

**An archaeological evaluation at
St Nicholas' Church, Copt Hall Lane,
Little Wigborough, Essex
November 2005**

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**on behalf of
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1 Summary

Four test-pits were dug by the Colchester Archaeological Trust to investigate the cause of subsidence in the 15th-century church of St Nicholas, Little Wigborough, Essex. The investigations showed that the church was provided with massive stone foundations well over a metre in depth, which is above average for a small church such as this. Cracks could be seen in the foundations at the west end of the nave and the north side of the chancel. The chancel and buttresses on the north side of the church were provided with particularly wide and deep foundations of large squared blocks of Kentish Ragstone. Various interpretations can be put forward for these foundations, including underpinning and cladding.

The test-pit to the south of the tower exposed a layer of rubble, possibly associated with a building which pre-dated the church.

Foundations to the south porch were revealed, which had been cut through after demolition by two burials.

Several episodes of underpinning were exposed, some probably post-medieval and others carried out after the 1884 earthquake.

2 Introduction

- 2.1 This report contains a structural record of four exploratory test-pits excavated at the exterior of the 15th-century church of St Nicholas, Little Wigborough, Essex, to establish the cause of subsidence in the north-western corner of the nave and elsewhere. The archaeological recording was carried out by archaeologists from the Colchester Archaeological Trust (CAT) on the 1st to the 7th November 2005.
- 2.2 St Nicholas' Church can be found at the end of a long lane, adjacent to Copt Hall, Little Wigborough. It is located on the edge of former saltmarsh, at National Grid Reference TL 9810 1453. Natural subsoil is sandy clay overlying London Clay, and the height above sea level is 9m.
- 2.3 All fieldwork was done in accordance with a brief issued by the Diocesan Archaeological Officer of Essex County Council. This report mirrors standards and practices contained in Colchester Borough Council's *Guidelines for the standards and practice of archaeological fieldwork in the Borough of Colchester* (CM 2002) and *Guidelines on the preparation and transfer of archaeological archives to Colchester Museums* (CM 2003), and the Institute of Field Archaeologists' *Standard and guidance for an archaeological evaluation* (IFA 1999) and *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (IFA 2001). The guidance contained in the documents *Management of archaeological projects* (MAP 2), and *Research and archaeology: a framework for the Eastern Counties 1. Resource assessment* (EAA 3), *Research and archaeology: a framework for the Eastern Counties 2. Research agenda and strategy* (EAA 8), and *Standards for field archaeology in the East of England* (EAA 14) was also followed.

3 Archaeological background

- 3.1 The Royal Commission on Historical Monuments and others date the church to the 15th century (RCHME 1922, 175; Rodwell & Rodwell 1977, 124). The church is uniformly built of Kentish Ragstone ashlar in rather small blocks. It has been conjectured that the church is a complete 15th-century rebuild of an earlier building of either stone or wood on the original site or possibly to one side of it, and within a pre-existing graveyard. Significant interventions after the 15th century and before the 19th century are not readily apparent.
- 3.2 An investigatory hole examined by CAT earlier in 2005 inside the church, in the north-western corner of the nave, revealed the base of the nave wall foundations at 1.55m below the present floor-level. These foundations are made of coursed stones, mainly flint and septaria, and are unquestionably medieval. The investigatory hole also showed that the tower arch was underpinned in brickwork after the earthquake of 1884 (CAT Report 308). The tower collapsed during the earthquake, and the

rebuilding of the upper part of the tower in septaria after the earthquake is clear from the exterior of the tower. This rebuilding in septaria also occurs in the gables at the west end of the nave to either side of the tower and in the gable of the east wall of the chancel. The extent of the post-1884 restoration work is unclear; for example, there is a strong possibility that the entire tower was rebuilt and also that some of the buttresses on the north and east sides of the church are of this date.

- 3.3** Historically the church was subject to movement before the earthquake of 1884. Cracks on the south side of the church were noted in 17th-century visitations (Essex Record Office D/ACV 5 f.30v; D/ACV 9E f.70). A crack in the north-eastern corner was repaired in 1997 (the Morton Partnership report of 2005, 3). The western part of the north wall has moved outwards, especially at the north-western corner, where it has become detached from the roof. The current engineering project is concerned with this cracking and how to repair it.

4 Aims

The aims of investigation were as follows:

- To assess the depth and nature of foundations and to establish whether they had been underpinned.
- To gather information on the date of the buttresses against the north wall.
- To find evidence of early occupation or church buildings pre-dating the current church.

5 Methods (Fig 1)

- 5.1** Four test-pits (TP1-TP4) measuring between 1.2m² and 1.5m² were excavated by hand at the exterior of the church.
- 5.2** Potential archaeological deposits which were exposed were cleaned by hand. Individual records of layers were entered on CAT pro-forma record sheets.
- 5.3** Section drawings were made at a scale of 1:10. Plans were made at a scale of 1:10.
- 5.4** Finds were registered on CAT pro-forma record sheets and assigned find numbers according to context. Finds were washed, marked and bagged according to context.
- 5.5** Colour photographs were taken with a digital camera and a 35mm transparency camera.
- 5.6** Human bone from TP2 was reburied within the test-pit.
- 5.7** A sample of each type of stone was kept from each context but not all the stone.

6 Results

6.1 Topography

Natural ground was not reached in any of the four test-pits. The ground drops steeply by 1.3m from the churchyard to land to the south. This is partly due to a probable natural slope from Copt Hall to the church; however, the land does appear to have been raised. This build-up of soil is common in churchyards which have been in use over a long period, and is due to grave-digging.

6.2 Test-pit 1 (Figs 2-3, 7 and Plate 1)

TP1 was located in the angle between the south tower wall and the west nave wall, and was dug to between 1.35m and 1.5m depth. Five phases of activity were evident, as follows.

The earliest activity was represented by Layer or L5, a 600mm-wide and 500mm-deep layer of mortar, chalk, septaria, Kentish Ragstone chunks, flint and peg-tile. The building rubble and the presence of a sherd of 12th- to 13th-century pottery may indicate that L5 relates to an earlier, pre 15th-century phase, but it is also possible that it is contemporary with the building of the 15th-century church (and contains residual pottery).

The second phase is marked by the west nave wall (Feature or F15) cutting L5. The nave wall had 1.35m-deep foundations of Kentish Ragstone and lime mortar.

Unlike the foundations in TP3 and TP4, these were not stepped out, and appear to be the original 15th-century footings. There is some undercutting at the base, and a crack runs from this undercut to the top of the foundations. Thick tree roots were growing out of the crack.

The third phase is represented by L2, a deep layer of medium brown sandy clay silt with abundant mortar flecks, oyster shell, peg-tile, septaria and iron nails. The interpretation of L2 is that it relates to the 1884 earthquake, probably as a working layer deposited during repair work to the church post-1884. It was encountered in all four test-pits.

The fourth phase of activity is the underpinning of the tower foundations, with the original stone being replaced by frogged bricks foundations (F6) underpinned by concrete (F7). These foundations were 1.2m deep and stepped out, so that they projected 450mm from the wall. A trench (F4) cutting through the earlier L2 is assumed to be the trench dug during the underpinning work. The bottom fill of F4 is L3, which abutted and sealed the concrete foundations. This redeposited clay layer, which contained common mortar flecks, peg-tile, post-medieval brick and Kentish Ragstone fragments, was also seen abutting foundations in TP3 and TP4. There are perhaps two explanations for this layer; either it is simply a dumped clay layer, or else it is the material used to backfill 19th-century trenches dug to underpin the foundations. At the base of the test-pit and associated with the underpinning was an impenetrably hard concrete layer with a mortar surface (F9). This is likely to be modern.

The fifth and latest phase was represented by a thin layer of turf and topsoil (L1) containing Kentish Ragstone lumps, 19th-century bottle glass, peg-tile and oyster shell. This sealed L2 and F4.

Two unstratified pieces of squared lava stone with worn surfaces were retrieved during backfilling of TP1. Querns of Mayen lava from quarries in the Eifel Hills, Germany, were imported into Britain both in the Roman period, chiefly in the second half of the 1st and the 2nd centuries, and from the 7th or 8th century through to the early medieval period. Fragments of these friable objects were often adapted for secondary use as rubbing or polishing stones in the Anglo-Saxon and medieval periods, but were also used as hardcore or building stone.

6.3 Test-pit 2 (Figs 3-4, 7 and Plate 1)

TP2 was located on the south side of the nave, west of the blocked-in south door, and was dug to 1.35m depth.

The earliest phase of activity is represented by the stone foundations of the nave wall (F8), found at 320mm below ground-level and supporting the main body of the nave wall. These were constructed of Kentish Ragstone blocks 200-500mm wide, with some smaller septaria blocks which were set in with lime mortar. Unlike the northern side of the church, the foundations were only offset once, projecting 300mm from the wall. They were substantial, and 1m deep. A layer of peg-tile could be seen above the foundations, at the bottom of the nave wall, which may have had a levelling function. These foundations were not underpinned with concrete and appear to be the original 15th-century footings.

The second phase of activity consisted of the foundation of a demolished south porch, whose outline can be clearly made out on the exterior nave wall. TP2 was dug directly below this point. The porch may have been contemporary with the original 15th-century church, or a slightly later addition, but it must have been built before the 18th century because its demolished remains were cut by two late 18th-century graves (below). The foundation of the demolished porch (F1) was found 620mm below ground-level in the southern part of the test-pit. It was 780mm wide and 500mm deep, and was constructed of lime-mortared septaria and Kentish Ragstone, with occasional peg-tile.

The third phase is represented by was an area of yellowish mortar, some loose lumps of septaria and chalk (F14) lying to the west of foundation F1. This is interpreted as debris from the demolition of the porch. This demolition must necessarily pre-date the late 18th century, because two graves cut through the line of the demolished porch wall.

The fourth phase is represented by the two inhumation burials cutting through the line of the demolished porch wall. Both burials consisted only of fragments of skull.

The first skull (F3) was 1.08m below ground-level and lay under the projected line of the porch foundation F1. A human humerus (either from an adult or adolescent), part of a rib and fragments of skull had been found in L2 above, and may form part of this burial. The skull was incomplete, without the lower jaw, but appeared to be of an adult or of a young person. There was no sign of a grave cut. The second skull (F5) was on the eastern side of the test-pit at 1.3m below ground-level. The rest of the body may have continued under the baulk, but there was no sign of a grave cut. This skull was small and appeared to belong to a child. It was left *in situ*.

These may have been individuals buried before the south porch was constructed and disturbed by the digging of the foundations. Alternatively, and more probably, the south porch was demolished and these two burials have cut through the porch foundations. The burials appear to have been disturbed by later activity, possibly digging around the outside of the church to test foundations. This disturbance is evidenced by post-medieval finds further down the test-pit, including a clay pipe bowl of probable 17th- or 18th-century date, some post-medieval pottery and bottle glass, an iron nail and an iron coffin handle (dating to between the 17th and 19th centuries). Just to the west of the test-pit, on the exterior of the church wall, is a stone plaque commemorating two people: Isaac Mazencarb (an infant) and Elizabeth Mazencarb (12 years old), who both died in 1776. It is likely that the remains belong to these two children, in which case the south porch must have been demolished by 1776.

The fifth phase of activity is represented by L2, a medium brown sandy clay silt with abundant mortar flecks, oyster and peg-tile, extending to the base of the test-pit and sealing the demolished porch foundation (F1) and the demolition horizon (F14).

The sixth and final phase of activity is represented by L1, a thin layer of topsoil containing modern bottle glass, peg-tile, two iron nails and one sherd of medieval pottery. L1 seals L2.

6.4 Test-pit 3 (Figs 4-5, 8)

TP3 was placed on the north side of the chancel, next to one of the buttresses, and was excavated to 1.4m depth.

The earliest phase of activity is represented by the foundations of the chancel and one of the buttresses. The upper 400-450mm of the nave foundations (F12) were constructed of irregularly-shaped Kentish Ragstone and septaria blocks pointed with lime mortar. These projected 100mm from the chancel wall. The foundations below this were constructed of large Kentish Ragstone blocks pointed with cement mortar. These formed three further steps so that the total projection of the foundations from the wall was 450mm. A crack in the foundations continued up the nave wall. The trench could not be dug any deeper due to space restrictions, and therefore the bottom of the wall foundations were not reached. They must be at least 1.2m deep.

The foundations to the buttress (F13) were stepped out six times so that the base projected by 500mm. They were similar to those of the nave, having an upper course of irregularly-shaped mortared Kentish Ragstone, sitting above courses of long Kentish Ragstone blocks all pointed with cement mortar. The lowest step of the buttress foundation was formed of concrete, which is presumed to be modern underpinning (there was no sign of an underpinning cut like the one in TP1).

The presence of concrete underpinning has a bearing on the dating of the remains exposed here; if that underpinning is 19th or 20th century, then everything sealing it (L2, L3, L4) must be of the same date or later, regardless of whether or not those layers are in an underpinning cut.

The second phase is the moist orangey brown clay layer (L3) also seen in TP1 and TP4. This had common mortar flecks, one rim sherd of residual medieval grey ware, animal bone, old and modern window glass, and post-medieval brick and peg-tile.

The third phase was a thin layer of mortar (L4) on the south side of the test-pit, between L2 and L3. This should be associated with a post-medieval or modern construction or repair phase.

The fourth phase consists of L2 (as seen in other TPs). It was 400mm deep here, and had abundant mortar flecks.

The fifth and latest phase was represented by a very thin topsoil (L1) containing modern pottery, old and modern window glass, peg-tile, septaria and mortar. This sealed L2.

During backfilling of the test-pit, four further sherds of grey ware pottery were retrieved which looked similar to the rim sherd from L3. They may possibly be Roman but were unabraded and, given that no other Roman material was found, they are more likely to be medieval.

6.5 Test-pit 4 (Figs 5-6 and 8)

TP4 was located on the north side of the chancel, next to the end buttress (5), and was excavated to 1.6m depth. The excavated soil profile was the same as that in TP3.

The earliest phase is the foundations of the buttress (F11) and chancel (F10). These were very similar to those in TP3, the only difference being that in TP4 the nave foundation had a layer of peg-tiles set between the Kentish Ragstone, at just over 400mm below ground-level. The test-pit was dug deep enough to expose the bottom of the buttress and chancel foundations, both of which were 1.4m deep and had been underpinned with concrete. The cut for the underpinning could not be seen. This implies a 19th- or 20th-century date for the exposed foundations, and for everything above them.

The second phase was clay layer L3, which contained septaria, Kentish Ragstone, a 15th- or 16th-century pot sherd, old window glass, peg-tile, 16th- to 17th-century brick, mortar and oyster shell. The third phase was L4, the same mortar layer as seen in TP3. The fourth phase, L2, contained peg-tile, brick, old window glass, septaria and Kentish Ragstone. The fifth and final phase was topsoil L1.

7 Finds

7.1 Medieval and later pottery, glass and bone

by Howard Brooks

The material

The material came from seventeen bags representing four site contexts, and consisted principally of glass, with smaller quantities of pottery. The pottery was classified according to *CAR 7*. Material from each bag was listed, weighed and identified (Tables 1-2).

Window glass

There are two types of old window glass here, presumed to be of different dates. The earliest, here termed 'old window glass', is thin glass weathered to an opaque brown colour. Two pieces have surviving edges, one curved (perhaps part of a circular or round-ended piece), and the other angled at 80 degrees. These must be fragments of a leaded window of some antiquity, perhaps one of the original church windows which was re-glazed when the church was rebuilt in the 15th century.

There is a second type of thin glass which is also opaque but much less weathered, being a milky white colour. This seems too fresh for it to be original window glass which happened to be protected from the weather; it may simply be a slightly younger group of material derived from the replacement of church windows at some time after the 15th century.

There is also a group of more modern-looking, flat, clear glass, presumably Victorian or later. Although this is certainly window glass, it is much less certain that it comes from the church, because it is mainly associated with other glass fragments (beer bottles) which are probably not associated with the church.

Other glass

A number of fragments of wine and beer bottles and jars were recovered. This must simply be discarded rubbish, perhaps arriving on site during the extensive building works at the church after the earthquake of 1884.

Pottery

There was a number of medieval sherds, dating broadly to the 12th to 16th century. The earlier ones certainly indicate activity here prior to the 15th century (as does the existence of old window glass), but clearly one cannot extrapolate from a few sherds.

The few sherds of post-medieval pottery are not thought to be of special significance; they are contemporary with the more recent part of the church's history.

Table 1: pottery: quantity and weight of finds per bag and context.

			Quantity	Weight (in g)	Comments/date
Find no	Test-pit	Context			
15	TP1	L5	1	9	Sherd of early medieval sandy ware (Fabric 12) vessel with lid-seated rim. 12th-13th century
7	TP1	L1/L2	2	50	Two sherds from the same pale cream glazed jar, standing 57mm high (Fabric 48d). Modern (19th-20th century)
8	TP2	L1/L2	1	6	Grey ware sherd, probably medieval rather than Roman; some mortar adhering to surface shows (re-used?)
8	TP2	L1/L2	1	8	Sherd from pale cream glazed jar, very similar to bag 7. Fabric 48d. Modern (19th-20th century)
11	TP2	L2-disturbed	1	16	Glazed post-medieval red earthenware sherd (Fabric 40). 17th-18th century
11	TP2	L2 - disturbed	3	53	Frechen ware jug sherds (Fabric 45d). Late 16th-17th century
13	TP3	L3	1	10	Grey ware cooking pot rim; possibly Roman, but more likely medieval. Thetford?
4	TP3	L1	1	3	Green transfer-printed ironstone sherd, probably from a bowl or jar (Fabric 48d). 19th-20th century
9	TP4	L3	1	6	Orange fabric sherd (probably Fabric 21a). 15th-16th century
totals			12	161	

Table 2: glass: quantity and weight of finds per bag and context.

			Quantity	Weight (in g)	Comments/date
Find no	Test-pit	Context			
12	TP1	L2 – could be F4	3	63	Fragments of green glass beer bottle. 19th century.
12	TP1	L2 – could be F4	1	1	Sherd from post-medieval green glass wine bottle.
6	TP1	L1	1	42	Sherd from near base of green glass wine or beer bottle. Not a large diameter, so probably 18th century.
7	TP1	L1/L2	11	184	Clear, flat window glass. 2.75mm thick. Modern (late 19th-20th century).

			Quantity	Weight (in g)	Comments/date
Find no	Test- pit	Context			
7	TP1	L1/L2	1	143	Neck and part of shoulder of green glass beer bottle. Modern (19th-20th century).
7	TP1	L1/L2	1	24	Sherd from neck and shoulder of bulbous bottle – wine? Modern (19th-20th century).
7	TP1	L1/L2	2	41	Sherds from neck and shoulder of two different clear glass jars. Modern (19th-20th century).
8	TP2	L1/L2	1	17	Looks like modern milk bottle sherd, but has a pink tinge. Modern (19th-20th century).
8	TP2	L1/L2	2	6	Two sherds, green glass wine/beer bottles. Post-medieval.
11	TP2	L2 - disturbed	1	7	Shoulder fragment, green glass wine bottle. 17th-18th century.
1	TP3	L1	21	20	Thin old window glass, plain. 1.25-1.75mm thick, mostly the latter. Two pieces have approx 3mm-thick rolled edges. Post-medieval, possibly earlier rather than later.
1	TP3	L1	1	9	Clear, flat window glass. 3mm thick. Modern (20th century)
13	TP3	L3	16	17	Old window glass. Some is weathered to a milky white (as bag 5). Also some browner more weathered (as bag 3). One piece is from a circular pane from a leaded window. Some 17th century, some 19th and some in between.
13	TP3	L3	3	27	Modern window glass, 3mm thick. 19th-20th century.
3	TP4	L2	1	1	16th-century glass? Potentially the earliest fragment in group.
5	TP4	L2	4	5	Clear old window glass. 1.75mm thick. Cleaner than the pieces in bag 1, so possibly later. 17th century.
9	TP4	L3	1	1	Plain, old window glass. 1.2mm thick. 17th century?
totals			71	609	

7.2 The metalwork by N Crummy

(12) L2. TP1. Five iron nails and two shank fragments. a-d) With flat round head. Lengths 51, 30, 44 mm, all incomplete, and 76 mm, complete. e) With square head. Length 32 mm, incomplete. f-g) Lengths 26 and 16 mm.

(18) F4. TP1. a) Fragment of cast iron pipe. Length 151 mm, width 58 mm. b) Iron nail, head obscured by corrosion. Length 48 mm, incomplete.

(8) L1/L2. TP2. Two iron nails with flat square heads. Lengths 52 mm, complete, and 27 mm, incomplete.

(11) L2. TP2. a) Iron drop-handle with fragments of the back plates and split-pins used to attach it to a coffin. The handle tapers in diameter towards the side arms. Maximum width at the arms 149 mm, depth 40 mm. b) Iron nail or bolt shank. Length 95 mm. Similar drop-handles were found in 17th- to early 19th-century contexts at St Giles' church in Colchester (CAR 5, fig 86).

(4) L1. TP3. Iron nail with flat square head. Length 27 mm, complete.

(9) L3. TP4. Fragment of iron strip. Length 30 mm, width 13 mm.

(10) L1. Drain trench. Two iron nails. a) With flat subrectangular head. Length 85 mm, complete. b) With very slight rectangular pointed head, the width is the same as that of the shank. Length 68.5 mm, tip missing.

7.3 The clay tobacco pipe

by N Crummy

(17) L2. TP2. Fragment of pipe stem. Bore diameter 3 mm. The date is uncertain but is likely to be within the later 17th or 18th century.

7.4 The building material

Table 3: building materials.

Find no	Test-pit	Context	Description	Weight (in g)	Date
6	TP1	L1	Kentish Ragstone	1,075	
7	TP1	L1/L2?	Peg-tile	195	medieval to modern
12	TP1	L2- could be from F4	Peg-tile	900	medieval to modern
12	TP1	L2 – could be from F4	Fragments of soft red brick, one frogged	2,700	Victorian
12	TP1	L2- could be F4	Septaria	3,500	
12	TP1	L2- could be F4	Flint	74	
8	TP2	L1/L2?	Peg-tile	220	medieval to modern
11	TP2	L2 – 600- 800mm below ground- level	Peg-tile	58	medieval to modern
13	TP3	L3	Peg-tile	1,075	medieval to modern
13	TP3	L3	Lump of brick	200	post-medieval
13	TP3	L3 up to 1.2m below ground- level	Mortar	44	
4	TP3	L1	1 floor brick ('pammet')	470	post-medieval
4	TP3	L1	Peg-tile	1,000	medieval to modern
4	TP3	L1	Concrete?	102	modern?
4	TP3	L1	Septaria	345	
2	TP4	L1	Peg-tile	412	medieval to modern
2	TP4	L1	Kentish Ragstone	600	
2	TP4	L1	Brick fragments	259	post-medieval

5	TP4	L2	Septaria	1,859	
5	TP4	L2	Kentish Ragstone	1,176	
5	TP4	L2	Unidentified stone	101	
5	TP4	L2	Peg-tile	500	medieval to modern
5	TP4	L2	Brick lumps	125	post-medieval
9	TP4	L3	Peg-tile	300	medieval to modern
9	TP4	L3	Part of a large Tudor brick, 65mm thick	1,000	16th century or later
9	TP4	L3	Slate	5	modern
9	TP4	L3	Septaria	180	
9	TP4	L3	Mortar	80	
14	TP4	L3 – 1m+ below ground-level	Peg-tile	320	medieval to modern
14	TP4	L3 – 1m+ below ground-level	'Tudor brick' fragments	500	16th-17th century
14	TP4	L3 – 1m+ below ground-level	Septaria	450	
14	TP4	L3 – 1m+ below ground-level	Kentish Ragstone	1,050	

7.5 The animal bone and shell

Table 4: animal bone and shell.

Find no	Test-pit	Context	Description	Weight (in g)
6	TP1	L1	Oyster shell	45
8	TP2	L1/L2	Animal bone	5
11	TP2	L2 – 600-800mm below ground-level	Cow tooth	30
11	TP2	L2 – 600-800mm below ground-level	Oyster shell	12
13	TP3	L3	Animal bone	28
13	TP3	L3	Oyster shell	14
4	TP3	L1	Butchered animal bone	50
9	TP4	L3	Oyster shell	9

7.6 The human bone

One possible piece of human bone from L2 of TP1 (find no 12) may have derived from the Victorian pit which was cut through L2 to underpin the foundations (F4). The remainder of the human bone was from TP2. The bone which occurred higher up in TP2 had to be removed. This was shown to a bone specialist at CAT, then reburied. The bone specialist identified the long bone fragment, pieces of skull and rib as human, of a probable adult or young person. It was probably disturbed out of the first inhumation burial (F3). The second skull fragment (from F5) was left *in situ* at the base of the trench and was therefore not examined by a bone specialist.

8 Discussion

8.1 The main published sources (Rodwell & Rodwell 1977; RCHME 1922) are in agreement that the church of St Nicholas at Little Wigborough is of a uniform, 15th-century build. This is a little later than the foundation date for a typical Essex parish church, so there must be a possibility that it is a complete rebuild of an earlier church.

Evidence produced by the excavation of four test-pits outside the church, taken along with the information from the earlier investigatory hole inside the church, has introduced a number of complications, but does not radically challenge the suggested 15th-century date for the existing church. It is clear, however, that there have been several episodes of post-medieval repair and underpinning, some certainly carried out after the earthquake of 1884 and some probably before it.

8.2 Activity before church construction in 15th century

The earliest activity was represented by L5 in TP1, a layer of mortar and building debris containing a 12th- to 13th-century sherd. This layer may either be demolition debris from an otherwise unknown pre 15th-century structure (an earlier church?), or it may be rubble contemporary with the building of the 15th-century church (and containing residual pottery).

Two unstratified pieces of squared Mayen lava stone came from TP1. Mayen lava querns were imported in the Roman, Anglo-Saxon and early medieval periods. It is uncertain whether these fragments were originally used on or near this site as querns, which would indicate pre-church domestic activity here, or whether they were simply brought here from elsewhere as hardcore.

Four sherds of either Roman or medieval grey ware pottery were retrieved from TP4. These would perhaps support the idea of an earlier phase of domestic activity somewhere close to the church.

8.3 The original 15th-century build, and later repairs

The fundamental problem with disentangling the phasing of this church is that the underground fabric differs greatly between the outside and the inside of the church. Inside, the investigatory hole in the north-west corner of the nave revealed coursed flint and septaria foundations (CAT Report 308). Outside, the 2005 test-pits showed two distinct types of footing: first, the massive, stepped-out footings on the north side of the chancel (TP3, TP4); and second, substantial foundations with a single offset (nave wall in TP2), or no offset (the west nave wall in TP1).

It can be argued that the second type is the original 15th-century footings, and the first a later repair or refacing. It may be a subjective statement, but the smaller-scale coursed stonework inside the church looks medieval in character, and is in keeping with the medieval flint or septaria foundations seen, for example, at Little Holland Church (Andrews & Brooks 1989, 78-9) and St Mary's Church, Great Bardfield (Brooks with Andrews 1994, 267). Alternatively, the massive foundations on the north side may be original (indeed it is difficult to prove that they are not), but it seems much more likely that they are a later rebuild or refacing (see below). The 19th-century finds in the soil layers (L2, L3) sealing these massive footings appear to support the idea that they are a later repair phase, but in reality they date the repair phase rather than the original church.

8.4 The addition of buttresses

The question of the addition of buttresses arises from the fact that there are five irregularly-spaced buttresses on the north side, and only three on the south.

Superficially, the plan suggests that buttresses 2 and 4 on the north side were added, or, alternatively, two on the southern side (between 7, 8 and 9) have been removed, perhaps during repair or underpinning. There is no direct evidence for this, so it must remain speculation.

However, the digging of TP3 and TP4 next to buttresses 4 and 5 on the north side has shown that they are of one build with the massive chancel footings. This strongly suggests that all the buttresses on the north side are contemporary. There seem to be two options: either the 15th-century builders anticipated a problem here and added buttresses (2 and 4) along the north side, and these were all rebuilt when the church was repaired in the post-medieval period, or they are a fresh build added during those repairs.

The anomalous buttress (6) projecting from the east side of the chancel may be a later addition (Andrews 1996).

8.5 The porch, and its demolition

The porch may have been contemporary with the original 15th-century church, or, more likely, a slightly later addition (because the fabric varies from that of the nave foundations, and is shallower).

It has been suggested that the porch was knocked down during the 1884 earthquake, possibly by the collapsing tower (David Whymark pers comm). However, it must have been built before the 18th century because its demolished remains were cut by two late 18th-century graves. Just to the west of TP2, on the exterior of the church wall, the stone plaque commemorating Isaac Mazencarb (an infant) and Elizabeth Mazencarb (12 years old) dates to 1776. It is likely that the two graves recorded in TP2 belong to these two children, in which case the south porch must have been demolished by 1776.

The porch would have presumably had a useful life before demolition, and it can be postulated that it was built in the later 15th or 16th century, when many parish churches acquired porches. A life of some two centuries was then followed by demolition, or perhaps collapse.

TP2 was dug directly below the point where the scar left by the removal of the porch was visible on the outer nave wall. The cut-off porch wall stub was seen in TP2 (F1). A layer of yellowish mortar, with loose lumps of septaria and chalk (F14), west of foundation F1, is associated with the demolition of the porch.

8.6 Post-medieval and later underpinning

Cracking of foundations and superstructure has been a problem at St Nicholas for many centuries. There are records from the visitations in 1633 and 1683 which show cracking in the south side (Andrews 1996). There is no reference to whether this cracking was repaired.

There is one reference to underpinning having taken place, in 1903, in the parish records: 'The chancel was in 1903 underpinned and strengthened by steel girders. The west end of the church is again showing serious cracks' (Andrews 1996). This is presumably too long after the 1884 earthquake to be considered part of the post-earthquake repairs, so it must be a fresh underpinning. No steel underpinning was seen in any of the 2005 test-pits.

It is apparent from an examination of the buried fabric that St Nicholas' is extensively underpinned. Four types of repair or refacing or underpinning can be identified.

- 1) **Brick underpinning.** TP1 showed that the south tower wall (at least) has been underpinned in brick. The earlier investigatory hole in the north-west corner of the nave also showed that the tower arch was underpinned in brick. A trench in TP1 (F4) cutting through the earlier L2 is assumed to be the trench dug during the underpinning work.
- 2) **Concrete underpinning.** At the base of TP1 (under the brickwork) was an impenetrably hard concrete layer with a mortar surface (F9). This is likely to be modern. TP3 and TP4 also revealed concrete under the Kentish Ragstone footings.
- 3) **Ragstone repair or underpinning?** The massive Kentish Ragstone foundations on the north side (TP3 and TP4) could be later refacing or underpinning, before they were underpinned in concrete.

- 4) **Concrete pointing.** The footings in TP3 and TP4 are pointed in concrete. Without removing the Kentish Ragstone blocks, it is impossible to say whether they are actually laid in a concrete mortar, or whether it is simply a surface pointing.

How many phases of underpinning are there?

It is impossible to be certain about this. However, the presence of two radically different types of underpinning – brick, and Kentish Ragstone blocks – surely indicates at least two major phases. What is uncertain is whether the concrete pointing and underpinning represent an additional phase (or even two?), and whether they are contemporary with the Kentish Ragstone or brickwork. One fact to be taken into consideration is that there is a potential trench (F4) for underpinning work in TP1, presumably associated with the brickwork (the same cut is not visible anywhere else). The complication is that F4 cuts L2, but not L3 (which seals the concrete underpinning). So if F4 is genuine, then the implication is that the brick underpinning took place after the concrete underpinning. Without discounting F4 completely, this seems unlikely.

Allowing for the uncertainties, the following sequence for the church foundations (and other material exposed in the 2005 test-pits) can be suggested:

- 1) The original 15th-century church build is still visible in the footings of the west nave wall and the south nave wall, as exposed in TP1 and TP2 respectively.
- 2) At some date in the post-medieval period, the north chancel wall and buttresses were heavily rebuilt in large, projecting Kentish Ragstone blocks (TP3, TP4). This repair work could be a result of the 18th-century visitations (although they admittedly only mention the south wall).
- 3) The porch was demolished prior to the mid-18th century, and two graves cut across the line of its west wall.
- 4) At a later date, the foundations were repaired again by repointing and underpinning the Kentish Ragstone foundations in concrete and by underpinning the tower in concrete and brick. After this, several layers of soil were deposited: first, clean clay L3 was dumped over the repointed Kentish Ragstone footings and their concrete underpinning; second, mortary L4 was deposited during post-1884 earthquake building work on the exterior face of the church; third, topsoil L2 was dumped all around the church to level up the ground after completion of work.
- 5) If F4 is considered genuine, then there was a separate repair phase in which brick underpinning was inserted onto an existing concrete foundation on the south side of the tower, with F4 cutting L2. Was this contemporary with the 1903 repairs?

9 Archive deposition

The site records, finds, associated papers and digital archive are currently held by the Colchester Archaeological Trust at 12 Lexden Road, Colchester, Essex CO3 3NF. These will be deposited permanently with Colchester Museums under museum accession code 2005.128.

10 Acknowledgements

The Trust is grateful to the following for their assistance in the course of the recording work: the Parochial Church Council, St Nicholas' Church; David Whymark of Building Design and Conservation; David Andrews, of Essex County Council; the Morton Partnership; Bakers of Danbury; and Mr Keith Oak for reporting on the stone.

The site work was carried out by Laurence Driver, Brian Hurrell, Kate Orr and David Ross of CAT.

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12 Site data

Con-text	Test-pit	Description	Associated finds	Date of context
L1	all	Turf and topsoil	Peg-tile, Kentish Ragstone, septaria, 19th- to 20th-century pottery, medieval and modern window glass, post-medieval and modern bottle glass, iron nails, mortar, oyster shell, post-medieval floor tile	modern
L2	all (but disturbed in TP2)	Medium brown sandy clay silt with abundant mortar flecks – working layer or demolition layer	Septaria, Kentish Ragstone, mortar, flint, oyster shell, peg-tile, post-medieval brick, old window glass, iron nails	Victorian, probably post-1884
L3	TP1, TP3, TP4	Moist orangey brown clay – backfill of Victorian underpinning trenches	Septaria, Kentish Ragstone, peg-tile, mortar, 15th- or 16th-century pot sherd, old and modern window glass, 16th- to 17th-century brick, oyster shell	Victorian, probably post-1884
L4	TP3, TP4	Thin layer of mortar in between L2 and L3	-	Victorian, probably post-1884

L5	TP1	Layer of demolition debris or possibly a foundation to a separate building. Chalk, septaria, mortar, occasional flint; cut by F4 to the north	One 12th-century sherd of pottery	?medieval
F1	TP2	Discontinuous stone foundation to south porch. Constructed of septaria and Kentish Ragstone with one piece of chalk and occasional peg-tile. Bonded with lime mortar	-	medieval – slightly later than the rest of the church?
F2		no F2		
F3	TP2	Fragment of skull from a disturbed inhumation burial at 1.08m below ground-level – long bone, rib and more skull from L2 above also probably part of this burial; probably cut through F1	-	pre-dating the church or, more likely, later 18th century
F4	TP1	Cut for post-1884 brick underpinning to tower. Cutting L2; may cut L5	Fragment of a cast iron pipe	post-1884
F5	TP2	Fragment of skull from a disturbed inhumation burial at 1.3m below ground-level – a child; possibly cut by F1	-	pre-dating the church or, more likely, later 18th century
F6	TP1	Brick underpinning to tower. Frogged bricks over concrete(F7)	-	post-1884
F7	TP1	Concrete underpinning to tower foundations	-	post- 1884
F8	TP2	Foundations to nave - Kentish Ragstone with occasional septaria. Concrete base. Lime mortar	-	15th century
F9	TP1	Hard concrete layer with mortar surface at base of test-pit	-	modern
F10	TP4	Foundations to chancel – Kentish Ragstone with occasional septaria. Concrete underpinning. Lime mortar at top, cement mortar further down	-	15th century? Possibly with later cladding; concrete underpinning post-1884
F11	TP4	Foundations to buttress – Kentish Ragstone with occasional septaria; concrete underpinning, cement mortar	-	15th century? Possibly with later cladding; concrete underpinning post-1884
F12	TP3	Foundations to chancel – Kentish Ragstone with occasional septaria; lime mortar at top, cement mortar further down	-	15th century? Possibly with later cladding
F13	TP3	Foundations to buttress – Kentish Ragstone with occasional septaria;	-	15th century? Possibly with later cladding;

		concrete underpinning, cement mortar		concrete underpinning post-1884
F14	TP2	Mortar, septaria and a few lumps of chalk to the west of F1 – demolition from south porch?	-	?
F15	TP1	Foundations to nave – Kentish Ragstone with some septaria, lime mortar; large crack	-	15th century

13 Appendix: the watching brief

Introduction

Monitoring visits were made after the four test-pits had been dug, in order to carry out a watching brief while contractors were piling around the north-west corner of the nave. This work was carried out to underpin the church. This work was carried out between the 12th and 22nd December 2005.

Methodology

Eight visits were made during groundworks for piling at the north-western corner of the nave. Eight piles (Piles 1-8) were drilled; six around the outside of the north-western end of the nave and the tower and two inside the church (see Fig 1). The piles were 200mm wide and 14m deep. The piles were positioned between 450mm and 630mm away from the nave/buttress walls. A trench was subsequently hand-dug by contractors around the piles. The trench dug inside the church was mainly dug through the backfilled test-pit from February 2005 (CAT Report 308).

Results

Piles 1 and 2 encountered an obstruction at between 1.2m and 1.4m below ground-level. These piles were located 450mm and 550mm away from the nave wall. The only finds in the upcast from these piles were a fragment of peg-tile, a chipping of Kentish Ragstone and a fragment of modern pottery. Given the location of the two piles and the depth of the obstruction, it was presumed that it was the buttress foundations which had been encountered. Otherwise, the watching brief on the piling did not record anything of archaeological significance.

The trench dug around the piles was 900mm deep. The soil profile was similar to that found in TP3 and TP4, ie L1 topsoil underlain by the mortar layer L2 and clay layer L3, both containing peg-tile. A few fragments of bone, some human, were collected.

The nave foundations (F16) appeared to be formed mainly of irregular Kentish Ragstone blocks, with some blocks of septaria, chalk and flint, and all set in lime mortar. The foundations projected out from the wall once and looked similar to those observed in TP2. The contractors attempted to drill through the foundations but failed due to the hardness of the stone. One piece of foundation stone from F16 was shown to a geologist. He confirmed it to be a limestone from the south coast of Britain. Although not Ragstone, it may derive from the same deposit in Kent (information from Keith Oak). Most of the nave foundations seen here appeared to be of this type of limestone.

The foundations to the north-west buttress (1; F17) were narrow and, like those of the nave (F16), projected out only once. They were constructed of the same material as F16. The foundations tapered off towards the tower. Neither the foundations to the buttress nor to the nave projected out like those seen in TP3 and TP4. This then raises a question as to whether the obstruction encountered in by Piles 1 and 2 was the buttress foundation.

The brick foundations to the tower were also exposed by the trench.

Finds

- 23 - modern pottery, peg-tile, and stone chip from Piles 1 and 2 at 1.2-1.4m below ground-level.
- 24 - human bone, from the trench dug between the piles outside the church at 600mm below ground-level.
- 25 - animal bone from the trench between the piles at 800mm below ground-level.
- 26 - human bone, from the trench between the piles inside the church at 800mm below ground-level.
- 27 - piece of limestone with lime mortar, from the foundations to the north-west part of the nave (F16).

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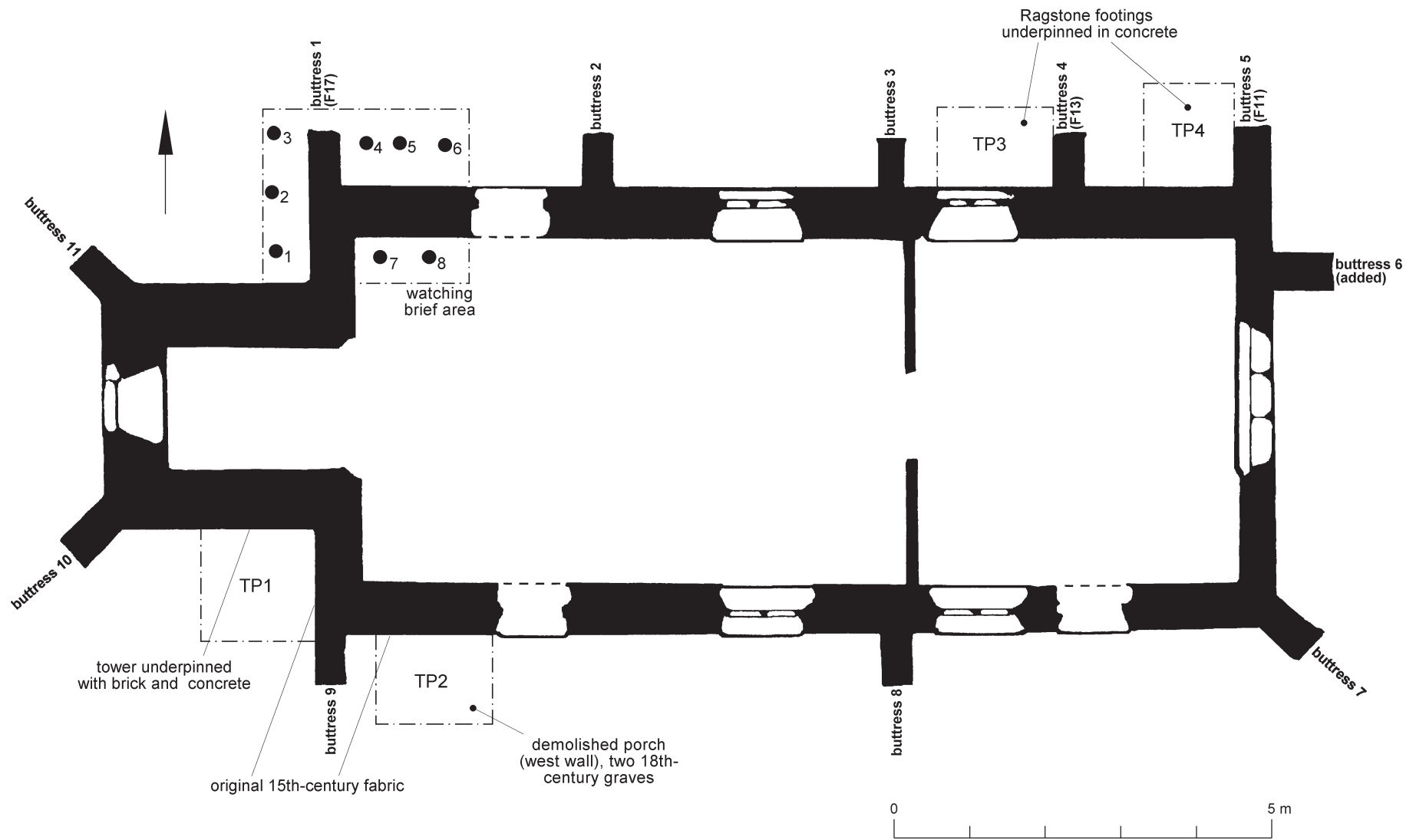


Fig 1 Plan of church, showing test-pit (TP) locations and watching brief area.

● = pile

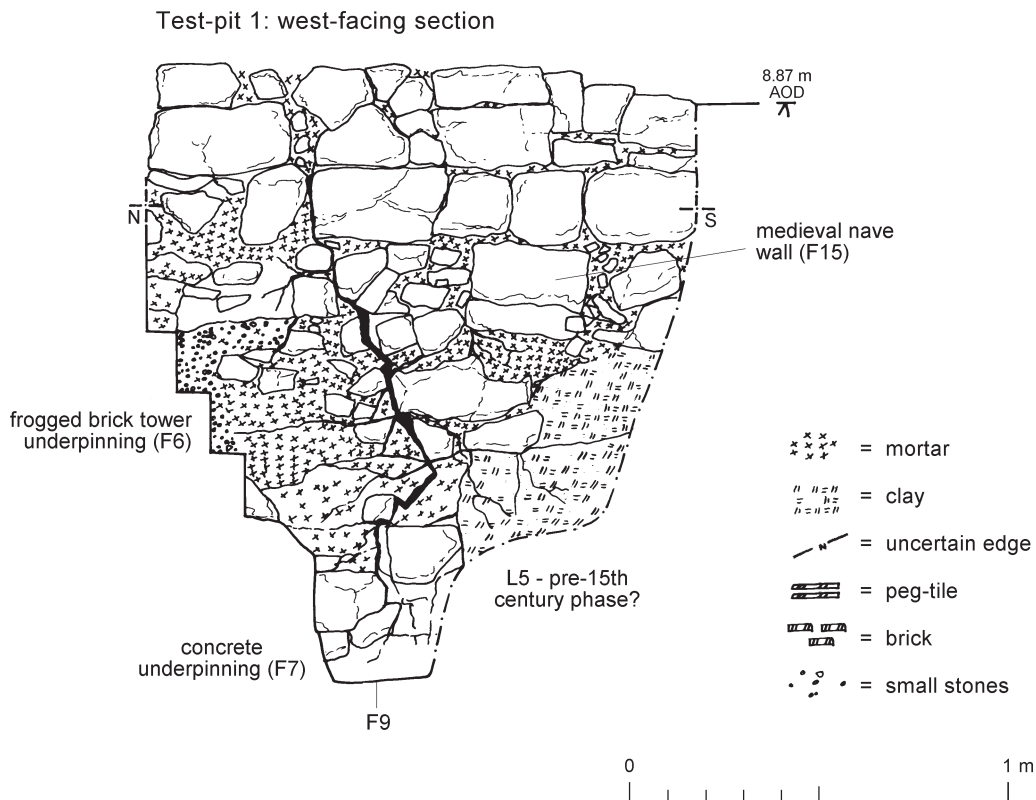
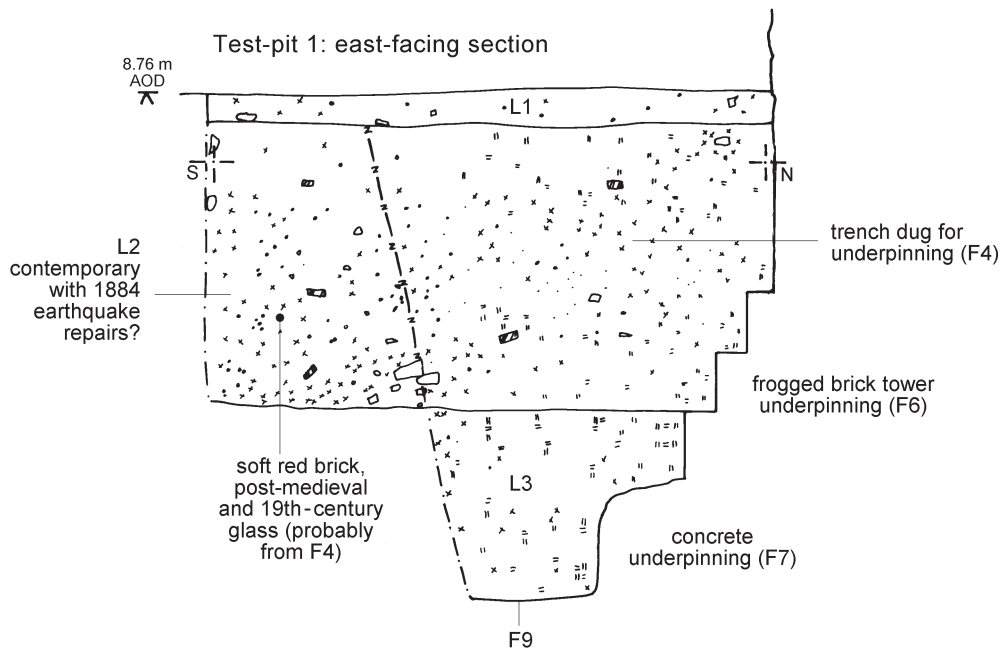


Fig 2 Test-pit 1: east-facing section (top), and west-facing section (bottom).

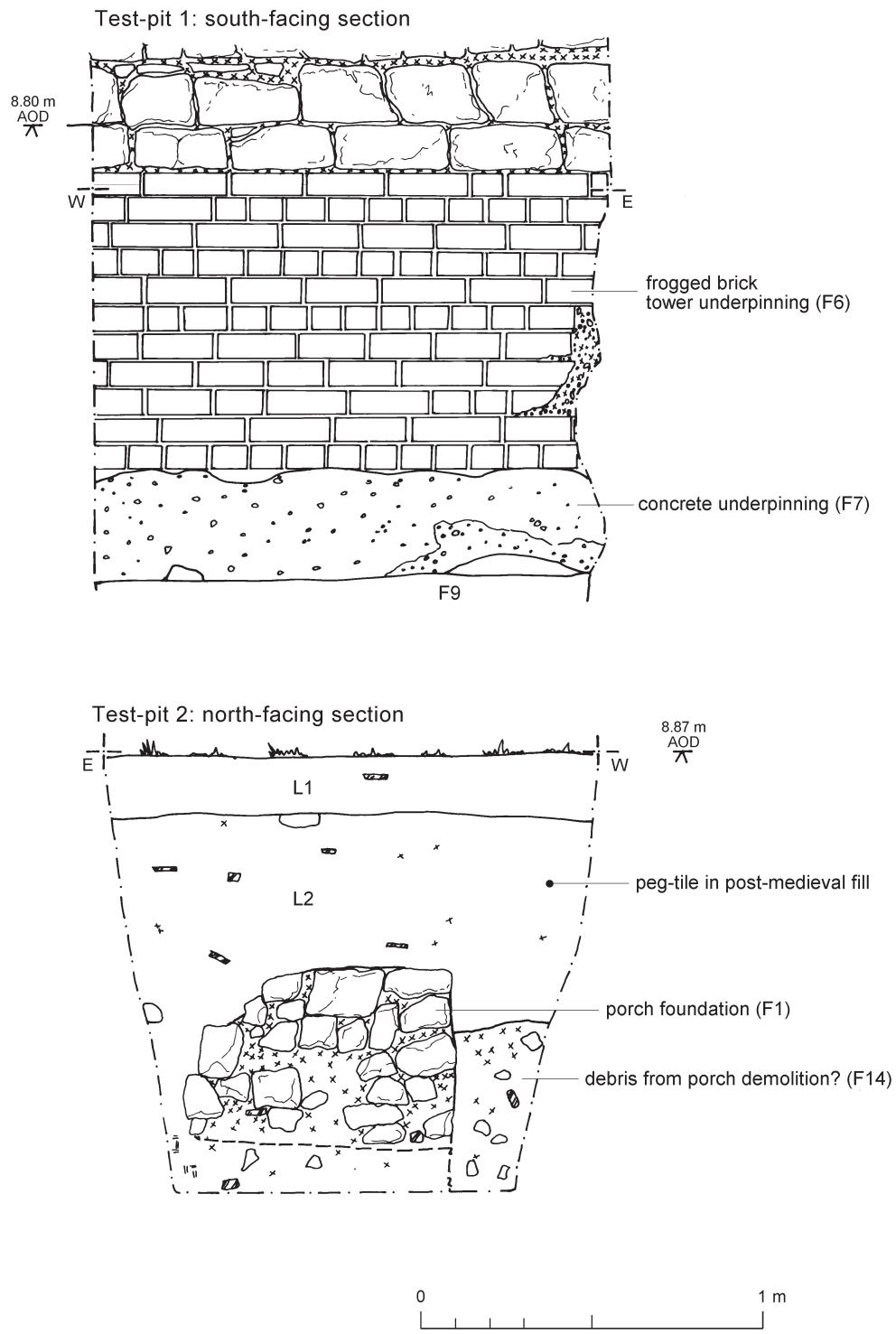


Fig 3 Test-pit 1: south-facing section (top), and Test-pit 2: north-facing section (bottom).

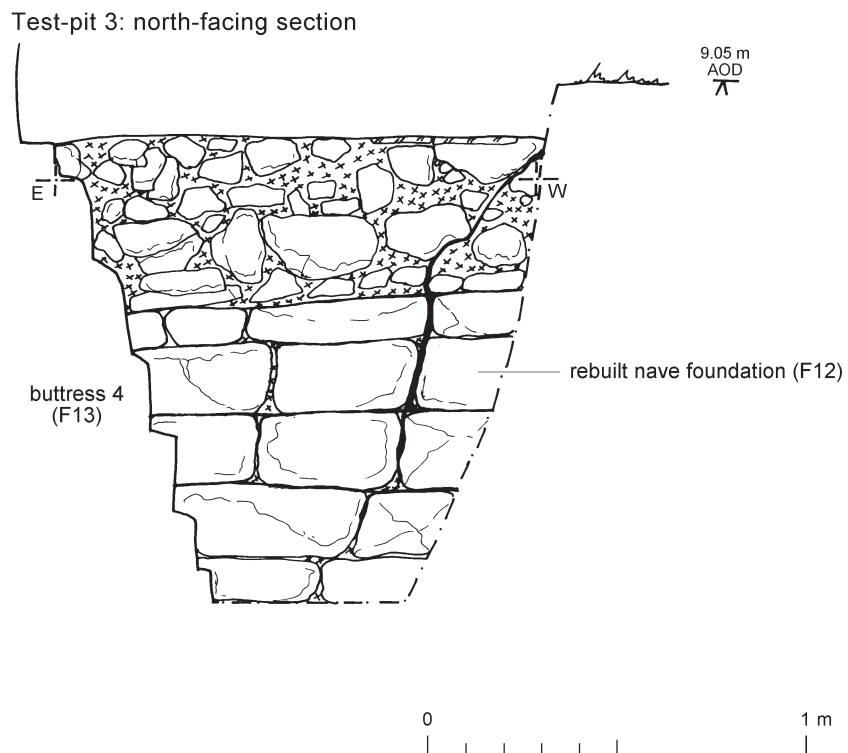
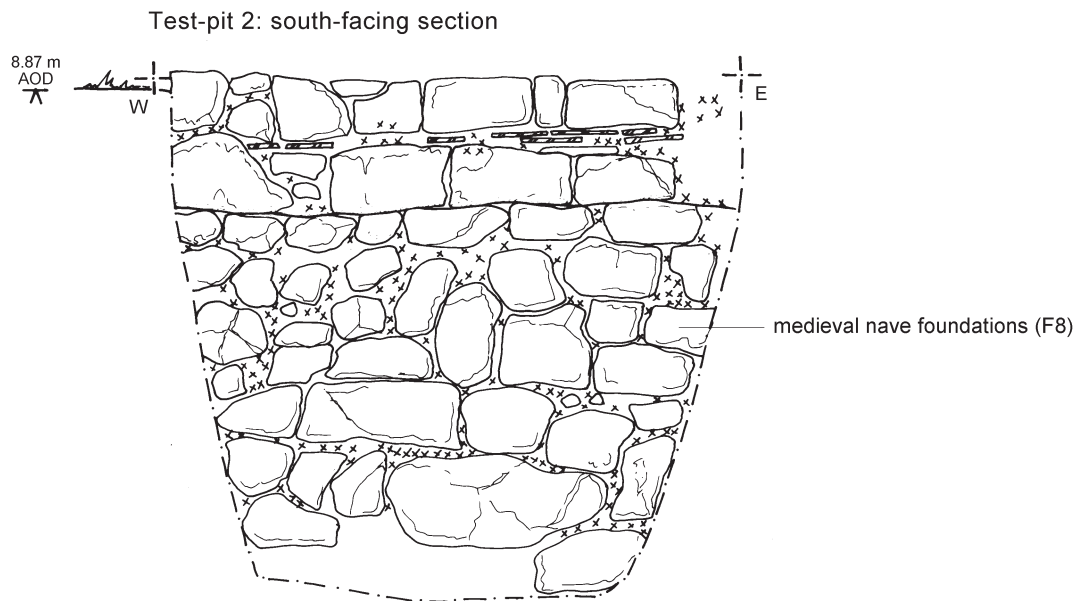


Fig 4 Test-pit 2: south-facing section (top), and Test-pit 3: north-facing section (bottom).

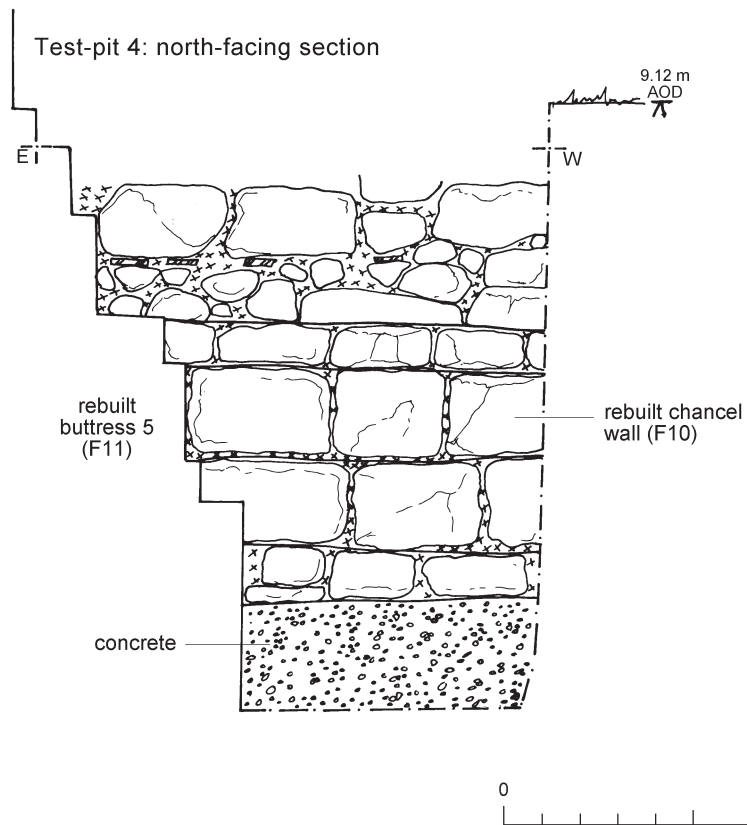
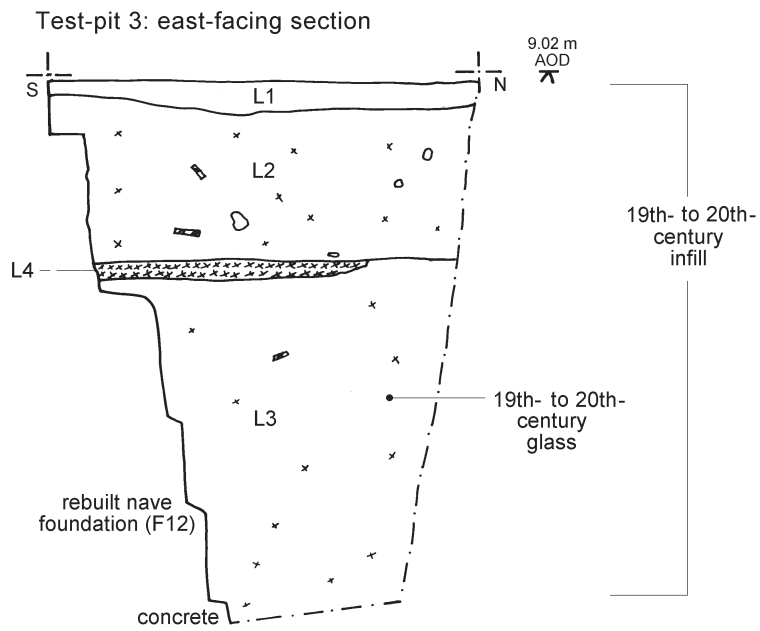


Fig 5 Test-pit 3: east-facing section (top), and Test-pit 4: north-facing section (bottom).

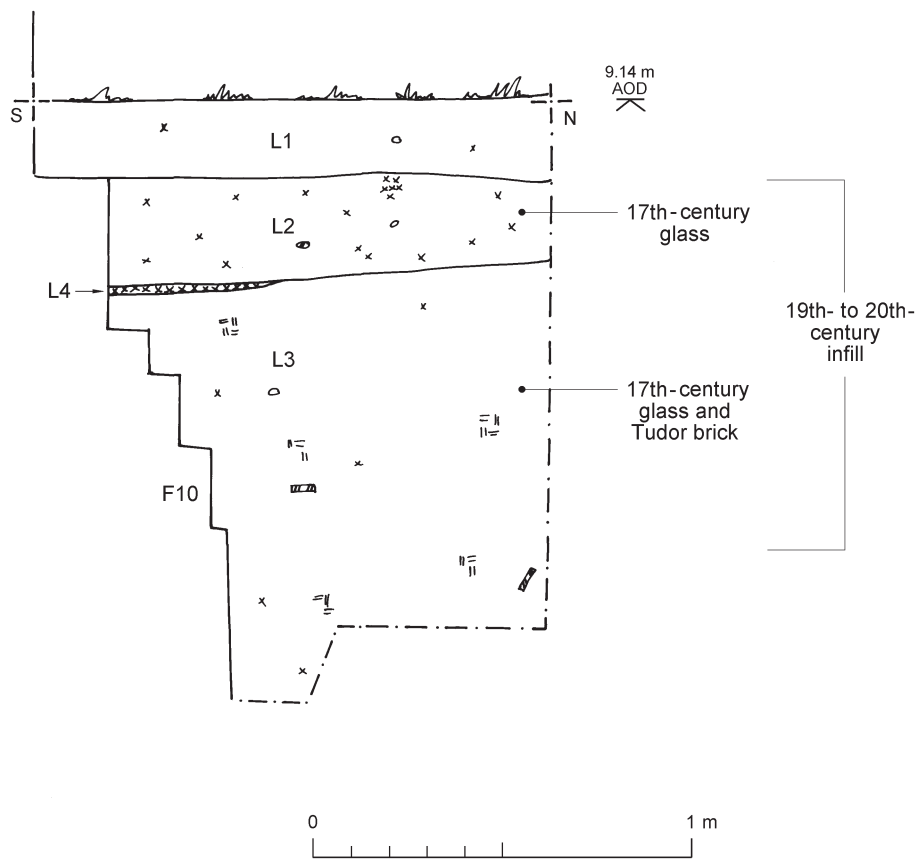


Fig 6 Test-pit 4: east-facing section.

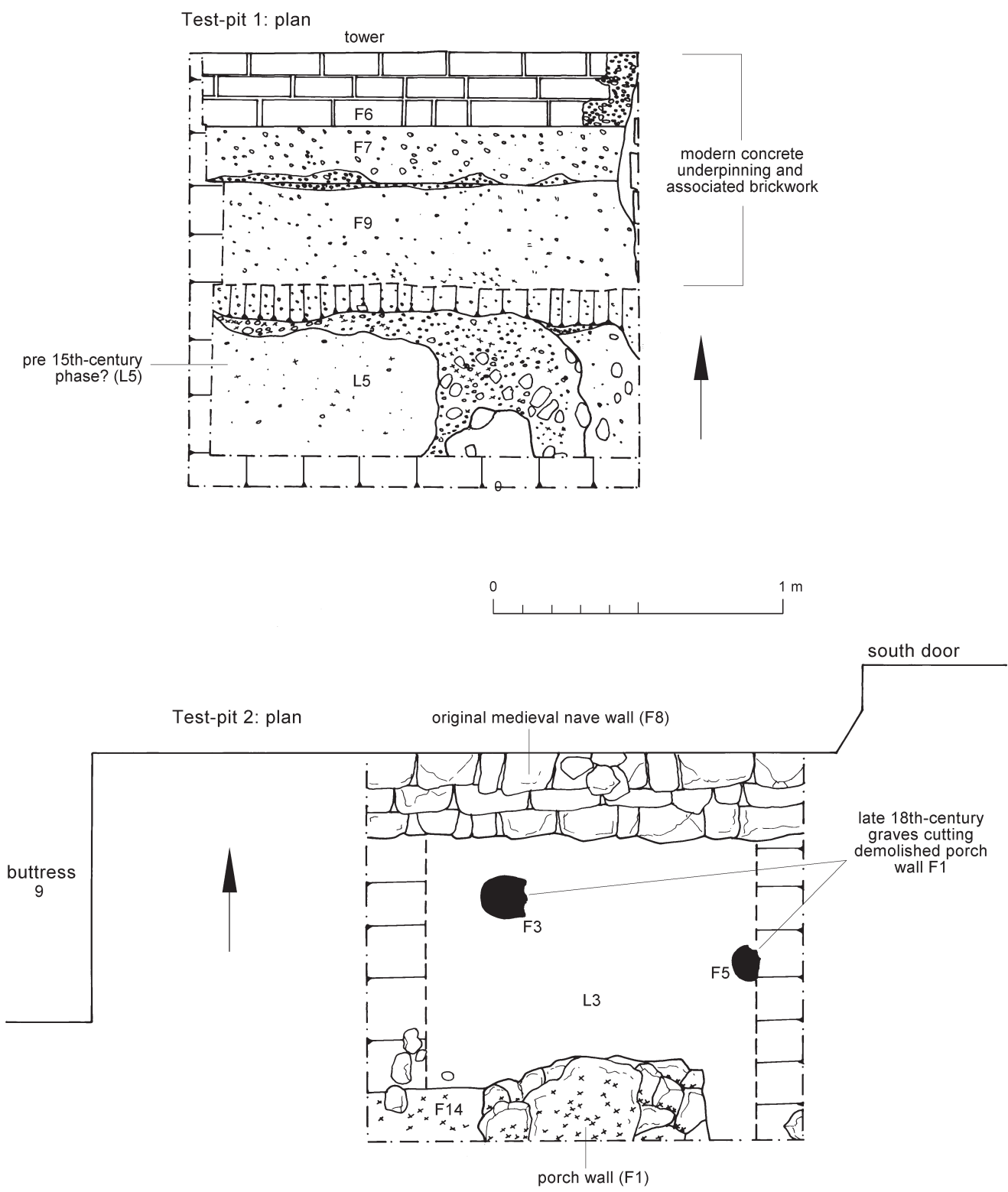
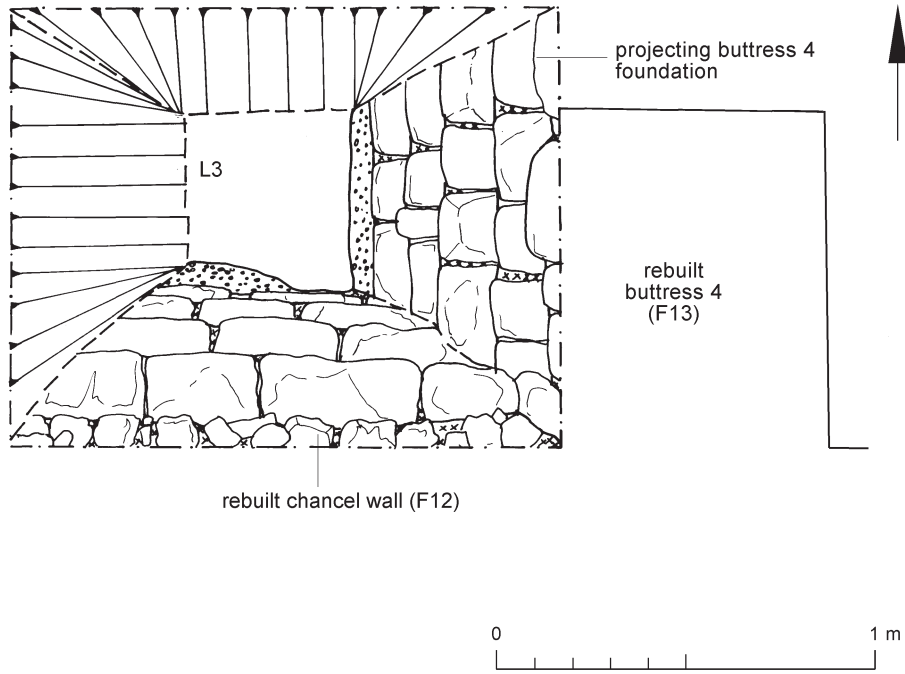


Fig 7 Test-pit 1: plan (top), and Test-pit 2: plan (bottom).

Test-pit 3: plan



Test-pit 4: plan

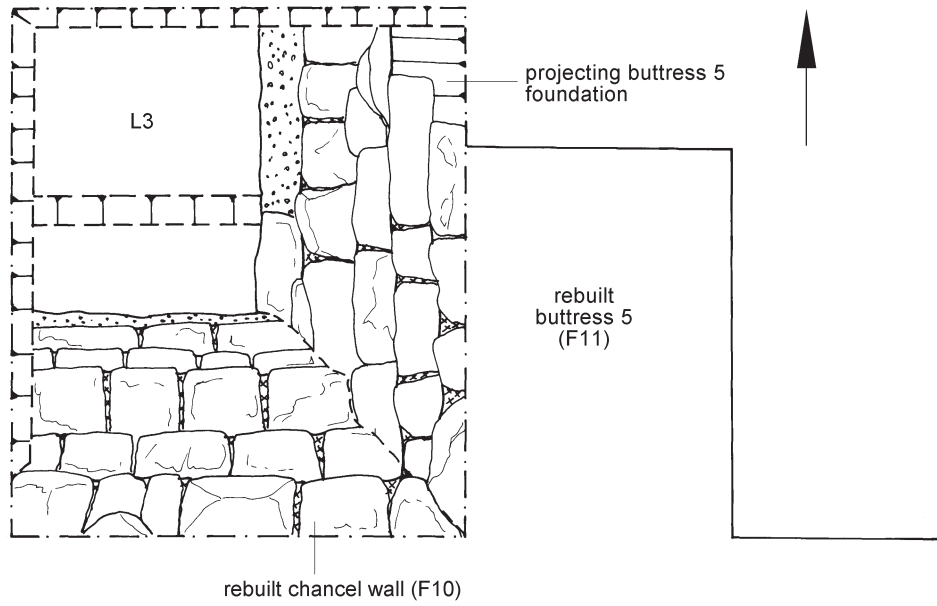


Fig 8 Test-pit 3: plan (top), and Test-pit 4: plan (bottom).

**Essex Historic Environment Record/
Essex Archaeology and History**

Summary sheet

Site name/address: St Nicholas' Church, Copt Hall Lane, Little Wigborough, Essex	
Parish: Little Wigborough	District: Colchester Borough
NGR: TL 9810 1453	Site code: museum accession code 2005.128
Type of work: Evaluation	Site director/group: Colchester Archaeological Trust
Date of work: November 2005	Size of area investigated: 4 test-pits
Location of finds/curating museum: Colchester Museums	Funding source: St Nicholas' Church PCC
Further work anticipated? Watching brief	Related EHER nos:
Final report: CAT Report 350	
Periods represented: late medieval-modern	
<p>Summary of fieldwork results:</p> <p><i>Four test-pits were dug by the Colchester Archaeological Trust to investigate the cause of subsidence in the 15th-century church of St Nicholas, Little Wigborough, Essex. The investigations showed that the church was provided with massive stone foundations well over a metre in depth, which is above average for a small church such as this. Cracks could be seen in the foundations at the west end of the nave and the north side of the chancel. The chancel and buttresses on the north side of the church were provided with particularly wide and deep foundations of large squared blocks of Kentish Ragstone. Various interpretations can be put forward for these foundations, including underpinning and cladding.</i></p> <p><i>The test-pit to the south of the tower exposed a layer of rubble, possibly associated with a building which pre-dated the church.</i></p> <p><i>Foundations to the south porch were revealed, which had been cut through after demolition by two burials.</i></p> <p><i>Several episodes of underpinning were exposed, some probably post-medieval and others carried out after the 1884 earthquake.</i></p>	
Previous summaries/reports: CAT Report 308	
Author of summary: Kate Orr and Howard Brooks	Date of summary: April 2006