

EXCAVATION OF A MEDIEVAL CEMETERY AT CROWLAND ROAD, HAVERHILL

by JON MURRAY

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INTRODUCTION

IN 1997, HERTFORDSHIRE ARCHAEOLOGICAL TRUST undertook an archaeological excavation on land at Crowland Road, Haverhill, Suffolk (NGR TL 6665 4543) (Figs. 1–2). The site was to be redeveloped for social housing, and a planning condition required that a programme of archaeological work be undertaken because the site contained known archaeological remains.

Elements of an early church were partially excavated close to the site in 1855 (*Proc. Suffolk Inst. Archaeol.* IV, 102), though the exact location of the building was unrecorded. Documentary sources suggest the presence of a church on the site before 1175, and the apsidal form of the excavated church indicates a 12th century or earlier date. A church, almost certainly on the same site, is mentioned in Domesday (1086). By 1551, it had been made redundant by the development of the Church of St Mary near the High Street, which was probably dedicated in the 1230s, developing from a market place chapel. For many years the site was known as St Botolph's, but it is likely that both churches were dedicated to St Mary, and that Botolph came about as a corruption of Burton End or Bovetown, as documentary sources differentiate between the 'abovetown' or superior church and the inferior or lower church in the market place. Part of the site was excavated by the Haverhill and District Archaeological Group (H&DAG) in 1975, revealing some thirty inhumation burials and a churchyard ditch with 10th–13th century finds. The whole site was evaluated by the Suffolk Archaeological Unit (SAU) in 1991 (Tester), following a geophysical survey by Terrascan. The site was found to contain part of the extensive medieval churchyard, though it was considered unlikely that the church building was present in this area.

GEOLOGY AND TOPOGRAPHY

Haverhill lies in the south-western corner of Suffolk, close to the county boundaries with Cambridgeshire and Essex, and situated on a belt of boulder clay underlain by Upper Chalk (BGS 1993). The town is situated along both sides of the shallow valley of the Stour Brook, a tributary of the river Stour. A small tributary stream, now culverted, runs west south west towards Hazel Stub, forming another small valley through which Camps Road/Burton End runs.

The site lies on the western side of Haverhill, immediately north west of the junction of Crowland Road and Burton End. The c. 0.18 hectare site was formerly rough ground used mainly for car parking. The site is bordered to the east by the cutting for Crowland Road, to the south by the rear of the late Victorian terrace fronting Burton End, to the west by the rear of 19th-century properties fronting St Botolph's Place, and to the north by 20th-century housing on St Botolph's Way. The site slopes slightly (at an average height of 77–78 m AOD), with land rising to the north and falling away into a shallow east-west valley to the south.

HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

Much historical information concerning the history of the site has kindly been supplied by the Haverhill and District Archaeological Group (H&DAG). Information was also provided by Suffolk County Council Sites and Monuments Record (SMR) and the Bury St Edmunds Record Office.

The area has a long history of occupation, though the exact development of the settlement at Haverhill is not yet well understood. Palaeolithic implements attest to the presence of early inhabitants, with finds known from the valley of the Stour Brook (SCC Sites and Monuments Record No. *HVH-014*).

Iron Age remains from the clayey area are sparse, but a Gallo-Belgic coin hoard was discovered in the area of the present Chalkstone Way in 1788 (*HVH-001*), and probable Iron Age ditches were identified at Manor Road (*HVH-019*).

During the Roman period the road from Godmanchester to Cambridge and Sible Hedingham (and probably onwards to Colchester) followed the course of the valley through Haverhill, shadowing the modern road, Worsted Street. Roman finds are present in the Haverhill area; a Roman cremation was found c.200 m from the site at Castle Lane (*HVH-011*), various other finds of Roman coins and other material are known locally (for example at Coupals Road and Hanchet End), and burials have been found in the Meldham Bridge area (*HVH-003, 015, 034*). Roman material, often in residual contexts, was identified during recent SAU work on the line of the Haverhill bypass at Hazel Stub.

Little is known about the form and development of the Saxon settlement. Medieval Haverhill probably developed along the former Roman road, but it is clear that the site of St Botolph's Church (*HVH-005*) was originally the principal parish church. Recent fieldwork by SAU along the Haverhill bypass recorded medieval and earlier finds and features at Hazel Stub (including two Saxon disc brooches), suggesting that outlying settlement followed the line of Camps Road/Burton End (*HVH-027 to 30*). During the medieval period, Haverhill was an agricultural centre and trading point, developing as a wool town in the 14th century, probably due to its proximity to centres of this industry such as Clare and Lavenham.

Haverhill Castle, to the north west of the site, is an as yet undated earthwork, probably a fortified manorial site (*HVH-004*). Details of the manorial descent are recorded in the Victoria County History (VCH I; West Suffolk County Council Parish File, held by the SMR).

Haverhill was historically in Risbridge Hundred and the Deanery of Clare. The Domesday book of 1086 recorded that the town (*Hauerhella*) possessed a church with 5 acres of glebe land, one third of a market, and a population estimated as 56 men and families (WSCC Parish File). The date of the foundation of this early church is unrecorded. The church was under the jurisdiction of Castle Acre Priory in Norfolk during the medieval period, and the Castle Acre Priory Cartulary provides valuable documentary evidence for the twin churches of Haverhill. Before 1136 and probably after 1117, Robert Fitzgilbert confirmed the church at Haverhill to the Priory.

The earliest reference to the dedication of the church to St Mary (clearly not to St. Botolph) occurred between 1175 and 1200, when Bishop John of Norwich admitted a clerk to *ecclesiam s. Marie de Haverhill cum capella S. Marie ad forum pertinente ad iliam ecclesiam*, also clearly showing the early presence of the market place chapel. During the Norwich vacancy of 1236–9, Archbishop Edmund dedicated the chapel of St Mary in the market place, belonging to the 'mother' church in the upper part of town (*capellam s. Marie de Haver. sitam in inferiori parte dicte ville videlicet in foro, spectantem ad matricem ecclesium situm in superior habentum parte uisdem ville*).

Information derived from directions for burial in wills (H&DAG) indicates that 15th century wills referred to both the upper and lower churches, suggesting that from as early as 1439 burials were taking place in the 'nether' or 'inferior' church by the market place. References to variations of the place-name 'Button' were noted between 1487–1544 (the burial of Thomas Stearne in 1487 was described in the 'churchyard of the parish church of Haverhill called Boton Church'). The Calendar

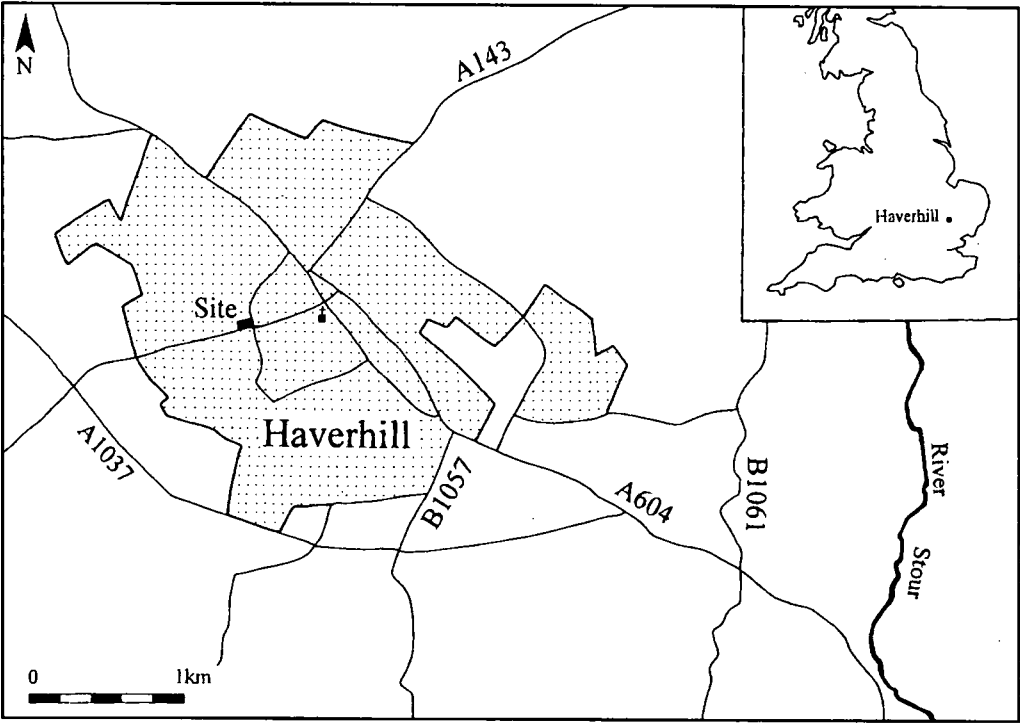


FIG. 1 – Site location

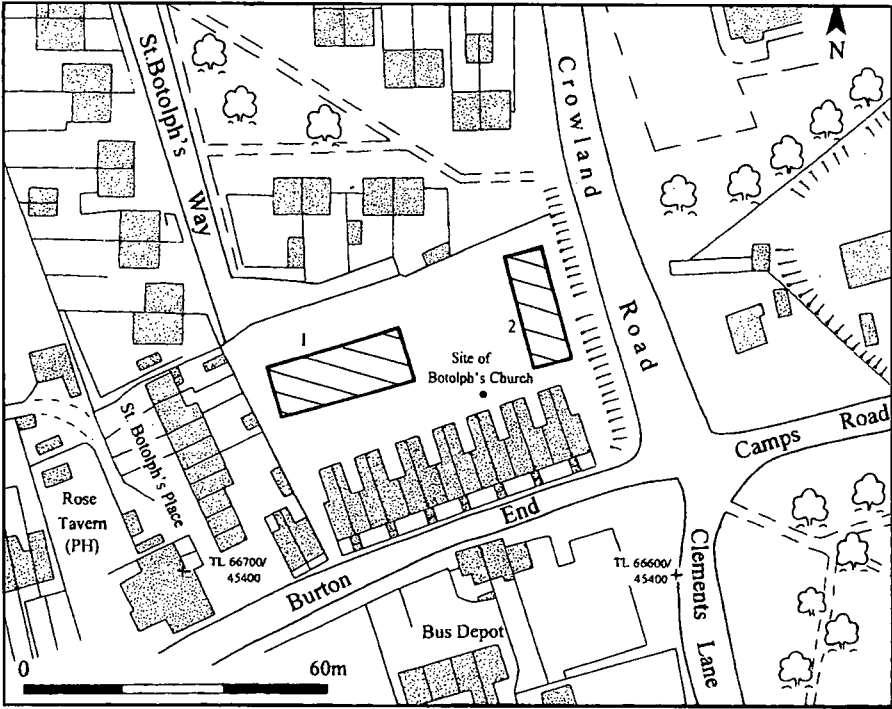


FIG. 2 – Detailed site location

of Patent Rolls (5 Edw.VI, Part III) of the 12th and 15th of May 1551 describe the dissolution of the church and the grant of the church, land and fabric to a Robert Cornewaylle. The claim was that the *Overchurche* alias *Bovetownechurch* was too small to hold the parishioners and was also difficult to access. The inhabitants were not able to repair and maintain both churches and the *Netherchurche* was large enough for all and conveniently situated in the main part of the town. The church was almost certainly demolished shortly afterwards. A serious fire is known to have destroyed a large part of the town in 1665 (Haverhill Master Plan, 1971).

The earliest surviving map of the area is a parish map of 1737 (Bury St Edmunds CRO 537; Fig. 3), clearly showing that the church building had been demolished. Most of the site is labelled 'Button Church Yard', with an area of glebe land to the north west and Parsonage Close to the west. The glebe land is possibly the remnant of the five acres referred to in 1086, with additional scattered strips along Coney Lane. Haverhill is depicted as a largely linear settlement along the present High Street, with some ribbon development along Camps Road towards Burton End. A scatter of properties is shown along Burton End, following the valley of the small stream. Boundaries on this map suggest that the churchyard, possibly also containing the church, covered c.2.2 hectares, indicating a large parish churchyard, probably serving a sizeable settlement. However, only the south-eastern part of the field was excavated, and nothing is known of the north-western extent of the churchyard.

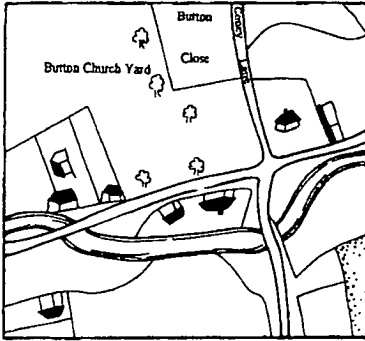
The 1841 Tithe Map (Fig. 3) is broadly similar in pattern to the 1737 map. Button Church Yard (Field 184) is under arable cultivation, occupied by Joseph Boreham and owned by Edward Cottis. The former strips of glebe land were known as The Nooks and under separate ownership and occupation. The large field to the west of the site had become known as Parsons Yard, and was also under arable crop. Crowland Road was formerly called Coney Lane.

Boreham's excavation of the church foundations in 1855 did not record the position of the church, which probably lay to the west or north west of the area of the 1997 excavation, possibly under the terrace of cottages on St Botolph's Place built during this period. Boreham revealed that the church walls were some 4.5 feet (c 1.4m) thick and of 'ordinary flint rubble' (Clay, *Proc. Suffolk Inst. Archaeol.* IV, 1869), with a north wall 38 feet (11.6m) long and an apsidal east end measuring 20 feet (6.5m) across. Several skeletons were found at the east end, aligned east/west, exhibiting some of intercutting. Two showed 'indications' of coffins, one with a 'plastered' base. A skeleton was revealed beneath part of the foundations, suggesting an earlier phase of burials prior to the construction of this part of the church, noted as in a 'sitting position'. Quantities of Roman finds, including a finger ring, building materials and glass fragments are noted, the tile probably re-used from a Roman building in the area. The article also notes the discovery of skeletons found with 'large flint stones near the skull' in 1854 when digging a gateway in 'Bove Town'.

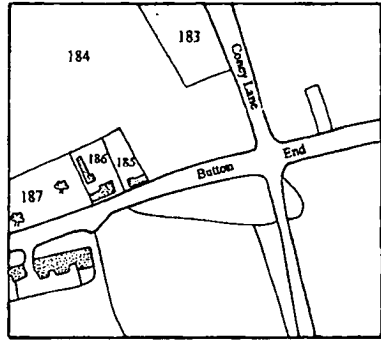
The first edition OS map of 1886 (Fig. 3) labels *St Botolph's Church (site of)* for the first time, following Boreham's excavation in 1855, and shows a new terrace of cottages on St Botolph's Place. The other field boundaries remain largely the same, though the western portion of the former 'Button Church Yard' is now subdivided.

The second edition OS map of 1904 (Fig. 3) shows a new terrace of cottages fronting Burton End, and a new boundary established to the north of the site, with a track leading north north west towards Castle Lane. The rest of the former Button Church Yard is shown as allotment gardens, with the area of the 1997 excavation subdivided into small strips.

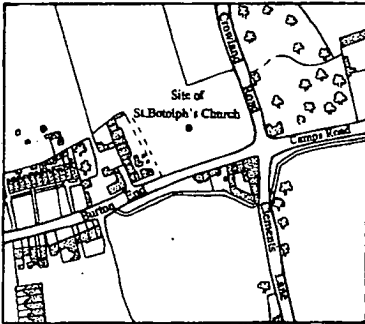
Later 20th century maps (Fig. 3) show that the area remained relatively unchanged until the 1960s and 1970s, when Castle Lane and St Botolph's Way were developed. Four of the easternmost Victorian terraced houses immediately south east of the site were demolished during the widening of Crowland Road. Local people mentioned that a number of skeletons had been disturbed during this scheme, and burials have often come to light during works along the north side of Burton End.



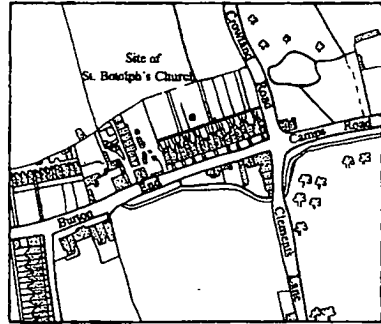
1737



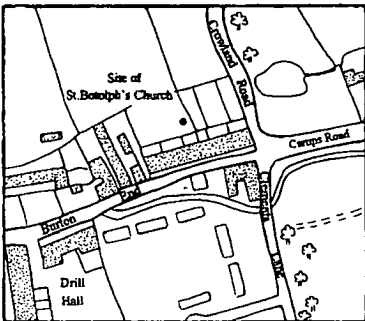
1841



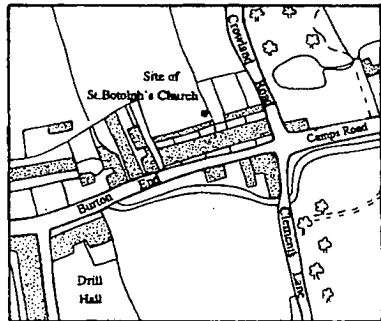
1886



1904



1928



1951

FIG. 3 – Maps of 1737, 1841, 1886, 1904, 1928, 1951

THE EXCAVATION

The principal aims of the project were to provide a record of archaeological deposits that would be damaged by the proposed development. The main academic objective centred around the potential of semi-urban burial deposits to provide information regarding medieval populations. These have not been extensively examined on a national scale and very few medieval populations have been studied within the region (SCC brief).

A Home Office licence for the exhumation of human remains was obtained prior to the start of archaeological work. Overburden in the areas of the two proposed building footprints was mechanically excavated (Areas 1 & 2, c.28 m x 10.5 m and c.23 x 9 m, respectively) (Fig.2). Thereafter, excavation was undertaken predominantly by hand. The number of burials far exceeded initial estimates, so phases of further mechanical excavation of deposits of undifferentiated grave soil were undertaken with the agreement of SCC, though all individual burials continued to be hand excavated and recorded in detail. The small area excavated by H&DAG in 1975 was contained within Area 1 of the 1997 excavations (Fig. 5).

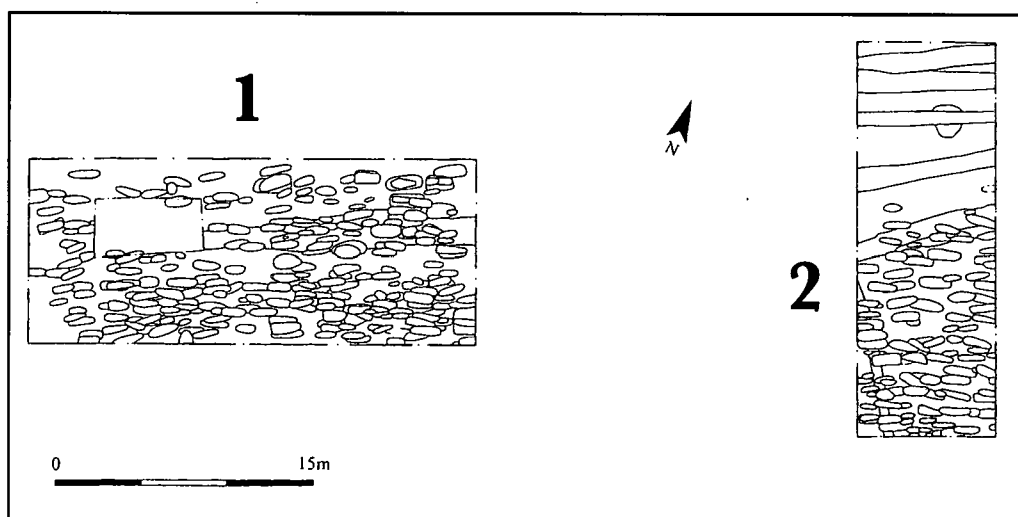


FIG. 4 – Overall plan of archaeological features and burials

THE ARCHAEOLOGICAL EVIDENCE

CHRONOLOGY

The periods of activity represented on the site dated to the prehistoric, Roman, late Saxon, medieval and post-medieval/modern periods. The principal cemetery deposits dated from the medieval period.

Evidence of prehistoric activity comprised residual struck flint (1011g) retrieved from the grave fills and graveyard soil (L1013), including a fine, leaf-shaped arrowhead from the fill of the grave containing Skeleton 1763 (L1937).

Residual Iron Age and Roman pottery sherds were present in a number of the grave fills (the pre-late Saxon pottery comprised only 6% of the assemblage). Late Saxon pottery comprised 15.7% of the assemblage, early medieval pottery comprised the bulk of the assemblage (56.9%) and other medieval pottery comprised 17.9% of the assemblage, with the remaining 3.5% dating from the post-medieval period. Over 2 kg of pottery was recovered from the site.

The principal features excavated were 355 inhumations (Fig. 4). The graves were mostly intercutting (i.e. later burials had disturbed earlier burials), revealing multi-layers of burials, resulting in quantities of disarticulated bone being present in many of the grave fills. In addition, five E/W churchyard boundary ditches were identified, the southernmost being cut by some of the later burials. An early N/S churchyard boundary ditch was also identified, overlapped by later burials. Burials ceased in the northern part of Area 2, but were found to continue beyond the limits of the excavated areas everywhere else. The church building was not present within the area excavated, nor were any churchyard monuments or grave markers identified. Individual grave cuts were often difficult to identify, initially because of the homogenous nature of the graveyard soil (L1013, a mid brown silty loam with occasional mixed flint pebbles and nodules). It is common for churchyards to have artificially deep deposits of general graveyard soils, either accumulated and/or imported, to allow later multi-layering of burials. This appears to have happened at Haverhill, though the early graveyard boundaries also seem to have been extended to accommodate increasing numbers of burials.

The deepest burials cut the natural chalky boulder clay drift (L1001). Burials higher up the slope to the north in Area 2 also cut the natural drift geology, which was overlain by more shallow graveyard deposits in this peripheral part of the churchyard. The depth of the general graveyard soil increased down the slope in the southern part of the site, to a depth of around 0.5 m.

Small scale post-medieval and modern intrusions were present across the site. The churchyard deposits were closely sealed by up to 0.75 m of post-medieval and modern overburden (L1002), with sparse intrusive features. This layer consisted predominantly of levelling deposits, hardcore and dumped refuse.

EVIDENCE FROM EARLIER PERIODS

Phase 1 Prehistoric

Within Areas 1 & 2, a small number of residual flint flakes and tools (1011g) were retrieved from both the general graveyard soil (L1013) and within the grave fills. No prehistoric features were identified, though Pit F1121 in the north-eastern corner of Area 2 was truncated by Ditch F1116 and may date from this period, though it lacked dateable finds (Fig. 6). Quantities of struck flint flakes and tools (Struck Flint Report below) were found within the graveyard soils and grave fills, suggesting activity in the vicinity of the site during the Neolithic period, though some may have derived from imported graveyard soil.

Phase 2 Iron Age/Roman

Small quantities of residual Iron Age/Roman pottery were found in grave fills, suggesting occupation in the vicinity of the site, particularly when added to residual Roman evidence recently discovered during works close by at Hazel Stub on the Haverhill bypass.

In addition an abraded pottery spindlewhorl, made from the re-use of a Roman pottery sherd, was found in the fill of Grave F1546 (sf 32, Fig. 10.7). It may date from the Roman period, though they also occur throughout the Saxon period (Crummy, below). A similar item was recently recovered from the fill of an early Saxon *grubenhaus* at Gamlingay, Cambridgeshire (Murray, in prep), and most of the Saxon spindlewhorls at Mucking were made from re-used Roman sherds (Hamerow, 1993).

Phase 3 Late Saxon/Medieval

The late Saxon material is almost certainly contemporary with the initial phases of the cemetery. Small quantities of late Saxon and Saxo-Norman Stamford and Thetford Wares were found in the grave fills, though the assemblage principally comprises St. Neot's Ware, which continued into the early medieval period. The presence of pottery of this period adds support to the pre-Conquest date of foundation of the original church. A number of 'pillow stone' graves also suggest late Saxon origins (see below).

LAYOUT OF THE CEMETERY

Five boundary ditches were present in the northern part of the site, all aligned roughly east-west (WSW/ESE) (Figs. 6–7). One of these ditches (F1011/F1095) was traced across both Area 1 & 2 (Figs. 4, 5 & 7). The other four ditches were identified in Area 2 only. Finds from the ditches broadly date to the 11th–13th century, suggesting that they may possibly be contemporary, though F1004 is clearly of a slightly later phase.

Numerous burials were dug through the infilled ditches, especially Ditch F1011 in Area 1. It is possible that this ditch delineated the early northern boundary of the churchyard, and expansion to the north took place in the later medieval period as the population grew. Such boundary extensions are not uncommon and have been noted at Rivenhall (Essex) (Rodwell, 1989). The post-medieval use of the site at Haverhill, for agriculture, allotments and dumping, has destroyed any evidence for surviving bank material. Ditch F1125 which was parallel to the south, was also probably an earlier northern boundary, and was superseded as the burials encroached northwards. Pottery from the ditches suggests an 11th-century date for the infill of early eastern churchyard boundary Ditch F1251 (see below) and a mid 12th century + date for the infilling of the other WSW/ESE ditches, excepting the latest in the sequence (F1004), which was possibly infilled in the 13th century.

A similar pattern was noted on the eastern boundary of the early graveyard. Ditch F1251 traversed Area 2 on a north-south alignment, and was truncated by the burials in the area (Figs. 6–7). Finds from its upper fill, L1252, suggest that it was infilled by the later 11th century, and probably demarcated the eastern boundary of the early cemetery, prior to its extension eastwards in the later medieval period, though ‘pillow stone’ graves do lie further to the east.

DITCHES

Ditch F1011/F1095 was the southernmost WSW/ENE ditch, and was identified in both Areas 1 and 2 (for a distance of 50 m +). The remaining four largely parallel ditches were present in Area 2 only, and were not revealed in Area 1.

The western end of F1011/F1095 terminated within the area of the 1975 excavation did not continue any further to the west. It was commonly 1.7 m wide, and up to 0.77 m deep, with steep sides and a narrow, concave base. It was filled with a dark greyish brown silty loam, with occasional flint pebbles and nodules, charcoal flecks and chalk nodules/flecks. Finds from the ditch included sherds of St. Neot's Wares, Early Medieval Wares and Hedingham Coarse Wares.

Ditch F1116 was largely parallel to the north in Area 2, though slightly closer to E/W. It was 0.93 m wide and only 0.18 m deep, with gently sloping sides descending to a gently pointed base. It was filled with a light brown silty clay with occasional flint pebbles only, and truncated Pit F1121.

Ditch F1006 was truncated by the later Ditch F1004. The former was 0.9 m wide and 0.55 m deep, with moderately steep sides and a rounded, concave base. It was filled with a mid greyish brown, compact silty clay, with occasional flint pebbles, chalk nodules and charcoal flecks. The later ditch (F1004) was up to 1.3 m wide and 0.23 m deep, with gently sloping sides and a concave base. It was filled with a mid greyish brown silty clay with occasional flint pebbles and small chalk nodules. Ceramic evidence from the early ditch included Early Medieval Wares and Hedingham Coarse Wares, suggestive of a 12th-century date, with the later ditch perhaps continuing into the 13th century.

Ditch F1125 was present in Area 2 only, its projected course taking it to the south of Area 1. It was on a slightly more WSW/ESE alignment than the others, and was 1.09 m wide and 0.51 m deep, with steep sides breaking sharply to a flattish base. Its upper fill comprised a loose, mid to dark orange/brown sandy clay with occasional flint pebbles and mineral staining. The basal fill was compact, light yellow-brown sandy clay with occasional flint pebbles. The ditch was truncated by a number of the later burials. Finds from the ditch included Early Medieval Wares and Hedingham Coarse Wares.

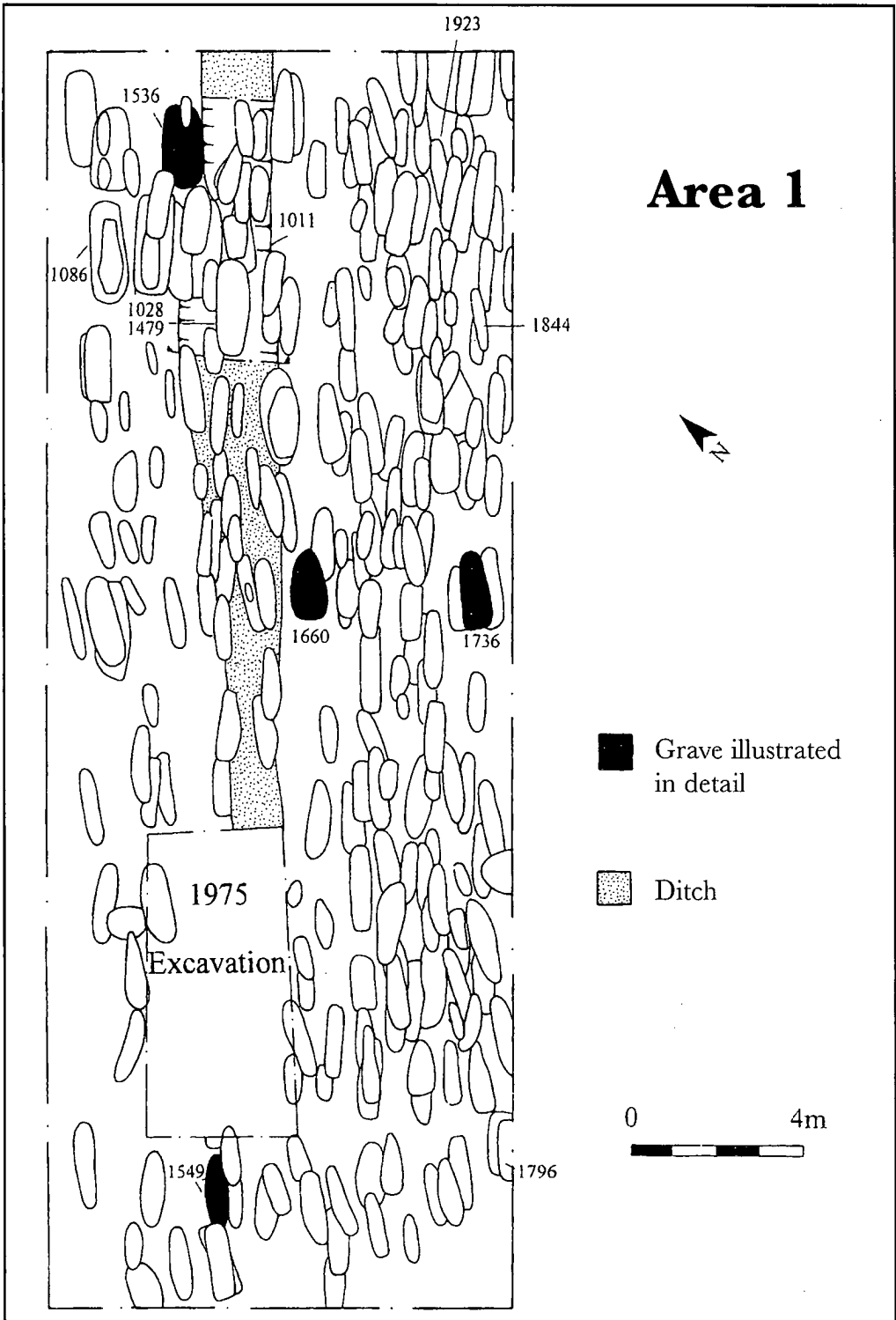


FIG. 5 – Archaeological features and burials in area 1

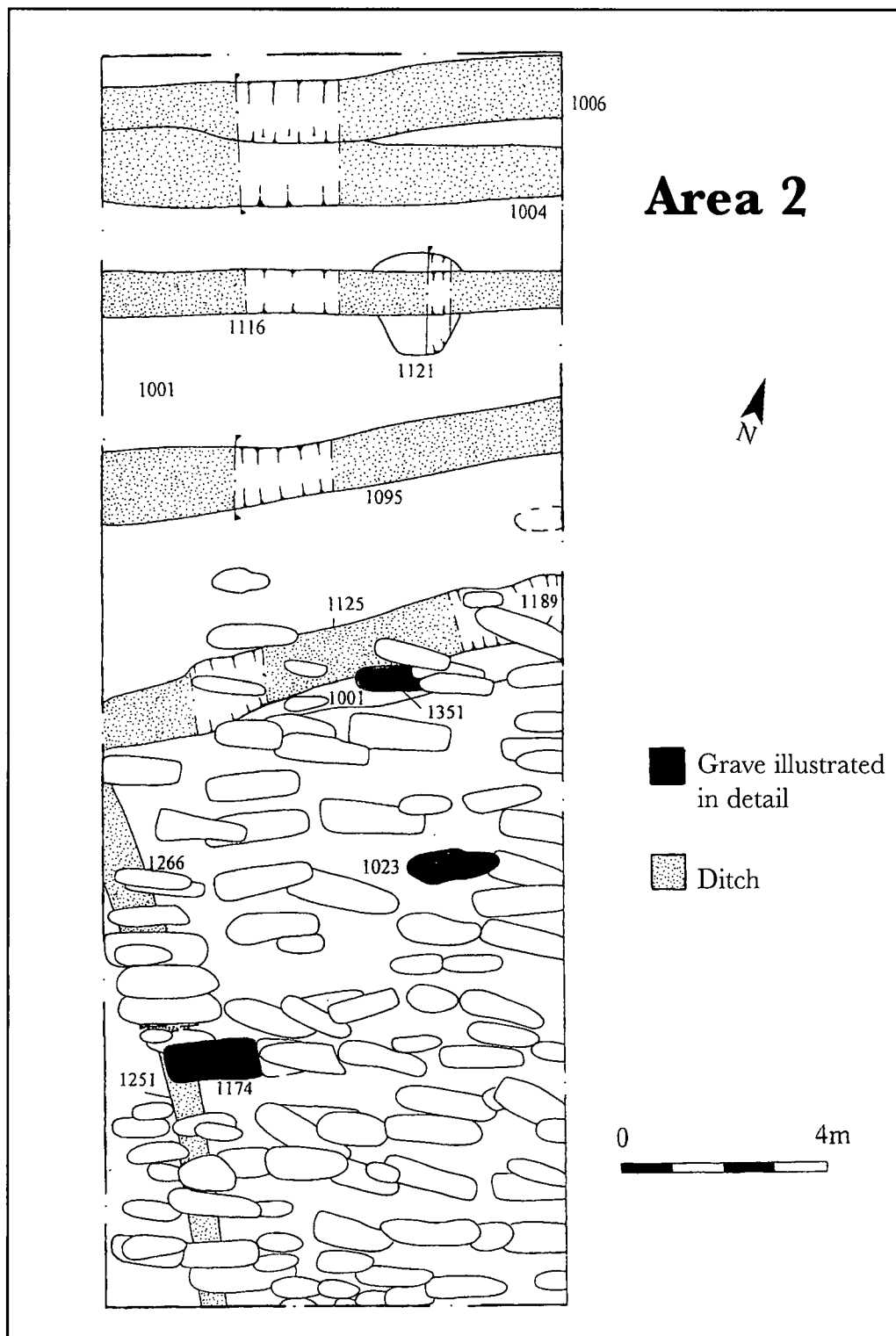


FIG. 6 – Archaeological features and burials in area 2

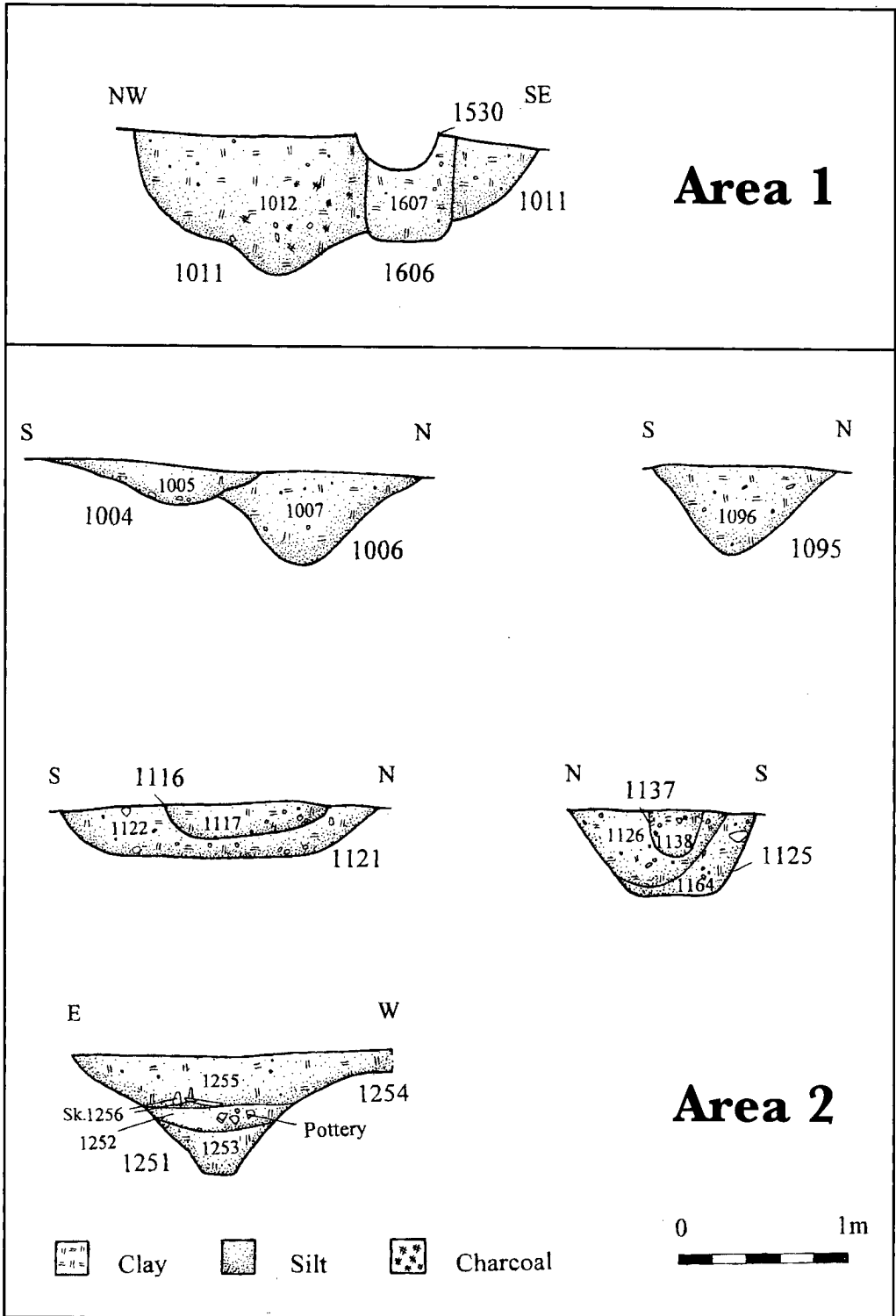


FIG. 7 – Archaeological ditch sections

Ditch F1251 was on a NNW/SSE alignment, present in the south-western corner of Area 2 only. It was heavily truncated by many of the burials, and was up to 0.84 m wide and 0.42 m deep, with 45 sides breaking sharply to a flattish base. Its upper fill was mid yellow-brown, compact silty clay with occasional flint pebbles, flecks of chalk and charcoal (L1252). The basal fill of the ditch was a similar lighter yellow-brown silty clay (L1253). It is almost certainly earlier than the other ditches, with the ceramic evidence (St. Neot's Wares and Early Medieval Wares only) suggesting that it was infilled in the 11th century.

BURIALS

The church was mentioned in Domesday, and burials on the site almost certainly predated this. Pottery from the grave fills and ditches spanned the 11th to early 14th centuries. Little post-14th-century ceramic evidence was recorded in this part of the churchyard, suggesting that fewer burials were taking place here, and this burial ground may have been superseded by others.

Some relatively poor preservation of human bone and heavy truncation of earlier burials by later burials meant that not all of the skeletons from the 355 individual graves could be aged and sexed. The specialist identified at least 241 adults (110 were sexed as male and 98 female), and at least 103 skeletons were those of children under 15 years old (Human Bone Report below).

Burials were all interred according to the Christian rite, aligned generally east-west with heads to the west, but exhibited three main phases of alignment. Almost all skeletons were supine, with arms by sides, hands under/across the pelvis or across chest. A single excavated burial had its knees drawn up vertically (Skeleton 1515 in Grave F1026), as if to fit in an existing grave. Coffin furniture was present in a number of graves (see below), but the majority of people were probably buried in shrouds. In addition, some of the deepest graves in Area 1 were believed to have been confined and to be of a later date. The skeletons in Graves F1028 and F1086 were probably associated as they were buried in very steep-sided 'coffin-shaped' graves where no evidence of the coffin survived except scant iron stains marking the former positions of grave furniture (Fig. 5). Both graves contained the remains of females aged over 45 years.

Several graves contained 'pillow stones', large flint cobbles placed to either side and/or around the head to stop it rolling to one side after decomposition. These are characteristic of the middle to late Saxon period (Rodwell, 1989), but the practice is believed to have continued into the early medieval period. Fifty-five percent of graves excavated at the late Saxon cemetery at Raunds (Northants) yielded pillow stones (Boddington 1987 and 1996).

Fifteen burials had 'pillow stones', including Graves F1023 (Fig. 9), F1174 (Fig. 9) and F1549 (Fig. 8). The majority of the pillow stone graves were of middle aged to elderly (45+ years) males and females, and the rest were all slightly younger adults. The grave of juvenile skeleton 1754 was lined with large flint cobbles on the northern side only, whilst the juvenile skeleton in Grave F1245 had a large stone block seemingly deliberately placed directly over the chest.

Two double burials were excavated (skeletons 1538 and 1558 in Grave F1536; and skeletons 1662 and 1663 in Grave F1660) (Fig. 8). The first were a male adult and an unsexed older juvenile (Human Bone Report below), buried with their adjoining hands clasped together. The second pair were a middle-aged female and juvenile, with adjoining arms laid on top of each other. A further double burial of two children of perhaps 4 and 6 years old was identified in Area 1 (skeletons 1853/1855). These were probably family groups.

Iron and copper alloy items were recovered from a few grave fills, either residual or directly associated with skeletons. The remains of four, definite, nailed coffins of high-status burials were found (Graves F1189, F1736 (Fig. 8), F1796 and F1923 (Fig. 10.6) – a middle-aged female, two middle-aged males, and a slightly younger adult male respectively). Fewer than four nails, possibly the remains of coffins though probably residual in the grave fills, were found in a further eight graves.

Evidence was found for higher-status burial in the form of rare evidence for clothing or personal

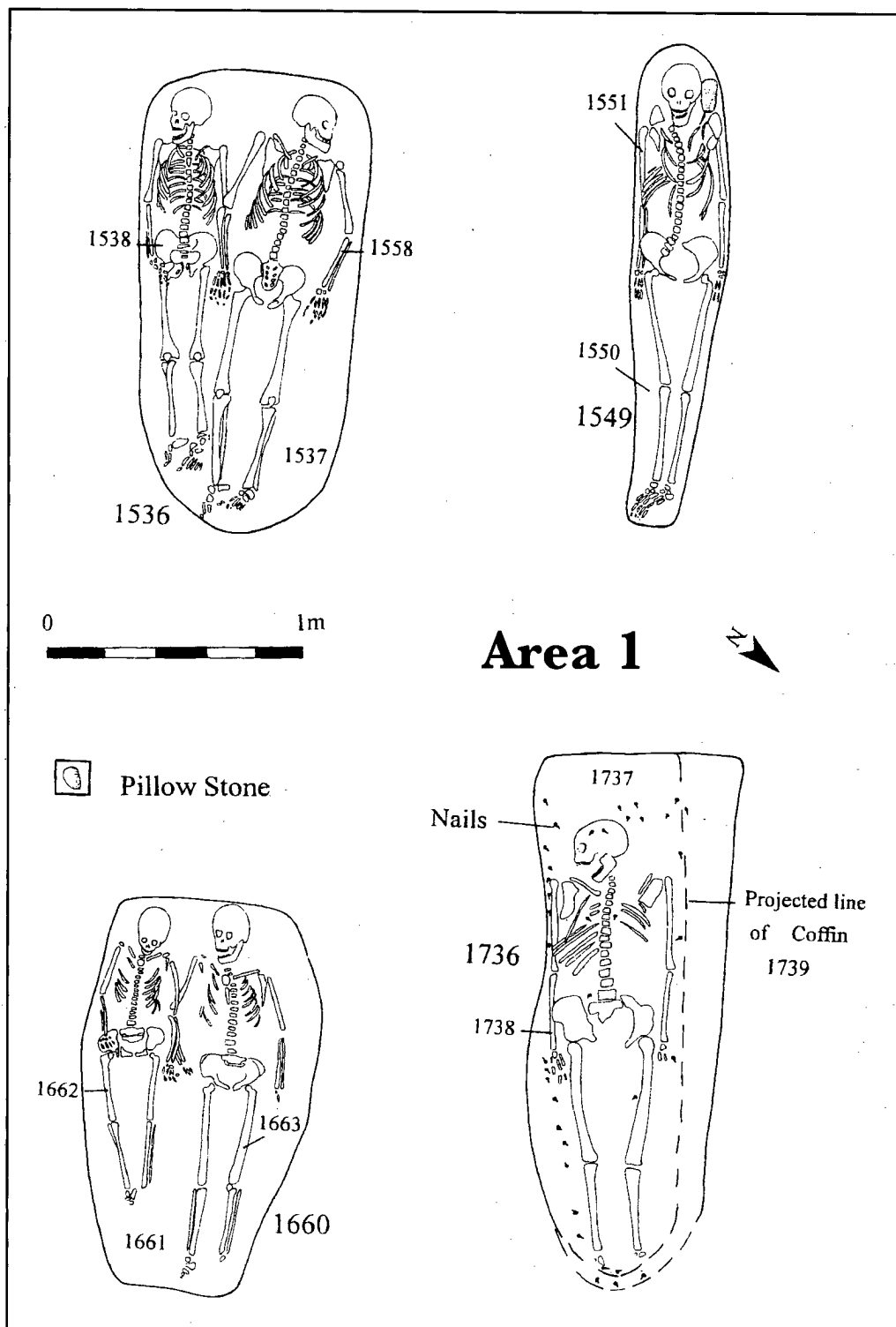


FIG. 8 – Graves F1536, F1549, F1660 and F1736

accessories. The most important of these was the grave of an adult male (F1351) in Area 2 (Fig. 9), where the remains of three or probably four small annular iron buckles (one with a repaired copper-alloy buckle pin) probably represented a component of an undergarment (Figs. 10.3–5, 11.1). This was worn during the 13th and 14th centuries, and has been found in association with burials of friars and monks, as members of religious orders were often buried clothed. Another burial, (skeleton 1268 in Grave F1266) contained a small, D-shaped iron buckle, possibly also from a belt (Fig. 10.2), and possibly also derived from the burial of a member of a religious order (the skeleton was that of a middle-aged female). A plain, oval-shaped ring of iron wire was found in association with skeleton 1025 in Grave F1023 (a middle-aged male) (sf2, Fig. 10.1). It was located close to the lower right arm. This may have been the mouth-ring of a leather or textile purse. Mineraally-preserved organic remains were found. A small oval, copper-alloy buckle was found with the remains of a thin leather strap (sf 81, Fig. 11.2), associated with skeleton 1844 (a female of 35–45 years), possibly also from a dress fitting/belt. A further two small annular iron ?buckles/dress fittings were found in Grave F1479 (not illustrated).

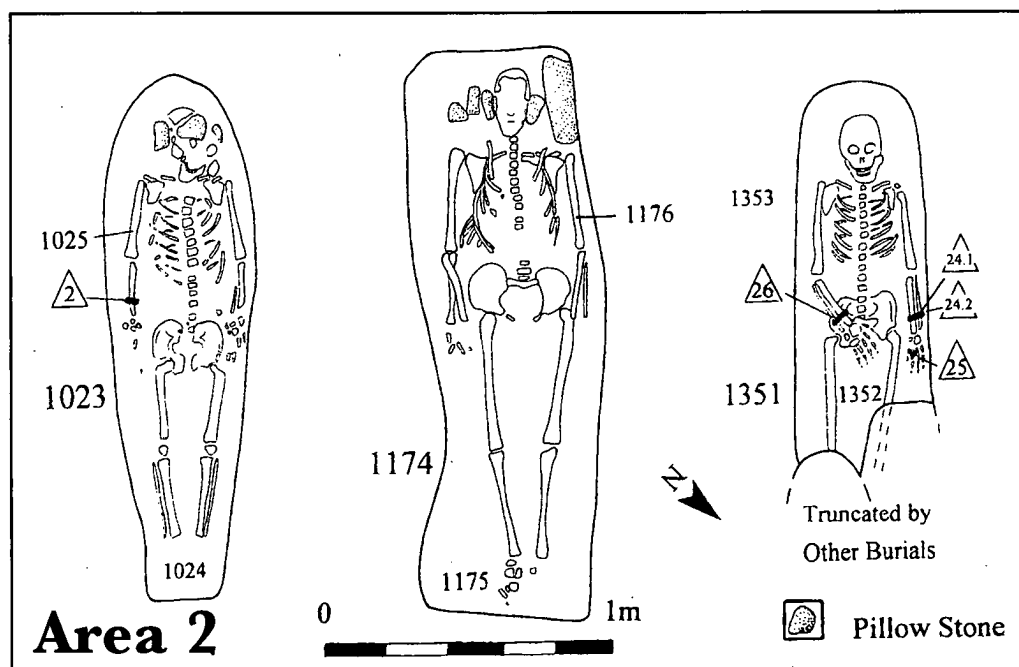


FIG. 9 – Graves F1023, F1174 and F1351

THE FINDS

Excavations at Crowland Road yielded a large quantity of human bone from defined individual graves, as well as quantities of disarticulated bone from the grave fills. In addition, a small pottery assemblage was recovered, along with ironwork and copper alloy items. Residual struck flint flakes and tools were also recovered. The following reports deal with the excavation finds. The site archive contains comprehensive catalogues of the finds assemblage.

STRUCK FLINT

by Tom McDonald

A total of 34 pieces of worked flint weighing 1011g were recovered from the site. These comprise 3 blades, 26 flakes, 1 snapped flake, 1 chunk, 2 cores and 1 core fragment. Twenty pieces show varying degrees of patination. Twelve pieces are retouched, and one retouched piece (hollow scraper) is lightly patinated. Six recognisable tools are present. These comprise a denticulated blade, a finely-thinned, snapped, leaf arrowhead, a hollow scraper, 2 serrated flakes and an exceptionally large scraper. The raw material is grey-dark grey flint and two pieces of honey brown and dark brown cherty flint. All of the pieces are residual, derived from the graveyard soil and grave fills.

IRON AND COPPER ALLOY OBJECTS

by Quita Mould

A total of 122 iron objects was recovered from the excavations at Crowland Road, Haverhill. Most are nails from medieval burials and, while some are likely to be residual in the grave fills, the remains of four nailed coffins from the burials of high status individuals were represented. Of particular interest are a possible bracelet and three types of buckle found associated with at least three bodies, which provide rare evidence of clothing from medieval burials and, again, are suggestive of high status individuals. The burials with dress or other personal accessories were not interred in wooden coffins of iron nailed construction.

Small Annular Buckles

The remains of a minimum of three, probably four small annular iron buckles (sf 24.1, 24.2, 25, Figs. 10.3–5) were associated with an adult male burial (context 1353, Grave F1351 (Fig.9)). Two had small iron buckle pins present (sf 24.1, 25, Figs. 10.3 and 12.5), another (sf 24.2, Fig. 10.4) had a buckle pin of copper alloy wire, possibly a repair. The buckle frames range in diameter from 15–18mm and had areas of minerally-preserved organic remains present, thought to be highly degraded textile (Tribe 1997). An additional copper alloy buckle pin (sf 26, Fig. 11.1) was also located in the vicinity of the left hand. All were recovered from the area of the pelvis (the left hand was recorded as being under the pelvis, the right hand as being on the middle of the sacrum). Their position at the hips suggests they were a component of an under garment, the 'brygrdyl', used to fasten the hose or the 'breche'. An example of a similar small annular buckle of pewter is attached to a leather strap identified by Mrs F. Russel-Smith so convincingly as a medieval 'brygydyl' (1956, 218–221 and pl XVI). These undergarments were worn during the 13th and 14th centuries. In Britain small annular buckles have been recovered from the burials of friars and monks (*ibid*, 218; burials at White Friars at Oxford, Austin Friars at Cambridge, Benedictine Abbey at Chertsey, London). This seems to be a reflection of the medieval practice of burying members of religious orders in their clothing while the laity were usually buried in a shroud. It is probable, therefore, that the occurrence of these small annular buckles in the grave of an adult male indicates it to be the burial of a member of a religious order.

The remains of a further two small annular iron buckles (sf 27, diameter 17mm, not illustrated) were found in a grave fill (context 1480, Grave F1479).

D-shaped Buckle

A small D-shaped iron buckle (sf 23, Fig. 10.2) with a non-ferrous metal plating was recovered (context 1268, Grave F1266), but any association with the body is unrecorded. The buckle has a maximum internal width of 20mm indicating its use with a narrow belt as classified by the remains of belts and associated buckles recovered from the Austin Friars, Leicester (Mellor and Pearce, 1981, 133 and 160). If the buckle occurred associated with the burial rather than simply in the grave fill, it may also suggest that the burial was a member of a religious order.

Oval Buckle

An oval copper alloy buckle (sf 81, skeleton 1844, Fig. 11.2) was also found, though the association with the skeleton was not recorded, other than it being located in the pelvic area. The buckle consisted of a loop and hasp of 4 mm diameter rod (38 x 35 mm overall dimensions). The vestigial remains of a leather strap c 20 mm wide were also present. It is also possible that, as above, the wearer belonged to a religious order.

Bracelet

A plain oval-shaped ring of round-sectioned iron wire (sf 2, Fig. 10.1) was found worn on the right arm of a burial (context 1025, Grave F1023 (Fig. 9)). A small amount of minerally-preserved organic remains were present. The position of recovery suggests it to be a simple bracelet but it could be the mouth-ring of a leather or textile purse which has disintegrated.

Other Objects

A small fragment possibly broken from a knife blade (sf 1, not illustrated) was found with a burial (context 1010, Grave F1008), although such a small fragment is likely to be residual in the fill. Similarly, a fragment of strip (sf 30, not illustrated) was found along with a nail in a burial (context 1497, Grave F1496) and two small fragments of round-sectioned stem occurred in a grave fill (context 1238, Grave F1237).

Timber Nails

Timber nails were recovered from 12 grave fills. All have flat heads of square or rectangular shape, and square or rectangular-sectioned shanks (eg sf 48 context 1739 (coffin of Grave F1736, sf 75 context 1797 (Grave F1796), sf 82 context 1925 (coffin of Grave F1923, Fig. 10.6)). Minerally-preserved wood was visible on many of the nails. In addition, a modern panel pin (sf 28) was recovered from a grave cut (context 1526, Grave F1525). The majority of the burials (8) contained only small quantities of nails (4 nails or less), which are likely to be residual in the fill.

One burial (context 1739, skeleton 1738, Grave F1736) had a coffin trace marked out by the position between 32 nails and 35 nails (Fig. 8). Complete nails range in length between 72–82mm (c.3–3³/₄ ins), heads between 14–22mm. Timber joints preserved in the minerally-preserved wood adhering to the nails indicated that three nails (sf 47, 48, 62) all found at the north-west corner of the coffin (right side of the head of the burial) passed through a timber between 15 and 20mm thick (c. 1¹/₂–3³/₄ ins). Another nail (sf 90) had remains of a joint from a 30mm thick timber (c. 1¹/₄ ins).

Another burial (context 1190/1191, Grave F1189) contained a minimum of 19 nails. Complete nails varied in length between 70–96mm (2³/₄–3³/₄ ins). The remains of a joint (context 1190) indicated that the nail passed through a timber 25mm (1 inch) thick. Three other possible joints were noted (sf 14, 16, 19 context 1191) suggesting timber thicknesses of 27mm (1 inch, sf 19), 45mm (1³/₄ in, sf 16) and 50mm (2 ins, sf 14).

Two burials (context 1797 (Grave F1796) and 1925 (Grave F1923)) contained a minimum of 11 nails each. The complete nails associated with a coffin trace in a burial (context 1925, Grave F1923) measured between 47–52mm (c.2 ins). The complete nails from the other burial (context 1797, Grave F1796) varied between 60–70mm with a possible joint (sf 75) indicating a timber thickness of 31mm (c. 1¹/₄ ins).

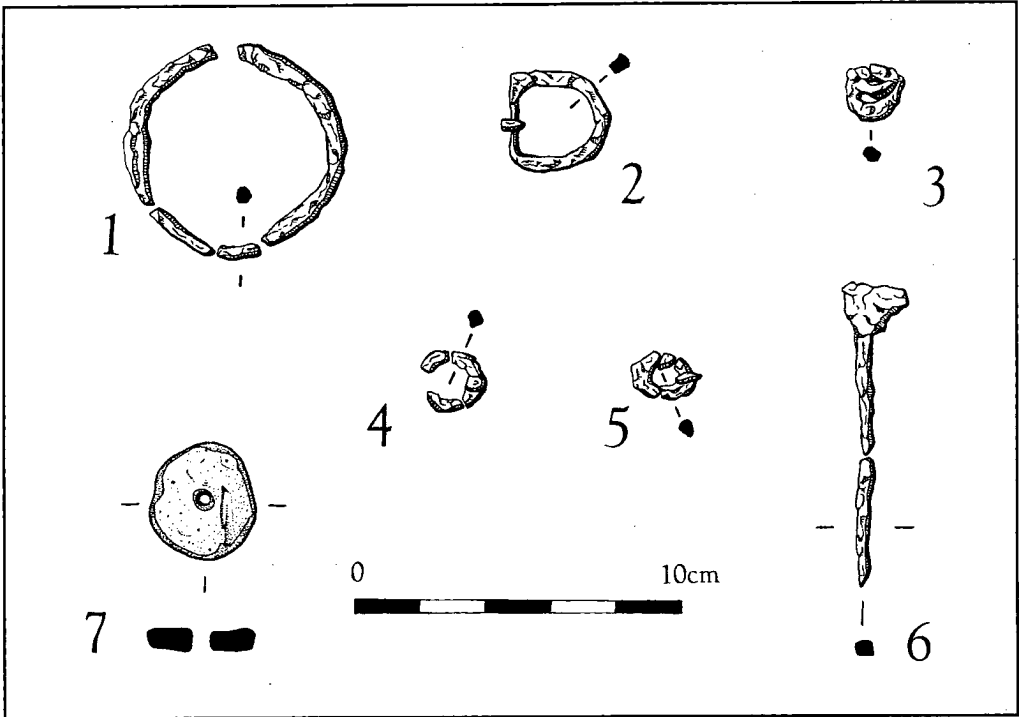


FIG. 10 - Iron objects: 1 Bracelet or mouth ring of a purse; 2-5 Buckles; 6 Coffin nail and 7 Spindlewhorl

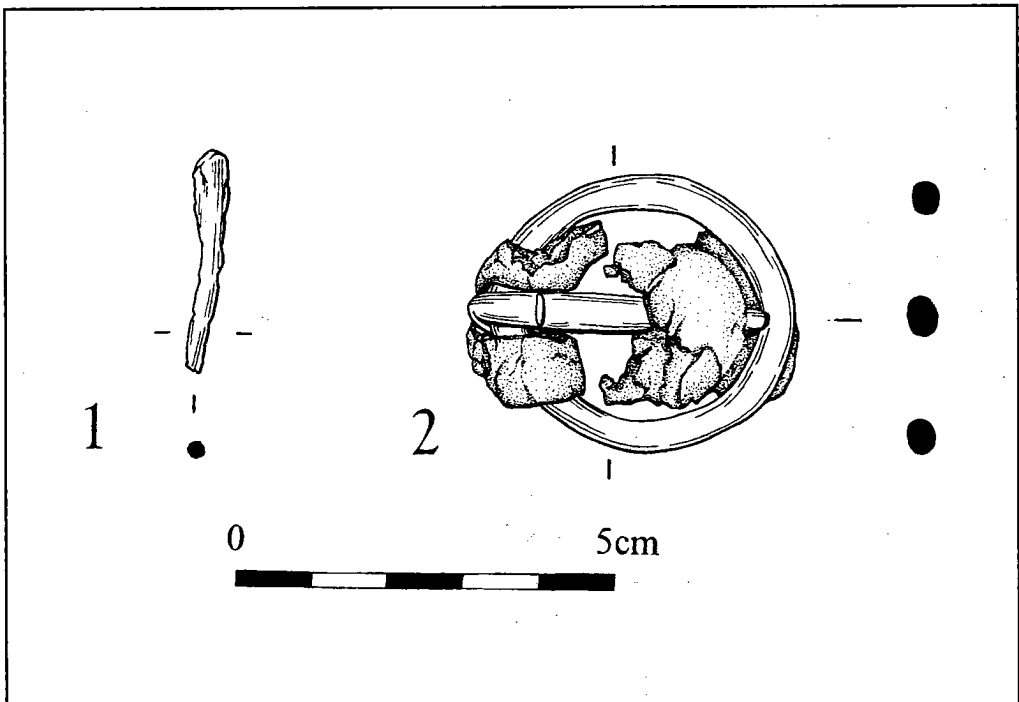


FIG. 11 - Copper alloy objects: 1 Buckle pin and 2 Buckle

At this date nailed coffins are likely to be constructed of sawn timbers usually, but not exclusively, of oak or elm (Jacqui Watson English Heritage Ancient Monuments Laboratory pers. comm.). Brief examination (hand lens x 6 magnification) of the mineral-preserved wood present on the nails suggested that timbers were not of oak (*Quercus* sp.). The varying timber thickness indicated by the jointing preserved in the mineral preserved wood remains on nails from one burial (1190/1191, Grave F1189) could reflect different thicknesses of individual coffin boards or possibly the use of split, rather than sawn, timbers.

Horseshoe Nails

A fiddlekey horseshoe nail was found in grave fill (context 1637, Grave F1636), another was found in ditch fill (context 1005, F1004); they are likely to be contemporary with the burials. A horseshoe nail with an expanded head was found in general recent overburden/levelling deposit (context 1002).

SPINDLEWHORL

by Nina Crummy

A well-worn spindlewhorl was recovered from the fill of Grave F1546 (Fig. 10.7). Made from Roman pottery, it is residual in its context, but the date of its manufacture is uncertain. Re-use of sherds as spindlewhorls in the Roman period is well attested (e.g. Crummy 1993, 67), but also occurs throughout the Anglo-Saxon period (e.g. Hamerow 1993, 64; Rogerson & Dallas 1984, 117).

Fig.10.7 sf 32 (1547). Grave fill. Abraded pottery spindlewhorl made from a wall sherd of a Roman vessel of uncertain fabric. The very worn oxidised surfaces are orange, with mica and haematite inclusions, over a thick grey core. The edge is irregular but very well worn, maximum diameter 33 mm, thickness varies from 5.5 to 7 mm. The perforation is straight-sided, diameter 5.5 mm.

THE POTTERY

by Sue Anderson

INTRODUCTION

A total of 256 sherds weighing 2.188 kg were collected during the excavation. Table 1 provides a summary of the quantification. A more detailed list is contained in the site archive.

Fabric Name	Code	Fabric No.No.		Wt/g	%
Unidentified Handmade	UNHM	0.00	1	4	
Iron Age Flint Tempered	IAFT	0.41	2	6	
Romano-British Greywares	RBGW	1.10	4	71	
Nene Valley Colour Coat	NVCC	1.81	1	41	
Early Saxon Handmade Wares	ESHW	2.00	1	9	
Total pre-Late Saxon			9	131	6.0
Thetford-type Ware	THET	2.50	4	24	
Stamford Ware	STAM	2.60	1	1	
St. Neot's Ware	STNE	2.70	32	318	
Total Group 2 (Lsax)			37	343	15.7

Early Medieval Ware	EMW	3.10	55	400	
Early Medieval Ware Gritty	EMWG	3.11	4	27	
Early Medieval Ware Chalky	EMWC	3.12	3	17	
Early Medieval Ware Transitional	EMWT	3.13	6	53	
Early Medieval Ware Shelly	EMWS	3.14	3	24	
Early Medieval Shell & Chalk	EMSC	3.18	75	693	
Early Medieval Sparse Shelly	EMWSS	3.19	5	32	
Total Group 3.1 (Emed)			151	1246	56.9
Hedingham Coarse Ware	HCW	3.43	40	319	
Hedingham Coarse Ware (Fine)	HCWF	3.431	7	55	
Total Group 3 (Med)			47	374	17.1
Hedingham Fine Ware	HFW	14.2	32	8	
Essex Sandy Orange Ware	ESOW	4.24	1	10	
Total Group 4 (Med glazed)			3	18	0.8
Metropolitan Slipware	METS	6.42	1	7	
Transfer Printed Earthenwares	TPE	8.00	2	7	
Late Post Medieval Earthenwares	LPME	8.01	4	24	
English Stonewares	ESW	8.20	2	38	
Total Post-medieval			9	76	3.5
Total			256	2188	

TABLE 1 – Summary of pottery quantification

The majority of pottery is early medieval coarseware, often occurring in association with small amounts of Late Saxon material. Later medieval coarsewares form only a small proportion of the total group. Small quantities of glazed wares include Stamford Ware, Hedingham Fine Ware and an unidentified Essex redware (ESOW). Redeposited pre-medieval fabrics were occasionally found, and include some prehistoric, Roman, and possible Early Saxon sherds, all of which are heavily abraded. Post-medieval material was not common.

METHODOLOGY

Quantification was carried out using both sherd count and weight. A full quantification by fabric, context and feature is contained in the site archive. As this is a small group, no attempt was made to record weights for separate body, base and rim sherds, or to quantify by form. Where possible, rim types and forms have been noted in the list. Essex medieval coarseware rim forms follow Drury (1993) and fabrics follow Walker (1995). St. Neot's Ware forms follow a system used by Suffolk County Council Archaeological Service (Anderson, unpub.) and forms for other pottery types are described. Recording uses a system of letters for fabric codes similar to that employed in London and Lincoln, with number codes for ease of sorting in database format. SCCAS pottery quantification forms were used, and the results were inputted onto dBase V.

QUANTIFICATION

This assemblage contains 39 different rim sherds, of which 26 are measurable (later post-medieval wares were not measured) and the estimated vessel equivalent was 2.27.

Prehistoric, Roman and Early Saxon pottery

Small quantities of Iron Age, Roman and Early Saxon pottery were found. The Iron Age material is typical of the region and is tempered with burnt flint. The Roman greywares are similar to material from Wherstead, Suffolk, and there is also one Nene Valley Colour Coated base in an orange fabric with brown slip. Two handmade wares are probably Early Saxon, although one is less certain and could be of Late Iron Age date. All sherds in this category are heavily abraded and clearly residual.

Late Saxon pottery

Late Saxon material forms 15.7% of the assemblage by weight and 14.4% by count. Four small pieces of Thetford-type ware were identified, and there is one small Stamford Ware sherd, but the Late Saxon group is dominated by St. Neot's Ware (86.5% of the group by count). Seven St. Neot's Ware rims were found, of which six are from cooking pots or jars with simple or hollowed everted rims. One large sherd is from a bowl with an inturned flanged rim.

Early Medieval Ware

The total proportion of early medieval wares from this site is 60.0% by count and 56.9% by weight. A number of fabrics were identified, the most common being a hard sandy handmade ware (EMW) and a very coarse chalky ware with other coarse inclusions such as shell, flint and quartz (EMSC). The latter is almost prehistoric in appearance, but the presence of some identifiable early medieval forms in this fabric, together with the hardness of the matrix, suggests that it is probably of 11th-century date. Types which have been identified in Essex include EMWS (Essex 12A) and EMWSS (Essex 12B/C) (both Drury 1993), EMWG (Essex 13^t, Walker 1995) and EMWT (Essex 13^t, Walker unpub.). The small amount of EMWC is similar to EMSC, but with fewer other inclusions.

Forms include jars and cooking pots with the simple everted rims typical of EMW, some triangular rims which appear to be from vessels similar to the Norfolk 'ginger jars', and at least one bowl. Several sherds show signs of smoothing on the surface and some bases have been knife-trimmed. A few sherds are decorated with combed wavy lines and one very coarse vessel had square stab marks on the shoulder area.

Medieval coarsewares

Coarsewares are very similar to material from the Heddingham kilns, and have all been identified as Heddingham-type (HCW) or a finer variant (HCWF). These form 18.4% of the total number and 17.1% of the total weight. Fabrics are generally sandy, although a few contain occasional small pieces of chalk. Colours ranged from pale buff to brick red with grey cores, and some sherds of both types were dark grey or black.

The majority of sherds are probably from cooking pots or jars and many are sooted on the exterior. Jar rim types include Essex types B2, B4, C1, H1 and H3, which have been dated from late 12th to 13th century to the late 13th to mid-14th century (Drury 1993). One simple bead rim may be from a coarseware jug and there is an unusual shallow bowl (full profile) with a T-shaped rim and knife-trimmed base. Decoration was found on very few sherds and consists of applied thumbled strips, incised wavy lines and combed wavy lines.

Medieval glazed wares

Glazed medieval wares forms 0.8% of the total weight and 1% of the total sherd count.

Two sherds are Heddingham Fine Ware. Pottery of this type is derived from kilns in and around Sible Heddingham in Essex. It is commonly found on Suffolk sites. The glaze on both is generally

green, and the sherds are in a fine micaceous fabric which had been reduced in one case. This sherd is decorated with applied white clay strips under a green glaze and is a typical product of the industry.

One sherd of an unprovenanced redware ?jug was found (ESOW). It is decorated with white slip lines under a clear glaze, which appeared brownish orange on the oxidised sherd. The fabric is too fine for Colchester Ware and is not like Ipswich glazed ware, but it is clearly from the same tradition as both these industries and probably derives from one of the north Essex kilns.

Later pottery

A few sherds of post-medieval and modern material were collected, including transfer printed earthenwares, plant pot rims, a stoneware bottle, and a rim from a Metropolitan slipware dish or bowl.

THE POTTERY BY FEATURE TYPE

Pottery was found in three types of feature on the site, ditches, graves and an overall layer. These are listed in Table 2, together with suggested spotdates.

Feature	No.	Wt/g	Diagnostic sherds	Spotdate
Layer 1002	29	210	ESW, PMRW, TPE	18th-19th c.+
Ditch 1004	6	35	HCW, ESOW	13th c.?
Ditch 1006	10	74	EMW, HCW	12th c.+
Ditch 1011	19	172	STNE, EMW, HCW	12th c.+
Ditch 1095	5	66	EMW, HCWF	12th c.+
Ditch 1125	9	77	EMW, HCW	12th c.+
Ditch 1251	40	343	STNE, EMW	11th c.
Total ditches	89	767		-
Total graves	136	1189		11th-13th c.?

TABLE 2 – Suggested spotdates for features

The majority of pottery from this site is unlikely to be post-13th century, and most is probably of 11th to 12th-century date.

SUMMARY AND DISCUSSION

The Late Saxon and Medieval pottery consists largely of local wares with a few regional imports such as St. Neot's and Stamford Wares in the earlier period. Hedingham, or a similar local production centre, seems to have been the major supplier of glazed wares and coarsewares to medieval Haverhill, as shown by the assemblages from this and other excavations in the town and surrounding parishes.

The range of forms was typical for an assemblage of this period, including jars, cooking pots, jugs and bowls. Many sherds show evidence for sooting, sometimes on the interior, and some had lime residues inside.

The pottery evidence from this site suggests that there was some pre-11th century activity in the area. The presence of Late Saxon pottery in association with Early Medieval Wares suggests that activity increased after this date and continued until the 13th or possibly early 14th centuries, with very little glazed ware occurring. Very little earlier or later material was collected. Although the

pottery is residual, very little is heavily abraded and it is likely that there is a broad contemporaneity with the graves.

THE HUMAN REMAINS

by Tony Waldron

Palaeopathology Study Group, Institute of Archaeology, University College London.

The human remains consisted of a substantial number of discrete inhumations and a considerable amount of disarticulated material which had been recovered from grave fill or from other parts of the site. The disarticulated bones are not discussed in this report, which deals solely with the discrete inhumations. The full report on articulated skeletal remains is contained in the site archive.

METHODOLOGY

Skeletons were sexed and aged according to standard anthropological methods (Workshop of European Anthropologists, 1980). Measurements of the long bones were taken to determine height using published regression equations (Trotter, 1970) and also to determine femoral and tibial indices. Where the skull is intact, this is also measured in order to determine the cranial index (Brothwell, 1981).

Having ascertained age and sex, the skeleton was examined for any signs of pathology and where found, classified according to most probable cause. Diagnosis of disease in palaeopathology differs from clinical practice (Waldron, 1994).

AGE AND SEX

The skeletons were in a reasonable state of preservation although many had suffered from post-mortem damage. In almost half the cases (*c.* 49%), more than three-quarters of the skeleton had survived. It was, therefore, possible to determine the sex and age of the majority of the adult skeletons. Of the 241 adults at the site, 110 were considered to be males and 98 females; 33 could not be assigned a sex. The majority of both sexes were aged over 45 years at the time of death and few adults died young (see table below and Fig. 12).

Age group (years)	Male	Female	Sex unknown
Infant			48
Juvenile			55
15 -	2	7	
25 -	5	9	
35 -	18	12	
45 +	55	55	
Unknown	30	15	

TABLE 3 – Age/sex analysis of skeletal material from discrete inhumations

The data in Fig. 12 conform reasonably well to the pattern of deaths in developing countries, that is, most of the deaths occur among the very young and the very old.

Child mortality was high (Fig. 12), the usual pattern among past populations. 103 skeletons were from children aged under 15 at death – approximately 30% of the total (Table 4). Only 4 were foetuses or still-born, which is less likely to be a reflection neonatal or perinatal mortality rates than the fact that these children may well have been buried elsewhere, or that their skeletons have either not survived or been recovered.

Age group (years)	Number of Deaths
< 1	4
1 - 4	43
5 - 9	32
10 - 14	15

TABLE 4 – Age of children at death

After the age of one, there is a tendency for the number of deaths to decrease with increasing age, as might be expected if the majority died from infectious diseases. There is no evidence on any juvenile skeletons to suggest the cause of death, nor were there any signs of any disease that might have contributed to death.

HEIGHT

Height was calculated for a total of 176 adults, 91 males and 85 females. The mean height for the males was 166.4 cm (SD 9.4 cm) and for the females, 158.9 cm (SD 6.4); this difference was highly significant ($p < 0.001$). The male heights were in the range 1.47 – 1.86 m and the female, 1.42 – 1.76 m (Figs. 13 & 14). Although female heights follow a normal distribution, the male heights may be bimodal. This distribution is probably related to how height is calculated from the maximum length of the long bones (Waldron, 1998).

SKELETAL INDICES

The cranial, femoral and tibial indices are found to vary between different populations and are sometimes considered to indicate differential distribution of activities, *inter alia*. The various indices were calculated, but no differences of any significance were noted.

CRANIAL AND POST-CRANIAL NON-METRIC TRAITS

Some cranial and post-cranial traits are thought to be under genetic control and attempts have sometimes been made to construct family relationships on the basis of their appearance in skeletal groups. The only cranial non-metric traits which appeared in this group of skeletons were the presence of metopism and of ossicles in the lambdoid suture. In the post-cranial skeleton, the only feature studied was the frequency with which the articular surface of the sustentaculum tali of the calcaneum was double.

Metopism

There were 79 skulls from the males and 74 from the females and in each sex, three had metopism (3.8% and 4.1%, respectively), proportions well within the expected range.

Ossicles at the lambda or in the lambdoid sutures

The presence of accessory bones at these sites may be under genetic control (El-Najjar & Dawson, 1977). The suggestion that they may be the result of trauma has been discounted (Pal & Routal, 1986). In children, they may be associated with abnormal development of the central nervous system (CNS) (Pryles & Khan, 1979). 13 males, nine females and six juveniles had wormian bones (16.5%, 12.2% and 8.5%, respectively). It is hard to think that so many of the population had CNS abnormalities and this marker may be a less useful indication of abnormality than has been postulated.

Articular surface of the sustentaculum tali

Most males had a double facet, though the facet was almost equally likely to be single or double in

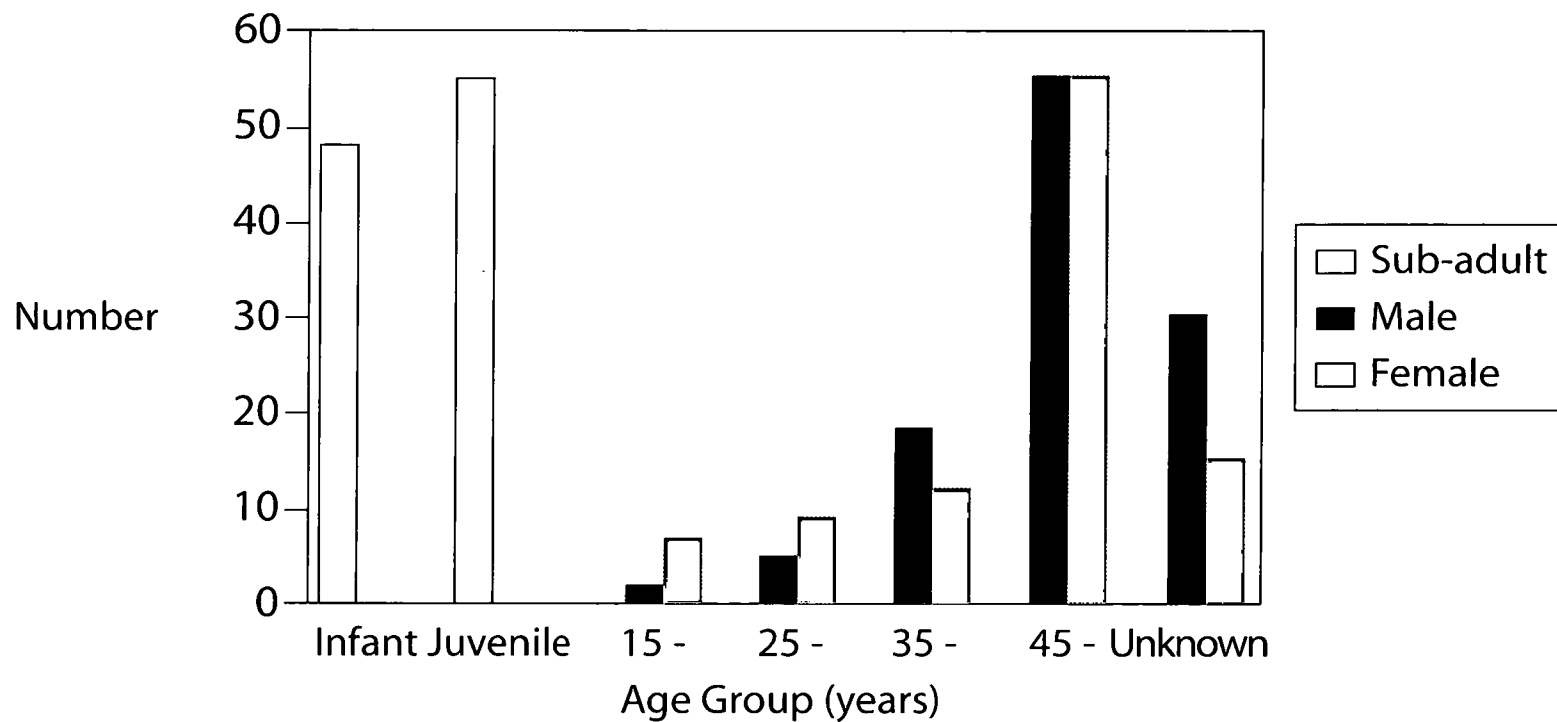


FIG. 12 – Human Bone Report.
Distribution of Skeletons by Age & Sex.
Infants: Less than 5 years; Juveniles: 5 to less than 15 years

females. 42 of the 66 surviving male calcanea had a double facet (66.3%). This was the case in only 27 of the 58 extant female calcanea (46.6%). However, this difference was not statistically significant ($p = 0.057$). In other populations, the prevalence of a double facet ranges from 53% (Forriol Campos & Gomez Pellico, 1989) to 65% (Padmanabhan, 1986), in agreement with this observation.

DEATH AND DISEASE

Osteoarthritis

94 skeletons showed signs of Osteoarthritis (OA), 50 males, 43 females and a single unsexed skeleton (Fig. 15). The acromio-clavicular joint and the facet joints of the spine were the most commonly affected. This distribution is typical of skeletal populations.

Osteoarthritis of the knee

Eight males and six females had OA of the knee. All six females had OA of the patello-femoral joint whereas this was the case in only four of the males. Of the remaining four male cases, three had disease affecting the medial compartment and one, the lateral compartment.

Generalised osteoarthritis

Five skeletons (four females and one male) displayed generalised osteoarthritis, with the knee, hand and at least one other joint affected (Table 8).

Sex	Joints affected in skeletons with generalised osteoarthritis						
	Knee	Hand	Spine	ACJ	SCJ	Hip	Shoulder
Female	*	*	*	*	*	*	
Female	*	*	*				*
Female	*	*	*		*		
Female	*	*	*	*			
Male	*	*	*	*			

ACJ = acromio-clavicular joint; SCJ = sterno-clavicular joint

TABLE 8 – Joints affected in skeletons with generalised osteoarthritis

Secondary osteoarthritis

Osteoarthritis appeared to have developed consequent upon a fracture in three male skeletons. In the first case there had been a fracture of the right radius with some shortening and OA had developed in the joint between the radius and the ulna at the wrist. In the second case, there was a fracture of lateral plateau of the left tibia with OA of the medial plateau while in the third, osteoarthritis had developed in the head of a femur following non-union of a fracture of the femoral neck.

Ankylosing spondylitis

Spinal fusion with inflammatory changes in the sacro-iliac joints and sometimes in the peripheral joints (Rogers & Waldron, 1995) was observed in one poorly preserved adult skeleton which was too fragmentary to be sexed. It presented fusion of the thoracic spine with fusion of some of the ribs. Neither the lumbar vertebrae nor the sacro-iliac joints were present. Although the appearances of the middle region of the spine suggested ankylosing spondylitis, it is not possible to be certain about the diagnosis in the absence of some essential parts of the skeleton.

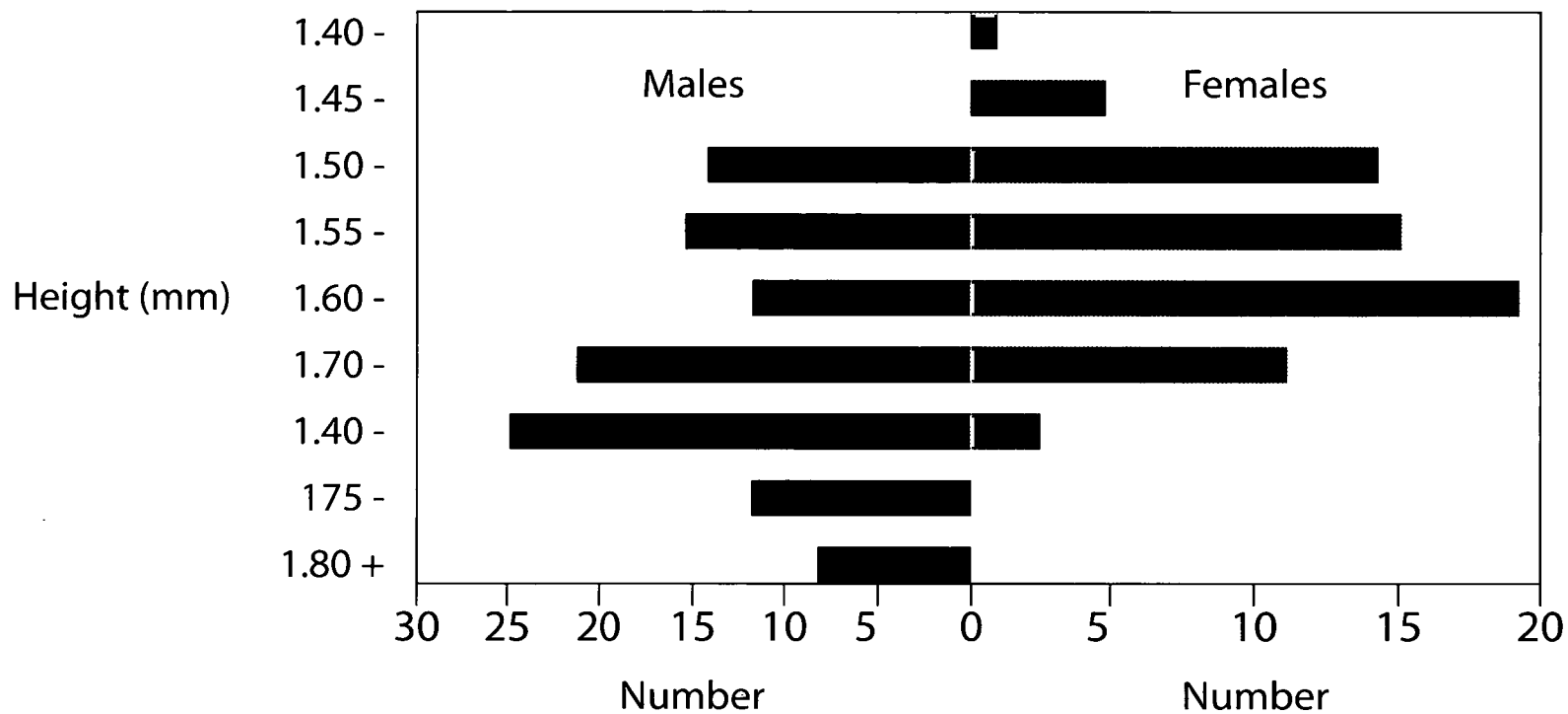


FIG. 13 – Human Bone Report.
Height of adults, estimated from extant long bone with lowest standard error

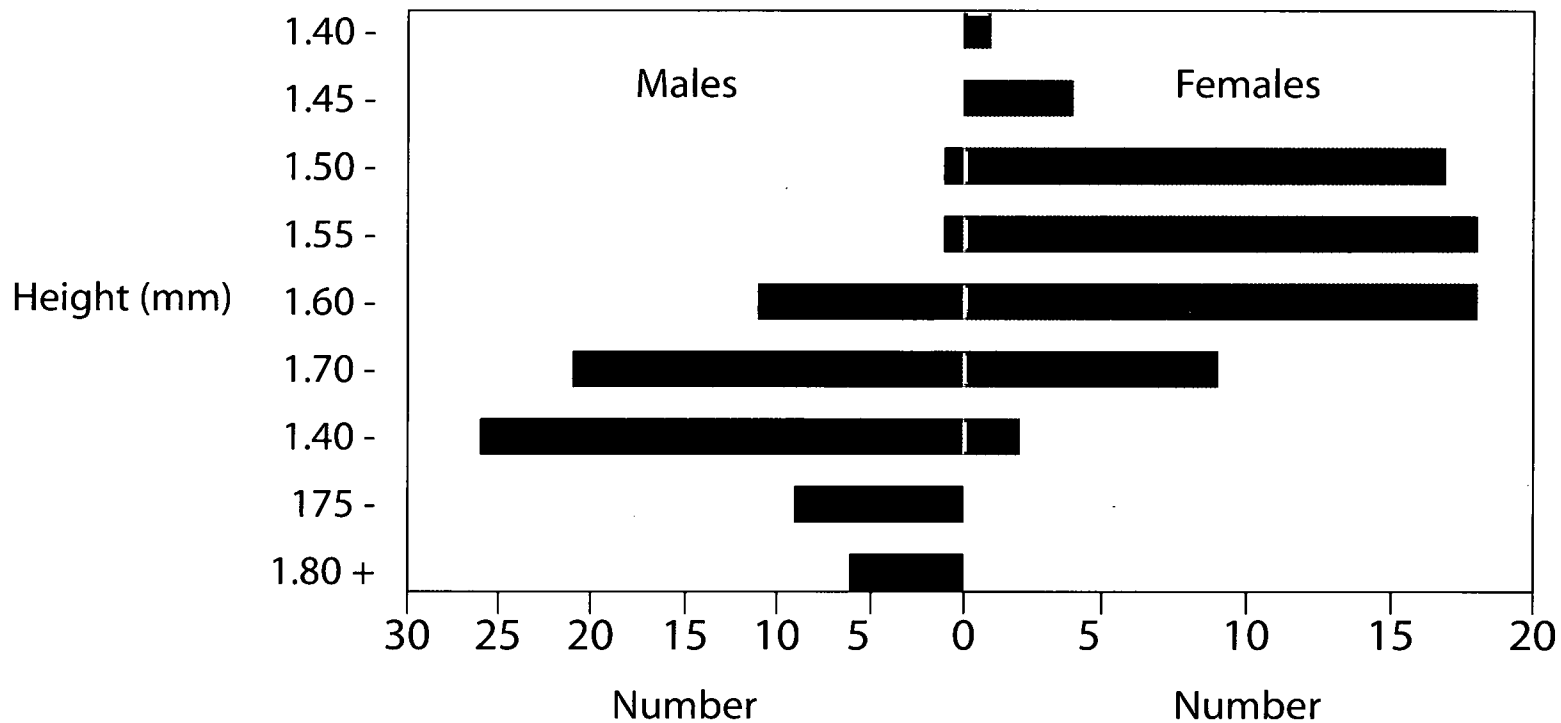


FIG. 14 – Human Bone Report.
Height of adults estimated only from Maximum femoral length

Diffuse idiopathic skeletal hyperostosis (DISH)

DISH is a common condition that becomes increasingly common with age. In modern populations there is an association between DISH and obesity and late onset diabetes. In archaeological contexts, there seems to be an unusually high prevalence of the condition in skeletons recovered from monastic sites, suggesting that the monastic way of life may have been related to its development (Waldron, 1985).

There were ten cases of DISH, eight males and two females, a frequency similar to that found in other archaeological sites. The condition does not generally cause symptoms except for some spinal stiffness. The individuals with DISH were probably not aware of the condition.

Inter-vertebral disc disease (IVD)

A substantial number of skeletons had evidence for degenerative disc disease, 30 males, 26 females and one skeleton of unknown sex. The distribution of the pathological changes was predominantly in the cervical region but with approximately a third of cases having changes in the lumbar region; in two males, there were also changes in the thoracic region. There were no cases in which new bone involved the inter-vertebral foramen, but some of the affected individuals may have experienced discomfort or pain in their arms or legs, perhaps accompanied by neurological symptoms in the hands or feet.

Spinal osteophytosis

112 skeletons had spinal osteophytosis, 69 males, 52 females and one of unknown sex. When those skeletons which also had DISH or IVD are excluded, a total of 31 males and 24 females had osteophytes not associated with any other condition; they probably did not cause any symptoms.

Schmorl's nodes

48 skeletons had Schmorl's nodes, 29 males and 19 females. There was nothing unusual about either their appearance or their location – most were in the lower thoracic or lumbar spine. It is unlikely that any of the individuals affected would have been aware of them.

Spondylolysis

There were 11 cases, seven male and four female (Table 9). In the majority of cases, the 5th lumbar vertebra was involved but there was also one case in which both L4 and L5 were affected and there was a single case in which the fracture was unilateral; these are both rather unusual (Waldron, 1991a & b).

Vertebra affected	Males (n)	Females (n)
L3	1	
L4	2*	1
L5	5*	3†

* Includes one case in which both L4 and L5 were affected

† Includes one case with unilateral disease

TABLE 9 – Spondylolysis

Trauma

There were 30 cases with traumatic lesions, 22 males, seven females and one of unknown sex. All had fractured bones and the ribs were most commonly involved (Fig. 16). In general, fractures were well healed. A few individuals had complications although none showed signs of subsequent infection. One male had a fractured radius which had healed with about 12 mm of shortening and osteoarthritis had developed in the joint between the radius and the ulna at the wrist as a

consequence. One of the fingers of this individual was fused at the proximal interphalangeal joint, probably also as the result of a fracture, perhaps incurred at the same time as the fracture of the arm. A second male had a fracture of the lateral plateau of his left knee, probably resulting from a fall. Although the fracture was well healed, he had developed OA in the medial compartment of the same knee, and this may well have followed the fracture. Another male had a fracture of the right ulna, which had not united. The right radius was not fractured and this may have been an example of a 'parry fracture' in which the individual is trying to fend off a blow to the head by raising his arm. The fact that the fracture had not united suggests that the arm was not splinted and that movement between the two broken fragments prevented union.

There were two other examples of non-union of fractures, both following a fracture of the femoral neck, one male and one female. In order for a fracture to unite properly, it must be kept immobile for several weeks and before surgical treatment was available. There was no means of immobilising a fracture of the neck of the femur and non-union was almost inevitable. In the case of the male, much new bone had formed around the femoral head and it, too, had secondary osteoarthritis.

One female had a Colles fracture, a fracture of the distal radius and ulna, often the result of a fall. In the present case the bones were well healed with only slight backward displacement which suggests that the fracture had been reduced and then immobilised by someone with a good working knowledge of treating fractures. A female skeleton with osteoporosis had a spinal fracture. The 12th thoracic and 1st lumbar vertebrae were fused consequent upon collapse of L1. It may have had no effects apart from causing some angulation of the spine.

There was only one case of a hand fracture, in a female with a fracture of the hook of the hamate. This is relatively uncommon and is usually due to a fall on a dorsiflexed wrist or the result of direct force. The fracture had not united, as is often the case (Carter *et al*, 1977).

One male had a fractured left scapula. Such fractures are rare, accounting for less than 1% of all fractures nowadays. They most commonly occur in association with other fractures affecting the ribs or clavicle (Resnick & Niwayama, 1988). The fracture was just inferior to the glenoid and was probably the consequence of a forceful dislocation of the shoulder. Dislocated shoulders are easily reduced but there would have been no treatment available for the fracture.

Rotator cuff disease

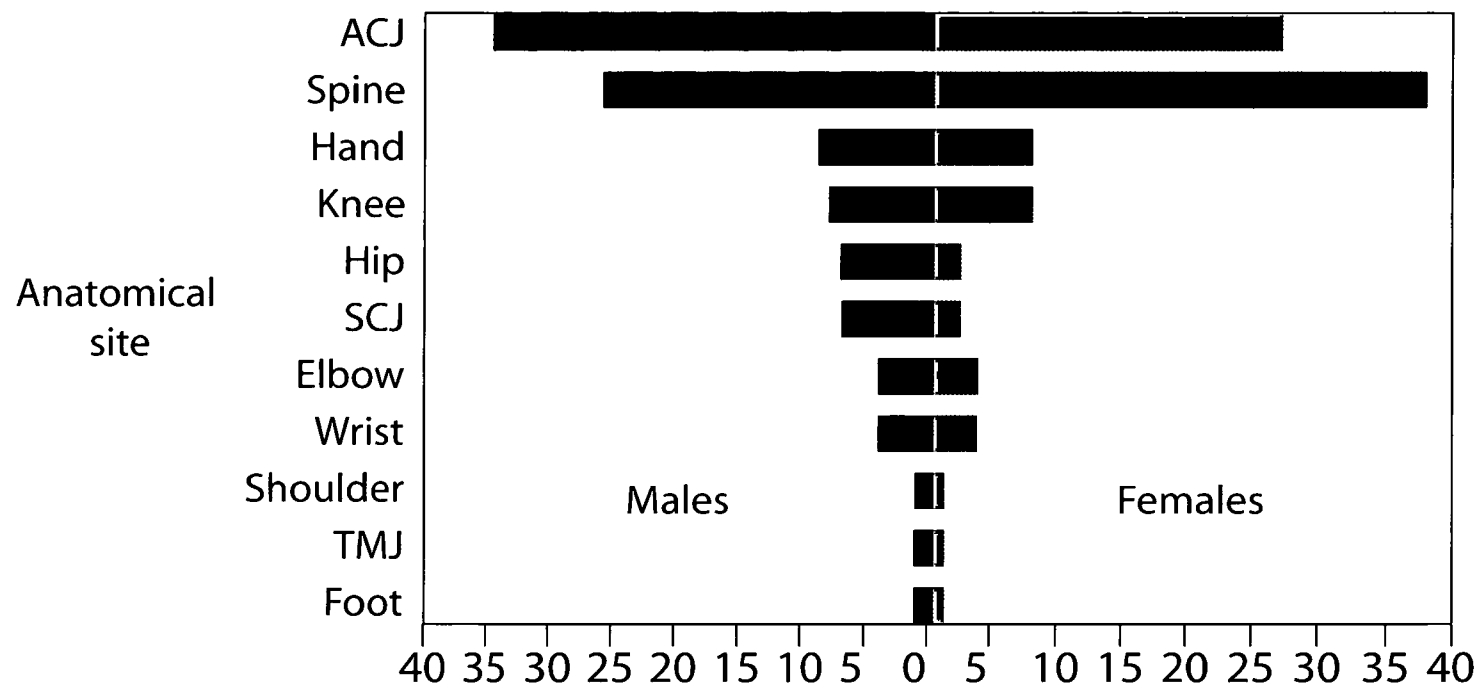
30 skeletons bore evidence of the condition, 15 males and 15 females. In the majority of cases the subscapularis insertion was affected, but all the insertions were affected in at least two cases. The bicipital groove was involved in one male and in four females, and in one of the latter, the top of the groove was obliterated, which indicates that the biceps tendon had ruptured. She would have had difficulty in bending the arm at the elbow. There were three cases (one male and two female) of impingement, which would probably have manifested itself with pain and limitation of movements at the shoulder.

Site	Male (n)	Female (n)
Subscapularis	15	11
Supraspinatus	3	3
Infraspinatus	4	6
Teres minor	2	3
Bicipital groove	1	4
Impingement	1	2

TABLE 10 – Sites affected by rotator cuff disease

Osteoporosis

Ten elderly females were found with osteoporotic bones, including the one already mentioned with a crush fracture of a lumbar vertebra, and two males.



ACJ = Acromio-clavicular joint; **SCL** = Sterno-clavicular joint; **TMJ** = Temporo-mandibular joint

FIG. 15 – Human Bone Report.
Anatomical sites affected by osteoarthritis as proportion of total affected

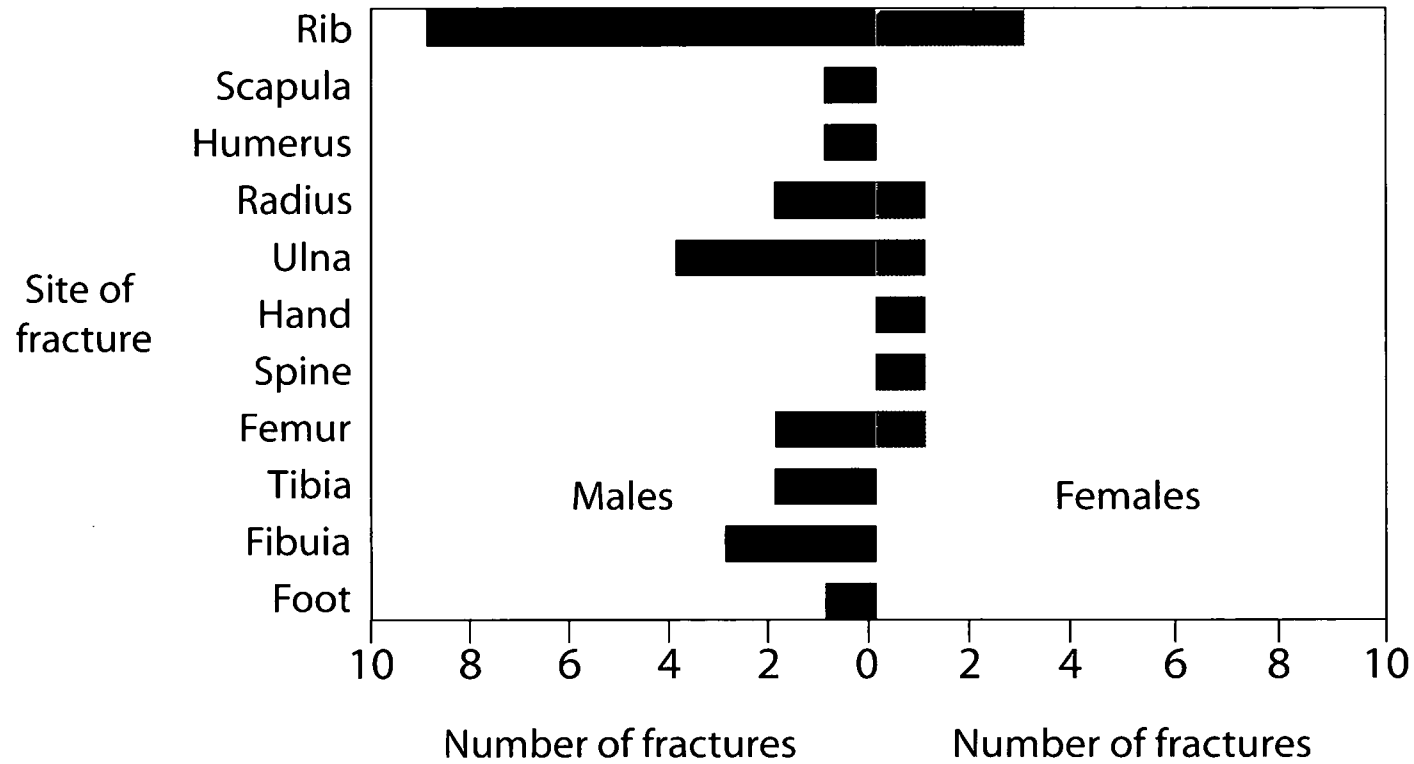


FIG. 16 – Human Bone Report.
Number of Fractures, by anatomical site

Infectious disease

There were three cases of osteomyelitis, two males and one of unknown sex. One of the males had signs of the disease in the right leg. There was a swelling in the distal third of the femur and there were two swellings in the tibia, one in the top quarter and one in the middle third and the tibia. The tibia also showed the presence of cloacae. In this individual, the disease was in a relatively early stage as it was in the other male who had an infection in the right femur. Both may have died from complications of the infection.

One female may have had tuberculosis, displaying an erosive lesion affecting the distal end of the right clavicle and the acromion with an absence of reactive bone formation.

Three skeletons displayed pathological changes that were probably the result of infection. The left knee joint of one male skeleton had new bone on the joint surfaces. The joint had been ankylosed during life, although it had been broken and damaged post mortem, making this difficult to determine. The most likely diagnosis is septic arthritis. Two females had hands probably affected by infection. One presented an expanded lesion in the proximal phalanx and the second had swellings in the third metacarpal and one of the intermediate phalanges. This kind of infection generally follows a penetrating wound.

Periostitis

Three skeletons displayed generalised periostitis, two male and one female. In all three there was new bone on the shafts of the long bones, the clavicles and the ribs. Infections, joint disease and tumours can be eliminated. The other causes of generalised periostitis are either so uncommon, modern, found only in children or have a distribution different from that seen here that all can be eliminated, leaving no explanation for these pathological changes.

One poorly preserved adult female skeleton had spiculated new bone on the right scapula and also on five ribs. This type of new bone suggests a secondary tumour and in the case of the female, the most likely primary site would be the breast.

Paget's disease

Two male skeletons seem to have had Paget's disease. In the first, which also had DISH, the jaw and ribs appeared to be swollen as did the left calcaneum. The second case had an abnormally thick skull. If the enlarging bone impinges on nerves it may produce a variety of neurological symptoms, including deafness if the skull is affected. It should be emphasised that bones with Paget's disease can appear in all respects normal and that the diagnosis depends upon confirmatory radiological evidence.

Cribra orbitalia

This may be due to iron deficiency anaemia, despite the lack of any confirmatory clinical evidence (Stuart-Macadam, 1992). There were 13 skeletons among the present group with evidence of cribra, five females and eight juveniles.

THE TEETH AND DENTAL DISEASE

In a population of 241 adults one would expect to find 7,712 (32×241) teeth but due to skeletal truncation and damage far fewer were accounted for: only 2,922 teeth were present. There were 704 empty sockets from which teeth had been lost post mortem. 636 teeth had been lost during life and 86 third molars had failed to erupt. A total of some 4,348 ($2,922 + 704 + 636 + 86$) teeth could be accounted for in some way or other, approximately 56% of that expected.

Teeth were often worn and dental hygiene was poor. There was evidence of dental caries, dental abscesses and gum disease. The caries rate was 5.0%. The abscess rate was 0.9%. Caries was not confined to the adult population: four juveniles had caries of the deciduous molars.

Many teeth had been lost during life. The rate of tooth loss was 14.7%, due to tooth disease, gum disease or trauma. In this population, the high tooth loss rate was probably due to gum disease (Table 11). The degree of alveolar recession and amount of calculus present were recorded on a four point scale, 1 = none; 2 = slight; 3 = moderate; and 4 = severe. Categories 3 and 4 have been truncated because of rather small numbers in some cells, but it can be seen that approximately 44% of the 147 cases in which the observations could be made had moderate to severe alveolar recession. In contrast, calculus was sparse or absent in most individuals and it can be seen from the table that there is little relationship between degree of calculus and gum disease.

Calculus	Alveolar recession			
Grade	1	2	3 or 4	Total
1	12.4	22.8	9.7	44.9
2	4.8	11.0	25.5	41.3
3 or 4	0	4.1	9.0	13.1
Total	11.2	37.9	44.2	100

TABLE 11– Proportion of skeleton population with different degrees of alveolar recession and calculus (n=147)

Of the 147 adult skeletons examined, 123 had some form of dental disease – approximately 84%. Most had lost teeth during life, but many also had dental caries and abscesses (Table 12).

Number with	Male	Female	Unknown
Caries	31	32	
Ante-mortem loss	54	52	
Abscess	13	15	1

TABLE 12 – Dental disease

COMMENT

This group of skeletons was typical of archaeological populations in showing substantial numbers of deaths at a young age. Apart from dental caries, none of the juvenile skeletons showed any signs of pathology, though we may speculate that acute infections were often fatal.

Osteoarthritis and dental disease were the most common types of pathology among the adults. The distribution of osteoarthritis and fractures was typical of that seen among other skeletal groups. There were relatively few cases of infectious disease but there was a single case which might have been tuberculosis affecting the shoulder. Although tuberculosis was probably common, likely originally contracted from cattle, cases are seldom seen. The skeleton is only affected in about half of cases. Nevertheless, one might expect to find evidence of the disease more frequently than one does, particularly as there was no treatment available to ameliorate the course of the disease. It may be that the expression of the disease has altered over time.

Paget's disease is suspected in two cases and it is now becoming clear that this is not a modern disease (Stirland, 1991). Similarly, the presence of a possible single case of malignant disease emphasises that this, too, is not a modern affliction. Indeed, it is likely that the prevalence of malignant disease in the past was not substantially different from the present day (Waldron, 1996).

DISCUSSION

Finds of residual prehistoric flintwork suggest that the higher ground on the sides of this small valley was occupied during the Neolithic period and perhaps earlier. Sparse residual Roman finds also suggest activity presence nearby, particularly given the presence of residual Roman material at Hazel Stub to the west.

Excavations revealed part of the churchyard of the former church of St Mary. The church building was not encountered and the location of the church is not known. It was not recorded by Boreham in the 19th century, but probably lay west or south west of the site. Over 350 individual burials were excavated, providing a valuable insight into the lives of the medieval population of Haverhill. However, the excavation only revealed a small portion of what must have been a very large, important early semi-urban churchyard extending to the north west, west, south east and south of the excavated areas.

An early eastern boundary to the cemetery was identified in Area 2, though subsequently superseded by later medieval burials and probably infilled in the 11th century as the cemetery increased in size. Two of the southernmost northern boundary ditches were also infilled and crossed by later burials, as the cemetery encroached on new land to the north, probably after the middle of the 12th century. Ceramic evidence suggests that most of this part of the cemetery was filled during the population boom prior to the Black Death and climatic deterioration of the mid-14th century.

The burials probably date up to the redundancy and demolition of the church in the mid-16th century, though little post-13th/early 14th century artefactual evidence was present. Most pottery dated to the 11th-12th century. Some burials almost certainly predated the Norman Conquest, though it is impossible to demonstrate reliably how much earlier. Indeed, the redundancy of the early eastern boundary to the churchyard by the 11th century suggests that there must have been a well-established cemetery on the site before this, though, again, of unknown size. Relatively sparse Late Saxon finds were recovered, though burial styles such as pillow stones were well-represented. It is likely that many of the burials in this part of the churchyard dated from the 12th to early 14th century. Grave finds and coffin furniture were sparse, though it was possible to identify at least four higher status coffined burials. Items associated with clothing were recorded with at least three skeletons, who may have been members of a religious order (Mould, above). No grave markers or churchyard structures/monuments were identified.

At least three variations on the common east/west (Christian) grave orientations were recorded. However, in the absence of any evidence of the church building itself within the excavation area, one can only speculate if these variations in orientation derive from alignment to the axis of successive phases of the church structure. The burial alignments respect the slight changes in alignment of the successive graveyard boundary ditches, with a shift from SW/NE to a more WSW/ENE alignment over time. Social divisions are difficult to identify from the excavated evidence, and the coffined individuals, and possible members of religious orders were not located in clearly defined areas (Figs. 5 and 6). It is hard to tell whether the burials were of modest individuals - it is likely that wealthier patrons would have been buried within, or close to, the church and thus not within the area of the present excavations.

The excavation adds to the growing body of information regarding the structure of early medieval populations, and shows that these cemeteries often had roots in the later Saxon period. Recent excavations by HAT at Cherry Hinton (Cambs) also revealed a late Saxon and medieval cemetery, here associated with an early timber church, which was heavily used before it was superseded by a nearby church in the 12th/13th century. The cemetery revealed similar elements to Haverhill, including a small percentage of 'pillow stone' burials, re-cut churchyard boundary ditches and a small quantity of probable buckles and a probable iron bracelet associated with the skeletons. Elements that were dissimilar to Haverhill included some 'shaped' graves, the presence of some grave markers and a possible contraction or division into two areas. The fact that the Haverhill excavation has only examined a small part of what was clearly a substantial cemetery (probably containing several

thousand individuals) makes further parallels regarding the layout difficult, particularly with the lack of any evidence regarding the associated church and southern, eastern and western boundaries of the churchyard.

The human remains from Haverhill show characteristics present in modern and past populations representing an important semi-urban medieval assemblage. The population treated injuries and a significant number of individuals survived to later middle age and beyond. The majority of adults were aged over 45 years at the time of death and few were died young if they survived early childhood. As expected, infant and juvenile mortality was high. The average heights of the population were unremarkable.

Diseases which affected the population of medieval Haverhill were not unusual; 94 skeletons were identified as suffering from osteoarthritis. Other bone diseases were present, including 57 cases of degenerative disc disease. Accidents and results of violence left their mark – thirty cases of bone fractures were noted, the majority being in men, though in general they were all well-healed. Diseases such as osteoporosis were not uncommon – ten elderly females were found with osteoporosis, as were two males. Thirty skeletons had evidence of rotator cuff disease. Infectious disease, though difficult to identify, was noted in a number of cases. One female skeleton possibly had a secondary cancerous tumour on the chest. Two males were likely affected by Paget's disease, and ankylosing spondylitis, inter-vertebral disc disease, spinal osteophytosis, Schmorl's nodes, spondylolysis and DISH were also identified. Teeth were often worn down and the state of dental hygiene was poor, with widespread evidence of dental caries, dental abscesses and gum disease.

The demolition of the church in the 16th century led to the lingering memory of its former presence, with the site still known as 'Button Church Yard' and the site of the church noted on maps. The name 'Burton End' still survives in this slightly peripheral part of the town of Haverhill, a reflection of the 'abovetown' church of St Mary that once stood here. This form of reference is known elsewhere in the area - at West Wickham (Cambs), for instance, to the north west of Haverhill, a separate part of the settlement known as Burton End was also referred to as 'Bovetownestreet' in the 14th century (Taylor, 1998). At Withersfield, to the north of Haverhill, Burton Green had a similar layout, distinct from the main settlement at Town Green. Indeed, many villages in this area had separate and distinct centres throughout the Middle Ages, and it would appear that the larger settlement of Haverhill was no exception.

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