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CHURCH OF THE HOLY CROSS STATION ROAD, FELSTED ESSEX

ARCHAEOLOGICAL MONITORING & EXCAVATION

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OASIS SUMMARY SHEET

Church of the Holy Cross, Station Road, Felsted, Essex.
Archaeological Monitoring and Excavation

Project description (250 words)

In November 2011 Archaeological Solutions Ltd carried out a programme of archaeological monitoring and excavation at the Church of the Holy Cross, Station Road, Felsted, Essex (NGR TL 6765 2039). The archaeological monitoring was required in association with the removal of all the floors within the church and their replacement with new surfaces incorporating under floor heating.

A trial trench evaluation undertaken in October 2010 to the north of the church revealed the base of the 14th century north aisle wall and ten grave cuts dating to the post-medieval or modern period. These deposits were preserved in situ.

The monitoring of the church interior encountered seven post-medieval or modern tombs or graves. Four ?medieval pits were recorded and three of them cut a mortar floor layer located at the western end of the nave. Possible early 12th century wall foundations of the original church were also revealed. The majority of the graves were brick- lined and capped with a brick arch. One, F2032, a young infant burial was interred without a coffin and cut the early wall foundations. The pits preserved evidence for intense in situ burning and contained charcoal, lead, nails and metal fragments suggesting that they may have been used for smelting during the construction of the windows possibly during the 14th century. The flint and mortar wall foundations represent the remains of a rectangular structure which followed the outline of the nave and may represent the early 12th century church. The majority of features were preserved in situ.

Project dates (fieldwork)	9 th Novembe	r – 30 th November 2011	
Previous work (Y/N/?)	N	Future work (Y/N/?)	N
P. number	4100	Site code	FLHC10
Type of project	Archaeologic	al Monitoring and Exca	vation
Site status	Grade I Liste	d	
Current land use	Church and o	churchyard	
Planned development	Replacement	t floors	
Main features (+dates)	Brick tombs,	wall foundation, and pit	ts
Significant finds (+dates)	Lead fragme	nts from pits	
Project location			
County/ District/ Parish	Essex	Uttlesford	Felsted
HER/ SMR for area	Essex HER		
Post code (if known)	-		
Area of site	-		
NGR	TL 6765 203	9	
Height AOD (max/ min)	73m AOD		
Project creators			
Brief issued by	Essex Count	y Council Historic Enviro	nt Management Team, onment Branch)
Project supervisor/s (PO)	Chris Leonar	d	
Funded by		s (Builders) Ltd	
Full title			Road, Felsted, Essex.
	Archaeologic	al Monitoring and Exca	vation
Authors	Smith, L. Led	nard, C.	
Report no.	3985		
Date (of report)	December 20	011 (Revised February 2	2012)

CHURCH OF THE HOLY CROSS STATION ROAD, FELSTED ESSEX

ARCHAEOLOGICAL MONITORING & EXCAVATION

SUMMARY

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The monitoring of the church interior encountered seven tombs or graves. Four ?medieval pits were recorded and three of them cut a mortar floor layer located at the western end of the nave. Possible early 12th century wall foundations of the original church were also revealed. The majority of the graves were brick- lined and capped with a brick arch. One, F2032, a young infant burial was interred without a coffin and cut the early wall foundations. The pits preserved evidence for intense in situ burning and contained charcoal, lead, nails and metal fragments suggesting that they may have been used for smelting during the construction of the windows possibly during the 14th century. The flint and mortar wall foundations represent the remains of a rectangular structure which followed the outline of the nave and may represent the early 12th century church. The majority of features were preserved in situ.

1 INTRODUCTION

- 1.1 In November 2011 Archaeological Solutions Ltd (AS) carried out a programme of archaeological monitoring at the Church of the Holy Cross, Felsted, Essex (NGR TL 6765 2039; Figs. 1-2). The archaeological monitoring was undertaken in compliance with a requirement of Diocesan approval for the removal of all floors within the church and their replacement with new floors incorporating under floor heating.
- 1.2 The archaeological monitoring was conducted in response to a brief issued by Essex County Council Historic Environment Management Team (Richard Havis, dated October 2010) and a written scheme of investigation prepared by AS (dated 22nd October 2010) and approved by ECC HEM. The monitoring complied with the Institute of Field Archaeologists' (IFA) *Code of conduct, Standard and Guidance for Archaeological Watching Briefs* (revised 2008).

The Church of the Holy Cross, Felsted, Essex

1.3 The monitoring aimed to identify evidence of any earlier phases of the church structure, graves or crypts etc. the results will be discussed in the context of the regional research frameworks.

Planning policy context

1.4 PPS5 states that those parts of the historic environment that have significance because of their historic, archaeological, architectural or artistic interest are heritage assets. The Planning Policy Statement 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. It aims to conserve England's heritage assets in a manner appropriate to their significance. It states that opportunities to capture evidence from the historic environment and to contribute to our knowledge and understanding of our past, and to make this publicly available, should be taken, particularly where a heritage asset is to be lost.

2 DESCRIPTION OF THE SITE (Fig. 1-2)

2.1 Felsted is situated approximately 14km north of Chelmsford and 5km south-east of Great Dunmow in Essex. It is also 2.25 km south of the A120 between Great Dunmow and Braintree which follows the course of the former Roman Road of Stane Street. The Church of the Holy Cross is close to the centre of the village. Immediately to the south of the church precinct are houses fronting Station Road. To the north and east of the church is the main area of the church yard, and beyond is a small area of parkland comprising trees, grass and pathways. To the west of the church is a small area of the graveyard with a car park and buildings beyond.

3 TOPOGRAPHY, GEOLOGY AND SOILS

3.1 The Church of the Holy Cross is situated at approximately 70m AOD on a hill overlooking the river Chelmer some 750m to the west. The local soil is 'typical calcareous pelosol' of the Hanslope Series which are permeable clayey soils with no prominently mottled (gleyed) subsurface horizon at or above 40cm depth. Subsurfaces contain a calcareous horizon and no clay enriched soil. The underlying geology comprises Palaeogene clays, silt and sand deposited between 23 and 65 million years ago.

4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

4.1 The Church of the Holy Cross (EHER 37028) is Grade I listed and built of rubble and flint, with stone dressings and brick and tile in places (DP 1&2). Some of the latter is re-used Roman material indicating a building of that date

in the vicinity. The south chapel of the church is built of clunch ashlar. The building dates to the early 12th century with the west tower and north-west angle of the nave surviving, whilst the south aisle and part of the arcade are late 12th century. The majority of the church's architecture including the chancel, north aisle, north vestry and south porch date to the 14th and 15th centuries. The church was patronized by Lord Richard Rich who became Chancellor of England during the Reformation. He is buried in the church and there is an altar tomb monument with his effigy. The church interior also contains the remains of a 14th century altar tomb and 15th centuries effigies. A group of four late 17th century tomb stones near the north aisle belong to the Bigg family (EHER 37029).

4.2 In October 2010 a trial trench evaluation was undertaken by AS to inform a proposed planning and DAC application for a proposed extension to the immediate north of the church. The evaluation revealed ten grave cuts, aligned east-west, and post-medieval or modern. The base of Wall M1002 of the church northern aisle (early 14th century) was revealed. It was built directly on to the natural deposits (L1004) at a depth of only 0.40m (Thompson & Barlow 2010).

5 METHODOLOGY

- 5.1 The project comprised the removal of the existing modern flooring (DP 3) within the church and the reduction of the ground level by the building contractor to incorporate a layer of insulation, under floor heating system, and new floor surface. The modern floor consisted of floor boards overlying closely-set wooden joists resting on brick dwarf walls. A mini-digger with rubber tracks and a ditching bucket was used to remove the old flooring and reduce the ground level, under close archaeological supervision.
- 5.2 The font, located in the south-west corner of the north aisle, was retained *in situ* and underpinned with brickwork and concrete. All excavation within this area was undertaken by hand.
- 5.3 Undifferentiated overburden was mechanically excavated; thereafter all further investigation was undertaken by hand. Exposed surfaces were cleaned as appropriate and examined for archaeological features and finds. Archaeological features and deposits were recorded using *pro forma* recording sheets, drawn to scale and photographed as necessary.

6 RESULTS Fig.3

Summary

6.1 All the archaeological features were sealed by an accumulation of material (L2006) which had built up immediately below the floor boards. L2006 contained a residual fragment of a Roman box flue tile (CBM Report below). It also contained fragments of glazed floor tiles of late medieval /

post-medieval date (CBM Report below). Brick tombs or graves, pits and a mortar floor were encountered as well as wall foundations beneath the north and south arcades and at the western end of the nave. The features are described below:

North aisle

Brick-lined Grave M2012 (2.96m x 0.70m) is located at the western end of the north aisle immediately adjacent to the north wall of the church and with M2013 located to the south (DP 4). It is constructed of unfrogged red bricks (9" x 4 1/8" x 2½") laid in stretcher bond and mortar bonded. This feature was unexcavated and remains *in situ*. Three walls (M2023, M2024 and M2025) of loosely-stacked bricks link M2012 and M2013. Against the north wall the grave has been truncated to accommodate a modern brick pew support. Two fills are contained between M2012 and M2013 and M2023, M2024 and M2025. L2014 is a dark orange brown, sandy silt with frequent small rounded flints. Both deposits remain *in situ*.

Brick-lined Grave M2013 (2.36m x 0.88m) is located at the western end of the north aisle to the south of M2012. It is constructed of unfrogged red bricks (9" x 4 $_{1/8}$ " x $_{2/2}$ ") laid in stretcher bond and mortar bonded. This feature is unexcavated and remains *in situ*.

Nave

Brick-lined Grave M2001 (>1.64m x 0.62m x >0.76m) is located at the south-eastern corner of the nave. It is rectangular in plan and constructed of unfrogged red brick (9" x 4 $_{1/8}$ " x $_{2/2}$ ") laid in stretcher bond and mortar bonded (DP 5). The grave is capped by a brick arch (M2000) of unfrogged mortar-bonded red bricks which has been damaged allowing modern debris to accumulate within the grave and cause damage to the coffin within. The coffin is wooden with a secondary lead lining and a thinner wooden interior containing some charnel bone. The inhumation was below the depth affected by the development and therefore remains *in situ*. The backfill of M2001, L2026, is a loose dark greyish brown sandy silt with frequent small rounded flints and contained a large quantity of human remains. Brick samples from M2001 are of 18^{th} – early 19^{th} date (CBM Report below).

Mortar Floor L2007 (>2.72m x 2.18m x 0.05m) is located in the western part of the nave and consists of a mid brownish grey hard-packed surface (DP 6). It is cut by Pits F2008, F2010 and F2016.

Pit F2008 (0.60m x 0.60m x 0.09m) was circular in plan with moderately steep sides and a flat, irregular base (DP 7). It had two fills. The upper fill, L2009, was a black loose charcoal matrix with frequent iron nails (166g) and lead fragments (161g) throughout. It contained a ?medieval pottery sherd (93g). The basal fill, L2019, was a mid orange red compact sand which lined the pit.

Pit F2010 (0.50m x 0.51m x 0.20m) was oval in plan with moderately sloping sides and a flat base. It had two fills. The upper fill, L2011, was a dark greyish black loose charcoal matrix with frequent charcoal fragments and flecks and occasional mortar fragments and rounded pebbles. It contained a ?medieval pottery sherd (3g) and a lead fragment (12g). The basal fill, L2020, was a dark reddish brown, compact, sandy clay with frequent small rounded stones which lined the pit.

Pit F2016 (0.60m x 0.60m x 0.31m) was circular in plan with steep sides and a flat base. It contains two fills. L2017 was a light yellowish orange, compact, sand which lined the pit. The inner fill, L2018, was a light yellow sand. A large fragment of lead (2045g) was recovered.

Brick-lined grave M2021 (>1.40m x >0.40m) is sub-rectangular plan and has been heavily truncated by modern services and under-floor air vents. The extreme south-western corner of the grave survives. It contains a coffin for an infant burial with degraded textile inside. It is filled with L2022, a mid greyish brown, silty sand with frequent small flints. An adult tibia was found immediately adjacent to the coffin; the remains of a second burial.

Wall Foundation M2027 (14m x 0.76-1.30m) is located beneath the columns supporting the northern arcade, and aligned east/west. It comprises small, medium and large flint nodules with occasional tile fragment roughly bonded with mortar (DP 8, 13 & 14). M2027 is associated with Wall Foundations M2028, M2030 and M2031.

Wall Foundation M2028 ($6.28m \times 0.39 - 1.60m$) is located beneath the arch leading to the tower at the western end of the nave and is orientated north/south (DP 9). It comprises small, medium and large flint nodules with occasional tile fragment inclusions roughly bonded with mortar. M2028 is associated with wall foundations M2027, M2030 and M2031. The wall is cut by F2034 and has been truncated by modern services.

Wall Foundation M2030 (>1.80m x >0.40m) is located beneath the rood screen between the nave and the chancel extending on a north-south orientation (DP 10). It is comprised of small, medium and large flint nodules with occasional tile fragment inclusions roughly bonded with mortar. M2028 is associated with wall foundations M2027, M2028 and M2031.

Wall Foundation M2031 (15.60m x 1.20m) is located beneath the columns supporting the southern arcade aligned east-west. It is comprised of small, medium and large flint nodules with occasional tile fragment inclusions roughly bonded with mortar (DP 15). M2028 is associated with wall foundations M2027, M2028 and M2031. It has been cut by F2032.

Grave F2032 (1.14m x 0.50m x 0.23) is located at the eastern end of the nave cuts M2031 (DP 11). It is ovoid in shape with steep sides and a flat base. F2032 contains Infant Skeleton SK1 and has been backfilled with L2033, a mid orange brown sandy silt with frequent small rounded flints. SK1 was a very young infant in poor condition, supine and extended, orientated east-west

with the head located at the western end. It was cleaned and recorded and was left *in situ* and backfilled. No coffin or furniture were present.

Pit F2034 (1.00m x 0.70m) is located at the western end on the nave and remains unexcavated. It is ovoid in plan and contains two fills. L2035 is a mid greyish brown, sandy silt with occasional charcoal flecks and rounded pebbles. It contained a medieval pottery sherd (37g) and lead fragments (454g). The vessel form of the pottery sherd is similar to that of a skillet or shallow vessel with a pouring lip which suggests the possibility of an industrial function associated with metal working (Pottery Report below). L2036 is a mid red, dark greyish black sandy silt with frequent charcoal flecks and rounded pebbles. This feature was not excavated and is preserved *in situ*.

South aisle

Brick-lined Grave M2002 (2.20m x 1.05m x >0.46m) is located within the south aisle and is irregular in shape (DP 12). It is constructed of unfrogged red bricks (9" x 4 $_{1/8}$ " x $_{21/2}$ ") laid in stretcher bond and mortar bonded. This grave is not capped and a modern brick support has collapsed into the grave. It contains two fills. L2003 is a mid yellowish brown silty sand with moderate small chalk pieces and frequent small rounded flints. L2004 is a mid brownish yellow, compact, sandy clay with frequent small chalk pieces and occasional small rounded flints and may relate to the later modern brick support. The inhumation is located below the level of development and therefore remains *in situ*.

Brick-lined Grave M2029 (1.90m x 0.54m) is located within the south aisle to the north of M2002 and is rectangular in shape. It is constructed of unfrogged red bricks (9" x 4 $_{1/8}$ " x $_{21/2}$ ") laid in stretcher bond and mortar bonded. It remains *in situ* and unexcavated.

7 CONFIDENCE RATING

7.1 It is not felt that any factors inhibited the recognition of archaeological features and finds during the archaeological investigation.

8 DEPOSIT MODEL

- 8.1 The existing modern floor, consisting of floor boards resting on a series of closely-set joists set on brick dwarf walls, was fully removed revealing a layer of accumulated material (L2006) consisting of a light yellowish grey silty sand with moderate small chalk pieces and frequent small and medium subangular flints. The deposit sealed all the archaeological features.
- 8.2 After the removal of L2006 tombs and features located in the north and south aisles and at the eastern end of the nave were visible and cut into Made Ground layer L2005. The latter comprised a dark yellowish brown silty sand with frequent small rounded flints. At the western end of the nave the partial

remains of a mortar floor surface, F2007, overlay L2037, a compact dark reddish brown sandy silt. These deposits were preserved *in situ* below the level of development. No natural deposits were encountered during the monitoring.

9 DISCUSSION

- 9.1 The removal of modern floor structures from the interior of Holy Cross church revealed seven post-medieval or modern tombs or graves, four ?medieval pits, three of which cut a mortar floor, and flint wall foundations which represent a rectangular structure beneath the arcades. Due to the nature of the development the impact on archaeological features and deposits was minimal and the majority were preserved *in situ*. A residual fragment of a Roman box flue tile and glazed floor tiles of late medieval / post-medieval date were also recovered (from L2006).
- 9.2 Wall foundations (M2027, M2028, M2030 and M2031) encountered during this investigation form a rectangular structure extending from the tower at the western end of the nave and beneath the northern and southern arcades. It appears that the 12th and 14th century columns supporting the arcades were constructed on earlier footings suggesting that the structure represents the early 12th century outline of the church before the later expansion.
- 9.3 Enclosed within the confines of the wall foundations at the western end of the nave a compact mortar floor surface (F2007) partially survives. It is cut by small pits (F2008, F2010 and F2016) which contained evidence of intense *in situ* burning and quantities of lead, nails and other metal fragments indicating they may have been used for smelting possibly for the construction of the windows during the 14th century expansion. The pits contained sparse, but consistent, dating evidence suggesting a medieval date. The pottery from F2034 is derived from a vessel form similar to that of a skillet or shallow vessel with a pouring lip which suggests the possibility of an industrial function associated with metal working.
- 9.4 The graves revealed throughout the church were housed within brick-lined tombs often capped with brick arches though some had been damaged by modern intervention. Grave F2032 contained a very young infant buried without a coffin, and it cut the earlier foundations (M2031). No identification was evident during the investigation however in many cases the inhumations were buried deep within the tombs and were left undisturbed. It may be possible to identify some of the graves by ornate plaques mounted on the walls of the church and covered at the time of the works for their own protection.
- 9.5 The monitoring and investigation have provided important new evidence for the origins and development of the Church of the Holy Cross. Early-12th-century fabric was previously known to survive in the tower and the north-western part of the nave. The buried wall footings identified beneath the

arcade columns are probably contemporary with this surviving 'original' fabric and indicate the ground-plan of (at least a substantial part of) the Norman-period church. Whether an earlier timber structure, perhaps dating from the middle or late Saxon period, existed on the site remains unknown; evidence associated with it may have been entirely destroyed by subsequent phases of church redevelopment and expansion. However, there is a possibility of features relating to it still surviving under the mortar floor and underlying deposits which were revealed within the footprint of the early-12th-century church.

9.6 Research priorities associated with the Church in the eastern region mainly focus on monastic sites/ minsters and the development of local or parish churches during the Anglo-Saxon period (Medlycott 2011, 55 and 59). The evidence relating to the early church at Felsted discovered by the present investigation is therefore primarily of local significance, but will no doubt be of considerable interest to parishioners and other local residents, as well as informing any future construction work and archaeological mitigation at the site.

10 DEPOSITION OF THE ARCHIVE

Archive records, with an inventory, will be deposited with any donated finds from the site at Saffron Walden Museum. The archive will be quantified, ordered, indexed, cross-referenced and checked for internal consistency. In addition to the overall site summary, it will be necessary to produce a summary of the artefactual and ecofactual data.

ACKNOWLEDGEMENTS

Archaeological Solutions Limited would like to thank Lodge & Sons (Builders) Limited for funding the works on behalf of the Felsted PCC and Mr Alexander Hobohm of Freeland Rees Roberts Architects for commissioning the monitoring. AS would also like to thank Lodge & Sons for their assistance on site.

AS is pleased to acknowledge the advice and input of Mr Richard Havis of ECC HEM.

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APPENDIX 1 CONCORDANCE OF FINDS

FLHC10, P1400, Church of the Holy Cross, Felsted, Essex, Phase 2 Concordance of finds by feature

	Other								Shell - 26g	Glass (9) 38g	Clay Pipe - 6g	Burnt Stone - 67g	Fe. Objects - 461g	Fe. Frags - 166g	Pb. Frags - 161g	Pb. Frag - 12g	Pb 2045g		Pb 454g
A.Bone	(g)								7										
	CBM (g)	2879		2911		2993			3133									880	
	Pottery						(1) 35g		(5) 139g					(1) 93g		(1) 3g			(1) 37
	Spot Date						11 th -13 th century	Late 18 th -early 20 th	century					Medieval?		Medieval?			11 th - 14 th century
	Segment Trench Description	Roof of Grave 1	Brick Lining of Grave	1	Brick Lining of Grave	2	Layer		Layer					Pit		Pit	Pit	Wall Footing	Pit
	Trench																		
	Segment																		
	Context													2009		2011	2018		2035
	Feature	2000		2001		2002	2005		2006					2008		2010	2016	2031	2034

APPENDIX 2 SPECIALIST REPORTS

The Pottery

by Peter Thompson

Layer L2005 contained a mottled grey and brown cooking pot with a slightly thickened and beaded rim in good condition. The fabric comprises abundant fine to medium quartz sand with occasional larger quartz and mineral inclusions, and sparse coarse platy shell and occasional voids from burnt grass. The fabric and form is in keeping with Essex early medieval sandy shelly wares (F12C) which date between the 11th and early 13th centuries and are commonest in the 12th (Cotter 2000, 36-37).

Layer L2006 yielded three sherds of Transfer Printed Ware (F48D*), and a rim sherd in post-medieval red earthenware (F40*) indicating a 19th-early 20th century date.

A large red-brown base fragment of crudely made sand tempered pottery came from Pit F2008 (L2009). Its date is uncertain but it is probably medieval and may be from an industrial vessel such as a cupel, purpose-made for metal refining. Cupels are generally described as thick-walled and of crude appearance (MPRG 1998, 9.7), and this interpretation is supported by associated fragments of iron and lead within the pit.

Pit F2010 (L2011) contained a flaked fragment with oxidized surface and dark grey core. The soft fabric is easily scratched with a fingernail and comprises mixed burnt vegetal matter such as grass or straw, quartz sand, including very coarse mineral, and rare white shell. The fabric is most akin to Cotter's Fabric 1c Middle Saxon vegetable and sand tempered ware (Cotter 2000, 23-24) however, the pit also contained lead fragments and the pottery may also be from a crudely fired industrial vessel of medieval date.

Pit F2034 (L2035) contained an inturned bowl rim with mottled orange-brown surfaces and a grey, fairly fine sandy core. The fabric is probably an early medieval (F13*) or succeeding medieval grey ware (F20*) type. The fabric is more in keeping with Essex early medieval sandy wares dating between the 11th and early 13th centuries, although a later date cannot be ruled out. The vessel form is similar to that of a skillet or shallow vessel with a pouring lip (Cotter 2000, 39, 41 & 49), which again suggests the possibility of an industrial function associated with metal working.

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Feature	Context	Type	Quantity	Date	Comment
	2005	Layer	1x35g F12C*	11 th -13 th	F12C*: Cooking
			sandy shelly	century	pot rim and
			ware		shoulder
	2006	Layer	1x31g F40*	Late 18 th -	F40*: 20cm diam
			post-medieval	early 20 th	bowl or jar rim
			red	century	with external
			earthenware		splash glaze
			3x 20g F48D*		F48D*: Transfer
			post-medieval		Printed Ware,
			white		probably from
			earthenware		two plates
2008	2009	Pit	1x91g F20*?	Medieval?	Possible base to
			sandy		an industrial
			coarseware		vessel
2020	2011	Pit	1x3g vegetal	Medieval?	
			and coarse		
			sand temper	th th	
2034	2035	Pit	1x37g	11 th - 14 th	F13*/F20*:
			F13*/F20*		inturned shallow
			medieval		bowl rim
			coarseware		

The Ceramic Building Materials

Andrew Peachey

Archaeological investigations recovered three complete bricks (8783g) sampled from the brick structures enclosing graves, and a further eight fragments (4073g) from a layer and wall footings. The CBM includes a single fragment of Roman date, glazed floor tiles that may have been manufactured in the later medieval or post-medieval periods, and red bricks produced in the 18th to early 19th centuries.

The CBM contained in Layer L2006 included a single fragment (295g) of Roman box flue tile that would have been used to channel hot air from a hypocaust heating system. The fragment preserved two sides of the square tube; with one side exhibiting a combed lattice 'key mark' what would have aided the adherence of plaster or mortar.

The bulk of the CBM was contained in Layer L2006: five fragments (2636g) comprises floor tile, with one fragment of post-medieval brick (295g) also present. At least four floor tiles, including two complete examples, are represented in Layer L2006 and all are of the same type. The floor tiles have dimensions of 130x130x22mm (weighing 800-900g) and are 'plain' types with the upper surface decorated with a cream slip beneath a dark green lead glaze. Floor tiles such as these were produced in Essex from the late 14th century onwards, including at 15th century kilns at Radwinter and Blackmore (Drury 1981, 130) c.25-29km to the south of Felsted. However, despite the late medieval origins of many tiles, they were often repeatedly re-laid and re-

used throughout the post-medieval period. The single fragment of brick contained in Layer L2006 is of comparable type to the 18th to early 19th century types sampled from the graves (below) supporting this theory. A further fragment of floor tile (880g) was also contained in Wall Footing L2031.

Three complete bricks were collected as samples: from the roof (L2000) and lining (L2001) of Grave 1 and the lining (L2002) of Grave 2 respectively. Each of the bricks was of the same type of red brick produced in the 18th to early 19th centuries (Ryan 1996, 95). The bricks have dimensions of 220x110x60mm (weighing 2900-3000g) with a flat sanded base, regular faces and regular sharp arrises. Like the floor tiles they were almost certainly produced locally in Essex.

Bibliography

Drury, P. 1981 'The production of brick and tile in medieval England' in Crossley, D. (ed) *Medieval Industry*. Council of British Archaeology Research report 40, 126-142

Ryan, P. 1996 Brick in Essex: From the Roman Conquest to the Reformation. Privately Published, Colchester.

The Animal Bone

Dr Julia E. Cussans

Three animal bone fragments were recovered from Layer F2006. The bone was quite weathered and abraded in nature and only one piece was identifiable to species. This was a fragment of a lower canine from a male pig. The other two bones were rib fragments of a medium terrestrial mammal (sheep or pig sized). There were no signs of butchery on any of the bones; one of the rib fragments appeared to be scorched. There was nothing else of note about this very small assemblage.

The Shell

Dr Julia E. Cussans

A single oyster (*Ostrea edulis*) shell was recovered from Layer F2006. The shell was fairly abraded and chalky in nature; there were no tool markings present.

Charred Plant Macrofossils

John Summers

Introduction

Two bulk samples of pit fills were taken during the excavations at Felsted Church, Essex: L2009 (Pit F2008) and L2011 (Pit F2010). Sample 1 L2009

was 6.5 litres and produced a light fraction of 1050ml, composed almost entirely of wood charcoal. Similarly, the 10 litre sample from L2011 produced a light fraction of 550ml, again composed predominantly of wood charcoal.

Methods

The samples were processed at Archaeological Solutions Ltd offices in Bury St. Edmunds using a Siraf style flotation tank. The light fractions were washed onto a mesh of $250\mu m$ (microns), while the heavy fractions were sieved to $500\mu m$.

Once dry, the samples were briefly assessed for their archaeobotanical potential. The samples were sieved to 5mm and 2mm. The >2mm and <2mm size classes were scanned under a low power stereomicroscope (x10-x30 magnification) in order to identify any carbonised plant macrofossils. Only a small number were present, which were separated from the samples and identified. Where necessary, reference literature (Cappers *et al.* 2006) and a reference collection of modern seeds was consulted.

The charcoal in the assemblages was characterised by fracturing a subsample of ten fragments >5mm to achieve a transverse section. These were examined under a low power stereomicroscope. Based on this section, characteristics such as whether fragments were ring-porous or diffuse-porous, whether small diameter wood or heartwood was present (i.e. branch wood), identification of tyloses in the vessels and characteristics of the rays (multiseriate 'vs' uni/biseriate) were noted.

Results

Table 1 shows the results from the two bulk samples. The primary class of material was wood charcoal, with a small number of other macrofossils noted in sample 1 of L2009. Contamination was very limited, with a few modern seeds in L2009 and a small number of burrowing molluscs (*Cecilioides acicula*) in L2011.

Artefactual material from contexts L2009 and L2011 is suggestive of medieval industrial activity. This was most likely metalworking, based on the presence of iron and lead in the deposits. There is a high probability that the charcoal from Samples 1 and 2 relates to the same activities and represents the imperfectly burnt fuel remains. An element of caution must be noted based on the presence of uncharred wood in L2009, some of which showed partial carbonisation at one end. This could suggest a more modern date for the material, although the friable nature of the uncharred wood could also indicate a degree of waterlogging.

The majority of the charcoal fragments were heartwood of a strongly ring-porous wood (Type 1 – see Table 2) (e.g. *Fraxinus* sp, *Castanea* sp.). A further ring-porous type (Type 2) displaying occasional multi-seriate rays (e.g. *Rosa* sp.) was also present. This type could also represent oak (*Quercus* sp.), although the distinctive 'flame-like' vessel patterns were not noted. Ring-

porous roundwood was also recorded (Type 3). Two fragments of diffuse-porous small diameter wood (Type 4) were also present in L2009 (e.g. *Corylus* sp., *Salix/Populus* sp., Maloideae, *Prunus* sp. etc).

Туре	Description
Type 1	Heartwood. Ring-porous, narrow rays, tyloses
Type 2	Heartwood. Ring porous, uni- and multi-seriate rays, small vessels
Type 3	Roundwood. Ring-porous
Type 4	Roundwood. Diffuse porous, narrow rays, small vessels

Table 2: Charcoal types as classified during this assessment

More detailed analysis of the wood types present would allow an insight into the degree of selection in fuel wood for the metalworking processes represented in contexts L2009 and L2011. At present, it can be seen that the bulk of the charcoal is of a ring-porous type. The presence of a seed of ash (*Fraxinus excelsior*) in L2009 suggests that much of this charcoal could be of the same taxon. This is supported by the vessel pattern and the presence of tyloses in the heartwood. However, this cannot be confirmed without further high power microscopy. Roundwood and diffuse-porous wood is also present in small concentrations, along with a further ring-porous type. This may suggest expedient use of nearby wood sources rather than the deliberate selection of particular woods for their specific properties. Specially managed fuel resources might only be expected for larger-scale industrial activities (e.g. Wheeler 2011)

In L2009 two carbonised oat grains (*Avena* sp.), a seed of cleaver (*Galium* cf. *aparine*) and a seed of ash (*Fraxinus excelsior*) were present. The ash is likely to have been incorporated into the fire along with fuel wood. The cleaver could have had a number of sources, including presence on peoples' clothes, being gathered with other scrub vegetation or simply growing nearby to the fire. This plant is also a common arable weed and could have been associated with the oats. These could be the remnants of straw and crop processing debris used as kindling.

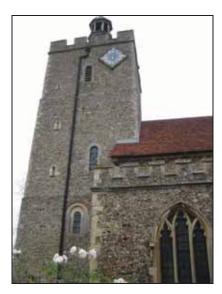
Bibliography

Cappers, R.T.J., Bekker R.M. and Jans J.E.A. 2006, *Digital Seed Atlas of the Netherlands. Groningen Archaeological Studies Volume 4*, Barkhuis Publishing, Eelde

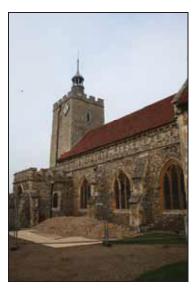
Wheeler, J. 2011, 'Charcoal analysis of industrial fuelwood from medieval and early modern iron-working sites in Bilsdale and Rievaulx, North Yorkshire, UK: evidence for species selection and woodland management', *Environmental Archaeology* 16, 15-35

	Potential - Charcoal				⋖		4
	Potential - CPR				Ω		D
	Comments	Uncharred wood	- some partially	charred on one	end		
	Modern seeds				×		ı
	Molluscs				ı		×
Charcoal	Notes		Type 1 (4), Type 2	(1), Type 3 (3), Type	4 (2)	Type 1 (7), Type 2	_
	Charcoal>2mm				**		XXX+
Non-cereal taxa	Notes	Galium cf.	aparine (1),	Fraxinus excelsior	<u>(T)</u>		
	Seeds				×		ı
	Grain preservation				4		ı
Cereals	Notes				Oat (2)		
	Cereal chaff				ı		-
	Cereal grains				×		ı
_	Volume (litres)			_	6.5		10
	Spot date				ı		ı
	Feature type				Piţ		Pit
	Feature				2008		2010
	Context				2009		2011
	Sample number				_		2
	Site code				FLHC10		FLHC10

PHOTOGRAPHIC INDEX



Felsted church. 12th century tower. Looking North-West



Felsted church. Looking North-West



3
Existing modern floor within the nave.
Looking North-West



Brick- lined graves M2012 & M2013. North Aisle. Looking West



Brick-lined graves M2001. Nave. Looking East.



Floor F2007, Wall Foundations M2027 & M2028. Nave. Looking North-West



Pit F2008. Nave. Looking East



Wall Foundation M2027, Nave. Looking South-East



11
Grave F2032 and SK1 cut into M2031.
South Arcade. Looking West



8
Floor F2007, Wall Foundations M2027 & M2028. Nave. Looking South-East



10 Wall Foundations M2030 & M2031. Nave. Looking East



12
Brick-lined grave M2002. South Aisle.
Looking West



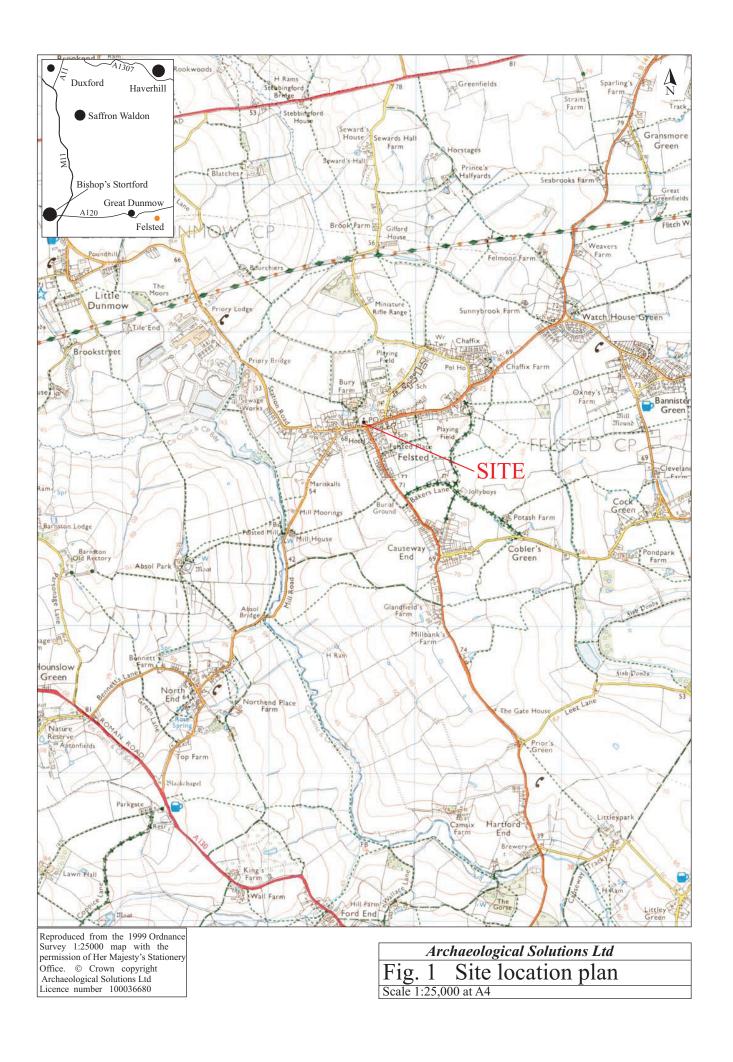
13 Wall Foundation M2027. Looking South.

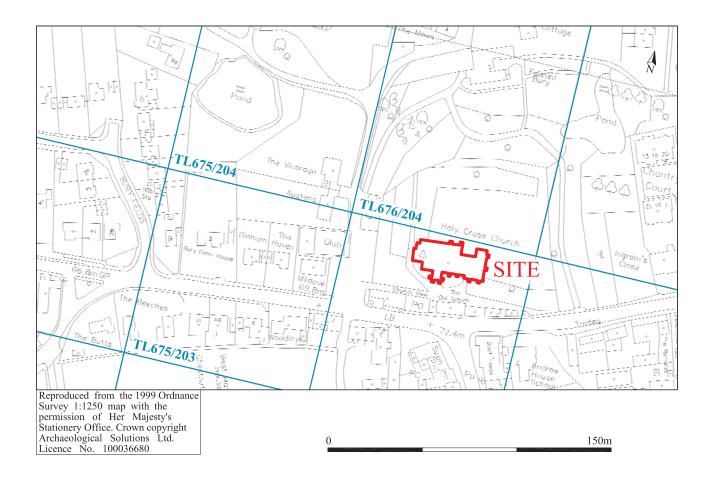


15 Wall Foundation M2031. Looking South.



14 Wall Foundation M2027. Looking N





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Fig. 2 Detailed site location plan

Scale 1:2000 at A4

Mortar

CBM Brick

