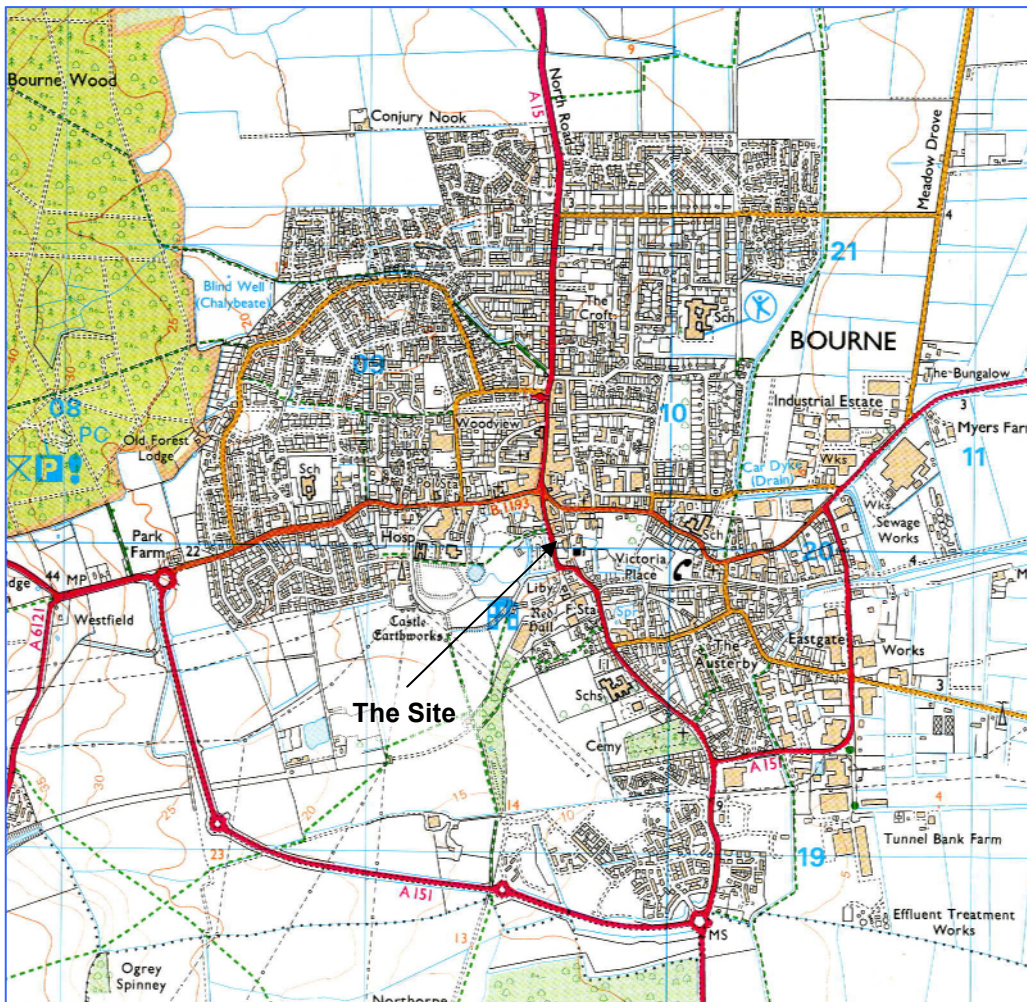


## Summary

- An archaeological scheme of works was undertaken in advance of the conversion of an existing building, and the construction of a new block of retirement flats, on land at the Old Cornmill, South Street in Bourne, Lincolnshire.
- The existing cornmill was subject to a programme of building survey prior to conversion, detailing all external elevations and internal shots of original features, fixtures and fittings.
- A programme of archaeological trial trenching was also carried out, in advance of the construction of a new block of flats adjacent to the existing building. Two trenches were excavated, exposing a late medieval, several undated linear features, and a large late medieval pit.



**Figure 1:** Site location at scale 1:25,000

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## 1.0 Introduction

- 1.1 Allen Archaeological Associates was commissioned by Quadrant Surveying Limited on behalf of their client, Mill Developments (UK) Limited., to undertake a programme of building survey and archaeological trial trenching in advance of development at The Old Cornmill, South Street in Bourne, Lincolnshire.
- 1.2 The excavation, recording and reporting methodologies conform to current national guidelines, as set out in the Institute for Field Archaeologists 'Standards and guidance for archaeological field evaluations' (IFA 1999), *Understanding Historic Buildings: A Guide to Good Recording Practice* (English Heritage 2006), the local guidelines set out in the *Lincolnshire Archaeological Handbook: A Manual of Archaeological Practice* (LCC 1998), and a specification prepared by this company (Allen 2007).
- 1.3 A copy of the building survey and trial trenching report and the full project archive will be submitted to The Collection, Lincoln for long-term storage, and can be accessed through the unique archive number 2007.134.

## 2.0 Site location and description

- 2.1 Bourne is a market town in the administrative district of South Kesteven, approximately 52km south-south-east of Lincoln. The site is situated on the southern edge of the town's historic core, on the east side of South Street. The proposed development area comprises the existing 19<sup>th</sup> century former cornmill, with an area of open ground of c.525m<sup>2</sup> to the north. It is bounded by South Street to the west, Church Lane to the north, and existing dwellings to the south and east. The site centres on NGR TF 0964 2002.
- 2.2 The local geology comprises Jurassic deposits of Oxford Clay, with no drift deposits identified (British Geological Survey 1990).

## 3.0 Planning background

- 3.1 Full planning permission has been granted for the conversion of the Old Corn Mill, subject to conditions, including the undertaking of a building survey of the Old Mill (Planning Reference S06/LB/6713/12) and an evaluation by trial trenching (Planning Reference S06/1625/121). The building survey will comprise the recording of all internal and external features, as well as its setting, effectively 'preserving the architectural remains by record'. The survey will include a photographic record of the structures, their location and any architectural features, annotated on scaled plans of the structure. The evaluation will involve the excavation of two trenches, both 15m long, within the application area.

## 4.0 Archaeological and historical background

- 4.1 There is very limited evidence of pre-Roman activity around Bourne, and it has been suggested that a substantial settlement developed as a result of military activity early in the Roman occupation (Hayes and Lane 1992). The town is situated on the line of a Roman military road known as King Street, as well as the Car Dyke. The Fenland Survey identified a possible focus of settlement activity to the north of the town, on the west bank of the Car Dyke, producing pottery, tile and building rubble (*ibid.*). Excavations in the town have identified a possible villa at Home Close, to the north of the site (Archaeology Data Service Ref. NMR\_NATINV-348165), and pottery kilns were excavated to the south of the town in 1959 (NMR\_NATINV-348170). Nearer to the site, the remains of a Roman building were found on the west side of

South Street in 1880 while attempting to locate a tunnel between the castle and abbey (NMR\_NATINV-348169), and an urn containing sixty 4<sup>th</sup> century coins was found near to the castle, approximately 0.4km to the west of the site (NMR\_NATINV-348168).

- 4.2 Anglo-Saxon activity is limited, although early Saxon pottery was found to the north of the town during the Fenland Survey, suggesting possible continuity from the Roman period (Hayes and Lane 1992). The town is first documented as early as AD 960 (NMR\_NATINV-925899), and in the Domesday Book the parish was divided between five landowners; Ivo Tallboys, Alfred of Lincoln, Odger the Breton, Robert of Stafford and Kolgrimr. These large estates included numerous mills and fisheries, as well as extensive woodland, meadow and a church (Morgan and Thorne 1986).
- 4.3 In 1138, the Augustinian abbey of St. Peter and St. Paul was founded in the town; the existing church to the east of the site being all that remains, although it is believed that there was already a church on the site before the abbey was founded. Excavations to the north of the church in 1985 identified an extensive range of stone buildings of the former abbey (Pevsner and Harris 2002). To the west of the site are the earthwork remains of the Norman motte and bailey castle (*ibid.*).
- 4.4 The existing corn mill is a late 19<sup>th</sup> century building. The open land to the north that is proposed for development was formerly occupied by a building of similar date, which was demolished in the 1980s.

## 5.0 Methodology: Building survey

- 5.1 The building survey methodology was designed in accordance with the English Heritage document '*Understanding Historic Buildings: A guide to good recording practice*' (English Heritage 2006), and a specification prepared by this company (Allen 2007), and accords with the levels of recording required for a 'Level 2 Building Survey'. A Level 2 Building Survey is a descriptive record of the remains that examines the exterior and interior of all structures. The analysis includes an assessment of the development and use of the buildings. The recording comprised: -
  - Measured plans (ground and upper floors)
  - Detail of form and location of any significant structural detail
  - A site plan at scale (1:500 or 1:1000) showing the structures in relation to other structures and to topographical and landscape features
  - General photographic views of the building in its wider setting in the landscape
  - Photographic shots of the external elements of the structures
  - Overall shots of principal rooms and circulation areas
  - Detailed shots of significant architectural details, where appropriate
- 5.2 The photographic survey of the barn was carried out by the author on Monday 11<sup>th</sup> June 2007 using an SLR digital camera (Fujifilm Finepix S9500) with a 28 – 300mm lens. The weather was bright and sunny with some cloud, and light was generally good, although there was little illumination available for some interior shots. Photographs of architectural detail incorporated appropriate metric scales, and all shots were located on scale plans of the building (Figure 3). A selection of the photographs is included in this report (See Appendix 1 below), and a list of all shots taken is reproduced as an appendix at the end of the report (Appendix 5). The full photographic archive will be submitted to The Collection, Lincoln for long-term storage.

## 6.0 Methodology: Trial trenching

- 6.1 The trial excavation methodology entailed the excavation of two trenches, each 15m long by 1.6m wide, located within the footprint of the proposed new development (Figure 2).
- 6.2 Machine excavation was carried out using a JCB fitted with a 1.6m wide toothless dykeing bucket. Topsoil and subsoil deposits were removed in spits not exceeding 0.1m in depth, under close archaeological supervision, until the first archaeologically significant horizon was exposed. All further excavation was then carried out by hand.
- 6.3 Archaeological features were sample excavated in order to determine their depth, profile, orientation and where possible, date and function. A full written record of all archaeological features and deposits was made on Allen Archaeological Associates context record sheets, accompanied by plan and section drawings at scales 1:50 and 1:20. A full colour photographic record was also maintained, and selected prints have been included as an appendix to this report. The fieldwork was carried out by the author and one experienced field archaeologist on the 25<sup>th</sup> and 26<sup>th</sup> June 2007.

## 7.0 Photographic survey results

- 7.1 The existing building is a three storey structure that fronts onto the east side of South Street. It has a double pitched slate tile roof with brick coping, which has been recently repaired. It measures 19.3m north - south by 6.4m east - west.
- 7.2 The lower courses of the west elevation are in stone, the remainder being built in Flemish Bond brickwork, considered to be the most decorative bond, used in this instance on the frontage facing South Street. There is a large double door at street level, with a smaller door directly above, which has a segmental arch of a brick soldier course. There are nine windows in this elevation, two at ground floor level, four on the first floor and three on the second floor. They all have sills of black engineering bricks, and the ground and first floor windows each have a segmental arch of a brick soldier course. The windows on the second storey are set immediately below the roof line.
- 7.3 The south end of this elevation has a series of metal ties inserted, which appear to have been necessitated by subsidence of the south gable end. There has also been extensive rebuilding at the north corner of this elevation, probably occasioned by the demolition of the formerly adjacent warehouse building. There are a number of circular steel plates along the elevation indicating the position of tie rods.
- 7.4 The south elevation is largely obscured by a conifer hedge. There is a single window visible at second storey level, which has the same design as the windows in the east elevation and is probably contemporary. There is a single course of brick coping stones along the roof gable with decorative tumbling at the bottom of the roof line.
- 7.5 At the time of the photographic survey, the east elevation was largely obscured by vegetation and a lean-to structure. The vegetation and lean-to were later removed, allowing further photographs to be taken of the east elevation during the trial trenching. This elevation, like the west elevation, was built of coursed stonework at its base and brickwork above. There are two small windows evident, one at ground floor level (which has been blocked), and one on the first floor. This elevation also displays a small brick chimney with a metal hatch, and an adjacent steel hopper or chute. There were no corresponding internal features associated with these structures. The chimney was probably related to the use of steam powered machinery in the corn mill, while the hopper appears to be a later addition, the exact function of which was unclear.

- 7.6 The north elevation was also partially obscured by vegetation. It had a single door at ground floor level, and a set of double doors at second storey level. Areas of white washing and occasional small gaps in the brickwork indicate structural features related to the warehouse building formerly attached to this elevation.
- 7.7 The interior of the building is divided into three storeys, each comprising a single room. The ground floor has few architectural features of note. The walls have been whitewashed, and are plastered to the height of the window sills. The windows along the west elevation all have double wooden shutters, while the east elevation has three recessed windows, all of which have been blocked. Only one of these windows was visible outside. The floor is concrete and appears to be a relatively new repair, and there is a new wooden flight of stairs to the first storey against the east wall, with a further set of stairs from the first floor to the second.
- 7.8 On the first floor, a row of four steel stanchions on wooden bases runs along the middle of the room, supporting a wooden beam running the length of the building, in turn supporting the floor of the second storey. Approximately in the centre of the floor is a hinged wooden hatch, directly below a similar hatch in the floor above. A small circular hole at the south-west corner would have allowed the ropes for a pulley system to raise and lower bags through these hatches. There was a second hatch approximately 4.5m to the north-north-west, above which was a cloth chute for flour or grain.
- 7.9 The first floor also has some surviving components of the machinery used to run the mill. A large metal flywheel and associated gearing was attached to an axle against the east wall. Further brackets to support this machinery were noted to its north, and there was a further piece of axle and gearing laid on the floor. There were also a large number of holes of varying shapes and sizes in the floor at this end of the room, which may have been related to the numerous belts, chains and pulleys that ran through the building to operate the machinery of the mill.
- 7.10 The brickwork in the south wall is in a poor state, with a number of cracks evident. The opening for the window is recessed into the wall and supported by a wooden beam with a wooden lintel over. To the west of the window is a blocked doorway, the wooden frame of which has been left in situ.
- 7.11 The north wall on this floor also exhibits a recent breeze block repair, again likely to have been occasioned by the demolition of the adjacent building, and reflected by an external brickwork repair.
- 7.12 The most extensive evidence of recent repairs is visible on the second storey. Breeze block walls have been added along the north, east and west elevations, and the building has a new roof with asbestos insulation.
- 7.13 In the south wall of the building, there is slight evidence that the building has been increased in height at some time, as evidenced by a possible roof scar flanking the window in the south elevation. There is however no matching roof scar on the exterior of this elevation, and it may merely be a crack caused by subsidence of the wall, already noted externally, where metal ties have been used to hold the south wall to the west wall.
- 7.14 As noted above, there is a hatch in the second storey directly above that in the floor below. On the second storey, a wooden frame has been built over this hatch, to which there are still attached two small metal flywheels for a pulley system.
- 7.15 The only other feature of note on this floor was a small wooden platform towards the north end of the room, with curved metal plates at each end. The function of this feature is unclear,

although it may have been inserted to allow for the free movement of a large wheel associated with the machinery in the floor below.

## 8.0 Trial trenching results

### 8.1 Trench 1

- 8.1.1 The uppermost deposit in the trench was a 0.3m deep topsoil of dark brown grey clayey sand, which included frequent stone, concrete and brick rubble. The deposit sealed the footings of the former factory building that occupied the site and therefore post-dates its demolition in the 1980s. Below this was a 0.2m deep dark grey clayey sand subsoil, 101.
- 8.1.2 All features exposed in the trench were cut through the natural geology, 102, an orange/brown clayey sand. At the north end of the trench, a small gully, 106, ran broadly east – west. The fill, 107 was a dark grey clayey sand which produced a fragment of 13<sup>th</sup> to 15<sup>th</sup> century glazed tile and a fragment of ceramic building material (hereafter CBM) interpreted as a probable piece of ceramic drain or a kiln prop dating to the 15<sup>th</sup> to 17<sup>th</sup> century.
- 8.1.3 Towards the south end of the trench were two curvilinear features, 103 and 108. Both ran eastwards from the western limit of excavation and then turned southwards. 103 contained a primary natural silting deposit, 104, and a much darker secondary fill which may represent a dump of domestic waste. Ditch 108 contained a single natural silting deposit, 109. Both features were undated, although 103 produced two fragments of animal bone.

### 8.2 Trench 2

- 8.2.1 Trench 2 contained an identical stratigraphic sequence to Trench 1, comprising topsoil 200, subsoil 201 and the natural geology 202. A single large pit was exposed in the centre of the trench. The north edge of the pit was exposed, with the remainder being beyond the southern limit of excavation. The area exposed was 6.8m wide and had a moderately shallow profile and a flat base. The pit was filled by a dark brown/grey clayey silt with occasional charcoal flecks and limestone fragments. Dating evidence from the feature comprised a glazed tile fragment of 15<sup>th</sup> to 17<sup>th</sup> century date, and four Bourne Ware sherds and a sherd of a Cistercian Ware cup that were dated to the 15<sup>th</sup> to 16<sup>th</sup> century.

## 9.0 Discussion and conclusions

- 9.1 The photographic survey of the barns has fully recorded the existing structure, internally and externally. It has indicated that the building has been subject to a number of recent repairs and additions, such as new breeze block walls on the second storey, a new roof and new wooden staircases. There were few architecturally significant features recorded internally, such as the loading hatches in the first and second floors, and parts of the mill machinery, which gave some indication of the former use of the building, but were insufficient to clarify the precise way in which the building worked.
- 9.2 The trial trenching identified a number of linear features, representing drainage/boundary features, and a single large pit. Dating evidence was recovered from one of these ditches and the pit, and suggested a late medieval date. Glazed tile fragments were recovered from both dated features, which are commonly associated with high status buildings, and as such may represent demolition material from the former abbey.

## **10.0 Effectiveness of methodology**

- 10.1 The methodology chosen was appropriate to the development. The photographic survey has resulted in the production of a permanent record of the structure as existing, both internally and externally. The evaluation trenching has shown that there is a limited archaeological resource within the proposed development area.

## **11.0 Acknowledgements**

- 11.1 Allen Archaeological Associates would like to thank Quadrant Surveying Limited for this commission and Mill Developments for their cooperation during the fieldwork. Thanks also go to the site assistant, Phil Chavasse.

## **12.0 Site archive**

- 12.1 The documentary archive is currently in the possession of Allen Archaeological Associates. It will be submitted to The Collection, Lincoln within six months, where it will be stored under the unique archive code 2007.134.

### 13.0 References

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## Appendix 1: Photographic survey plates



**Plate 1:** General view of the development area, looking south-south-east along South Street.



**Plate 2:** West elevation, looking east.



**Plate 3:** South elevation, looking north-north-east



**Plate 4:** Detail of south-west corner, showing steel ties and the cracking and subsidence of the wall. Looking north-east



**Plate 5:** North elevation, looking south



**Plate 6:** East elevation, looking north-north-west. Note the small chimney and the metal funnel at the north end of the elevation.



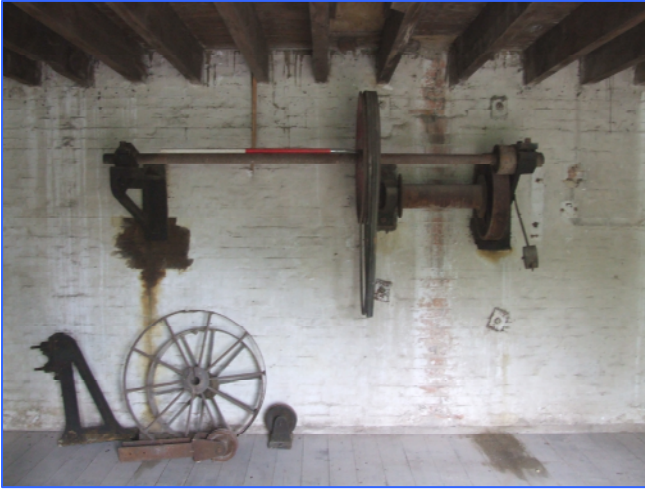
**Plate 7:** Ground floor of the building, looking south.



**Plate 8:** First floor, looking south. The in situ mill machinery is visible to the left of the shot, with the cloth grain chute over a hatch in the foreground.



**Plate 9:** Grain chute on the first floor, over a hatch into the ground floor. Looking north.



**Plate 10:** Machinery in situ on the east wall of the first floor, looking east.



**Plate 11:** South wall of the first floor, showing the window and blocked doorway, looking south.



**Plate 12:** Second floor, looking south



**Plate 13:** North end of the second floor, looking north to the door and repaired north wall.



**Plate 14:** Window at the south end of the second floor, showing the cracks evidencing the subsidence of the south wall. Looking south.



**Plate 15:** View through hatch on second floor, showing the hatch on the first floor below.

**Appendix 2: Photographic archive list**

<b>Frame no.</b>	<b>Looking</b>	<b>Description</b>
1	S	North elevation
2	SE	West elevation
3	SE	West elevation
4	NE	South elevation
5	NW	East elevation
6	W	East elevation
7	NW	Chimney stack on east elevation
8	NNW	Steel funnel in roof of lean-to
9	S	Interior ground floor
10	S	Interior ground floor
11	S	Interior first floor
12	S	Interior first floor
13	S	Interior second floor
14	S	Interior second floor
15	S	South wall and window, second floor
16	-	Hatch in second floor, looking down towards first floor hatch
17	N	Raised platform in second storey floor
18	E	Pulleys above hatch on second floor
19	N	North end of second storey
20	S	Window and blocked doorway, south wall, first floor
21	E	Machinery in situ, east wall, first storey
22	E	Machinery in situ, east wall, first storey
23	N	Cloth chute and hatch below, first floor
24	N	Cloth chute and hatch below, first floor
25	E	Loose machinery on first floor
26	SE	The development area from South Street
27	SE	The development area from South Street
28	NE	Detail of steel ties on sw corner of building
29	E	West elevation
30	NNW	East elevation after removal of lean-to
31	WSW	Chimney and steel funnel at north end of east elevation

### Appendix 3: Trial trenching plates



**Plate 1:** The evaluation trenches, looking north from the second floor of the cornmill.



**Plate 2:** Trench 1, looking north



**Plate 3:** Trench 2, looking west



**Plate 4:** Curvilinear gully 103, Trench 1, looking east.



**Plate 5:** Curvilinear ditch 108, Trench 2, looking north.



**Plate 6:** Slot through large pit 203, Trench 2, looking south-west.



## Appendix 4: Pottery and CBM report

### Anne Boyle

#### Pottery archive

A small group of late medieval to early post medieval pottery was recovered from the site. The assemblage is domestic in character, though is too small to make any further comments. The pottery is relatively fresh and mainly consists of late to post medieval Bourne ware (BOU) and the range of forms is limited to the most common types (jugs, jars and bowls). The Cistercian ware cup could also be a Bourne product. The assemblage should be retained and requires no further work at this stage.

context	cname	full name	sub fabric	form type	sherds	vessels	weight	part	description	date
204	BOU	Bourne D ware	smooth + ca	jug / jar	2	1	83	base	patch of internal underfired glaze; untrimmed basal angle; waterlain concretions	
204	BOU	Bourne D ware	slightly sandy	jar / bowl	1	1	24	BS		
204	BOU	Bourne D ware	smooth + ca	jug	1	1	15	BS	waterlain concretions, patchy soot	
204	CIST	Cistercian-type ware		cup	1	1	27	base	untrimmed basal angle; slightly misshapen	late 15 <sup>th</sup> to 16 <sup>th</sup>

#### Ceramic Building Material archive

The assemblage consists of ceramic building material produced in Bourne. The flat roofing tile from (204) has cracked in firing and is oxidised over the break. The earlier BOUA tile has a full glaze, suggesting a 13th to 15th century date for its manufacture. The fragments are in a relatively fresh condition. The assemblage should be retained and the fragments are suitable for incorporation into any future scheme of chemical analysis examining the Bourne tile fabrics.

context	cname	full name	fabric	frags	weight	action	description	date
107	GPNR	Glazed peg, nib or ridge	BOUA fabric B + organics	1	39		flat roofer; mortar; depth 10-13mm; slightly abraded? ID or kiln prop; possibly cracked in firing	13th to 15th
107	DRAIN	Drain (general)	BOU slightly sandy + ca	1	80			15th to 17th
204	GPNR	Glazed peg, nib or ridge	BOU slightly sandy	1	263		patchy yellow glaze with cu spots; patchy soot; patchy mortar; bedded on sand and organics; corner; slight overhang from mould; strike marks on upper; 13mm x 152mm+ x 121mm+; oxidised over break; waterlain concretions	15th to 17th

## Appendix 5: Animal bone report

by Jennifer Kitch

### Introduction

A total of 2 (49g) fragments of animal bone were recovered by hand during trial trench excavations undertaken by Allen Archaeological Associates. The remains were recovered from a late medieval pit [203]

### Results

The remains were generally of a good overall condition. A single fragment of bone displayed evidence of butchery, possibly associated with meat removal from the carcass. No evidence of carnivore gnawing or pathology were noted on any of the remains.

*Table 1: Summary of Identified Bone*

Context	Taxon	Element	Side	Number	Weight	Comments
103	Large Mammal Size	Innominate	R	1	19	
	Sheep/Goat	Innominate	R	1	30	Cut on ilium and visceral surface of acetabulum

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

**Appendix 6: List of archaeological contexts**

<b>Context No.</b>	<b>Type</b>	<b>Description</b>	<b>Interpretation</b>
100	Layer	Dark brownish grey clayey sand, frequent stone, concrete, brick rubble.	Topsoil
101	Layer	Dark grey clayey sand	Subsoil
102	Layer	Orange/brown clayey sand	Natural
103	Cut	Curvilinear ditch, running E-W and N-S. Contains 104, 105	Boundary/drainage feature
104	Fill	Grey clayey sand, occ gravel	Primary natural silting of 103
105	Fill	Black slightly clayey sand, occ gravel and charcoal	Secondary deposit in 103, probably domestic dumping
106	Cut	E – W aligned linear gully. Contains 107	Boundary/drainage feature
107	Fill	Dark grey clayey sand, occ gravel	Natural silting of 106, some domestic waste
108	Cut	Curvilinear ditch, running E-W and N-S. Contains 109	Boundary/drainage feature
109	Fill	Dark brown/grey slightly clayey sand, occ gravel	Natural silting of 108
200	Layer	Dark brownish grey clayey sand, frequent stone, concrete, brick rubble.	Topsoil
201	Layer	Dark grey clayey sand	Subsoil
202	Layer	Orange/brown clayey sand	Natural
203	Cut	Large sub-circular pit cut, shallow sides and concave base. Contains 204	Large quarry pit/pond?
204	Fill	Dark brown/grey clay silt	Natural silting of 203