

## **2, CHURCH LANE, BONBY, NORTH LINCOLNSHIRE**

### **ARCHAEOLOGICAL MITIGATION REPORT**

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## Summary

*In September 2011, Pre-Construct Archaeological Services Ltd (PCAS) were commissioned by J. Derbyshire Design Partnership (Agent) to undertake a scheme of archaeological mitigation on land at 2, Church Lane, Bonby, Lincolnshire (centred on NGR: TA 0029 1542).*

*The work, conducted in accordance with a specification approved by North Lincolnshire Council (NLC), represented the final stage of archaeological works on the site. An archaeological evaluation conducted in 2008 had revealed evidence of settlement activity associated with the medieval village, including a number of large ditches, a stone latrine structure, gullies and a hearth.*

*This stage of the works comprised two area excavations in house plots 1 and 3, located in the south-eastern and north-western corners of the site respectively. The excavations in Plot 1 contained the most complex archaeology on the site, with at least three discrete phases represented. The earliest features were two undated gullies, cut by three successive, north-south-aligned ditches of post-medieval date that were traced for the entire length of the plot. The latest ditch was cut for the insertion of a post-medieval stone-built latrine. Environmental analysis of the latrine fills revealed evidence of domestic waste typical of a high-status site. A number of relatively rare, twill-woven linen fragments recovered from the latrine provide a valuable contribution to the study of medieval cloth. A number of wall segments and a well-built circular platform, probably a dovecote, are possibly contemporary with the latrine; this is supported by an overwhelming majority of bird bones from the latrine fills.*

*The excavations in Plot 3 revealed a dump of burnt sand containing evidence of metalworking and the remains of a hearth structure.*

*Archaeological monitoring during the excavation of strip footings in Plots 1, 2 and 3 recorded only a single, shallow gully containing 17<sup>th</sup>- to 18<sup>th</sup>-century pottery. No archaeological features or deposits were observed during the monitoring of the service runs or manhole shafts.*

*The archaeological mitigation work at 2 Church Lane Bonby has shown that the site formed part of a high status post-medieval (and possibly late medieval) settlement area or habitation. This is particularly evident from the latrine and from the assemblages and artefacts it contained; and from the dovecote. The location of these features on the eastern edge of the site and the absence of similar archaeology to the west suggests that the focus of this settlement was to the immediate east of the site.*

## **1.0 Introduction**

- 1.1 Pre-Construct Archaeological Services Ltd (PCAS) were commissioned by J. Derbyshire Design Partnership (Agent) to undertake a scheme of archaeological mitigation on land at 2, Church Lane, Bonby, North Lincolnshire (**Fig. 1**). The work, conducted in accordance with a specification approved by North Lincolnshire Council (NLC), represented the final stage of archaeological works on the site (PCAS 2008a).
- 1.2 Full planning permission was being sought for a residential development within the curtilage of 2 Church Lane, Bonby (ref: PA/2009/1206). The site lies within the historic core of the village where medieval archaeological remains are likely to be impacted by proposed development. Earlier remains have also been found within the vicinity, including late prehistoric, Roman and Saxon.

## **2.0 Site location and description**

- 2.1 Bonby is situated within the administrative district of North Lincolnshire, lying some 6.5km southwest of Barton-upon-Humber. It rests on the eastern edge of the Ancholme Valley, forming one of the so-called 'low villages' running along a spring line at the foot of the Lincolnshire Wolds.
- 2.2 The Ancholme valley in general is relatively narrow and well-defined; its villages are typically located on the margin of the wetland, with the parishes elongated to incorporate some higher dry land in each (Van de Noort and Ellis, 1998). The village centres on the junction of the B1204 road, which links the low villages, with a minor road running north to the parish church.
- 2.3 The application area nests within the elbow of Church Lane and Main Street and comprising a roughly rectangular land parcel of approximately 0.3ha (see **Fig. 1**). It is centred on NGR TA 0029 1542.

## **3.0 Geology and topography**

- 3.1 The site is bounded to the east and south by residential properties; to the north by Church Lane and to the west by Main Street. It lies at an altitude of between c. 22m and 24m AOD and is terraced down to the west.
- 3.2 Geologically, the site lies on the border between two drift deposits, Sand and Gravel (including post-lacustrine levee sand) of the Vale of York Glacial Deposits and Blown Sand. The underlying solid geology is Ancholme Clay Group of the Upper Jurassic (BGS 1983).

## **4.0 Archaeological and historical background**

- 4.1 The village of Bonby has previously been subject to little systematic archaeological fieldwork, thus the extent and chronology of archaeological remains within the locality is poorly understood.
- 4.2 Evidence of prehistoric activity in the Bonby area includes the 2001 discovery of a large Iron Age storage vessel, archaeological features and areas of burning. These

remains indicate the likely existence of a late prehistoric domestic settlement site near Main Street, to the immediate west of Church Lane. A single prehistoric flint tool was recovered during archaeological monitoring on Main Street, Bonby in 2006, c. 250m southeast of the current site (Gardner 2006). The eastern edges of the parishes of Bonby and the other low villages incorporate an old trackway known as 'High Street', believed to be of prehistoric origin, which extends along the length of the Wolds from South Ferriby (Margary 1973, No. 270).

- 4.3 During the Roman period, the High Street track is believed to have continued in use, connecting the settlement at South Ferriby, the most northerly of the low villages, to the major Roman walled settlements at Caistor and Horncastle. Roman villa sites have been excavated in Horkstow and Worlaby, two of the other low villages, to north and south of Bonby respectively, while extensive Romano-British settlements are known to the east of Bonby village and at Old Winteringham, c. 10km to the northwest. Roman pottery has also been found in Bonby village, close to the current development.
- 4.4 The place-name 'Bonby' first appears in the Domesday Survey of AD 1086 as *Bundeby* (Morris 1986. 25,1; 36,3). The settlement pre-dates the Norman Conquest and Saxon remains have been found in the village. At the time of the Domesday Survey, the Bonby estates had been consolidated from the landholdings of seven English *thegns* to the manors of two Norman nobles, Hugh fitzBaldric and Ralph de Mortimer, who appear to have used the land exclusively as arable farmland.
- 4.5 The Church of St. Andrew, which lies c. 100m to the northeast of the site is not recorded in the 11<sup>th</sup> century Domesday Book but has a Norman nave, with traces of a 13<sup>th</sup>-century arcade and chancel that were replaced or heavily altered in the 18<sup>th</sup> and 19<sup>th</sup> centuries (Pevsner & Harris 1989, 151).
- 4.6 During the reign of King John (AD 1199-1216), an alien priory was founded in Bonby: a cell of the Benedictine abbey of St. Fromond in Normandy (Mee 1970, 47). The alien priories were suppressed by the Crown during the 14<sup>th</sup> century, and their possessions, for the most part, granted to new religious foundations: Bonby Abbey passed into the keeping of the Carthusians; its location is now lost.
- 4.7 The first edition OS map of 1889-1891 shows the site area encompassed by Church Lane and Main Street and comprising non-coniferous woodland, with a stream curving around the eastern edge of the site. To the east of the site, at the junction of Church Lane and Sheepdyke Lane, the Vicarage is shown (see Gardner 2006, Fig. 2). The village occupied much the same area as it does today, but was much more sparsely populated.
- 4.8 A Bonby local historian, Mr Beasley, suggested that the site at 2 Church Lane did not always belong to the vicarage, but was purchased from the Yarborough Estate in 1922.
- 4.9 Prior to the final phase of archaeological work, the centre of the site contained a standing building dating to the 1970s, with a driveway/access road leading towards Church Lane to the north; and mature gardens. A large tennis court stood at the southern end of the site, encompassing the majority of plots 1 and 2 (see PCAS 2008b Fig. 3).

## 5.0 Site investigation background

- 5.1 In February 2008, a programme of archaeological evaluation was undertaken by Pre-Construct Archaeology (Lincoln) in support of the current application (PCAS 2008a, 2008b). Six trenches were excavated, targeted on the proposed footprints of a new housing scheme (**Fig. 2**). Two trenches excavated in the north-eastern corner of the site (trenches 1 and 6) proved archaeologically sterile. Evidence possibly representing settlement activity associated with the medieval village was recorded in three of the remaining trenches: Trench 3 contained an east-west oriented ditch (308); Trench 4 contained a stone structure (404); and Trench 5 contained a north-south oriented ditch (504); A post-medieval ditch terminal (507) identified in Trench 5 probably related to ditch (408), located on a similar alignment in House plot 1. A number of other undated features identified in Trench 2 (House plot 3) included two linear gullies (204 and 208) and a stone structure (207) - possibly a hearth.
- 5.2 In May 2008, archaeological monitoring undertaken by Pre-Construct Archaeology (Lincoln) c. 100m west of the current application site at 97 Main Street recorded a drainage ditch and two gullies of post-medieval date (PCAS 2008c).

## 6.0 Aims & Methodology

- 6.1 The mitigation scheme (PCA 2008a) was designed in collaboration with the North Lincolnshire Historic Environment Record (NLHER). It followed current best practice and appropriate national guidance including:
- *The Management of Archaeological Projects (MAP2)*, (English Heritage, 1991);
  - *Code of Conduct* (Institute of Field Archaeologists, 1994 as revised);
  - *Standard and Guidance for Archaeological Field Evaluation* (Institute of Field Archaeologists, 1994 as revised);
  - PPS5, *Planning Policy Statement 5: Planning and the Historic Environment* (DCLG 2010, March 2010);
  - *Standard Briefs for Archaeological Projects in Lincolnshire: Lincolnshire Archaeology Handbook* (Lincolnshire County Council, 1997, Last Rev. 2010);
- 6.2 The excavation areas were accurately located by offsetting from known geographical points using long hand tapes. Initially, a JCB fitted with a wide toothless ditching blade and under archaeological supervision, was used to remove all topsoil, subsoil and underlying non-archaeological deposits in spits no greater than 20cm in depth. The process was repeated until the first archaeologically significant or natural horizon was exposed or until the levels outlined in Section 4.0 of the approved WSI (PCA 2008).
- 6.3 Archaeological features/deposits were sample excavated according to the stipulations of the brief and approved WSI; and context information recorded on standard Context Record Sheets. Archaeological deposits were drawn to an appropriate scale (1:10 or 1:20, or 1:50 for those extending over a wide area), in plan and in section, with Ordnance Datum heights being displayed on each class of drawing. 35mm colour and monochrome photography formed an integral part of the recording strategy.
- 6.4 The archaeological mitigation of the site was conducted in two phases: a strip, map and record exercise followed by archaeological monitoring. The proposed development comprised four house plots with an associated access road, garages



and services. The strip, map and record exercise was carried out in advance of the development of house plots 1 and 3 only (context nos. 100-138 and 300-306); a programme of archaeological monitoring and recording then took place on all subsequent groundworks on the site, including ground reduction and the excavation of foundations and service trenches (context nos. 001-030).

- 6.5 Archaeological Work began on the site in May 2009 and continued until January 2011 (**Plate 1**). An area measuring 5m<sup>2</sup> was opened across the area of house plot 1 and revealed the location of the previous evaluation trench in the southern half (PCAS 2008b).

## 7.0 Results

### 7.1 *House Plot 1.*

- 7.1.1 This plot was subject to archaeological strip, map and record to a depth of 21.98 AOD (the proposed development impact depth plus 150mm buffer). The plot included part of Trench 4, excavated during the 2008 evaluation (**Fig. 3 and Plate 2**). All archaeological features exposed in Plot 1 were fully excavated. They included the further excavation of ditch [408] (excavated as [114]) in order to fully understand and record its nature; stone structure (404), (as [102]); and investigations to confirm the stratigraphic relationship between the two (Appendix 3).
- 7.1.2 The strip investigation of an adjacent parking area (to the northwest) was graded from 23.09m AOD in the north to 21.77m AOD in the south (impact depth plus 150mm buffer). The excavation of the house plot strip footings was later subject to archaeological monitoring.
- 7.1.3 Environmental sampling was conducted on the fills of stone built structure [102] in plot 1 to determine whether the provisional cess-pit interpretation was valid. Fills (126) and (134) of ditch cuts [127] and [110] respectively were also sampled for environmental remains.

#### *Phase 1: East/west gullies*

- 7.1.4 The natural geology identified within the area of house plot 1 was light yellowish-white weathered chalk containing pea gravel and patches of sandy clay (107) at c. 22.90m AOD. Above this was mid orange-yellow sand recorded as a windblown deposit (106) (**Fig. 4.1**). A number of features were found cut into sand (106). The two earliest features encountered were two east/west-aligned gullies spaced c. 4 metres apart. The northernmost gully [119] was 0.45m wide and 0.15m deep (see **Fig. 3; Fig. 4.9, 4.10 and Plate 3**). The fill (118) was grey-brown clayey sand containing abundant chalk fragments.
- 7.1.5 Gully [127] to the south was 0.78m wide and 0.45m deep. When analysed, the brown-grey / orange-grey clayey sand fill (126), was found to contain a variety of environmental remains including charcoal, charred hazelnut shells and plant stems, charcoal and animal bone fragments; as well as woundwort, a plant used since the Middle Ages, as a highly valued healing herb (<http://www.herbs2000.com/herbs/>). Gully [127] was only identified at the bottom of a slightly later, much larger ditch or re-cut on the same east/west alignment [125] (see **Fig. 3 and Fig. 4.1**). This latter feature was traced for a length of 6 metres across Plot 1. It measured 2.40m wide and had a concave base and sloping sides. The fill (124) was brown-grey clayey sand and contained a single iron object.

### *Phase 2: North/south-aligned linear features*

- 7.1.6 In the north-western corner of Plot 1, northern gully [119] was cut by a similar feature aligned north/south [117] (**Fig. 4.8, 4.10**). This gully was 0.38m wide and 0.19m deep. The fill (116) was brownish-grey silty sand containing a high percentage (c. 30%) of chalk.
- 7.1.7 Further east, gully [127] and later re-cut [125] were cut by three intercutting linear features aligned north/south that were traced for virtually the full length of the plot (**see Fig. 3**). The earliest of these (*Phase 2a*) was the western-most feature [108], a shallow gully measuring c.0.66m wide and 0.29m deep (**Fig. 4.2 – 4.4 and plates 4 & 5**). The fill (121) was mid-orange-brown clayey sand devoid of finds. Gully [108] extended southwards from the driveway area at the northern end of the site, where it cut east/west features [119] and [125]. Further south, in the area of Plot 1, the feature curved westwards and was cut by the second (central) of the three north/south linears [109] (**Fig. 4.3**). This feature (*Phase 2b*) was 1.30m wide and c.0.75m deep and had a u-shaped profile with a concave base. The fill (123) contained a single abraded sherd of Roman greyware pottery and pieces of animal bone (see Appendix 2.2).
- 7.1.8 Ditch [109] broadly aligns with ditch [408] excavated in Trench 4 in 2008 and appears to represent part of the same linear feature, although no adjacent ditches were recorded (see **Fig. 3**). The southern extent of [109] was traced to the south of the backfilled 2008 Trench 4, where it was recorded as ditch [114] containing fill (113). The 2008 evaluation in Trench 4 recorded that ditch [408] was cut through the base of latrine structure [404], (PCAS 2008b, 5-6). However, this sequence was disputed in 2009, when a cut for the western wall of latrine [102] was recorded both in plan and section and clearly cut through ditch [109]; and subsoil (101) (see 7.1.11 - 7.1.12 below and **Fig 5.2**).
- 7.1.9 The latest of the three, north/south-aligned linear features (*Phase 2c*) was the easternmost ditch [110]. This feature was 1.55m wide and 0.85m deep (see **Fig. 3** and **Figs. 4.2, 4.3**). It had a sharp break of slope, relatively steep, stepped sides and a narrow u-shaped base. The ditch contained two fills. The primary fill (134) was confined to the western side of the ditch and was possibly the result of slumping from a bank on the western side –although this assumes that adjacent earlier ditch [109] was already infilled. Fill 134 contained a wide variety of plant remains, including cultivated oats, arable weeds and charred botanical remains indicative of the exploitation of wetland resources (see Appendix 2.1). The principal fill of ditch [110] was (122) comprising mid orange-brown sand that contained a single redeposited rim sherd of North Lincolnshire Gritty ware pottery of probable mid 11th to early 13<sup>th</sup> century date.
- 7.1.10 Both gully [117] and east/west ditch [125] were cut by [129], representing either the terminus of a linear that extended outside the area of excavation or part of a large pit (**Fig. 4.6 and Plate 6**). The fill (128) was greyish-brown sandy clay containing a single fragment of cattle bone (see Appendix 2.3). This feature is possibly contemporary with later ditch [110].

### *Phase 3: Cess-pit structure*

- 7.1.11 The partial remains of a square or rectangular stone structure [102] probably representing a cess-tank or latrine were found cutting the latest (eastern-most) of the three ditches [110], (**Figs. 5.1 and 5.2; Plates 7 & 8**). This structure was first observed in 2008 in the south-facing section of Trench 4. At that time it was recorded as two, parallel limestone walls [404] set c. 0.70 – 0.80m apart, with two

deposits or fills between them (403, overlain by 402). A single pottery sherd recovered from (402) was dated to the mid to late 12<sup>th</sup> century.

- 7.1.12 Detailed excavation of this structure in 2009 confirmed the existence of two well-built, north/south-aligned parallel walls [102], c. 1.20m long, c. 0.80m high and between c.0.30 – 0.40m wide. A construction cut [un-numbered] was recorded both in plan and section and clearly cut through ditch [109]; and subsoil (101) (see **Fig. 3** and **Fig. 5.2**). The south-facing elevation of the rear (north) wall was also observed upon excavation of the fill. The three surviving walls were all constructed of very roughly squared blocks of chalk or degraded limestone bonded using an off-white/yellow loose lime mortar. They also included fragments of 16<sup>th</sup> - 18<sup>th</sup> century CBM (Appendix 2.3). The interior wall faces of the structure were finished, rather than the exterior faces. The western wall of the structure had collapsed somewhat and was splayed westwards. The southern wall of the latrine appears to have been removed during the 2008 evaluation or sometime previously. Five fills were excavated from the interior of the structure. The primary fill (133) was a grey silty deposit. No finds were recovered from this fill during excavation but when analysed, it contained a wealth of material including small fragments of medieval vessel glass, animal bone, iron nails, fish bone and flax textile (see Appendices 2.1 and 2.2). Above this was a very dark organic fill (132) containing 13<sup>th</sup> - 15<sup>th</sup> century roofing tile, animal bone, timber-sized pieces of oak charcoal and plant remains. Fill 132 was overlain by (131) a 0.35m deep deposit of brown sandy clay, also with an organic component. A single sherd of pottery from this context was dated to the mid 4<sup>th</sup> to 9<sup>th</sup> centuries. Above (131) was orange-brown sandy clay fill (130). The uppermost fill of the structure was orange-brown clay-sand (120) containing 13<sup>th</sup>-15<sup>th</sup> century CBM (Appendix 2.3).

### *Phase 3: Contemporary stone features*

- 7.1.13 In the central, eastern part of Plot 1, ditch [110] was cut by a narrow linear feature or slot [112] aligned east/west (**Fig. 3**, **Fig. 4.1**, **4.5** and **Plate 9**). The cut was c. 0.70m wide and 0.40m deep. The fill (111) was brownish-grey clay-sand devoid of finds. The ephemeral remains of a stone and brick structure or part of a wall [104] containing 16<sup>th</sup>-18<sup>th</sup> century CBM fragments were found within the subsoil above the slot and appeared to respect the line of it, being confined to the top of fill (111). Another similar stone feature [103] was found c.2m to the south of this **plate 10**.
- 7.1.14 Also post-dating ditch [110] was a large, semi-circular stone structure [105] located in the very northeast corner of the Plot 1 area strip (see **Fig. 3** and **Fig. 6** and **plates 11 & 12**). The structure probably formed one half of a roughly circular feature with a diameter of approximately 5.8 – 6 metres, although the eastern half extended outside Plot 1, beyond the site boundary. It was built of coarse unbonded chalk, two to three courses high and had well defined outer and inner edges. The wall itself was a metre wide, with the central portion consisting of an orange-brown clayey sand and rubble infill (138). A section excavated through the structure revealed that it was built by means of a construction cut [137] through subsoil (101) and also cutting the upper fill (122) of large north/south aligned ditch [110], which ran under its western edge (see **Figs. 6.1 & 6.2**). Sherds of 16<sup>th</sup> to 17<sup>th</sup> century pottery; clay tobacco pipe; and bird and animal bones were recovered from [105]. The structure probably represents the remains of a dovecote. To the south of the structure and post-dating it was a large spread of yellow-grey sandy clay (135), c. 0.25m deep and containing abundant fragments and flecks of chalk. This deposit possibly represents a demolition spread associated with the destruction of [105].

### Plot 1 monitoring

- 7.1.15 Plot 1 was located in the south-eastern corner of the site, with the western side part of the former tennis court and the eastern side within the area of the garden (see **Fig. 2** and PCAS 2008b, Fig. 3). Plot 1 was aligned c. east/west and measured c. 14m long and c. 9.5m wide (**Fig. 7**). The Plot 1 house footings were monitored in July 2010. Trench 4 of the 2008 evaluation was identified within the southern part of the house plot on the same alignment. The continuation of large north/south-aligned ditch [408] excavated in Trench 4 was not identified within the Plot 1 footings. The Plot 1 footings revealed c. 0.35m of natural light brownish-yellow sand and gravel (011), above which was a layer of slightly darker natural sand (010), c. 0.30m deep. The natural deposits on the eastern side of Plot 1 were overlain by mid-yellowish-brown silty sand subsoil (009). Only modern asphalt (008) and overburden was recorded above natural (010) in the northern footings.

## **7.2 House Plot 2**

### Plot 2 monitoring

- 7.2.1 Plot 2 was located in the south-western corner of the site in the area of the former garden and tennis court (see **Fig. 2** and PCAS 2008b, Fig. 3). The Plot 2 house footings were excavated in July 2010 using a 180° wheeled excavator (JCB). Plot 2 was aligned c. northwest/southeast and measured c. 11.5m long and c. 9m wide (**Fig. 8**). Evidence was found at the western end of the site for topsoil and subsoil that had previously been stockpiled, possibly during the construction of the former house on the site. The backfilled 2008 evaluation trench (T3) was identified within the western half of the plot. The strip footings for Plot 2 excavated under archaeological supervision measured c 0.60m wide and a maximum of 0.76m deep. Their sections revealed a lower subsoil deposit of yellowish-brown silty sand (006), a maximum of c. 0.50m deep. This was overlain by an upper subsoil deposit (005), up to c.0.20m deep and identical in colour to (006) but distinguished from it by frequent chalk flecks, CBM and coal pieces; and by greater compaction. On the western side of the plot, subsoil (005) was covered by c.0.30m of mid- to dark greyish-brown redeposited topsoil (004) containing fragments of asphalt, CBM and coal. Elsewhere, the upper subsoil (005) was covered by a thin deposit (c. 0.10m) of modern asphalt associated with the former tennis court on the site.

## **7.3 House Plot 3**

### Strip, map, record exercise

- 7.3.1 Plot 3 was located in the north-western quadrant of the site in the area of the former gardens (see **Fig. 2, Fig. 9 and Plate 13**). This plot was also subject to archaeological strip, map and record to a maximum depth of 20.65m AOD. This included a 5m<sup>2</sup> archaeological excavation around a possible hearth feature [207] excavated in Trench 2 during the 2008 evaluation, in order to allow adequate recording of this and any other associated features. All archaeological features exposed were fully excavated. Further evidence was found relating to hearth structure [207] (see below).
- 7.3.2 The natural sub-stratum identified within house plot 3 was mid yellow weathered chalk (306), (**Fig. 10**). Above this was mid brownish yellow sand (305) at 20.90-20.91m AOD, containing a single sherd of 12<sup>th</sup> to early 13<sup>th</sup> century pottery (see Appendix 2.3). This deposit was identified in 2008 (202) between 21.30m AOD at the eastern end of Trench 2 and 21.10m AOD at the western end. Two small intrusive sherds of post-medieval pottery were recovered from the top of this deposit in 2008.



- 7.3.3 The 2008 sand deposit (202) was cut by two shallow gullies (204 and 206) aligned broadly east/west; the fill of the former (203) containing post-medieval pottery. No linear features were encountered in Plot 3 during the mitigation phase. Above sand (305) was a circular deposit of mid orange-red sand (304), c. 0.12m deep and showing signs of burning (**Plate 14**). This was interpreted as a dump of burnt material. When analysed, this deposit was found to contain ash charcoal, heat-affected quartz and hammerscale flakes associated with metalworking. Above the burnt sand and contained within the lower levels of overlying subsoil (301) was a spread of decayed rubble (302) interpreted as the remains of a demolished structure (**Plate 15**). This feature coincides with a possible limestone hearth [207] excavated in the very southwest corner of Trench 2 in 2008. The hearth, cut into sand 202, showed evidence of burning on some of the stones and on the underlying sand. Above subsoil 301 was another rubble deposit or fill (303) that had been used to backfill a 1.60m<sup>2</sup> modern brick manhole or soakaway structure and was capped by a layer of brick and tarmac (**Plate 16**). Elsewhere in Plot 3, the most recent deposit was dark blackish-brown topsoil (300), which sealed subsoil 301 (see **Fig. 10**). The equivalent deposits in Trench 2 in 2008 were subsoil (201), which sealed the two linear features; and topsoil (200).
- 7.3.4 The excavation of the Plot 3 strip footings was also monitored and contingency provided to step out the foundation trench.

#### Plot 3 monitoring

- 7.3.5 The Plot 3 house footings were excavated in July 2010 using a JCB. Plot 3 was aligned c. northeast/southwest and measured a maximum of c. 15m long and c. 12m wide (see **Fig. 2**). Trench 2 of the 2008 evaluation was recorded crossing the north-eastern quadrant of the plot on a northwest/southeast alignment (**Fig. 11**). Sample sections 028 and 029 recorded in the south-western and north-eastern strip footings respectively show the earliest deposit as natural brownish-yellow sand with gravel lenses (014), overlain by yellowish-brown silty-sand subsoil (013); up to 0.28m deep. The uppermost deposit recorded in Plot 3 was mid- to dark greyish-brown sandy-silt topsoil (012), up to 0.32m deep. No features were recorded in the footings of Plot 3 that might relate to the linear features recorded in Trench 2 in 2008, or to the features recorded in the excavation area to the southwest.

### 7.4 **House Plot 4**

#### Plot 4 monitoring

- 7.4.1 Plot 4 was the northern-most plot on the site, located to the west of the former access drive (see **Fig. 2** and PCAS 2008b). Plot 4 was relatively L-shaped, measuring approximately 14m long and c. 11m wide (**Fig. 12**). The Plot 4 house footings were monitored in late July 2010. The negative evaluation trench (Trench 1) of the 2008 evaluation was identified in the centre-east of the plot, aligned NNW/SSE. A single linear feature [020] aligned roughly north/south was identified in Plot 4 to the east of the backfilled trial trench. The feature, a shallow ditch or gully with very steep sides was c. 0.82m wide and c. 0.20m deep. It had been cut into natural mid-brownish-yellow silty sand (017). The ditch was traced across two parallel footings. It contained a single fill (019) comprising mid greyish-brown sandy silt with veins of yellowish-brown coarse sand. Ditch [020] was sealed by yellowish-brown subsoil (016) with extensive tree roots; up to 0.68m deep. Above this was dark greyish-brown topsoil (015), c. 0.40m deep and also with extensive tree rooting. This deposit contained 17<sup>th</sup>- to 18<sup>th</sup>-century pottery (Appendix 2.3). The uppermost layer recorded in the footings of Plot 4 was a compacted surface of

foundry slag containing sand and gravel (018). This layer was the residue of the former access road on the site.

## 7.5 **Site-wide archaeological monitoring**

### Soakway pit

- 7.5.1 House plots 1 and 3 underwent a Strip, Map & Record exercise throughout May 2009, in advance of development. Archaeological work resumed in June 2010 in the form of archaeological monitoring during groundworks. The first work to be monitored was the excavation of a 1m<sup>2</sup> percolation / soakaway test-pit, which was excavated by machine in the central-southern part of the site, between house plots 1 and 2 (**Fig. 13** and **Plate 17**). The first attempt to dig this pit was unsuccessful, due to the presence of buried concrete foundations associated with the former building on the site. The test pit revealed three deposits (**Fig. 14.1** and **Plate 18**): at the base of the 1.60m deep test pit was a 0.55m deep natural deposit of brownish-yellow sand (003). Above this was a 0.70m deep deposit of mid-brown sandy silt subsoil (002), into which the concrete foundations had been placed. The uppermost layer in the test-pit was mid-greyish-brown sandy-silt topsoil, c. 0.35m deep (001).

### Services

- 7.5.2 In August 2010 a programme of monitoring was conducted during the excavation of services on the site. The service trenches, all excavated by machine were c. 1m wide and ranged between c.0.30m and 0.90m deep, depending on the site topography. The principal service trench extended between all four plots and was supplemented by shorter runs servicing individual plots (see **Fig. 13**). No archaeological features or deposits were observed during the monitoring of the service runs. The recorded sequence comprised a lower deposit of orange-brown subsoil (023), overlain by a mid-brown upper subsoil layer, up to 0.34m deep (022). Above this was dark greyish-brown topsoil or garden soil (021) up to 0.28m deep (**Figs. 14.2 – 14.5**). Between plots 1 and 2, the topsoil was absent and replaced by a modern gravel surface, 0.20m deep (030). Two sherds of 18<sup>th</sup>-century pottery were recovered from topsoil (021) in Plot 3 (Appendix 2.3).
- 7.5.3 The final monitoring on the site was carried out in November 2010 during the machine excavation of four manhole shafts (see **Fig. 13** and **Figs. 14.6 – 14.9**). Six contexts were recorded in total; the natural consisted of orange-yellow silty sand with frequent chalk pebbles (025). In the northern part of the site the natural was overlain by a dark brownish-grey sandy levelling layer, c. 1.10m deep (026). At the southern end of the site, the natural (025) was overlain by two successive subsoils: a light brownish-orange subsoil (028) and, above it, a dark brownish-orange subsoil (029). The subsoil deposits at both ends of the site were covered by a layer of dark greyish-brown topsoil (024). The uppermost deposit recorded in the manhole shaft excavations was a layer of gravel bedding (027) associated with the former tennis court.

## 8.0 **Discussion and conclusion**

- 8.1 The strip, map and record excavation in Plot 1 contained the most complex archaeology on the site, with at least three discrete phases represented. The earliest features, two parallel gullies, contained no dating evidence.
- 8.2 Later earth-cut features in Plot 1 consisted of three successive, north-south-aligned ditches that were traced for virtually the full length of the plot. The earliest of these was undated, the second contained Roman and likely intrusive 16<sup>th</sup>-18<sup>th</sup> century

material; and the third was a substantial ditch containing only a residual sherd of 11<sup>th</sup>-13<sup>th</sup> century pottery. Contrary to the 2008 interpretation, this eastern-most ditch was clearly cut for the insertion of latrine structure [102]. The walls of this structure included fragments of 16<sup>th</sup>-18<sup>th</sup> century CBM. Detailed environmental assessment and analyses of the latrine fills has revealed evidence of domestic waste typical of medieval and post-medieval sites but possibly relating to a high-status site; as well as the exploitation of wetland resources and the use of turves as fuel. A number of twill-woven linen fragments from the latrine offer an extremely valuable contribution to the study of medieval cloth (Appendix 2.1 and 2.2).

- 8.3 A number of other late stone and brick features on the site in the form of wall segments and a well-built circular platform, probably a dovecote, are possibly contemporary with the latrine. All of these structures contained fragments of 16th to 18th century brick and tile. Excavation of the circular structure also recovered sherds of 16th to 17th century pottery; clay tobacco pipe; and bird and animal bones. It is interesting to note that the overwhelming majority of the bone assemblage from the latrine comprised bird bones, with domestic fowl, pigeon and sparrow being represented (see Appendix 2.2), perhaps providing further evidence of contemporaneity of these structures.
- 8.4 A strip, map and record excavation in Plot 3 revealed a dump of burnt sand containing ash, charcoal and hammerscale flakes associated with metalworking. Above this were the remains of part of a limestone hearth structure. The latest deposits in this area were subsoil, topsoil and a modern, rubble-filled soakway. No other evidence for metal-working was found on the site and the dump of sand was probably derived or imported from somewhere further east.
- 8.5 Archaeological monitoring during the excavation of strip footings in Plots 1, 2 and 3 recorded natural sands overlain by two discrete subsoil deposits, redeposited topsoil and modern asphalt associated with the former tennis court on the site. No features were recorded in the Plot 3 footings that related to the features recorded in the strip, map and record excavation to the southwest. Monitoring in Plot 4 revealed a single shallow gully cut into natural and containing 17<sup>th</sup>- to 18<sup>th</sup>-century pottery
- 8.6 No archaeological features or deposits were observed during the monitoring of the service runs or manhole shafts.
- 8.7 The archaeological mitigation work at 2 Church Lane Bonby has shown that the site formed part of a high status post-medieval (and possibly late medieval) settlement area or habitation. This is particularly evident from the latrine and from the assemblages and artefacts it contained; and from the dovecote. The location of these features on the eastern edge of the site and the absence of similar archaeology to the west suggests that the focus of this settlement was to the immediate east of the site.

## **9.0 Site Archive**

- 9.1 The documentary and physical archive for this scheme is currently in the possession of Pre-Construct Archaeological Services Ltd. This will be deposited with North Lincolnshire Museum within six months of submittal of this report under the unique NLHER Accession Number BYAL.

## **10.0 Acknowledgements**

- 10.1 Pre-Construct Archaeological Services Ltd., are grateful to J. Derbyshire Design Partnership (Agent) for this commission; and to Alison Williams, the Archaeological Advisor for NLC for her guidance throughout each stage of the project.

## 11.0 References

British Geological Survey. 1983. *England and Wales, Solid and Drift Geology. Sheet 80: Kingston upon Hull. 1:50,000 Provisional Series.* BGS, Keyworth. Nottingham: British Geological Survey).

Gardner, R. 2006. *62-66 Main Street, Bonby, North Lincolnshire: Archaeological Watching Brief Report.* Pre-Construct Archaeology Lincoln, Unpublished Report No.242.

Margary, I. D., 1973, *Roman Roads in Britain, Vol. I: South of the Foss Way – Bristol Channel.* Phoenix House Ltd., London.

Mee, A. 1970. *The King's England. Lincolnshire.* Hodder & Stoughton.

Morris, J. 1986. *Domesday Book, Lincolnshire.* Phillimore: Chichester. 25,1; 36,3).

PCAS: Pre-Construct Archaeological Services Ltd. June 2008a. *Archaeological Works Specification: 2 Church Lane, Bonby, North Lincolnshire.* Unpublished planning document produced on behalf of J. Derbyshire (Agent).

PCAS: Pre-Construct Archaeological Services Ltd. 2008b. *2 Church Lane Bonby, North Lincolnshire: Archaeological Evaluation Report.* Pre-Construct Archaeological Services Ltd., Unpublished Report No. 439 by E. Rowe. May 2008.

PCAS: Pre-Construct Archaeological Services Ltd. 2008c. *97 Main Street, Bonby, North Lincolnshire: Archaeological Evaluation Report.* Pre-Construct Archaeological Services Ltd., Unpublished Report No. 450 by E. Rowe. May 2008.

Pevsner N. and Harris J. 1989. *The Buildings of England: Lincolnshire.* Penguin Books, London.

Van de Noort, R. and Ellis, S. (eds) 2008. *Wetland heritage of the Ancholme and lower Trent valleys; An Archaeological Survey* University of Hull Press



## 12.0 Plates



1. General view of the site, looking SW



2. Plot 1 prior to excavation, looking south



3. Gully 119, looking west



4. Intercutting ditches 108/109/110, looking south



5. Ditch 125, and gully 127, looking east



6. Terminus 129, looking west





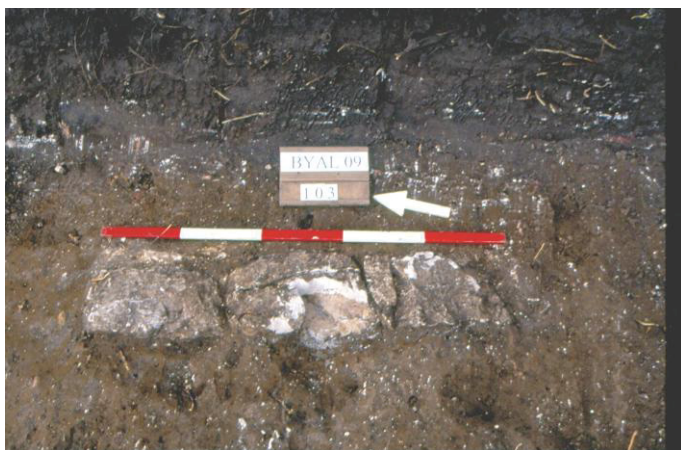
7. Latrine structure 102, looking northwest



8. Latrine structure 102, looking east



9. Linear slot 112, looking east



10. Stone wall feature [103], looking east



11. Circular structure 105, looking north, northwest



12. Circular structure 105, looking north





13. Plot 3 prior to topsoil stripping



14. Plot 3, section through burnt sand 304 looking east



15. Plot 3, section through hearth 302 looking east



16. Plot 3 strip, map looking west



17. View of location for soakaway pit, looking southwest



18. South-facing section of soakaway pit

## Figures



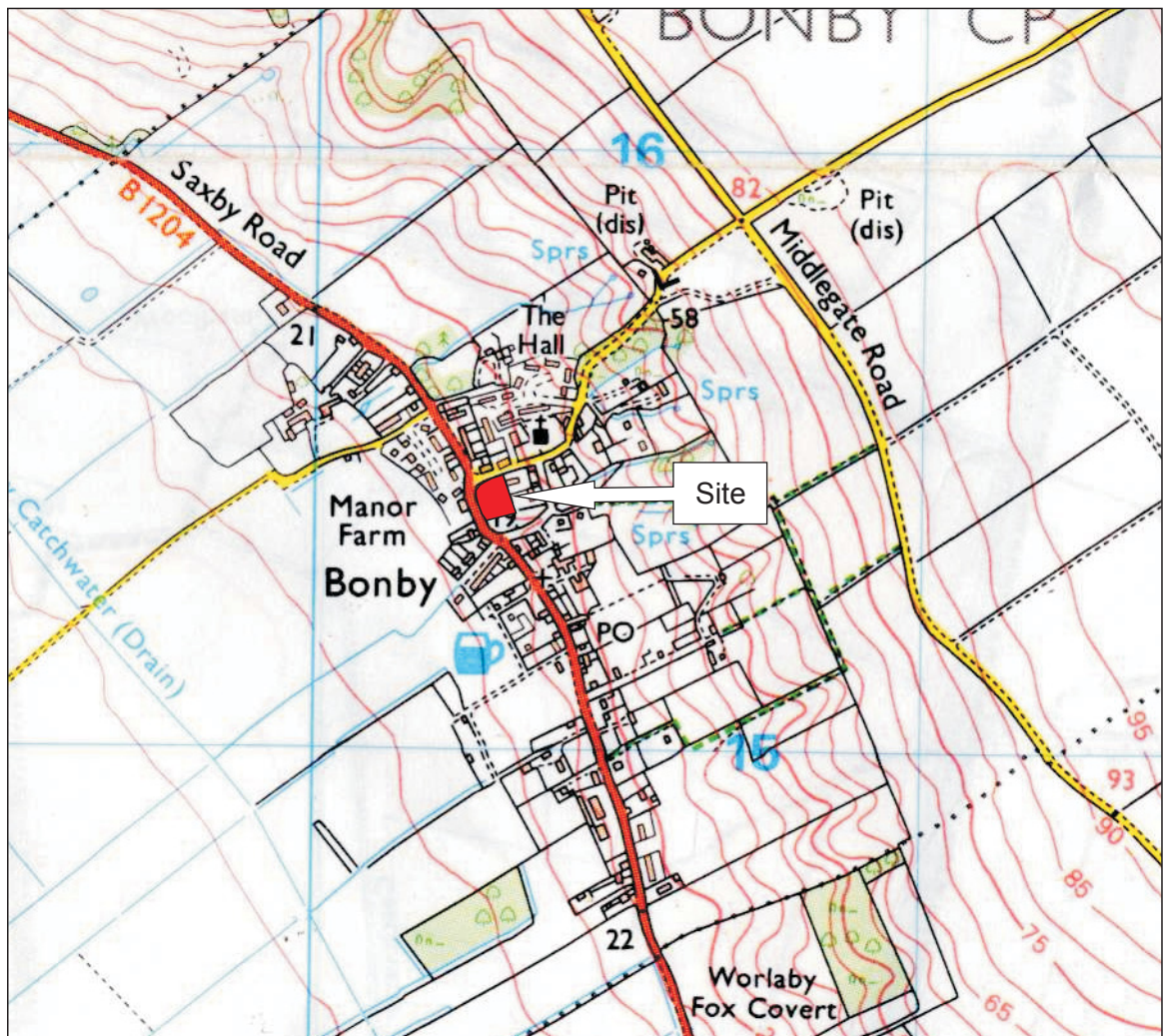


Figure:1. Site location plan (scale 1:2500). O.S. Copyright licence No. 100049278.



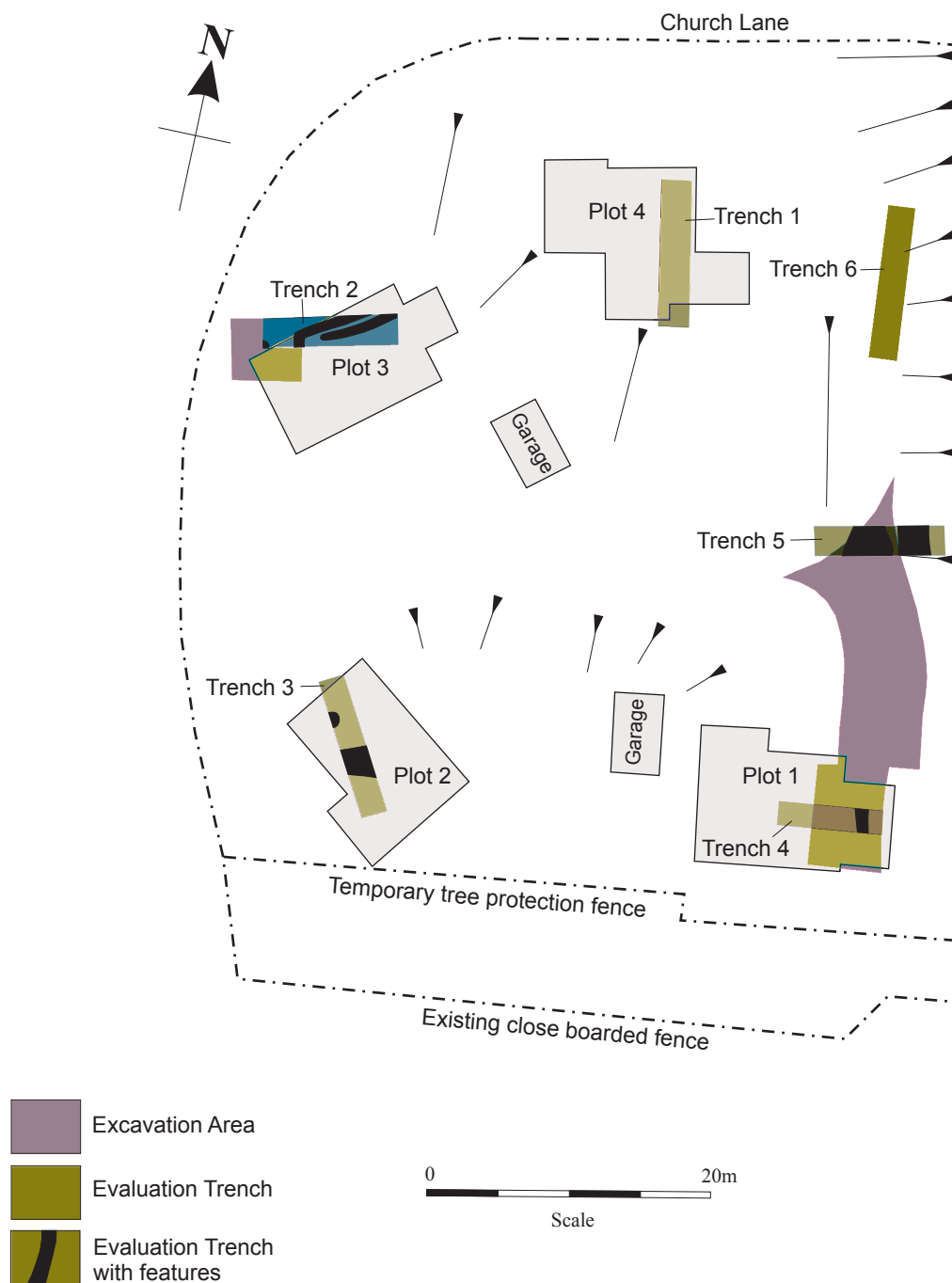


Fig. 2. Site layout plan showing locations of house plots 1-4 and 2008 trial trenches 1-6.

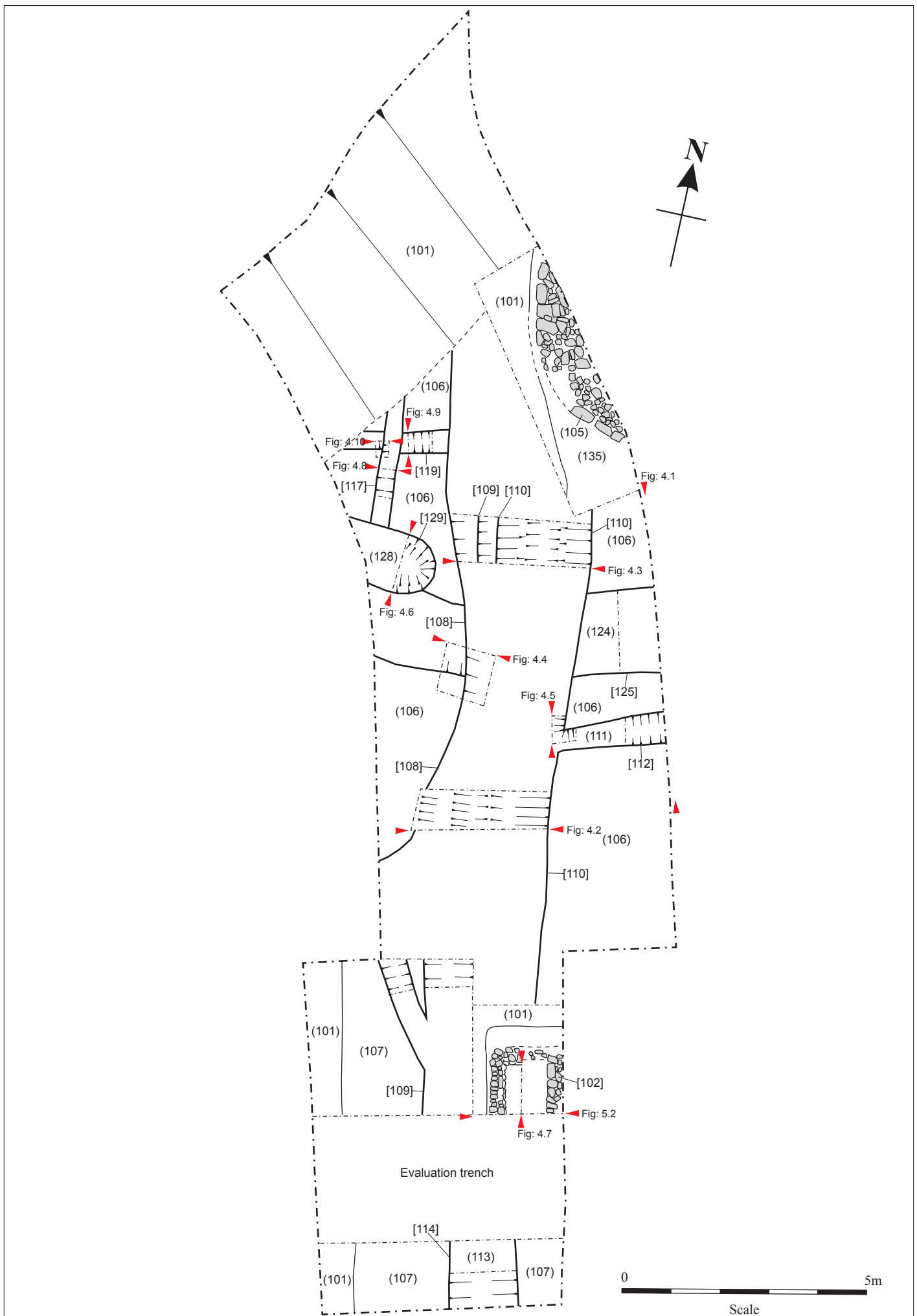


Figure: 3. Area of House Plot 1 showing locations of features and excavated sections.

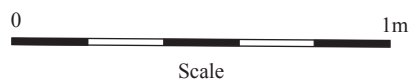
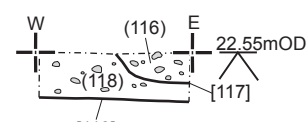
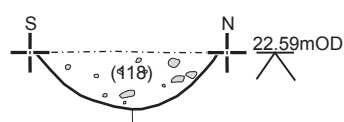
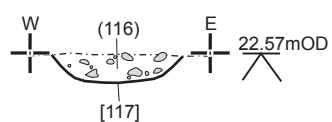
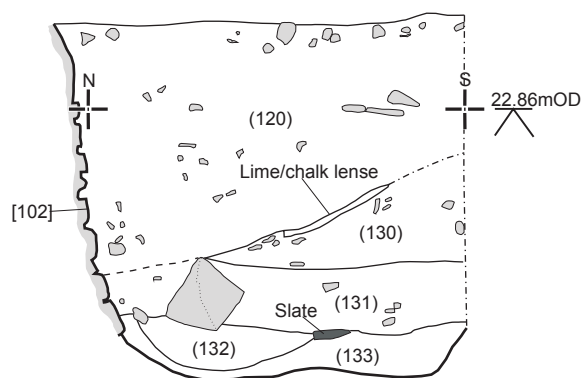
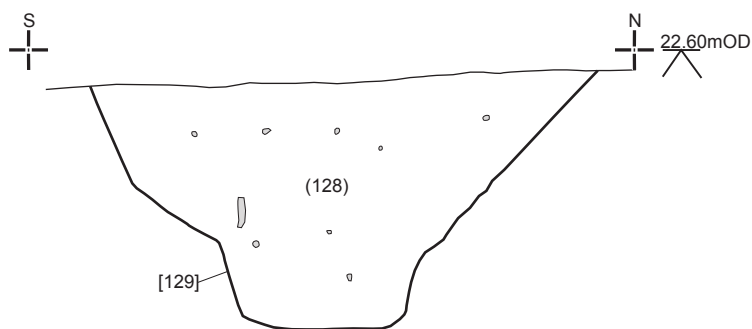
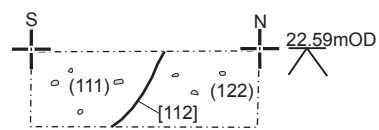
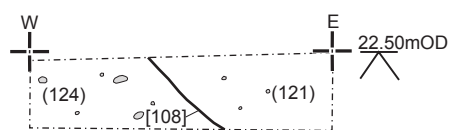
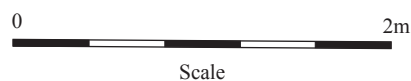
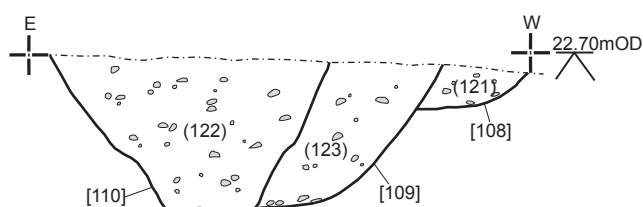
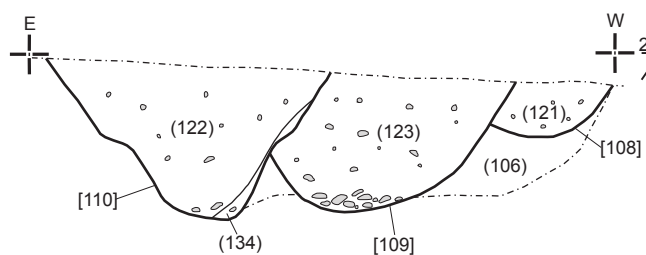
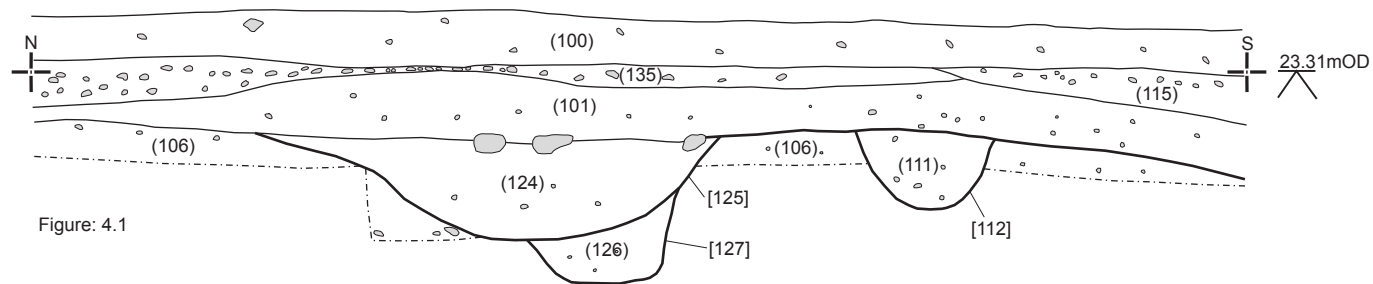


Figure 4. Plot 1 sections.

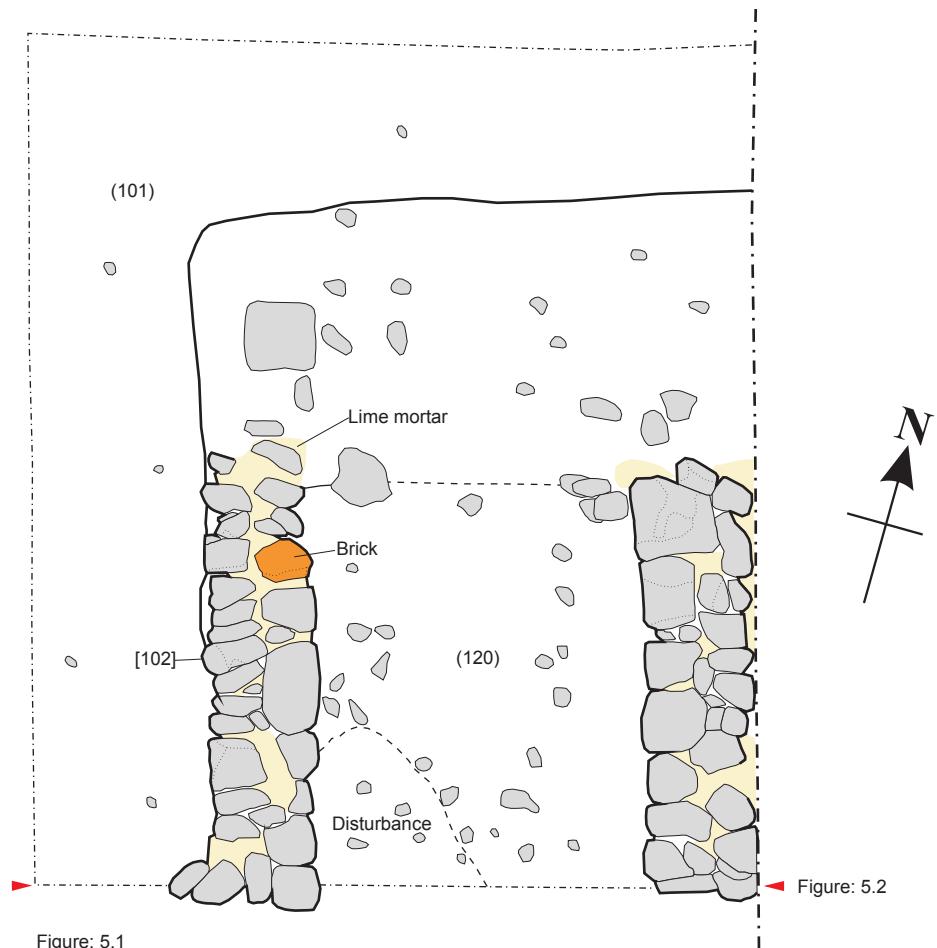


Figure: 5.1

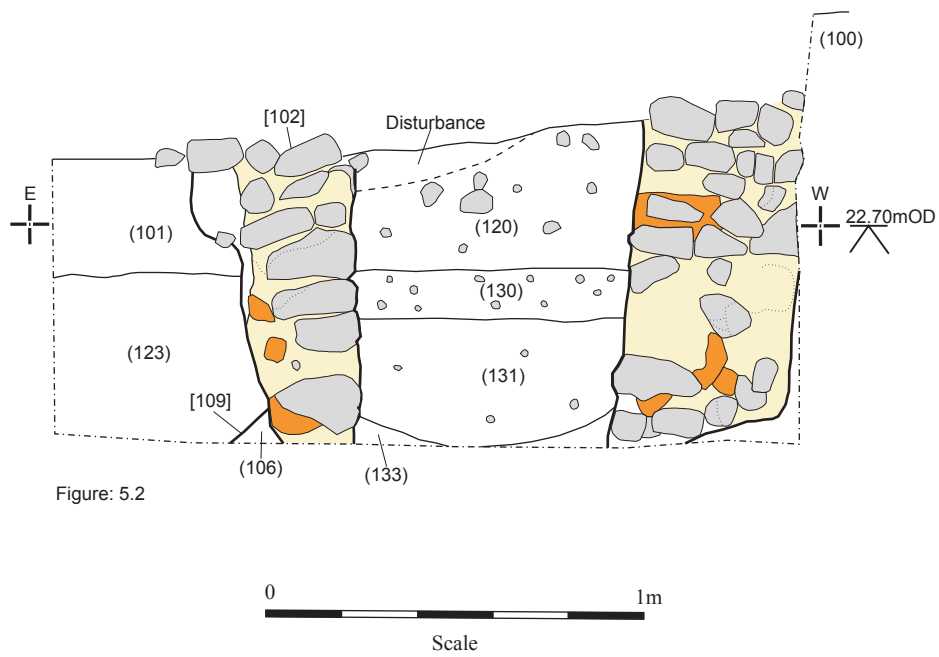


Figure: 5.2

Figure: 5. Plan and section of cess-pit structure [102].

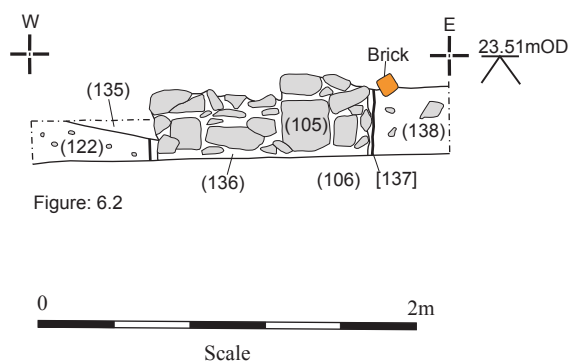
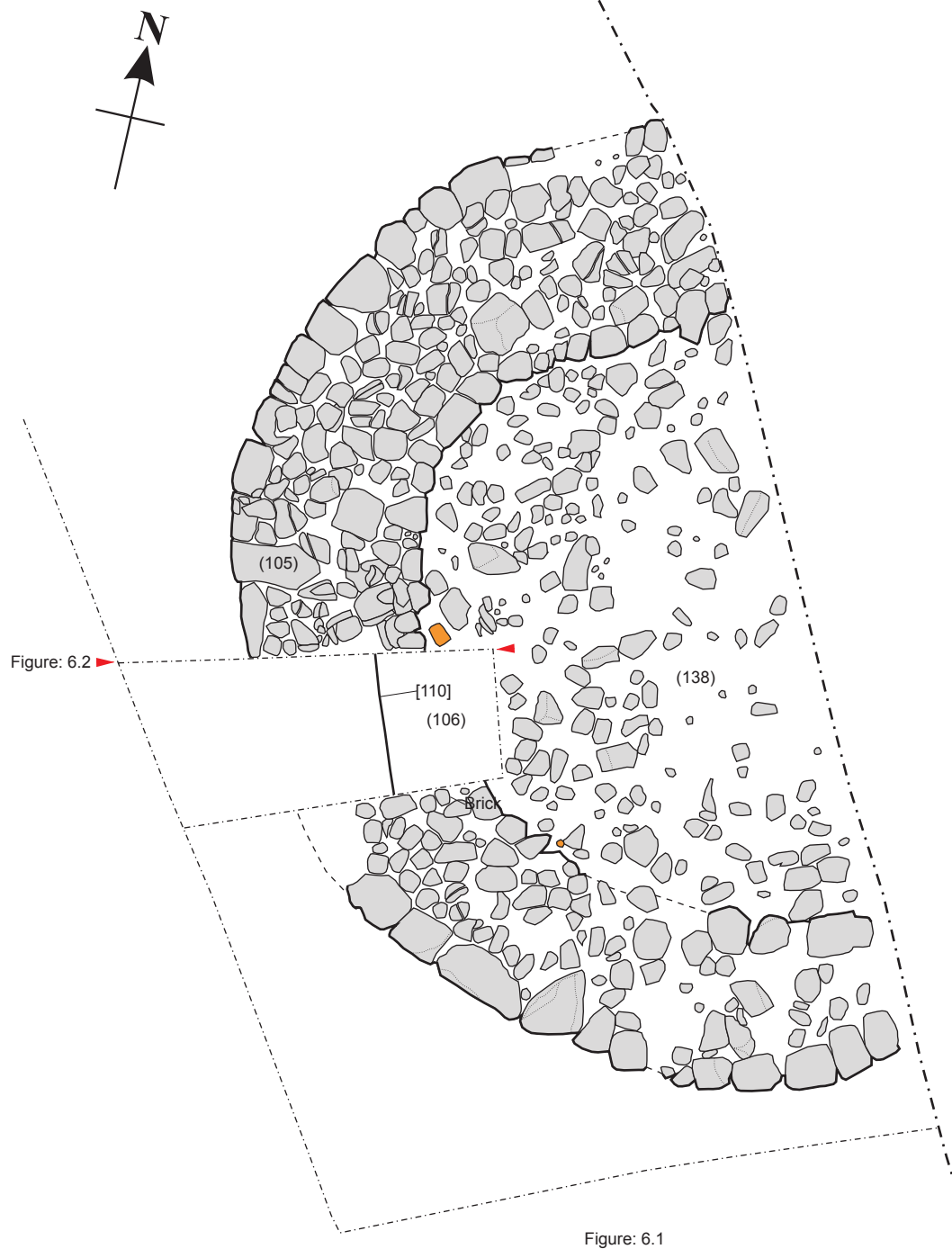


Figure: 6. Plan of structure [105] in Plot 1.

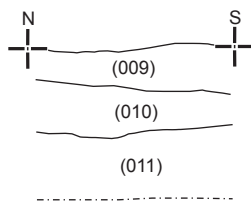
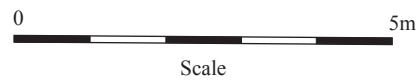
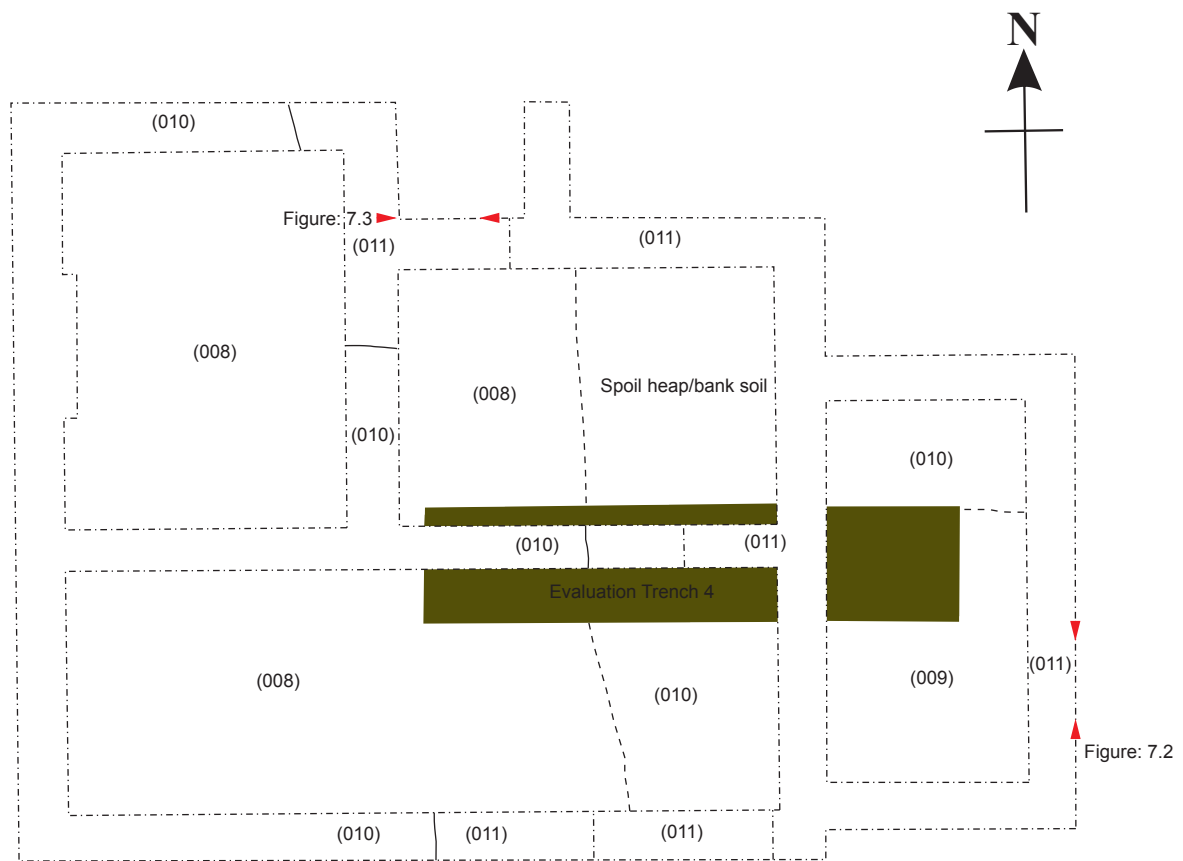


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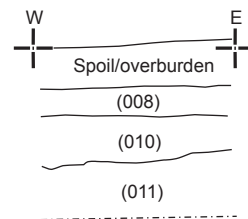


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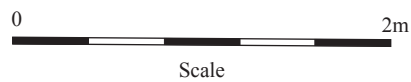


Figure: 7. Plot 1 footings and sections recorded during archaeological monitoring.

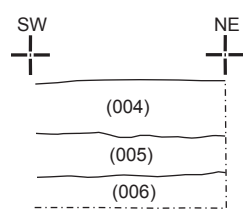
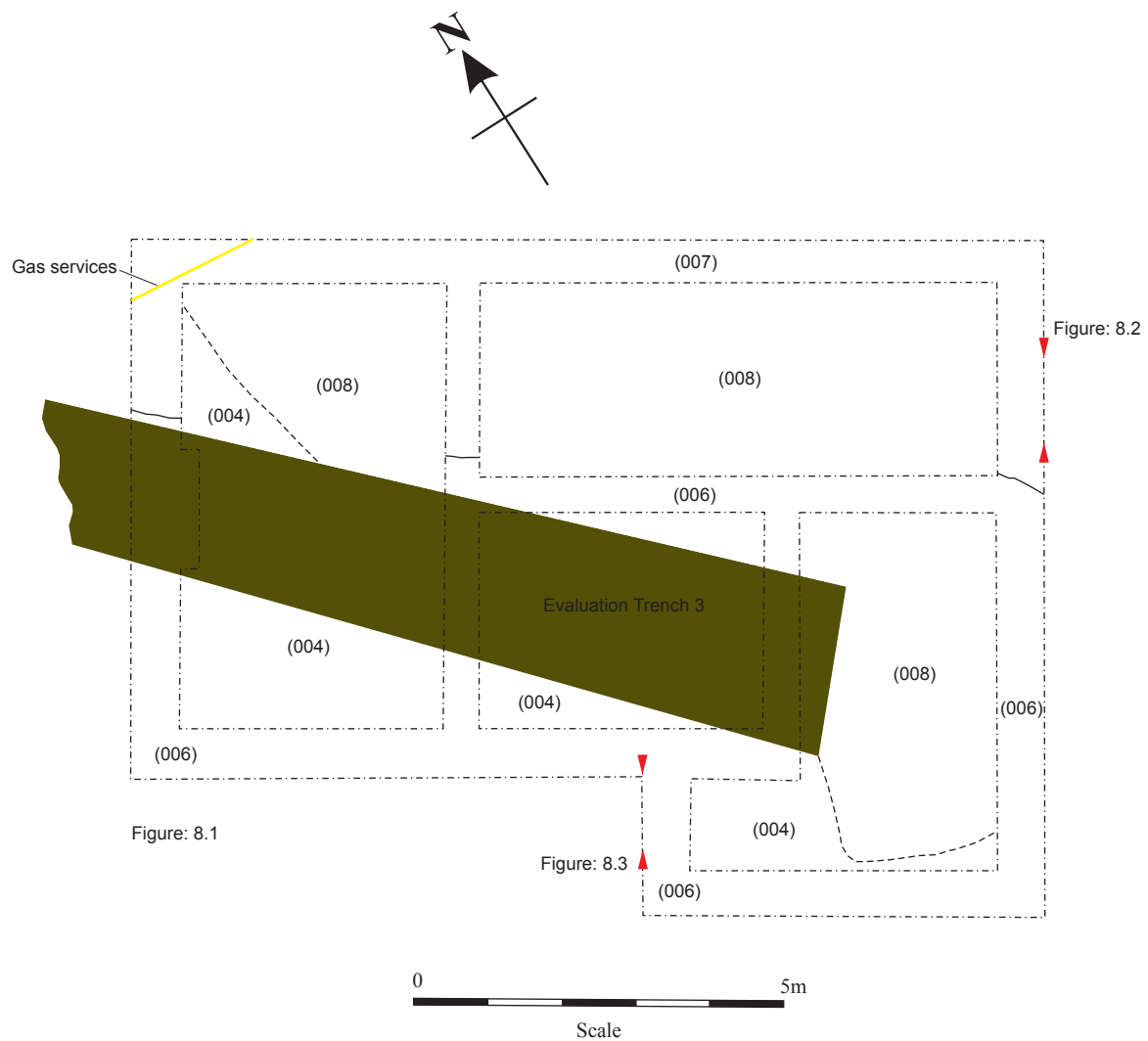


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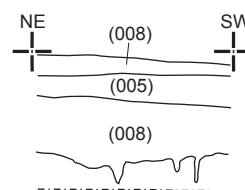


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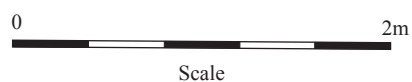


Figure: 8. Plot 2 footings and sections recorded during archaeological monitoring.

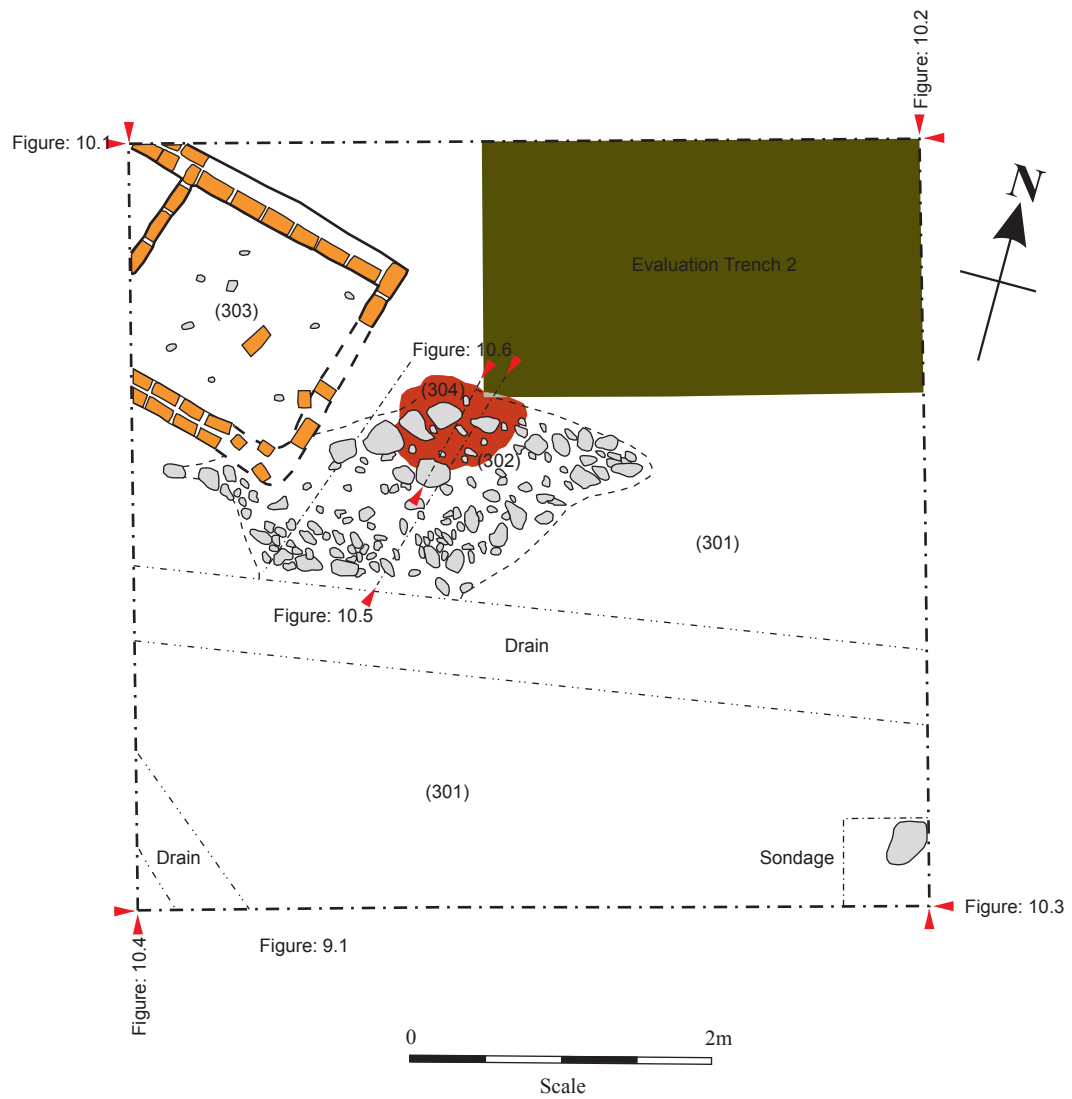


Figure: 9. Plan of Plot 3 features recorded during strip, map record.



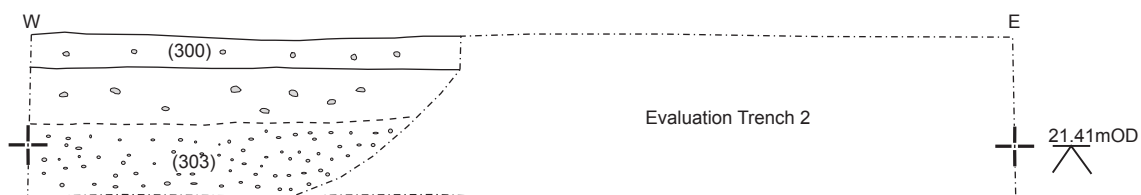


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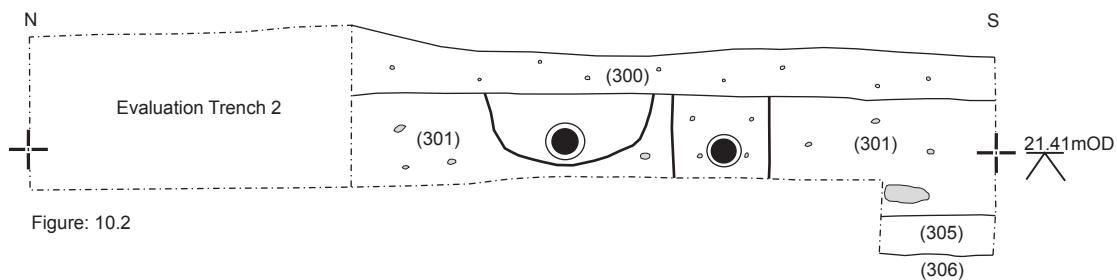


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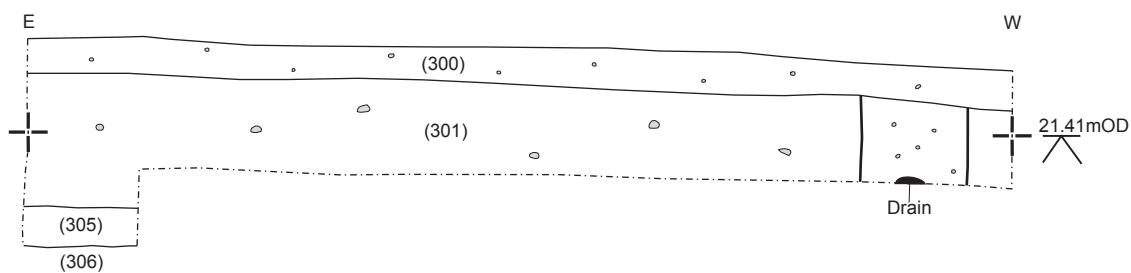


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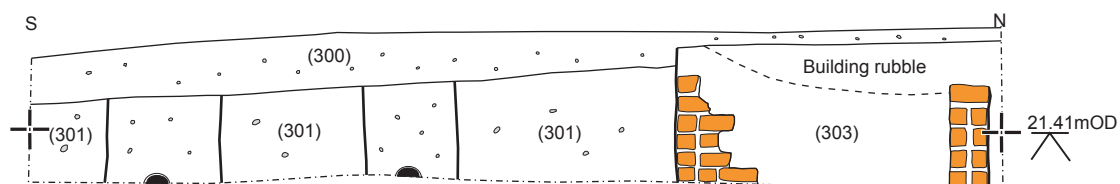


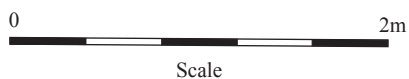
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Figure: 10.5



Figure: 10.6



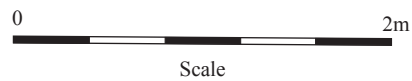
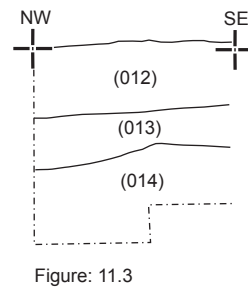
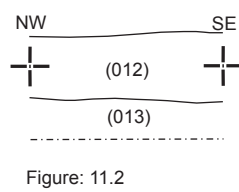
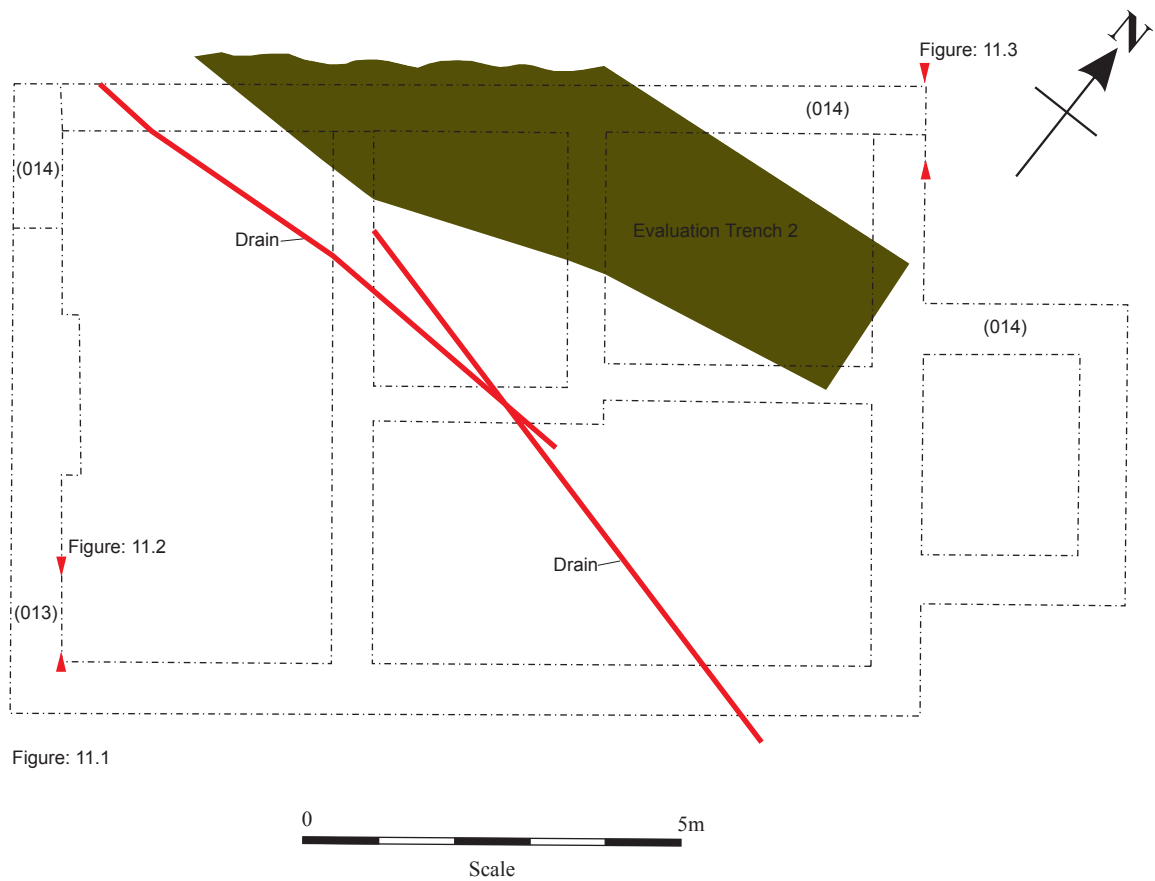


Figure 11. Plot 3 footings and sections recorded during archaeological monitoring.

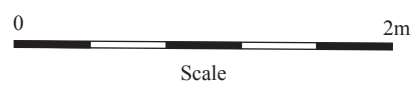
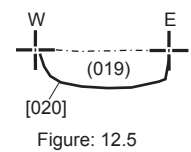
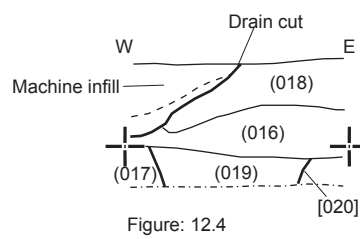
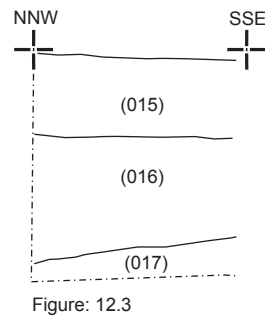
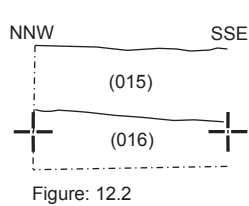
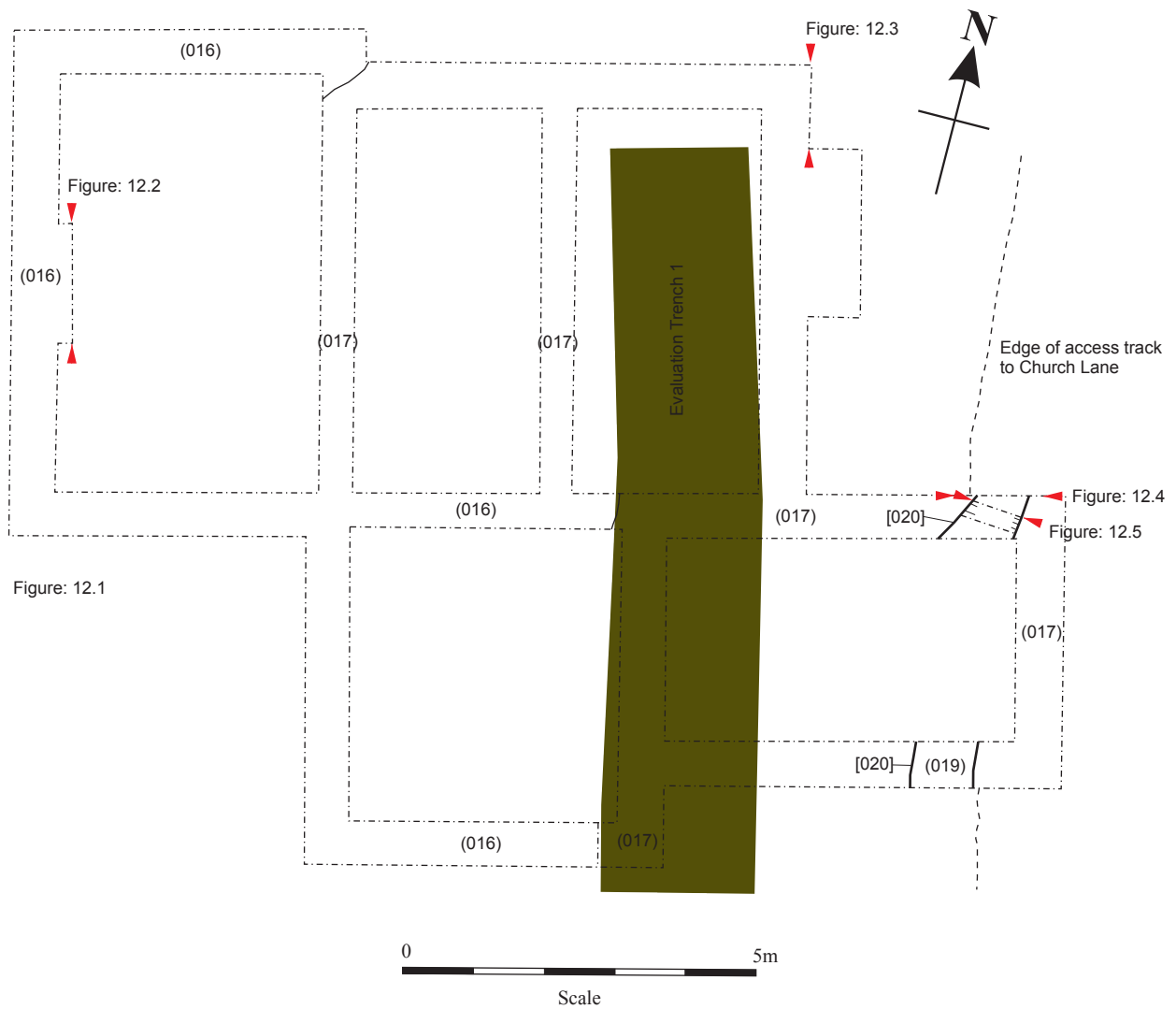


Figure 12. Plot 4 footings and sections recorded during archaeological monitoring.

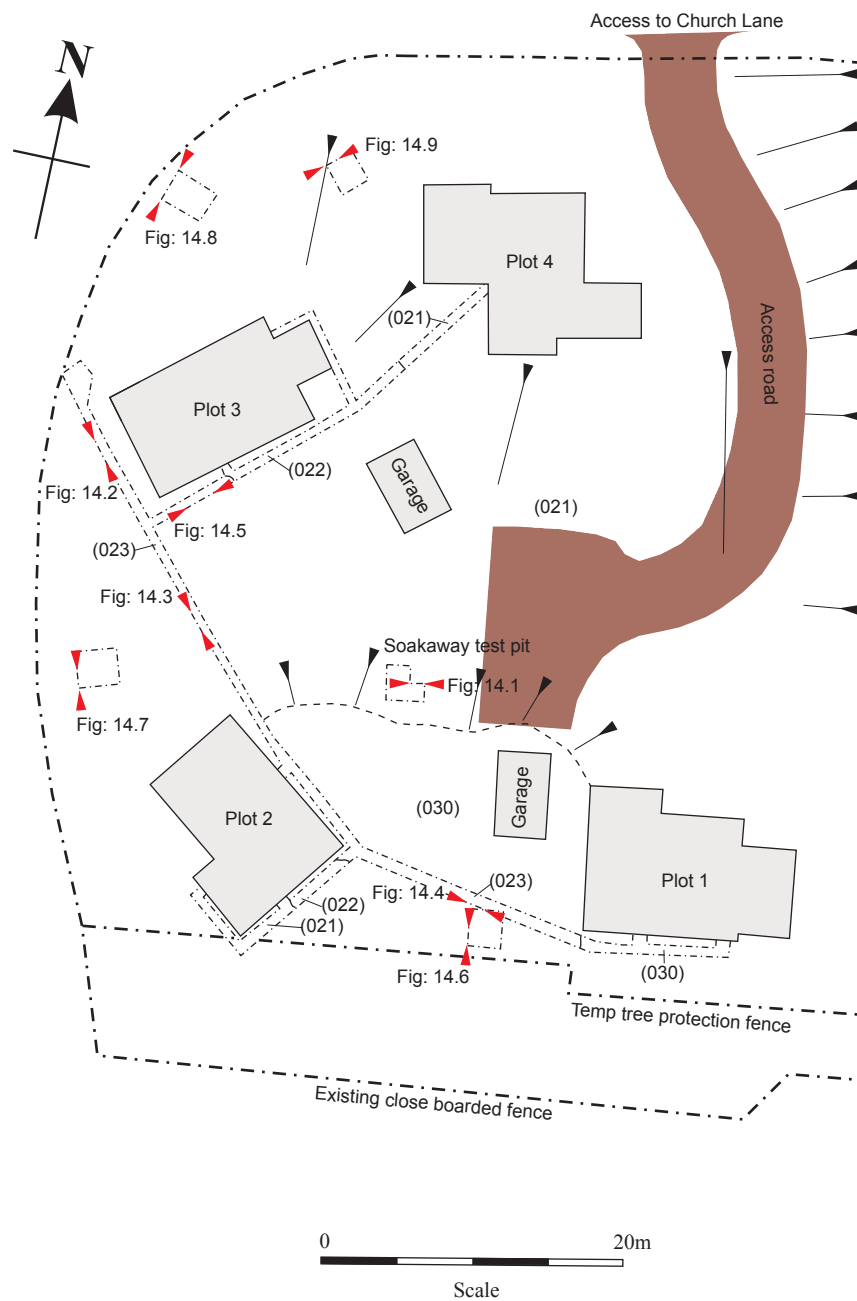


Figure: 13. Location of service features.

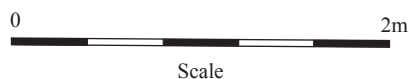
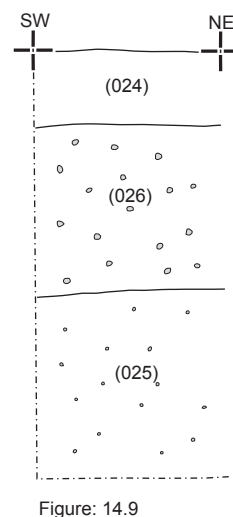
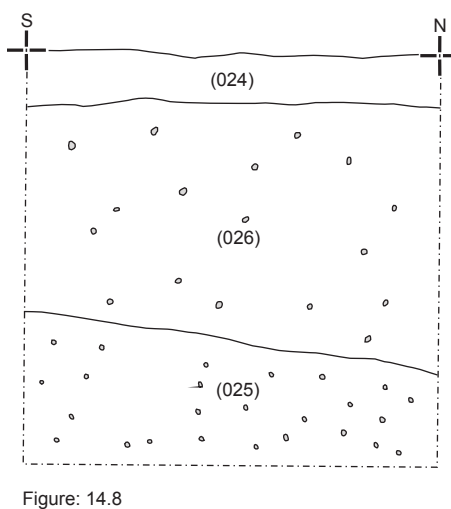
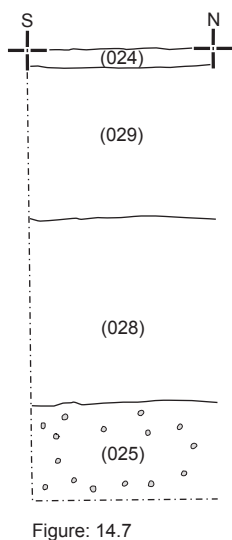
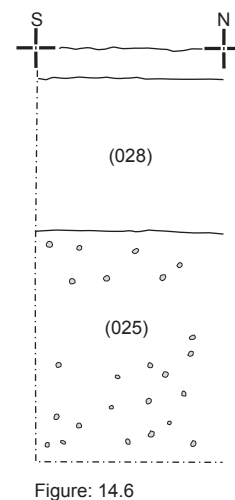
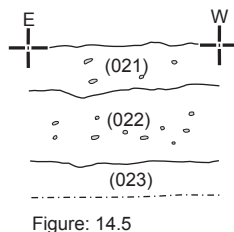
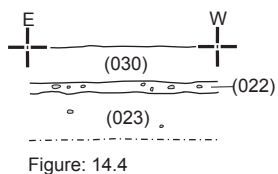
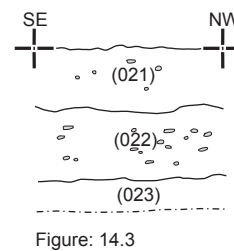
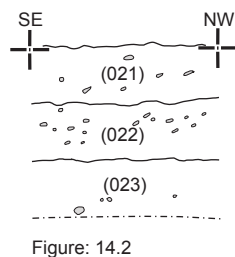
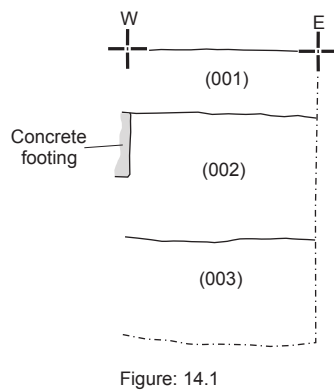


Figure 14. Sections of services recorded during archaeological monitoring.

## Appendix 1. Context summary

Context No.	Type	Location	Description	Finds/Dating	Sample
<b>House Plot 1</b>					
100	Layer	Plot 1	Blackish-brown clayey sand topsoil with frequent angular stone, up to 0.35m deep.	Modern	
101	Layer	Plot 1	Mid greyish-brown clayey sand subsoil with frequent angular stone, up to 0.40m deep. Level: 22.71-75m & 23.17-27m AOD.	Pottery, animal bone, CBM	
102	Structure	Plot 1	Chalk block and brick lining of latrine pit, previously seen during evaluation. Level: 22.76-91m AOD (top).	Brick, CBM	
103	Structure	Plot 1	Remnant of N-S oriented chalk block structure. Level: 23.07-09m AOD (top).	-	
104	Structure	Plot 1	Remnant of right-angled chalk block and brick foundation to N of structure 103. Level: 23.14-25m AOD (top).	Brick, CBM	
105	Structure	Plot 1	Curved chalk block wall: probably annular in plan, but extends outside excavated area. Within construction cut 137; interior filled by rubble 138. Level: 23.41-55m AOD (top).	Pottery, bone, CBM, clay tobacco pipe	
106	Layer	Plot 1	Mid-orange-yellow windblown sand deposit, up to 0.70m deep. Level: 22.71-83m AOD.	-	
107	Layer	Plot 1	Natural weathered chalk below sand layer 106. Level: 22.04m AOD.	-	
108	Cut	Plot 1	N-S running linear feature with U-shaped profile, 0.66m <sup>+</sup> wide x 0.29m deep, cutting windblown sand 106, filled by 121.	n/a	
109	Cut	Plot 1	N-S running linear feature with U-shaped profile, 1.30m <sup>+</sup> wide x 0.73m deep, truncating feature 108, filled by 123, truncated by linear feature 110. Level: 21.93m AOD (base).	n/a	
110	Cut	Plot 1	N-S running linear feature with V-shaped profile, 1.55m wide x 0.85m deep, truncating feature 109; filled by 122 and 134. Level: 21.78m AOD (base).	n/a	
111	Fill	Plot 1	Mid-brownish-grey clayey sand fill in linear feature 112.	-	
112	Cut	Plot 1	E-W running linear feature, 0.68m wide x 0.40m deep, cutting feature 110.	n/a	
113	Fill	Plot 1	Mid-greyish-brown clayey sand fill in linear feature 114. Level: 22.09m AOD (top).	Pottery, bone	
114	Cut	Plot 1	Continuation of linear feature 109, separated from it by cut of evaluation trench [408]; 1.45m wide x 0.31m deep. Level: 21.78m AOD (base).	n/a	
115	Layer	Plot 1	Mid-brownish-orange clayey sand levelling layer on E side of plot; 0.28m deep; removed by machine. Level: 23.31m AOD (top).	Brick	
116	Fill	Plot 1	Mid-brownish-grey silty sand with abundant chalk fragments, filling linear feature 117. Level: 22.55m AOD (top).	-	
117	Cut	Plot 1	Shallow N-S running linear feature, 0.38m wide x 0.09m deep, cutting linear feature 119. Level: 22.45m AOD (base).	n/a	
118	Fill	Plot 1	Mid-greyish-brown clayey sand with abundant chalk fragments, filling linear feature 119. Level: 22.58m AOD (top).		

Context No.	Type	Location	Description	Finds/Dating	Sample
119	Cut	Plot 1	Shallow E-W running linear feature, 0.45m wide x 0.15m deep, cut by features 117 and 106. Level: 22.45m AOD (base).	n/a	
120	Fill	Plot 1	Mid-orange-brown sandy clay sealing latrine 102, above fill 130. Depth varies from 0.37m to 0.66m. Level: 22.83m AOD (top).	Pottery, bone, tile, slate	
121	Fill	Plot 1	Mid-orange-brown clayey sand fill of linear feature 108, truncated by linear feature 109. Level: 22.50m AOD (top).	Iron object	
122	Fill	Plot 1	Mid-greyish-brown to mid-orange-brown clayey sand upper fill in linear feature 110, overlying fill 134. Level: 22.53m AOD (top).	Pottery	
123	Fill	Plot 1	Mid-greyish-brown clayey sand fill in linear feature 109 (corresponds to 113); chalk inclusions concentrated at the base of the fill. Level: 22.64m AOD (top).	Pottery, bone	
124	Fill	Plot 1	Mid-brownish-grey clayey sand fill in linear feature 125. Level: 22.46m AOD (top).	Iron object	
125	Cut	Plot 1	Large E-W running linear feature, 2.40m wide x 0.52m deep; re-cut of linear feature 127	n/a	
126	Fill	Plot 1	Mid-brownish-grey to mid-orange-grey clayey sand fill in linear feature 127	-	<5>
127	Cut	Plot 1	Base of E-W running linear feature, survives to 0.78m wide x 0.45m deep, truncated above by re-cut 125	n/a	
128	Fill	Plot 1	Mid-greyish-brown sandy clay fill in pit 129	Bone	
129	Cut	Plot 1	Large, oval pit or terminus, 1.90m x 1.30m x 0.64m, cutting features 117 and 125. Level: 21.84m AOD (base).	n/a	
130	Fill	Plot 1	Mid-orange-brown sandy clay fill, 0.25m deep, in latrine 102, below fill 120 and above fill 131. Contained frequent mortar fragments.	-	
131	Fill	Plot 1	Mid- to dark brown sandy clay fill with organic (cess) component, 0.20m deep, in latrine 102, below fill 130 and above fill 132. Contained a large chalk block and a fragment of slate, probably derived from demolition of the outhouse structure.	-	<2>
132	Fill	Plot 1	Very dark brown organic material, up to 0.13m deep, in latrine 102 below fill 131 and above fill 133.	Pottery, bone, CBM	<3>
133	Fill	Plot 1	Mid-grey, clean-looking sandy silt primary fill of latrine 102, 0.12m deep, below fill 132	-	<4>
134	Fill	Plot 1	Lower fill of ditch 110, below fill 122: dark greyish-brown clayey sand, 0.60m deep	-	<6>
135	Layer	Plot 1	Mid-greyish-brown sandy clay with abundant chalk flecks and fragments and common mortar flecks, to S of structure 105. Extends beyond excavated area; 0.25m deep. Level: 23.36m AOD (top).	-	
136	Fill	Plot 1	Mid-blackish-brown to greyish-brown clayey sand fill in construction cut 137, abutting wall 105		
137	Cut	Plot 1	Construction cut for curved wall 105, 0.33m deep; extends beyond excavated area; also contains fill 136	n/a	

Context No.	Type	Location	Description	Finds/Dating	Sample
138	Fill	Plot 1	Mid-orange-brown clayey sand with rubble within curved wall 105. Level: 23.44 - 48m AOD.		
<b>House Plot 3</b>					
300	Layer	Plot 3	Blackish-brown silty sand topsoil, 0.25m deep. Level: 21.79 - 21.97m AOD (top).	Modern	
301	Layer	Plot 3	Mid-greyish-brown silty sand subsoil. Level: 21.09m - 21.70m AOD.	Pottery	
302	Layer	Plot 3	Dump of chalk rubble within subsoil 301, near the base of the layer: may represent a demolished structure. Level: 21.08m AOD.	-	
303	Fill	Plot 3	Rubble backfill of manhole. Level: 21.09m AOD.	Modern	
304	Layer	Plot 3	Disturbed deposit of heat-affected sand, 0.80m x 0.62m x 0.08m: appears to have been dumped, not burned <i>in situ</i> . Level: 20.77m AOD.	-	<1>
305	Layer	Plot 3	Mid-brownish-yellow (windblown?) sand, 0.20m deep. Level: 20.90m AOD.	Pottery (medieval)	
306	Layer	Plot 3	Natural weathered chalk. Level: 20.87m AOD.	-	
<b>Archaeological monitoring</b>					
001	Layer	Test soakaway	Mid-greyish-brown sandy silt topsoil, up to 0.35m deep	Modern	
002	Layer	Test soakaway	Mid-brown sandy silt subsoil, up to 0.65m deep		
003	Layer	Test soakaway	Natural light- to mid-brownish-yellow sand		
004	Layer	Plot 2	Mid- to dark greyish-brown silty sand topsoil, up to 0.30m deep	Modern: contained fragments of asphalt, CBM and coal	
005	Layer	Plot 2	Mid-yellowish-brown silty sand upper subsoil layer; up to 0.22m deep		
006	Layer	Plot 2	Mid-yellowish-brown silty sand lower subsoil layer: up to 0.38m deep		
007	Layer	Plot 2	Natural light- to mid-brownish-yellow sand		
008	Layer	Plot 2	Hard surface of former tennis court; 0.10m deep	Modern	
009	Layer	Plot 1	Mid-yellowish-brown silty sand subsoil layer; up to 0.25m deep		
010	Layer	Plot 1	Natural light- to mid-brownish-yellow sand		
011	Layer	Plot 1	Natural light brownish-yellow sand and gravel below layer 010		
012	Layer	Plot 3	Mid- to dark greyish-brown sandy silt topsoil, up to 0.32m deep	Modern	
013	Layer	Plot 3	Mid-yellowish-brown silty sand subsoil layer; up to 0.28m deep		
014	Layer	Plot 3	Natural mid-brownish-yellow sand with gravel lenses		
015	Layer	Plot 4	Mid- to dark greyish-brown sandy silt topsoil; extensive tree rooting; up to 0.40m deep	Modern	
016	Layer	Plot 4	Mid-yellowish-brown silty sand subsoil; extensive tree rooting; up to 0.68m deep		
017	Layer	Plot 4	Natural mid-brownish-yellow silty sand		
018	Layer	Plot 4	Compacted slag surface of access road to former dwelling	Modern	



Context No.	Type	Location	Description	Finds/Dating	Sample
019	Fill	Plot 4	Fill of linear feature 020: mid greyish-brown sandy silt with veins of yellowish-brown coarse sand		
020	Cut	Plot 4	N-S aligned linear feature with very steep sides, seen cutting natural 017; 0.82m wide x 0.40m deep	n/a	
021	Layer	Service trench for Plot 3	Dark greyish-brown silty sand topsoil, up to 0.28m deep	Modern; pottery retrieved	
022	Layer	Service trench for Plot 3	Mid-brown sandy silt upper subsoil layer, up to 0.34m deep		
023	Layer	Service trench for Plot 3	Mid-orange-brown sandy silt lower subsoil layer, below layer 022: excavated to a depth of 0.30m, base not reached		
024	Layer	Manhole pits	Dark greyish-brown sandy silt topsoil	Modern	
025	Layer	Manhole pits	Natural orange-yellow silty sand with frequent chalk pebbles		
026	Layer	Manhole pits	Dark brownish-grey silty sand levelling layer below topsoil 024; 1.10m deep		
027	Layer	Manhole pits	Gravel bedding layer for tennis court	Modern	
028	Layer	Manhole pits	Light brownish-orange silty sand below layer 029		
029	Layer	Manhole pits	Dark brownish-orange silty sand below topsoil 024		
030	Layer	Service trench between Plots 1 and 2	Gravel surface, 0.20m deep	Modern	

## **Appendix 2. Specialist reports**

- 2.1. Palaeoenvironmental Assessment by Archaeological Services Durham University
- 2.2 Plant macrofossil, animal bone, fish bone and textile analysis by Archaeological Services Durham University
- 2.3 Ceramic Finds by Dr A. Irving
- 2.4 The Faunal Remains by Paul Cope-Faulkner
- 2.5 Glass fragments assessment by Dr Rachel Tyson

ARCHAEOLOGICAL  
SERVICES  
DURHAM UNIVERSITY

on behalf of  
Pre-Construct Archaeological Services Ltd

Church Lane  
Bonby  
Lincolnshire

palaeoenvironmental assessment

report 2782  
November 2011

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## **1. Summary**

### **The project**

- 1.1 This report presents the results of palaeoenvironmental assessment of six bulk samples taken during archaeological works at Church Lane, Bonby, Lincolnshire.
- 1.2 The works were commissioned by Pre-Construct Archaeological Services Ltd, and conducted by Archaeological Services Durham University.

### **Results**

- 1.3 Evidence of domestic waste was present for all of the fills except sandy layer (304). Mineralised concretions and plant remains indicative of cess-like conditions were observed in the primary fill (133) of latrine 102. These plant remains included the fruitstones/seeds of wild raspberry, cherry family and fig. Fragments of weave-type textile and shards of glass typical of a medieval vessel were also present in this fill. The charred plant macrofossil assemblages indicate a medieval/post-medieval origin. The faunal and plant remains from (133) may suggest a high status site. The upper latrine fill (131) and ditch fill (134), contained charred botanical remains suggesting the exploitation of wetland resources, and in the case of (131) may reflect the use of turves as fuel. The absence of plant macrofossils and lack of small finds prevent any archaeological interpretations for sandy layer (304).

### **Recommendations**

- 1.4 In their review of archaeobotanical remains Hall & Huntley (2007) suggest further investigation on evidence for the past utilisation of peat and turves should be undertaken. The special opportunities for organic and environmental evidence from wetland resources are also discussed in the East Midlands Archaeological Research Framework (Everson 2000), therefore analysis of the plant macrofossil assemblage from fill (131) is recommended, in order to gain further insight into the exploitation of the wetland resources.
- 1.5 Analysis of the faunal assemblage from fill (133) is recommended by appropriate specialists (animal/fish), in order to identify the range of species present, and provide further information about the nature and age of the deposit and food consumption at the site. This should include the scanning of the fine fraction residue, to ensure full recovery of fish remains.
- 1.6 Analysis of the fragments of weave-type textile from fill (133) by an appropriate specialist is also recommended, in order to determine the fibres used and provide further information on the type of weave produced.
- 1.7 The flots should be retained as part of the physical archive of the site. If additional work is undertaken at the site, the results of this assessment should be added to any further environmental data produced.

## **2. Project background**

### **Location and background**

- 2.1 This report presents the results of palaeoenvironmental assessment of six bulk samples taken during archaeological works at Church Lane, Bonby, Lincolnshire by Pre-Construct Archaeological Services Ltd. The project comprised two phases, with a mitigation strip, map and record exercise followed by a watching brief. The samples include a deposit of heat-affected sand (304), the lower fill (134) of ditch 110, a sandy fill (126) of linear feature 127, and three fills (131, 132, 133) of latrine pit 102.

### **Objective**

- 2.2 The objective of the scheme of works was to assess the palaeoenvironmental potential of the samples, establish the presence of suitable radiocarbon dating material, and provide the client with appropriate recommendations.

### **Dates**

- 2.3 The samples were received by Archaeological Services Durham University on 1st November 2011. Assessment and report preparation was conducted between 1st and 21st November 2011.

### **Personnel**

- 2.4 Sample processing, palaeoenvironmental assessment and report preparation was undertaken by Lorne Elliott. Faunal remains were identified by Louisa Gidney. Textile and glass remains were scanned as an initial assessment by Jenny Jones.

### **Archive**

- 2.5 The site code is **BYAL09**. The flots, faunal remains and small finds are currently in the Environmental Laboratory at Archaeological Services Durham University awaiting collection or return. The charred plant remains will be retained at Archaeological Services Durham University.

## **3. Methods**

- 3.1 The bulk samples were manually floated and sieved through a 500µm mesh. The residues were examined for shells, fruitstones, nutshells, charcoal, small bones, pottery sherds, flint and industrial residues, and were scanned using a magnet for ferrous fragments. The flots were examined at up to x60 magnification for charred and waterlogged botanical remains using a Leica MZ7.5 stereomicroscope. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at Archaeological Services Durham University. Plant nomenclature follows Stace (1997). Habitat classifications follow Preston *et al* (2002).
- 3.2 Charcoal fragments >4mm were identified. The transverse, radial and tangential sections were examined at up to x600 magnification using a Leica DMLM microscope. Identifications were assisted by the descriptions of Hather (2000) and Schweingruber (1978), and modern reference material held in the Environmental Laboratory at Archaeological Services Durham University.

## 4. Results

- 4.1 All of the samples comprised fragments of unburnt and/or calcined bone, particularly the primary fill (133) from latrine pit 102. Identified faunal remains included pig, chicken-size and fish, with many of the bones exhibiting acid-etching or puncture marks, indicating dog-eaten remains. Other identified faunal remains included a chicken-sized phalanx from latrine layer (132) and sheep/goat-sized remains from latrine layer (131) and ditch fill (134). Fragments of pot occurred in (131) and (134), ferrous nails were present in (131) and (133) and tiny fragments of CBM were noted in (132). Latrine pit fill (133) also comprised fragments of glass, weave-type textile, and an abundance of mineral concretions often associated with cess-like material. Evidence of burning was noted in all of the samples and included varying amounts of charcoal, with clinker/cinder, coal and fuel ash also recorded. Charred monocot stems were present in fills (126), (131) and (134). Charcoal was particularly common in (132) and (133) and largely comprised oak timber-sized fragments comprising various degrees of vitrification. Small fragments of alder, birch and hazel were noted from these contexts. Charcoal fragments of *Maloideae* (126), ash (304), and oak branchwood (131, 132 and 134) were also recorded. Most of the samples also contained modern roots/moss and small burrowing snails.
- 4.2 Charred plant macrofossils were present in five of the samples. These remains were more abundant in upper latrine fill (131) and ditch fill (134). In order of abundance cereal remains included wheat, barley, oat and rye, with many of the grains in poor condition due to pitting, possibly as a result of intense heat (cf. Boardman & Jones 1990). All of the identifiable wheat grains had the characteristic shape of *Triticum aestivo-compactum* (bread wheat) and floret bases of cultivated oat (*Avena sativa*) were recorded in ditch fill (134). Some of the barley grains from (131) were identified as hulled. The remains of arable weeds, narrow-fruited cornsalad and stinking chamomile, occurred in (131) and (134). Charred plant remains indicative of wet or damp ground were also present in (131) and (134) and included spike-rushes, great fen-sedges and cf. common reed. Other botanical remains included charred hazel nutshell (126) and grassland or heathland species such as grasses, docks and sheep sorrel (131). Plant macrofossils were absent from layer (304).
- 4.3 Uncharred/mineralised plant macrofossils included the remains of fig, wild radish, raspberry and cherry family (133), wild raspberry and elder (131) and (132), elder (134) and woundwort (126). Material suitable for radiocarbon dating is available for contexts (131, 132, 133 and 134). The results are presented in Appendix 1.

## 5. Discussion

- 5.1 Evidence of domestic waste was present for all of the fills except sandy layer (304), particularly the primary fill (133) of latrine 102. Mineralised concretions and plant remains indicative of cess-like conditions were observed within the residue of this fill. The few mineralised plant remains noted included wild raspberry, cherry family, and fig. The dog-eaten faunal remains suggest this primary fill comprised animal as well as human faeces. The presence of fragments of textile, and shards of glass typical of a medieval vessel, provide evidence for the dumping of domestic waste within this primary fill. The plant macrofossil assemblages comprising oats, barley, cf. bread wheat, rye, and fig, are typical of medieval and post-medieval sites in England (Greig 1991). Together the faunal and plant remains from (133) may suggest a high status site. Upper fills (131) and (132) of the latrine comprised larger

quantities of charcoal and charred plant remains, possibly indicating a change in the use of this pit. The upper latrine fill (131) and ditch fill (134), contained charred plant remains suggesting the exploitation of wetland resources, and in the case of (131) may reflect the use of turves as fuel. The absence of plant macrofossils and lack of small finds prevent archaeological interpretations for sandy layer (304), although large amounts of heat-affected quartz, indeterminate animal tooth enamel and a fragment of ash charcoal confirm a dump of burnt sand.

## 6. Recommendations

- 6.1 In their review of archaeobotanical remains Hall & Huntley (2007) suggest further investigation on evidence for the past utilisation of peat and turves should be undertaken. The special opportunities for organic and environmental evidence from wetland resources are also discussed in the East Midlands Archaeological Research Framework (Everson 2000), therefore analysis of the plant macrofossil assemblage from fill (131) is recommended, in order to gain further insight into the exploitation of the wetland resources.
- 6.2 Analysis of the faunal assemblage from fill (133) is recommended by appropriate specialists (animal/fish), in order to identify the range of species present, and provide further information about the nature and age of the deposit and food consumption at the site. This should include the scanning of the fine fraction residue, to ensure full recovery of fish remains.
- 6.3 Analysis of the fragments of weave-type textile from fill (133) by an appropriate specialist is also recommended, in order to determine the fibres used and provide further information on the type of weave produced.
- 6.4 The flots should be retained as part of the physical archive of the site. If additional work is undertaken at the site, the results of this assessment should be added to any further environmental data produced.

## 7. Sources

- Boardman, S, & Jones, G, 1990 Experiments on the effects of charring on cereal plant components, *Journal of Archaeological Science*, **17**, 1-11
- Everson, P, 2000 *An Archaeological Resource Assessment of Medieval Lincolnshire*, East Midlands Archaeological Research Framework
- Greig, J R A, 1991 The British Isles, in W Van Zeist, K Wasylikowa & K-E Behre (eds) *Progress in Old World Palaeoethnobotany*. Rotterdam
- Hall, A R, & Huntley, J P, 2007 *A review of the evidence for macrofossil plant remains from archaeological deposits in northern England*, Research Department Report Series no. **87**. London
- Hather, J G, 2000 *The identification of the Northern European Woods: a guide for archaeologists and conservators*. London
- Preston, C D, Pearman, D A, & Dines, T D, 2002 *New Atlas of the British and Irish Flora*. Oxford
- Schweingruber, F H, 1978 *Microscopic wood anatomy*. Birmensdorf
- Stace, C, 1997 *New Flora of the British Isles*, 2nd Edition. Cambridge



## Appendix 1: Data from palaeoenvironmental assessment

Sample		1	2	3	4	5	6
Context		304	131	132	133	126	134
Feature No.		-	102	102	102	127	110
Feature		layer	latrine	latrine	latrine	linear	ditch
Material available for radiocarbon dating		-	✓	✓	✓	-	✓
Volume processed (l)		7	18	6	8	27	9
Volume of flot assessed (ml)		30	200	200	300	150	30
<b>Residue contents</b>							
Bone (calcined)	indet. frags	(+)	(+)	-	-	-	-
Bone (unburnt)	indet. frags	-	(+)	+	+++	+	+
Bone (unburnt)	fish	-	-	-	+++	-	-
Bone (unburnt)	chicken-size	-	-	+	++	-	-
Bone (unburnt)	sheep / goat-size	-	+	-	-	-	+
Bone (unburnt)	pig	-	-	-	++	-	-
Charcoal		-	-	++	++	-	-
CBM		-	-	+	-	-	-
Glass (number of fragments)		-	-	-	14	-	-
Heat-affected stones		+	-	-	-	-	-
Nail (number of fragments)	Fe	-	2	-	1	-	-
Mineralised concretions		-	-	-	++++	-	-
Pot (number of fragments)		-	1	-	-	-	1
Textile	weave-type	-	-	-	++	-	-
Tooth (animal - enamel fragment)		1	1	-	-	-	1
<b>Flot matrix</b>							
Charcoal		+	++	+++	++	+	(+)
Clinker / cinder		-	(+)	(+)	(+)	+	(+)
Coal		+	+	+	-	+	(+)
Fuel ash		-	+	-	-	-	-
Monocot stems (charred)		-	+	-	-	+	++
Moss (modern)		-	+++	++	+++	+++	++
Roots (modern)		++	+	++	+	+	+
Snails		-	++	++	+	+	-
<b>Charred remains (abundance)</b>							
(a) <i>Anthemis cotula</i> (Stinking Chamomile)	achene	-	1	-	-	-	1
(a) <i>Valerianella dentata</i> (Narrow-fruited Cornsalad)	fruit	-	1	-	-	-	-
(c) <i>Avena</i> sp (Oat species)	small grain	-	-	-	-	2	3
(c) <i>Avena sativa</i> (Cultivated Oat)	floret base	-	-	-	-	-	1
(c) <i>Cerealia</i> indeterminate	grain	-	2	-	1	2	2
(c) <i>Hordeum</i> sp (Barley species)	grain	-	2	-	1	2	2
(c) <i>Hordeum</i> sp (Barley species)	hulled grain	-	3	-	-	-	-
(c) <i>Secale cereale</i> (Rye)	grain	-	-	-	1	-	-
(c) <i>Triticum</i> cf. <i>aestivum</i> (cf. Bread Wheat)	grain	-	2	2	-	2	3
(h) <i>Rumex acetosella</i> (Sheep's Sorrel)	nutlet	-	1	-	-	-	-
(r) <i>Galium aparine</i> (Cleavers)	seed	-	1	1	-	-	-
(r) <i>Persicaria maculosa</i> (Redshank)	nutlet	-	-	-	-	-	2
(t) <i>Corylus avellana</i> (Hazel)	nutshell frag.	-	-	-	-	1	-
(w) <i>Carex</i> sp (Sedges)	trigonous nutlet	-	-	-	-	-	1
(w) <i>Cladium mariscus</i> (Great Fen-sedge)	nutlet	-	2	-	-	-	-
(w) <i>Eleocharis</i> sp (Spike-rushes)	nutlet	-	2	-	-	-	-
(w) cf. <i>Phragmites australis</i> (Common reed)	culm node	-	-	-	-	-	2
(x) Fabaceae undifferentiated (Pea family)	small seed	-	1	-	-	-	-
(x) Fabaceae undifferentiated (Pea family)	large seed	-	3	-	-	-	-
(x) Poaceae undiff. >1mm (Grass family)	caryopsis	-	2	-	-	1	-
(x) <i>Rumex</i> sp (Docks)	nutlet	-	2	-	-	-	-
<b>Waterlogged/mineralised remains (abundance)</b>							
(a) <i>Raphanus raphanistrum</i> (Wild Radish)	pod	-	-	-	1	-	-
(t) <i>Ficus carica</i> (Fig)	seed	-	-	-	3	-	-
(t) <i>Prunus</i> sp (Cherries)	fruitstone	-	-	-	1	-	-
(t) <i>Rubus idaeus</i> (Wild Raspberry)	fruitstone	-	1	3	2	-	-
(t) <i>Sambucus nigra</i> (Elder)	fruitstone	-	1	1	-	-	1
(x) <i>Stachys</i> sp (Woundworts)	nutlet	-	-	-	-	1	-

[a-arable; c-cultivated; h-heathland; r-ruderal; t-tree/shrub; w-wet/damp ground; x-wide niche.

(+): trace; +: rare; ++: occasional; +++: common; ++++: abundant

Charred and waterlogged remains are scored from 1-5 where 1: 1-2; 2: 3-10; 3: 11-40; 4: 41-200; 5: &gt;200]

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DURHAM UNIVERSITY

on behalf of  
Pre-Construct Archaeological Services Ltd

Church Lane  
Bonby  
Lincolnshire

plant macrofossil, animal bone, fish bone  
and textile analysis

report 2821  
January 2012

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## **1. Summary**

### **The project**

- 1.1 This report presents the results of the analysis of plant macrofossils, animal bone, fish bone and textile fragments from samples taken during archaeological works at Church Lane, Bonby, Lincolnshire.
- 1.2 The works were commissioned by Pre-Construct Archaeological Services Ltd, and conducted by Archaeological Services Durham University.

### **Results**

#### Plant macrofossils

- 1.3 The range of crop plants identified in the latrine, comprising hulled barley, oats, rye, cf. bread wheat and cf. pea, are typical of medieval and post-medieval sites. Most of the weed seeds derive from plants growing with the crops or on areas of waste ground. Charred remains of wetland plants probably reflect the use of fen peat turves for fuel. Peat would have been a locally available resource to the inhabitants of Bonby.

#### Animal bone

- 1.4 Bird bones made up the majority of the identifiable animal remains within the primary fill of the latrine. These included domestic fowl, pigeon and sparrow. Many of the bones had the characteristic acid-etched surfaces indicative of passage through the digestive system. This may be a reflection of the preparation and consumption of giblets, rather than the disposal of dog faeces. The only mammal bones among the assemblage were from small infant piglets.

#### Fish bone

- 1.5 The assemblage of fish bones from the primary fill of the latrine comprised nearly a thousand bones, almost all of which were consistent with this material deriving from cess. Many were crushed from chewing, and a few were acid-etched yet survived to enable identification. Eel, herring and herring family were the most common taxa identified, with a few others found from both marine and freshwater ecosystems. Almost all of the fish identified were small individuals of less than 30cm total length.

#### Textile

- 1.6 Sixteen fragments of textile and one loop of yarn were recovered from latrine fill (133). The fibres were identified as flax and were of herringbone twill and plain tabby weaves. Twill-woven linens form a very small proportion of excavated linen cloth from the medieval period, and therefore the fragments recovered from Bonby make an extremely valuable contribution to the study of this form of cloth.

## **2. Project background**

### **Location and background**

- 2.1 Archaeological works were conducted by Pre-Construct Archaeological Services Ltd (PCAS) at Church Lane, Bonby, Lincolnshire. Most of the pottery was mid 11th to early 13th century in date, although five post-medieval sherds, an Anglo-Saxon sherd and a Roman sherd were also identified from the site (Irving 2011). Palaeoenvironmental assessment was undertaken on bulk samples taken from the fills of a ditch, linear feature and latrine (Archaeological Services 2011a). Domestic waste was recorded in the features, particularly in the fills of the latrine, which included animal and fish bone, shards of glass typical of a medieval vessel, fragments of weave-type textile and plant remains including fruitstones/seeds of wild raspberry, cherry family and fig. Charred cereal assemblages from the site comprised oats, barley, cf. bread wheat and rye, and evidence for the exploitation of wetland resources was identified. This report presents the results of plant macrofossil analysis of an upper latrine fill (131), and analysis of the animal bone, fish bone and textile from the primary latrine fill (133).

### **Objective**

- 2.2 The objective of the scheme of works was to analyse the plant macrofossil assemblage from fill (131) in order to gain further insight into the exploitation of wetland resources. Analysis of the animal and fish bone from fill (133) was undertaken in order to identify the range of species present, and provide further information about food consumption at the site. The textile was analysed in order to determine the fibres used and the type of weave produced.

### **Dates**

- 2.3 Samples were received by Archaeological Services on 1st November 2011. Analysis and report preparation was conducted between 26th November 2011 and 23rd January 2012.

### **Personnel**

- 2.4 Plant macrofossil analysis and report preparation was conducted by Dr Charlotte O'Brien. Animal bone analysis was undertaken by Louisa Gidney, fish bone analysis was by Dr Jennifer Harland, textile fibre identification was by Jennifer Jones and textile weave analysis was by Philippa Henry.

### **Archive**

- 2.5 The site code is **BYAL09**. The flots, animal bone, fish bone and textile fragments are currently held in the Environmental Laboratory at Archaeological Services Durham University awaiting collection. Other small finds were returned to PCAS on 24th November 2011. The plant remains will be retained at Archaeological Services Durham University.

### **Acknowledgements**

- 2.6 Philippa Henry would like to express her gratitude to Dr Esther Cameron for the generosity of her time, and for the use of her microscope for the analysis of the textile fragments.

### 3. Plant macrofossil analysis

#### Methods

- 3.1 The bulk sample from context (131), an upper fill of latrine (102), was manually floated and sieved through a 500 $\mu$ m mesh at the assessment stage (Archaeological Services 2011a). The residues were examined for shells, fruitstones, nutshells, charcoal, small bones, pottery sherds, flint and industrial residues, and were scanned using a magnet for ferrous fragments. The flot was examined at up to x60 magnification for charred and waterlogged botanical remains using a Leica MZ7.5 stereomicroscope. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at Archaeological Services Durham University. Plant nomenclature follows Stace (1997). Habitat classifications follow Preston *et al.* (2002).
- 3.2 Charcoal fragments >4mm were identified. The transverse, radial and tangential sections were examined at up to x600 magnification using a Leica DMLM microscope. Identifications were assisted by the descriptions of Hather (2000) and Schweingruber (1978), and modern reference material held in the Environmental Laboratory at Archaeological Services Durham University.

#### Results

- 3.3 The sample comprised fragments of bone (including fish and sheep/goat-size), animal tooth enamel, two nails, a fragment of pottery and small amounts of charcoal, clinker/cinder, fuel ash and coal. The few identifiable fragments of charcoal were oak branchwood. The sample also contained modern roots/moss and small burrowing snails. The charred plant remains included oats, barley and wheat grains, with a fragment of rye and barley chaff also present. Some of the barley grains were hulled and all of the identifiable wheat grains had the characteristic shape of *Triticum aestivo-compactum* (bread wheat). Two possible peas were also noted. The charred weed seeds derived from arable, heathland, ruderal and wetland habitats. A few uncharred fruitstones of raspberry and elderberry were present, which appear to have preserved through mineralisation, possibly as a result of damp, organic conditions within the latrine. The results of the analysis are present in Appendix 1.

#### Discussion

- 3.4 The sherd of pottery from context (131) was mid 4th to 9th century (Irving 2011), however a degree of redeposition appears to have taken place on the site, as 13th to 15th century roofing tile was present in context (132), an underlying latrine fill (*ibid.*), and medieval glass was identified from context (133), the basal latrine fill (Archaeological Services 2011a). The range of crop plants identified in context (131), comprising hulled barley, oats, rye, cf. bread wheat and cf. pea, are typical of medieval and post-medieval assemblages (Greig 1991). The presence of charred remains of crops suggests that some domestic waste was disposed of in the latrine.
- 3.5 Many of the charred weed seeds recorded in the sample are likely to derive from plants growing with the crops, and this is particularly true of the arable weeds corncockle, stinking chamomile, narrow-fruited cornsalad and wild radish. The ruderal species, cleavers, redshank,ampions and common chickweed may also have grown in the fields, or on areas of waste disturbed ground. The sheep's sorrel seeds may derive from dung of animals grazed on acid heath or short, open grassland on poor soils. Numerous small seeds resembling those of black medick were recorded, which is a weed of dry grassland and disturbed places (Preston *et al.*

2002). Goosefoots and docks include species which occupy a range of habitats, but most grow as arable and ruderal weeds.

- 3.6 A small proportion of the charred weed seeds are from wetland plants, including sedges, great fen-sedge and spike-rushes. Charred remains of wetland plants were also identified in context (134), fill of ditch (110), and comprised sedges, great fen-sedge, and large, ribbed, monocot stems which are probably from common reed (*Phragmites australis*). While great fen-sedge and common reed could derive from burnt thatch, the remains may also be evidence of locally-collected fen peat used for turf walls/roofing or fuel. As the charred cereal grains in the assemblage may reflect the incorporation of hearth waste, turves burnt for fuel may be the most likely explanation for the burnt wetland remains. Turves offered an important resource in the past (Hall 2003), particularly in the medieval period when there was pressure on other fuel resources (Rotherham 2009; Rowley 1986). Peat was therefore intensively cut in medieval times, particularly in areas of low-lying fens, such as those of Lincolnshire and Cambridgeshire, the Norfolk Broads, Somerset Levels and Welsh marshes (Steane 1985; Lambert 1960).
- 3.7 Bonby is located on the eastern edge of the Ancholme valley, an area with an extensive wetland history (Neumann 1998). Although the area has been subject to drainage over several centuries, the river floodplain was formerly a landscape of tidal wetland, consisting of saltmarshes, reedswamps and carr woodland (ibid.). Peat developed in the area as a result of the waterlogged conditions, and deposits such as those at the nearby town of Brigg in which a prehistoric wooden raft was excavated, have been the subject of extensive palaeoenvironmental studies (McGrail 1981; Neumann 1998). Peat would have therefore been a locally available resource for the inhabitants of Bonby.
- 3.8 Archaeobotanical studies have also provided evidence for the use of fen peat in areas around the Humber Estuary. A range of charred wetland remains was identified in medieval deposits at Cartergate, Grimsby (Archaeological Services 2011b) and at Eastgate, Beverley (McKenna 1992). As it has been suggested that archaeobotanical evidence for the use of turves has frequently been overlooked in the past (Hall 2003), this study provides a further likely example of their use.

## **4. Animal bone analysis**

### **Methods**

- 4.1 A small assemblage of faunal remains was recovered from the eight litre bulk soil sample of the primary fill (context 133) of latrine 102. The flot and residue of the sample were scanned at up to x 60 magnification in order to ensure recovery of all of the small bone fragments.

### **Results and discussion**

- 4.2 Although the volume of faunal remains recovered was small, the interest in this assemblage lies in the large number of small and very small fragments recognisable to element, and the species composition. Apart from the fish bones, which are a separate study (section 5), bird bones contribute the overwhelming majority of the identifiable fragments in this collection.

- 4.3 There are several complete, or largely complete, identifiable limb bones:
- Domestic fowl tarso-metatarsus, unspurred, greatest length 65.5 mm. This falls within the normal size distribution for hens from a wide range of medieval sites (Gidney 1999).
  - Domestic fowl coracoid, greatest length 46 mm
  - Domestic fowl femur, greatest length 65.6 mm
  - Domestic fowl distal tibia
  - Domestic fowl proximal coracoid
  - Domestic fowl proximal ulna, mid-shaft chewed
  - Domestic fowl maxilla
  - Pigeon sp. tarsometatarsus, juvenile
  - Sparrow sp. distal humerus
- Further juvenile birds are indicated by a distal tibia and two distal radii which lack distinguishing characteristics for identification to species.
- 4.4 Otherwise, the assemblage principally comprises the first, second and third phalanges of the feet; caudal vertebrae and pygostyle of the tail, or “parson’s nose” in culinary terms; cervical vertebrae, including five atlas vertebrae of varying sizes which possibly indicate the minimum number of birds represented in this sample; carpals and digits of the wings. These elements are not readily identifiable to species but the majority appear compatible with domestic fowl. Many of these recognisable bones, and more of the unidentifiable fragments, have the characteristic acid-etched surfaces indicative of passage through the digestive system. This is normally taken as evidence for the disposal of dog faeces. However, the unusual composition of the elements present and the findspot in a latrine suggest an alternative hypothesis. This is the preparation and consumption of giblets. In medieval culinary terminology these were known as *chauden/chaudoun* or *garbage* (Hieatt & Butler 1985). Traditionally, the giblets included the neck and feet of the bird as well as the gizzard and liver. The wing tips and parson’s nose may have been included with the giblets at this site. This was still the practice with geese in East Yorkshire in the 19th century (Brears 1998), where the giblets were made into a pie after an initial stewing. Brears (1998) observes of the giblet pie that “you had to pick out all the little bones as you ate it”. Like fruitstones in stewed fruit, this may have been easier said than done, with many being inadvertently swallowed.
- 4.5 An example of a 15th century recipe for garbage shows that the giblets were served as a stew:
- Garbage. Taske fayre garbagys of chykonys, as the hed, the fete, the lyuerys, and the gysowrys; washe hem clene, an cast hem in a fayre potte, an caste ther-to freysshe brothe of Beef or ellys of moton, an let it boyle; an a-lye it with brede, an ley on Pepir an Safroun, Maces, Clowys, an a lytil verious an salt, an serue forth in the maner as a Sewe (Austin 1888).
- Though, depending on the amount of bread used to thicken the dish, there could be a similarity in consistency to modern stuffing, which is how Brears (1998) describes the filling of the goose giblet pie.
- 4.6 The presence of a pigeon bone among the chicken bones in this deposit could suggest a dish such as this 14th century example:
- A disshe mete for somere. Take garbage of capons ande of hennes and of chykyns and of dowses and make hom clene ande seethe hom, and cut hom small. And take persil and hew hit small, and dresse hit in platers and poure



vynegur thereon, and caste theron pouder of ginger and of canel, and serue it forthe colde at nyght (Hieatt & Butler 1985).

This recipe is of interest in distinguishing age and sex categories among the domestic fowl contributing the giblets: capons which are large castrated males; hens which are adult females and chickens which are immature birds. Such a dish would encompass the variation in size of skeletal elements of the same species, domestic fowl, seen in this deposit, particularly among the atlas vertebrae.

- 4.7 The stewed giblets could be served as a side dish to the roasted bird. The larger, intact, bird bones may therefore represent carcase bones discarded in the latrine while the small feet and neck bones, principally of domestic fowl, may indicate human consumption of giblets and human use of the latrine for its intended purpose.
- 4.8 The only mammal bones among this assemblage are one calcaneum and several phalanges of pig. All these bones derive from small infant piglets, the culinary sucking pig, and the bones are from the trotters, or pettitoes. Again, there are examples with acid-etched surfaces. The sucking pig was usually roasted whole, as depicted in the Luttrell Psalter (Backhouse 2000), so the pettitoes could have been eaten as part of the crackling. Alternatively, the word pettitoes derives from the French petite oie. The literal meaning is “little goose” but the culinary meaning is “goose giblets”. It is therefore possible that the trotters of sucking pigs could have been included with chicken giblets, if these were available in the kitchen at the same time. The recommended methods of cooking pettitoes are comparable with instructions for the stewing of giblets.
- 4.9 The bones recovered from this latrine provide a fascinating insight into the diet of those frequenting the facility. Although chicken and other bird giblets have a long recorded history of consumption in stews and pies, with possible accidental human consumption of the small bones within, such dishes have now fallen into desuetude and there is no longer an immediately obvious human explanation for the presence of acid-etching on such a specific suite of skeletal elements. The usual interpretation of acid-etching as indicative of dog faecal remains does not appear to provide a satisfactory explanation for the deposit of such a restricted suite of bird and piglet bones in the primary fill of this latrine, whereas the recipes cited provide a plausible alternative.

## 5. Fish bone analysis

### Methods

- 5.1 A very small assemblage of fish remains was produced during excavations at Church Lane, Bonby. These bones were recovered from context (133), the primary latrine fill. Despite the tiny overall size of the assemblage, the fish bones themselves were very numerous, being small and fragmented. A total of 551 could be identified to species or broader taxonomic grouping, with a further 435 that were not identified.
- 5.2 This assemblage was recorded using the York System, an Access database utility designed for recording zooarchaeological assemblages. The fish reference collection held in the Department of Archaeology, University of York was used for identification. The recording protocol is fully detailed in Harland *et al.* (2003). Briefly, this entails the detailed recording of the 18 most commonly occurring and easily

identified elements, termed quantification code (QC) 1. For each of these, the element, species, approximate size, side, fragmentation, texture and any modifications are recorded in detail. Fish vertebrae (QC2) are recorded in more limited fashion, with counts, element and species recorded. Some elements are unusual and particularly diagnostic, like otoliths, and are fully recorded (QC4). The final category of material (QC0), includes elements not routinely identified (i.e. the ray family tooth found at Bonby) as well as unidentifiable material. Elements that are from very unusual species, or that are butchered, are recorded in detail even if not from the QC1 category. Data analysis involved structured database queries, as well as manipulation using Excel.

## **Results and discussion**

- 5.3 Full taphonomic information was recorded for all QC1 and most QC4 elements in the assemblage (Appendix 2.1). However, very few cranial elements were found, so these results only indicate the condition of the 25 that were consumed *and* that survived the process well enough to be identified, or these few bones may have been deposited in the cess material without consumption (as was suggested for a few of the bird bones (section 4). These cranial bones indicate the assemblage was of moderate condition, with a good degree of completeness and ‘good’ or ‘fair’ surface textures. In fact, most of the assemblage was in a poorer condition, with a high degree of crushing and chewing. Appendix 2.2 summarises the modifications that were observed, divided into element type. About 30% of the assemblage was modified in some way; 23% was crushed, 2% was burnt, and a further 3% was both crushed and burnt. Crushing is assumed to result from chewing. Concretions were present throughout, with most of the bones covered in tiny flecks of adhering material. Ten fragments were attached to substantial concretions. Only 2 fragments were positively identified as showing signs of acid-etching, indicating digestion. Both were observed on larger, more robust bones: a herring first vertebra and an eel dentary. This is a low rate of acid-etching given the nature of the material, but the tiny and fragile nature of these fish bones means that many were likely completely digested or were rendered into tiny unidentifiable fragments.
- 5.4 Eel bones were the most commonly identified in the assemblage, representing just over half of all identified fragments (Appendix 2.3; see Appendix 2.6 for a listing of common and scientific names). Herring family and herring together formed about a third of the assemblage. Other taxa were present but in small quantities, including, in rank order: cod family, smelt family, ray family, flatfish order, pike, whiting, allis or twaite shad?, pike family, burbot? and halibut family. Eel bones have a distinctive morphology that allows them to be readily identified even when crushed and fragmentary, which accounts for the high number of these bones identified to species level. Many others could only be identified to family level because of the poorly preserved nature of the assemblage. Despite this, a diversity can be recognised: eel and herring likely formed the majority of the diet, but a range of other taxa were consumed. Both freshwater and marine habitats provided the fish. A few taxa are migratory, including eel, the possible allis/twaite shad and the smelt family identifications. The pike and the potential burbot were both freshwater fish, thus indicating some definite fishing in local riverine ecosystems. Burbot is a member of the cod family, but is now extinct in British river systems (Froese & Pauly 2011); reference comparanda are therefore difficult to source, particularly ones from juvenile fish like this individual. Aside from eel, the more common medieval freshwater taxa are absent: there were no perch or carp family fish identified. The

nearby Humber estuary and adjacent regions of the North Sea could have provided all of these taxa, and it would have been possible for freshly caught marine fish to reach Bonby without need for preservation.

- 5.5 Most of the bones were very small, partly because of the high degree of fragmentation, and partly because these bones were from fish that were in themselves quite small. Appendix 2.4 summarises the few bones that could be accurately sized, using reference comparanda. Almost all fish were between 15 and 30cm total length, with only a few of slightly larger or slightly smaller size. Qualitative analysis of the rest of the assemblage confirms this. The single whiting cranial element identified is exceptional. This bone was in much better condition than the rest of the assemblage, being without any signs of chewing or acid-etching. Furthermore, it was from a fish of 30 to 50cm total length. It is likely this bone was not digested, and was instead thrown into the feature as kitchen or table waste, along with a few of the mammal and bird bones. Most of the bones identified as herring were from fish of c. 25 to 35cm total length, a usual size for herring in the medieval period. However, the 'herring family' category was used for many of the bones that resembled herring, but which were much smaller. These could have been juvenile herring, sprats, shads or pilchards. The cod family vertebrae resembled the small taxa that are found in coastal and inshore waters, like the rocklings. These were difficult to identify given the fragmentary nature of the material, but they did not appear to be juvenile cod, haddock, saithe, pollack or ling. There was no indication the smallest of the bones were stomach contents from other fish: both the taxa found, and the taphonomic patterning, would suggest these were deliberately consumed by humans.
- 5.6 Most of the identified bones were from the vertebral column, as summarised in Appendix 2.5. Vertebrae are naturally more prevalent than cranial bones, but they appear over-represented here. This could be explained by a combination of reasons linked to taphonomy, preservation and food preparation. Even if complete skeletons were being consumed, the processes of digestion would probably render the more delicate cranial bones unidentifiable. The few eel cranial elements that were recovered were limited to the most robust examples. It is, however, likely that at least some fish were served at table without their heads, or at least that heads were not routinely consumed and excreted. These fish were all much smaller than ones that were routinely preserved in the medieval period (Barrett *et al.* 2011, 2004a, 2004b), so it is likely that these fish were arriving at Bonby as fresh and whole specimens.
- 5.7 No butchery marks were observed on any fragments, but nor would they be expected, given the fragmentary nature of the assemblage and the small size of fish found. Evidence for burning may indicate cooking methods: the charring found on many of the vertebrae could indicate cooking over a fire.

### Conclusions

- 5.8 This small sample of fish bones from Bonby produced almost a thousand bones, almost all of which were consistent with this material deriving from cess. Many were crushed from chewing, and a few were acid-etched yet survived to enable identification. Eel, herring and herring family were the most common taxa identified, with a few others found from both marine and freshwater ecosystems. All could have been caught in local river systems, the Humber Estuary or the local coastal,

inshore regions of the North Sea. Almost all of the fish identified were small individuals of less than 30cm total length.

- 5.9 Vertebrae were much more common than cranial elements, which could reflect either the poor preservation of the assemblage or a real preference for avoiding consumption of fish heads. These fish were probably too small for complete filleting prior to cooking, hence the vertebrae were consumed and excreted into the cess feature. However, this assemblage need not be completely representative of the medieval/post-medieval diet, because larger fish may have been eaten at Bonby, but eaten as prepared fillets with kitchen waste disposed of elsewhere. Despite this reservation, this assemblage is nevertheless an interesting example of the fish taxa and sizes that were cooked 'on the bone' and that were routinely consumed without deboning.

## 6. Textile analysis

### Textile fibre analysis

#### Summary

- 6.1 Samples were taken from three different textile fragments recovered from environmental sample <4> from latrine fill (133), and the fibres were examined using light microscopy and scanning electron microscopy (SEM). All three samples were identified as flax (*Linum usitatissimum*).

#### Methodology

- 6.2 The textile fragments had been preserved by varying degrees of calcification in the latrine context where they were discovered. Some pieces were completely covered by a thick layer of calcium-rich deposit, though the weave of the fabric was still apparent. Other pieces were less obscured. A brief examination detected possibly three different fabrics – one a plain tabby weave and the others herringbone weaves – and an example of each was sampled. The three fragments from which the fibre samples were taken are shown below.



Plain textile



Herringbone1 textile



Herringbone2 textile

- 6.3 Under X16 magnification, fibres were taken from inside the calcium-rich coating over the textile threads. No cleaning of the fibres was possible. For light microscopy examination, fibres were mounted on glass slides in dilute glycerol with a cover slip. They were examined using a Leica DM2500 microscope at magnifications between X200 and X500.
- 6.4 For SEM examination, samples were adhered to aluminium stubs and examined using an Hitachi TM3000 facility at magnifications up to X1200.

**Results**

- 6.5 All three samples showed characteristics consistent with flax. Dislocations (mainly infrequent) along the length of the fairly straight fibres, and a thin lumen were observed under light microscopy. Measurements of fibre widths under SEM examination found them to be between 5 - 20µ. Light microscopy and SEM images are shown in Appendix 3.1.

**Discussion**

- 6.6 The samples were identified as flax (*Linum usitatissimum*). Though the fibres were fragmentary, dirty and variable, with cracked and disrupted outer surfaces, it was possible to discount animal fibres by the absence of any surface scale pattern. The fibre surface detail and cross section shape was not consistent with silk. Examination of reference examples of both flax and hemp showed the samples to be more comparable to flax, with a narrow lumen and a size range up to c20µ. Hemp (*Cannabis sativa*) in general has a wider lumen and a fibre width between 20 - 30µ.

**Textile weave analysis****Summary**

- 6.7 In total, 16 textile fragments and one loop of yarn were recovered from environmental sample <4> from context (133) (Appendix 3.2). Technical details were determined using binocular low-powered light microscopy. As outlined above, the fibre in samples 1, 2 and 14 has been identified as flax (*Linum usitatissimum*), with the remainder showing a morphology that strongly suggests flax fibre.

**Methods**

- 6.8 The analysis was undertaken using a Wild M8 microscope, using magnification of x6 to x50. Most fragments are reasonably well preserved, enabling weave-type and other technical details to be ascertained (Appendix 3.3), although the calcium-rich deposits on textiles 15 and 16 obscured the weave-type and the number of threads per cm. The methodology of analysis is based on the work of Henry (1994).

**Results**

- 6.9 It has been possible to gain meaningful information from the majority of the textile fragments in order to categorise them correctly (Appendix 3.3). Calcified deposits and degraded fibres are present in places, but enough well preserved surface area survives to enable accurate measurements to be made.
- 6.10 All of the fabric samples are Z-spun (spun in a clockwise direction) in both systems (warp and weft). No selvedge is detectable in any of the samples so it has not been possible to ascertain which is the warp or the weft thread, but as the majority of the textiles have a thread count and yarn diameter that is similar in both systems, this does not detract from the accuracy of the analysis. It has been possible to calculate the cover factor of all but two of the textiles (cover factor equates to the density of the yarn across a specified piece of fabric, in this case 1 cm<sup>2</sup>).

**Herringbone Twill (a form of chevron twill)**

- 6.11 The weave type of eight of the textiles has been identified as herringbone twill (Appendix 3.3), of which six have definitely been identified as 2/2 twills, and one possible sample of this type. 2/2 twills are so named because the weft thread passes over two warp threads and under two warp threads across the fabric. Herringbone twills have a characteristic diagonal pattern, which is produced by reversing groups

of warp and weft threads throughout the weaving process. The final sample has a probable 2/1 binding system, where the weft thread passes over two warp threads and under one warp thread.

6.12 The technical details presented in Appendix 3.3 suggest samples of fabric of reasonable and good quality, with the visual appearance verifying this assumption. Whether any of the textiles originated from the same length of cloth is difficult to ascertain, although samples 2, 6 and 7 do have visual similarities, but the technical details do not completely match up. Samples 3, 4 and 5 all have distinctive lines of weave that stand out from the main body of the fabric. Again there are visual similarities, but slight differences in the technical details. As it is impossible to assess how much change the textile samples have undergone in the burial environment, it may be that the slightly varying technical details are due to inconsistent changes during burial. If this is the case it is possible that samples 2, 6 and 7 originally formed part of the same fabric, and that textiles 3, 4 and 5 were part of a second piece of cloth.

6.13 The stitch holes identified in four of the herringbone textiles are of the same diameter, except for one in textile 6 (Appendix 3.3, samples 2, 4, 5 and 6). Whether these stitch holes indicate the joining of two separate pieces of fabric or hemming is impossible to ascertain due to their small size and the fragmentary nature. The two stitch holes in sample 6 are very close together, so whatever their purpose fine sewing was being carried out with a needle and sewing yarn of 1 mm in diameter or less.

#### Plain Tabby Weave

6.14 Plain tabby weave is evident in six of the textile samples (Appendix 3.3), all of which are produced from Z-spun yarn in both systems. Plain tabby weave is produced when the weft thread crosses over one and under one warp thread.

6.15 Both visually and technically Textiles 10, 11, 12 and 14 indicate fairly loosely and unevenly woven fabrics. As they have a similar appearance it is possible that they were originally from the same piece of cloth. Sample 13 has a tighter weave, which is balanced and even (i.e. it has the same number of threads per centimetre in both systems and a weave that is even across the whole face of the fabric), suggesting that both visually and technically the fabric is of good quality. Textile sample 9 is heavily degraded and although it has been possible to gain technical details, its visual appearance is not consistent with them. The original fabric does though appear to be of reasonable quality.

#### Unknown Weave

6.16 Textile samples 15 and 16 are very heavily degraded and calcified to such an extent that it has not been possible to ascertain weave-type and thread count. Some details have, however, been identified, the fibre is probably flax, the yarn in both systems of the two fabrics is Z-spun and the diameter of the yarn has been ascertained (Appendix 3.3).

#### Yarn

6.17 The length of yarn recovered from the sample has a loop at one end (Appendix 3.3). The fibre shows the morphology of flax and the yarn, which is Z-spun, has a diameter of 0.6 mm.



## Discussion

- 6.18 The survival of cellulose-based fibres, of which flax is one, is not as common in northern Europe as that of protein-based fibres such as wool and silk, due to the slightly acid soils of the region. Linen does, however, survive where changes have occurred to render the fibre inert, for instance mineralisation, charring or calcification. This method of survival appears to have happened with the textiles from context (133). The fabric is heavily calcified in places, which has helped its survival in the anaerobic conditions in which it was found.
- 6.19 Examples of medieval linen are known from several urban environments, for instance from Lincoln, London, Winchester and York (Crowfoot 1990; Crowfoot *et al.* 2001; Pritchard 1984; Walton 1989; Walton Rogers 1993, 1996). These samples are mainly tabby, although twill weaves are also evident from London and York (Crowfoot *et al.* 2001; Walton 1989). Twill-woven linens form a very small proportion of excavated linen cloth from the medieval period, which belies the extent to which this form of woven cloth was utilised for everything from undergarments to household linen.
- 6.20 It is possible that a number of the fragments originally formed part of the same fabric. The visual appearance of textile samples is a useful adjunct to technical details when categorising cloth (Hammarlund & Vestergaard Pedersen 2007; Hammarlund *et al.* 2008). Using this method it becomes possible to suggest that textile fragments 2, 6 and 7 are part of a larger piece of good quality herringbone twill fabric, textiles 3, 4 and 5 form a proportion of a second piece of herringbone twill cloth of reasonable quality, and that samples 10, 11, 12 and 14 form a third, a fairly loosely woven plain tabby weave fabric.
- 6.21 Although small, the 16 fragments of linen cloth from Church Lane, Bonby add significantly to the corpus of linen from the medieval period. In particular, the herringbone twill-woven fabric, makes an extremely valuable contribution to the study of this form of cloth.

## 7. Sources

- Archaeological Services 2011a *Church Lane, Bonby, Lincolnshire: palaeoenvironmental assessment*. Unpublished report **2782**, Archaeological Services Durham University
- Archaeological Services 2011b *Cartergate, Grimsby, Lincolnshire: palaeoenvironmental analysis*. Unpublished report **2579**, Archaeological Services Durham University
- Austin, T, 1888 *Two Fifteenth-Century Cookery-Books*. London
- Backhouse, J, 2000 *Medieval Rural Life in the Luttrell Psalter*. London
- Barrett, J H, Locker, A M, & Roberts, C M, 2004a Dark Age Economics revisited: the English fish bone evidence AD 600-1600. *Antiquity* **78 (301)**, 618–636
- Barrett, J H, Locker, A M, & Roberts, C M, 2004b The origins of intensive marine fishing in medieval Europe: The English evidence. *Proceedings of the Royal Society of London B* **271**, 2417-2421
- Barrett, J H, Orton, D, Johnstone, C, Harland, J, Van Neer, W, Ervynck, A, Roberts, C, Locker, A, Amundsen, C, Bødker Enghoff, I, Hamilton-Dyer, S, Heinrich, D, Hufthammer, A K, Jones, A K G, Jonsson, L, Makowiecki, D, Pope, P, O'Connell, T C, de Roo, T, & Richards, M, 2011 Interpreting the expansion of

- sea fishing in medieval Europe using stable isotope analysis of archaeological cod bones. *Journal of Archaeological Science* **38**, 1516-1524
- Brears, P, 1998 *Ryedale Recipes*. Beverley
- Crowfoot, E, 1990 Textiles, in M Biddle (ed), *Object and economy in medieval Winchester*, Winchester Studies 7.2, Volume **2**, 467-92. Oxford
- Crowfoot, E, Pritchard, F, & Staniland, K, 2001 *Textiles and Clothing 1150-1450* 2nd Edition. Woodbridge
- Froese, R, & Pauly, D, (eds) 2011 *FishBase*. World Wide Web electronic publication. [www.fishbase.org](http://www.fishbase.org), version (12/2011)
- Gidney, L J, 1999 The animal bones, in A Connor & R Buckley (eds) *Roman and Medieval Occupation in Causeway Lane, Leicester*. Leicester Archaeology Monographs **5**, 310-329
- Greig, J R A, 1991 The British Isles, in W Van Zeist, K Wasylikowa & K-E Behre (eds) *Progress in Old World Palaeoethnobotany*. Rotterdam
- Hall, A, 2003 Recognition and characterisation of turves in archaeological occupation deposits by means of macrofossil plant remains. Centre for Archaeology Report **16/2003**. English Heritage
- Hammarlund, L, & Vestergaard Pedersen, K, 2007 Textile Appearance and Visual Impression - Craftknowledge applied to archaeological textiles, in A Rast-Eicher & R Windler (eds) *Archaeological Textiles*, NESAT IX, Lotteriefonds des Kantons Glarus, 213-19
- Hammarlund, L, Kirjavainen, H, Vestergaard Pedersen, K, & Vedeler, M, 2008 Visual Textiles: a study of appearance and visual impressions in archaeological textiles, in R Netherton & G A Owen-Crocker (eds) *Medieval Textiles and Clothing*, **4**, 69-98
- Harland, J F, Barrett, J, Carrott, J, Dobney, K, & Jaques, D 2003 The York System: An integrated zooarchaeological database for research and teaching. *Internet Archaeology* **13**
- Hather, J G, 2000 *The identification of the Northern European Woods: a guide for archaeologists and conservators*. London
- Henry, P A, 1994 *Current techniques of ancient textile analysis: a critical review*. Unpublished MA Thesis, Department of Archaeology, Durham University
- Hieatt, C B, & Butler, S, 1985 *Curye on Inglysch*. Oxford
- Irving, A, 2011 Church Lane, Bonby, North Lincolnshire (BYAL09): ceramic finds. Unpublished report, Pre-Construct Archaeological Services Ltd
- Lambert, J M, 1960 The making of the Broad; a reconsideration of their origin in the light of new evidence. Royal Geographical Society Research Series, Issue **3**
- McGrail, S, 1981 The environment, in S McGrail (ed) *The Brigg 'raft' and her prehistoric environment*. British Archaeological Reports, British Series **89**, 271-4
- McKenna, W J B, 1992 The environmental evidence, in D H Evans & D G Tomlinson (eds), *Excavations at 33-35 Eastgate, Beverley 1983-86*, 227-35, Sheffield Excavation Reports **3**
- Neumann, H, 1998 The palaeoenvironmental survey of the Ancholme valley, in R Van de Noort & S Ellis (eds), *Wetland heritage of the Ancholme and Lower Trent Valleys: an archaeological survey*. Hull
- Preston, C D, Pearman, D A, & Dines, T D, 2002 *New Atlas of the British and Irish Flora*. Oxford
- Pritchard, F A, 1984 Late Saxon textiles from the City of London. *Medieval Archaeology* **28**, 46-76
- Rotherham, I D, 2009 *Peat and peat cutting*. Oxford



- Rowley, T, 1986 *The High Middle Ages, 1200-1550*. London
- Schweingruber, F H, 1978 *Microscopic wood anatomy*. Birmensdorf
- Stace, C, 1997 *New Flora of the British Isles*, 2nd Edition. Cambridge
- Steane, J, 1985 *The archaeology of medieval England and Wales*. Kent
- Walton, P, 1989 *Textiles, Cordage and Raw Fibre from 16-22 Coppergate*.  
Archaeology of York, The Small Finds: 17/5. Council for British Archaeology  
for York Archaeological Trust, York
- Walton Rogers, P, 1993 *Textiles from the City of Lincoln 1972-1989*. Unpublished  
report, Textile Research Associates
- Walton Rogers, P, 1996 *Textiles from the Brooks, Winchester 1987-88*. Unpublished  
report, Textile Research Associates

## Appendix 1: Data from plant macrofossil analysis

Sample	2	
Context	131	
Feature No.	102	
Feature	latrine	
Volume processed (l)	18	
Volume of flot assessed (ml)	200	
Residue contents		
Bone (calcined)	indet. frags	(+)
Bone (unburnt)	indet. frags	(+)
Bone (unburnt)	sheep / goat-size	+
Nail (number of fragments)	Fe	2
Pot (number of fragments)		1
Tooth (animal - enamel fragment)		1
Flot matrix		
Charcoal		++
Clinker / cinder		(+)
Coal		+
Fuel ash		+
Moss (modern)		+++
Roots (modern)		+
Snails		++
Charred remains (total count)		
(a) <i>Agrostemma githago</i> (Corncockle)	seed	2
(a) <i>Anthemis cotula</i> (Stinking Chamomile)	achene	6
(a) <i>Raphanus raphanistrum</i> (Wild Radish)	pod fragment	1
(a) <i>Raphanus raphanistrum</i> (Wild Radish)	seed	2
(a) <i>Valerianella dentata</i> (Narrow-fruited Cornsalad)	fruit	2
(c) <i>Avena</i> sp (Oat species)	grain	1
(c) <i>Cerealia</i> indeterminate	grain	15
(c) <i>Fabaceae</i> cf. <i>Pisum sativum</i> (cf. Pea)	large seed	2
(c) <i>Hordeum</i> sp (Barley species)	grain	19
(c) <i>Hordeum</i> sp (Barley species)	hulled grain	17
(c) <i>Hordeum</i> sp (Barley species)	rachis fragment	1
(c) <i>Secale cereale</i> (Rye)	rachis fragment	1
(c) <i>Triticum</i> cf. <i>aestivum</i> (cf. Bread Wheat)	grain	12
(h) <i>Rumex acetosella</i> (Sheep's Sorrel)	nutlet	1
(r) <i>Fabaceae</i> cf. <i>Medicago lupulina</i> (cf. Black Medick)	seed	107
(r) <i>Galium aparine</i> (Cleavers)	seed	1
(r) <i>Persicaria maculosa</i> (Redshank)	nutlet	1
(r) <i>Silene</i> sp (Campions)	seed	2
(r) <i>Stellaria media</i> (Common Chickweed)	seed	1
(w) <i>Carex</i> sp (Sedges)	trigonus nutlet	1
(w) <i>Cladium mariscus</i> (Great Fen-sedge)	nutlet	2
(w) <i>Eleocharis</i> sp (Spike-rushes)	nutlet	2
(x) <i>Chenopodium</i> sp (Goosefoots)	seed	2
(x) <i>Poaceae</i> undiff. >1mm (Grass family)	caryopsis	11
(x) <i>Rumex</i> sp (Docks)	nutlet	7
Mineralised remains (abundance)		
(t) <i>Rubus idaeus</i> (Wild Raspberry)	fruitstone	1
(t) <i>Sambucus nigra</i> (Elder)	fruitstone	1

[a-arable; c-cultivated; h-heathland; r-ruderal; t-tree/shrub; w-wet/damp ground; x-wide niche.

(+): trace; +: rare; ++: occasional; +++: common; ++++: abundant

Mineralised remains are scored from 1-5 where 1: 1-2; 2: 3-10; 3: 11-40; 4: 41-200; 5: >200]

**Appendix 2.1: Percent completeness and texture scores for QC1 and QC4 fish bone elements**

Percent completeness		Textures	
80-100%	12	Excellent	0
60-80%	11	Good	16
40-60%	2	Fair	9
20-40%	0	Poor	0
0-20%	0		

## Appendix 2.2: Fish bone modifications by element type

Modifications	QC 0 (unidentified)	QC1 (cranial)	QC2 (vertebral)	QC4 (other)	Total	
None	415	23	258	6	702	71%
Acid etched		1	1		2	0%
Calcined			1		1	0%
Charred	6		17		23	2%
Crushed			226		226	23%
Charred and crushed			32		32	3%
Total	421	24	535	6	986	100%

### Appendix 2.3: Summary of identified fish taxa by element type

Taxa	QC 0 (unidentified)	QC1 (cranial)	QC2 (vertebral)	QC4 (other)	Total	
Ray Family	1		2		3	1%
Eel		17	281		298	54%
Allis Shad/ Twaite Shad?			1		1	0%
Atlantic Herring			53	2	55	10%
Herring Family			138	3	141	26%
Pike		1	1		2	0%
Pike Family			1		1	0%
Smelt Family			5		5	1%
Burbot?			1		1	0%
Whiting		1	1		2	0%
Cod Family		2	36		38	7%
Halibut Family		1			1	0%
Flatfish Order		2		1	3	1%
Total identified	1	24	520	6	551	100%
Unidentified	420		15		435	
Total	421	24	535	6	986	

## Appendix 2.4: Fish total length estimates

Taxa	<15cm	15-30cm	30-50cm
Eel	1	15	1
Pike		1	
Burbot?		1	
Whiting			1
Cod Family	1	2	
Halibut Family		1	
Flatfish Order	1	2	



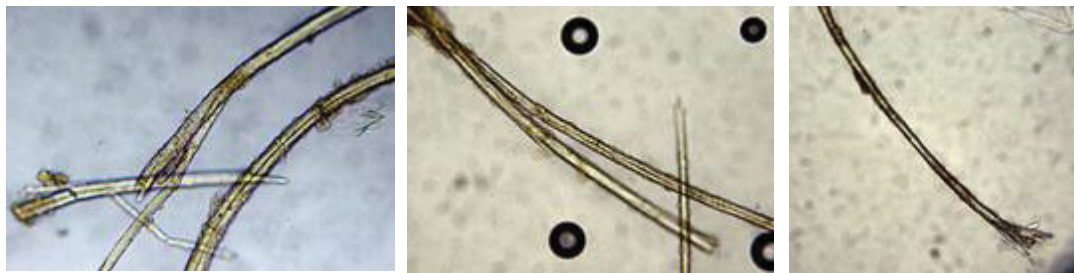
**Appendix 2.5: Fish taxa by element**

Taxa	QC0 Tooth Unidentified	QC1						QC2						QC4	Total						
		Articular	Basioccipital	Ceratohyal	Cleithrum	Dentary	Hyomandibular	Infrapharyngeal	Supracleithrum	Vertebra	Abdominal Vertebra	Abdominal Vertebra Group 1	Abdominal Vertebra Group 2	Abdominal Vertebra Group 3	Caudal Vertebra	Caudal Vertebra Group 1	Caudal Vertebra Group 2	Ultimate Vertebra	1st Anal Pterygiophore	Otic Bulla	
Ray Family	1	2	1	3	7	3	1			2	123			158							3
Eel											5			1							298
Allis Shad/ Twaite Shad?											39			9					2		1
Atlantic Herring											2			55				2	3		55
Herring Family											79										141
Pike									1		1										2
Pike Family											2			1							1
Smelt Family														3							5
Burbot?																1					1
Whiting								1								1					2
Cod Family				2												7		7			38
Halibut Family								1													1
Flatfish Order				1				1											1		3
Unidentified	420									15											435
Total	1 420	2 2	1 1	6 6	7 7	3 3	1 1	2 2	2 2	17 7	244 7	1 4	1 4	14 230	9 7	7 2	1 5	1 2	1 5		986

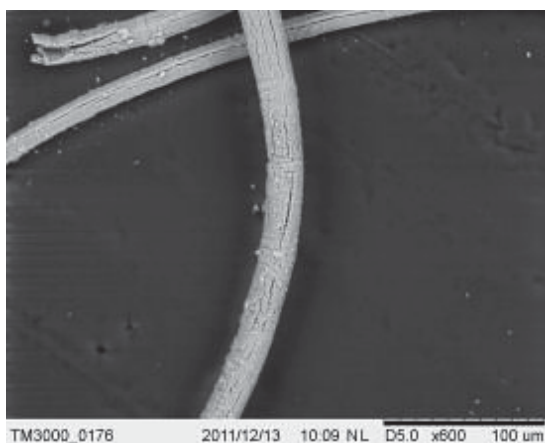
## Appendix 2.6: Common and scientific names for the fish taxa

Common name	Scientific name
Ray Family	Rajidae
Eel	<i>Anguilla anguilla</i>
Allis Shad/ Twaite Shad?	<i>Alosa alosa/Alosa fallax?</i>
Atlantic Herring	<i>Clupea harengus</i>
Herring Family	Clupeidae
Pike Family	Esocidae
Pike	<i>Esox lucius</i>
Smelt Family	Osmeridae
Burbot?	<i>Lota lota?</i>
Whiting	<i>Merlangius merlangus</i>
Cod Family	Gadidae
Halibut Family	Pleuronectidae
Flatfish Order	Heterosomata (Pleuronectiformes)

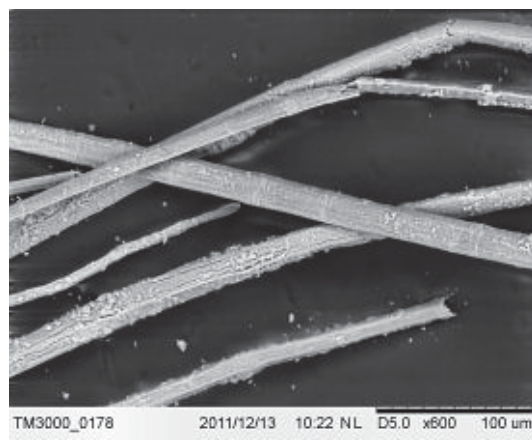
### Appendix 3.1: Light microscopy and SEM images of the textile fibres



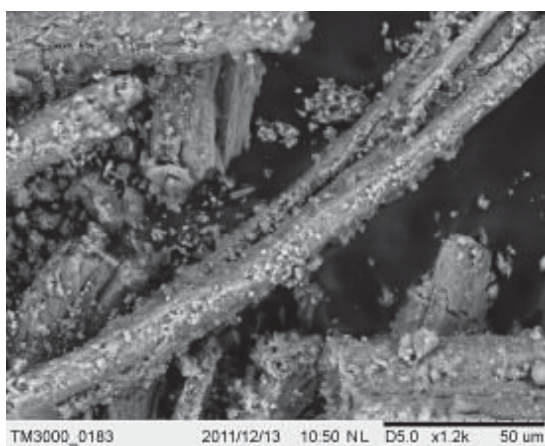
Light microscopy images of the plain textile and herringbone textiles 1 & 2



SEM image of the plain textile



Herringbone 1



Herringbone 2

**Appendix 3.2: The analysed textile fragments**



### Appendix 3.3: Technical details of the textile fragments

Item no.	Dimensions (mm)	Fibre	Weave	Spin Direction	Thread Count (per cm)	Yarn Diameter (mm)	Cover Factor	Comments
Twill weave								
1	10 x 5	Flax	?2/1 herringbone	Z/Z	22/22	1–0.5/0.7–0.2	91	Uneven weave.
2	30x10	Flax	2/2 herringbone	Z/Z	21/21	0.5/0.5	100	2 stitch holes – 1mm in diameter. Fabric folded at one edge. Some calcified areas.
3	30 x 25	Flax	2/2 herringbone	Z/Z	18/18	0.7/0.7	93	Some degraded patches.
4	25 x 10	Flax	2/2herringbone	Z/Z	20/20	0.5/0.5	100	Visually similar to 3, could be from same original fabric. 1 stitch hole – 1mm in diameter. Folded at one edge.
5	12 x 10	Flax	2/2herringbone	Z/Z	20/20	0.4/0.4	96	Visually similar to 3 & 4, could be from same original fabric. 1 stitch hole – 1mm in diameter. Slight curl at one edge.
6	13 x 6	Flax	2/2herringbone	Z/Z	18/22	1–0.7/0.6–0.4	95	Visually similar to 2, could be from same original fabric. 2 stitch holes – 1mm & 1.5mm in diameter. Slight curl on one edge. One side heavily calcified.
7	15 x 6	Flax	2/2 herringbone	Z/Z	20/20	0.5/0.5	100	Visually similar to 2 & 6, could be from same original fabric. Slight curl at one edge.
8	9 x 9	?Flax	?2/2 herringbone	Z/Z	20/20	0.5/0.5	100	Heavily degraded.
Tabby weave								
9	7 x 5	?Flax	plain tabby	Z/Z	14/13	0.5/0.5	89	Heavily degraded.
10	10 x 4	Flax	plain tabby	Z/Z	13/13	1–0.7/1–0.5	77	Yarn degraded in places, loose yarn on one side. The yarn in system 2 is very lightly spun. Fabric slightly curled on one edge.
11	6 x 4	Flax	plain tabby	Z/Z	16/15	1–0.7/1–0.5	61	Visually similar to 10, could be from same original fabric. Very loose weave. The yarn in both systems is very lightly spun. Some yarn degraded.
12	7 x 4	Flax	plain tabby	Z/Z	18/16	1–0.5/1–0.7	76	Visually similar to 10 & 11, could be from same original fabric. Loose weave. The yarn in system 2 is very lightly spun. Yarn degraded in places.
13	13 x 5	Flax	plain tabby	Z/Z	14/14	0.4–0.5/0.4–0.5	91	Calcified on one side. The yarn in both systems is lightly spun.
14	14 x 12	Flax	plain tabby	Z/Z	14/14	1–0.7/0.7–0.2	89	Visually similar to 10, 11 & 12, could be from same original fabric. Yarn heavily degraded in places (thread count taken from least degraded areas.). Hole in middle.
Weave unknown								
15	16 x 13	?Flax	?	Z/Z	?	1–0.5/1–0.5	?	Very heavily degraded and calcified – weave-type, thread count and cover factor not detectable.
16	9 x 5	?Flax	?	Z/Z	?	1/1	?	Very heavily degraded and calcified – weave-type, thread count and cover factor not detectable.
Yarn								
17	Length 10	?Flax	-	Z	-	0.6	-	Length of yarn with a loop at one end. Heavily calcified in places.

[Dimensions are given at the largest point]

## 2 Church Lane, Bonby, North Lincolnshire (BYAL09)

### CERAMIC FINDS

Dr Anne Irving

### THE POTTERY

#### Introduction

All the material was recorded at archive level in accordance with the guidelines laid out in Darling (2004), Slowikowski *et al.* (2001) and to conform to Lincolnshire County Council's *Archaeology Handbook*. The pottery codenames (Cname) are in accordance with the established type series for North Lincolnshire. A total of 14 sherds from 14 vessels, weighing 268 grams was recovered from the site.

#### Methodology

The material was laid out and viewed in context order. Sherds were counted and weighed by individual vessel within each context. The pottery was examined visually and using x20 magnification. This information was then added to an Access database. An archive list of the pottery is included in Table 1. The pottery ranges in date from the Roman to the post-medieval period.

#### Condition

Most of the pottery appears to be re-deposited. Soot and carbonized food deposits indicate vessels used for domestic tasks such as cooking.

#### Results

Table 1, Pottery Archive

Cxt	Cname	Full name	Fabric	Form	NoS	NoV	W (g)	Part	Description	Date
015	BEVO1T	Beverley Orange-type ware Fabric 1		Jug	1	1	4	BS	CU glaze; burnt/refired	
015	BL	Blackware		Bowl	1	1	41	Rim	Abraded	17th to 18th
021	LERTH	Late Earthenware		Garden pot	1	1	7	BS		
021	STSL	Staffordshire Slipware	Buff	PMD	1	1	22	BS	Trailed and feathered yellow and brown	
101	HUM	Humberware		Jug	1	1	91	BS with UHJ	Pressed strip; Fresh	
105	GRE	Glazed Red Earthenware		?	1	1	3	BS		
105	LHUM	Late Humberware		Jug/ jar	1	1	9	BS		
122	NLG	North Lincolnshire Gritty ware	+ ca	Jar	1	1	16	Rim	?ID	
123	GREY	Greyware		Dish/ bowl	1	1	11	Rim	Round everted rim with slight burnishing beneath; soot; abraded	Roman
301	HUM	Humberware		Jug/ jar	1	1	7	Base	Soot	
301	LHUM	Late Humberware		Jug/jar	1	1	7	BS		



301	NLQC	North Lincolnshire Quartz and Chalk		Jar	1	1	8	Base	Soot and carbonised deposit	
305	BEVO1T	Beverley Orange-type ware Fabric 1		Jug	1	1	9	BS	White slip; specks cu	
U/S	NLQC	North Lincolnshire Quartz and Chalk		Jar	1	1	33	BS		Mid 11th to early 13th

## Range

A single Roman greyware sherd from a shallow dish or bowl was recovered from (123). Eight sherds of medieval pottery are present; all are types commonly found in assemblages from North Lincolnshire. Most fall into a mid 11th to early 13th century date range. Five sherds date to the post-medieval period (BL, GRE, LERTH, STSL).

## Potential

All the pottery is stable and poses no problems for long-term storage. No further work is required on the assemblage.

## CERAMIC BUILDING MATERIAL

### Introduction

All the material was recorded at archive level in accordance with the guidelines laid out by the ACBMG (2001) and to conform to Lincolnshire County Council's *Archaeology Handbook*. A total of 20 fragments of ceramic building material, weighing 3660 grams was recovered from the site.

### Methodology

The material was laid out and viewed in context order. Fragments were counted and weighed within each context. The ceramic building material was examined visually and using x20 magnification. This information was then added to an Access database. An archive list of the ceramic building material is included in Table 2.

### Condition

Overall the fragments are in fresh condition and comprise large fragments. Some smaller, abraded fragments can be discarded.

## Results

*Table 2, Ceramic Building Material Archive*

Cxt	Cname	Full name	Fabric	Form	NoF	W (g)	Description	Date
101	BRK	Brick	Fine oxidised; calcareous + fe		1	115	Very abraded	16th to 18th
102	BRK	Brick	Fine oxidised; calcareous	60mm x 120mm	1	718	Handmade; sand bedded; strike marks	16th to 18th
104	BRK	Brick	Fine oxidised; calcareous + flint	60mm x 130mm x 140mm+	1	1341	Handmade; sand bedded; strike marks; half brick; mortar	16th to 18th
105	CBM	Ceramic Building Material			4	25	Abraded; discard	?
120	BRK	Brick	Fine oxidised; calcareous + fe		1	326	Very abraded	16th to 18th
120	CBM	Ceramic			6	93	Flakes; discard	

		Building Material						
120	PNR	Peg, Nib or Ridge Tile	Fine oxidised		4	416	Flat roofers; finger smearing; very fine fabric - Beverley?	13th to 15th
132	PNR	Peg, Nib or Ridge Tile	Fine oxidised		2	626	Flat roofing tile; cut post firing wavy edge; possibly reused medieval roof tile?; one heavy soot	13th to 15th?

## Range

### *Medieval*

Six fragments of medieval roof tile are present. All have a very fine fabric and finger smeared surfaces. Two fragments have been trimmed post-firing, possible for use as garden borders.

### *Post-medieval*

Four handmade bricks have a calcareous fabric and evidence for being sand moulded. These probably date between the 16th and 18th centuries.

## Potential

All the material is stable and poses no problem for long-term storage; flakes and very abraded fragments have been identified for discard. No further work is required.

## PROVENANCE

### Plot 1

Medieval and post-medieval brick and pottery were retrieved from plot 1. A single Roman rim sherd came from feature [109].

### Plot 3

A single sherd of Late Humbeware was present in the subsoil (301) and an early medieval Beverley ware came from layer (305). Post medieval pottery came from the service trench for Plot 3 context (021).

### Plot 4

Post medieval pottery was retrieved from context (015)

## CONTEXT DATES

The dating in Table 3 is based on the evidence provided by the finds detailed above.

*Table 3, Spot dates*

Context	Date	Comment
015	17th to 18th	
021	18th	
101	16th to 18th	Date on CBM
102	16th to 18th	Date on CBM
104	16th to 18th	Date on CBM
105	16th to 17th	
120	13th to 15th	Date on CBM

122	Mid 11th to early 13th	Date on a single sherd
123	Roman	Date on a single sherd
132	13th to 15th	Date on CBM
301	Mid 16th to 17th	Date on a single sherd
305	12th to early 13th	Date on a single sherd

## ABBREVIATIONS

ACBMG	Archaeological Ceramic Building Materials Group	NoS	Number of sherds
BS	Body sherd	NoV	Number of vessels
CBM	Ceramic Building Material	TR	Trench
CXT	Context	UHJ	Upper Handle Join
LHJ	Lower Handle Join	W (g)	Weight (grams)
NoF	Number of Fragments		

## REFERENCES

- ~ 2001, *Draft Minimum Standards for the Recovery, Analysis and Publication of Ceramic Building Material*, third version [internet]. Available from <http://www.geocities.com/acbmg1/CBMGDE3.htm>
- ~ 2010, *Lincolnshire Archaeological Handbook* [internet]. Available at <<http://www.lincolnshire.gov.uk/section.asp?catId=3155>>
- Darling, M. J., 2004, 'Guidelines for the Archiving of Roman Pottery', *Journal of Roman Pottery Studies* 11, 67-74
- Slowikowski, A. M., Nenk, B., and Pearce, J., 2001, *Minimum Standards for the Processing, Recording, Analysis and Publication of Post-Roman Ceramics*, Medieval Pottery Research Group Occasional Paper 2

**THE FAUNAL REMAINS***By Paul Cope-Faulkner***Introduction**

A total of 13 (325g) fragments of animal bone were recovered from stratified contexts during investigations at Church Lane, Bonby. The faunal remains were laid out in context order and reference made to published catalogues (e.g. Schmid 1972; Hillson 2003).

**Provenance**

The animal bone was retrieved from layers (101 and 120), a chalk wall (105), a ditch fill (123), a pit fill (128) and the fill of a latrine (132).

**Condition**

The overall condition of the remains was good to moderate, averaging at grades 2-3 on the Lyman Criteria (1996). The bird bone from (132) was in very poor condition, possibly due to its disposal in a latrine.

**Results***Table 1, Fragments Identified to Taxa*

Cxt	Taxon	Element	Side	No.	Wt (g)	Comments
101	horse medium mammal	metatarsus	-	1	138	
		rib	-	1	11	poss pig
105	large mammal bird	long bone	-	1	5	
		various	-	3	1	prob chicken
120	medium mammal	?radius	-	1	6	
123	large mammal cattle	vertebra	-	2	64	both join
		metacarpus	-	2	31	both join
128	cattle	metatarsus	-	1	63	chalky
132	bird	radius/ulna	-	1	6	prob chicken

**Summary**

Horse, cattle and bird (probably chicken) are present with no sheep/goat easily identified in the assemblage. All the bone was collected from Plot 1 which may indicate a preferred area for waste disposal during the (largely) post-medieval period. The bone should be retained as part of the site archive.

**References**

Hillson, S, 2003 *Mammal Bones and Teeth. An introductory guide to methods of identification* (London)

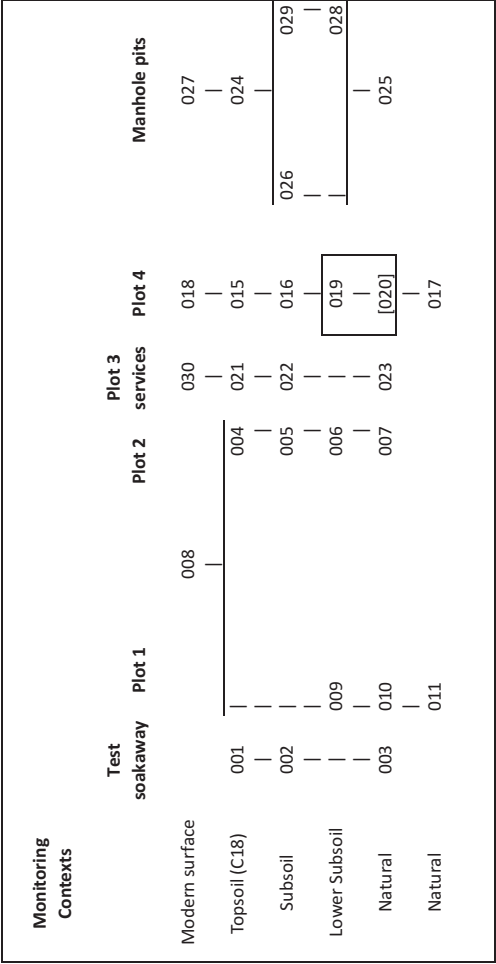
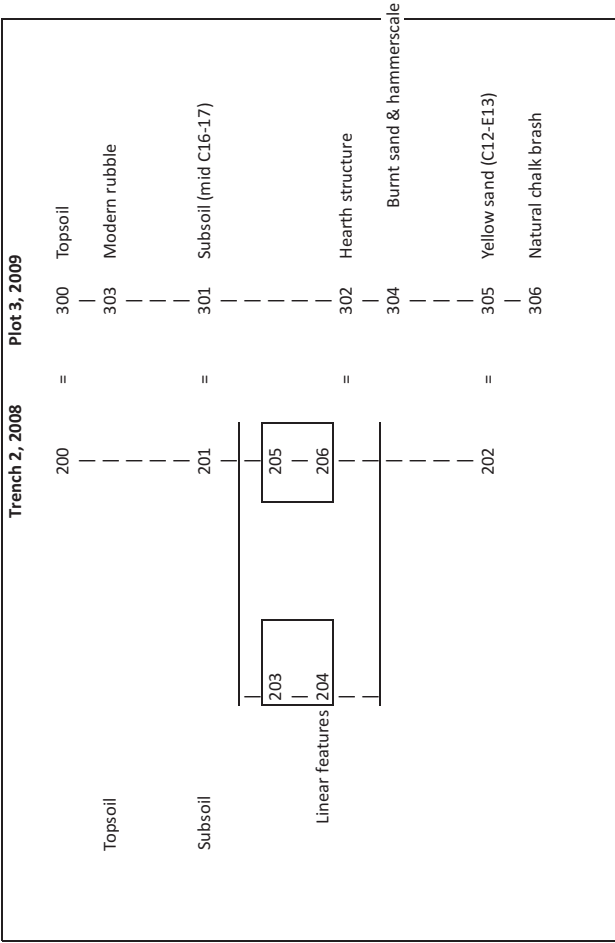
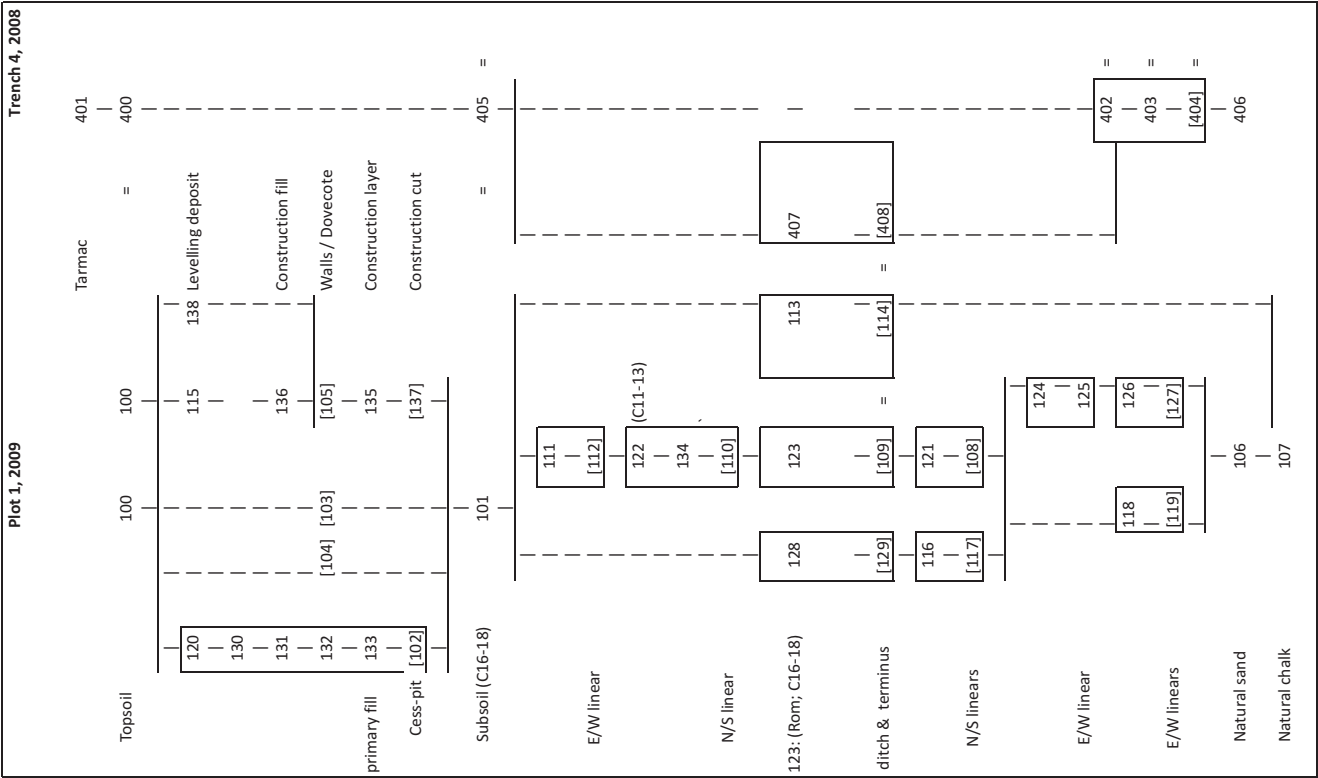
Lyman, RL, 1996 *Vertebrate Taphonomy*, Cambridge Manuals in Archaeology (Cambridge)

Schmid, E, 1972 *Atlas of Animal Bones* (Amsterdam, London, New York: Elsevier)

Assessment of glass fragments from BYAL 09 soil sample from Dr Rachel Tyson  
(Pers. Comm)

*“The glass fragments are too small to be diagnostic of any particular vessel, but they are consistent with medieval forest/potash glass that was made in England. Most evidence for it is from the 13th C onwards, but could be 12th or even 11th C. Vessels include urinals, flasks, hanging lamps etc.- utilitarian and undecorated.”*

Appendix 3. Stratigraphic matrix



# OASIS DATA COLLECTION FORM: England

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## Printable version

**OASIS ID: preconst3-119004**

### Project details

Project name 2 Church Lane Bonby

Short description of the project Pre-Construct Archaeological Services Ltd (PCAS) were commissioned by J. Derbyshire Design Partnership (Agent) to undertake a scheme of archaeological mitigation on land at 2, Church Lane, Bonby, Lincolnshire (centred on NGR: TA 0029 1542). The archaeological mitigation work conducted between May 2009 and February 2011 showed that the site formed part of a high status post-medieval (and possibly late medieval) settlement area or habitation. This is particularly evident from the latrine and from the assemblages and artefacts it contained; and from the dovecote. The location of these features on the eastern edge of the site and the absence of similar archaeology to the west suggests that the focus of this settlement was to the immediate east of the site.

Project dates Start: 01-05-2009 End: 28-02-2012

Previous/future work Yes / No

Any associated project reference codes TCBL 08 - Sitecode

Any associated project reference codes BYAL - Museum accession ID

Any associated project reference codes BYAL 09 - Sitecode

Any associated project reference PA/2008/0118 - Planning Application No.



codes

Type of project	Recording project
Site status	None
Current Land use	Other 14 - Recreational usage
Current Land use	Other 2 - In use as a building
Current Land use	Other 5 - Garden
Monument type	GULLY Uncertain
Monument type	DITCH Post Medieval
Monument type	LATRINE Post Medieval
Monument type	DOVECOTE Post Medieval
Monument type	HEARTH Medieval
Significant Finds	TEXTILE Post Medieval
Significant Finds	PLANT REMAINS Post Medieval
Significant Finds	CERAMIC Roman
Significant Finds	CERAMIC Medieval
Significant Finds	CERAMIC Post Medieval
Significant Finds	FISH BONE Post Medieval
Investigation type	'Part Excavation','Watching Brief'
Prompt	Planning condition
Prompt	Evaluation

### Project location

Country	England
Site location	NORTH LINCOLNSHIRE NORTH LINCOLNSHIRE BONBY 2 Church Lane, Bonby
Postcode	DN20 0PS
Study area	0.30 Hectares
Site coordinates	TA 0029 1542 53.6254535492 -0.483392448349 53 37 31 N 000 29 00 W Point
Height OD / Depth	Min: 21.50m Max: 24.00m

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### Project creators

Name of Organisation	Pre-Construct Archaeological Services Ltd
Project brief originator	Local Planning Authority (with/without advice from County/District Archaeologist)
Project design originator	Pre-Construct Archaeological Services Ltd
Project director/manager	Will Munford
Project supervisor	S A Savage
Type of sponsor/funding body	Developer

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### Project archives

Physical Archive recipient	North Lincolnshire Museum
Physical Archive ID	BYAL

Physical Contents 'Animal Bones','Ceramics','Environmental','Glass','Metal','Textiles'

Digital Archive recipient North Lincolnshire Museum

Digital Archive ID BYAL

Digital Contents 'Stratigraphic','other'

Digital Media available 'Database','Images raster / digital photography','Spreadsheets'

Paper Archive recipient North Lincolnshire Museum

Paper Archive ID BYAL

Paper Contents 'other'

Paper Media available 'Context sheet','Diary','Matrices','Photograph','Plan','Report','Section'

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Entered by Karen Francis (karen@pre-construct.co.uk)

Entered on 8 February 2012

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## OASIS:

Please e-mail English Heritage for OASIS help and advice

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