ARCHAEOLOGICAL WATCHING BRIEF REPORT:
5 AUDEN CLOSE, LINCOLN, LINCOLNSHIRE

Planning Reference: 2011/0897/F
NGR: SK 98432 72194
AAL Site Code: LIAC 11
Museum Accession Number LCNCC: 2012.39
OASIS Reference Number: allenarc1-120639

Report prepared for Dr Suresh Babu

By
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The Authority on Archaeological Planning Services

REGISTERED ORGANISATION IfA

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Cover image: Cist burial [025] following removal of capstones and exposure of inhumation 027. Looking north-west

Executive Summary

- Allen Archaeology Limited was commissioned by Dr Suresh Babu to undertake an archaeological watching brief during groundworks for an extension at 5 Auden Close in Lincoln, Lincolnshire.

- The site is known to lie close to a Roman cremation and inhumation cemetery and is also believed to be within the precinct of the medieval hospital of St Giles.

- The earliest feature encountered was a Roman pit of late 2nd to early 3rd century AD date, possibly created for the disposal of refuse from nearby settlement activity.

- The groundworks exposed a number of inhumations, of which six were investigated and recovered due to the likely impact of the development on their remains. Several of the inhumations were found within stone-lined cist graves, all were orientated broadly east – west, and one contained a fragment of 13th century pottery, along with medieval roof tile fragments.

- The inhumations were mainly of men and women in their 20s and 30s, and several had scarring on their bones that were indicative of poor diet, disease and trauma. There was evidence of tuberculosis, syphilis and healed rib breaks, along with either leprosy or the crushing and amputation of the toes of a young lady. The latter grave was accompanied by a juvenile's bracelet, perhaps a gift from the deceased's child.

- There is some evidence that a crushed mortar and limestone path ran across the site in the medieval period, and that this became disused and abandoned, as several of the graves appear to cut across the path.

- Several limestone walls were also encountered. These are almost certainly part of the medieval hospital of St Giles, its chapel, or other outlying associated buildings. Following the decline of the hospital, robber pits show the ruined walls were demolished, and this is likely to have been in the 19th century, when the stone was used to build the adjacent St Giles Farm.

1.0 Introduction

1.1 Allen Archaeology Limited (hereafter AAL) was commissioned by Dr Suresh Babu to undertake an archaeological watching brief during groundworks at 5 Auden Close in Lincoln, Lincolnshire.

1.2 The excavating, recording and reporting conforms to current national guidelines, as set out in the Institute for Archaeologists '*Standard and guidance for archaeological watching briefs*' (IfA 1999, revised 2001 and 2008), the local guidelines in the Lincolnshire Archaeological Handbook (LCC 2011), and a specification prepared by this company (2011).

1.3 The documentary archive will be submitted to 'The Collection' museum in Lincoln within six months of the completion of the project and will be stored under the Museum Accession Number LCNCC: 2012.39.

2.0 Site Location and Description

2.1 The site is situated c.900m to the east-north-east of the historic core of the City of Lincoln, immediately to the south of Auden Close and north of Wragby Road, centred on NGR SK 98432 72194.

2.2 The bedrock geology of the area is undifferentiated Lincolnshire Limestone, with no superficial geology noted (British Geological Survey 1973).

3.0 Planning Background

3.1 Full planning permission has been granted for the '*Erection of a two storey side and rear extension and relocation of an existing conservatory*' (Planning Application Reference 2011/0897/F). The permission was granted subject to conditions, including the undertaking of an archaeological watching brief during all associated groundworks.

3.2 The watching brief comprised the monitoring of all groundworks for the scheme by a suitably competent archaeologist, and the recording of any archaeological remains exposed, effectively 'preserving the archaeology by record'. This approach is consistent with the guidelines that are set out in *Planning Policy Statement 5* (Department for Communities and Local Government 2010).

4.0 Archaeological and Historical Background

4.1 The proposed development area is situated some 600m east-north-east of the defended area of the Roman and medieval city of Lincoln. Immediately to the south of the site, Wragby Road broadly follows the line of a Roman road connecting the city with the coast around Skegness (Whitwell 1992). A cemetery of Roman cremations and inhumations is known to have existed in the area (Lincoln Heritage Database (hereafter LHD) Reference MON 869), with numerous cremations identified during building work in the 1920s and 30s around the junction of Wragby

Road and Lee Road, c.100m to the north-east. Inhumations are also recorded a little further to the south-east, off Gerald's Close.

4.2 The site is also situated close to the former medieval hospital of St. Giles and its associated church (LHD Reference MON 810 and MON 874). The hospital was established at some time in the 13th century, initially for the poor apparently, however at some stage before February 1280 the then Dean of Lincoln Oliver Sutton assigned the house plus its revenues towards the support of the vicars choral (Page 1906, 233). The vicar choral or lay clerks were employed to sing musical sections of church service. Oliver Sutton provided them with a common residence with hall and kitchen (the latter two buildings still surviving on the south side of Minster Yard), along with the hospital of St Giles (Owen 1990). In the 14th century Gilbert D'Umfraville the earl of Angus included within its endowments that workers of the cathedral may be admitted in preference to other applicants. By 1453 the property value seems to have diminished as the warden was given permission to collect alms for the support of the hospital. There is occasional reference to the hospital in the following centuries.

4.3 The buildings were ruinous in the 18th century, and during the 19th century much of the stone was reused to construct St. Giles Farm on the site (LHD Reference MON 2628). In the 1920s, the farm stables were in use as lockup garages, with two east – west rows of garages added in 1928 to create a courtyard, reusing stone and pantiles from the site. A dwelling on the road frontage was demolished in the 1920s and a barn on the site was converted into cottages in 1930. The garages and cottages were converted into Stone Court and Lindum Court in 1980, which are situated immediately to the west of 5 Auden Close.

4.4 Auden Close is located within the Lee Road and Queensway Character Area, which is typified by Late Victorian/Edwardian dwellings, built as a response to the rapidly growing population at the time, itself a result of the development of heavy industry in the city during the period (http://www.heritageconnectlincoln.com/character-area/lee-road-and-queensway/86/description).

5.0 Methodology

5.1 The fieldwork was carried out by a series of visits between 7th and 15th November 2011. The groundworks were carried out using a tracked 360° mini excavator fitted with a toothed bucket. All exposed plan and section surfaces were inspected for archaeological features and deposits to determine the stratigraphic sequence.

5.2 A full written record of the archaeological deposits was made on standard AAL context recording sheets. Archaeological features and deposits were drawn to scale, in plan and section (at scale 1:50). Photography formed an integral part of the recording strategy. All photographs incorporated scales, an identification board and directional arrow, a selection of these images has been included in Appendix 1.

5.3 Each deposit, layer or cut was allocated a unique identifier (context number), and accorded a written description, a summary of these are included in Appendix 5. Three digit numbers within square brackets reflect cut features (e.g. robber trench [003]).

6.0 Results (Figures 3 – 6)

6.1 Apart from the existing driveway the uppermost deposit was a topsoil 001, a c.0.25 thick mid to dark brown friable silty sand with occasional brick fragments and small angular limestone. It sealed modern drains and overburden layer 040 and a 0.36 – 0.38m thick post-medieval layer 011 of friable light yellowish brown sandy silt with small angular limestone inclusions. Beneath this was a c.0.27 – 0.6m thick former soil 010 consisting of mid greyish brown sandy silt with occasional small angular limestone fragments and oyster shell flecks. Below this was the natural geology, 009, of limestone brash and bedrock.

6.2 At the south-west corner of the site, layer 011 was observed to seal 007, a 0.1m thick dark reddish brown burnt sandy silt with occasional small burnt limestone fragments. This possible demolition deposit overlay an equally thin band of pale brown sandy mortar with occasional small angular limestone, 008, identified as a construction deposit for an adjacent limestone wall, 004. Below the construction horizon was 010, a 0.2m thick layer of mid grey/brown sandy soil with occasional limestone fragments and oyster shell flecks, identified as a former soil horizon. In addition, several sporadic lenses of pale yellow/brown crushed mortar/limestone 021 were identified in a number of locations throughout the footings. This deposit was sandwiched between layers 010 and 011 and has been tentatively identified as a former surface, possibly for a former path running broadly north-north-east to south-south-west (see Figure 3).

6.3 Limestone wall foundation 004 was over 2.4m wide and comprised at least four courses of roughly dressed rectangular limestone blocks bonded with a green/grey clay. In association with the wall was a small fragment of 2nd – 3rd century AD Roman glass, most likely associated with adjacent pit [005] (see Section 6.4 below). There was evidence for a robber cut, [003] overlying the wall, which had been backfilled with 002, yellow/brown sand with frequent mortar and poorly sorted angular limestone fragments, Roman and 13th century roof tile fragments and a single piece of residual Roman pottery.

6.4 The wall was also found to truncate an earlier pit, [006]. Pit [006] was only partially exposed and had a shallow concave profile. It was backfilled with brown sandy silt 005, which contained a small assemblage of late 2nd century to possibly early 3rd century AD Roman pottery, along with a single fragment of Roman brick.

6.5 At the north corner of the site, the foundation cut [014] for the existing building was sealed by adjacent tarmac surface 045 with an underlying levelling layer of hardcore 043, which in turn sealed another bedding layer 044. Beneath this was post-medieval layer 011, and in this area this sealed a demolition layer 042 that comprised light to mid brown clayey silt with frequent limestone fragments.

6.6 Two pits [013] and [038] were encountered cutting through layer 011 to the south of the existing building. Pit [013], in the south corner of the foundation trenches had fairly steep concave sides and flattish base and was filled with mottled brown sandy silt with mortar flecks and small angular limestone fragments, 012. Pit [038] was exposed in a drainage trench and had a shallow concave profile and was filled with 037, a brown clayey sand with abundant limestone fragments. Pit fill 037 also contained a fragment of residual Roman pottery, residual medieval to post-medieval roof tile and a piece of 20th century concrete pantile.

6.7 Approximately 6m to the north-east of wall 004 was wall 029, which comprised limestone blocks with a grey/green clay bond. There was further evidence of the robbing of this wall from a steep sided cut [028], cutting through layers 010 and 011.

6.8 A further element of limestone wall was encountered at the north-east end of the site, within a small pit excavated for underpinning. Wall 041 was of similar construction and appeared to have been sealed by burnt demolition spread 007.

6.9 Walls 029 and 041 may be part of the same wall; a section excavated between the two exposed walls did not identify a continuation of this structure, although it did uncover a probable robber trench following the same alignment, [034].

6.10 In the southern half of the site buried soil 010 was cut by a total of ten inhumation burials all with an east – west alignment. Graves [018], [025], [031], [032], [035], [047] and [048] were part of a cluster situated in the south-east corner and graves [023], [046] and [049] further towards the south corner of the site. In total, six of the inhumations were excavated as they would be impacted upon by the development with the remainder left in situ.

6.11 Grave [018] comprised a cist of flat upright limestone slabs with a recess for the head. A small assemblage of residual Roman pottery and a piece of 13th century Lincoln Glazed ware pottery were recovered from the backfill of the grave, along with some fragments of Roman and medieval ceramic building material. Within the grave, skeleton 020 was lying on its back with the head at the west end of the cist. The left arm lay across the body and the right arm along the body. The inhumation was in excellent condition and is thought to be of a female, 149.48 – 156.92cm tall and aged 18 – 25 at death. The remains indicated the individual was suffering from severe dietary and/or disease stress at times during their life.

6.12 Grave [025] consisted of a limestone cist with a lid of large limestone slabs. Within the cist burial was skeleton 027, again with head to the west with the left arm across the waist and the right arm along the body. The right forearm had slipped to behind the ribs post-deposition. The majority of the individual had survived and suggested the remains were those of a female aged between 27 and 35 years who was c.153.68 – 161.12cm tall. The individual may have suffered from tuberculosis, and damage to the end of the left foot may be evidence of either healed fractures of the ends of the toes or wastage caused by disease. The grave backfill contained eleven residual sherds of Roman pottery, along with a piece of 13th century Lincoln Glazed ware pottery and four pieces of mid/late 12th to 15th century roof tile.

6.13 Graves [031] and [032] were only observed in the section and left in-situ. Three upright limestone slabs and two slabs of the stone lid were all that was visible of [031]. A skull was visible in section within cist [032].

6.14 Grave cut [035] had been disturbed by the existing garage foundation and contained a friable light to mid brown clayey sand with frequent limestone that may be the remnants of a further cist burial.

6.15 Grave [047] contained skeleton 017 which was found on its back with the head to the west, the left arm across the body and the right arm along the body with the hand on the inside of the

thighs. The majority of the body was complete and recovered, although the right leg extended beyond the excavation area. The remains were probably those of a male who was at least over 22 and probably over 30 years of age at the time of death. He was 160.03 – 166.57cm tall and seemed to have suffered trauma to his lower back, along with a broken rib and broken finger that healed before his death.

6.16 Grave [048] contained skeleton 024. The head, which had been crushed post-deposition, lay at the west end of the grave, with the right arm lying across the waist. A large portion of the body lay beyond the limit of excavation to the north. The female was between 22 and 27 years old and was 153.88 – 156.92cm tall, with significant trauma to both her feet. This may have been caused by disease, such as leprosy, and would also explain the evidence for osteoporosis in the legs. Alternatively, it is possible the loss of the toe bones was through amputation, such as by crushing from a heavy cart wheel for example; the limited use of the legs following such trauma could also result in osteoporosis. Perhaps most poignantly, a metal armlet with alternating external wavy-notch decoration fitting a juvenile was found within the grave. This was too small to fit the lady, so may have been placed in the grave by a child of the deceased.

6.17 Grave [023] had vertical sides and a flat base, and contained skeleton 016 of which only the legs and parts of the left hand were visible. The grave was backfilled with 022, firm/friable mid greyish brown sandy silt with frequent limestone fragments. Despite the limited remains, the osteoarchaeological specialist has ascertained the deceased was probably 16 – 22 years old at the time of death, although sex was not identifiable. Some scarring suggested trauma to the Achilles tendon.

6.18 The western end of grave [046] lay outside the footings for the extension. It contained skeleton 015 which had its head to the west, outside the excavation area, and upper arms over the torso and hands tucked between the thighs. The remains were those of a male, probably aged between 15 and 18 years of age, and scarring of the bones was most likely caused by a case of syphilis.

6.19 Grave [049] contained skeleton 039 and was only observed in section.

7.0 Discussion and Conclusions

7.1 The excavations for the footings for the new extensions have revealed a significant archaeological resource at this location which relates mainly to the former medieval hospital of St Giles.

7.2 The earliest deposit encountered was however a Roman pit [005] that was identified at the southern end of the site. This possible refuse pit appeared to date to the late 2nd to early 3rd century AD, and suggests habitation in the area at the time, possibly evidencing the extent of extra-mural roadside development from the core of the Roman city along Wragby Road. The discovery of numerous Roman cremations c.100m to the north-east shows that the site was close to this outlying cemetery area.

7.3 Following the excavation of the Roman pit, there seems to have been a build up of soil across the site, 010, perhaps indicating the land reverted to open ground or woodland at the end of

the Roman period, before the medieval hospital of St Giles was built in the area in the 13th century. Contemporary with the medieval hospital, which was constructed to care for the elderly and infirm cathedral employees, were a series of limestone walls and inhumation burials from the site.

7.4 The inhumations were of both men and women, all fairly young adults or of contemporary middle age, but with some evidence of disease and trauma, including tuberculosis and syphilis.

7.5 Of most interest is the body of a young lady of 22 – 27 years of age at death, skeleton 024. had lost the end of each of her toes, and although this may be through leprosy or another degenerative disease, another possibility is that these were amputated following crushing. Although the woman survived the incident or disease, she died relatively soon after, probably in some considerable pain, and during burial a small child's bracelet was placed in the grave, perhaps by one of her offspring.

7.6 Although a number of the graves are simply east – west aligned cuts, two of the excavated graves comprised stone-lined cist burials. Beyond the stone-lining to the graves there was nothing to suggest that they were any different to the other graves; one was of an 18 – 25 year old female, 020, with severe dietary and/or disease stress, and the other was a 27 – 35 year old male who may have been suffering from tuberculosis.

7.7 The inhumations recovered during the groundworks are mainly of relatively young adults, both male and female, so does not fit particularly well with the medieval hospital being for the elderly and infirm of Lincoln Cathedral. The deceased are therefore more likely either the poor of the city or Cathedral workers or their dependants.

7.8 The limestone walls that were encountered are almost certainly part of the medieval hospital or its associated church, with foundation 004 indicating at least one of these walls was very substantial at over 2.5m wide. Although only small portions of the walls were exposed, they indicate the former presence of a large structure of possibly two or more storeys approximately 100m to the north-west of Wragby Road.

7.9 The hospital declined and became ruinous in the 18th century, and during the 19th century most of the stone was reused to construct the adjacent St Giles Farm. This is evident on the site, as a number of robber cuts over the walls attest to the removal of stone.

7.10 A small crushed mortar surface 021 was observed at several locations across the foundation trenches, overlying the probable medieval ground surface 010 and sealed by the post-medieval soil build up 011. In plan this appears to form a footpath approximately 1.1m wide running north-north-east to south-south-west across the site. This potential footpath appears to have been cut through by graves [023], [046] and [049]. It is therefore likely to be a former footpath that was in use during the early life of the medieval hospital, before falling out of use as the cemetery extended.

8.0 Effectiveness of Methodology

8.1 The archaeological watching brief methodology was appropriate to the nature and extent of the proposed development. The archaeologists were afforded appropriate time to expose, record and recover the inhumations that were exposed within the footings, and adequately record the archaeological deposits. Inhumations that were not recovered will not be impacted by the development and will remain in situ.

9.0 Acknowledgements

9.1 Allen Archaeology Limited would like to thank Dr Suresh Babu for this commission, and for the cooperation of the groundworkers during the fieldwork.

10.0 References

AAL, 2011, *Specification for an archaeological watching brief: 5 Auden Close, Lincoln,* Allen Archaeology Limited unpublished project document

British Geological Survey, 1973, *Lincoln. Engalnd and Wales Sheet 114. Solid and Drift Geology*. 1:50,000 Provisional Series. Keyworth, Nottingham: British Geological Survey

Department for Communities and Local Government, 2010, *Planning Policy Statement 5: Planning for the Historical Environment*, Department for Communities and Local Government, London

Heritage Team, 2011, *Brief for archaeological attendance and recording during groundworks at 5 Auden Close, Lincoln,* City of Lincoln Council

IfA, 1999 (revised 2001 and 2008), *Standard and guidance for archaeological watching briefs*. Reading, Institute for Archaeologists

LCC, 2011, *Lincolnshire Archaeological Handbook: A manual of archaeological practice*, Lincolnshire County Council

Owen D.M., 1971, *Church and Society in Medieval Lincolnshire*, History of Lincolnshire volume V, History of Lincolnshire Committee, Lincoln

Page, W. (ed.), 1906, *The Victoria History of the Counties of England, Lincolnshire vol II*. Dawson, For the London Institute of Historical Research, London

Whitwell, J.B., 1992, *Roman Lincolnshire*, History of Lincolnshire Committee, Lincoln

Appendix 1: Colour Plates

Plate 1: General view of the footings taken from the southern corner of the site, looking north

Plate 2: Shot of foundation trenches, showing wall 004 in the background and Roman pit [005] in the foreground. Vertical scale 1.5m

Plate 3: Working shot of excavation of inhumation 020, looking north

Plate 4: Inhumation 020 in cist burial [018], looking south-east. Scales are 1m and 0.5m

Plate 5: Pre-ex photograph of cist burial [025], looking north-west. Scale is 2m

Plate 6: Cist burial [025] following removal of capstones and exposure of inhumation 027, looking north-west. Scales are 2m and 0.5m

Appendix 2: Roman Pottery Report

By Ian Rowlandson

An archive has been produced to the requirements of the Study Group for Roman pottery using the codes currently in use for Lincoln and Lincolnshire. A total of 35 sherds weighing 443g (RE 0.25) retrieved during the watching brief were presented for study. This small group of pottery suggests Roman activity in the vicinity of the site during the 2nd to 3rd century AD. The pottery should be deposited in the relevant museum. The archive is presented below.

LIAC11 Roman pottery spotdate					
Context	**Spot date**	**Comments**	**Sherd**	**Weight**	**Total RE %**
002	ROM	A single greyware sherd	1	8	0
005	L2-?E3	A small group including fragments of samian, greyware and Iron Age Gritty tradition grog tempered wares. A rim sherd from a samian dish in this group has been drilled for a rivet repair in antiquity.	17	312	20
015	ROM	A single greyware sherd	1	9	0
020	?L2+	A small possibly residual group including small fragments of greyware and Nene Valley colour-coated pottery	4	11	0
026	?L2+	A small possibly residual group including fragments on Nene Valley colour-coat, a fragment from a rough cast beaker in the South Carlton colour-coated fabric, samian, greyware and a shell gritted sherd.	11	44	5
037	ROM	The base from a greyware jar	1	59	0

LIAC11- Roman pottery archive data										
Context	**Fabric**	**Form**	**Decoration**	**Vessels**	**Alt**	**Drawing**	**Comments**	**Sherd**	**Weight**	**Rim diam**
002	GREY	CLSD		1	ABR		BS	1	8	0
005	GREY	-	LA	1			BS; SIMILAR TO DSSA	1	3	0
005	GREY	-		5			BS	5	44	0
005	GREY	BWM1		1			RIM SHLDR	2	42	30
005	GREY	CLSD		1	BURNT		BS	1	21	0
005	GREY	J	RLIN	1	CALC DEP?		BS	1	15	0
005	GREY	J	LA	1	CALC DEP INT?		BS	1	6	0
005	IAGR	JBL		1	ABR		BASE	1	61	0
005	IAGR	JBL		1	ABR		BS	1	77	0
005	IAGR	JRUST	RUST	1	ABR		BS	1	11	0
005	NVCC1	CLSD		1			BS	1	4	0
005	SAMCG	OPEN		1			BS	1	6	0
005	SAMEG?	18/31		1	HOLE FOR RIVET; ABR		RIM	1	22	18

LIAC11- Roman pottery archive data										
Context	**Fabric**	**Form**	**Decoration**	**Vessels**	**Alt**	**Drawing**	**Comments**	**Sherd**	**Weight**	**Rim diam**
015	GREY	CLSD		1	ABR		BS	1	9	0
020	GFIN	JBK	ROU	1			BS	1	4	0
020	GREY	-		2	ABR		BS	2	6	0
020	NVCC1	BK?		1			BS	1	1	0
026	GREY	-		4	ABR		BS	4	15	0
026	GREY	BKCAR		1			BS CARINATION	1	2	0
026	GREY	JB		1	ABR		RIM	1	6	20
026	NVCC1	-		1	VAB		BS	2	8	0
026	SAMCG	-		1	VAB		BASE FTR	1	1	0
026	SCCC	BKRC	RC	1	ABR		BASE	1	4	0
026	SHEL	-		1	ABR		BS	1	8	0
037	GREY	J		1	ABR		BASE	1	59	0

Appendix 3: Post-Roman Pottery

By Jane Young

Context	CName	Full Name	Form Type	Sherds	Weight	Part	Description	Date
020	LSW2	13th – 14th century Lincoln Glazed	Jug	1	1	BS	Cu Glaze	13th
026	LSW2	13th – 14th century Lincoln Glazed	Jug	1	5	BS	Cu Speckled Glaze	13th

Appendix 4: Ceramic Building Material Report

By Jane Young

Introduction
A total of twenty-eight fragments of ceramic building material and one piece from a modern concrete tile weighing 3.564 kg in total and ranging in date from the Roman to the early modern period, was recovered from the site. The material was examined visually and then recorded using locally and nationally agreed codenames. The CLAU tile type series was consulted for comparative material. The resulting archive was then recorded on an Access database and complies with the guidelines laid out in Slowikowski et al. (2001) and the Lincolnshire County Council's *Archaeological Handbook* (sections 13.4 and 13.5).

Condition
The material is in variable condition with most fragments showing a small degree of abrasion. Fragments range from large-sized (628 grams) to small (4 grams) and include several pieces with mortar over already broken edges.

Overview of the Ceramic Material
A range of ceramic roof tiles was found on the site together with one piece of concrete tile (Table 1). The tiles recovered from the site are mainly typical of other material recovered from the local area but include some medieval fragments in a hybrid fabric (Fabric 7/18).

Table 1: Ceramic material codenames and total quantities by fragment count and weight

Codename	Full name	Total fragments	Total weight in grams
GRID	Glazed ridge tile	4	674
IMB	Imbrex	4	355
NIB	Nibbed tile	2	726
PANT	Pantile (concrete)	1	171
PNR	Peg, nib or ridge tile	15	1574
RBRK	Roman brick	3	64

Roman
Seven identifiable ceramic fragments of Roman building material recovered from the site were presented for assessment. The small collection only includes examples of brick (RBRK) and Imbrex (IMB). The fragments of brick are in a fair to abraded condition with one fragment having mortar over broken edges suggesting that it had been reused, whereas the pieces of Imbrex which were all recovered from the fill of robber trench 003 (fill 002), are in a fairly fresh condition. A range of fabrics is present suggesting that the material does not all come from a single source. All of the Roman tiles are quartz-tempered and fall within a bright to light oxidised colour range. For the purpose of this assessment only a minimal fabric description (by eye) has been given in the archive, as there is no Roman Fabric Type Series for the city.

The three fragmentary Roman brick fragments are in different fabrics, all of which are typical of other bricks fond in Lincoln. The four fragments of Imbrex however are in a fairly fresh condition. Again each tile is in a different, but local fabric.

Medieval
Nineteen of the fragments recovered from the site come from medieval flat roof or ridge tiles. Four of these tiles have mortar over previously broken edges suggesting that they had been incorporated in later building work. Seven main Lincoln Tile Fabrics and one hybrid type (Fabric 7/18) are present at this site. Four of the fabrics (Fabrics 15, 16, 18 and 25) are probably products of production centres in the local area as misfired and wasted tile has previously been recovered from Monks Road. The five tiles in Fabric 1 can only be generally dated to between the mid/late 12th and 15th centuries, but the other tiles are most probably of 13th century date.

Two diagnostic suspension nib types are present in the assemblage. Of these, one can be securely dated to the 13th century (nib Type 4E), whilst the other is of more general 13th to 14th century date (nib Type 4D/E).

Unusually for such a small assemblage, fragments from three different glazed ridge tiles were recovered. Two of these tiles are decorated with applied diagonal crests. The example with a thick copper-coloured glaze is finger-pressed and is of an unusual type. All of these ridge tiles are likely to belong to the 13th century.

Post-Medieval
Two of the fragments of flat roof tile (PNR) recovered from the site are of late medieval to post-medieval type. Both pieces were recovered from the fill of cut feature [038] (deposit 037) and date to between the 15th and 18th centuries.

Early Modern
A single fragment from an early modern concrete pantile of 19th to 20th century date was found in cut feature [038] (deposit 037).

Summary and Conclusions
The ceramic building material recovered from this site dates between the Roman and the early modern periods and is typical of types found on sites elsewhere in this area of the City. The bulk of the medieval flat roof tile is probably of mid/late 12th to 13th century manufacture, although some of it may have remained on the roof until into the late medieval period and some of it has evidence for reuse. Two of the flat roof tiles however, are of 15th to 18th century date.

Most of the undiagnostic tile has been discarded in accordance with guidelines set down by the City and County Museum; all of the remaining material should be retained.

References
Lincolnshire Archaeological Handbook 2009 edition [Internet]. Available from <http://www.lincolnshire.gov.uk/upload/public/attachments/1073/Archaeological_Handbook.pdf

Slowikowski, A. 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

Ceramic Building Archive

Context	Cname	Fabric	Sub type	Frags	Weight	Action	Description	Date
002	IMB	coarse bright oxid		1	119		fairly fresh condition; common light shale/ mudstone incl & fe	Roman
002	IMB	fine light oxid		1	54		fairly fresh condition; some cream shale/mudstone & streaks in fabric	Roman
002	IMB	fine OX/R/OX sandy		1	81		fairly fresh condition	Roman
002	IMB	med-coarse sandy		1	101		fairly fresh condition; some shale/mudstone in fabric	Roman
002	NIB	Fabric 15	Nib Type 4E	1	360		left corner; mortar	13th
002	PNR	Fabric 7		1	628		flat roofer; lower corner; mortar; finger/paw impression on underside	mid/late 12th to mid 13th
002	PNR	Fabric 7/18		1	322		flat roofer; lower corner; mortar	13th
002	RBRK	fine oxid		1	24	discarded	flake	Roman
005	RBRK	fine oxid		1	33		mortar incl over breaks	Roman
020	PNR	Fabric 1		1	29		flat roofer; mortar	Mid/late 12th to 15th
020	PNR	Fabric 1		1	27		flat roofer; mortar	Mid/late 12th to 15th
020	PNR	Fabric 25 ?		1	8		flat roofer; mortar incl over break; fabric incl large flint incl	Mid/late 12th to 15th
020	RBRK	coarse oxid		1	7	discarded	flake	Roman
026	PNR	Fabric 1		1	16	discarded	flat roofer; corner	Mid/late 12th to 15th
026	PNR	Fabric 1		1	8	discarded	flat roofer; mortar	Mid/late 12th to 15th
026	PNR	Fabric 1		1	20	discarded	flat roofer; mortar	Mid/late 12th to 15th
026	PNR	LSWA		1	4	discarded	flat roofer ?; flake	Mid/late 12th to 15th
033	GRID	Fabric 7/18		2	380		joining frags; mortar incl over breaks; thin reduced glaze over red slip; variable thickness 15-24mm; finger pressings on tile edge	13th
033	NIB	Fabric 16	Nib Type 4D/E	1	366		mortar incl breaks; finger pressings around nib	13th to 14th
033	PNR	Fabric 7/18		1	128		? Ridge; 24mm thick; mortar incl over break	13th
036	GRID	Fabric 18		1	217		end; thin unmatured glaze; applied diagonal strip	13th

Context	Cname	Fabric	Sub type	Frags	Weight	Action	Description	Date
036	GRID	Fabric 7/18		1	77		applied pressed strip; thick cu glaze	13th
036	PNR	Fabric 7/18		1	101		flat roofer; mortar; thick at 18-20mm	13th
037	PANT	concrete		1	171	discarded		20th
037	PNR	Fabric 1		1	109		flat roofer; mortar incl over breaks	Mid/late 12th to 15th
037	PNR	Fabric 1		1	6	discarded	flake	Mid/late 12th to 15th
037	PNR	med oxid sandy		1	147		flat roofer; fabric incl cream shale/mudstone & clay streaks	15th to 18th
037	PNR	med oxid sandy		1	21	discarded	flat roofer; fabric incl cream shale/mudstone	15th to 18th

Appendix 5: Animal Bone Report

By Jennifer Wood

Introduction

A total of 2 (33g) fragments of animal bone were recovered during archaeological works undertaken by Allen Archaeology Ltd at land at Auden Close, Lincoln. The animal bone assemblage was recovered from a grave cut [046].

Results

The remains were a moderate overall condition, averaging grade 3 on the Lyman criteria (1996).

No evidence of butchery, pathology, burning or gnawing was noted on any of the remains.

Table 1, Summary of Identified Bone

Cut	Context	Taxon	Element	Side	Number	Weight	Comments
046	015	Pig	Mandible	R	1	29	Body and tooth row. Broken into 3 pieces, dpm4= e, M1=,d M2=V
		Sheep/Goat	Metatarsal	R	1	4	Shaft fragment

As can be seen from Table 1, single fragments of pig mandible and sheep/goat metatarsal were recovered from the deposit.

The assemblage is too small to provide meaningful information on animal husbandry and utilisation on site, save the presence of the animals/remains on site.

References

Lyman, R L, 1996, *Vertebrate Taphonomy*, Cambridge Manuals in Archaeology, Cambridge University Press, Cambridge

Appendix 6: Human Remains Report

By Dr Martyn G. Allen

Remains from six individuals were submitted for analysis from a medieval hospital site at Lincoln Auden Close following a watching brief by Allen Archaeology Ltd. This report presents the results of the examination for each individual, detailing the completeness and preservation of the skeletons, their demographic parameters (age and sex), normal variation (metric and non-metric aspects), and any abnormal variation (indicators of disease and trauma). A full skeletal inventory is provided for each individual as an appendix to this document.

Methods

The general surface condition of the remains is recorded following the criteria set out by McKinley (2004, 15-16) which categorises specimens on an increasing scale of erosion (i.e. Grade 0 = fresh appearance to bone with no modification; Grade 5+ = extensive penetrating erosion resulting in modification of profile). The completeness of each skeleton is estimated to within broad categories of 0-25%, 25-50%, 50-75% and 75-100% after assessment of the skeletal inventory (see appendix for more detailed results), and dentition is presented using the Zsigmondy system following Van Beek (1983, 5).

Determination of sex is based, when possible, on the morphology of cranial criteria – the nuchal crest, the mastoid process, the supraorbital margin, the supraorbital ridge, and the mental eminence – and the greater sciatic notch on the os coxae, as well as the extension of the ventral arc on the pubis. The grading of each of these criteria is set out by Walker (in Buikstra and Ubelaker 1994, 16).

Estimation of age is based on three criteria: patterns of dental wear following Brothwell (1981), the morphology of the pubic symphysis following Brooks and Suchey (1990), and the timings of epiphyseal closure using the data published by Buikstra and Ubelaker (1994), but also with reference to Scheuer and Black (2000) for details on some specific elements such as the medial clavicle and the sacrum.

Biometrics are recorded on selected long bone specimens using the codes and definitions set out by Brothwell and Sakrzewski (2004, 30, after Brothwell 1981) primarily for the estimation of stature, though cranial biometrics have not been taken as only two skulls exist in the assemblage. The approximate stature of the individuals has been calculated by applying the long bone biometrics to appropriate equations formulated by Trotter (1970). The presence or absence of certain non-metric traits are recorded on cranial and non-cranial elements following those specified by Brothwell and Sakrzewski (2004, 31), and indicators of pathology are recorded on all specimens where present with reference to Waldron (2008), with discussion referring to specific works where cited.

Results

Skeleton 01 (Context 015)

Preservation and Completeness

All the specimens from SK01 are in excellent condition at Grade 0, with each displaying very little or zero surface erosion, and the skeleton is 50-75% complete. The cranium is absent, as is the upper half of the vertebral column and the left arm, though hand and wrist bones from this side have been recovered. Many elements, particularly long bones and vertebrae, are fragmentary.

Determination of Sex
In the absence of cranial specimens, determination of sex is based solely on the morphology of the greater sciatic notch, which gave a sex score of 5 from its narrow angle, characteristic of a 'typical' male.

Estimation of Age
States of epiphyseal fusion were variable across the skeleton and so are detailed in Table 1. All the segments of the sacrum are unfused, a trait which indicates an individual below 20 years of age (Scheuer and Black 2000). The distal humerus is fused which normally takes place by at least 15 years of age, whilst the proximal radius is fusing, an event which begins at around 14-15 years (Buikstra and Ubelaker 1994). The distal femur, distal tibia and proximal humerus are all unfused, events which tend to take place from 15 years of age, whilst the distal tibia begins to fuse at around 18 years. Therefore, an age of 15-18 years (probably the lower end) is a good estimate for this individual.

Fused elements	**Fusing elements**	**Unfused elements**
distal humerus	proximal radius	proximal humerus
proximal ulna	proximal 1st metacarpal	all sacral segments
distal 1st metacarpal	ischial tuberosity	proximal femur
	proximal 1st metatarsal	distal femur
	calcaneus	os coxae
		proximal tibia
		distal tibia

Table 1, State of fusion in elements present for Skeleton 01

Pathology
The tibiae and femora each show a considerable covering of woven bone (particularly on the former), albeit thinly layered, overlying much of the cortex of the diaphyses of these elements. This growth is generally caused by an infection, but can also be brought about by malnutrition or trauma (Mensforth *et al.* 1978). However, no evidence of trauma is evident on any of the bones present and the diffuse nature of the periosteal inflammation is suggestive of a disease, such as syphilis in its secondary stage, which can manifest around the leg bones and can be quite painful in its early stages (Golding 1985, 706). Whilst widespread, the woven bone is beginning to fall away – post-excavation – from the surface of the elements and may indicate that the periostitis had little time to impact the main cortex.

Skeleton 02 (Context 016)
Preservation and Completeness
All the specimens from SK02 are in excellent condition at Grade 0, with each displaying very little or zero surface erosion. The skeleton is 25-50% complete, as only the lower part of the body is represented below the mid-shafts of the femora, though phalanges from the left hand are present. As well as the minimal level of completeness, all specimens have suffered from modern fragmentation, an aspect which precludes the collection of measurements from this individual.

Determination of Sex
No evidence for the sex of the individual could be ascertained.

Estimation of Age
All elements present were fully fused. Of these, the proximal tibia is the latest to fuse, an event which tends to take place around 16-22 years of age. This range can only be taken as an indication of the lower age parameter for the individual.

Pathology
The only indicator of pathology in SK02 is a large lesion on the caneal tuber on the calcaneus. As well as bone inflammation, a depression in the dorsal side of the posterior surface is suggestive of a localised infection close, or adjacent, to the attachment of the calcaneal tendon (the Achilles tendon) and may be indicative of previous trauma at the site.

Skeleton 03 (Context 017)
Preservation and Completeness
All the specimens from SK03 are in excellent condition at Grade 0, with each displaying very little or zero surface erosion. The skeleton is 50-75% complete, though the cranium is highly fragmentary and only a few specimens remain (see inventory). Elements of the upper right and lower left arms are missing, but bones from both hands are present. The right leg (including right os coxae) is absent as well as elements of the lower left leg.

Determination of Sex
In the absence of cranial specimens, sex was determined solely on the morphology of the greater sciatic notch. This gave a sex score of 5 from its narrow angle, characteristic of a 'typical' male.

Estimation of Age
The lack of a pubic symphysis and dentition makes age estimation difficult for SK03. All the elements present were fully fused, including the space between the first and second segments of the sacrum indicating an individual certainly over the age of 22 years and probably over 30 years (Scheuer and Black 2000).

Biometrics and Stature
A summary of the biometrics from SK03 are given in Table 2 and the length of the femur has been used to calculate an estimation of stature for the male at 163.3 +/-3.27cm.

Stature estimation (based on Trotter 1970): 2.38 x 42.8 + 61.41 = 163.3 +/-3.27cm

Element	Code	Meas./cm
femur	FeL1	42.8
femur	FeD1	2.5
femur	FeD2	3.3
femur	FeE1	7.4

Table 2, Summary biometrics for Skeleton 03

Pathology
Considerable lipping can be observed around the articulating rims of the lumbar vertebrae, particularly on the 1st and 4th lumbar vertebrae where ossification of the cartilage had begun to overlap the adjacent vertebrae. This may well have been related to a traumatic event which affected the lower back. Other signs

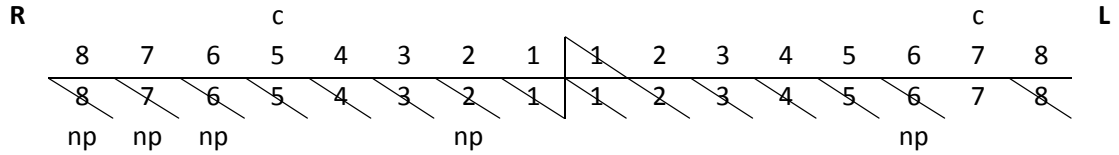
of trauma were present in a left rib which had suffered a complete transverse fracture close to the neck of the rib, though which had fully healed before the death of the individual. A second fracture had also healed at the distal end of the 2nd left metacarpal between the epiphysis and the diaphysis, possibly prior to fusion, but had subsequently endured substantial regrowth in healing. A localised porous lesion is also present on the distal clavicle.

Skeleton 04 (Context 020)

Preservation and Completeness

All the specimens from SK04 are in excellent condition at Grade 0, with each displaying very little or zero surface erosion. The skeleton is near 100% complete, though some loss of hand and foot bones has occurred, as well as some fragmentation in the vertebrae, particularly in the adjoining thoracic/lumbar section. The cranium is mostly present except for some fragmentation and loss on the inferior side (the vomer, lacrimals, and palatines are largely destroyed). The left maxilla is fragmented from the cranium though is mostly complete. The pubis bones have fragmented and been lost from both sides of the os coxae.

The mandible and maxillae are well preserved and the dentition is represented as follows:



Key

\	tooth lost from mandible post-mortem	c	caries (cavity in tooth)
—	tooth present but socket missing	b	broken tooth
x	tooth lost ante-mortem	a	abscess
np	tooth not present	e	tooth erupting
---	jaw and teeth not present	u	tooth unerupting

Determination of Sex

Sex characteristics were available from a number of cranial characteristics and the greater sciatic notch on the os coxae, the scores of which are given in Table 3. None of the scores are overtly indicative of a 'typical' female, but rather are suggestive of female features.

Characteristic	Score
Nuchal Crest	2
Mastoid Process	2
Supraorbital Margin	2
Supraorbital Ridge	2
Mental Eminence	2
Sciatic Notch	2/3

Table 3, Sex Scores from Skeleton 04

Estimation of Age
All elements present are fully fused, indicating that the individual is over 18 years, except for the medial clavicle which has a fusing 'flake' almost covering the articulating surface. This event, Scheuer and Black (2000) suggest, takes place between 24-29 years of age. Secondly, whilst segments of the sacrum are fused, a space is discernable between the first and the second, a trait which suggests the individual is below 27 years of age (*ibid.*). All teeth present are fully erupted and, from analysis of the mandibular tooth wear, minor levels of dentine exposure can be discerned. This level of tooth wear, based on Brothwell's (1981) criteria, places the age at death for SK04 between 17 and 25 years of age. Taken together, the combined evidence provides an acceptable estimated age of 18-25 years.

Biometrics and Stature
A summary of the biometrics from SK04 are given in Table 4 and the length of the femur is used to calculate an estimation of stature for the female at 153.2 +/-3.72cm.

Stature estimation (based on Trotter 1970): 2.47 x 40.1 + 54.10 = 153.2 +/-3.72cm

Element	Code	Meas./cm
femur	FeL1	40.1
femur	FeD1	2.3
femur	FeD2	2.8
femur	FeE1	6.4
humerus	HuL1	28.1
radius	RaL1	20.3
ulna	UlL1	22.9
fibula	FiL1	32.1

Table 4, Summary biometrics for Skeleton 04

Non-Metric Traits
Parietal foramen are present on each of the left and right sides of the cranium, close to the sagittal suture towards the lambda.

Pathology
Minor porotic lesions can be observed on the orbital surfaces of the frontal bone indicative of cribra orbitalia, a condition which is noted to be representative of anaemia (White and Folkens 2005, 320). Linear enamel hypoplasia is very evident on all of the mandibular dentition. This pathological signature is representative of severe dietary and/or disease stress at intervals of development. The defect is particularly observable on both the mandibular canines which show at least three episodes of environmental stress in the earlier life of the individual. As well as hypoplasia, a large caries pit is observable on the medial side of the left maxillary 2nd molar, and a similar but smaller cavity is also present on the lateral side of the right maxillary 2nd premolar. Together, these indicate the entrapment of fermentable carbohydrates, allowing the generation of plaque and its constituent bacteria to have attacked the tooth enamel.

Additional Note
Within the human bone assemblage in context 020, a sheep/goat distal metapodial fragment has been identified.

Skeleton 05 (Context 024)

Preservation and Completeness

All the specimens from SK05 are in excellent condition at Grade 0, with each displaying very little or zero surface erosion. The skeleton is 50-75% complete but with much of the left side of the body missing, including all arm elements, os coxae and femur. No bones from the left or right hands have been recovered other than two phalanges (a proximal and a middle) from the right hand. The vertebral column is severely fragmented. The cervical vertebrae are absent and only specimens from lumbar vertebrae retain levels of completeness over 50%. The cranium is present but is very fragmented. No teeth have been recovered, probably due to the mandible and maxilla not surviving.

Determination of Sex

Sex determination is restricted to scoring of the greater sciatic notch on the right os coxae, which itself is in a state of fragmentation. It is complete enough in its angle to provide a sex score of 1, characteristic of a 'typical' female.

Estimation of Age

All available elements were fully fused including the epiphysis on the medial clavicle which takes place between 22-30 years of age (Scheuer and Black 2000). However, a space is observable between the 1st and 2nd segments of the sacrum which indicates that the individual was no older than 27 (*ibid.*).

Biometrics and Stature

A summary of the biometrics from SK05 are given in Table 5 and the length of the femur is used to calculate an estimation of stature for the female at 157.6 +/-3.72cm.

Stature estimation (based on Trotter 1970): 2.47 x 41.9 + 54.10 = 153.2 +/-3.72cm

Element	Code	Meas./cm
femur	FeL1	41.9
femur	FeD1	2.6
femur	FeD2	3.0
femur	FeE1	7.1
humerus	HuL1	35.0

Table 5, Summary biometrics for Skeleton 05

Non-Metric Traits

A suprascapula notch is observable, partially bridged.

Pathology

There is evidence of excessive trauma towards the distal ends of all the metatarsals from both feet. The distal epiphyses are absent from each metatarsal, and the anterior surfaces of the 1st, 2nd, 3rd and 4th metatarsals have a flattened appearance, almost perpendicular to the shafts, and extra bone growth can be seen around the site of each. There is also some degeneration of the bone moving into the distal shafts of the 4th and 5th metatarsals. None of the foot phalanges are present with the assemblage and it seems likely, considering this pathology, that the toes were lost pre-mortem rather than via excavation bias.

The etiology of this condition is not abundantly clear and further cross-examination may add to our knowledge of its cause. However, there are a couple of possibilities which can be considered. The flattened shape of the anterior surfaces gives the impression that the distal epiphyses had been forcefully removed by a sharp instrument. Amputation of the ends of both feet could lead to heterotopic ossification as seen in the extra bone growth at the distal ends. Alternatively, a degenerative disease, such as leprosy, could be the cause of the pathology. With leprosy, bone resorption and an increased tendency for related trauma and other infections can cause the loss of the phalanges and the distal heads of the metacarpals or metatarsals (Roberts and Cox 2003, 268). Infection in the feet can spread to bones in the lower leg, such as the tibia and fibula, through the nerves causing periostitis (Roberts and Manchester 2005, 196). Whilst periostitis was not obvious on the leg bones of SK05, osteoporosis seems to have manifest in this area. All bones of the feet and legs exhibited decreased density, being excessively light and porous, particularly in the calcanei which became severely affected.

Of course, osteoporosis could also have been caused by the general trauma of losing the ends of the feet, and not necessarily because of disease, where the individual fails to maintain a balance between bone resorption and formation (White and Folkens 2005, 323). It is unfortunate that the skull of this individual has fragmented as the cranium is a common site for the observance of leprosy-induced characteristics in the skeleton (Anderson *et al*. 1994). However, comparative study of SK05 with pathological examples from other medieval leper hospitals, such as South Acre, Norfolk (Wells 1967), St. James and St. Mary Magdalene in Chichester (Lee and Magilton 1989), or St. Leonard in Newark (Bishop 1983), may shed further light on this issue.

Skeleton 06 (Context 027)

Preservation and Completeness

All the specimens from SK05 are in excellent condition at Grade 0, with each displaying very little or zero surface erosion. The skeleton is near complete (75-100%), though much of the thoracic and lumbar vertebrae have fragmented making identification between specific bones in this area difficult. The pubis on the left os coxae is absent and there is some loss of the phalanges from the hands and feet.

The mandible and maxillae are well preserved and the dentition is represented as follows:

R																**L**
						np		np		np						
	8	7	6	5	4	~~3~~	2	~~1~~	1	~~2~~	3	4	5	6	7	8
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

Key

\	tooth lost from mandible post-mortem	c	caries (cavity in tooth)
—	tooth present but socket missing	b	broken tooth
x	tooth lost ante-mortem	a	abscess
np	tooth not present	e	tooth erupting
---	jaw and teeth not present	u	tooth unerupting

Determination of Sex

Analysis of sex criteria is available via a number of cranial characteristics, as well as the morphology of the greater sciatic notch on the os coxae, the scores of which are given in Table 6. The scores are, in the main, indicative of a 'typical' female. In addition, the ventral arc of the pubis was highly extended, a trait overtly associated with females (Phenice 1969).

Characteristic	Score
Nuchal Crest	1
Mastoid Process	2
Supraorbital Margin	2
Supraorbital Ridge	1
Mental Eminence	1
Sciatic Notch	1

Table 6, Sex Scores from Skeleton 06

Estimation of Age

All elements present are fused. Fusion of the plates on the medial clavicles has completed and no spaces are discernable between any segments of the sacrum, traits which indicate that the individual was over 30 years of age (at least 27 years – Scheuer and Black 2000). Examination of the surface of the pubic symphysis exhibits a fine-grained texture and the earlier ridge and furrow system has largely worn away. This would give a morphology score of 4 which, based on the Brooks and Suchey (1990) system, correlates to a mean age of 38.2 years from a range between 27-70 years (95% accuracy). However, examination of the dental wear seemed to disagree with the other ageing methods. Minimal dentine exposure was observed on the 1st molars with only mild polishing on the 2nd and 3rd molars, which should place the individual within the 17-25 year age category. It is possible that the this individual's diet precluded 'normal' rates of molar tooth wear, and based on all the available evidence it would not be unreasonable to suggest an age for SK07 of around 27-35 years.

Biometrics and Stature

A summary of the biometrics from SK06 are given in Table 7 and the length of the femur is used to calculate an estimation of stature for the female at 157.4 +/-3.72cm.

Stature estimation (based on Trotter 1970): 2.47 x 41.8 + 54.10 = 157.4 +/-3.72cm

Element	Code	Meas./cm		Element	Code	Meas./cm
humerus	HuL1	29.0		femur	FeD2	3.5
radius	RaL1	22.2		femur	FeE1	6.9
ulna	UlL1	24.6		tibia	TiL1	35.9
femur	FeL1	41.8		fibula	FiL1	34.1
femur	FeD1	2.3				

Table 7, Summary biometrics for Skeleton 06

Non-Metric Traits

A supraorbital foramen and a supraorbital notch occur in the right and left orbital margins of the frontal bone respectively, although the parietal foramen are not present as in SK04. In fact, the posterior surface of

SK06's cranium (mainly the occipital bone) protrudes irregularly forming an 'occipital bun'. Alongside the occipital bun, the cranium contains a small wormian bone on the lambdoidal suture very close to the right temporal. O'Loughlin (2004) suggests that cranial deformation – pressure on the skull during development – increases the number of wormian bones a skull may contain, though the etiology of the occipital bun is open to debate and the condition may be congenital (*cf.* Murail and Girard 2000).

Pathology

A single episode of linear enamel hypoplasia is observable on both the mandibular canines, and all the dentition (mandibular and maxillary) exhibited evidence of heavy calculus deposits. In this respect it is perhaps surprising that no evidence for caries could be seen, though observance of cavities may be obscured by the thick layering of plaque.

A number of lesions are present on several elements in the upper chest and shoulder region. Seven rib fragments, including the 1st left and right ribs, the proximal humerus, the manubrium and the lateral clavicles (both sides) show small areas of localised destruction and cavitation, but without extensive associated reactive bone. The nature of these lesions is characteristic of tuberculosis (see Ortner and Putschar 1981), and their manifestation in the chest area supports this, although tuberculosis can affect other bones in the body (Roberts and Buikstra 2003). It is uncertain whether the infection caused the death of this individual. A similarly porous lesion was also observed on the left parietal of the cranium, adjacent to the lambdoidal suture, and may be related to those seen in the chest region, though it is possible that this lesion instead represents porotic hyperostosis and is otherwise related to aenemia (White and Folkens 2005, 322). Additionally, the left scapula shows some evidence of periostitis and is also possibly related to the chest-area lesions.

Evidence of exostoses can be seen on some of the lower lumbar vertebrae and is likely to be related to environmental stress (i.e. work-related). Elements of the lower body seem to be clear of pathology other than two distal phalanges of the left foot, both of which show extensive exostoses, especially around mid-shaft. These may be the result of disease, though no other adjacent bones were affected and it is equally possible that the lesions reflect healed fractures at the ends of the toes.

References

Andersen J.G., Manchester K., and Roberts C., 1994, 'Septic bone changes in leprosy: a clinical, radiological and palaeopathological review', *International Journal of Osteoarchaeology* **4**, 21-30

Bishop, M.W., 1983, 'Burials from the cemetery of the hospital of St. Leonard, Newark, Nottinghamshire', *Transactions of the Thoroton Society of Nottinghamshire* **77**, 23-35

Brooks S. and Suchey J.M., 1990, 'Skeletal age determination based on the os pubis: a comparison of the Acsádi-Nemeskéri and Suchey-Brooks methods', *Human Evolution* **5**, 227-238

Brothwell, D.R., 1981, *Digging up Bones*. 3rd Edition (Ithaca, Cornell University Press)

Brothwell D.R. and Sakrzewski S., 2004, 'Metric and non-metric studies of archaeological human bone' in Brickley M. and McKinley J.I., (eds), *Guidelines to the Standards for Recording Human Remains*. Institute of Field Archaeologists Paper No.7 (Southampton, British Association for Biological Anthropology and Osteoarchaeology), pp.27-33

Buikstra J.E. and Ubelaker D.H., 1994, *Standards for Data Collection from Human Skeletal Remains*. Arkansas Archaeological Survey Report No.44 (Fayetteville, Arkansas Archaeological Survey)

Golding, D.N., 1985, 'Pain and Periostitis', *Journal of the Royal Society of Medicine* **78**, 706-707

Lee, F. and Magilton, J., 1989, 'The cemetery of the hospital of St. James and St. Mary Magdalene, Chichester: a case study', *World Archaeology* **21.2**, 273-282

McKinley, J.I., 2004, 'Compiling a skeletal inventory: disarticulated and co-mingled remains' in Brickley, M. and McKinley, J.I. (eds), *Guidelines to the Standards for Recording Human Remains*. Institute of Field Archaeologists Paper No.7 (Southampton, British Association for Biological Anthropology and Osteoarchaeology), pp.14-17

Mensforth R.P., Lovejoy C.O., Lallo J.W. and Armelagos G.J., 1978, 'The role of constitutional factors, diet, and infectious disease in the etiology of porotic hyperostosis and periosteal reactions in prehistoric infants and children', *Medical Anthropology* **2**, 1-59

Murail P. and Girard L., 2000, 'Biology and burial practices from the end of the first century AD to the beginning of the fifth century AD: the rural necropolis of Chantambre' in Pearce, J. Millett, M. Struck, M. (eds), *Burial, society and context in the Roman world* (Oxford, Oxbow Books), pp.105–111

O'Loughlin, V.D., 2004, 'Effects of different kinds of cranial deformation on the incidence of wormian bones', *American Journal of Physical Anthropology* **123**, 146-155

Ortner D.J. and Putschar W.G., 1981, *Identification of Pathological Conditions in Human Skeletal Remains*. Smithsonian Contributions to Anthropology No.28 (Washington DC, Smithsonian Institution Press), pp.1-479

Phenice, T.W., 1969, 'A newly developed visual method of sexing in the *os pubis*', *American Journal of Physical Anthropology* **30**, 297-301

Roberts C.A. and Buikstra J.E., 2003, *The Bioarchaeology of Tuberculosis: A Global View on a Reemerging Disease* (Gainsville, University Press of Florida)

Roberts, C.A. and Cox, M., 2003, *Health and Disease in Britain: From Prehistory to the Present Day* (Thrupp, Sutton Publishing)

Roberts C.A. and Manchester K., 2005, *The Archaeology of Disease*. 3rd Edition (Ithaca, Cornell University Press)

Scheuer L. and Black S., 2000, *Developmental Juvenile Osteology* (San Diego, Academic Press)

Trotter, M., 1970, 'Estimation of stature from intact long bones' in Stewart T.D. (ed), *Personal Identification in Mass Disasters* (Washington DC, Smithsonian Institution Press), pp.71-83

van Beek, G.C., 1983, *Dental Morphology: An Illustrated Guide*. 2nd edition (Oxford, Wright Publishing)

Waldron, T., 2008, *Palaeopathology* (Cambridge, Cambridge University Press)

Wells, C., 1967, 'A leper cemetery at South Acre, Norfolk', *Medieval Archaeology* **11**, 242-248

White T.D. and Folkens P.A., 2005, *The Human Bone Manual* (Burlington, Elsevier Academic Press)

ADULT SKELETAL INVENTORY

Site Code: LIAC 11
Skeleton Number: 01
Context: 015

Cranium

Bone	**left**	**right**	**Bone**	
Parietal			Frontal	
Temporal			Occipital	
Maxilla			Sphenoid	
Nasal			Vomer	
Zygomatic			Ethmoid	
Lacrimal			Hyoid	
Palatine				
Mandible				
Orbit				

Right ribs	X
Left ribs	X

Vertebrae

C1		T8	
C2		T9	
C3		T10	
C4		T11	
C5		T12	
C6		L1	
C7		L2	X
T1		L3	X
T2		L4	X
T3		L5	X
T4			
T5		C unid.	
T6		T unid.	X
T7		L unid.	

Long bones

right	**P art.**	**P 1/3**	**M 1/3**	**D 1/3**	**D art.**
Humerus		X	X	X	X
Radius	X	X	X		
Ulna	X	X	X		
Femur	X	X	X	X	X
Tibia	X	X	X		
Fibula		X	X	X	

left	**P art.**	**P 1/3**	**M 1/3**	**D 1/3**	**D art.**
Humerus					
Radius					
Ulna					
Femur	X	X	X	X	X
Tibia	X	X	X	X	
Fibula			X	X	

Other

right	**>75%**	**50-75**	**25-50**	**<25%**
Ilium			X	
Ischium	X			
Pubis			X	
Scapula				X
Clavicle				
Patella				

left	**>75%**	**50-75**	**25-50**	**<25%**
Ilium	X			
Ischium	X			
Pubis				X
Scapula				
Clavicle				
Patella				

	>75%	**50-75**	**25-50**	**<25%**
Sternum				
Coccyx				
Sacrum	X			

Hands & Feet

right	**1st**	**2nd**	**3rd**	**4th**	**5th**
Metacarpals	X				
Metatarsals	X	X			

left	**1st**	**2nd**	**3rd**	**4th**	**5th**
Metacarpals	X	X	X	X	
Metatarsals	X		X	X	

	Scaphoid	Lunate	Triquetral	Pisiform	Trapezium	Trapezoid	Capitate	Hamate	Sesmoid
right		X			X				
left					X				
	Talus	Calcaneus	1st Cun.	2nd Cun.	3rd Cun.	Navicular	Cuboid		Sesmoid
right	X		X				X		
left		X							

hand	Prox. phalanges	X	Mid. phalanges	X	Dist. phalanges	X
foot	Prox. phalanges	X	Mid. phalanges	X	Dist. phalanges	X

ADULT SKELETAL INVENTORY

Site Code: LIAC 11
Skeleton Number: 02
Context: 016

Cranium

Bone	**left**	**right**	**Bone**	
Parietal			Frontal	
Temporal			Occipital	
Maxilla			Sphenoid	
Nasal			Vomer	
Zygomatic			Ethmoid	
Lacrimal			Hyoid	
Palatine				
Mandible				
Orbit				

Right ribs	
Left ribs	

Vertebrae

C1		T8	
C2		T9	
C3		T10	
C4		T11	
C5		T12	
C6		L1	
C7		L2	
T1		L3	
T2		L4	
T3		L5	
T4			
T5		C unid.	
T6		T unid.	
T7		L unid.	

Long bones

right	**P art.**	**P 1/3**	**M 1/3**	**D 1/3**	**D art.**
Humerus					
Radius					
Ulna					
Femur			X	X	X
Tibia	X	X	X	X	X
Fibula	X	X	X	X	X

left	**P art.**	**P 1/3**	**M 1/3**	**D 1/3**	**D art.**
Humerus					
Radius					
Ulna					
Femur			X	X	X
Tibia	X	X	X	X	X
Fibula			X	X	X

Other

right	**>75%**	**50-75**	**25-50**	**<25%**
Ilium				
Ischium				
Pubis				
Scapula				
Clavicle				
Patella				

left	**>75%**	**50-75**	**25-50**	**<25%**
Ilium				
Ischium				
Pubis				
Scapula				
Clavicle				
Patella	X			

	>75%	**50-75**	**25-50**	**<25%**
Sternum				
Coccyx				
Sacrum				

Hands & Feet

right	**1st**	**2nd**	**3rd**	**4th**	**5th**
Metacarpals					
Metatarsals					

left	**1st**	**2nd**	**3rd**	**4th**	**5th**
Metacarpals					
Metatarsals					

	Scaphoid	Lunate	Triquetral	Pisiform	Trapezium	Trapezoid	Capitate	Hamate	Sesmoid
right									
left									
	Talus	Calcaneus	1st Cun.	2nd Cun.	3rd Cun.	Navicular	Cuboid		Sesmoid
right									
left		X							

hand	Prox. phalanges	X	Mid. phalanges		Dist. phalanges	
foot	Prox. phalanges		Mid. phalanges		Dist. phalanges	

ADULT SKELETAL INVENTORY

Site Code: LIAC 11
Skeleton Number: 03
Context: 017

Cranium

Bone	**left**	**right**	**Bone**	
Parietal	X		Frontal	
Temporal	X		Occipital	
Maxilla			Sphenoid	
Nasal			Vomer	
Zygomatic			Ethmoid	
Lacrimal			Hyoid	
Palatine				
Mandible				
Orbit				

Right ribs	X
Left ribs	X

Vertebrae

C1		T8	X
C2		T9	X
C3		T10	X
C4	X	T11	X
C5	X	T12	X
C6	X	L1	X
C7	X	L2	X
T1	X	L3	X
T2	X	L4	X
T3	X	L5	X
T4	X		
T5	X	C unid.	
T6	X	T unid.	
T7	X	L unid.	

Long bones

right	**P art.**	**P 1/3**	**M 1/3**	**D 1/3**	**D art.**
Humerus					
Radius	X	X	X	X	X
Ulna				X	X
Femur					
Tibia					
Fibula					

left	**P art.**	**P 1/3**	**M 1/3**	**D 1/3**	**D art.**
Humerus	X	X	X	X	X
Radius					
Ulna					
Femur	X	X	X	X	X
Tibia					
Fibula					

Other

right	**>75%**	**50-75**	**25-50**	**<25%**
Ilium				
Ischium				
Pubis				
Scapula				
Clavicle				
Patella				

left	**>75%**	**50-75**	**25-50**	**<25%**
Ilium	X			
Ischium	X			
Pubis				
Scapula		X		
Clavicle			X	
Patella		X		

	>75%	**50-75**	**25-50**	**<25%**
Sternum		X		
Coccyx				
Sacrum	X			

Hands & Feet

right	**1st**	**2nd**	**3rd**	**4th**	**5th**
Metacarpals	X	X			
Metatarsals					

left	**1st**	**2nd**	**3rd**	**4th**	**5th**
Metacarpals	X	X	X	X	X
Metatarsals					

	Scaphoid	Lunate	Triquetral	Pisiform	Trapezium	Trapezoid	Capitate	Hamate	Sesmoid
right	X	X				X	X		
left								X	
	Talus	Calcaneus	1st Cun.	2nd Cun.	3rd Cun.	Navicular	Cuboid		Sesmoid
right									
left									

hand	Prox. phalanges	X	Mid. phalanges	X	Dist. phalanges	X
foot	Prox. phalanges		Mid. phalanges		Dist. phalanges	

ADULT SKELETAL INVENTORY

Site Code: LIAC 11
Skeleton Number: 04
Context: 020

Cranium

Bone	**left**	**right**	**Bone**	
Parietal	X	X	Frontal	X
Temporal	X	X	Occipital	X
Maxilla	X	X	Sphenoid	X
Nasal	X	X	Vomer	
Zygomatic	X	X	Ethmoid	X
Lacrimal			Hyoid	
Palatine				
Mandible	X	X		
Orbit	X	X		

Right ribs	X
Left ribs	X

Vertebrae

C1	X	T8	X
C2	X	T9	X
C3	X	T10	X
C4	X	T11	X
C5	X	T12	X
C6	X	L1	X
C7	X	L2	X
T1	X	L3	X
T2	X	L4	X
T3	X	L5	X
T4	X		
T5	X	C unid.	
T6	X	T unid.	
T7	X	L unid.	

Long bones

right	**P art.**	**P 1/3**	**M 1/3**	**D 1/3**	**D art.**
Humerus	X	X	X	X	X
Radius	X	X	X	X	X
Ulna	X	X	X	X	X
Femur	X	X	X	X	X
Tibia	X	X	X	X	X
Fibula	X	X	X	X	X

left	**P art.**	**P 1/3**	**M 1/3**	**D 1/3**	**D art.**
Humerus	X	X	X	X	X
Radius	X	X	X	X	X
Ulna	X	X	X	X	X
Femur	X	X	X	X	X
Tibia	X	X	X	X	X
Fibula	X	X	X	X	X

Other

right	**>75%**	**50-75**	**25-50**	**<25%**
Ilium	X			
Ischium	X			
Pubis				
Scapula	X			
Clavicle	X			
Patella				

left	**>75%**	**50-75**	**25-50**	**<25%**
Ilium	X			
Ischium	X			
Pubis				
Scapula	X			
Clavicle	X			
Patella	X			

	>75%	**50-75**	**25-50**	**<25%**
Sternum			X	
Coccyx				
Sacrum	X			

Hands & Feet

right	**1st**	**2nd**	**3rd**	**4th**	**5th**
Metacarpals	X			X	X
Metatarsals	X	X	X		

left	**1st**	**2nd**	**3rd**	**4th**	**5th**
Metacarpals	X	X	X	X	X
Metatarsals	X		X	X	X

	Scaphoid	Lunate	Triquetral	Pisiform	Trapezium	Trapezoid	Capitate	Hamate	Sesmoid
right	X						X		
left							X		
	Talus	Calcaneus	1st Cun.	2nd Cun.	3rd Cun.	Navicular	Cuboid		Sesmoid
right	X	X	X	X	X	X	X		
left	X	X		X		X			

hand	Prox. phalanges	X	Mid. phalanges	X	Dist. phalanges	X
foot	Prox. phalanges	X	Mid. phalanges	X	Dist. phalanges	X

ADULT SKELETAL INVENTORY

Site Code: LIAC 11
Skeleton Number: 05
Context: 024

Cranium

Bone	**left**	**right**	**Bone**	
Parietal	X	X	Frontal	X
Temporal			Occipital	X
Maxilla			Sphenoid	
Nasal			Vomer	
Zygomatic			Ethmoid	
Lacrimal			Hyoid	X
Palatine				
Mandible				
Orbit				

Right ribs	X
Left ribs	X

Vertebrae

C1		T8	
C2		T9	
C3		T10	
C4		T11	X
C5		T12	X
C6		L1	X
C7		L2	X
T1		L3	X
T2		L4	X
T3		L5	X
T4			
T5		C unid.	
T6		T unid.	
T7		L unid.	

Long bones

right	**P art.**	**P 1/3**	**M 1/3**	**D 1/3**	**D art.**
Humerus	X	X	X	X	X
Radius		X	X	X	X
Ulna	X	X	X	X	X
Femur	X	X	X	X	X
Tibia	X	X	X	X	X
Fibula	X	X	X	X	X

left	**P art.**	**P 1/3**	**M 1/3**	**D 1/3**	**D art.**
Humerus					
Radius					
Ulna					
Femur					
Tibia	X	X	X	X	
Fibula	X	X	X	X	

Other

right	**>75%**	**50-75**	**25-50**	**<25%**
Ilium	X			
Ischium		X		
Pubis			X	
Scapula		X		
Clavicle	X			
Patella				

left	**>75%**	**50-75**	**25-50**	**<25%**
Ilium				
Ischium				
Pubis				
Scapula				
Clavicle				
Patella				

	>75%	**50-75**	**25-50**	**<25%**
Sternum	X			
Coccyx				
Sacrum				

Hands & Feet

right	**1st**	**2nd**	**3rd**	**4th**	**5th**
Metacarpals					
Metatarsals	X		X	X	X

left	**1st**	**2nd**	**3rd**	**4th**	**5th**
Metacarpals					
Metatarsals	X	X	X	X	X

	Scaphoid	Lunate	Triquetral	Pisiform	Trapezium	Trapezoid	Capitate	Hamate	Sesmoid
right									
left									
	Talus	Calcaneus	1st Cun.	2nd Cun.	3rd Cun.	Navicular	Cuboid		Sesmoid
right	X	X		X		X	X		
left	X	X				X	X		

hand	Prox. phalanges	X	Mid. phalanges	X	Dist. phalanges	
foot	Prox. phalanges		Mid. phalanges		Dist. phalanges	

ADULT SKELETAL INVENTORY

Site Code: LIAC 11
Skeleton Number: 06
Context: 027

Cranium

Bone	**left**	**right**	**Bone**	
Parietal	X	X	Frontal	X
Temporal	X	X	Occipital	X
Maxilla	X	X	Sphenoid	X
Nasal	X	X	Vomer	X
Zygomatic	X	X	Ethmoid	
Lacrimal	X	X	Hyoid	X
Palatine	X	X		
Mandible	X	X		
Orbit	X	X		

Right ribs	X
Left ribs	X

Vertebrae

C1	X	T8	X
C2	X	T9	X
C3	X	T10	X
C4	X	T11	X
C5	X	T12	X
C6	X	L1	X
C7	X	L2	X
T1	X	L3	X
T2	X	L4	X
T3	X	L5	X
T4	X		
T5	X	C unid.	
T6	X	T unid.	
T7	X	L unid.	

Long bones

right	**P art.**	**P 1/3**	**M 1/3**	**D 1/3**	**D art.**
Humerus	X	X	X	X	X
Radius	X	X	X	X	X
Ulna	X	X	X	X	X
Femur	X	X	X	X	X
Tibia	X	X	X	X	X
Fibula	X	X	X	X	X

left	**P art.**	**P 1/3**	**M 1/3**	**D 1/3**	**D art.**
Humerus	X	X	X	X	X
Radius	X	X	X	X	X
Ulna	X	X	X	X	X
Femur	X	X	X	X	X
Tibia	X	X	X	X	X
Fibula	X	X	X	X	X

Other

right	**>75%**	**50-75**	**25-50**	**<25%**
Ilium	X			
Ischium	X			
Pubis	X			
Scapula	X			
Clavicle	X			
Patella				

left	**>75%**	**50-75**	**25-50**	**<25%**
Ilium	X			
Ischium		X		
Pubis				X
Scapula		X		
Clavicle	X			
Patella				

	>75%	**50-75**	**25-50**	**<25%**
Sternum		X		
Coccyx	X			
Sacrum	X			

Hands & Feet

right	**1st**	**2nd**	**3rd**	**4th**	**5th**
Metacarpals	X	X	X	X	X
Metatarsals	X	X	X	X	X

left	**1st**	**2nd**	**3rd**	**4th**	**5th**
Metacarpals	X	X	X	X	X
Metatarsals	X	X	X	X	X

	Scaphoid	Lunate	Triquetral	Pisiform	Trapezium	Trapezoid	Capitate	Hamate	Sesmoid
right	X	X			X	X	X	X	
left	X	X		X	X	X	X	X	
	Talus	Calcaneus	1st Cun.	2nd Cun.	3rd Cun.	Navicular	Cuboid		Sesmoid
right	X	X	X	X	X	X	X		
left	X	X	X		X	X	X		

hand	Prox. phalanges	X	Mid. phalanges	X	Dist. phalanges	X
foot	Prox. phalanges	X	Mid. phalanges	X	Dist. phalanges	X

Appendix 7: Metal Finds Report

By Kevin Trott

The Metalwork
Seven metalwork objects were recovered from backfills 016, 020, 024 and 026 of a series of east – west orientated graves.

The copper-alloy object from 024 consisted of a single worn rectangular in-section armlet (1 gram) with alternating external wavy-notch decoration. External diameter 40mm. The size of this armlet is clearly from a juvenile and its style has parallels from the shrine at Uley in Gloucestershire (Woodward and Leach 1993, 167, fig 1) and from the Roman roadside settlement off Fosse Lane in Shepton Mallet, Somerset (Smith 2001, 202-3, fig 33).

The second metalwork item also from 024 is an iron nail (13 grams) that has a square sectioned shank, 5mm wide, 14mm in length and a large square head 21mm across. Three smaller nails (20 grams) were found within 020 and had square sectioned shanks, 05mm wide, 27mm in length and corroded square heads. A single slightly bent nail was also discovered within 026 (4 grams) that had a square shank, 03mm wide, 32mm in length with a broken square nail head. Although it is possible that the nails were coffin nails, the limited number within each grave suggests that they are more likely to be accidental inclusions within the backfill of the graves.

A round ended terminal from a rectangular in-section bar (19mm wide, 9mm deep and 45mm in length) was found within 016 weighing 41 grams. The exterior corrosion properties adhering to this fragment makes identification difficult.

Table 1

Context	Material	Type	Description
016	Iron	unknown	Round ended terminal, rectangular in-section bar 19mm wide, 9mm deep and 45mm in length. Weight 41 grams
020	Iron	Nails x3	Square sectioned shanks, 5mm, 27mm in length with corroded square heads. Weight 20 grams
024	Copper alloy	Armlet	Worn rectangular in-section armlet weighting 1 gram with alternating external wavy-notch decoration. External diameter 40mm
024	Iron	Nail	Square sectioned shank, 5mm, 14mm in length with a large square head 21mm. Weight 13 grams
026	Iron	Nail	Slightly bent square sectioned nail, weight 4 grams, square shank, 3mm, 32mm in length with a broken square nail head

The metalwork remains in a stable condition and will require repacking for future storage and Curation. The Copper-alloy and Iron work should be retained for future study.

References
Smith, J., 2001, 'The Bracelets' in Leach, P. and Evans, J. *Excavation of a Romano-British Roadside Settlement in Somerset: Fosse Lane, Shepton Mallet 1990.* Britannia Monograph Series **18**

Woodward, A and Leach, P., 1993, *The Uley Shrines: Excavation of a ritual complex on West Hill, Uley, Gloucestershire; 1977-9.* English Heritage Archaeological Report **17**

Appendix 8: Glass Report

By Rachael Hall

Introduction
During archaeological investigations undertaken at 5 Auden Close, Lincoln a single fragment of Roman glass was recovered from backfill 005 of Roman pit [006].

A catalogue listing and detailing the glass appears as Table 1 below.

Table 1

Context	Type	No	Weight in grams	Date
004	Small vessel fragment, undetermined. ?Decorative piece	1	<1g	2nd – 3rd century

Discussion
The small triangular fragment is unusual in form and may be a decorative piece attached to a vessel. The piece is of 2nd to 3rd century AD date.

Recommendations
It is recommended that the glass assemblage should be retained as part of the ordered archive. It is not anticipated that there will be any long term issues with storage of the material.

Appendix 9: Context Summary List

Context	Type	Description	Interpretation
001	Layer	Friable, mid-dark brown silty sand with occasional brick fragments and small angular limestone	Topsoil
002	Fill	Friable, pale yellow brown sandy mortar, with frequent small-mid sized angular limestone fragments, tile and occasional animal bone.	Fill of robber trench [003]
003	Cut	East-west cut, vertical sides and flat base continues beyond east and west baulk sections, contains 002	Cut of robber trench
004	Foundation	East-west stone foundation comprising 4-5 rough courses of roughly rectangular unhewn limestone fragments bonded with a green/grey clay	Foundation of medieval wall
005	Fill	Firm-friable light-mid brown sandy silt with occasional to frequent small angular limestone fragments, below foundation 004	Fill of pit [006]
006	Cut	Only partially visible, broad U-shaped profile 45 degree concave sides and concave base, contains 005	Cut of pit
007	Layer	Burnt friable black/reddish brown sandy silt. Infrequent small fragments of burnt limestone	Demolition/burnt deposit associated with 004
008	Layer	Firm-friable pale brown sandy mortar, occasional small angular limestone fragments within	Construction/surface associated with foundation 004
009	Layer	Solid limestone with some loose brash above	Natural strata
010	Layer	Firm/friable mid-grey/brown sandy soil. Occasional small angular limestone fragments and oyster shell flecks	Buried soil
011	Layer	Friable light yellow/brown sandy soil with moderate small angular limestone, animal bone and shell flecks	Post demolition of structure 004, post-medieval/modern accumulation
012	Fill	Firm but friable mottled pale brown-mid brown sand/mortar soil. Comprises frequent small fragments of pale brown sandy mortar and small angular limestone fragments	Fill of pit [013]
013	Cut	Seen in section only, u-shaped cut 14 degree concave sides and concave base, contains 012	Cut of pit
014	Structure	Existing modern 1970s house, including foundation cut and fill	House
015	Skeleton	E-W with head to west, arms over torso with hands tucked between thighs, skull in section and not removed	Burial within [046]
016	Skeleton	E-W, only legs visible in trench	Burial within [023]
017	Skeleton	E-W, head to west, supine. Left arm across body and right arm along body with hand inside thigh. Right leg under section	Burial within [047]
018	Cist	Constructed from flat upright limestone. Recess for head, lower half removed by modern drainage trench, cist lies directly on natural rock, contains skeleton 020	Cist
019	VOID		
020	Skeleton	E-W, supine, hands across pelvis head slightly raised above body, lower jaw has dropped some bones appear to have been moved, probably as a result of animal intrusion	Burial in cist [018]
021	Layer	Firm/friable very pale yellow/brown mortar/limestone mix	Possible floor
022	Fill	Firm/friable mid grey/brown sandy silt. Frequent limestone fragments and brash	Fill of grave [023]
023	Cut	E-W aligned vertical section, flat base, filled with 022 and skeleton 016	Grave cut

Context	Type	Description	Interpretation
024	Skeleton	E-W aligned partially buried under section, skull crushed, right arm across waist	Burial within [044]
025	Cist	E-W constructed from large flat limestone with lid comprised of large limestone slabs placed directly on edge-set stones. Cist has head recess at west end. Contains 026 and skeleton 027	Cist burial
026	Fill	Firm-friable mid-yellow/brown clayey sand. Frequent small angular limestone chippings, occasional tile fragments	Fill of cist [025]
027	Skeleton	E-W adult supine. Left arm across waist body slightly inclined to the right, right forearm lies behind ribs. Feet have been crammed into cist, pelvis is tight within the cist, skull has dropped forward onto neck	Skeleton within cist [025]
028	Cut	Same as 003	Continuation of robber trench [003]?
029	Foundation	East-west stone foundation comprising roughly rectangular unhewn limestone fragments bonded with a green/grey clay	Continuation of 004
030	Fill	Same as 002	Continuation of fill of robber trench [003]
031	Cist	Three upright stone slabs with two horizontal lid slabs, visible in section	Cist burial, not removed
032	Cist	Lies to the east of cist 025, visible in section	Cist burial, not removed
033	Fill	Same as 002?	Continuation of fill of robber trench [003]?
034	Cut	Same as 003?	Continuation of robber trench [003]?
035	Cist	Friable light/mid brown clay/sand fill with frequent limestone and infrequent human bone, disturbed by garage foundation	Cist burial
036		Unstratified finds	
037	Fill	Firm compact mid-dark brown clayey sand with very frequent angular limestone fragments, occasional pot and tile	Fill of broad cut [038]
038	Cut	U-shaped, shallow concave sides and rounded base, contains 037	Shallow pit? Seen in section
039	Skeleton	Seen in section only	Burial within grave cut [049]
040		All modern pipe trenches and infill deposits	
041	Foundation	Rough rubble limestone bonded with greyish clay	Foundation, continuation of 004?
042	Layer	Light/mid brown/orange clayey silt matrix with frequent small limestone and chalk inclusions	Demolition/make-up layer
043	Layer	Light yellow/orange/brown mortary hardcore layer	Hardcore for tarmac driveway
044	Layer	Dark yellow/brown/grey sand	Levelling layer below hardcore 043
045	Layer	Tarmac	Driveway
046	Cut	Grave cut, contains skeleton 015	Grave cut
047	Cut	Grave cut, contains skeleton 017	Grave cut
048	Cut	Grave cut, contains skeleton 024	Grave cut
049	Cut	Grave cut, contains skeleton 039	Grave cut

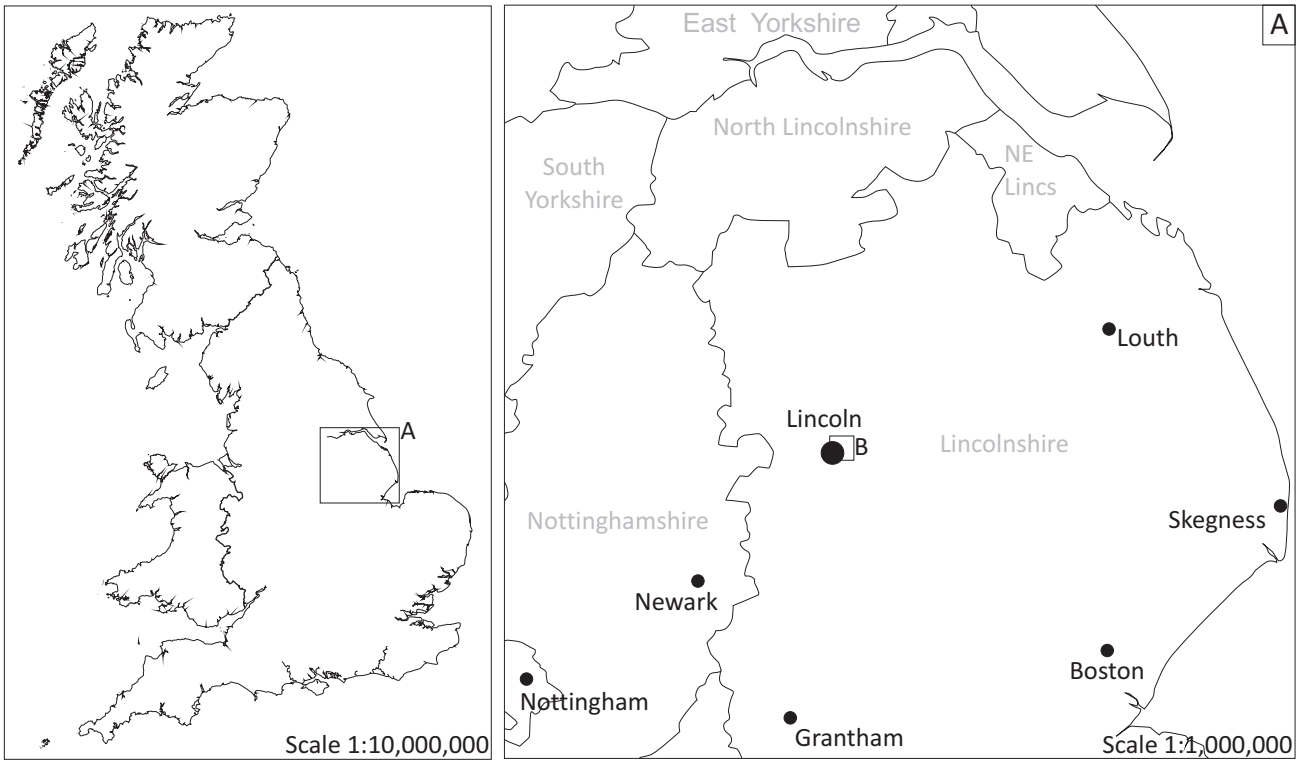


Figure 1: Site location at scale 1:25,000, with the proposed development area in red.

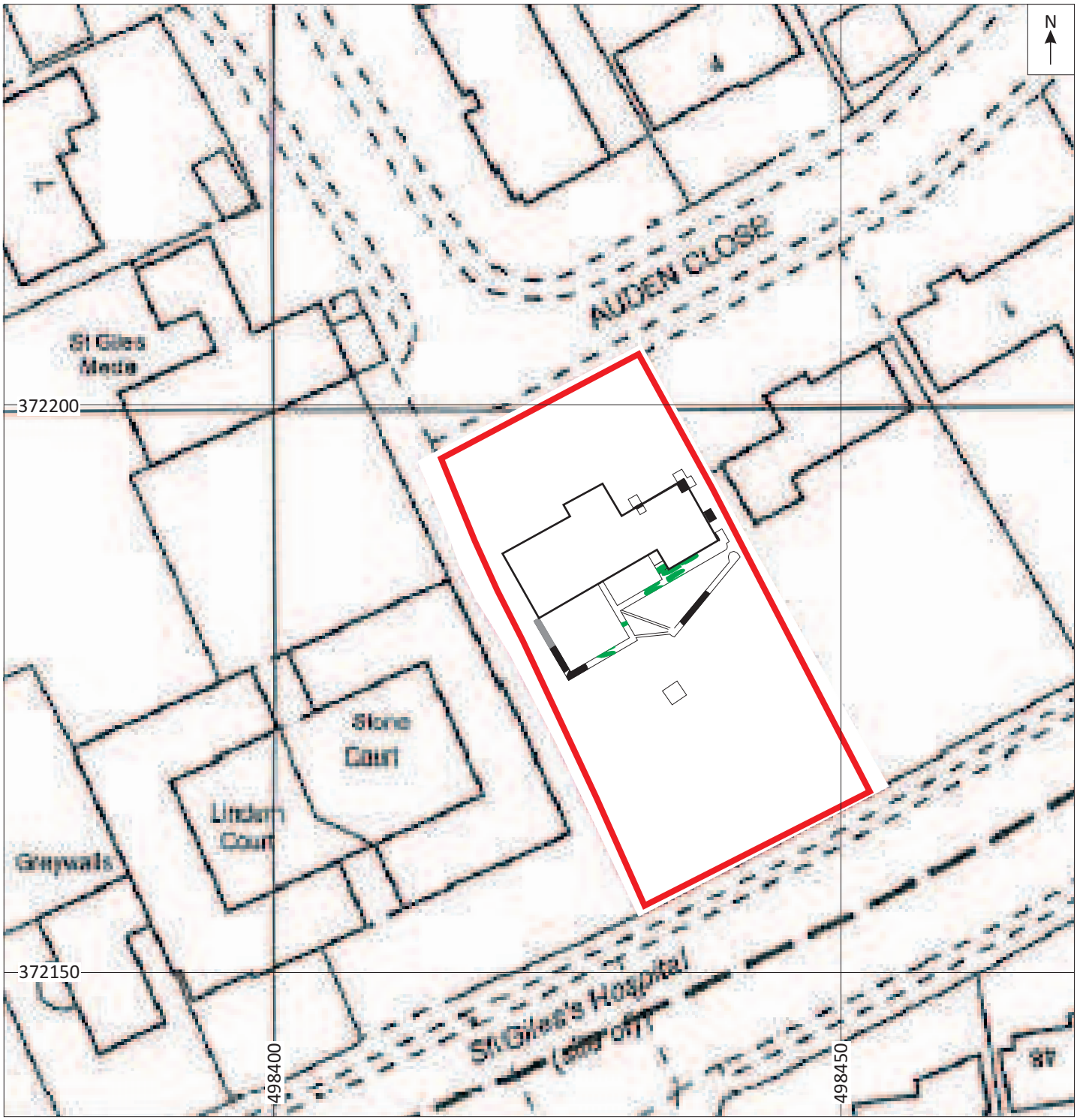
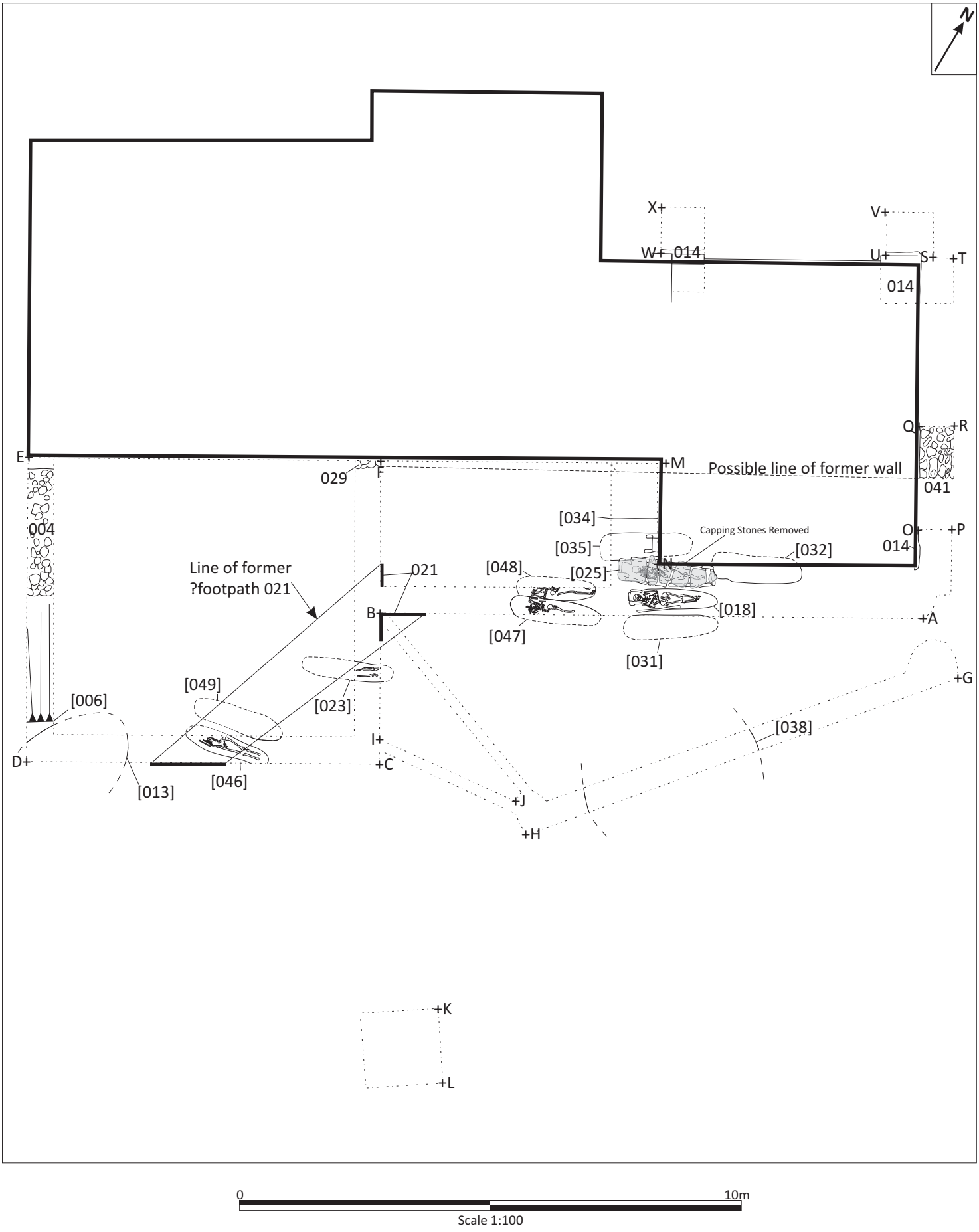


Figure 2: Site location plan at scale 1:500 with the site outlined in red. Archaeological features in solid black, walls in grey and graves in green



0 10m

Scale 1:100

Figure 3: Plan of monitored footings at scale 1:100. Sections shown on Figures 4 - 6

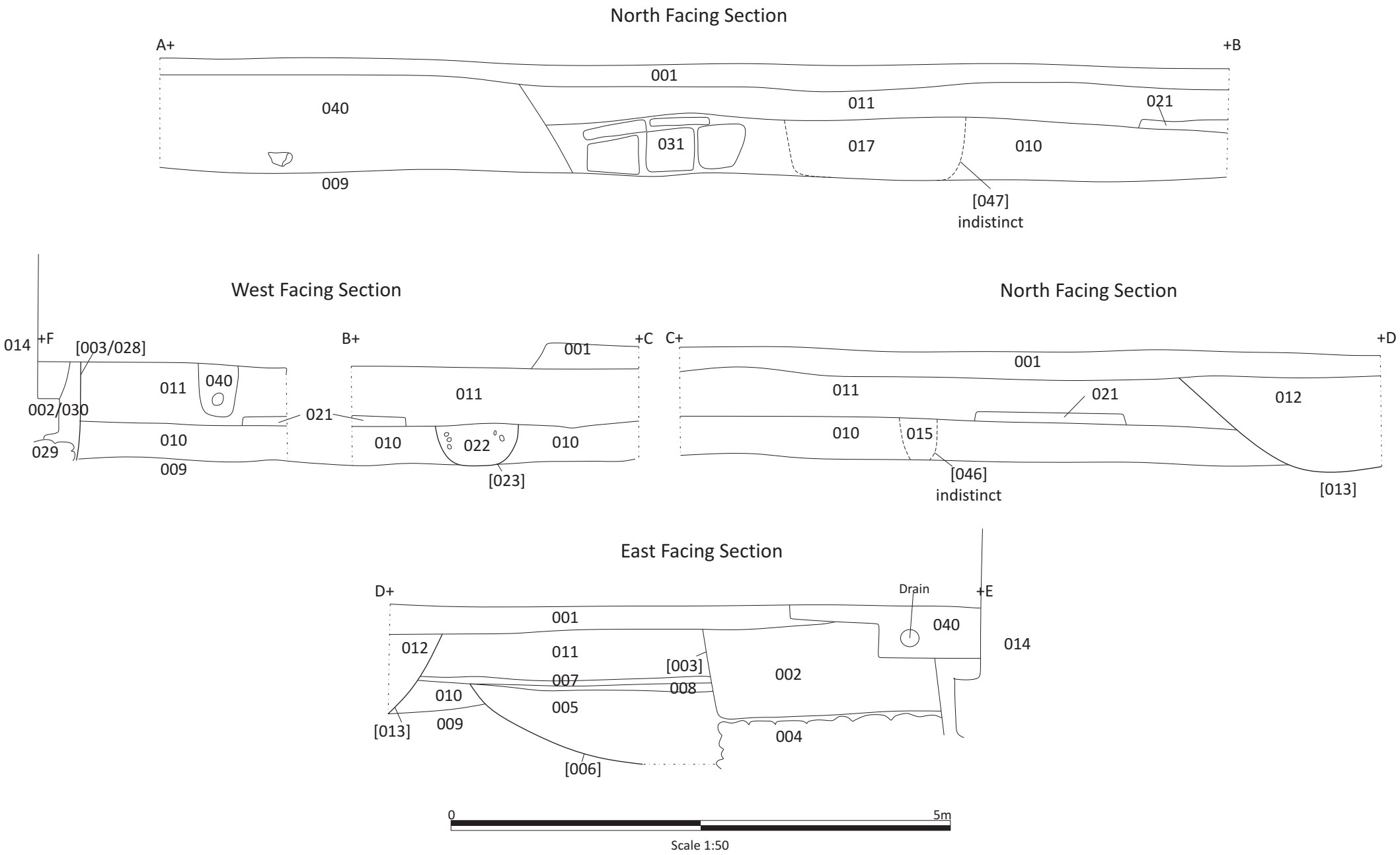


Figure 4: Sections of foundation trench at 1:50

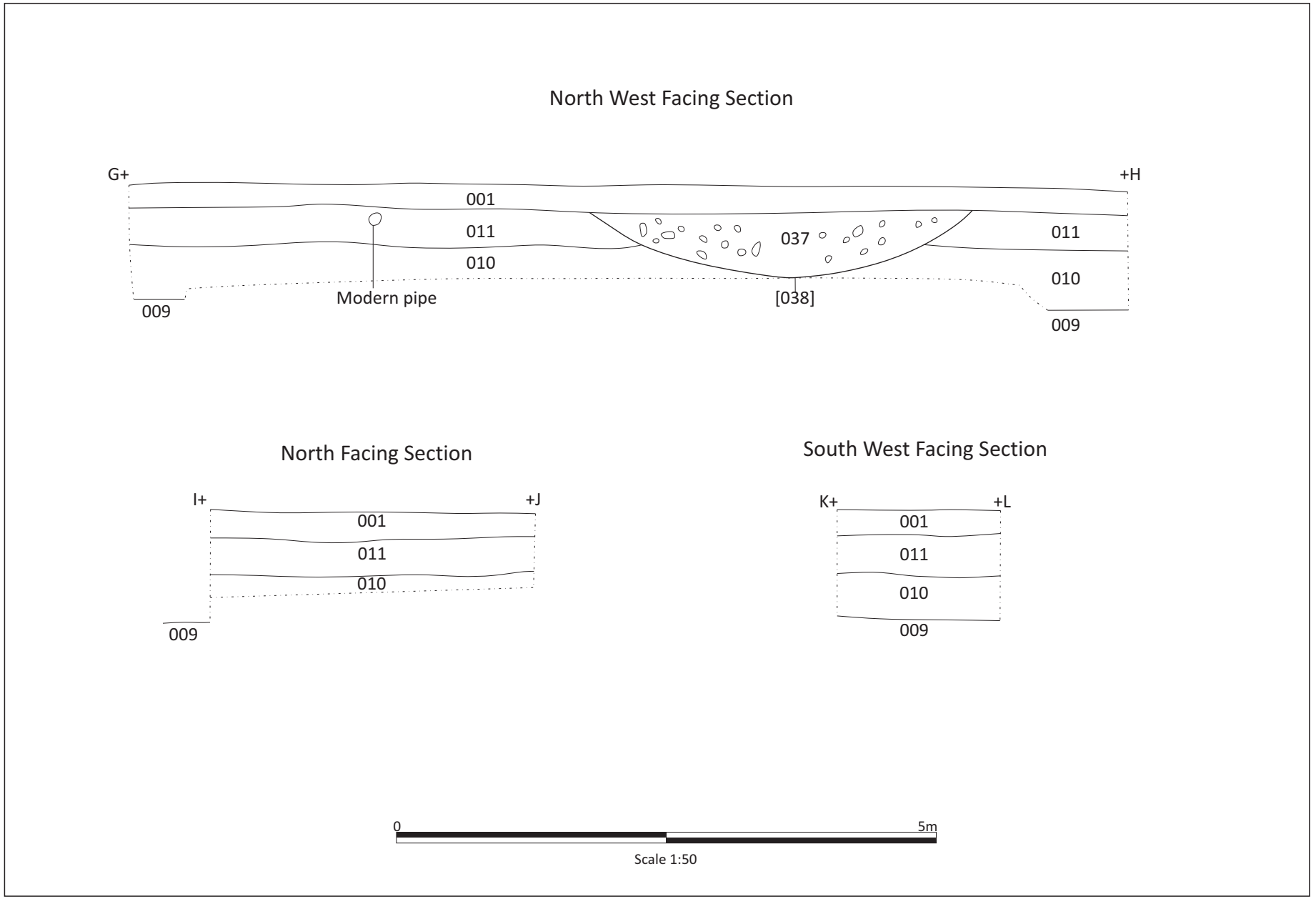


Figure 5: Sections of drainage features at 1:50

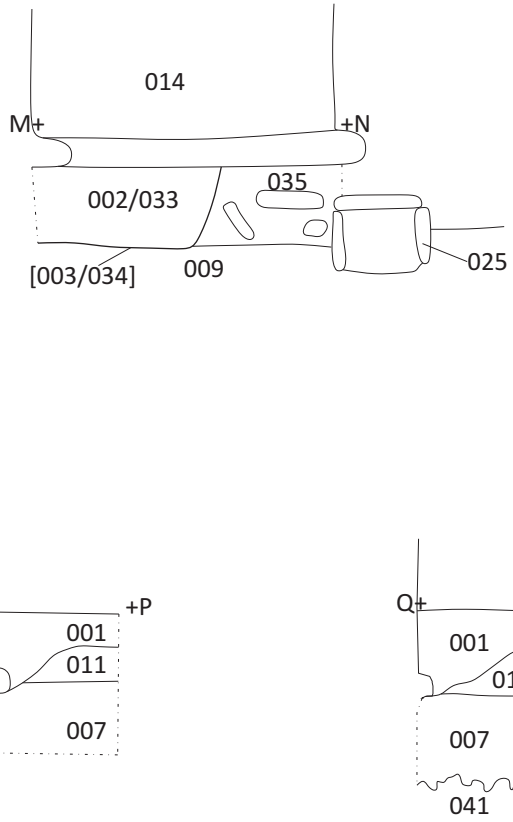


Figure 6: Sections of garage underpinning at 1:50

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