, these included a large high status Roman townhouse (with large mosaics) projected to continue into the southern half of this Site. Earlier discoveries also include in 1913 a Roman pavement 5.5m square under Bryant's factory in the gardens of 130-132 (to the west of the Site, ELC156).

The southern half of the Site has had earlier archaeological work. In 1928 investigations took place at 130-132 Highcross Street during the insertion of sunken petrol tanks for a garage that was built on the Site which would necessitate deep excavations. Two Roman buildings discovered (early Roman and later Roman, including a tessellated pavement. A mosaic floor was replaced by a simple cement (*opus signinum*) floor. There was evidence for fire damage to the building. Wall plaster, roof slate, window glass were recovered. Two patterns of mosaics were discovered, one contained white limestone and blue slate tesserae, the other the other bears portions of a circular design (Figure 46). No plans of the buildings could be adduced, base of granite wall at southern end (two feet of superstructure – two courses). It is unclear how much archaeology was investigated and/or destroyed, though a plan held in the HER archives (A141 1960), shows an architects plan of the site dated 1928. This includes the building of No.132 Highcross Street, with what appear to be archaeological findspots indicated on it (shown on Figure 42). These include a wall (said to be at a depth of 3.81m, and standing 0.8m above the associated floor level), an area of tesserae (at a depth of 4.11m), a column base, painted wall plaster, nails and slates (HER accession files; Transactions of the Leicestershire Archaeological Society 1929, viii-x).



Figure 46: Photos of mosaic fragments from 1928 excavation at 132 Highcross Street (from HER archives, photos by Mark Evans LCC)

9. Conclusion

The archaeological investigation has successfully addressed the aims and objectives and the highest confidence can be placed in the data recovered and this report. There were no physical constraints, leading to a satisfactory application of the methodological approach. The results from the evaluation have shown the potential to add significantly more to our understanding of Roman and Anglo-Saxon Leicester.

10. Archive

The Site archive will be held by *Leicester City Museums Service*, under accession no. YA.3.2018.

PROJECT DETAILS	Oasis No	universi1-311628		
	Project Name	132-144 Highcross Street		
	Start/end dates of field work	05-02-2018 - 20-02-2018		
	Previous/Future Work	No		
	Project Type	Evaluation		
	Site Status	None		
	Current Land Use	Car park		
	Monument Type/Period	Roman / Anglo-Saxon / medieval		
	Significant Finds/Period	Pottery / Roman, Anglo-Saxon		
	Development Type	Residential		
	Reason for Investigation	NPPF		
Position in the Planning Process	Planning condition			
Planning Ref.				
PROJECT LOCATION	Site Address/Postcode	132-144 Highcross Street, Leicester LE1 4PJ		
	Study Area	868 m ²		
	Site Coordinates	SK5893712193		
	Height OD	58-59m OD		
PROJECT CREATORS	Organisation	ULAS		
	Project Brief Originator	Leicester City Council		
	Project Design Originator	ULAS		
	Project Manager	Dr Richard Buckley		
	Project Director/Supervisor	Dr Gavin Speed		
Sponsor/Funding Body	Developer			
PROJECT ARCHIVE		Physical	Digital	Paper
	Recipient	LC MusService	LC MusService	LCMusService
	ID (Acc. No.)	YA.3.2018	YA.3.2018	YA.3.2018
	Contents	<ul style="list-style-type: none"> Finds 	<ul style="list-style-type: none"> Photos Survey data report 	<ul style="list-style-type: none"> Paper archive
PROJECT BIBLIOGRAPHY	Type	Grey Literature (unpublished)		
	Title	An Archaeological Evaluation at 132-144 Highcross Street, Leicester		
	Author	Speed, G.		
	Other bibliographic details	ULAS Report No 2018-048		
	Date	2018		
	Publisher/Place	University of Leicester Archaeological Services / University of Leicester		
Description	Developer Report A4 pdf			

11. Publication

A summary of the work will be submitted for publication in the local archaeological journal *Transactions of the Leicestershire Archaeological and Historical Society* in due course. The report has been added to the Archaeology Data Service's (ADS) Online Access to the Index of Archaeological Investigations (OASIS) database held by the University of York (see archive above).

12. Bibliography

- Billson, C.J. (1920) *Medieval Leicester*. Leicester: Edgar Backus.
- CifA 2014a *Code of Conduct* Chartered Institute for Archaeologists, Chartered Institute for Archaeologists
- CifA, 2014b *Standard and Guidance for Archaeological Excavations* Chartered Institute for Archaeologists
- CifA, 2014c *Standard and Guidance for Archaeological Finds work* Chartered Institute for Archaeologists
- CifA, 2014d *Standard and guidance for the preparation of Archaeological Archives* (Institute for Archaeologists) Chartered Institute for Archaeologists.
- Clay, P. and Mellor, J., 1985 *Excavations in Bath Lane, Leicester* Leicestershire Museums Archaeol. Report 10.
- Clay, P. Pollard, R. 1994, *Iron Age and Roman Occupation in the West Bridge Area, Leicester. Excavations 1962-1971*. Leicestershire Museums Arts and Records Service.
- Cooper, N.J., (ed) 2006 *The Archaeology of the East Midlands An Archaeological Resource Assessment and Research Agenda*. Leicester Archaeology Monograph 13.
- Cooper, N.J. & Buckley, R., 2003, 'New Light on Roman Leicester (Ratae Corieltavorum)' in P. R. Wilson (ed.) *The Archaeology of Roman Towns: Studies in honour of John S. Wacher*. Oxford: Oxbow Books, 31-43.
- Courtney, P., 1998 'Saxo-Norman Leicester: The Making of an Urban Landscape' *Trans. Leicestershire Archaeological and Historical Society*, **72**, 110-145.
- Coward, J. & Speed, G., 2009, *Urban Life in Leicester: An Archaeological Excavation at Freeschool Lane*. Unpublished ULAS Report 2009-140.
- Derrick, M. 2002 *An Archaeological Evaluation at 29-33 Newarke Street, Castle Ward* Unpublished ULAS Report 2002-058.
- Derrick, M. and Warren, S. 2001, *An Archaeological Evaluation at 61a Great Central Street, Leicester*. Unpublished ULAS Report 2001-017.
- Detsicas, A.P. 1969, Excavations at Eccles Roman Villa, 1968: Seventh Interim Report, *Archaeologia Cantiana*, **84**, p.103.
- Finn, N. 2008, "John Flower", *Leicestershire Historian*, 43-50.
- Fox, A. 1948, *Roman Exeter. Excavations in the War-damaged Areas 1945-1947*, p.102.
- Gnanaratnam, A., 2003, An Archaeological Evaluation on the site of the former St. Margaret's Baths, Leicester.
- Higgins, T. Morris, M. and Stone, D. 2009 *Roman and Medieval Occupation within Leicester's North-East Quarter: Excavations at Vine Street, Leicester (Highcross Leicester) 2004-2006 SK 583 049* ULAS Report 2009-134.
- Historic England, 2017, *Photogrammetric Applications for Cultural Heritage. Guidance for Good Practice*. Swindon. Historic England.
- Hunt, L. 2017, *An Archaeological Desk-Based Assessment for Land at 132-140 Highcross Street, Leicester*. University of Leicester Archaeological Services, unpublished report 2017/149.
- Kenyon, K., 1948, *Excavations at the Jewry Wall Site, Leicester*. Oxford: Society of Antiquaries and the Corporation of the City of Leicester.
- Kipling, R. 2008 *An Archaeological Excavation on the site of the former Merlin Works, Bath Lane, Leicester (NGR SK 580 045) Interim Report*. Unpublished ULAS Report 2008-025.
- Knight, D.; Vyner, B.; Allen, C.; 2012, *East Midlands Heritage. An Updated Research Agenda and Strategy for the Historic Environment of the East Midlands*. Nottingham Archaeological Monographs 6, University of Nottingham and York Archaeological Trust.
- Morris, M. 2012, *An Archaeological Evaluation of land on the junction of Highcross Street and Vaughan Way, Leicester (SK 58309 04771)*. ULAS Report 2012-103.
- Morris, M. 2015, *An Archaeological Desk-based Assessment of land at the former Great Central Railway Station, Great Central Street, Leicester (SK 4582 0470)*. ULAS Report 2015-113.
- Priest, V., 2005 *Archaeological Evaluations at the former Merlin Works, Bath Lane, Leicester*, Unpublished ULAS Report 2005-021.
- Speed, G. 2014, *Towns in the Dark? Urban Transformations from Late Roman Britain to Anglo-Saxon England*. Archaeopress Archaeology.

- Speed, G. 2017. "A colourful Past: Uncovering Magnificent Mosaics in the Heart of Roman Leicester", *Current Archaeology*. Issue 332, November 2017, 28-33.
- Speed, G. 2018, Written Scheme of Investigation for Evaluation 132-144 Highcross Street, Leicester. ULAS unpublished document.
- Thomas, J. 2006, *An Archaeological Evaluation at 71, Great Central Street, Leicester (SK 58222 04871)*. ULAS unpublished report 2006-056.

13. Acknowledgements

The fieldwork was undertaken for Living Choice Investments Ltd, directed by Dr Gavin Speed, and assisted by Andy McLeish, Chris Naisbit, and Jamie Patrick. Richard Buckley managed the project. Thanks to Taran Sadhra and Paul Roberts for assistance with access to the Site. The machining was undertaken using Joinpoint. The finds were processed and analysed by staff at ULAS: Elizabeth Johnson (Roman pottery), Deborah Sawday (medieval pottery), Nicholas Cooper (small finds), Richard Buckley (coins), Jennifer McNulty (Roman CBM), Heidi Addison (painted wall plaster & industrial residues), Will Johnson (animal bones), and Adam Santer & Rachel Small (charred plant remains).

Thanks to Mark Evans of Leicester City Council for access to Leicestershire Historic Environment Records archive material. ULAS would like to thank Living Choice Investments Ltd for funding the project, and for their help and cooperation during the fieldwork. Grahame Appleby of Leicester City Council monitored the archaeological investigations.

Author contact details:

Dr Gavin Speed MifA
Project Officer

Archaeological Services (ULAS),
University of Leicester, University Road, Leicester, LE1 7RH, UK

t: +44 (0)116 252 1323

e: gs50@le.ac.uk

w: www.le.ac.uk/ulas/



UNIVERSITY OF
LEICESTER



13/03/2018



Contact Details

University of Leicester Archaeological
Services (ULAS)
University of Leicester,
University Road,
Leicester LE1 7RH

T: +44 (0)116 252 2848
F: +44 (0)116 252 2614
E: ulas@le.ac.uk
w: www.le.ac.uk/ulas



INVESTOR IN PEOPLE

