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CORNHILL PROJECT, IPSWICH, SUFFOLK ARCHAEOLOGICAL EXCAVATION AND MONITORING

RESEARCH ARCHIVE REPORT

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| Authors: Gareth Barlow and Andrew A. S. Newton Kathren Henry and Thomas Light (Graphics) | |
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ARCHAEOLOGICAL SOLUTIONS LTD

**Unit 6, Brunel Business Court, Eastern Way,
Bury St Edmunds IP32 7AJ
Tel 01284 765210**

**e-mail info@ascontracts.co.uk
www.archaeologicalsolutions.co.uk**



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| Project details | | | |
|---|---|------------------------|---------------|
| Project name | <i>Cornhill Project, Ipswich, Suffolk</i> | | |
| <p><i>In September 2017 Archaeological Solutions Ltd (AS) carried out an archaeological excavation and monitoring at Cornhill, Ipswich, Suffolk (NGR TL 162 446). The investigations were commissioned by the client in advance of proposals to regenerate Ipswich Cornhill.</i></p> <p><i>An archaeological evaluation revealed a relatively high density of features in both trenches. The features were discretely as opposed to linears, and comprised pits and postholes. The latter, particularly in Trench 2, may be indicative of structural remains. The archaeological features were 0.50 – 1.20m below the current ground surface and are well preserved. The features contained predominantly early 8th – mid 9th century pottery, and also mid 9th–12th century, 11th–13th century, and mid 12th–mid 14th century pottery. They contained between 1 and 5 sherds of pottery. Associated finds comprise CBM, animal bone and shell. A fragment of slag and a medieval copper alloy button were also found. Sparse residual struck flint was also recovered.</i></p> <p><i>The excavation also recorded a density of Saxon-medieval pits and postholes sealed by a sequence of made ground, including the continuation of features recorded at the southern end of Trench 1. Several pits were inter-cutting, and exhibited slightly irregular profiles with multiple fills that suggest the accumulation of waste, possibly as rubbish pits. The postholes exhibited regular and steep-sided profiles, and probably had a structural function. Overlying a deposit sealing all of the medieval and earlier features was a metalled surface possibly representing a later medieval or post-medieval market surface.</i></p> <p><i>The features represented three phases of activity, spanning the 8th-9th, 9th-12th and 12th-15th centuries. Both the dated and undated features contained modest quantities of animal bone and oyster shell; carbonised cereal remains, and low quantities of fired clay. Pits F2077 and F2086 also contained well-preserved, residual Roman pottery, suggesting the presence of hitherto unknown, earlier activity in the Cornhill area. The available evidence was consistent with urban activity during the represented periods. While no evidence to irrefutably prove the use of this area as a market place was recorded, the evidence may be considered to support the historical evidence that indicates that this was the function of this part of Ipswich</i></p> | | | |
| Project dates (fieldwork) | <i>September 2017, February 2018, April 2018</i> | | |
| Previous work (Y/N/?) | <i>N</i> | <i>Future work</i> | <i>N</i> |
| P. number | <i>6705</i> | <i>Site code</i> | <i>IPS874</i> |
| Type of project | <i>Archaeological excavation</i> | | |
| Site status | <i>Ipswich Central Conservation Area</i> | | |
| Current land use | <i>Market square</i> | | |
| Planned development | <i>Regeneration project</i> | | |
| Main features (+dates) | <i>Saxon, medieval to post-medieval/ early modern:</i> | <i>Pits; postholes</i> | |
| Significant finds (+dates) | <i>Residual Mesolithic/ early Neolithic</i> | <i>struck flint</i> | |
| | <i>Residual Roman</i> | <i>Pottery</i> | |
| | <i>Saxon and medieval:</i> | <i>Pottery</i> | |
| | <i>Medieval:</i> | <i>CBM</i> | |
| | <i>Medieval and post-medieval:</i> | | |
| Project location | | | |
| County/ District/ Parish | <i>Suffolk</i> | <i>Ipswich</i> | <i>-</i> |
| HER/ SMR for area | <i>Suffolk Historic Environment Record (SHER)</i> | | |
| Post code (if known) | <i>-</i> | | |
| Area of site | <i>c. 1600m²</i> | | |
| NGR | <i>TL 162 446</i> | | |
| Height AOD (min/max) | <i>c. 10m AOD</i> | | |
| Project creators | | | |
| Brief issued by | <i>Abby Antrobus, Senior Archaeological Officer, Suffolk County Council</i> | | |
| Project supervisor/s (PO) | <i>Gareth Barlow</i> | | |
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| Date (of report) | <i>January 2018; revised February 2019</i> | | |

CORNHILL PROJECT, IPSWICH, SUFFOLK RESEARCH ARCHIVE REPORT

SUMMARY

Archaeological investigation, consisting of trial trench evaluation, open-area excavation and monitoring, carried out at Cornhill, Ipswich by Archaeological Solutions Ltd revealed densely spaced Anglo-Saxon to medieval features, sealed by a sequence of made ground. Post-medieval features were also recorded. Cornhill is historically associated with a market place, and such activity still occurs here today. It is likely that it was set out in the Anglo-Saxon period, during the 8th century expansion of Ipswich and has probably served as a market place consistently since then.

The archaeological evaluation revealed a relatively high density of features in both trenches. The features contained predominantly early 8th – mid 9th century pottery, and also mid 9th–12th century, 11th –13th century, and mid 12th–mid 14th century pottery. They contained between 1 and 5 sherds of pottery. Associated finds comprise CBM, animal bone and shell. A fragment of slag and a medieval copper alloy button were also found. Sparse residual struck flint was also recovered.

The excavation also recorded a density of Saxon-medieval pits and postholes sealed by a sequence of made ground, including the continuation of features recorded at the southern end of Trench 1. Several pits were inter-cutting, and exhibited slightly irregular profiles with multiple fills that suggest the accumulation of waste, possibly as rubbish pits. The postholes exhibited regular and steep-sided profiles, and probably had a structural function. Overlying a deposit sealing all of the medieval and earlier features was a metalled surface possibly representing a later medieval or post-medieval market surface.

The features represented three phases of activity, spanning the 8th-9th, 9th-12th and 12th-15th centuries. Both the dated and undated features contained modest quantities of animal bone and oyster shell; carbonised cereal remains, and low quantities of fired clay. Pits F2077 and F2086 also contained well-preserved, residual Roman pottery, suggesting the presence of hitherto unknown, earlier activity in the Cornhill area. The available evidence was consistent with urban activity during the represented periods. While no evidence to irrefutably prove the use of this area as a market place was recorded, the evidence may be considered to support the historical evidence that indicates that this was the function of this part of Ipswich

1. INTRODUCTION

1.1 This document comprises the Research Archive for archaeological excavation and monitoring conducted by Archaeological Solutions Ltd (AS) at Cornhill, Ipswich, Suffolk (NGR TL 162 446; Figs.1 - 2). The investigations were undertaken in compliance with a planning condition attached to planning approval (Ipswich Borough Council Planning Approval IP/17/00235) for public realm works, including installation of water feature, public art, tree planting and repaving at Cornhill, Ipswich, Suffolk (NGR TL 162 446). The requirement followed a trial trench evaluation of the site by AS (Muir *et al* 2017).

1.2 The investigations were carried out in accordance with a brief issued by Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT) (Abby Antrobus, dated 5th May 2017), and a specification compiled by AS (dated 30th August 2017). The project will adhere also to the *Code of Conduct* of the Chartered Institute for Archaeologists. The investigation adhered to the ClfA's *Standard and Guidance for Archaeological Excavation and Watching Briefs (both revised 2014)*; the SCC AS-CT document *Requirements for Archaeological Excavation 2017* and *Standards for Field Archaeology in the East of England* (Gurney 2003).

2 SITE NARRATIVE

2.1 Overview

The site lies within the area of high archaeological potential in the extent of the Anglo-Saxon and medieval core of Ipswich (HER IPS 413). The site is the Cornhill market place area comprising an area of open pavement between the Town Hall and the Corn Exchange, the Post Office and various commercial shops lining Westgate Street to the north. It is in use as a market place with various stalls and traders.

It is proposed to regenerate the area by carrying out a number of public realm works, including installation of a water feature, public art, tree planting and repaving across the area. The design predominantly includes raising of ground levels, but a number of deeper elements are proposed, including a plant room for the water feature and a base of the public art installation. Discussion with SCC and the client has established that the latter public art installation only has a proposed 600mm depth and may not impact on archaeological horizons so it is suggested that this will be subject to archaeological monitoring, with excavation if required. Service trenching and tree planting will require archaeological monitoring if to any depth, as will any trial pits for the proposed works. Grading and resurfacing is likely to be at shallow depth above archaeological remains but any deeper area, particular to the north of the area evaluated and north of the proposed public art installation will be subject to archaeological monitoring.

Planning policy context

The National Planning Policy Framework (NPPF 2018) states that those parts of the historic environment that have significance because of their historic, archaeological, architectural or artistic interest are heritage assets. The NPPF aims to deliver sustainable development by ensuring that policies and decisions that concern the historic environment recognise that heritage assets are a non-renewable resource, take account of the wider social, cultural, economic and environmental benefits of heritage conservation, and recognise that intelligently managed change may sometimes be necessary if heritage assets are to be maintained for the long term. The NPPF requires applications to describe the significance of any heritage asset, including its setting that may be affected in proportion to the asset's importance and the potential impact of the proposal.

The NPPF aims to conserve England's heritage assets in a manner appropriate to their significance, with substantial harm to designated heritage assets (i.e. listed buildings, scheduled monuments) only permitted in exceptional circumstances when the public benefit of a proposal outweighs the conservation of the asset. The effect of proposals on non-designated heritage assets must be balanced against the scale of loss and significance of the asset, but non-designated heritage assets of demonstrably equivalent significance may be considered subject to the same policies as those that are designated. The NPPF states that opportunities to capture evidence from the historic environment, to record and advance the understanding of heritage assets and to make this publicly available is a requirement of development management. This opportunity should be taken in a manner proportionate to the significance of a heritage asset and to impact of the proposal, particularly where a heritage asset is to be lost.

2.2 Description of the site

Ipswich is a town in eastern Suffolk, lying on the estuary of the river Orwell, c. 23km to the north-east of Colchester. The Cornhill area is located in the town centre c. 670m to the north of the river Gipping. The area proposed to be developed comprises an area of open pavement between the Town Hall and the Corn Exchange, the Post Office and various commercial shops lining Westgate Street to the north. It is in use as a market place with various stalls and traders.

The site comprises a rectangular piece of open pavement with several points of access. Westgate Street runs westwards from the north-western corner, and Tavern Street runs eastwards from the north-eastern corner. Lloyds Avenue cuts through a carriageway in a building to the north towards the Tower Ramparts. On the southern boundary three smaller routes give access on either side of, and in-between, the town hall and post office to King's Street.

2.3 Background

2.3.1 Topography, geology and soils

The site lies at approximately 10m AOD with the land falling gently down to the south towards the River Gipping. This river curves round the base of the town and converges into the River Orwell before becoming an estuary at Harwich c. 14km to the south-west.

The underlying geological formation is a clay and silty sedimentary bedrock of the Thames Group, formed in the Palaeogene period. Further to the south the site lies adjacent to the Thanet Sand formation and Lambeth Group, clay, silt and sand formed in the Palaeogene period. The overlying soil type is a freely draining, slightly acidic and loamy soil.

2.3.2 Archaeological and historical background

Prehistory

Some distinctive flints dating to the Upper Palaeolithic were washed into the low-lying gravels of the River Gipping at Bramford Road c. 6.5km to the north-west. They may represent casual losses by hunting parties from the Low Countries using the land-bridge which spanned the North Sea (Wymer 1999, 32).

By the start of the Mesolithic small bands of hunters occupied parts of England and by 6500 BC the sea level had risen to break through the land-bridge for Britain to become an island (Wymer 1999, 34). A Mesolithic find is recorded c. 200m to the south-west comprising a quartzite pebble mace head with hour glass perforation (SHER MSF5001; Fig. 3). A site at Sproughton dates from the Later Mesolithic, lying c. 3km to the west.

There are no further finds of prehistoric date in the vicinity of the site until the Iron Age. During this period Suffolk was divided by a tribal boundary between the *Iceni* in the north and the *Trinovantes* in the south. Ipswich lies in an area of denser settlement during this period with major settlement sites located at Hacheston, Burgh and Foxhall. The British Museum houses Iron Age finds from Suffolk; two gold torcs found in the late 19th century to the south-east of the site and a further six found in the late 1960s c. 3km to the south-west of the town in Belstead. The torcs were made in the 1st century BC and are suggested to be for ceremonial purposes (Martin 1999, 40).

Romano-British

During the Roman period, administration was based in urban centres such as Caistor St Edmund, Norfolk, and Colchester, Essex. In Suffolk the largest settlements can be classified as unplanned small towns, the nearest of which is Coddensham 10km to the north of Ipswich (Plouviez 1999, 42). In Ipswich an excavation during the redevelopment of the Debenhams store in the north-west

corner of the Cornhill area revealed a cremation urn and horizontal timbers laid over boggy ground. The latter was interpreted as a Roman road running along the front of the store building (Boulter and Loader 1993; SHER IPS782; ESF23320; Fig. 3). Roman 1st century AD pottery, ditches, and a posthole and slotted structure have also been recorded at a site c. 300m to the south-west (SHER IPS053; Fig. 3).

Anglo-Saxon

During the early middle Anglo-Saxon period Ipswich developed into a settlement large enough to start trading with the Rhineland (West 1999, 44). Ipswich seems to have been founded in the 7th century on what was open heath land on the north bank of the River Orwell. During this early period settlement was restricted to an area of only a couple of hectares immediately adjacent to the river, probably extending from Tower Street in the north to Museum Street on the west, and Bond Street on the east. However its street system largely survives (Wade 1999, 158). The town's economy was based on manufacturing and international trade. Royal vills probably provided a network for the distribution of Ipswich's products and imports, and points where exports could be collected (Wade 1999, 46). During the middle of the 9th century competition began with other trading ports along the coast.

The area at Cornhill was thought to be open space during this period, and St Mildred's church is thought to have been located here. The church is not recorded in Domesday but its dedication suggests it dates from this period (SHER IPS279; Fig. 3). During the excavations at the Debenhams site to the north-west of the site, another of the pre-Domesday churches was identified (SHER IPS783; Fig. 3). The extent of its cemetery was identified during works at the Crown and Anchor site c. 50m to the west of the Debenhams site (Boulter and Loader 1993; SHER IPS297; Fig. 3).

There is a significant Danish presence here from the late 9th and early 10th century at which time a market is recorded in the town (Wade 1999, 46). Excavation has shown the town's first defences, consisting of an earthen rampart and ditch, were probably constructed in the early 10th century in response to West Saxon advances, but probably never used as the Danes surrendered in 918 AD (Wade 1999, 158). A bone chess piece, a bishop, either of Anglo-Saxon or Viking origin is recorded c. 50m to the south (SHER IPS798; Fig. 3).

During the 10th century international trade ceased but picked up again in the 11th century, while regional trade became increasingly important (Wade 1999, 158). An excavation at 6-10 Arcade Street, c. 70m to the south-west, recorded inter-cutting pits dating from the late Saxon and medieval periods, but no Middle Saxon features were recorded (Martin 1980, 295; SHER IPS196; Fig. 3). Excavations c. 70m to the south-east recorded late Saxon pits but no features of Middle Saxon date (SHER IPS197; Fig. 3).

Medieval

Domesday recorded 11 churches in Ipswich, several of which lay outside of the town's defences, suggesting suburban growth. The latter continued into the 13th century which stimulated the introduction of monastic orders in the town (Wade 1999, 158). The nearest monastic order to the site was the White Friars or Carmelites established in c. 1278 and located on the site of the Buttermarket shopping centre. A market was provided in Ipswich perhaps daily after 1200, and the Cornhill square became the centre for buying and selling of grain.

It is known that a Norman Castle was built in Ipswich but its location is unknown. The town was besieged in 1153 by Stephen and the castle was demolished by 1176 (Wade 1999, 58). Several sites have been suggested. It is most likely that it was located within the town ramparts on Elm Street, c. 300m to the west of the site. The town's defences were rebuilt in 1203 and the provision of north, west and east gates provided access into the city (Wade 1999, 158).

The excavations at 6-10 Arcade Street recorded traces of a building of slot and posthole construction, and flint and mortar medieval walls were recorded (SHER IPS196; Fig. 3). A medieval wall is also recorded c. 150m to the east on Tower Street (SHER IPS773; Fig. 3). The cemetery for the lost Saxon church on the Debenhams site continued to be used throughout the 13th century (Wade forthcoming; SHER IPS781; Fig. 3). Isolated finds in the immediate area include a bottle and a 15th century iron spur recorded at Lloyds Bank on the north side of the square (SHER IPS784; Fig. 3). Pottery and oyster shells were recorded at 3 Tavern Street, directly to the north (SHER IPS785; Fig. 3).

Post-Medieval

Ipswich in the 17th century had a leading role in the coal trade and a prominent ship building industry (Malster 1999, 132). A small timber-framed and plastered building of 17th century date borders the square to the west (SHER 275420; Fig. 3). The Cornhill square, focus of the grain market, had a market cross which was mentioned by Speed in 1610 (SHER IPS844; Fig. 3). This may be the same cross that was drawn by artist George Frost in the late 18th century (Plate 1). The cross is mentioned as being erected in c. 1628 and demolished by 1812, therefore a predecessor is more likely to have been illustrated by Speed (Scarfe 1999, 76).

St Mildred's Church partly survived within the moot hall until a town hall was built in its place between 1867-68 by Bellamy and Hardy of Lincoln (SHER 275422; Fig. 3). A post office was added not long after to the south-east (SHER 275423; Fig. 3). The Cornhill building on the north side of the square was built in 1889 and designed by local architect F. G. Cotman (SHER 275418; Fig. 3).

2.3.3 Cartographic Evidence

Speed's Map 1610

The earliest map of the site dates from the early 17th century and is an approximate depiction of the street pattern (Fig. 4). The Cornhill is labelled and depicted as an open area with two isolated structures. One of these is the market cross and the other is St Mildred's Church now amalgamated into the moot hall.

John Ogilby's Survey of Ipswich 1674

The map of 1674 illustrates the Cornhill and its immediate environs (Fig. 5). The rectangular market place is illustrated with a circle of dots marking the place of the market cross. Bargate Street converges in the north-west corner, Tavern Street in the north-east, with a passage leading to the south towards the Buttermarket. The amalgamated moot hall lies to the south-west of the square with other thin burgage-like plots running back from the street frontage. Smaller and cluttered structures lie to the south-east of the square.

Pennington's Map 1778

Pennington's late 18th century map illustrates the Cornhill with the town hall (Fig. 6). The structures to the south-east of the square have been replaced with an L-shaped building and a smaller rectangular building.

White's Map 1849

White's map of 1849 (Fig. 7) and other sources of a similar date, including the tithe map and Monson's map of Ipswich, illustrate the corn exchange. A square structure is a predecessor of the later post office. The market cross is no longer illustrated.

White's Map 1867

The map of 1867 records the post office but it is not clear whether the town hall has been replaced (Fig. 8). A tramway appears to link Westgate Street with Kings Street, sweeping through the square.

First Edition Ordnance Survey Map 1884

By 1884 the new town hall is clearly illustrated (Fig. 9). The town hall also includes the police station and is noted to be on the site of St Mildred's church. The site of the cross is traversed by the tramway, which now runs further up Westgate Street and to the south (Plate 2). The corn exchange has replaced the King's Head to the rear of the town hall. It is also during this period that the Cornhill building is constructed.

Ordnance Survey Maps 1904 and 1927

The map of 1904 illustrates the extension of the tramway down Tavern Street (Fig. 10). During the 1910s a statue on a podium was located in front of the town hall (Plate 3). The Cornhill area appears to have changed little between the production of the 1904 and 1927 edition Ordnance Survey maps (Fig. 11).

Goad's Map of Ipswich 1973 and 1985

By the 1950s the tramway had been cleared and replaced with a bus route. The stop at the Cornhill was marked by two raised pavement areas in front of the town hall (Plate 4). This is also demarcated on the 1973 map by Goad (Fig. 12). The map also illustrates the large Debenhams store to the north-west of the Cornhill has been constructed. Few changes to this layout, other than the removal of the bus stops from the front of the town hall, are depicted on the 1985 edition of this map (Fig. 13).

Previous Archaeological work

The site has been subject to an archaeological desk-based assessment and trial trench evaluation by AS in advance of the public realm proposals (Muir *et al* 2017). The results of this evaluation are presented as part of this document.

2.4 Excavation Methodology and Deposit Model

2.4.1 Evaluation/Excavation Methodology

Two evaluation trial trenches (12.50 x 1.60m and 6.50 x 1.60m) were excavated using a mechanical excavator fitted with a toothless ditching bucket (Fig.14). The trench locations were approved by Suffolk County Council, Archaeological Service Conservation Team. One trench sought to target the market place and the second sought to target the area of the former market cross, as shown on historic cartographic sources. The trenches avoided existing service runs and access.

Undifferentiated overburden was removed under close archaeological supervision using a 360° mechanical excavator fitted with a 1.60m wide toothless ditching bucket. Trench 1 was overcut owing to similarities between the natural sand geology (L1014) and sandy deposits sealing it; Pit F1015 and Postholes F1017 and F1019 were recorded in section only. Exposed surfaces were cleaned and examined for archaeological features and finds. Deposits were recorded using *pro forma* recording sheets, drawn to scale and photographed as appropriate. Excavated spoil was checked for finds and the trenches were scanned by metal detector.

A single excavation area (9.00 x 2.30m) was excavated at the location of the proposed plant room for the water feature using a mechanical excavator fitted with a toothless ditching bucket (Fig.14). Undifferentiated overburden was

removed under close archaeological supervision using a 360° mechanical excavator fitted with a 1.60m wide toothless ditching bucket. Exposed surfaces were cleaned and examined for archaeological features and finds. Deposits were recorded using *pro forma* recording sheets, drawn to scale and photographed as appropriate. Excavated spoil was checked for finds and the trenches were scanned by metal detector. The excavation area location was approved by Suffolk County Council, Archaeological Service Conservation Team.

The monitoring encompassed the lifting of existing tarmac surface and the cutting of two test pits; a service trench (20.0 x 0.5m); and a trench for a new water tank (7.85 x 3.90m) (Fig. 14).

2.4.2 Deposit Model

The stratigraphy encountered during the trial trench evaluation comprised modern surfaces sealing a sequence of made ground deposits above thin layers, L1013 (Trench 1), L1036 (Trench 2) and L2050 (Excavation). The thin layers sealed the natural deposits (L1014 = L2051) which comprised friable, pale brownish yellow sand and gravel (1.00 – 1.20m below the present day ground surface).

In Trench 1 (Fig. 15), the stratigraphically earliest features were sealed by Made Ground Layers L1008 or L1012. Post-medieval/early modern Pit F1004 was higher in the stratigraphic sequence; it truncated Made Ground L1008 and was overlain by Concrete L1003. It appeared that two episodes of levelling were represented in Trench 1; the first following the infilling of medieval features, and the second following the infilling of post-medieval/early modern Pit F1004. The second episode directly preceded the laying of Concrete L1003 and relates to the modern use of the market place.

All of the Trench 2 features were physically cut into Natural L1014 and sealed by Made Ground L1036 (Fig. 16). The latter contained 8th – 9th century pottery (probably residual) and 13th – 15th century CBM, and was truncated by modern services.

Sample sections from the evaluation trenches were recorded as follows:

Trench 1 (Figs. 14 – 15. DP 1):

| <i>Sample Section: 1A</i> <i>0.00m = 10.62m AOD</i> | | |
|--|-------|--|
| 0.00 – 0.07m | L1066 | Paved surface. Dark grey paving bricks. |
| 0.07 – 0.13m | L1000 | Made ground. Friable, pale brownish yellow gravelly sand. |
| 0.13 – 0.19m | L1001 | Concrete. |
| 0.19 – 0.34m | L1002 | Tarmac. |
| 0.34 – 0.46m | L1003 | Concrete. |
| 0.47 – 0.60m | L1006 | Fill of Cut. Friable, light brownish yellow gravelly sand with occasional small sub-rounded flint. |
| 0.60 – 0.80m | L1007 | Fill of Cut. Friable, mid greyish brown silty sand. |
| 0.46 – 0.70m | L1008 | Made ground. Firm, mid greyish brown sandy silt with occasional small sub-rounded stones. |

| | | |
|--------------|-------|--|
| 0.76 – 0.82m | L1011 | Made ground. Friable, pale brownish yellow gravelly sand. |
| 0.82 – 0.86m | L1010 | Made ground. Firm, dark yellowish brown sandy silt with occasional small sub-rounded stones. |
| 0.86 – 0.99m | L1012 | Made ground. Friable, mid brownish orange sandy gravel. |
| 0.99 – 1.02m | L1013 | Layer. Compact, dark brownish grey clay silt with moderate small stones. |
| 1.02m+ | L1014 | Natural deposits. Friable, pale brownish yellow sand and gravel. |

Table 1. Evaluation Trench 1, Sample Section 1A

| | | |
|---------------------------|-------|---|
| <i>Sample Section: 1B</i> | | |
| <i>0.00m = 11.25m AOD</i> | | |
| 0.00 – 0.07m | L1066 | Paved surface. As above. |
| 0.07 – 0.12m | L1000 | Made ground. As above. |
| 0.12 – 0.20m | L1001 | Concrete. As above. |
| 0.20 – 0.34m | L1002 | Tarmac. As above. |
| 0.34 – 0.47m | L1003 | Concrete. As above. |
| 0.47 – 0.67m | L1008 | Made ground. As above. |
| 0.67 – 0.73m | L1009 | Made ground. Friable, pale brownish yellow gravelly sand. |
| 0.73 – 0.93m | L1010 | Made ground. As above. |
| 0.93 – 1.18m | L1012 | Made ground. As above. |
| 1.18 – 1.20m | L1013 | Layer. As above. |
| 1.20m+ | L1014 | Natural deposits. As above. |

Table 2. Evaluation Trench 1, Sample Section 1B

Trench 2 (Figs. 14 and 16 (DPs 5 & 6):

| | | |
|---------------------------|-------|---|
| <i>Sample Section: 2A</i> | | |
| <i>0.00m = 11.15m AOD</i> | | |
| 0.00 – 0.07m | L1066 | Paved surface. As above, Trench 1. |
| 0.07 – 0.13m | L1000 | Made ground. As above, Trench 1. |
| 0.13 – 0.30m | L1063 | Tarmac. |
| 0.30 – 0.50m | L1003 | Concrete. As above, Trench 1. |
| 0.50 – 0.63m | L1064 | Made ground. Friable, pale yellowish grey sand with occasional small and medium sub angular stones. |
| 0.63 – 0.78m | L1065 | Made ground. Friable, mid reddish orange sand. |
| 0.78 – 1.00m | L1036 | Layer. Compact, dark brownish grey clay silt with moderate small angular flints. |
| 1.00m+ | L1014 | Natural deposits. As above, Trench 1. |

Table 3. Evaluation Trench 2, Sample Section 2A

In the Excavation area (Figs. 17-18; DPs 8-11), the stratigraphically earliest features were sealed by Layer L2050, which may be equated with Layer L1012 recorded during the evaluation. The features yielded pottery and finds relating to three phases of activity representing the 8th-9th centuries, 9th-12th centuries, and the 12th-15th centuries, probably representing a continuum of market place and possibly adjacent urban domestic activity. Layer L2050 itself was sealed by metallised surface L2014. Post-medieval/early modern Pits F2015, F2024 and F2026 were higher in the stratigraphic sequence. The stratigraphy in the excavation was recorded as follows:

Excavation Area (Figs. 17-18)

| <i>Eastern end, north facing</i> 0.00 = 10.75m AOD | | |
|---|-------|--|
| 0.00 – 0.07m | L2000 | Paved surface. Dark grey paving bricks. |
| 0.07 – 0.13m | L2001 | Made ground. Friable, pale brownish yellow coarse sand with occasional-moderate small angular flints. |
| 0.13 – 0.19m | L2002 | Concrete. |
| 0.19 – 0.34m | L2003 | Tarmac. |
| 0.34 – 0.46m | L2004 | Concrete. |
| 0.47 – 0.51m | L2019 | Made ground. Firm, dark-mid orangey grey brown silty sand with occasional small and medium sub-round and rounded flints. |
| 0.51 – 0.55m | L2020 | Made ground. Firm, mixed patches of mid brown orange and mid grey brown silty sand with occasional small and medium sub-round and rounded flints. |
| 0.55 – 0.68m | L2021 | Made ground. Firm, mid grey brown, with some pale yellow brown mottling, silty sand with occasional small and medium sub-round and rounded flints. |
| 0.68 – 0.78m | L2005 | Layer. Friable, pale brown orange, with occasional patches of mid brown grey, silty sand. Occasional small and medium sub-round and rounded flint. |
| 0.78 – 0.81m | L2014 | Metalled surface. Compact, dark brown grey clay silt with frequent medium rounded flints. |
| 0.81 – 0.84m | L2050 | Layer. Compact, dark brown grey silty sand, with moderate charcoal flecks and occasional medium sub-round and rounded flints. |
| 0.84m+ | L2051 | Natural deposits. Friable, pale brown yellow sand. |

Table 4. Excavation Area, sample section eastern end, north facing

| <i>Western end, north facing</i> 0.00 = 10.75m AOD | | |
|---|-------|---|
| 0.00 – 0.07m | L2000 | Paved surface. As above. |
| 0.07 – 0.15m | L2001 | Made ground. As above. |
| 0.15 – 0.20m | L2002 | Concrete. As above. |
| 0.20 – 0.29m | L2003 | Tarmac. As above. |
| 0.29 – 0.37m | L2004 | Concrete. As above. |
| 0.37 – 0.52m | L2019 | Made ground. As above. |
| 0.52 – 0.75m | L2039 | Made ground. Firm, mid yellow brown silty sand, with occasional-moderate small and medium sub-angular, sub-round, and rounded flints. |
| 0.75 – 0.81m | L2005 | Made ground. As above. |
| 0.81 – 0.84m | L2014 | Metalled surface. As above. |
| 0.84 – 0.85m | L2050 | Layer. As above. |
| 0.85m+ | L2051 | Natural deposits. As above. |

Table 5. Excavation Area, sample section, western end, north facing

2.4.3 Monitoring of Groundworks (Figs. 14 & 19 – 21)

The monitoring encompassed the lifting of existing tarmac surface and the cutting of two test pits (Test Pits 1 & 2); a service trench (20.0 x 0.5m) (Trench 4); a Tree Pit, and a trench for a new water tank (7.85 x 3.90m) (Trench 5) (Fig. 14).

Test Pit 1 Sample Section (Figs.14 & 19)

| | | |
|--------------------------|------------------|--|
| <i>0.00 = 10.76m AOD</i> | | |
| 0.00 – 0.05m | L3000 | Preparatory layer for block paving. Compact, pale brown yellow gravelly sand. |
| 0.05 – 0.15m | L3001 | Earlier surface. Black Tarmac. |
| 0.15 – 0.25m | L3002 | Earlier surface. Pale grey concrete. |
| 0.25 – 0.45m | L3003 | Made Ground. Friable, pale brown orange coarse sand. |
| 0.45 – 0.62m | L3004 | Made Ground. Firm, dark grey brown silty, coarse sand with occasional small and medium sub-rounded and rounded flints. |
| 0.62 – 0.65m | L3005 = L2014 | ?Metalled Surface. Compact, mid brown grey clay silt with moderate – frequent medium rounded flints. |
| 0.65 – 0.85+m | L3006 | Natural deposits. Friable, pale brown yellow silty sand. |

Test Pit 2 Sample Section (Figs. 14 & 19)

| | | |
|---------------------------|-------|---|
| <i>0.00m = 11.47m AOD</i> | | |
| 0.00 - 0.10m | L3000 | Made Ground. As above. |
| 0.10 – 0.22m | L3002 | Concrete. As above. |
| 0.22 – 0.35m | L3009 | Made Ground. Compact mid yellow brown silty sand with mid grey brown sandy silt mottling and moderate medium sub-angular flint. |
| 0.35 – 0.90m+ | L3010 | Backfill. Firm, dark grey brown silty sand with occasional medium sub-angular flint. |

Trench 4 Sample Section 1 (Figs. 14 & 20)

| | | |
|--------------------------|-------|---|
| <i>0.00m = 9.03m AOD</i> | | |
| 0.00 - 0.08m | L3011 | Brick Surface. Dark red fired brick cobbles bonded in a dark grey sandy mortar |
| 0.08 – 0.10m | L3012 | Levelling layer. Loose, pale yellow sand. |
| 0.10 – 0.12m | L3013 | Bitumen. Compact black bitumen. |
| 0.12 – 0.39 m | L3014 | Made Ground. Loose to compact pale grey and dark yellow brown sand, gravel and concrete mix. |
| 0.39 – 0.76m+ | L3015 | Made Ground. Friable, mid brown clayey sand with moderate CBM and frequent medium to larger sub-angular to sub-rounded flint. |

Trench 4 Sample Section 2 (Figs. 14 & 20)

| | | |
|--------------------------|-------|----------------------------|
| <i>0.00m = 9.34m AOD</i> | | |
| 0.00 - 0.06m | L3011 | Brick Surface. As above. |
| 0.06 – 0.08m | L3012 | Levelling layer. As above. |
| 0.08 – 0.10m | L3013 | Bitumen. As above. |
| 0.10 - 0.72m+ | L3015 | Made Ground. As above. |

Trench 4 Sample Section 3 (Figs. 14 & 20)

| | | |
|-------------------|-------|----------------------------|
| 0.00m = 9.48m AOD | | |
| 0.00 - 0.06m | L3011 | Brick Surface. As above. |
| 0.06 – 0.08m | L3012 | Levelling layer. As above. |
| 0.08 – 0.10m | L3013 | Bitumen. As above. |
| 0.10 – 0.76m+ | L3015 | Made Ground. As above. |

Tree Pit Sample Section 1 (Figs.14 & 21)

| | | |
|--------------------|-------|---|
| 0.00m = 11.38m AOD | | |
| 0.00 - 0.18m | L3036 | Made Ground. Friable, mid brown grey silty sand and gravel with frequent small to medium sub-angular and sub-rounded flint. |
| 0.18 – 0.46m | L3038 | Made Ground. Compact, dark brown silty clay sand with frequent small angular to sub-rounded flint, CBM and charcoal flecks. |
| 0.46 – 0.79m | L3039 | Made Ground. Firm to friable, mid to dark red brown silty sand with moderate large rounded flint. |
| 0.79 - 0.94m | L3040 | Layer. Compact, dark red brown silty sand with moderate medium to large sub-angular to sub-rounded flint. |
| 0.94 - 1.02m+ | L3028 | Natural Deposits. Compact, pale yellow sand. |

Tree Pit Sample Section 2 (Figs. 14 & 21)

| | | |
|--------------------|-------|---|
| 0.00m = 11.13m AOD | | |
| 0.00 - 0.22m | L3022 | Brick Surface. Firm, pale grey sand, gravel and concrete mixed rubble. |
| 0.22 – 0.44m | L3023 | Former Surface. Loose, pale grey sand with gravel and concrete rubble. |
| 0.44 – 0.51m | L3024 | Levelling layer. Friable to compact, pale yellow brown sand. |
| 0.51 - 0.66m | L3033 | Made Ground. Firm to friable, pale brown grey silty sand and gravel with frequent small to large angular to sub-rounded stone. |
| 0.66 - 1.04m | L3025 | Subsoil. Firm, dark brown clayey silty sand with moderate medium to large angular to sub-rounded flint, occasional shall and frequent charcoal. |
| 1.04 - 1.59m+ | L3028 | Natural Deposits. As above. |

Description: The monitoring recorded a modern electrical service trench and two undated pits, F3016 and F3020, which contained animal bone. Pits F3007, F3026, F3029 and F3034 were apparent in section

Test Pit 1 was excavated to locate electricity cables and these were located. The service trench truncated a metallised surface, L3005, which had previously been recorded (= L1014).

Test Pit 2 was dug on the line of a telecoms trench and contained a ceramic conduit.

Service Trench F3007 was linear in plan (0.7+ x 0.4+ x 0.6m), orientated north-west to south-east. It had vertical sides and a flat base. Its fill, L3008, was a firm, mid brown grey silty sand with occasional medium sub-angular flint. It contained three electricity cables.

It was not possible to record sample sections within Trench 5, which was intended to contain a water tank associated with the plant room located 1m to the south, due to the way in which it was excavated and communicated with the plant room excavation. Within Trench 5 (Fig. 20), Pit F3016 was sub-oval in plan (0.97 x 0.41 x 0.6m), orientated east to west. It had steep, near vertical sides and a flattish base. It contained 3 fills. Its basal fill, L3017, was a firm, dark brown silty sand. It contained animal bone. Its secondary fill, L3018, was a loose pale yellow sand. Its upper fill, L3019, was a friable dark brown silty sand with occasional shell fragments.

Also within Trench 5 (Fig. 20), Pit F3020 was sub-circular in plan (0.74 x 0.72 x 0.11m). It had steep sides and an irregular undulating base. Its fill, L3021, was a friable, mid grey brown silty sand with moderate small to medium sub-rounded to rounded flint. It contained animal bone.

Pit F3026 was observed in the Tree Pit excavation in section only. It measured 0.84m+ in width and 0.5m in depth. It had steep sides and a concave base. Its fill, L3027, was a pale yellow-brown friable sand. It cut L3033.

Pit F3029 was observed in the Tree Pit excavation in section only. It measured 1.62m in width and 0.56m in depth. It had steep stepped sides and a flattish base. Its basal fill, L3031, was a firm to friable mid grey-brown slightly clayey silty sand. Secondary fill L3037 was a pale to mid yellow-brown firm sand. The upper fill, L3030, was a dark grey-brown firm silty clay.

Pit F3034 was observed in the Tree Pit excavation in section only. It measured 1.57m+ in width and 0.66m in depth. It had steep sides and flattish base. Its fill, L3035, was a very dark brown to black firm clayey silty sand with occasional medium rounded stones, moderate charcoal and shell flecks, and lenses of pale grey-yellow sand. It contained a fragment of fine-grained, dark grey micaceous stone which has been identified as a possible whetstone (see below).

2.5 Phasing

| Phase | Period | Date |
|-------|----------------------------------|--|
| 1 | Middle Anglo-Saxon | 8 th -9 th century |
| 2 | Later Anglo-Saxon to Saxo-Norman | 9 th -12 th century |
| 3 | Medieval | 12 th -15 th century |
| 4 | Post-medieval/early modern | 16 th -19 th century |

Table 6. The phases of activity represented at Cornhill, Ipswich

2.6 Phase 1. Middle Anglo-Saxon

The earliest recorded features were dated by pottery evidence to the middle Anglo-Saxon period, specifically the 8th to 9th centuries.

Located at the western side of the site, and recorded within Evaluation Trench 1, was F1025 (DP 4; Fig. 15; *Appendix 1; Table i*). This was a sub-rectangular, vertical sided feature with a concave base (1.73+ x 0.65+ x 0.88m). It contained two fills, the lower of which (L1026) was a friable dark grey clayey sand from which four sherds (81g) of early 8th to mid 9th century pottery, animal bone (475g) and oyster shell (172g) were recovered.

Immediately adjacent to the east of F1025 was F1021 (DP 3; Fig. 15; *Appendix 1; Table i*), a sub-circular, steep-sided pit (1.78+ x 0.90+ x 0.84+), the base of which was not reached during excavation and which, like F1025, extended beyond the limits of the evaluation trench. Early 8th to mid 9th century pottery was recovered, along with animal bone (590g), burnt flint (1; 5g), and oyster shell (1; 1g), from L1022, the loose, mid greenish grey, silty sand basal fill. The upper fill, L1034, was a friable pale orange yellow sand, from which animal bone (11g) and mussel shell (1; <1g) were recovered. This was cut by the Phase 2 Pit F1023=F2077.

To the south-east of F1021 lay F2060 (DP 12; Figs. 17 & 18; 1.64 x 1.20 x 0.69m; *Appendix 1; Table iv*) which was recorded within the area that was opened up for excavation. This was a sub-rectangular pit with irregular sides and a concave base. It was dated as Anglo-Saxon on the basis of the four sherds (43g) of early 8th to mid 9th century pottery recovered from its single fill, L2061. The small quantity of CBM that it contained may be intrusive from the post-medieval/early modern pit F2017 which cut it. Animal bone (320g) and oyster shell (108g) were also recovered from this feature. F2060 cut Pits F2062 (DP 13) and F2067 indicating that these features must have been of 8th to 9th century date or earlier.

Just over two metres to the east of F2060 was posthole F2042 (Figs. 17 & 18; *Appendix 1; Table iv*). This was comparatively small feature which was circular in plan and displayed shallow sides and a concave base. It contained a similar finds assemblage to F2060 (*Appendix 1; Table iv*) and like this larger feature was dated on the basis of the 8th to mid 9th century pottery that was present. No contemporary features with which this posthole may have had a structural relationship were recorded within the either of the evaluation trenches or the excavated area, although it is possible that it functioned in conjunction with the undated F2071 which lay to the south.

Two features assigned an 8th to 9th century date were recorded in Evaluation Trench 2 (Fig. 16). The smallest of these was posthole F1051 (0.16 x 0.14 x 0.16m; *Appendix 1; Table ii*). This feature was circular in plan, with steep sides and a concave base. It contained five sherds (20g) of 8th to 9th century pottery as well as small quantities of CBM and animal bone. It cut the larger undated posthole F1053, indicating that this feature must have been of broadly

contemporary date or earlier. It may have had a structural function with undated posthole F1055 which lay a short distance to the north and also cut F1053.

To the north-west of F1051 and also recorded within Evaluation Trench 2 was Pit F1057 (Fig. 16; *Appendix 1; Table ii*). This feature was square in plan, with vertical sides and a flat base (0.46 x 0.42 x 0.24m). Two sherds (32g) of early 8th to mid 9th century pottery were recovered from its dark grey brown sandy silt fill (L1058) along with CBM (17g), animal bone (14g) and oyster shell (6; 33g).

2.7 Phase 2. Later Anglo-Saxon to Saxo-Norman

Two features recorded during the archaeological investigations were assigned a 9th to 12th century date.

F1023 (DP 3; Fig. 15; *Appendix 1; Table i*), a sub-circular pit with moderately sloping sides and a concave base (1.60+ x 0.80+ x 0.66m), was recorded in Evaluation Trench 1. It was also recorded as F2077 (DP 14; *Appendix 1; Table iv*) in the larger excavation area (Figs. 17 & 18). F2077 was sub-circular in plan and the sides were recorded as irregular. It contained four fills (L2078, L2079, L2080, and L2081; *Appendix 1; Table iv*). Mid 9th to early 12th century pottery was recovered from the basal fill L2078. Intrusive early modern pottery was recovered from secondary fill L2079 and residual Roman pottery was recovered from tertiary fill L2080. Only two fills were recorded in the portion of the feature which was recorded as F1023. The basal fill contained five sherds of 9th to 12th century pottery (201g) along with CBM (263g), animal bone (283g), oyster shell (5; 65g), struck flint (2; 24g), slag (1; 11g) and mussel shell (1; <1g). The upper fill (L1035), like fill L2081, was devoid of finds. This feature cut Phase 1 Pit F1021.

To the south of F2077 lay F2086 (Figs. 17 & 18; *Appendix 1; Table iv*). This was sub-rectangular in plan with irregular sides and a shallow concave base (1.6+ x 0.6+ x 0.82m). It contained four fills, two of which contained finds. L2088, one of two basal fills, along with L2087, contained pottery (2; 63g), animal bone (179g) and oyster shell (406g). Middle fill L2089 contained mid 9th-11th century pottery (6; 153g) as well as residual Roman sherds, animal bone (471g) and oyster shell (57g). F2086 extended beyond the limits of excavation to the south and the west.

2.8 Phase 3. Medieval

F1041 was recorded in Evaluation Trench 2 (Fig. 16). It was, like the other features in this trench, sealed beneath layer L1036 which contained a sherd of Anglo-Saxon pottery, which must be considered to be residual, and 106g of medieval CBM. F1041 was a small posthole (0.20 x 0.16 x 0.09m; *Appendix 1; Table ii*). Its medieval date is based on the 16g of medieval CBM, contemporary with that recovered from the overlying L1036, which was present within its mid greenish grey sandy silt fill. To the north was the larger F1043 (0.36 x 0.28 x 0.12m; *Appendix 1; Table ii*); this sub-circular, steep-sided feature was dated to the medieval period, like F1041, on the basis of a small quantity of CBM (4g)

present within its greenish grey sandy silt fill. While dating evidence suggests that these two features were contemporary, there is nothing other than their proximity to one another to suggest a shared function or relationship.

Within the larger excavation area, to the south of Evaluation Trench 2, three medieval features were recorded (Figs. 17 & 18; *Appendix 1; Table iv*). F2058 was a large (0.60 x 0.37 x 0.21m) sub-circular posthole with a dark grey brown silty sand fill from which 12th-14th century pottery (1; 4g), CBM (5g), animal bone (96g), slag (465g) and fired clay (6g) were recovered. There were no contemporary features with which F2058 could have had an obvious structural or functional relationship. Posthole F2069 lay to the south but this was a much smaller feature (0.25 x 0.14 x 0.17m) and also differed in profile, displaying vertical sides and concave base. The single mid grey-brown sandy silt fill of F2069 (L2070) was found to contain late 12th-14th century pottery (1; 7g), animal bone (5g) and slag (80g).

To the east of these postholes lay Pit F2082 (Figs. 17 & 18). This extended beyond the limits of excavation but was recorded as being rectangular in plan with vertical sides and a flattish base. It contained a single dark grey brown sandy silt fill from which was recovered 11th-13th century pottery (2; 63g), animal bone (310g) and burnt bone (7g).

Possible Metalled Surface L2014 was present across the entire excavated area and was approximately 0.03m thick (Figs. 17 & 18). It comprised a compact dark brown grey clayey silt embedded with frequent medium sized rounded flints. It was overlain by L2005 and overlay L2050. It contained CBM (146g); animal bone (413g); slag (125g); shell (165g) and an Fe fragment (70g). This overlay L2050 (see below) which sealed all of the medieval and earlier features that were recorded. It is possible that L2014 represents a surface laid down as part of a late medieval or early post-medieval rearrangement or refurbishment of the market place.

Beneath Metalled Surface L2014 lay L2050 (Figs. 17 & 18). This appears to represent made ground or possibly a demolition deposit. It was present across the excavated area (0.02 - 0.05m thick). It comprised a compact, dark brown grey, silty sand with moderate – frequent charcoal flecks and occasional medium sized sub-rounded – rounded flints. It yielded medieval (11th-13th century) pottery (3; 17g) including some residual Roman sherds; CBM (8g); animal bone (1003g); slag (87g); struck flints (3; 20g); oyster shell (86g) and an Fe fragment (1; 4g). L2050 typically overlay the natural deposit, L2051, and sealed the Anglo-Saxon, Saxo-Norman, and medieval features that were recorded in this area.

2.9 Phase 4. Post-medieval/early modern

Thirteen features were assigned a post-medieval to early modern date. The majority of these were recorded in the area that was opened up for further excavation after the completion of the trial trench evaluation (Figs. 17 & 18). A single feature was recorded in Evaluation Trench 1 (Fig. 15) and two features of this date were recorded in Evaluation Trench 2 (Fig. 16).

Many of these features contained pottery of earlier dates but their stratigraphic positions indicated that this material must have been residual. Pit F1004, for example, contained Saxo-Norman pottery but truncated Made Ground L1008 and was overlain by Concrete L1003. The post-medieval/early modern features recorded in the excavation area were all observed to cut layer L2005, which was stratified above possible Metalled Surface L2014 which in turn lay above the medieval possible demolition layer L2050 which sealed all of the features of medieval date and earlier.

The exception to this was Pit F2017 which cut Metalled surface L2014 (Figs. 17 & 18). It was square in plan (0.6 x 0.6 x 0.09m) and its fill, L2018, was a firm, dark brown orange silty sand with moderate small – medium sub-rounded – rounded flints. It yielded a single residual sherd of Roman pottery (1; 6g); CBM (150g); animal bone (73g) & oyster shell (1g).

| Feature | Type | Plan/ profile (dimensions) | Fill | Relationships | Finds |
|---------|----------|--|--|------------------------------|--|
| F1004 | Pit | Sub-circular, steep sides, not bottomed (1.10 x 0.60+ x 0.72m+) | L1005: Firm, dark grey brown sandy silt with occasional small sub-rounded flints | - | 11 th – 12 th C pottery (1; 4g); CBM (82g); Oyster shell (1;<1g) |
| F1037 | Posthole | Circular, steep irregular sides, narrow base (0.22 x 0.19+ x 0.18m+) | L1038: Firm, mid greenish grey sandy silt with occasional small angular flints. | - | CBM (11g) |
| F1047 | Posthole | Sub-circular, steep sides, concave base (0.26 x 0.26 x 0.32m) | L1048: Firm, mid greenish grey sandy silt with occasional small angular flints. | - | Mid 12 th – mid 14 th C pottery (2; 5g); CBM (9g) |
| F2006 | Pit | Rectangular, gently sloping sides, flat base (1.50+ x 0.40+ x 0.16m) | L2007: Firm, very dark red brown silty sand with moderate small rounded flints | - | Animal bone (19g); oyster shell (36g) |
| F2010 | Pit | Sub-circular, vertical sides, flat base (0.90 x 0.90+ x 0.34m) | L2011: Firm, dark grey brown silty sand with moderate small sub-rounded flints | Cut L2014 & Pit F2010 | CBM (99g); animal bone (337g); slag (13g); coal (5g); struck flint (1/3g); oyster shell (7g) |
| F2015 | Pit | Irregular, steep sides, flat base (4.80 x 2.15 x 0.21m) | L2016: Firm, dark red brown grey silty sand, with occasional small and medium sub-angular and sub-rounded flints | Cut L2021; overlain by L2020 | 19 th -20 th C pottery (1;1g); residual late 12 th -14 th C pottery (4;49g); animal bone (105g); CBM (57g); oyster shell (23g); coal (3g), Fe fragment (1;20g) |
| | | | L2035: Firm, dark brown grey silty sand with occasional small and medium sub-angular and sub-rounded flints | | 17 th -19 th C pottery (3; 13g); residual Late 13 th -14 th C pottery (3; 10g); CBM (170g); animal bone (446g); oyster shell (132g); slag (594g) |
| F2022 | Pit | Rectangular, vertical sides, flat base (0.46 x 0.32 x 0.18m) | L2023: Firm, dark grey brown sandy silt with moderate angular and rounded flints | - | CBM (7g); animal bone (12g) |
| F2024 | Pit | Sub-rectangular, steep sides, not bottomed (0.80+ x 0.20+ x | L2025: Loose, mid grey brown silty sand with occasional small and | Cut Made Ground L2019 | - |

| | | | | | |
|-------|-----|--|--|---------------|--|
| | | 0.43m+) | medium sub-rounded flints | | |
| F2026 | Pit | Sub-circular, steep sides, concave base (0.72+ x 0.50+ x 0.52m) | L2027: Friable, mid yellow brown silty sand with moderate medium sub-angular and sub-rounded flints | Cut Pit F2015 | - |
| F2028 | Pit | Sub-circular, vertical sides, flat base (0.78+ x 0.55+ x 0.09m) | L2029: Firm, dark grey brown sandy silt with occasional medium sub-angular and sub-rounded flints | - | CBM (115g), oyster shell (3g) |
| F2030 | Pit | Sub-circular, moderately sloping sides, flat base (1.10+ x 0.24 x 0.16m) | L2031: Firm, mid grey brown silty sand with occasional small and medium sub-round and rounded flints | - | Residual Late 12 th -14 th C pottery (3/29g); CBM (22g); animal bone (26g); oyster shell (25g) |
| F2032 | Pit | Sub-rectangular, steep sides, flat base (0.45 x 0.0.41 x 0.20m) | L2033: Firm, mid grey brown silty sand with moderate small sub-angular and sub-rounded flints | - | - |

Table 7. Post-medieval/earlymodern features

F1004 (Fig. 15) was an isolated feature which extended beyond the limits of the evaluation trench in which it was identified and which contained only small assemblage of finds, at least part of which was residual. The function of this feature therefore remains uncertain.

F1037 and F1047 (Fig. 16) were postholes of similar size and profile which may have had a shared structural function. However, they were located in an area in which several features of similar form and a variety of dates were recorded.

In the excavation area, the most prominent feature was the irregularly shaped Pit F2015 (Fig. 17 & 18). This feature extended across the entire width of the excavated area and was aligned broadly south-west to north-east. On either side of this were the rectangular or sub-rectangular Pits F2006 and F2030, both of which extended beyond the limits of excavation at either end of the excavated area. F2015 cut the edge of the small pit F2028. Cut through the backfilled F2015 at the southern edge of the excavation area were pits F2024 and F2026. These extended beyond the excavated area but appeared to be sub-circular or oval in plan. Also cut through the backfilled F2015 were two sub-square or rectangular features with steep/vertical sides and flat bases, F2022 and F2032. These were very similar in form to the stratigraphically earlier F2017 and possibly, therefore, represent features of similar function.

2.10 Undated features

Several features were identified during the trial trench evaluation and the subsequent excavation that contained insufficient artefactual material from which a date for their use could be discerned. Stratigraphic evidence proved more useful in determining the antiquity of these features but in most cases could provide only a *terminus ante quem* for their final use.

Within Evaluation Trench 1 (DP 1), three undated features were observed. These were Pit F1015 (DP 2) and Postholes F1017 and F1019 (*Appendix 1; Table i*) which were recorded in section only. These were cut into the natural deposit L1014 and are more likely, therefore, to be contemporary with the Anglo-Saxon and Saxo-Norman features recorded at the southern end of the trench than with the post-medieval F1004 which was identified at the northern end and which was cut through several layers much higher in the stratigraphic sequence.

Six undated features were recorded within Evaluation Trench 2 (DPs 5 & 6). These were F1039, F1045, F1049, F1053, F1055, and F1059 (*Appendix 1; Table ii*). Like all of the features recorded within this trench, the undated features cut the natural substrate L1014 and were sealed by layer L1036. L1036 contained both Anglo-Saxon pottery and medieval CBM suggesting that any features in this trench are likely to be of this date or earlier. The presence of two features, F1047 and F1049, which both contained very small amounts of post-medieval CBM, within this trench may indicate that the dateable material within L1036 was all residual or redeposited. Undated features in Trench 2 may, therefore, be of post-medieval date or earlier.

In the Excavation area (DPs 8-11), the stratigraphically earliest features were sealed by Layer L2050, which was assigned a medieval date. All of the undated features recorded within the Excavation area were sealed by L2050 (*Appendix 1; Table iv*) and must, therefore, be earlier than this medieval layer. In three cases, those of F2062, F2064 and F2067, which have been shown to be stratigraphically earlier than F2060, a more specific date can be determined; these features must have been contemporary with or earlier than the Anglo-Saxon F2060.

3 SPECIALIST REPORTS

3.1 The Pottery

Peter Thompson

The combined archaeological evaluation and excavation recovered 67 sherds weighing 815g (Table 8). The majority are of Saxon and medieval date, with 7 late post-medieval sherds which are not discussed further.

Methodology

The sherds were examined under x35 binocular microscope and recorded according to the Medieval Pottery Research Group Guidelines (Slowikowski et al 2001). Fabric codes are those used for the Suffolk County Council pottery type series, and forms are described as in the MPRG classification.

The Pottery

Ipswich ware

Twenty-eight sherds weighing 357g (42.6% of the total assemblage), were Middle Saxon Ipswich wares, which were produced between c.720 and 850; the majority were of the sandy variety. Ipswich ware was present in Features F1021 (L1022), F1025 (L1026), F1047 (L1048), F1051 (L1052), F1057 (L1058), F2042 (L2043), F2060 (L2061), F2077 (L2079), F2082 (L2083), F2086 (L2088 & L2089), and Layers L1036 and L2050, as well as Made Ground L1000. The sherd condition ranged from slight to heavy abrasion. Features F1021, F1025, F1051, F1057, F2042, and L1036 contained Ipswich ware only. Pit F2060 contained Ipswich ware along with a sherd of what potentially was one of the earliest Saxon fabrics from the site. However, this sherd, ESMS2, (and also ESMS1 from F2077), were both handmade and visually quite similar to gritty Ipswich ware, and so may be contemporary with Ipswich ware, and therefore of Middle Saxon date. The most diagnostic sherds of Ipswich ware were two cooking pot rims from Pit F1057 (L1058) and F2042 (L2043) (Figs. 1 & 2), and a jar neck with girth grooves (Fig. 3) from Pit F2086 (L2088), which were all in the gritty fabric.

Saxo-Norman wares

Ipswich-Thetford ware, in a fine sandy fabric very similar to the sandy Ipswich ware fabric, and the successor to it, was present in F1023 (L1024), F2030 (2031), F2077 (L2078), F2082 (L2083), F2086 (L2089) and Layer L3025. Feature F2078 contained a sherd of Ipswich-Thetford ware (L2078) which was associated only with Middle Saxon sherds (SIPS and ESMS1) and a Roman sherd that came from the fills above. Pit F2086 also contained Ipswich-Thetford ware and earlier Ipswich ware sherds. F1023 contained Ipswich-Thetford ware along with a large body fragment of a St Neots ware jar, and all of these sherds were in good condition, particularly an Ipswich-Thetford cooking pot rim (Fig. 4). Pit F2082 contained a sherd each of Thetford, Ipswich and a handmade Early Medieval shelly ware jar body/base sherd, which could be contemporary with the Thetford sherd and indicating an 11th-12th centuries date.

Medieval wares

The majority of medieval coarseware sherds (8 out of 12) were body sherds of local Hollesley-type ware in pale grey fabrics, although most appeared to lack clay pellets, hence the 'type' suffix. Hollesley-type ware was present in Feature F2015 (L2016, L2016C), Layer? L2035B & L2035C, and in Pit F2069 (L2070). Pit F2069 contained a lone Hollesley sherd, while the other contexts contained sherds of later pottery. There were four other coarseware sherds. Pit F1004 (L1005) contained a simple Early Medieval ware cooking pot rim in a grey sandy fabric also containing rounded grey grog/clay pellets or possible iron slag. Layer L2050 contained a medieval coarse gritty ware of 11th-13th centuries date, and Pit F2058 (L2059) contained a sherd of medieval grey

ware. The Early Medieval shelly ware is described above. There were four glazed medieval sherds. A highly abraded fragment of green glazed rod handle with oxidised surfaces may be a medieval glazed Ipswich ware product, although it could also be a glazed Hollesley ware, as the two fabrics are quite similar. Two sherds containing mottled clear and green glaze over white slip came from L2035 B & L2035 C. The third glazed sherd is a tiny unprovenanced sherd from Post-hole F1047 (L1048) which is probably also late medieval.

| Code | Fabric No. | Description | Date | Sherd count | Fabric weight | Sherd % |
|-------|------------|---|---|-------------|---------------|---------|
| ESMS1 | 2.22 | Early Saxon medium sandy ware – fine silty/sandy matrix with moderate sub-angular to sub-rounded medium grey quartz. Rare very coarse lumps of grey grog or pellets. Dark grey/black core and inner surface and pale orange-brown outer surface | 6 th -8 th | 1 | 9 | 1.5 |
| ESMS2 | 2.22 | Early Saxon medium sandy ware - as for ESMS1 but quartz sub-rounded to rounded and slightly coarser. Also contains rare very coarse red grog or clay pellets, and very coarse rounded quartz, and occasional burnt organics. Moderate mica. Dark grey/black, with brown outer surface | 6 th -8 th | 2 | 22 | 3 |
| SIPS | 2.32 | Ipswich ware (sandy) (Blinkhorn 2012) | 8 th -mid 9 th | 19 | 206 | 28.9 |
| GIPS | 2.31 | Ipswich ware (gritty) (Blinkhorn 2012) | 8 th -mid 9 th | 9 | 151 | 13.7 |
| STNE | 2.70 | St Neots ware (Cotter 2000) | Mid 9 th -mid 12 th | 1 | 107 | 1.5 |
| THET1 | 2.56 | Thetford ware (Cotter 2000) | Mid 9 th -mid 12 th | 12 | 133 | 16.7 |
| EMW | 3.10 | Early medieval ware: Fine sandy fabric similar to Thetford ware with sparse larger inclusions of dark grey grog and coarse sub-rounded quartz. Grey throughout | 11 th -13 th | 1 | 4 | 1.5 |
| EMWS | 3.14 | Early Medieval shelly ware (Cotter 2000) | 11 th -12 th / 13 th | 1 | 23 | 1.5 |
| MCWG | 3.21 | Medieval coarse gritty ware | 11 th -13 th | 1 | 11 | 1.5 |
| MCW | 3.20 | Medieval coarseware: abundant fine to medium sub-rounded quartz, rare red quartz. Dark grey | 12 th -14 th | 1 | 4 | 1.5 |
| HOLL | 3.42 | Hollesley ware (Anderson forthcoming) | Late 13 th -14 th | 8 | 60 | 12.2 |
| UPG | 4.00 | Unprovenanced glazed ware: abundant fine sand with occasional medium to coarse quartz and sparse white rounded chalk inclusions. Grey core, orange surfaces | Late 12 th -15 th | 1 | 1 | 1.5 |

| | | patchy clear glaze | | | | |
|------|------|--|---|----|-----|-----|
| IPSG | 4.31 | Ipswich glazed ware | Late 13 th - early 14 th | 1 | 27 | 1.5 |
| COLC | 4.21 | Colchester ware (Cotter 2000) | Late 13 th - mid 16 th | 2 | 9 | 3 |
| PMRE | 6.10 | Post-medieval red earthenware | 16 th + | 1 | 14 | 1.5 |
| GSW5 | 7.15 | Westerwald stoneware | 17 th -19 th | 1 | 2 | 1.5 |
| LGWE | 8.50 | Late glazed red earthenware | 18 th + | 1 | 1 | 1.5 |
| ENGS | 8.20 | English stoneware | 18 th -19 th | 1 | 25 | 1.5 |
| PEW | 8.11 | Pearlware | Late 18 th - mid 19 th | 1 | 4 | 1.5 |
| TPW | 8.00 | Transfer Printed ware | Late 18 th + | 1 | 1 | 1.5 |
| RWE | 8.03 | Refined factory made white earthenware | Late 18 th + | 1 | 1 | 1.5 |
| | | | | 67 | 815 | |

Table 8: Quantification of wares/fabrics

Illustrations

1. L1058 Gritty Ipswich ware cooking pot rim
2. L2043 Gritty Ipswich ware cooking pot rim
3. L2088 Gritty Ipswich ware cooking pot shoulder with girth grooves
4. L1024 Ipswich-Thetford ware cooking pot rim

3.2 The Ceramic Building Materials

Andrew Peachey

The archaeological investigations recovered a total of 130 fragments (2194g) of CBM, in a very highly fragmented and abraded condition. Sparse fragments could be identified as medieval tile (Table 9), potentially peg tile of mid 13th to mid 15th century date, however, the presence of late medieval/post-medieval types indicated these could have been re-used as part of subsequent structures. The CBM was quantified by fragment count and weight, with fabrics examined at x20 magnification, all extant dimensions characterised/measured, and all date entered into a Microsoft Excel spreadsheet that forms part of the site archive.

| CBM type | Date | Frequency | Weight (g) |
|----------------|----------------|------------|-------------|
| Peg tile | Medieval | 21 | 415 |
| Misc. (crumbs) | | 18 | 42 |
| Fired Clay | ?Medieval | 25 | 239 |
| Peg tile | Late Medieval/ | 58 | 703 |
| Brick | Post-Medieval | 4 | 290 |
| Pantile | Modern | 12 | 115 |
| Fletton Brick | | 1 | 334 |
| Sewer Pipe | | 1 | 56 |
| <i>Total</i> | | <i>130</i> | <i>2194</i> |

Table 9: Quantification of CBM

The medieval CBM was manufactured in a pale red-orange to orange-brown fabric with inclusions of common quartz (<0.2mm, occasionally polycrystalline), sparse fine mica, occasional red iron rich grains (<1mm), and very occasional flint (<5mm). It appears limited to 16mm thick flat tile, possibly nib tile or more likely peg tile, although no further diagnostic traits were extant. Small plain fragments were contained in Pit F1023, Posthole F1041, Features F2015, F2017, F2028, and Layers L1036 and L2050; however, they were generally associated with late medieval/post-medieval CBM. A single fragment recovered from Made Ground L1000 exhibits sparse small splashes of lead glaze on its upper surface. Early roof tiles came into general use in East Anglia in the mid 13th century and had become almost universal by the beginning of the 14th century. However, until 1477, when legislation standardised dimensions and quality, they exhibited considerable variation (Drury 1981, 131) and the thickness of these fragments suggests that they were manufactured between the mid 13th to mid 15th centuries. Small abraded fragments of fired clay with a silty fabric fired/baked at a low temperature are also likely to be of Saxon or medieval date, notably a small group in Posthole F2042, potentially from lay blocks, bars or loom weights although the high degree of fragmentation has rendered them inconclusive.

In contrast, the remaining peg tile exhibits the more regular thickness of c.12mm that is common on tiles produced in the late 15th to 18th centuries, in a higher fired red fabric with denser quartz inclusions. These fragments also tend to exhibit shallow lengthways striations on their upper surface where they were pressed into formers. Late medieval/post-medieval fragments of peg tile were identified in Pits F1004, F2030, Postholes F1037, F1047, F2010, Features F2015, F2017, F2022, F2028 and F2042, Layers L2014, L2050, and L1001. However, like the medieval fragments, these were of a very small size that curtails further analysis. Isolated fragments of red brick with a thickness of 50mm were also contained in Pit F1023, Posthole F2010 and Feature F2017 and are unlikely to pre-date the Tudor period.

Isolated fragments of pantile, Fletton brick and sewer pipe in Feature F2028 and Made Ground L3015 are of modern date.

3.3 Whetstone

Andrew Peachey

L3035 contained the mid body section and lower end of a whetstone or honestone (103g) manufactured from a fine-grained, dark grey micaceous rock, probably schist. It has a rectangular section (17mm thick) and the lower end is 40mm wide, tapering gently to the opposing end, which is presumed to have been perforated but is snapped off and presumably the reason for loss or discard. All faces of the whetstone are polished/worn smooth with faint light striations from use, while a concave notch has been worked into one edge close to the bottom corner, potentially to allow for the grinding/sharpening of a tipped implement. This type of implement was certainly utilized in the Anglo-

Saxon and medieval periods but equally has a currency spanning the Iron Age to the 19th century.

3.4 Metalwork Analysis

By Rebecca Sillwood

Introduction

A total of 16 objects and fragments of objects were submitted for analysis from the site; all were of iron. For the full catalogue, including weights and dimensions, see the Appendix. A summary of the metalwork by context is presented below:

| Context | Object type | Feature type | Context Spotdate |
|---------|-------------|--------------|---------------------|
| 2007 | Nails | Feature | |
| 2011 | Nail | Post-hole | |
| 2011 | Fragments | Post-hole | |
| 2014 | Nails | Layer | |
| 2014 | Fragments | Layer | |
| 2016 | ?Heel iron | Feature | Post-medieval |
| 2043 | Nail | Feature | 8th-mid 9th century |
| 2080 | Nails | Pit | Roman |

Table 10. List of metalwork by context

The finds were recovered from a variety of features and layers, ranging in date from Roman, Middle Saxon and Post-medieval/Modern; some features were undated. No phasing was available at the time of writing, and no x-rays had been taken of the finds, as it was not deemed necessary for this small collection.

Description

Ten objects out of the sixteen found were nails, this makes up 62% of the overall assemblage. The nails were recovered from undated contexts, including: Pit F2006 L2007, Posthole F2010 L2011 and layer L2014. Nails were also recovered from probable Middle Saxon feature F2042 L2043 and Pit F2077 L2080.

Nails are a ubiquitous find throughout multiple periods, and are obviously still in use today, with little or no change to their overall appearance. None of the nails are obviously modern, and so they could all feasibly be of some antiquity.

Five of the remaining finds are unidentifiable, as they are small amorphous fragments, which, in some cases, may not even be iron, but rather concretions of iron pan and natural in origin. Two pieces like this were recovered from Posthole F2010 L2011, and three from layer L2014.

The remaining object is the only fully identifiable iron object from the site, and this is likely to be an incomplete heel iron, from a shoe or boot of post-medieval or modern date. It consists of an incomplete U-shaped object, missing part of one branch.

Conclusions

The metal finds from this site at Cornhill, Ipswich are not particularly useful in further dating and phasing of the site. The nails which make up most of the assemblage cannot be closely dated.

The location of this excavation in the centre of Ipswich, and the historical evidence for the site being used as a market, probably from the Middle Saxon period, would imply the use of some temporary wooden structures, which would require nails.

The post-medieval heel iron is a likely to be a chance loss, and may have been incorporated in the features on the site some time in the 19th- or 20th-century, possibly even when the Town Hall was built adjacent to the site in the 1860s.

3.5 The Animal Bone

Julia E M Cussans

Introduction

A moderately sized animal bone assemblage was present deriving from Saxon, medieval and post medieval/ modern deposits. These included pit and post hole fills and made ground layers.

Method

Primary Recording

Prior to detailed recording all bone bags were briefly scanned and any unsuitable for recording were set aside. These included unstratified material and contexts that contained no material identifiable to specific taxa. All other contexts were recorded in detail. Each context was rated as a whole for bone preservation/ condition on a five point scale ranging from very poor through to excellent. Phasing was determined following the archaeological stratigraphy and spot dates and following this the bone assemblage was divided into three groups for analysis: Saxon, medieval and post medieval/ modern.

Individual bones were identified to element, species, part (e.g. proximal, distal, shaft) and body side and recorded in an MS Access database using codes provided by NABONE (NABO 2008). Data on bone zone, fragment size, fusion state, butchery, burning, gnawing, sex, pathology (including non-metric traits) and tooth wear were also gathered where possible. Bone identifications were made using the in house reference collection at Archaeological Solutions and with the aid of reference manuals (e.g. Schmid 1972, Pales & Lambert 1971 a

& b, Pales & Garcia 1981 a & b, Hillson 1992). Bone fusion, butchery, burning and gnawing were recorded following the NABONE guidelines. Bone zone was determined following Dobney and Rielly (1988); tooth eruption and wear was recorded following Grant (1982).

Data Analysis

Following recording the data were sorted and analysed by phase and taxa. Age data from tooth eruption and wear and long bone fusion were assessed and described. Tooth eruption and wear age stages were assigned following the methods of Hambleton (1999) for pig and Payne (1973) for sheep; no other ageable mandibles or teeth were available. Bone fusion data was not assigned to specific ages due to differences in maturation between modern and ancient populations but was rather assigned to fusion groups (early, intermediate, late) following O'Connor (1989) to allow relative age to be assessed. The occurrence of burning and bone gnawing were assessed by phase. Butchery marks and their distribution were examined and described in detail. Pathologies/ abnormalities were also described.

Results

Taphonomy

For the recorded bone the majority of contexts were rated as having ok or good preservation (Table 11), only one recorded context was noted as having poor preservation. Some of the small number of contexts that were not recorded were also rated as having poor preservation. A number of the contexts were noted as having concreted bones, which has implication for the recording of bone surface modifications, such as butchery marks that may be masked by the concretion. A small number of bones were noted as particularly abraded but overall the bones were in good condition.

| Feature | Context | Segment | Description | Spot Date | Phase | Preservation |
|---------|---------|---------|------------------------------|-----------------------------------|-----------------------|--------------|
| 1004 | 1005 | | Fill of Pit | 11th-13th C | Post med/mod | good |
| 1013 | 1013 | | Occupation Layer | | Medieval | good |
| 1021 | 1022 | | Fill of Pit | Early 8th-Mid 9th | Mid Saxon | good |
| 1023 | 1024 | | Fill of Pit | Mid 9th-Mid 12th | Later Saxon | good |
| 1025 | 1026 | | Fill of Pit | Early 8th-Mid 9th | Mid Saxon | good |
| 1036 | 1036 | | Occupation Layer | Early 8th-Mid 9th | Saxon | good |
| | 2014 | | Metaled surface | | Medieval | good |
| | 2050 | | Layer Below Metalled Surface | 11th-13th | Medieval | good |
| 2054 | 2055 | | Fill of Post Hole | | Medieval | good |
| 2056 | 2057 | | Fill of Post Hole | | Medieval | good |
| 2062 | 2063 | | Fill of Pit | | Undated poss Medieval | good |
| 2082 | 2083 | | Fill of Pit | 11th-13th | Medieval | good |
| 2058 | 2059 | | Fill of Feature | 12th-14th | Medieval | ok |
| 2060 | 2061 | | Fill of Pit | Early 8th-Mid 9th (inc res Roman) | Mid Saxon | ok |

| | | | | | | |
|------|------|---|-------------------------|------------------------------|-----------------------|------|
| 2064 | 2066 | | Upper Fill of Pit | | Undated poss Medieval | ok |
| 2067 | 2068 | | Fill of Pit / Post Hole | | Undated poss Medieval | ok |
| 2077 | 2079 | | Fill of Pit | 18th-early 20th | Later Saxon | ok |
| 2077 | 2080 | | Fill of Pit | Roman | Later Saxon | ok |
| 2006 | 2007 | | Fill of Feature | | Post med/ mod | good |
| 2010 | 2011 | | Fill of Post Hole | | Post med/ mod | good |
| 2015 | 2016 | | Fill of Feature | 13th-14th | Post med/ mod | ok |
| 2015 | 2016 | D | Fill of Feature | 19th-20th | Post med/ mod | ok |
| 2017 | 2018 | | Fill of Feature | Roman | Post med/ mod | ok |
| 2022 | 2023 | | Fill of Feature | | Post med/ mod | ok |
| 2015 | 2035 | C | Fill of Feature | Late 13th-14th | Post med/ mod | ok |
| 2042 | 2043 | | Fill of Feature | 8th-mid 9th | Middle Saxon | ok |
| 2030 | 2031 | | Fill of Pit | Late 12th-14th | Post med/ mod | poor |
| 2077 | 2078 | | Fill of Pit | mid 9th - early 12th | Later Saxon | good |
| 2086 | 2088 | | Fill of Pit | 8th-mid 9th | Later Saxon | ok |
| 2086 | 2089 | | Fill of Pit | Mid 9th-11th (inc res Roman) | Later Saxon | ok |

Table 11. Contexts examined for detailed recording of animal bone indicating description, spot date, assigned phase and bone preservation

Bone fragment size (Chart 1) is dominated by fragments in the 5-10cm range, with very few under 2cm in their greatest dimension; again this is an indicator of the generally good condition of the bone. Only two fragments of burnt bone were present, both were charred and derived from medieval Pit Fill L2083. Dog gnawed bones were present in small quantities throughout a number of the contexts. Overall 3.7% of bones showed signs of dog gnawing. The highest percentage of dog gnawing is seen in Saxon contexts where 6.6% of bone fragments were affected.

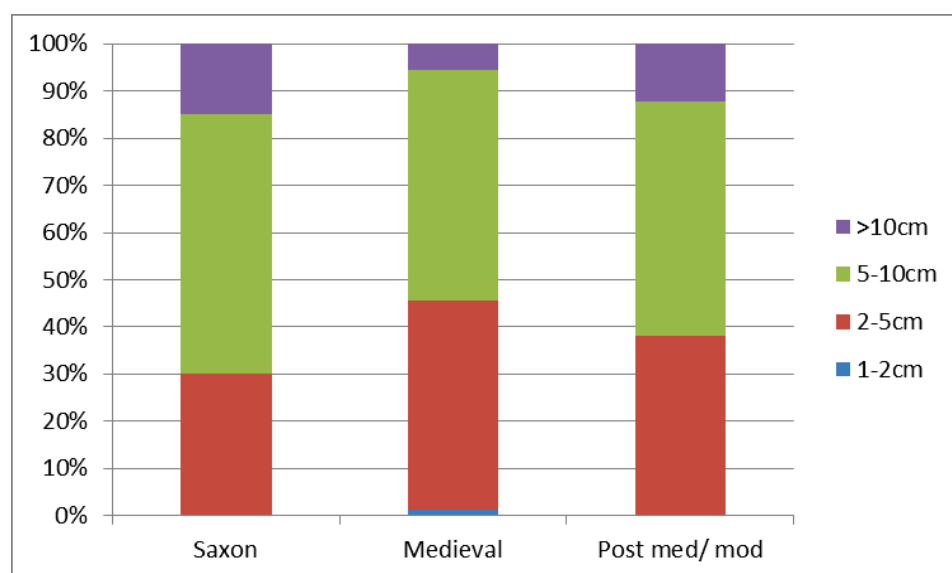


Chart 1. Distribution of bone fragment size by period

Taxa Present and Quantification

In total nearly 600 bone fragments were present (Table 12), however approximately one third of these could only be identified as unidentified mammal fragments. A further large portion (slightly fewer than half) could only be identified as large or medium mammal. These bones included long bone fragments, ribs, vertebrae and skull fragments.

| | Saxon | Medieval | Post med/ mod | Total |
|---------------|--------------|-----------------|----------------------|--------------|
| Cattle | 14 | 27 | 11 | 52 |
| Sheep/ goat | 5 | 15 | 4 | 24 |
| Pig | 8 | 32 | 9 | 49 |
| Red deer | 3 | | | 3 |
| Deer sp. | 2 | | 1 | 3 |
| Large mammal | 29 | 77 | 40 | 146 |
| Medium mammal | 19 | 67 | 22 | 108 |
| Small mammal | | | 2 | 2 |
| Unid. mammal | 11 | 160 | 28 | 199 |
| Chicken | | 5 | | 5 |
| Goose | | 1 | | 1 |
| Bird indet. | | 3 | | 3 |
| Fish indet. | | 1 | | 1 |
| Total | 91 | 388 | 117 | 596 |

Table 12. Quantification of animal bone by NISP (number of identified specimens)

The majority of the identified bones belong to domestic mammals. Overall cattle and pig were represented in near even quantities according to NISP and sheep/ goat had a lower representation; none of the sheep/ goat bones were identified to species. No other domestic mammal bones were present; however there is some evidence for the presence of dogs or similar canids at the site in the form of gnawed bones. Wild mammals were represented by red deer and indeterminate deer elements; these included antler fragments and a metatarsal. The antler pieces included a shed burr and a number of pieces with saw marks.

A number of bird bones were present, all of which derived from medieval deposits and included chicken and goose. A single fish bone was also recorded, again from medieval deposits.

Percentage representation by NISP of the three main domestic taxa (Chart 2) shows a small amount of variation over time, however it must be remembered that the sample size is small. Representation of sheep/ goat appears fairly steady over time with some slight fluctuation in the representation of pig and cattle. MNI (Chart 3) shows a slightly different story with sheep/ goat being better represented and cattle having a lower representation in the post medieval/modern period.

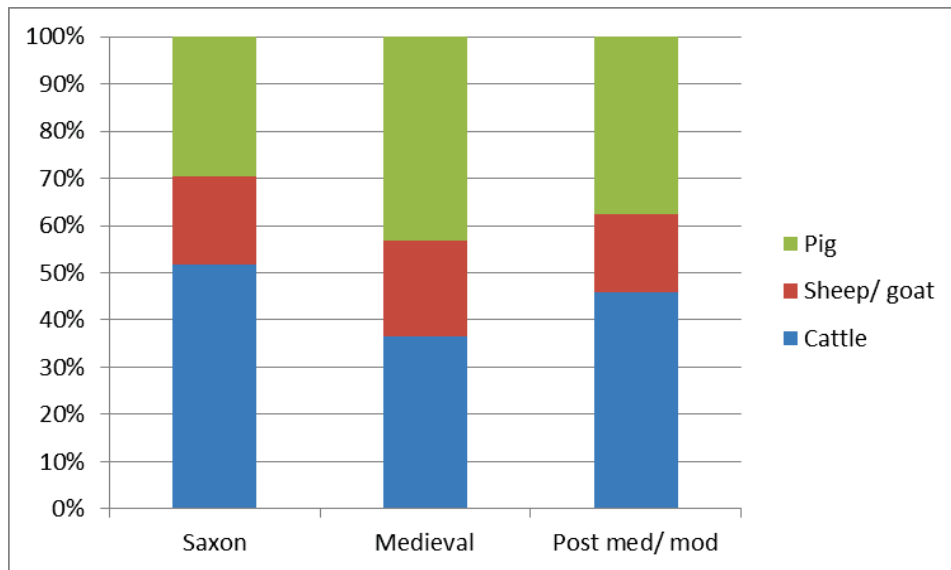


Chart 2. Percentage representation of principal domestic taxa by NISP

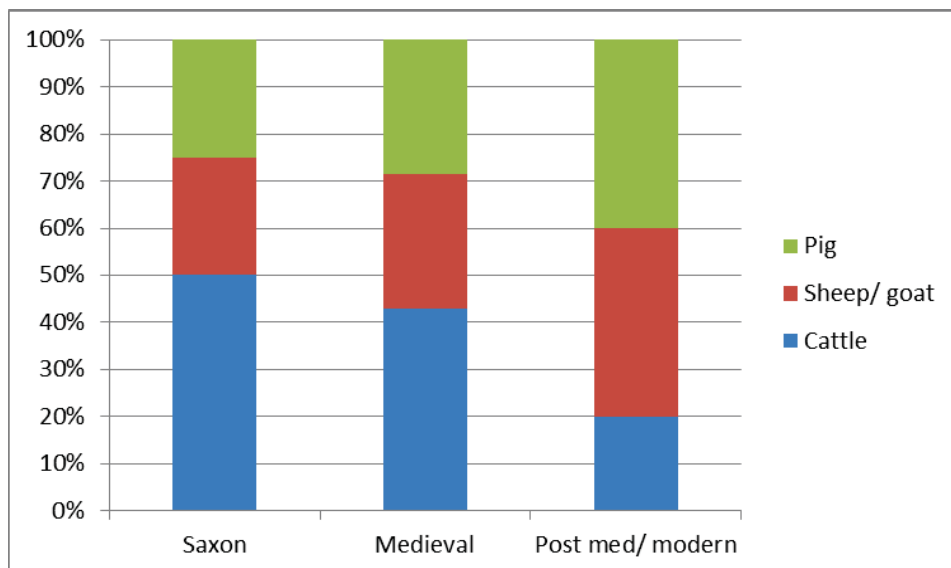


Chart 3. Percentage representation of principal domestic taxa by MNI (minimum numbers of individuals)

Animal Age and Sex

A very small quantity of ageable material was present, nowhere near enough to make viable survivorship curves. Bone fusion data for cattle show that across the periods all early fusing epiphyses present are fused. Intermediate and later fusing elements have a mix of fused and unfused bones present. This likely indicates that a mix of adult and sub-adult animals were present at the site; no very young animals appear to have been present. No tooth wear data were available.

Sheep/ goat bone fusion shows a majority of bones fuse with the exception of an ulna (Intermediate II fusion stage) from medieval deposits. Two late fusing distal radii present in post medieval/ modern deposits were both fused. A single

ageable mandible was present for sheep/ goat from the medieval assemblage; this was assessed at wear stage D with an indicative age of 1-2 years.

Pig bone fusion shows a much higher proportion of unfused bones than cattle or sheep/ goat, with even a number of the early fusing elements being unfused. There were however a number of intermediate fusing bones that were fused or fusing, indicating a mix of young and slightly older animals being present. The small amount of tooth wear data available for the medieval period shows one animal at age stage B (c. 2-7 months) and one at age stage F (c. 27-36 month), again showing a range of ages present with older animals possibly being part of a breeding population.

Some indication of the sexual makeup of the pig population can be gained from the canine teeth present. Two lower canines were present in the Saxon assemblage, one male and one female. For the medieval assemblage three canines were present, all of which were male. The presence of a female pig in the Saxon assemblage may be another indicator of the presence of a breeding population being present at the site.

Body Part and Butchery

Due to the small sample size body part representation can only really be examined in the most basic possible way through a simple fragment count of elements. Table 13 shows body parts present for cattle across the three periods. For all these groups there appears to be a relatively good spread of body parts present, taking into account the small sample sizes.

| Body Area | Element | Saxon | Medieval | Post med/ mod | Total |
|-----------|------------|-------|----------|---------------|-------|
| Head | Horn core | | | 1 | 1 |
| | Petrous | | | 1 | 1 |
| | Temporalis | 1 | | | 1 |
| | Occipital | | 1 | | 1 |
| | Maxilla | | 1 | | 1 |
| | Mandible | 2 | 3 | 1 | 6 |
| | Premolar | | 1 | | 1 |
| | Incisor | | 1 | | 1 |
| | Molar | | 1 | | 1 |
| Neck | Atlas | | 2 | | 2 |
| Fore limb | Scapula | 1 | 3 | | 4 |
| | Humerus | 2 | 1 | 1 | 4 |
| | Radius | 1 | 1 | | 2 |
| | Ulna | 1 | | | 1 |
| Hind limb | Pelvis | 1 | 2 | | 3 |
| | Femur | | 2 | 1 | 3 |
| | Tibia | 2 | | 2 | 4 |
| Feet | Carpal | 1 | | | 1 |
| | Astragalus | 1 | | | 1 |

| | | | | | |
|--|-------------|----|----|----|----|
| | Calcaneus | | 3 | 1 | 4 |
| | Mettatarsal | 1 | | | 1 |
| | Phalanx 1 | | 1 | 3 | 4 |
| | Phalanx 2 | | 1 | | 1 |
| | Phalanx 3 | | 3 | | 3 |
| | Total | 14 | 27 | 11 | 52 |

Table 13. Body part fragment counts for cattle

For sheep/ goat there is more variation in body parts present (Table 14), however here the sample sizes are particularly small. Saxon sheep/goat are largely represented by head and foot elements. The larger medieval assemblage appears to have a good spread of body parts represented. For the post medieval/ modern only limb bones are represented. Given the small sample sizes it is difficult to make meaningful comment on these distributions.

| Body Area | Element | Saxon | Medieval | Post med/ mod | Total |
|-----------|------------|-------|----------|---------------|-------|
| Head | Premaxilla | | 1 | | 1 |
| | Mandible | 1 | 2 | | 3 |
| | Incisor | | 1 | | 1 |
| Neck | Atlas | 1 | 1 | | 2 |
| Fore limb | Scapula | 1 | 1 | | 2 |
| | Humerus | | 1 | | 1 |
| | Radius | | | 2 | 2 |
| | Ulna | | 1 | | 1 |
| Hind limb | Pelvis | | 1 | 1 | 2 |
| | Femur | | | 1 | 1 |
| | Tibia | | 1 | | 1 |
| | Calcaneus | 1 | | | 1 |
| Feet | Metacarpal | 1 | 2 | | 3 |
| | Metatarsal | | 2 | | 2 |
| | Phalanx 1 | | 1 | | 1 |
| | Total | 5 | 15 | 4 | 24 |

Table 14. Body part fragment counts for sheep/ goat

Like cattle, pig seems to show a good spread of body parts present (Table 15) with head limbs and feet being present in all three periods despite the particularly small sample sizes for the Saxon and post medieval/ modern periods. This would tend to indicate that whole animals or carcasses were present at the site.

| Body Area | Element | Saxon | Medieval | Post med/ mod | Total |
|-----------|------------|-------|----------|---------------|-------|
| Head | Skull | 1 | 1 | | 2 |
| | Frontal | 1 | | | 1 |
| | Parietal | | 1 | | 1 |
| | Maxilla | 1 | | | 1 |
| | Mandible | 1 | 5 | | 6 |
| | Incisor | 1 | 3 | 1 | 5 |
| | Canine | 1 | 2 | | 3 |
| | Premolar | | 1 | | 1 |
| | Premolar f | | 1 | | 1 |
| | Molar | | 2 | | 2 |
| Neck | Atlas | | 1 | | 1 |
| Fore limb | Scapula | 1 | | | 1 |
| | Humerus | | 4 | 2 | 6 |
| Hind limb | Pelvis | | 2 | 2 | 4 |
| | Femur | | 2 | | 2 |
| | Tibia | | 3 | | 3 |
| Feet | Calcaneus | | | 1 | 1 |
| | MC2 | 1 | | | 1 |
| | MC3 | | 1 | | 1 |
| | MT3 | | 1 | 1 | 2 |
| | MT4 | | | 1 | 1 |
| | MTP | | 1 | 1 | 2 |
| | Phalanx 1 | | 1 | | 1 |
| | Total | 8 | 32 | 9 | 49 |

Table 15. Body part fragment counts for pig

Percentage representation of butchery marks for selected taxonomic groups are shown in Charts 4-8 indicating the percentage of bones (NISP) displaying knife cuts (KN) and heavy blade chops (CH). Sheep/goat had the highest proportion of butchered bones; however these proportions may be exaggerated by the small sample size of the sheep goat assemblage. Butchery marks on sheep/goat bones were dominated by knife cuts; only a single chipped bone was present. Cattle butchery was dominated by chop marks indicative of carcass dismemberment; only a few knife marks were present. Very few butchery marks were observed on pig bones; the few present all derived from the medieval period. There was a consistent presence of butchery marks on large and medium mammal bones throughout the assemblage; overall, chop marks were slightly better represented than knife marks. Further details of the specific butchery marks present for these taxa are given in the site archive.

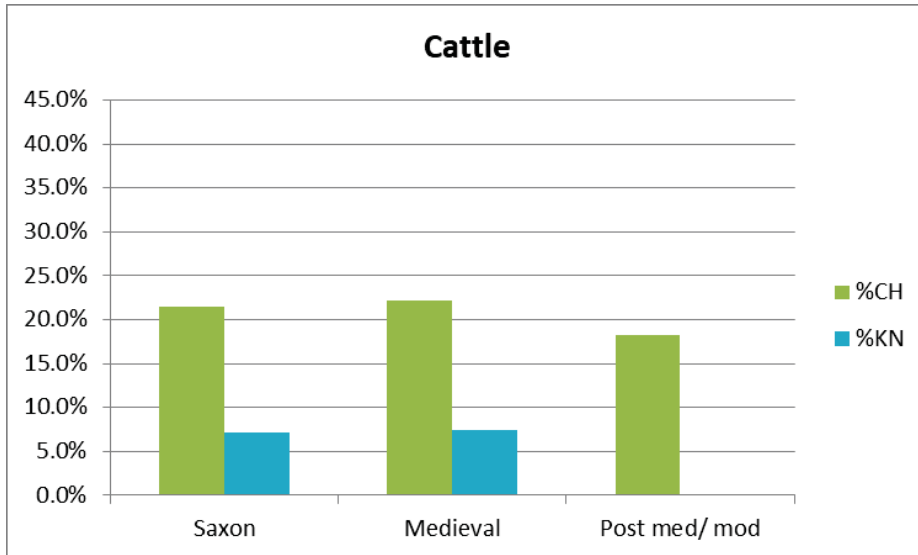


Chart 4. Occurrence of butchery marks on cattle bones as a percentage of NISP

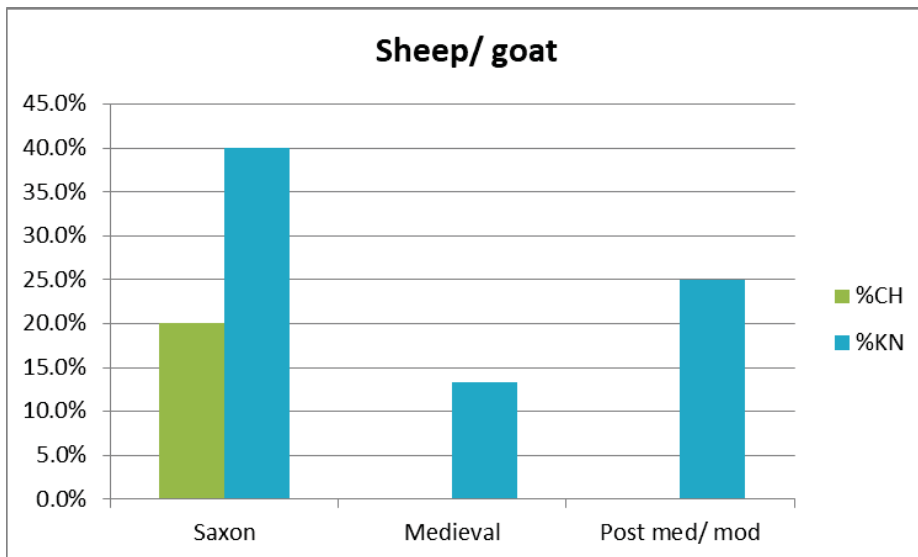


Chart 5. Occurrence of butchery marks on sheep/ goat bones as a percentage of NISP

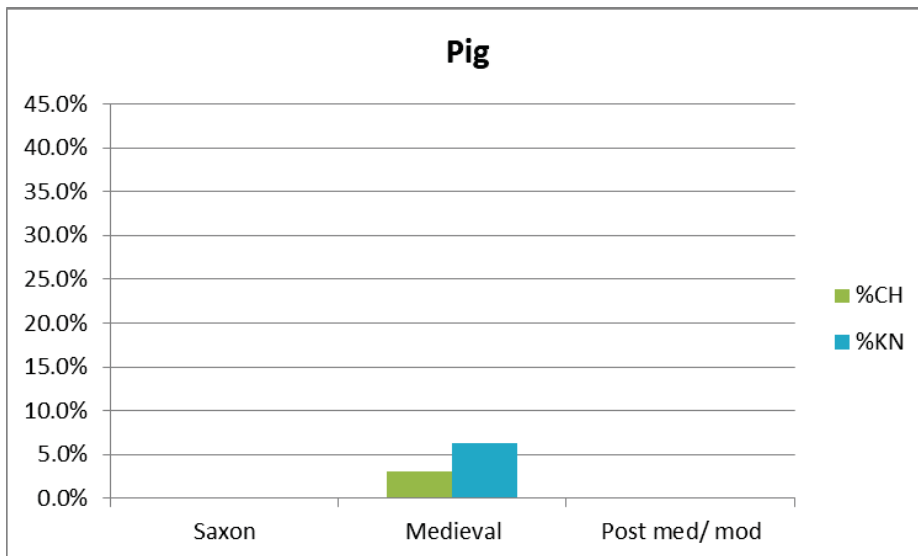


Chart 6. Occurrence of butchery marks on pig bones as a percentage of NISP

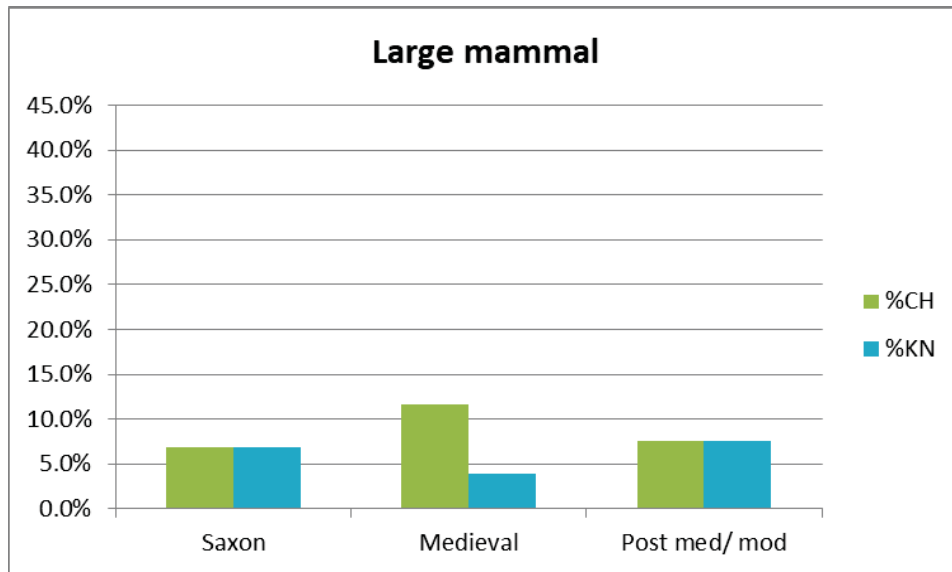


Chart 7. Occurrence of butchery marks on large mammal bones as a percentage of NISP

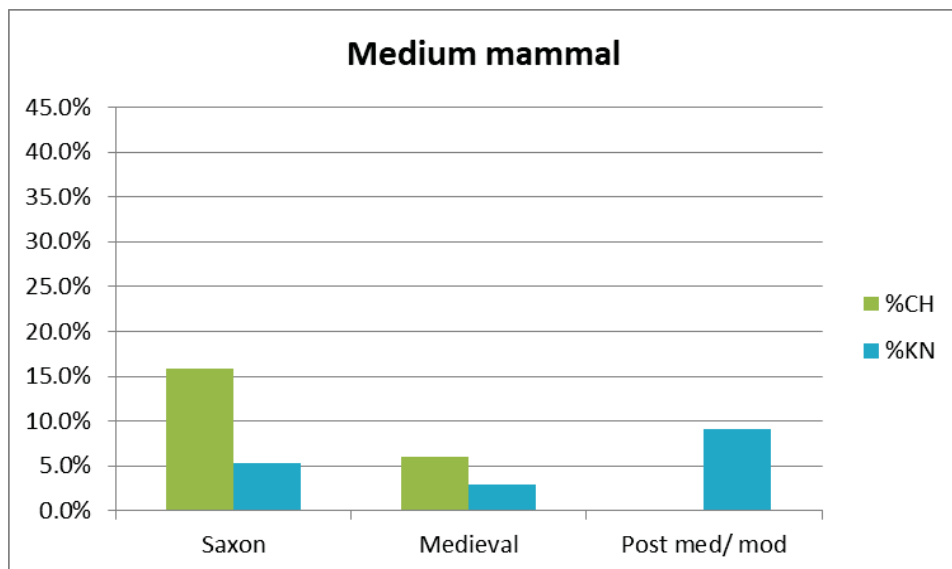


Chart 8. Occurrence of butchery marks on medium mammal bones as a percentage of NISP

Butchery of deer remains was somewhat different and largely involved sawn pieces of antler indicating that working was taking place in the vicinity of the site. A post medieval/ modern deer metatarsal was also observed as having cut marks just below the proximal articulation, likely indicative of carcass dismemberment.

Pathology

A small number of pathological bones were present in the assemblage, descriptions of which are given in Table 16 below.

| Phase | Taxa | Element | End | Zones | Description |
|----------|------|---------|----------|-------------|---|
| Medieval | BOS | MO | UP | | dental calculus deposits on tooth |
| Medieval | BOS | PM | LW | | dental calculus on pre-molar |
| Saxon | BOS | INN | ACE | 3 | eburnation in acetabulum |
| Saxon | LTM | SCP | DIS F | 3 | lipping around glenoid cavity |
| Medieval | OVCA | PH1 | W | 1,2,3 | lipping on dist art |
| Saxon | OVCA | MTC | PRO | 1,2,5,6,7,8 | bone growth on posterior shaft - mid shaft, poss. result of traumatic injury? |

Table 16. Description of pathologies present. Taxa, element and end codes follow NABONE (NABO 2008); zone follow Dobney and Rielly (1988).

Animal Stature

Very few measurable bones were present in the assemblage however a couple of the cattle bones stood out and are thought worthy of mention. One cattle horn core was present and was noted as being particularly small, although it is not known if it came from a fully adult animal or not. A cattle radius which was fused both proximally (early fusing) and distally (late fusing) was also noted as being particularly small. Its dimensions (following von den Driesch 1976) were as follows: SD – 35.9mm, Bd – 62.9mm and GL – 248.9mm. The proximal end was slightly chipped so Bp could not be taken. While this bone appears small it falls well within the range for medieval cattle listed in the ABMAP database (University of Southampton 2003).

Note on Residues

All animal bone recovered from sieved residues was briefly scanned and notes were made on their contents. The majority of samples contained one or two identifiable items and a small number contained only unidentifiable bone fragments. Identifiable elements included sheep/ goat phalanges, metapodials, tarsals/ carpals and teeth; pig phalanges, tarsals/carpals and teeth; a heavily worn cattle tooth and fragments of bird and fish bone. The remaining fragments are indeterminate long bone, skull and other fragments. It can be seen that some of these bones fill some of the gaps seen in the body part distribution for pig and sheep/ goat and indicate a greater presence of bird and fish than may be indicated by the hand collected assemblage alone.

Summary and Discussion

A small assemblage of animal bone is present dominated by domestic taxa, particularly cattle and pig with a lower representation of sheep/ goat. Small quantities of bird (including chicken and goose) and fish are also present. There is some evidence for the exploitation of deer, particularly for antler working. Red deer antler was positively identified; other deer species may also have been represented at the site. This assemblage is reminiscent of the

Middle Saxon 'town' assemblages described by O'Connor (2014) that have low species diversity dominated by cattle, sheep and pig with small amounts of chicken and goose present and very few wild species.

Sparse age data indicate a mix of animals present for cattle and pig with pig showing a higher proportion of younger animals. Sheep/ goat appear to be mostly represented by older animals. Given the significant proportion of butchered bones present and the ages of many of the animals involved it seems likely that these remains relate to the processing and consumption of meat products. It appears likely that a market was present in the vicinity of the site from at least the 9th century (Wade 1999, 46). Given that whole carcasses appear to be represented it is possible that live animals were being brought to market on the hoof and then slaughtered, butchered, sold and (some at least) consumed in the vicinity, or alternatively that whole slaughtered carcasses were being brought in and butchered on site.

The low numbers of sheep bones appears unusual for the medieval period, however, their main economic use at this time, particularly from the late 12th-mid 14th century was as wool producing animals (Grant 1984, Sykes 2006) and as such any wool being sold at market would not have left any bone evidence at the consumer end of the process.

The lack of horse bones in the assemblage is also of interest as it is again likely to indicate that the assemblage largely results from the processing and consumption of meat. Grant (1984) notes that at this time horses were not generally used as food animals, but were much more important as pack animals, particularly in association with the wool trade; likewise the lack of dog bones is also likely to be due to the consumer nature of the deposits. It is, however, clear that dogs were present on the site and perhaps scavenged butchery waste around the market.

Sykes (2006) notes that around the 11th-12th century, high status sites start showing high proportions of meat bearing elements in their bone assemblages, which she suggests indicates that they were buying ready butchered joints from urban butchers. It seems likely that such a butcher was operating in the area of the site during the medieval and possibly Saxon period.

3.6 The Shell

Julia E M Cussans

Introduction

A small assemblage of marine molluscs was available for analysis, both hand collected and sieved samples were examined, a variety of mollusc taxa were present although oysters were dominant.

Method

The hand collected assemblage was examined one context or context segment at a time and data recorded on a shell scan spreadsheet. The shell scan took account of the state of preservation (very poor, poor, ok, good, excellent) and the occurrence of shell abrasion and fresh breakages on a semi-quantitative basis (none, few, some, many). The scan also recorded the presence and quantity of marine mollusc taxa. Bivalve left and right valves (or lower and upper valves in the case of oysters) were quantified separately, with no valve pairing being carried out. In order for a valve to be counted the umbo (area where the hinge is located) must be present. Any valve where the umbo was missing could only be counted as a fragment. Likewise for gastropods, in order to be counted the apex of the shell had to be present; all other pieces were counted as fragments.

For each of the identified taxa the presence of human modifications, signs of parasites or disease and measurable shells was noted in a semi-quantitative manner (none, few, some, many). Notes were made on any further points of interest. Scan data were recorded directly into an MS Excel spreadsheet along with context descriptions, spot dates and phase data, to aid later manipulation.

Two methods of quantification were used. NISP is the number of identified specimens – the total number of shell pieces present. MNI is the minimum number of individual organisms represented. For bivalves this is the number of left or right countable valves, whichever is the greater, and for gastropods this is the number of apices present.

Shell from sieved residues was scanned and notes made on the presence of identifiable taxa and the general state of the assemblage.

Results

Taphonomy

Preservation of shell was fairly variable throughout the assemblage (Chart 9), with shells from the Saxon deposits being best preserved and those from the medieval deposits in the worst condition. Abraded shells were common throughout the assemblage as were fresh breakages. Shell from two contexts (L2014 and L2016) were found to be stained orange and were thought to be iron stained.

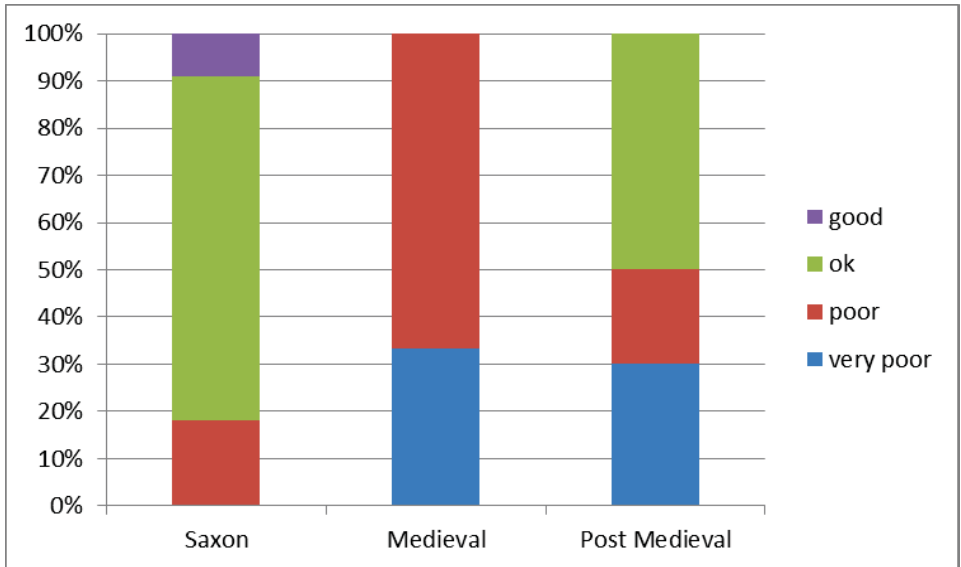


Chart 9. Preservation ratings for hand collected marine mollusc remains by context

Quantification

Quantification of shells recovered from Cornhill is shown in Table 17. In total nearly 400 shell fragments were present. Two identified species were represented, oyster (*Ostrea edulis*) and mussel (*Mytilus edulis*). In addition to this a single fragment of an unidentified gastropod shell was recovered. Oyster vastly dominated and was present in all three periods. Mussels showed a minor presence in the Anglo-Saxon period and a slightly more significant presence in the medieval period. Both upper and lower oyster valves were present however upper valves were somewhat more numerous, particularly in the Anglo-Saxon and medieval period. The reasons for this are unknown but may relate to shucked (opened) oysters being sold and removed from the vicinity for immediate consumption resulting in the removal of a number of lower valves from the area of the site.

| | | Saxon | Medieval | Post medieval/ modern | Total |
|---------------|--------------|-------|----------|-----------------------|-------|
| Oyster | Lower | 32 | 34 | 12 | 78 |
| | Upper | 54 | 46 | 10 | 110 |
| | Fragment | 45 | 108 | 32 | 185 |
| Mussel | Left | | 4 | | 4 |
| | Right | | 5 | | 5 |
| | Fragment | 2 | 2 | | 4 |
| Unid. | Fragment | | 1 | | 1 |
| | Total | 133 | 200 | 54 | 387 |

Table 17. Quantification of hand collected shell from Cornhill, Ipswich. Shaded cell indicate MNI.

Modifications of oyster valves

A number of the upper valves had opening notches in their ventral edges indicating that oysters were being opened in the vicinity. In addition to this, one oyster was found intact with the upper and lower valves still paired together and unopened (L2061), indicating the presence of fresh oysters at the site.

Very little evidence of parasitic activity was found. One lower valve had signs of polychaete worm burrows in its surface and a small number of shells were found to have barnacles adhering to their surface. Neither of these infestations is likely to have had a negative effect on the living oysters (Winder 2011).

Evidence from sieved residues

The majority of shell recovered from sieved residues was small fragments of oyster shell. However a small number of shells from other taxa were present. Fragments of winkle (*Littorina littorea*) were present in the following samples: SF6 (L2050), SF8 (L2061) and SF10 (L2085) and a fragment of cockle (*Cerastoderma edule*) was recovered from SF4 (L2007).

Summary

A small assemblage of marine mollusc shells was present and dominated by oysters. It seems likely that oysters were being sold and consumed in the vicinity of the site. Spencer (2004, 55) notes that oysters were available in their shells or pickled in barrels in the 12th – 14th century and it appears that the former is the case here. Mussels, winkles and cockles were also present. Spencer (2004, 54) notes that cockles, mussels and oysters, amongst other shellfish were gathered by the poor (usually women) to be sold.

3.7 The Environmental Samples

Dr John Summers

Introduction

During excavations and the preceding trial trench evaluation at Cornhill, Ipswich, 16 bulk soil samples for environmental archaeological investigation were taken and processed. The samples were from medieval and post-medieval deposits and have the potential to provide information about past diet and economy within this urban environment.

Methods

Samples were processed at the Archaeological Solutions Ltd facilities in Bury St. Edmunds using standard flotation methods. The light fractions were washed onto a mesh of 500µm (microns), while the heavy fractions were sieved to 1mm. The dried light fractions were sorted under a low power stereomicroscope (x10-x30 magnification). Botanical remains were identified and recorded using reference literature (Cappers *et al.* 2006; Jacomet 2006)

and a reference collection of modern seeds was consulted where necessary. Potential contaminants, such as modern roots, seeds and invertebrate fauna were also recorded in order to gain an insight into possible disturbance of the deposits.

Results

The data from the bulk sample light fractions are presented in Table 1.

Phase 1 – Middle Anglo-Saxon

A single sample was recorded from Phase 1 pit fill L1026 (F1025). This sample contained a single barley grain (*Hordeum* sp.) and two indeterminate grains (Table 1). In addition, fragments of diffuse- and ring-porous charcoal. The low density of macrofossil remains is consistent with background scatters of carbonised debris.

Phase 2 – Later Anglo-Saxon to Saxo-Norman

Four samples were recorded from Phase 2 deposits, three of which were from fills L2078, L2079 and L2080 of Pit F2077 (Table 1). These samples were richer than the one from the previous phase. Densities of carbonised macrofossils ranged from 0.35 to 3.2 items per litre.

Carbonised cereal grains were well represented, with hulled barley (*Hordeum* sp.), free-threshing type wheat (*Triticum aestivum/ turgidum* type), oat (*Avena* sp.) and rye (*Secale cereale*) represented. Pea/ bean (large Fabaceae) was also present. This range of crops is common for the period, being comparable to the results from West Fen Road, Ely (Ballantyne 2005, 102-103) and Norwich Castle (Murphy 2009, 187-190) for example.

Non-cereal remains included common arable weeds, such as buttercup (*Ranunculus* sp.), corncockle (*Agrostemma githago*), dock (*Rumex* sp.), vetch/ tare (medium Fabaceae), mallow (*Malva* sp.), ribwort plantain (*Plantago lanceolata*) and chess (*Bromus secalinus* type).

Also present was charcoal, including oak (*Quercus* sp.) and non-oak diffuse- and ring-porous types. Mammal, small mammal and fish bone, as well as fish scales, were also identified.

Phase 3 – Medieval

Four samples were recorded from Phase 3 deposits. Similar to the previous phase, carbonised cereal grains included hulled barley (*Hordeum* sp.), free-threshing type wheat (*Triticum aestivum/turgidum* type), oat (*Avena* sp.) and rye (*Secale cereale*) all present. Glume wheat (*Triticum dicoccum/spelta*)

grains were also identified in L2061, which is not a typical crop for this period. Medieval glume wheat has been identified at West Fen Road, Ely (Ballantyne 2005), where it may have grown as a residual crop component amongst free-threshing types.

Pea/bean (Fabaceae), identified in L2059, is also likely to have been an important part of the diet at this time (e.g. Stone 2006), although pulses tend to be less commonly preserved by carbonisation compared to cereals. Non-cereal remains included common arable weeds, such as vetch/ tare (medium Fabaceae), mallow (*Malva* sp.) and brome grass (*Bromus* sp.).

Other remains included charcoal, with oak (*Quercus* sp.), and non-oak diffuse- and ring-porous types present, as well as mammal, small mammal and fish bone fragments.

Phase 4 – Post-medieval

Five samples were recorded from Phase 4 deposits. In general terms, the remains were comparable to those in samples from the preceding phase, with hulled barley, free-threshing type wheat, oats, rye and pea/bean all recorded. A range of non-cereal taxa were recorded, many of which are likely to represent arable weeds, including common nettle (*Urtica dioica*), corncockle (*Agrostemma githago*), vetch/ tare (medium Fabaceae) and wild grasses (Poaceae).

Other remains included charcoal, with oak (*Quercus* sp.), and non-oak diffuse- and ring-porous types present, as well as heather charcoal in pit fill L2007 (F2006). Also present were mammal, small mammal and fish bone fragments.

Unphased

Two samples from unphased deposits were recorded which contained carbonised cereal grains including hulled barley (*Hordeum* sp.) and wheat (*Triticum* sp.). Of interest was a single fruit of sloe or wild cherry (*Prunus* sp.) in pit fill L2085 (F2084), where carbonisation had preserved the flesh and skin of the fruit around the central stone. Such preservation is rare as less durable components are usually burnt away.

Conclusions

The carbonised plant macrofossil remains from Cornhill, Ipswich, are quite comparable across all periods from the late Anglo-Saxon to post-medieval periods. The presence of a range of cereal crops, incorporating free-threshing type wheat, hulled barley, oat and rye was common throughout. The samples from Phase 2 show a dominance of wheat, while those from Phase 4 indicate that barley was more common. Also present in low concentrations were

pulses, which are also likely to have made a significant dietary contribution throughout.

The frequency with which the carbonised remains of cereals were encountered in the sampled deposits shows that cereals and other crops are likely to have been in common usage at the site throughout all phases of occupation. However, the predominantly low density of remains in the majority of samples is indicative of residual carbonised debris and small amounts of mixed material being deposited with other refuse.

In all phases, chaff remains were absent, indicating that the cereals were present as clean grain. This is in keeping with domestic deposits within an urban setting, where cereals would be expected to be imported (e.g. Summers 2015). The relatively small assemblage of arable weeds is likely to represent seeds retained with the crop following processing. Some of these may have been removed by hand during food preparation activities.

The assemblage was of insufficiently size or richness to allow a detailed investigation of the differences in the ratios of the different economic plants between periods. However, it does demonstrate the common use of food crops on the site over a prolonged period of time.

| Sample number | Context | Feature | Description | Phase | Volume (litres) | Cereals | | | Non-cereal taxa | | Hazelnut shell | Charcoal | | Molluscs | | Contaminants | | | | | Other remains |
|---|----------|----------|-------------|-------|-----------------|---------------|--------------|--|-----------------|---|----------------|---------------|---|----------|-------|--------------|----------|--------------|---------|--------------------|--|
| | | | | | | Cereal grains | Cereal chaff | Notes | Seeds | Notes | | Charcoal >2mm | Notes | Molluscs | Notes | Roots | Molluscs | Modern seeds | Insects | Earthworm capsules | |
| Phase 1 - Middle Anglo-Saxon | | | | | | | | | | | | | | | | | | | | | |
| 1.2 | 102 6 | 102 5 | Fill of Pit | 1 | 10 | X | - | Hord (1), NFI (2) | - | - | - | XX | Ring porous, Diffuse porous | - | - | X | - | - | - | - | - |
| Phase 2 - Later Anglo-Saxon to Saxo-Norman | | | | | | | | | | | | | | | | | | | | | |
| 2.1 1 | 207 8 | 207 7 | Fill of Pit | 2 | 20 | X X | - | HB (1), Hord (6), FTW (13), Trit (13), Oat (2), Rye (11), NFI (10) | X | <i>Ranunculus</i> sp. (1), <i>Rumex</i> sp. (2), Medium Fabaceae (2), <i>Bromus</i> <i>secalinus</i> (2), <i>Bromus</i> sp. (1) | - | XX | <i>Quercu</i> s sp., Ring porous | - | - | X | - | X | - | - | Indet. Carbonised material (X), Fish bone (X), Small mammal bone (X), Bone (X) |
| 2.1 2 | 207 9 | 207 7 | Fill of Pit | 2 | 20 | X | - | FTW (1), FTW germ (1), Trit (5), Rye (1), NFI (3) | X | Large Fabaceae (1), <i>Agrostemma</i> <i>githago</i> (1) | - | X | - | - | - | X | - | X | - | - | Fish bone (X) |
| 2.1 3 | 208 0 | 207 7 | Fill of Pit | 2 | 20 | X X | - | Hord (2), FTW (1), Trit (4), Trit tail (1), Oat (1), NFI (3) | X | Large Poaceae (1) | - | XX | Diffuse porous | - | - | X | - | X | - | - | Bone (X), Fish bone (X) |

| | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|----------|----------|------------------------------------|---|----|--------|---|---|---|---|---|---------|---|---|---|---|---|---|---|---|--|
| 2.1 4 | 208 9 | 208 6 | Fill of Pit | 2 | 40 | X X | - | HB (3), Trit (5), Oat (1), NFI (3) | X | <i>Plantago lanceolata</i> (1), Large Poaceae (1) | - | XX X | <i>Quercu s sp.</i> | - | - | X | - | X | - | - | Small mammal bone (X), Fish bone (X), Bone (X), Fish scale (X) |
| Phase 3 - Medieval | | | | | | | | | | | | | | | | | | | | | |
| 2.6 | 205 0 | - | Layer Below Metalled Surface | 3 | 40 | X | - | Trit (1), Rye (1), NFI (1) | X | <i>Malva sp. (1)</i> | - | XX | Diffuse porous | - | - | X | - | X | - | - | Indet. Carbonised material (X), Bone (XX) |
| 2.7 | 205 9 | 205 8 | Fill of Posthole | 3 | 30 | X | - | FTW (1) | X | Large Fabaceae (1), Small Poaceae (1) | - | XX | <i>Quercu s sp.</i> , Diffuse porous, Ring porous | - | - | X | - | - | - | - | Bone (X), Fish bone (X) |
| 2.8 | 206 1 | 206 0 | Fill of Pit | 3 | 40 | X | - | E/S (2), Trit (3), NFI (2) | - | - | - | XX | Diffuse porous | - | - | X | - | X | - | - | Fish bone (X), Small mammal bone (X), Bone |
| 2.9 | 208 3 | 208 2 | Fill of Pit | 3 | 20 | X | - | Hord (1), Oat (1), Oat germ (1), NFI (4) | X | Medium Fabaceae (1), <i>Bromus</i> sp. (2) | - | XX | <i>Quercu s sp.</i> , Diffuse porous | - | - | X | - | X | - | - | Bone (X), Fish bone (X) |
| Phase 4 - Post-medieval | | | | | | | | | | | | | | | | | | | | | |
| 2.1 | 201 6 | 201 5 | Fill of Pit | 4 | 10 | X | - | HTB (1), HB (1), NFI (1) | - | - | - | XX | Diffuse porous, Ring porous | - | - | X | - | - | - | - | Indet. Carbonised material (XX) |
| 2.2 | 201 8 | 201 7 | Fill of Pit | 4 | 10 | X | - | NFI (3) | X | Large Fabaceae (1) | - | X | - | - | - | X | - | - | - | - | Indet. Carbonised material (XX), Bone (X) |

| | | | | | | | | | | | | | | | | | | | | | |
|-----------------|----------|----------|-------------|---|----|---|---|--|---|--|---|----|--|---|---|---|---|---|---|---|--|
| 2.3 | 203 5 | 201 5 | Fill of Pit | 4 | 20 | X | - | HTB (2), HB (2), NFI (5) | X | <i>Agrostemma githago</i> (1), Medium Fabaceae (1) | - | XX | <i>Quercu s</i> sp. Incl. RW, Diffuse porous | - | - | X | - | - | - | - | Indet. Carbonised material (XX), Bone (X), Fish bone (X) |
| 2.4 | 200 7 | 200 6 | Fill of Pit | 4 | 40 | X | X | Hord (4), FTW (2), Trit (5), Oat (1), Rye (2), NFI (7) | X | <i>Urtica dioica</i> (1), Medium Fabaceae (1), Large Poaceae (1) | - | X | - | - | - | X | - | - | - | - | Indet. Carbonised material (XXX), Coal (X), Bone (X), Fish bone (X), Small mammal bone (X), Heather charcoal (X) |
| 2.5 | 201 1 | 201 0 | Fill of Pit | 4 | 20 | X | - | Hord (1), Trit (2), NFI (2) | - | - | - | X | - | - | - | X | - | - | - | - | Indet. Carbonised material (XX) |
| Unphased | | | | | | | | | | | | | | | | | | | | | |
| 1.1 | 101 6 | 101 5 | Fill of Pit | - | 10 | X | - | Trit (1) | - | - | - | X | - | - | - | X | - | X | - | - | Burnt bone (X) |
| 2.1 0 | 208 5 | 208 4 | Fill of Pit | - | 20 | X | - | HB (1), Hord (1), Trit (1), NFI (1) | X | <i>Prunus</i> sp. Fruit incl. flesh and skin (1) | - | XX | Diffuse porous | - | - | X | - | X | - | - | Bone (X), Burnt bone (X) |

Table 18. Results from the bulk sample light fractions from Cornhill, Ipswich. Abbreviations: HB = hulled barley (*Hordeum* sp.); Hord = barley (*Hordeum* sp.); E/S = emmer/ spelt wheat (*Triticum dicoccum/ spelta*); FTW = free-threshing type wheat (*Triticum aestivum/ turgidum*); Trit = wheat (*Triticum* sp.); Oat (*Avena* sp.); Rye (*Secale cereale*); NFI = not formally identified (indeterminate cereal grain).

4 DISCUSSION

4.1 Archaeological features and layers

The recorded archaeological features consist of a series of pits and postholes. The dense scatter of these features within the limited extent of the excavated/evaluated areas are difficult to reconcile with specific activities or phases of building within Ipswich but it is clear the multiple phases of Saxon and medieval activity represent a continuous sequence that can be well-defined by ceramic evidence.

Within the excavation area a density of Anglo-Saxon to medieval pits and postholes was recorded sealed by a sequence of made ground, including the continuation of features recorded at the southern end of Trench 1. Features of similar character and density were recorded in the evaluation trenches. Several pits were inter-cutting, and exhibited slightly irregular profiles with multiple fills that suggest the accumulation of waste, possibly as rubbish pits.

It seems likely that the postholes that were present may be, and in particular within Trench 2, indicative of structural remains. However, beyond this dense but largely amorphous cluster there are few clear structural configurations within the areas that have been subject to evaluation/excavation. The areas that have been subject to investigation offer only a very small window on to what may be a fairly extensive archaeological landscape; as such, clearer coherent inter-relationships between archaeological features may not have been discernible.

The Anglo-Saxon, Saxo-Norman, and medieval features recorded within the excavation area were all sealed by a single demolition of layer of made ground, L2050. This was assigned a medieval date. It was overlain by L2014, a possible metallated surface. This combination of deposits suggests that the Cornhill area may have been deliberately re-surfaced, and therefore potentially rearranged, in the later medieval or early post-medieval period.

Both the dated and undated features contained modest quantities of animal bone and oyster shell; carbonised cereal remains, principally wheat and rye; and low quantities of fired clay, potentially from daub associated with construction. Pits F2077 and F2086 also contained well-preserved, residual Roman pottery, suggesting the presence of hitherto unknown, earlier activity in the Cornhill area. It was also noted that, in addition to residual Roman pottery and prehistoric flintwork, later features, particularly the post-medieval ones, contained residual artefactual material consistent with the dates of earlier phases of activity represented here.

4.2 Historical use of the site

Extensive archaeological investigations, carried out since 1974, have demonstrated that Ipswich was founded in the early 7th century (Wade 1988, 93). This early settlement covered an area of approximately 6ha before a rapid expansion and the laying out of an orthogonal street system, covering an area

of c. 50ha, traditionally believed to have occurred in the 9th century but now understood to have happened in the 8th century as part of a deliberately planned process and alongside the establishment of a major pottery industry (Scull 2002, 304).

A market place was present at Ipswich since at least the late 9th century during Danish occupation, and potentially earlier. Scull (2002, 312) suggests that the head of the Orwell estuary was an important trading location prior to the establishment of Ipswich and by the end of the 6th century, with more than one community and trading site involved, effectively forming an area of beach markets. On this basis, Scull (*ibid.*) speculates that the establishment of Ipswich, and its 8th century expansion, may have involved the formal consolidation, at a single site, of activities previously undertaken at a range of settlements or locations. Ipswich appears, by the 8th century, to have been linked to its hinterland through markets with a significant element of monetary exchange (Scull 2013, 49). This suggests that the presence of a market within Ipswich prior to the 9th century and the period of Scandinavian occupation is highly likely. Ipswich had a daily market after c.1200.

Cornhill is the place where corn, brought in from the countryside, was laid out for sale; thus the Cornhill is intrinsically tied to a market in Ipswich (Gaylard 2016). The possible presence of an Anglo-Saxon royal residence on the Cornhill alongside St Mildred's Church, now the site of the town hall (Gaylard 2016), and its topographical position of the area in relation to the rest of the town indicates that it would have been a central hub within the urban centre, perhaps reinforcing its suitability as a marketplace even prior to the 13th century.

4.3 Evidence for market place activity

While the recorded features suggest that structures or buildings stood in this area, through the presence of postholes, and that pits were dug into which refuse material may have been dumped, the layout of the features offers little clear information about the way in which the area was used. Artefactual and environmental evidence offers greater detail regarding activity at the site.

As the name suggests, Cornhill is directly linked with the commercial process of buying and selling grain. The importance of grain to the medieval economy and to the medieval diet cannot be overstated; depending upon social rank, lifestyle, and occupation, it is estimated that grain constituted from 65-70% (for the lay nobility) to 80% (for an agricultural worker) of a medieval person's calorific intake (Stone 2006, 11). Environmental samples taken from medieval contexts demonstrated that cereals and other crops are likely to have been in common usage at the site. However, the assemblage was relatively small and preservation by carbonisation makes it difficult to draw a direct link to a market-type location. The likelihood of any of the traded commodities being burned seems quite slim as they would not have been undergoing the processes that would have led to this at this location. The assemblage could represent foodstuffs cooked and consumed by market traders or, as is perhaps more likely, in nearby dwellings. Key information that may be used to demonstrate the

sale of grains and cereals during the medieval period, and earlier, at Cornhill is, therefore, missing and the assemblage may be regarded as a kind of subsidiary, background assemblage relating to more general surrounding activity.

In contrast, the animal bone assemblage appears to represent the processing and consumption of meat products. There is some indication that animal were being brought to this location on the hoof and then slaughtered, butchered, and sold here or that whole slaughtered carcasses were being brought in and butchered at this location. The suggestion that a butcher was operating in the area of the site during the medieval and possibly Saxon period (Cussans Ch. 3.4, above) might be considered to support the notion that the site was an area in which marketplace activity was carried out. Other elements of the faunal assemblage, such as the lack of non-food animals, further supports the idea that meat products were being sold, and possibly processed, in the vicinity.

The small marine mollusc shell assemblage that was recovered from the site was dominated by oyster but also included mussels, winkles, and cockles. Similarly small quantities of bird (including chicken and goose) and fish bones were recovered from the site. It is conceivable that such items were sold at market stalls in the vicinity although, as such items are not unusual in medieval urban assemblages, they cannot, in themselves, be considered to be representative of market trading. Indeed, a similarly sized assemblage of oyster, cockle, and whelk shells was recovered from the broadly contemporary monastic site at New Shire Hall in Bury St Edmunds (Newton 2013).

Sawn pieces of deer antler recovered from the site are suggestive of antlerworking. Craft production of this type could potentially be associated with marketplace activity, with a stallholder selling goods whilst also working on the production of others, but would not necessarily have been carried out at such a location. Like the marine mollusc shells, chicken and fish bone, and the pottery and CBM assemblages, this material could simply be viewed as being characteristic of a medieval urban assemblage.

The indication that meat and meat products could potentially have been sold at this location, challenges the notion that Cornhill was used primarily for the trading of grains and cereals. Alsford (2016) states that there were various specialised markets in Ipswich, with separate locations associated with particular categories of product. In the post-Norman Conquest period, at least, meat appears to have been sold in the area to the south of Cornhill. By the later medieval period, however, the situation may have changed. Davis (2012, 384) indicates that while wholesale markets were focussed on the quayside area, retail markets were located in the northern part of the town, particularly at Cornhill, which lay at the heart of the town and comprised the centre of the retail market infrastructure, with many commodities being traded here.

4.4 The surrounding area

Extensive archaeological investigations in Ipswich between 1974-1990 (Wade *forthcoming*) have identified stages of urban development and a chronological framework into which this site would appear to fit. Specifically, the pits and postholes identified by this excavation should be considered against the expansion of the middle Anglo-Saxon town along a newly laid out grid of streets centred on a market place at the Cornhill and the continued use and development of this area thereafter.

Evidence from the site itself is limited, but it demonstrates, as expected, Anglo-Saxon, Saxo-Norman, and medieval activity in this area. The features themselves suggest the presence of structures and of pits possibly used for the deposition of refuse material, although there is no clear structural configuration to any of the recorded features. Similar features of late Anglo-Saxon date have been recorded in close proximity at Arcade Street, as have the remains of medieval walls on that street, Tower Street and Tavern Street. Artefactual and environmental assemblages recovered from the site are consistent with the urban location of the site through the represented periods. Although the archaeological work carried out here has not categorically proven that the site has been in use as a market place since the Anglo-Saxon period, the available evidence, and particularly the faunal assemblage, would support such an interpretation.

The main research contribution that this work makes is as part of the overall corpus of information regarding the development of Anglo-Saxon and medieval Ipswich. In conjunction with the results of archaeological work already undertaken in Ipswich (e.g. Wade *forthcoming*), synthetic work based on the results of this (e.g. Scull 2002, 2013), and any similar work that may be required in the future in this part of Ipswich, the work conducted here can be used to build up a mosaic of evidence providing information about the possible medieval and earlier layout of this important historical commercial area in a similar way to which synthesis of small-scale archaeological interventions has been demonstrated to further the understanding of rural settlements (c.f. Thomas 2006; Lewis 2010).

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20
Test Pit 2 excavated during monitoring of groundworks



Plate 1 Painting by George Frost sometime before 1794, the market cross was said to have been erected c.1628 and demolished in 1812 (Scarfe 1999, 76)



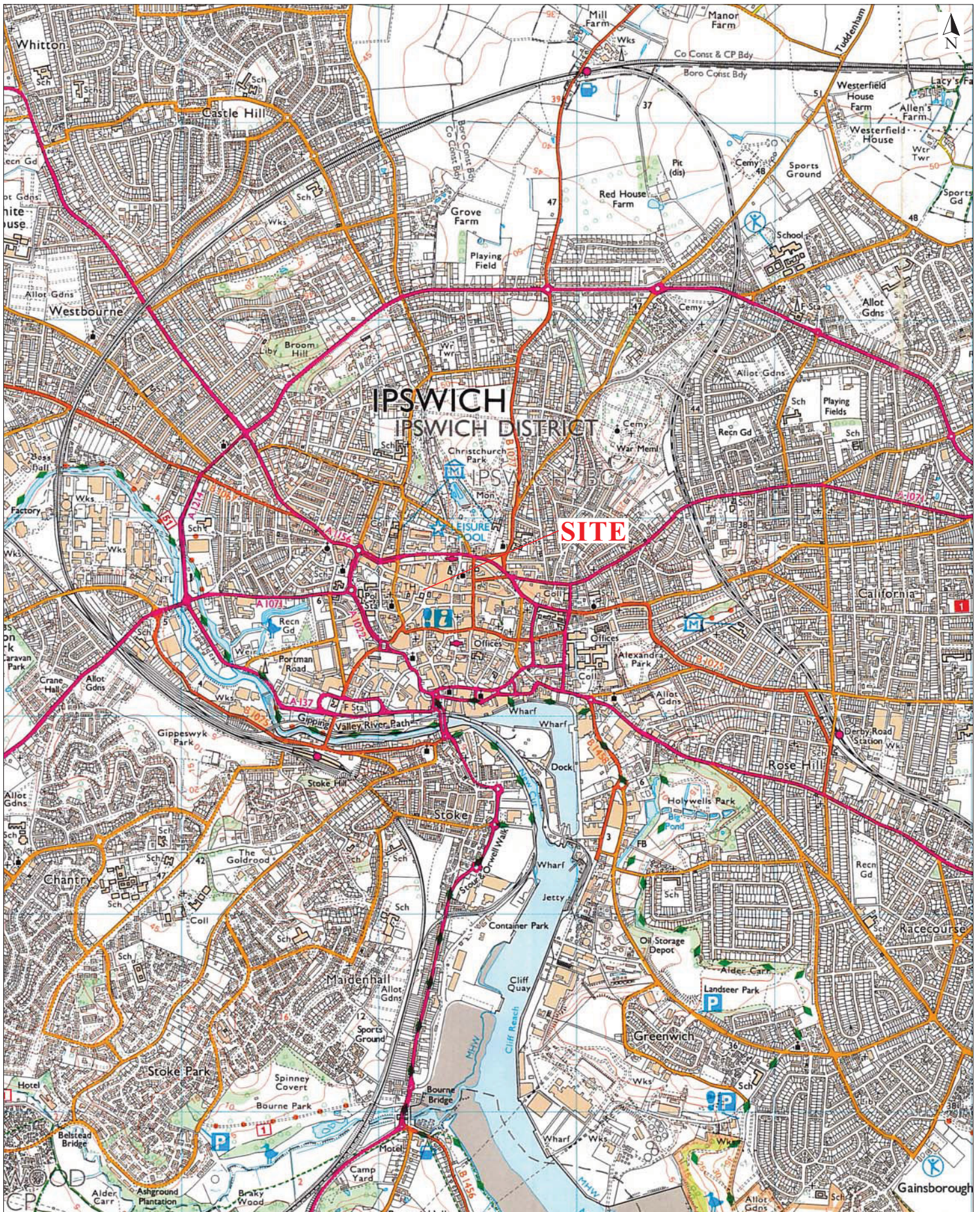
Plate 2 Photograph of Cornhill circa 1895 looking down Tavern Street (www.fotolibra.com)



Plate 3 Cornhill in the 1910's from the west with the post office in the right of the photograph (www.oldukphotos.com)



Plate 4 Cornhill in the 1960's from the east, with bus stops in front of the town hall and the Cornhill building at the right of the photograph (www.flickr.com)



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Fig. 1 Site location plan
 Scale 1:25,000 at A4
 Cornhill, Ipswich, Suffolk (P6705)



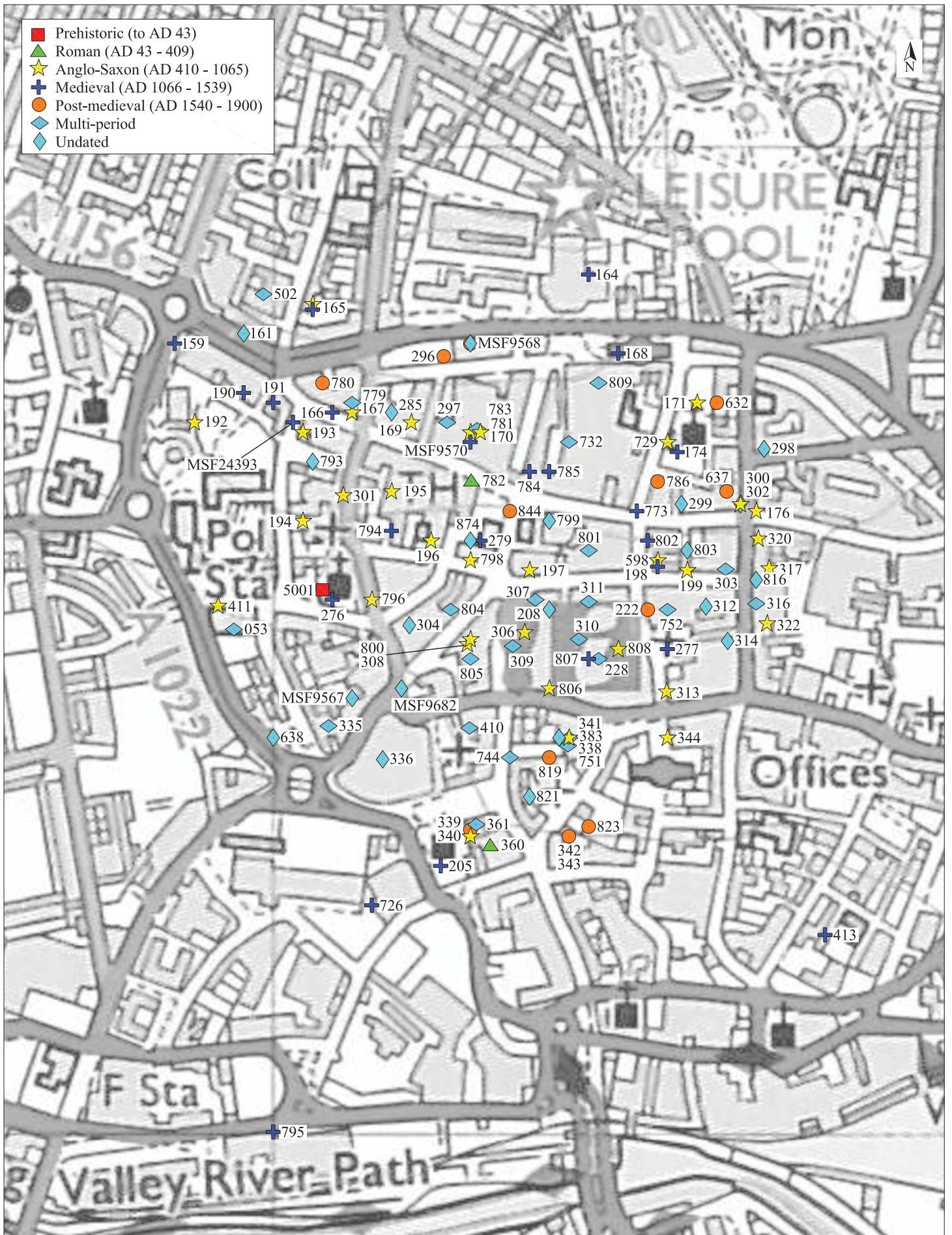
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Fig. 2 Detailed site location plan

Scale 1:5000 at A4

Cornhill, Ipswich, Suffolk (P6705)



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Fig. 3a HER monuments
 Scale 1:5000 at A4
 Cornhill, Ipswich, Suffolk (P6705)



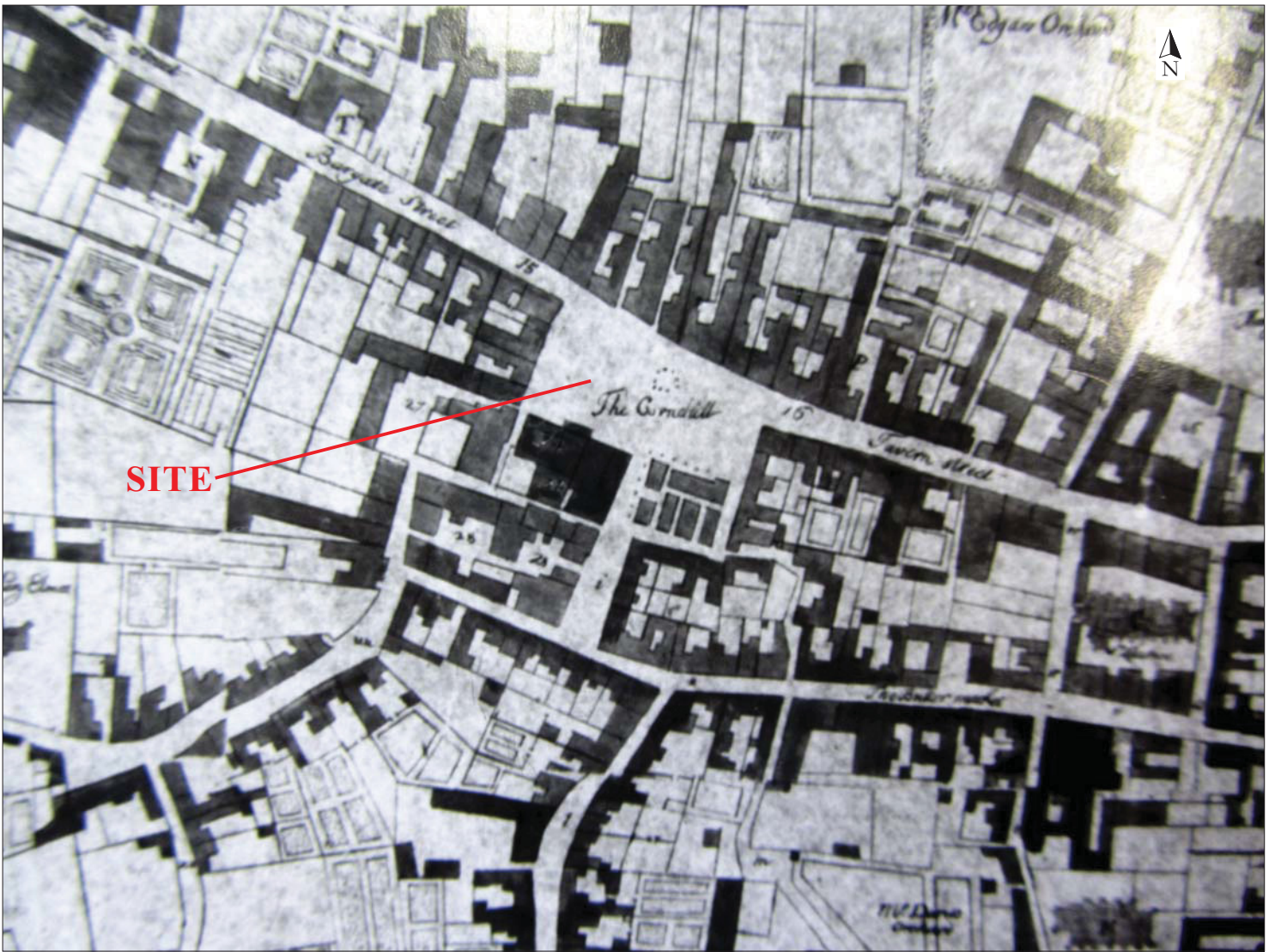
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Archaeological Solutions Ltd
Fig. 3b HER listed buildings
 Scale 1:4000 at A4
 Cornhill, Ipswich, Suffolk (P6705)



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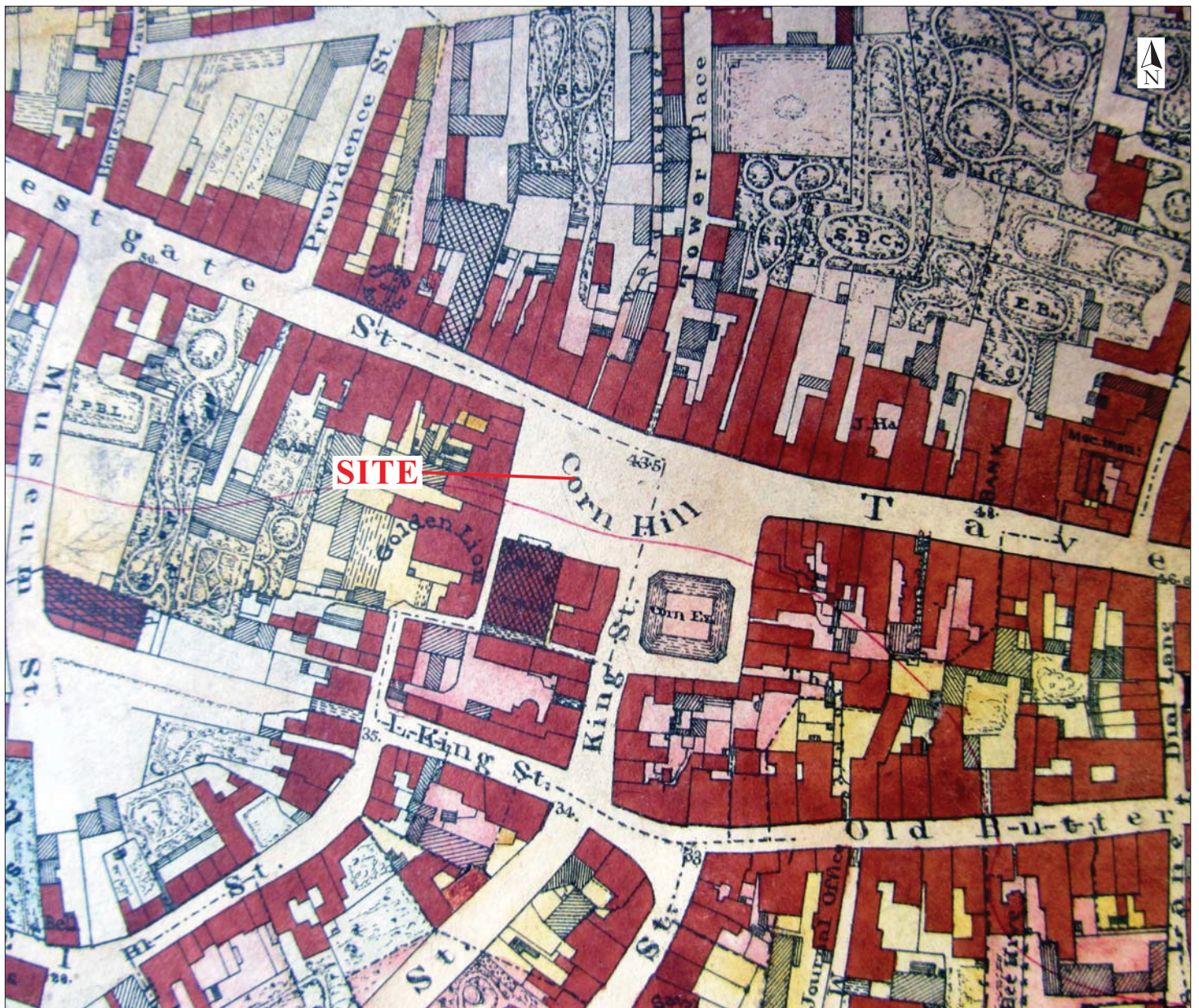
Archaeological Solutions Ltd
Fig. 3c HER listed buildings
 Scale 1:4000 at A4
 Cornhill, Ipswich, Suffolk (P6705)



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| <i>Archaeological Solutions Ltd</i> |
| Fig. 5 John Ogilby's survey of Ipswich, 1674 |
| Not to scale |
| Cornhill, Ipswich, Suffolk (P6705) |



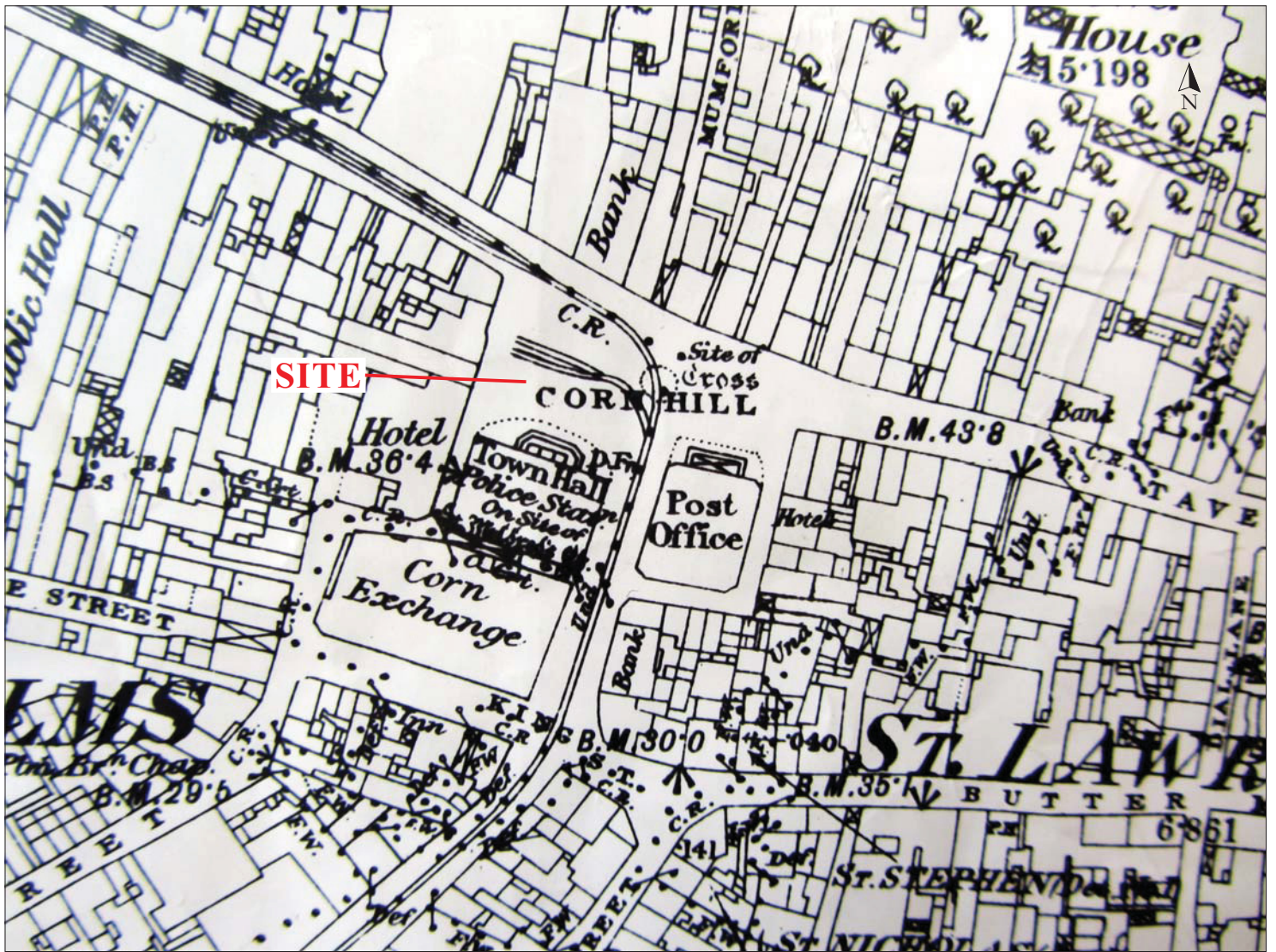
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| <i>Archaeological Solutions Ltd</i> |
| Fig. 6 Pennington's map of Ipswich, 1778 |
| Not to scale |
| Cornhill, Ipswich, Suffolk (P6705) |



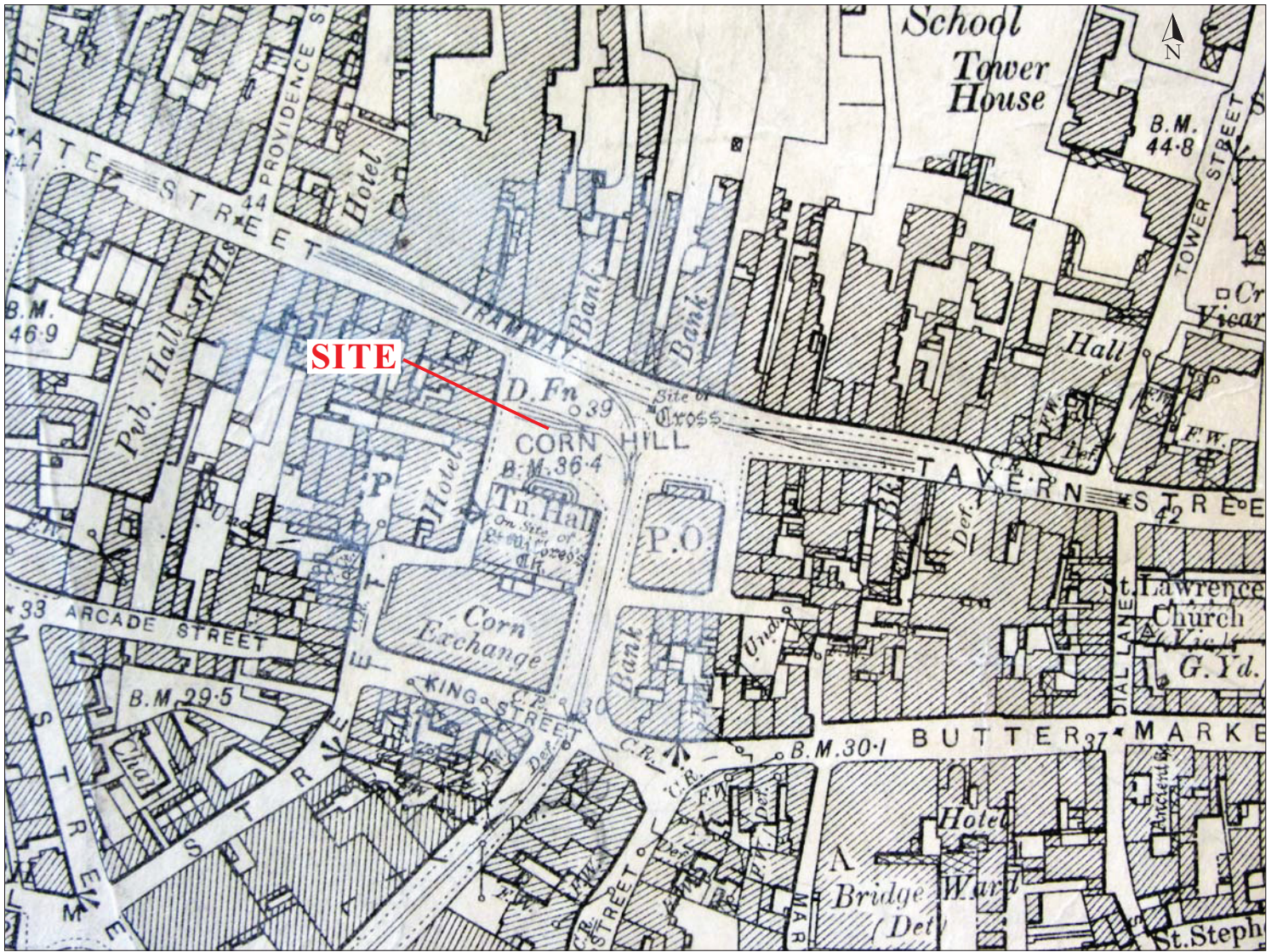
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| <p><i>Archaeological Solutions Ltd</i></p> <p>Fig. 7 White's map of Ipswich, 1849</p> <p>Not to scale</p> <p>Cornhill, Ipswich, Suffolk (P6705)</p> |
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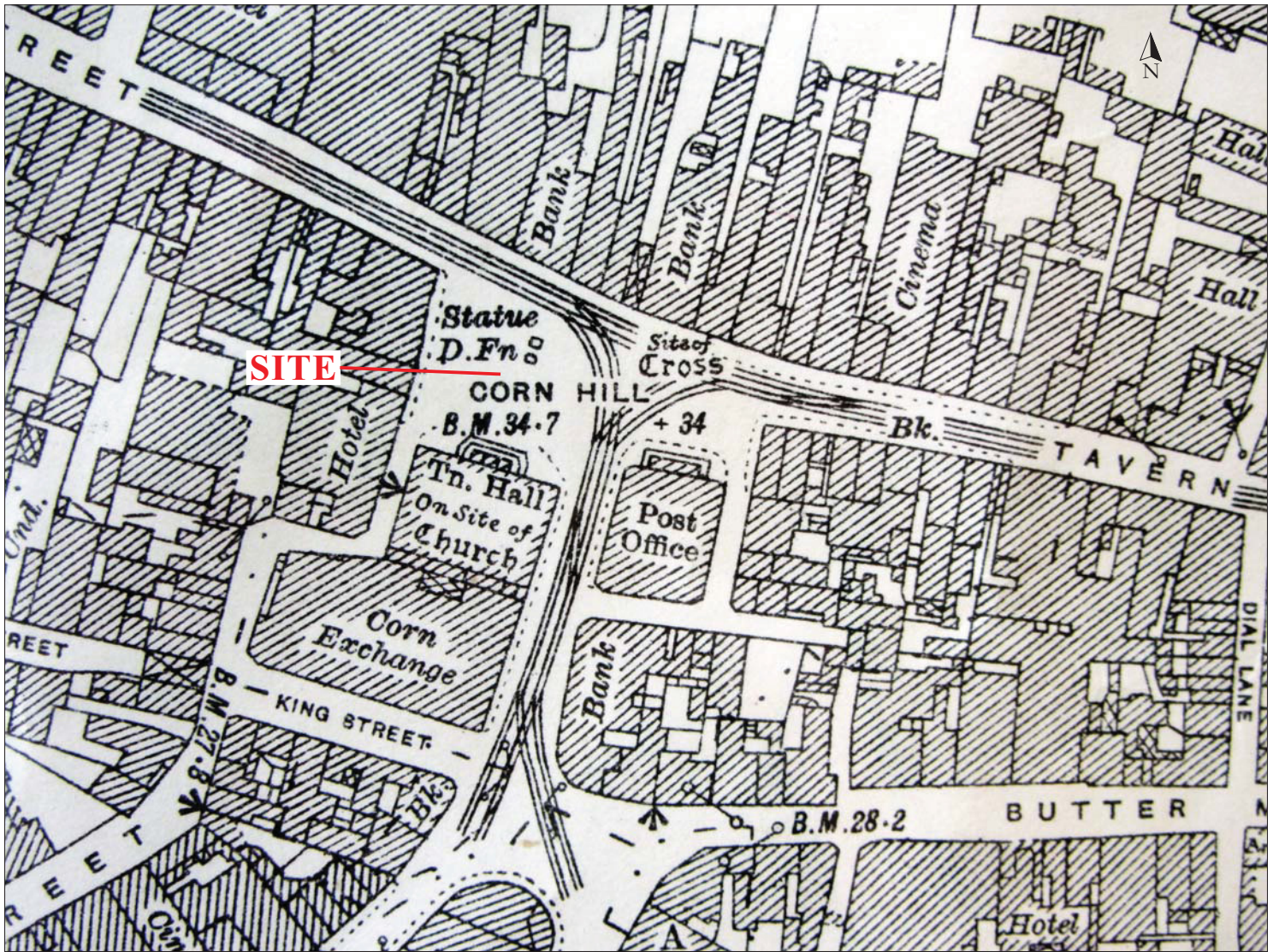
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| <i>Archaeological Solutions Ltd</i> |
| Fig. 8 White's map of Ipswich, 1867 |
| Not to scale |
| Cornhill, Ipswich, Suffolk (P6705) |



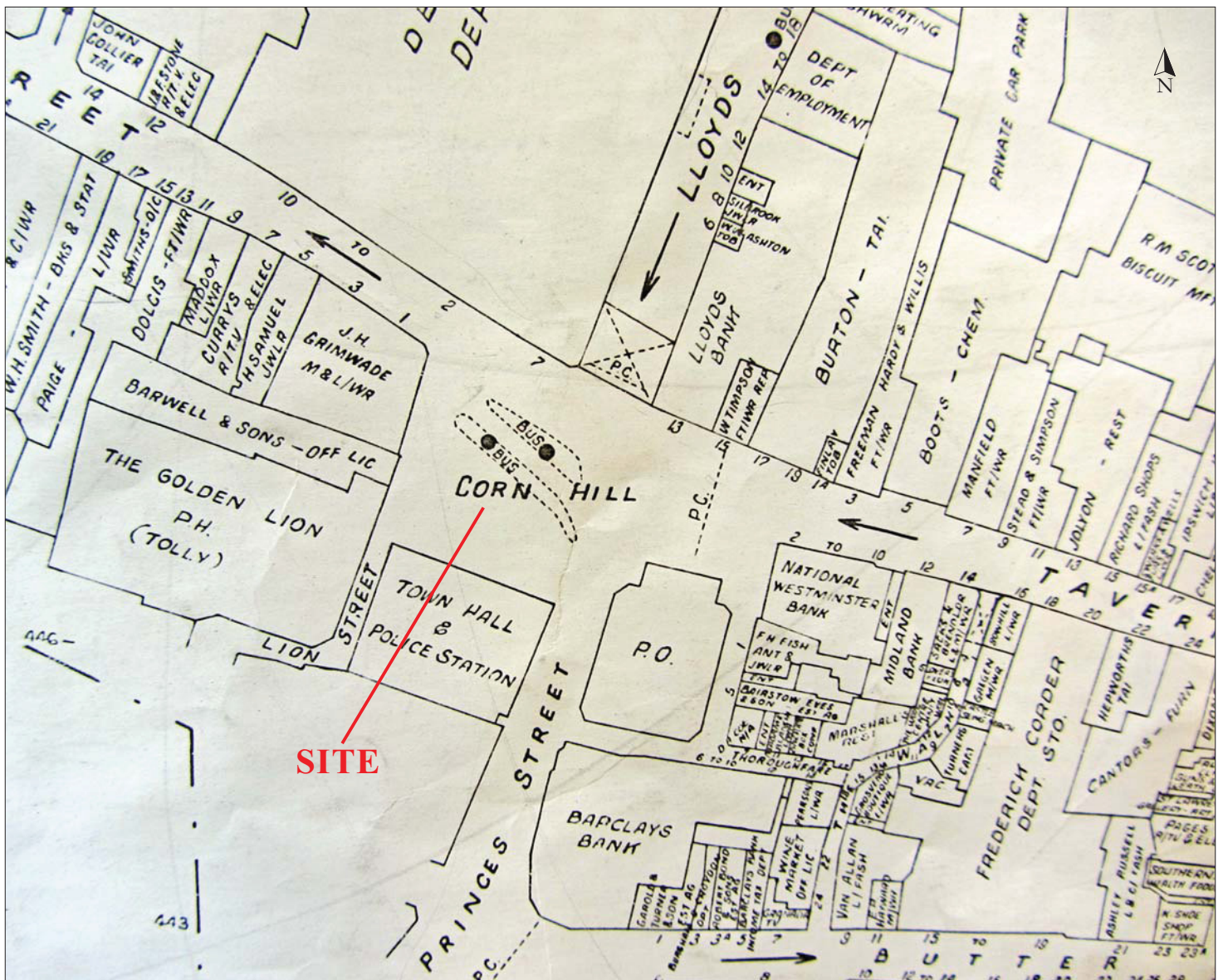
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| Fig. 9 OS map, 1884 |
| Not to scale |
| Cornhill, Ipswich, Suffolk (P6705) |



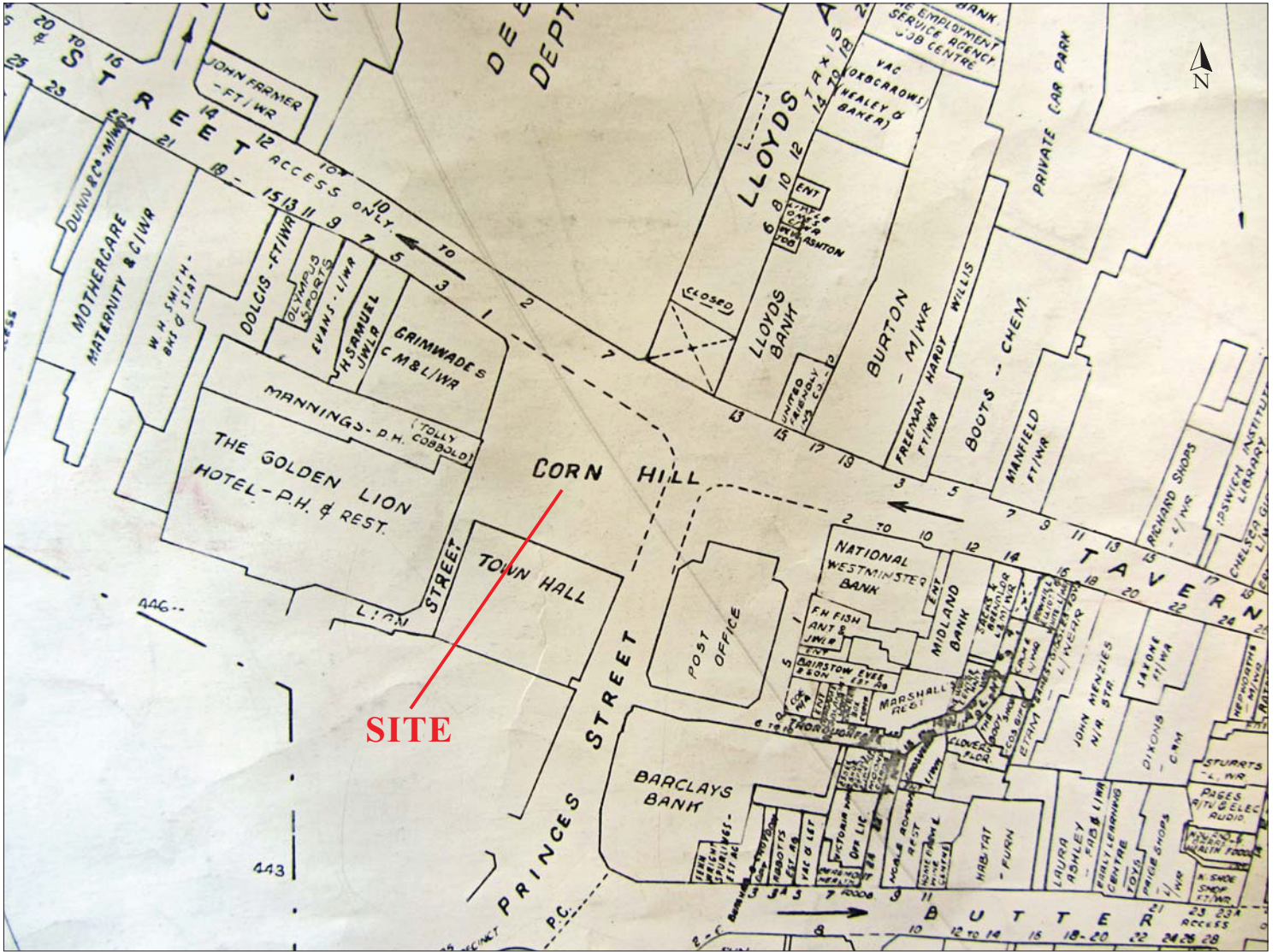
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| Fig. 10 OS map, 1904 |
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| Cornhill, Ipswich, Suffolk (P6705) |



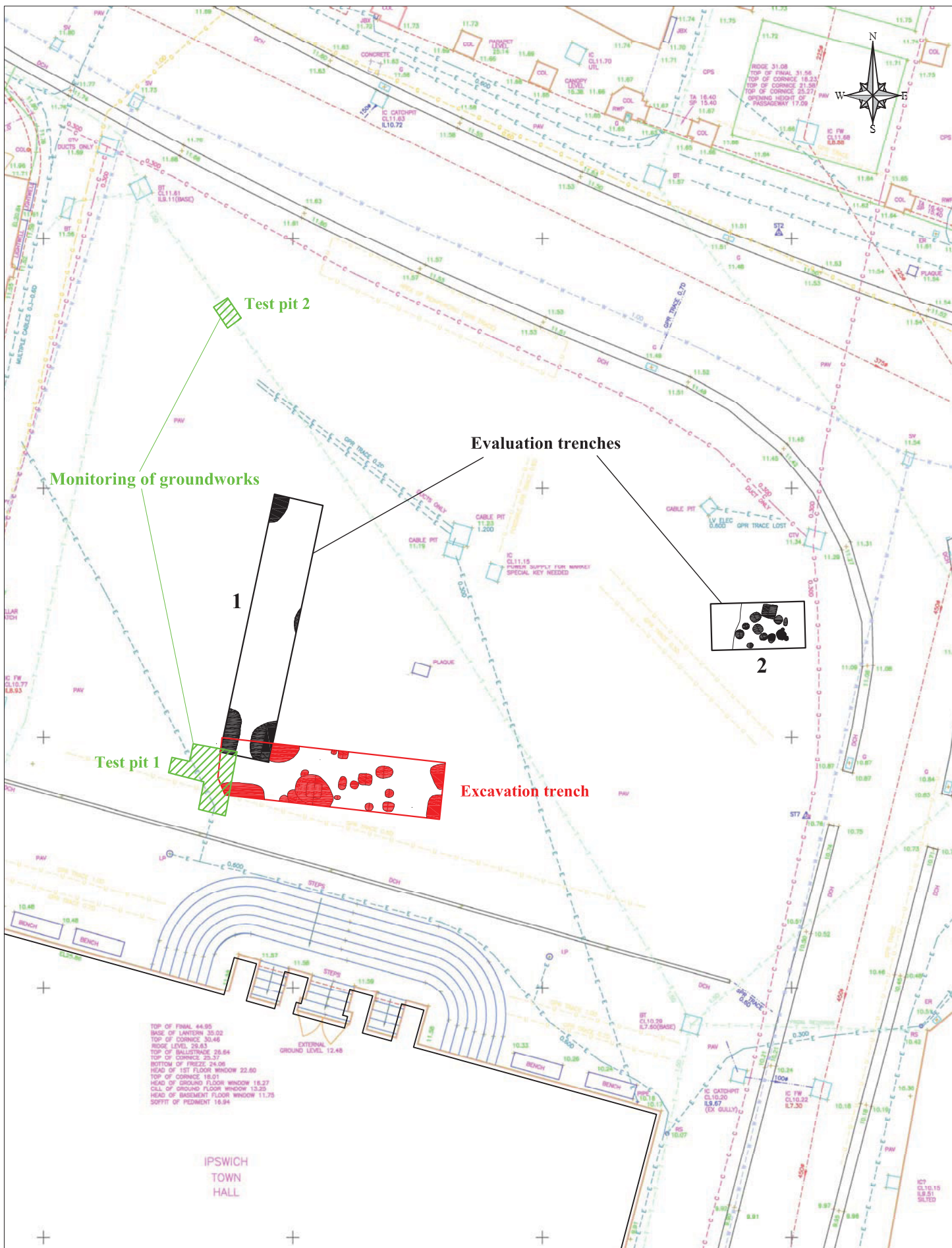
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| Fig. 11 OS map, 1927 |
| Not to scale |
| Cornhill, Ipswich, Suffolk (P6705) |



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| <i>Archaeological Solutions Ltd</i> |
| Fig. 12 Goad's map of Ipswich, 1973 |
| Not to scale |
| Cornhill, Ipswich, Suffolk (P6705) |

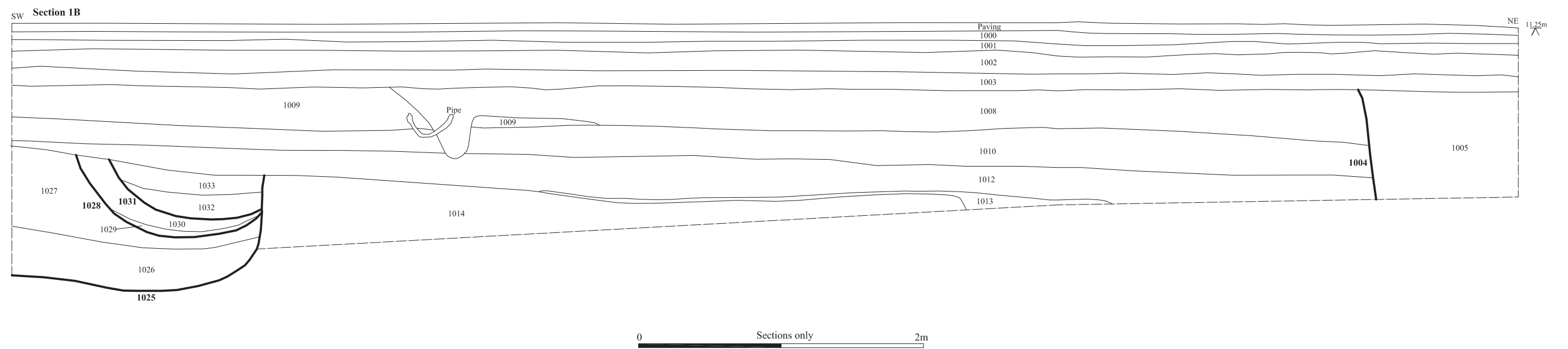
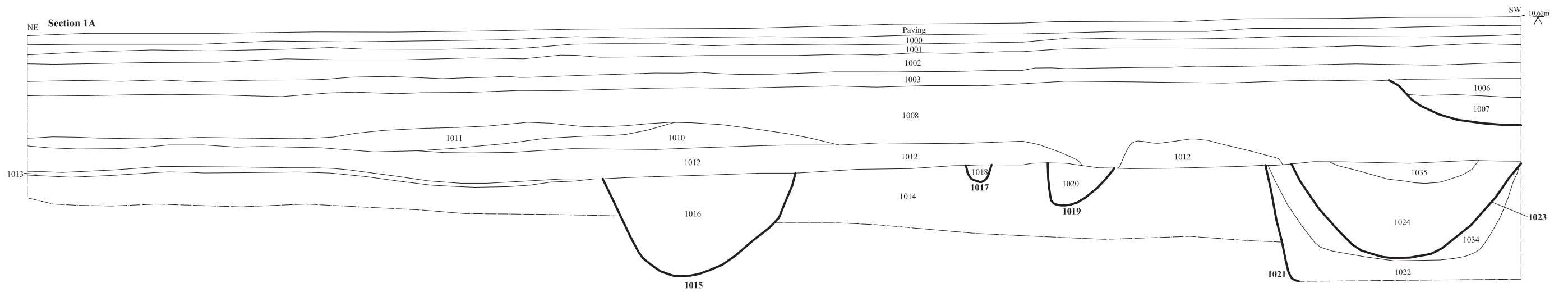
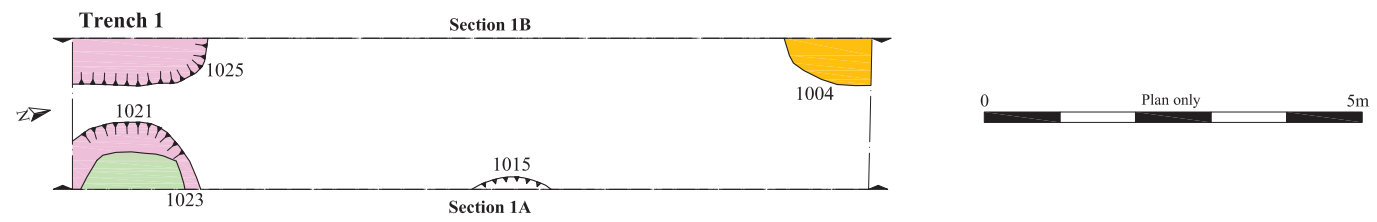


Archaeological Solutions Ltd
 Fig. 13 Goad's map of Ipswich, 1985
 Not to scale
 Cornhill, Ipswich, Suffolk (P6705)



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Fig. 14 Trench location plan
 Scale 1:200 at A4
 Cornhill, Ipswich, Suffolk (P6705)



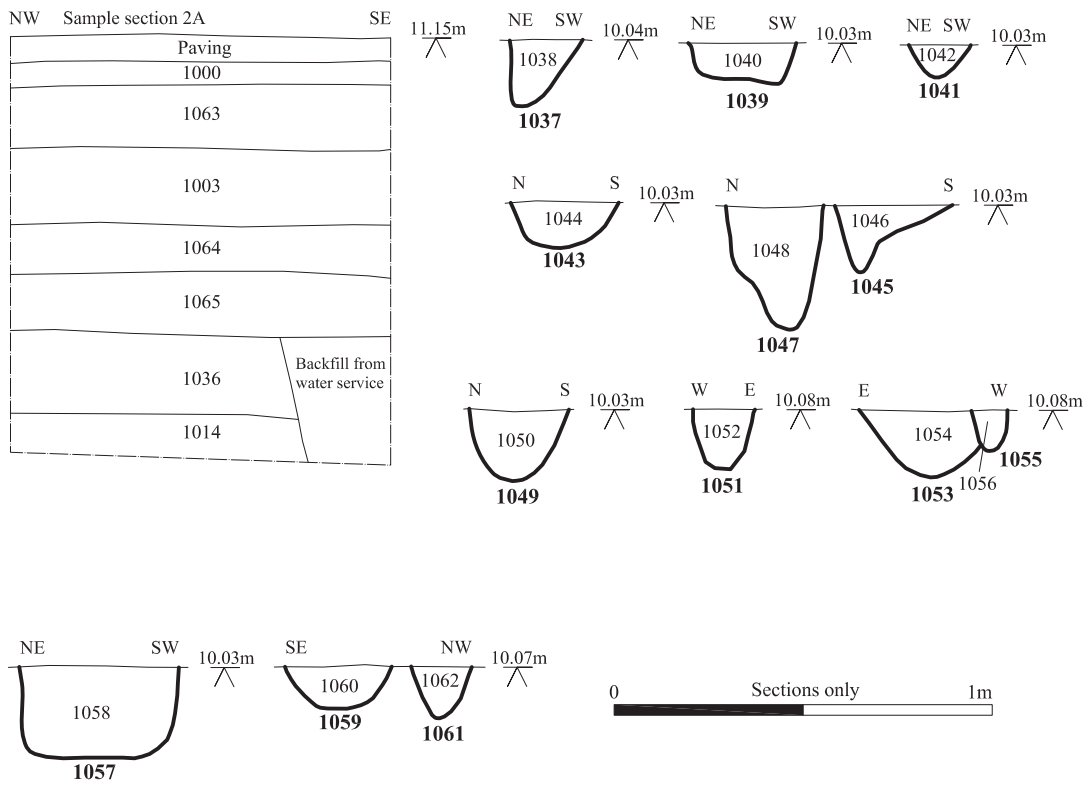
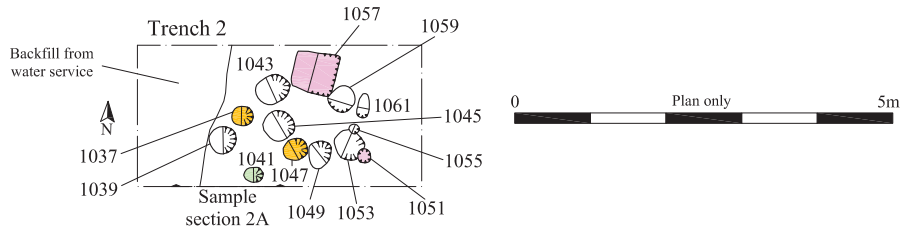
- 8th - 9thC
- 9th - 12thC
- 12th - 15thC
- Post-medieval/modern
- Undated

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Fig. 15 Trench 1 plan and sections

Scale 1:100 and 1:30 at A3

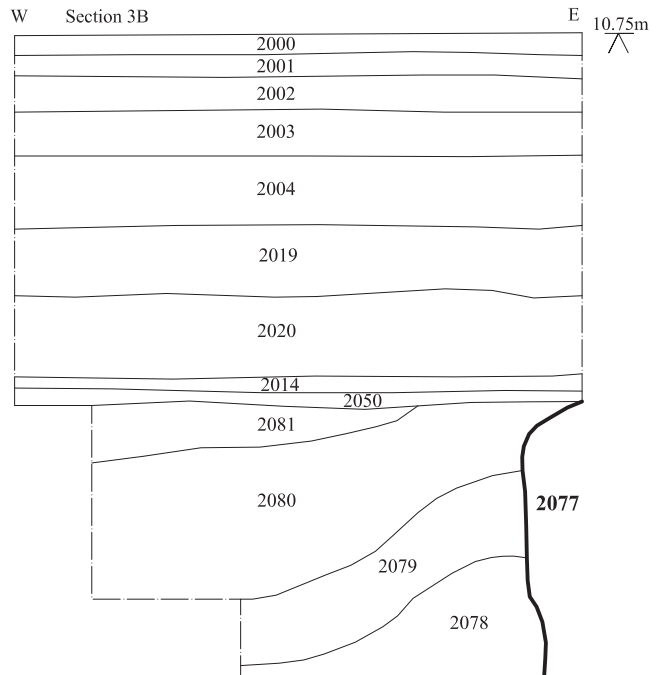
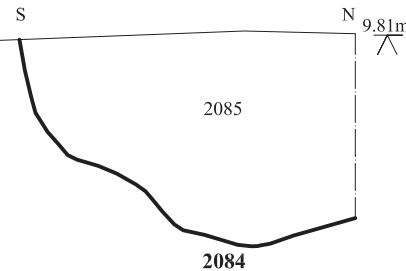
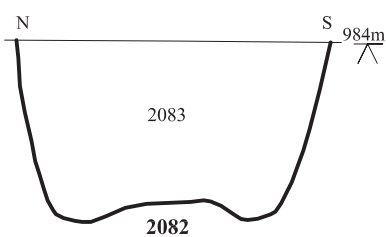
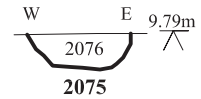
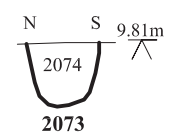
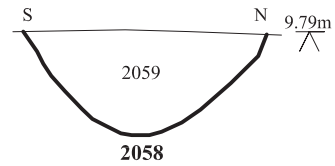
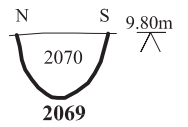
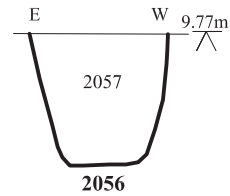
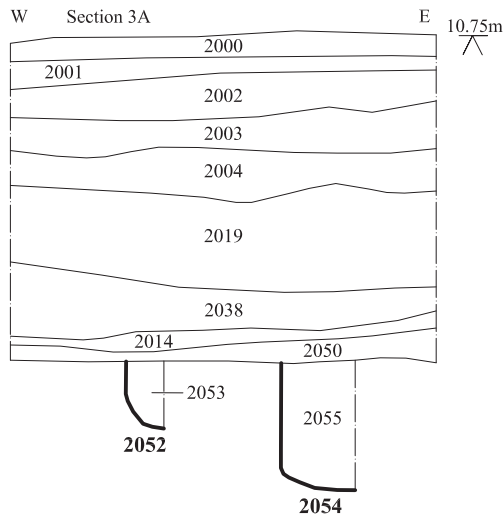
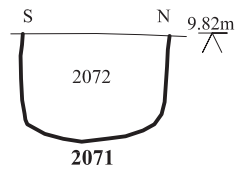
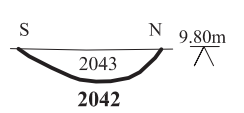
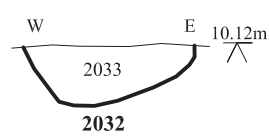
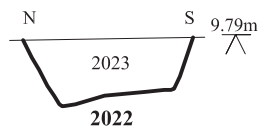
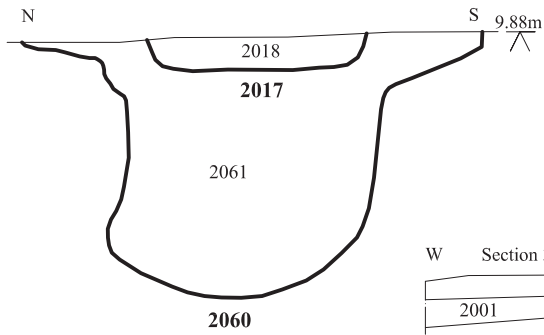
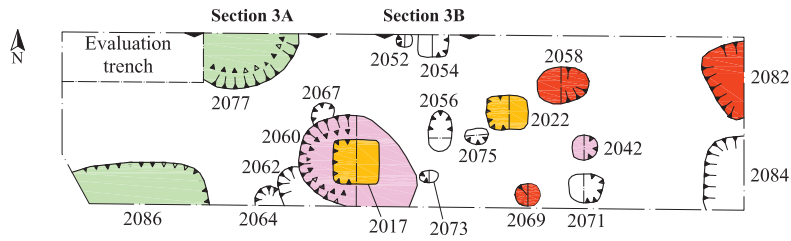
Cornhill, Ipswich, Suffolk (P6705)



- 8th - 9thC
- 9th - 12thC
- 12th - 15thC
- Post-medieval/modern
- Undated

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| Fig. 16 Trench 2 plan and sections |
| Scale 1:100 and 1:50 at A4 |
| Cornhill, Ipswich, Suffolk (P6705) |

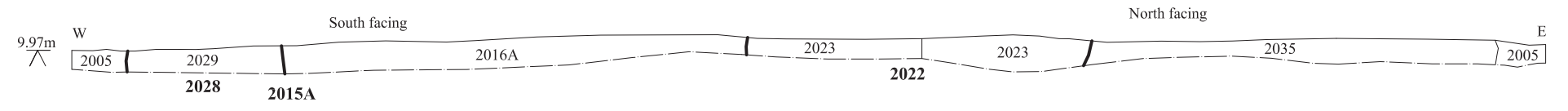
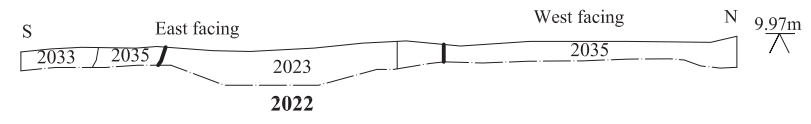
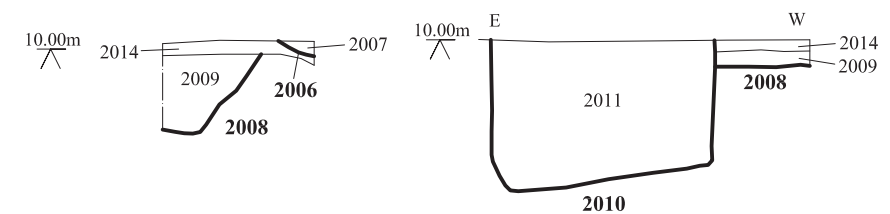
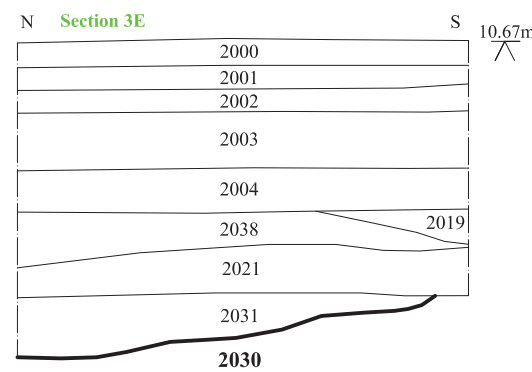
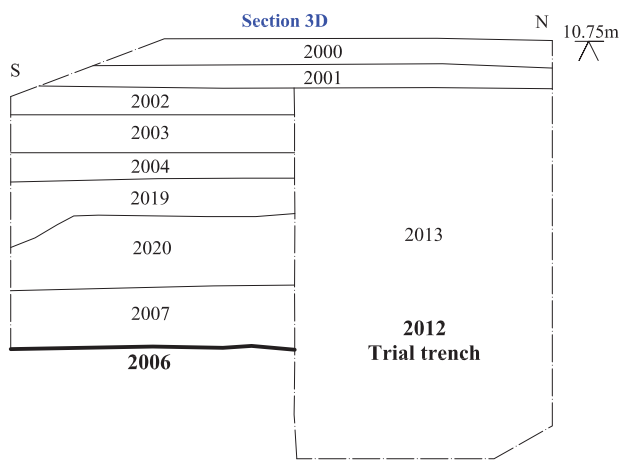
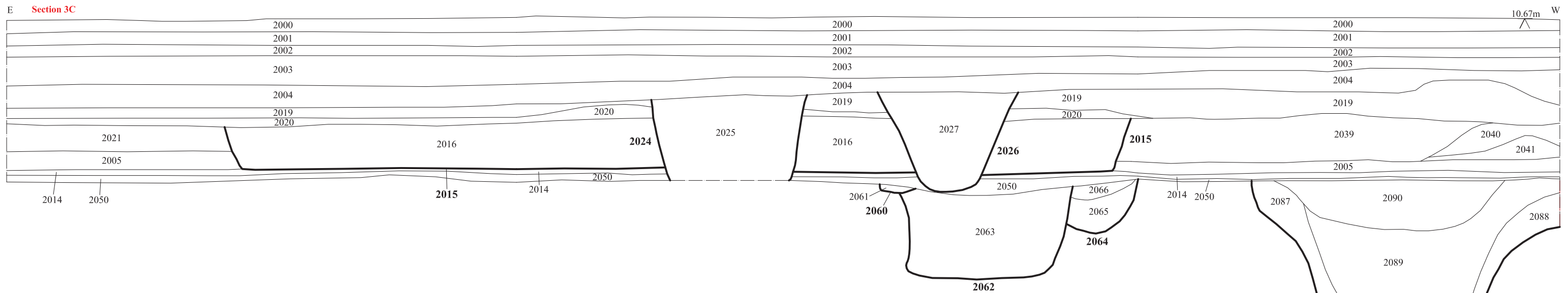
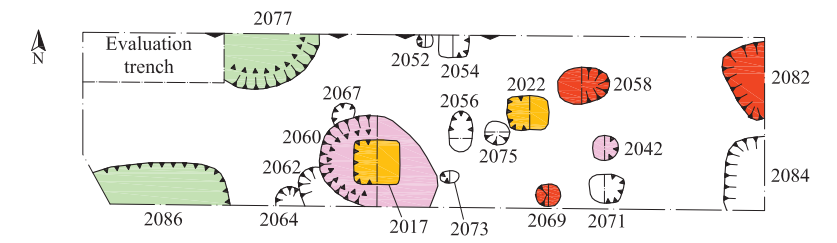
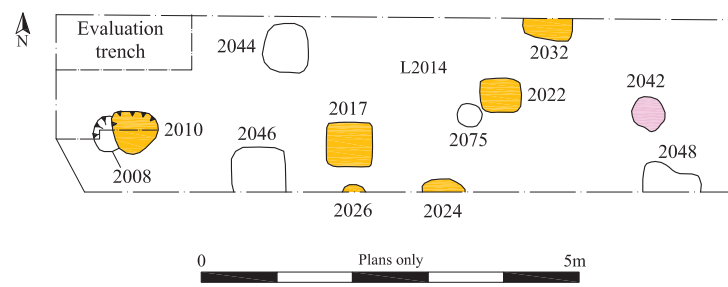
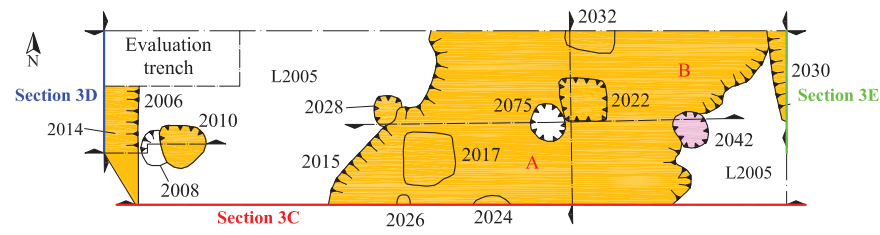
0 Plan only 5m



- 8th - 9thC
- 9th - 12thC
- 12th - 15thC
- Post-medieval/modern
- Undated

0 Sections only 1m

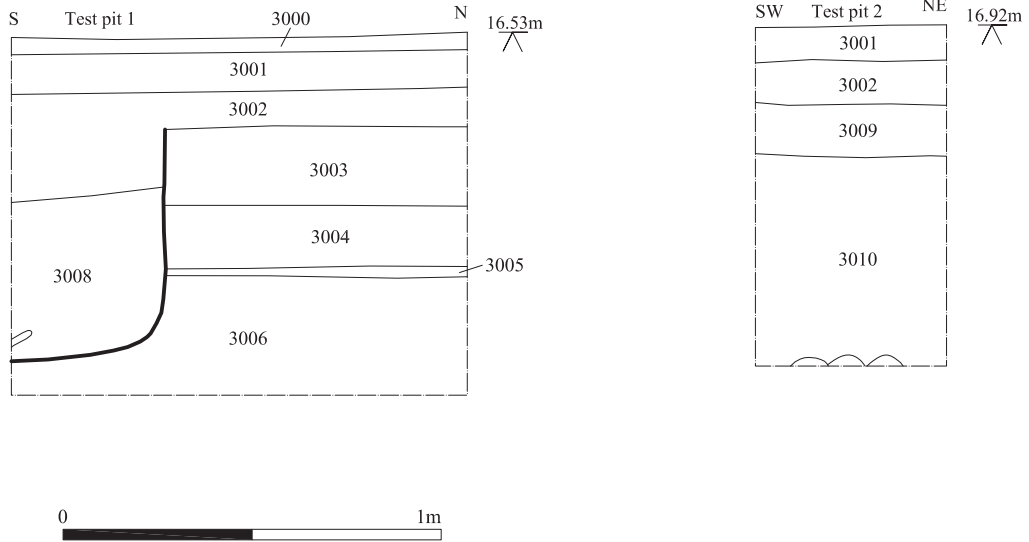
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Fig. 17 Plan and sections
 Scale 1:100 and 1:20 at A4
 Cornhill, Ipswich, Suffolk (P6705)



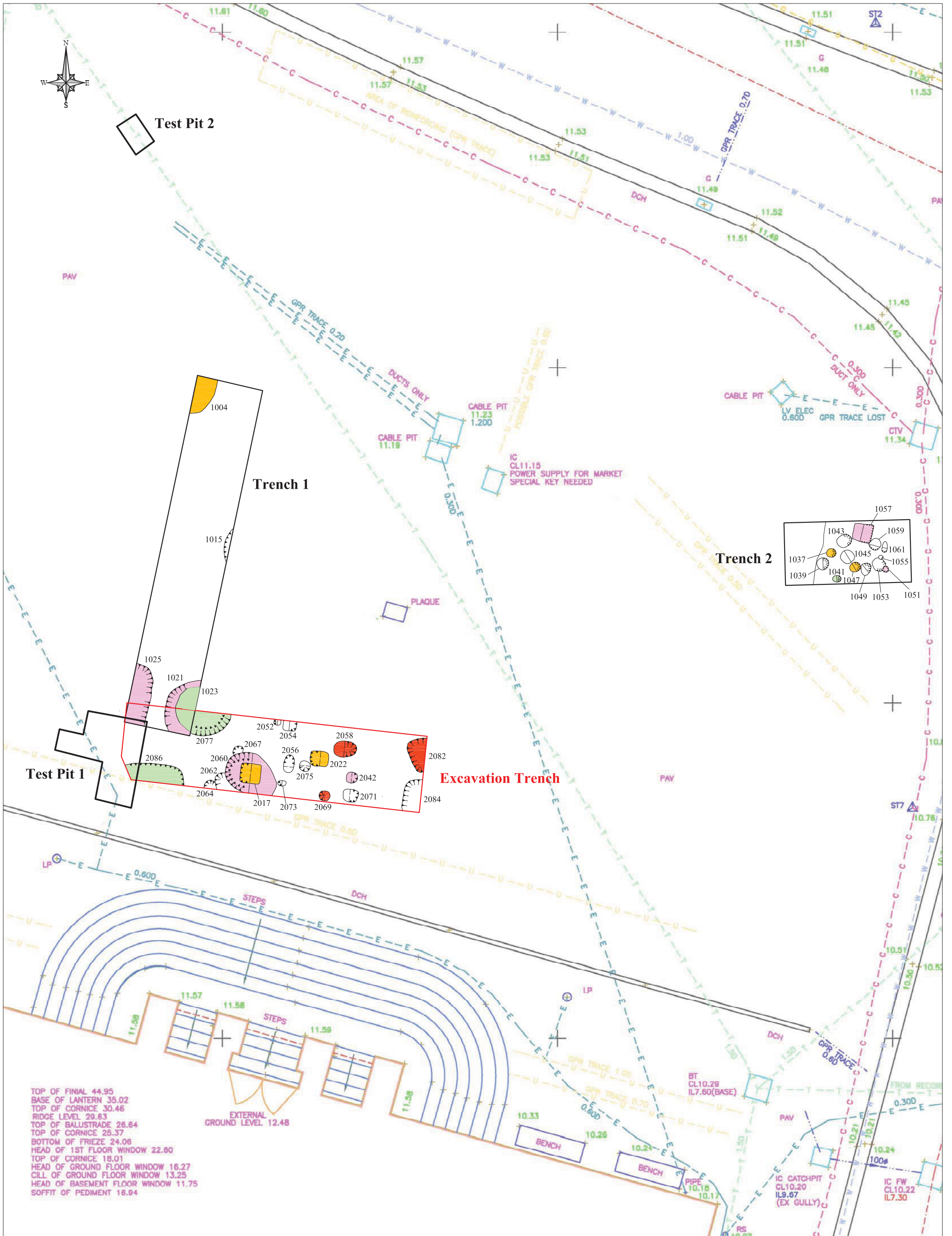
- 8th - 9thC
- 9th - 12thC
- 12th - 15thC
- Post-medieval/modern
- Undated

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Fig. 18 Plan and sections
 Scale 1:100 and 1:20 at A4
 Cornhill, Ipswich, Suffolk (P6705)

Sections from Test Pits 1 & 2 excavated during monitoring of groundworks



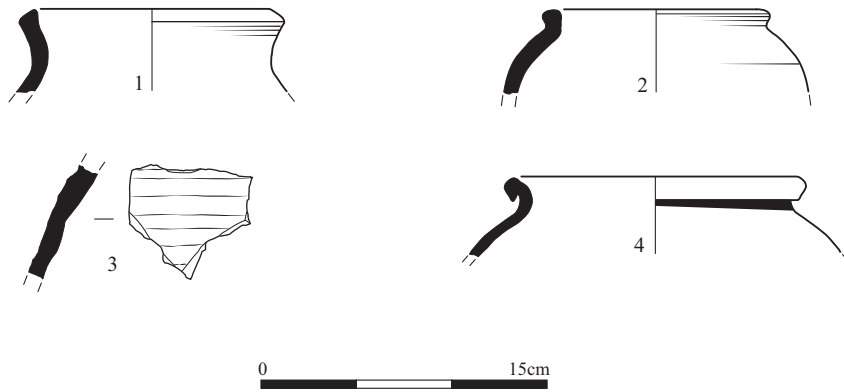
Archaeological Solutions Ltd
Fig. 19 Sample sections from groundworks monitoring
Scale 1:20 at A4
Cornhill, Ipswich, Suffolk (P6705)



0 5m

- 8th - 9thC
- 9th - 12thC
- 12th - 15thC
- Post-medieval/modern
- Undated

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Fig. 20 Phase plan
 Scale 1:100 at A3
 Cornhill, Ipswich, Suffolk (P6705)



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|--------------------------------------|
| <i>Archaeological Solutions Ltd</i> |
| Fig. 21 Pottery illustrations |
| Scale 1:4 at A4 |
| Cornhill, Ipswich, Suffolk (P6705) |