



**University of  
Leicester**

**Archaeological Services**

**An Archaeological Evaluation at**

**Leicester Abbey:**

**Fifth & Sixth Seasons,**

**Summer 2004 & 2005**

*Richard Buckley, Steve Jones and  
Andrew Hyam*



ULAS Report No 2008-173

©2010

**An Archaeological Evaluation at  
Leicester Abbey:  
Fifth & Sixth Seasons,  
Summer 2004 & 2005**

*Richard Buckley, Steve Jones and  
Andrew Hyam*

**With contributions from  
Siobhan Brocklehurst, Jennifer Browning, Elizabeth Johnson,  
Angela Monckton and Deborah Sawday**

Checked by

**Signed**  **Date:** 19/2/2010

**Name:** .Vicki Score.

Approved by

**Signed:**  **Date:** 19/2/2010

**Name:** P.N. Clay..

**University of Leicester**

**Archaeological Services**

University Rd., Leicester, LE1 7RH  
Tel: (0116) 2522848 Fax: (0116) 2522614

ULAS Report Number 2008-173-

## Contents

Introduction .....	2
Archaeological Background .....	2
Leicester Abbey .....	2
19th and 20th century excavations .....	3
Survey and Desk-Based assessment 1996 .....	3
Evaluative excavation: 2000 Season .....	4
Evaluative excavation: 2001 season .....	4
Evaluative excavation: 2002 season .....	5
Evaluative excavation: 2003 season .....	5
Evaluative excavation: 2004-5 seasons .....	5
Aims and Methods .....	6
General Objectives .....	6
Aims of the trial trenching .....	7
Methodology .....	7
Cavendish House, Trench 29 .....	9
Excavation of the kitchen 2002-2005, Trenches 30-32 .....	12
Introduction .....	12
Upper deposits .....	13
Kitchen Walls .....	14
South and west .....	14
North .....	15
East .....	21
A later kitchen? .....	21
Internal features .....	21
Fireplaces and ovens .....	22
Floor levels .....	24
Drain .....	24
External features .....	25
Later passageway to the east of the kitchen .....	25
Cobbled yard .....	26
Circular stone-lined features .....	26
Rainwater drains .....	26
Refectory walls .....	32
Other archaeological deposits .....	33
Trench 31 .....	33
Trench 32 .....	34

Preliminary investigation of the site of the postulated infirmary .....	39
Introduction .....	39
Trench 33 .....	40
Trench 34 .....	45
Discussion .....	46
The kitchen.....	46
A later kitchen? .....	51
Trenches 33 and 34 .....	51
Conclusion.....	52
The Small Finds,    Fifth Season 2004 <i>Siobhan Brocklehurst</i> .....	53
Category 1: Objects of personal adornment or dress .....	53
Category 18: Objects the function or identification of which is unknown or uncertain .....	53
Pb .....	53
Coins & tokens.....	53
Cu Alloy.....	53
Other finds.....	53
The Small Finds,    Sixth Season 2005 <i>Siobhan Brocklehurst</i> .....	54
Category 15: Objects and waste material associated with metalworking .....	54
Pb .....	54
Coins & tokens.....	54
Cu Alloy.....	54
The pottery and miscellaneous finds (season 5, 2004). <i>Deborah Sawday</i> .....	55
The pottery, medieval floor tile and medieval and later roof tile and clay pipe (6th season 2005) <i>Deborah Sawday</i> .....	65
The Pottery and Tile.....	65
Introduction.....	65
The Post Roman Pottery.....	65
The Stratified Record.....	65
The Ceramic Record .....	67
The Medieval Ridge Tile .....	67
The Medieval Floor Tile .....	68
Building Materials (5th Season 2004) <i>Elizabeth Johnson</i> .....	81
Introduction.....	81
Trench 30 (Abbey Kitchen): Roofing Slate.....	81
Trench 30 (Abbey Kitchen): Ceramic Brick and Tile .....	84
Trench 30 (Abbey Kitchen): Architectural Fragments and Stone .....	87
Trench 30 (Abbey Kitchen): Slate/Stone Fragments .....	88
Trench 30: Plaster/Mortar .....	89

Trench 29: Cavendish House .....	89
Roofing Slate.....	89
Architectural Fragments.....	90
Plaster/Mortar.....	90
Slate/Stone Fragments.....	90
Ceramic Brick and Tile .....	91
Charred plant remains from Leicester Abbey (A8.2000 Seasons 1-6).....	92
Introduction.....	92
Methods.....	92
The Ovens .....	92
The Drains.....	93
Discussion and conclusions.....	94
The Animal Bone Season 5 2004 <i>Jennifer Browning and Anthony Gouldwell</i> .....	99
Introduction.....	99
Methods.....	99
Results.....	99
Post medieval/modern mortar rich deposit. Context (3034).....	99
Post-dissolution demolition deposit (3040).....	99
The Ovens.....	99
The Drains .....	100
Passageway and drains to the west of the kitchen .....	101
Conclusion .....	102
The Animal Bone Season 6 (2005) <i>Jennifer Browning</i> .....	104
Introduction.....	104
Methodology .....	104
Results.....	104
Oven.....	104
Drains.....	107
Discussion .....	110
Bibliography.....	112

## Figures

Figure 1 Location of areas of investigation 2004-5.....	6
Figure 2 Location of trenches within the gatehouse, all seasons.....	8
Figure 3 Location of trenches within the claustral ranges and infirmary buildings .....	9
Figure 4 Trench 29 View west showing south wall of 18th-century gatehouse and stone flagged floor of the 16th-17th century mansion phase .....	10

Figure 5 Trench 29 View south-east showing stone-flagged floor and south wall of 18th-century house.....	11
Figure 6 Trench 29 plan .....	12
Figure 7 Trenches 30 and 31 (2004): general view north.....	14
Figure 8 Trench 30 View east, showing section through 1920s-30s excavation trench, reconstructed south wall of refectory (left of picture) with the actual foundations of it immediately to the right. Parts of the footings of the north-eastern corner of the kitchen may be seen towards the centre right of the picture.....	15
Figure 9 Trench 30 General view looking east showing the reconstructed south wall of the refectory and buttress (left of picture), north wall of kitchen (centre), stone lined drains running between these buildings and later cobbled yard surfaces. ....	16
Figure 10 Trench 30 View east, showing west wall of kitchen (left to right across top of picture), parallel walls of later passageway, slate-capped drain and cobbled surfaces...	17
Figure 11 Trench 30: View of the external face of the west wall of the kitchen showing later refacing, the entry point of the slate-capped drain and lead water pipe.....	17
Figure 12 Excavated remains of the kitchen .....	18
Figure 13 Trench 30 Sections. See Figure 12 for locations.....	19
Figure 14 trench 30 sections. See Figure 12 for locations.....	20
Figure 15 North facing section (178.01) of 1920s trench cut [3117] Trench 31 See Figure 18 for location.....	29
Figure 16 Trench 31 profile of drains (189.01) north-east facing.....	30
Figure 17 Trench 32 northern extension, west-facing section (Section 186.02) See Figure 18 for location.....	31
Figure 18 Plan of Trenches 31 and 32.....	32
Figure 19 Trench 32 north-facing (Section 194.01). See Figure 18 for location .....	35
Figure 20 Trench 32: west-facing section of 1920s cut [3204] (Section 183.01 and 188.01). See Figure 18 for location.....	36
Figure 21 Trench 32 South facing section through cut [3287] (Section 201.02). See Figure 18 for location.....	37
Figure 22 Trench 32: North facing section at cut [3287] (Section 188.02).....	38
Figure 23 Bedingfield's plan of the postulated infirmary buildings.....	41
Figure 24 Location of trenches 33 and 34 .....	41
Figure 25 Trench 33 .....	42
Figure 26 Trench 33: precinct wall.....	43
Figure 27 Trench 33: drawing of the west elevation of the arch of the main drain in the east precinct wall.....	44
Figure 28: Trench 33: section through drain .....	45
Figure 29 Plan of Trench 34.....	46
Figure 30 Part of the 1923 excavation plan showing the southern part of the kitchen and other buildings .....	47
Figure 31 Comparison of the kitchen at Leicester abbey (top) with the Abbot's Kitchen, Glastonbury (bottom) (thanks to Vicky Dawson for sending a copy of the 1851 plan, and	

to David and Tim Dawson for taking measurements of the building to enable this scale drawing to be prepared. ....	49
---	----

### Tables

Table 1 The pottery totals by fabric sherd numbers and weight (grams) from Leicester Abbey.....	55
Table 2 The pottery totals by fabric sherd numbers and weight (grams) from excavations at Cavendish House. ....	56
Table 3 The Medieval Ridge Tile from Leicester Abbey by fabric, fragment numbers and weight (grams). ....	56
Table 4 Season 5 medieval pottery, ridge & floor tile & clay pipe, trenches 29 and 30 .....	57
Table 5 The pottery totals by fabric, sherd numbers and weight (grams) .....	66
Table 6 The medieval ridge tile by fabric, sherd number and weight (grams). ....	67
Table 7 The medieval and later pottery, tile and clay pipe catalogue .....	69
Table 8 Trench 30: Slate, undisturbed contexts: .....	82
Table 9 Trench 30: Slate, modern contexts .....	82
Table 10 Trench 30: Slate, Unstratified Material .....	84
Table 11 Trench 30: brick, undisturbed contexts .....	85
Table 12 Trench 30: brick, modern contexts .....	85
Table 13 Slate/stone fragments .....	88
Table 14 Plaster/mortar .....	89
Table 15 Roofing slate.....	90
Table 16 Trench 29 slate/stone.....	90
Table 17 Trench 29 ceramic brick & tile.....	91
Table 18 List of charred plants from ovens (A8.2000) .....	96
Table 19 Plant remains from Drains (A8.2000) .....	97
Table 20 Summary of samples processed and sorted (Leicester Abbey, A8.2000 Seasons 1-6). .....	98
Table 21: Hand-collected bone from Season 5 deposits.....	103
Table 22: Bone fragments from Season 5 sieved residues (not including fish bones referred to in text).....	103
Table 23 Identified animal bone, oven (3126) .....	106
Table 24 Animal bone: Context 3214 Sample 131.....	107
Table 25 Animal bone: Context 3121 Sample 133.....	107
Table 26 Animal bone: Context 3160 Sample 139.....	107
Table 27 Animal bone: Context 3161 Sample 134.....	108
Table 28 Animal bone: Context 3265 Sample 138.....	109
Table 29 Animal bone: Context 3285 Sample 141.....	109
Table 30: Animal bone: Hand-collected bones from Season 6 deposits.....	111

Table 31: Animal bone: Mammal and bird bones from Season 6 sieved residues ..... 111  
Table 32: Animal bone: recorded fish from Season 6 flots ..... 112  
Table 33: Animal bone: recorded fish from Season 6 sieved residues ..... 112



## **An Archaeological Evaluation at Leicester Abbey: Fifth and Sixth Seasons, Summer 2004 and 2005**

*Richard Buckley, Steve Jones, and Andrew Hyam*

### **Summary**

*Between 27 June and 16 July 2004 and 20th June-16th July 2005, University of Leicester Archaeological Services undertook fifth and sixth seasons of training excavation at the site of Leicester Abbey for first and second-year students of the School of Archaeology and Ancient History, University of Leicester. The work concentrated on the site of the abbey kitchen, a large, square, detached building lying immediately to the south of the refectory. Based on the results of the 1930s excavations and trial trenches of 2002 and 2003, the kitchen would appear to have been a substantial building measuring approximately 39 feet (11.88m) square internally with walls 4ft 4in (1.32m) thick, except for the west wall which had been refaced, increasing the thickness to about 5.7 feet (1.74m). The external corners appear to have been buttressed, whilst evidence for an oven was revealed in the south-west internal angle in 2003, together with a stone-capped drain. Also in 2003, a wall was encountered running at right angles to the west wall of the kitchen, and clearly post-dating it, pointing to the presence of later medieval or post-medieval phases of activity. The aim of the 2004-5 seasons was to confirm the dimensions of the building, to establish whether there were further fireplaces at the north-western and north-eastern corners, to assess the quality of archaeological survival and to investigate more fully evidence for later phases of the building.*

*The results of the 2004 season revealed the robbed lines of the northern and western walls of the kitchen and indicated the presence of further corner fireplaces, represented by substantial sequences of superimposed burnt deposits and stone arch abutments. Evidence for a pair of parallel walls at right angles to the west wall of the kitchen was uncovered, one of which had been revealed in 2003. These would now seem to suggest the later provision of a wide passageway leading to the kitchen from another range of buildings to the west, as yet undiscovered. Evidence for the south wall of the refectory range was also revealed this season, confirming the position of its south-western corner and the possible point of access from the kitchen block. Outside the kitchen, evidence for a complex water-management system was encountered, comprising several stone-lined and capped drains of different phases, taking rainwater from the refectory and kitchen roofs. The discovery of a lead pipe pre-dating the later passageway on the west side of the kitchen indicated the provision of a fresh water supply to the building from an early period. Other activity identified in the trench included cobble yard surfaces, some contemporary with the kitchen, whilst others seemed to post-date its demolition and are presumably associated with reoccupation of the site in the late 16th-early 17th century. Two circular stone-lined features, probably wells, were also evident in this area.*

*In 2005, trenches were examined on the eastern side of the kitchen with a view to confirming the line of the east wall, investigating ovens in the south-east angle and assessing the relationship of the building with the complex of drains to the south and to adjacent structures to the east. The results revealed the south-east corner of the kitchen, with evidence for two or more hearths located in the corner fireplace. An unexpected discovery was that the square kitchen had been demolished in the medieval period and replaced by another structure, represented by an L-shaped wall forming the corner of a rectangular building. It appeared to have been built against the south wall of the refectory and clearly replaced the earlier square kitchen, although whether it performed a similar function remains unclear. Immediately to the east of it was a cobbled yard and a sequence of rainwater drains. Also in 2005, initial exploratory trenches were excavated on the presumed site of the infirmary and located buildings constructed against the eastern (riverside) precinct wall. An area adjacent*

*to an archway in the eastern precinct wall, presumed to be the outlet of abbey's main drain, was also investigated. This indicated that the drain was backfilled in the medieval period, perhaps due to the relocation of the reredorter following a remodelling or extension to the dormitory. Cutting the backfill was a rainwater drain, the continuation of that located between the kitchen and refectory.*

*The finds and archive will be lodged with Leicester City Museum Service under accession number A8.2000.*

## **Introduction**

University of Leicester Archaeological Services supervised the fifth season of evaluative excavations at Leicester Abbey for first-year students of the School of Archaeology and Ancient History, and Certificate in Archaeology Students (Vaughan College) between 27 June and 16 July 2004 and 20th June-16th July 2005. The Abbey Grounds lie to the west of the River Soar (fig.1 and 2), and contain the excavated plan of Leicester Abbey, one of the wealthiest Augustinian houses in the country, together with the ruins of Cavendish House, a 16th- to 17th-century mansion. The fieldwork this season, directed by Richard Buckley and Steve Jones, comprised the examination of two areas, the main trench being on the site the abbey kitchen with another smaller area within the footprint of Cavendish House.

The current project effectively grew out an extensive programme of non-intrusive research and assessment undertaken by ULAS for Leicester City Council in 1996-7 in support of its Heritage Lottery Fund application for the 'Abbey Park Restoration and Development Project'. This identified a series of research objectives for future fieldwork, the primary aim of which would be to ensure that any future proposals for the display and interpretation of the site would be based on accurate and up to date archaeological data. Although the HLF application was subsequently put on hold, it was decided to continue with a limited programme of fieldwork within the identified research framework, as part of a student training exercise. In this way, the work would act as a useful pilot study complementing later more extensive evaluative excavation. Since the site has statutory protection as a Scheduled Ancient Monument, the overriding objective with the fieldwork proposal was to ensure that little or no damage was done to buried archaeological deposits. So far, six seasons of work have been undertaken in the summers of 2000, 2001, 2002, 2003, 2004 and 2005.

Abbey Park lies to the north of Leicester city centre in Abbey ward (SK 58 05, fig 1) at a height of between 52 and 55m above O.D. It is bisected by the River Soar and lies entirely within its floodplain. The geology is mainly alluvium and Mercia mudstone. The Abbey Grounds (fig. 2) lie to the west of the river and contain the boundary walls and laid-out foundations of Leicester Abbey together with the ruins of Cavendish House, a mansion of the 16th - early 17th century (SMR Ref. 50NE.BG). In the north-west corner – the site of Leicester Abbey – the otherwise flat terrain is relieved by a gravel terrace forming an area of slightly higher ground.

## **Archaeological Background**

### ***Leicester Abbey***

Lying on a terrace of the River Soar, just to the north-west of the Roman and medieval walled town of Leicester, the site shows evidence for occupation from the prehistoric and Roman periods, but is known principally as the site of the medieval abbey. The abbey was founded in 1143 (or possibly 1139) by the second earl of Leicester and by the time of the Dissolution, comprised a substantial church with cloister surrounded by the usual ranges of monastic buildings, an infirmary, guest facilities, a gatehouse with lodgings, farm buildings and a mill (Buckley 2006). With the exception of the precinct walls and probably the gatehouse, the Abbey was so thoroughly demolished after the Dissolution that the precise location of the

church and cloistral buildings was lost until rediscovered through archaeological fieldwork in the 19th and 20th centuries.

### ***19th and 20th century excavations***

Although there had been minor excavations and chance finds in the 17th and 18th centuries, the first organised archaeological campaign was that led by George and Thomas Nevinson in 1845, when several trenches were cut, one of which revealed a tiled pavement in the east cloister walk. In 1923, a major programme of excavation commenced under the supervision of T.H. Fosbrooke, W.K. Bedingfield and R. Bedingfield. This was interrupted by Fosbrooke's death in 1925 and resumed in 1929 under W.K. Bedingfield, who by now was the architect for the Abbey Park extension scheme (Liddle 1997). The date of the commencement of the excavations is in itself interesting – one year after the discovery by Carter of Tutankhamen's tomb in 1922, an event which surely must have provided some inspiration for the fieldwork, just as it proved to be a major influence on art and design of the period.

The excavations of the 1920s and early 1930s were undertaken as part of an overall scheme to transform the Abbey Grounds, then neglected and overgrown, into a public park, containing sports facilities and gardens. The excavation was the largest ever undertaken on the site, beginning as a series of exploratory trenches and finally expanding into a huge operation to uncover all the cloistral buildings of the Abbey. The work was not completed until 1931, or possibly even a little later. . At the time, techniques of archaeological fieldwork were still developing and unfortunately the excavations were not carried out to modern standards. Few records survive, consisting only of a tracing of the original site plan and a few clippings from the local newspapers. The low walls on the site today were laid out by Bedingfield and reflect his interpretation of the plan of the abbey based on the excavations and, particularly in the case of the church, his knowledge of architecture. Recent analysis by Peter Liddle of the tracing of the site plan shows that Bedingfield was only able to recognise solid masonry and not robber trenches. Hence, his published and laid-out plan was essentially a 'join-the-dot' exercise and although most of it accurately reflects excavated wall lines, in some areas – particularly the chapter house, kitchen block, guest hall and possible brewhouses – it seems to be mainly supposition based on analogy with other sites. Liddle was of the opinion (1997, 31) that the present walls are likely to incorporate medieval fabric, but that it is impossible to distinguish between genuine and reconstructed masonry.

### ***Survey and Desk-Based assessment 1996***

The work undertaken by ULAS in 1996, in support of the Heritage Lottery Fund application by Leicester City Council, included field survey of the abbey precinct walls, a building survey of Cavendish House and associated farm buildings (Searly and Sturgess 1997) and a geophysical survey of the entire grounds (by Geophysical Surveys of Bradford for ULAS). In addition, a reappraisal of the accuracy of the foundation plan of the abbey, laid out with low walls after the 1930s excavations, was undertaken for ULAS by Peter Liddle of Leicestershire Museums (Buckley 1996).

The results of the assessment showed that the surviving precinct walls are substantially of medieval workmanship, and indicate two enclosures. The northern one, with stone walls, an outer gatehouse, interval and corner towers, enclosed the abbey buildings and perhaps dated from as early as the 13th century. The southern enclosure was probably added in the late 15th to 16th century, and includes the nationally important (but little known) Abbot Penny's wall of about 1500. This is of red brick, and bears diaper patterns including heraldic and other devices in contrasting blue brick. The survey indicated that the walls were further modified after the Dissolution, at the time that the mansion known as Cavendish House was built, with

pseudo military features such as arrowslits, presumably to enhance the 'romantic ruins' as part of the garden layout.

Survey of Cavendish House indicated that rather more of the shell of this mansion survives than hitherto supposed, and has confirmed that it probably incorporated the remains of the main abbey gatehouse when it was built in the late 16th century, probably by the Hastings family. Further alterations took place in the early 17th century by the Cavendishes, and the building was destroyed by fire during the Civil War. In the 18th and 19th centuries, the ruined shell was further reused for several different phases of farmhouse buildings.

Geophysical survey using earth-resistance was undertaken to evaluate the nature and extent of buried archaeological remains in the Abbey Grounds using a non-destructive technique. The results revealed parts of the plans of some buildings associated with the medieval abbey together with the location of medieval fishponds known from the William Senior map of the abbey of 1613.

#### ***Evaluative excavation: 2000 Season***

The first season of evaluation was undertaken in July and August 2000, directed by Richard Buckley and Neil Finn (Buckley and Derrick 2001; Buckley and Butler 2001). The work comprised the examination of a series of trial trenches within the east cloister and dormitory of the abbey and at Cavendish House. In addition, a programme of geophysical survey to supplement results gained from an extensive survey in 1997 was undertaken by Adrian Butler. The results of the trial trenching suggested that only destruction deposits were removed from the site during the large-scale excavations of the 1920s–30s, leaving earlier deposits substantially intact, although it was noted that most walls had probably been robbed. The trench located in the eastern cloister walk revealed a substantial fragment of medieval tile pavement (previously uncovered in the 19th and 20th centuries), whilst two trenches within the dormitory located robber trenches confirming the line of its north and south walls, together with evidence for a stone-lined drain. A series of trenches within the footprint of Cavendish House revealed several phases of structural activity and provided confirmation of the theory that that the building incorporated the medieval abbey gatehouse.

#### ***Evaluative excavation: 2001 season***

In July and August 2001, the second season of work, directed by Richard Buckley and James Meek (Meek and Buckley 2002a, 2002b), comprised the examination of a series of trial trenches within the Chapter House and eastern cloister walk of the abbey and again at Cavendish House. The trenches excavated within the Chapter House revealed destruction deposits of almost a metre depth within the south-east corner, also revealing the substantial footings for a wall, not corresponding with any laid out in the 1930s. No clear evidence for walls was revealed in other areas of the Chapter House, although the excavated evidence was particularly difficult to interpret. Within the footprint of Cavendish House five trenches were excavated, some of which linked smaller trenches examined during the 2000 season in an attempt to confirm wall alignments, and further substantiate the interpretations and phases of construction. The work strengthened the theory that the building incorporated the medieval abbey gatehouse within its structure. In particular, evidence emerged for the substantial polygonal towers flanking the arched gateway which appear on the 18th-century Buck Brothers engraving of the southern elevation. In addition, traces of further polygonal tower located at the postulated south-western corner of the medieval gatehouse was also revealed.

***Evaluative excavation: 2002 season***

In June and July 2002, a third season of work directed by Richard Buckley and Steve Jones (Jones 2003; Jones and Buckley 2004a), comprised the examination of further trial trenches at Cavendish House, to supplement work undertaken there in previous seasons, and a trench at the presumed site of the abbey kitchen. The latter was located to target a complex of drains which appear on the surviving plans of the 1920s excavations. Although it was only a narrow trench, the results were very positive indicating good archaeological survival in this area in contrast with the evidence from previous seasons in the area of the chapter house. Two substantial, possibly 2m wide, walls were recorded at either end of the trench and would seem to represent the north and south walls of a large square structure located just to the south of the refectory. They appeared to be associated with floor levels and a considerable thickness of stratification. Some deposits proved to be of high potential for environmental remains, in particular, fish bone. In the centre of the trench was a small brick-lined oven, probably of the late 15th to early 16th century. The evidence, taken together with that from the 1920s excavation plan, seemed to confirm that this is the abbey kitchen, although it was noted that further work would be required to establish its ground plan and dating. The work at Cavendish House clarified a number of outstanding questions in relation to the phasing of this structure in the medieval and post-medieval periods.

***Evaluative excavation: 2003 season***

In July 2003, a fourth season of training excavation directed by Richard Buckley and Steve Jones (Jones and Buckley 2004b, 2005) comprised the examination of a larger open area on the site of the kitchen with the aim of establishing the line of the western and southern walls. Two smaller trenches were also opened in the west range of the cloistral buildings – presumed to be the cellarer's range – targeting a complex of drains which appear on the 1930 excavation plan, but the results proved to be inconclusive. Results from the trench in the postulated kitchen area, however, were very positive and continued to indicate good archaeological survival, as suggested by the narrow trench excavated during the previous 2002 season. This had revealed two substantial, possibly 2m wide, walls on an east-west orientation, forming respectively the north and south walls of a square kitchen block located just to the south of the refectory range. Associated stratified deposits, including some of high archaeological potential, were also identified, together with a small brick-lined oven of the 15th to early 16th century. In 2003, the south-western corner of the kitchen block was uncovered, represented by a substantial sandstone wall with two courses of superstructure surviving and evidence for later refacing of its external side. Built into the internal angle of the walls was a circular oven, whilst the external corner, although heavily robbed, appeared to be buttressed. A stone-lined and stone-capped drain running from the kitchen to the south was also identified and appears to correspond with one on the 1930 excavation plan. The south wall of the kitchen was represented only by a robber trench and all internal floor levels in this part of the trench had been destroyed. To the west of the kitchen, and clearly post dating it, was another stone structure represented by an east-west wall at right angles to the west wall of the kitchen and a stone-lined drain leading to a square soakaway. At the time of the excavation, this was thought to represent a post-Dissolution structure, perhaps one of those indicated on the 1613 William Senior plan of the site. That the buildings were perhaps long-lived or at least survived as visible features was perhaps suggested by quantities of 19th-century material from the soakaway.

***Evaluative excavation: 2004-5 seasons***

In view of the promising results from the kitchen in 2003, it was decided that the following season (2004) would concentrate on the examination of the north-western part of the building. A small trench was also excavated within the site of the medieval gatehouse (subject to

several seasons of work between 2000 and 2003) in an attempt to locate evidence for a polygonal tower at the north-west corner of the building. In 2005, additional trenches were opened up on the eastern side of the kitchen, whilst preliminary investigations also took place on the presumed site of the infirmary, adjacent to the eastern precinct wall.

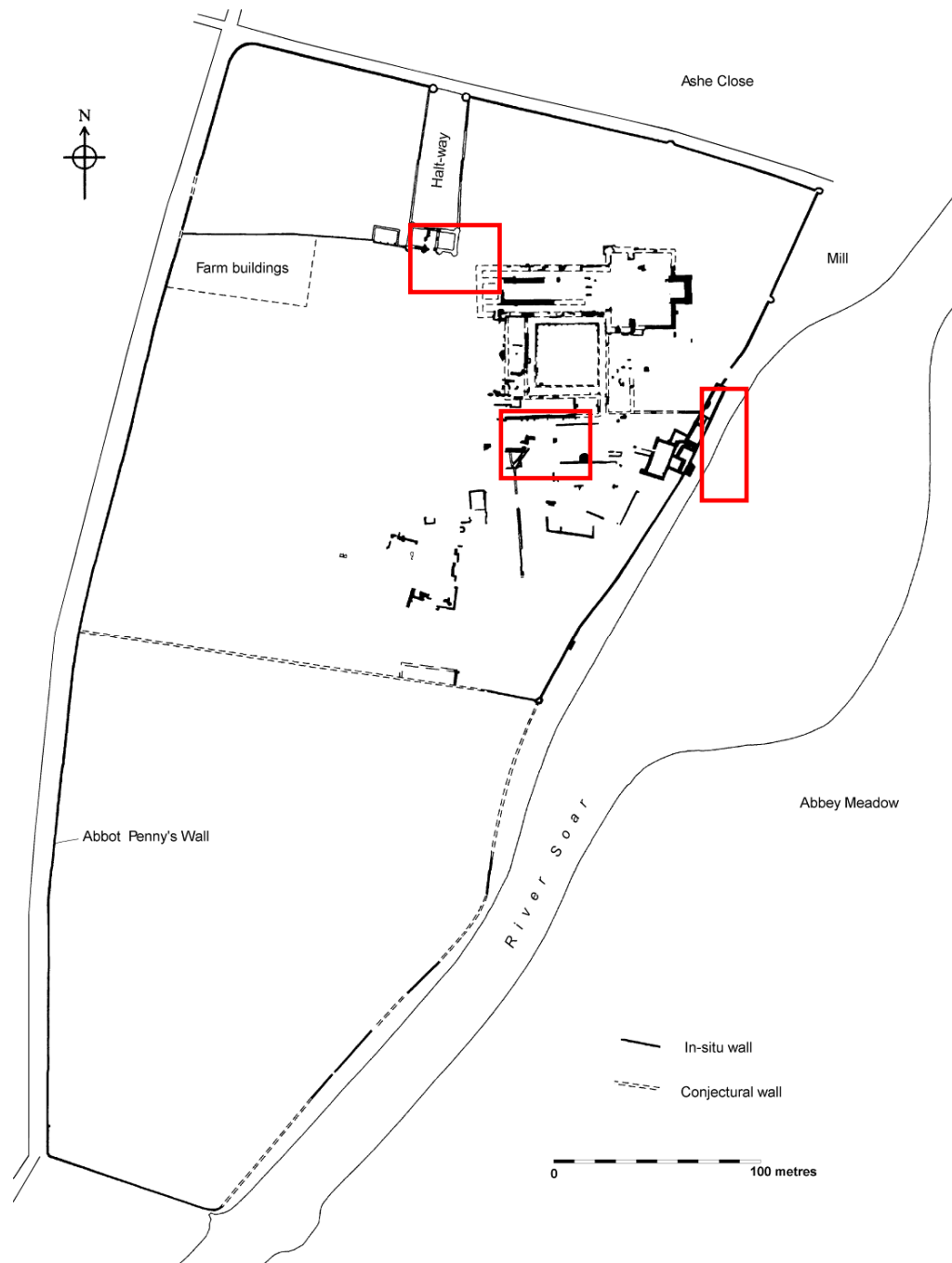


Figure 1 Location of areas of investigation 2004-5

## Aims and Methods

### *General Objectives*

- (i) To contribute towards a better understanding of the plan, layout and development of Leicester Abbey in its landscape setting since the 12th century.

- (ii) To inform the development of a research framework for Leicester Abbey.
- (iii) To promote public participation and enjoyment of the archaeological and historical resources of Leicester Abbey.
- (iv) To develop methods of archaeological research and provide training opportunities for archaeologists at the start of their careers.

### ***Aims of the trial trenching***

Specific to the 2004 & 2005 seasons

- (i) To investigate surviving evidence for post-Dissolution activity on the site.
- (ii) To clarify the plan and survival of archaeological levels within the presumed area of the abbey kitchen
- (iii) To investigate the north-western, north eastern and south-eastern corners of the kitchen in order to confirm the dimensions of the building, establish the form and position of corner fireplaces and determine the stratigraphic relationship with drains running to the south.
- (iv) To clarify the relationship between the kitchen and the refectory to the north
- (v) To clarify the nature and dating of the possible building post dating the kitchen on its western side
- (vi) In examine the east wall of the kitchen and its relationship with buildings/courtyards to the east.
- (vii) To investigate evidence for the postulated north-western corner tower of the late medieval abbey gatehouse
- (viii) To make an initial assessment of the potential for surviving archaeological deposits associated with the postulated infirmary buildings and for the outlet of the abbey main drain.
- (vii) To identify the potential for the survival of deposits with high environmental potential.

General

- i) To establish the nature, extent and depth of any archaeological deposits within the selected areas, whilst minimising damage to such deposits.
- ii) To establish a date range for any archaeological deposits located.
- iii) To define the state of preservation of these deposits, including the potential for the survival of environmental data.
- iv) To assess the local, regional and national importance of any deposits.
- v) To clarify the date of reconstructed foundations

### ***Methodology***

Scheduled Monument Consent for the work was granted by the Department of Culture Media and Sport in accordance with the design specification submitted by ULAS. This specification provided detailed information on the areas to be examined and the methodologies to be

adopted. The document was also approved by the City Archaeologist on behalf of Leicester City Council.

Requests for variations to the original areas selected for investigation were approved by DCMS, following advice from English Heritage.

The overriding objective with the programme of trial trenching was to avoid unnecessary damage to buried archaeological deposits. Overburden was removed by hand in each of the two trenches down to the uppermost archaeological deposits. Such deposits thus exposed were hand cleaned and recorded by plans and photographs (monochrome and colour transparency). Modern intrusions were removed by hand and limited sample excavation of some discrete archaeological features, such as robber trenches and pits, was undertaken sufficient to achieve the stated project aims. No archaeological deposits of post-medieval or earlier date were removed in their entirety.

Trenches 29-30 were investigated in 2004, followed by 31-34 in 2005 (figs 1-3). The trenches were located using a Topcon GTS-212 electronic distance measurer linked to a Psion hand held data logger.

All work complied with the Institute of Field Archaeologist's Code of Conduct, followed its Standards and Guidance for Archaeological Field Evaluations and adhered to Leicester City Council's Guidelines and Procedures for Archaeological Work in Leicester.

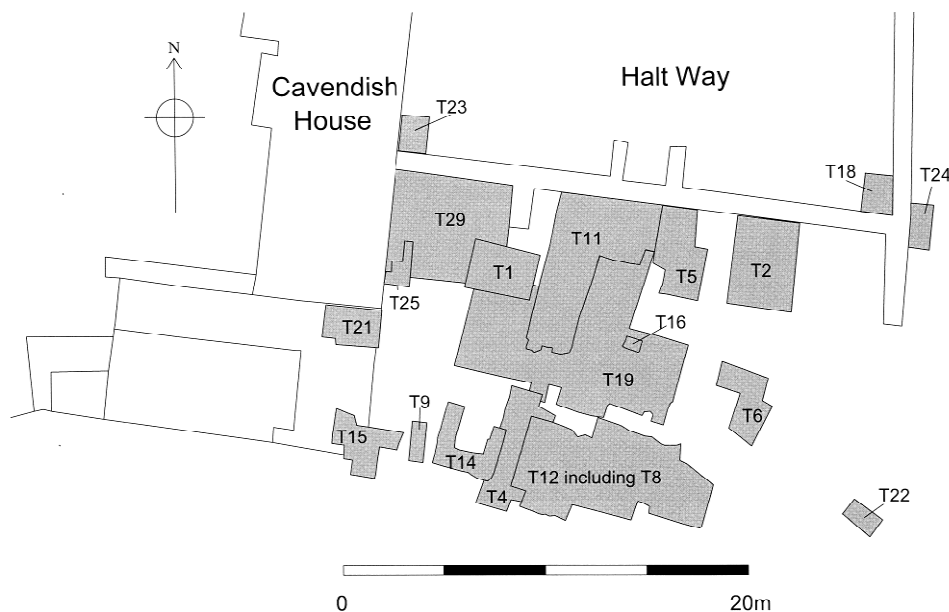


Figure 2 Location of trenches within the gatehouse, all seasons



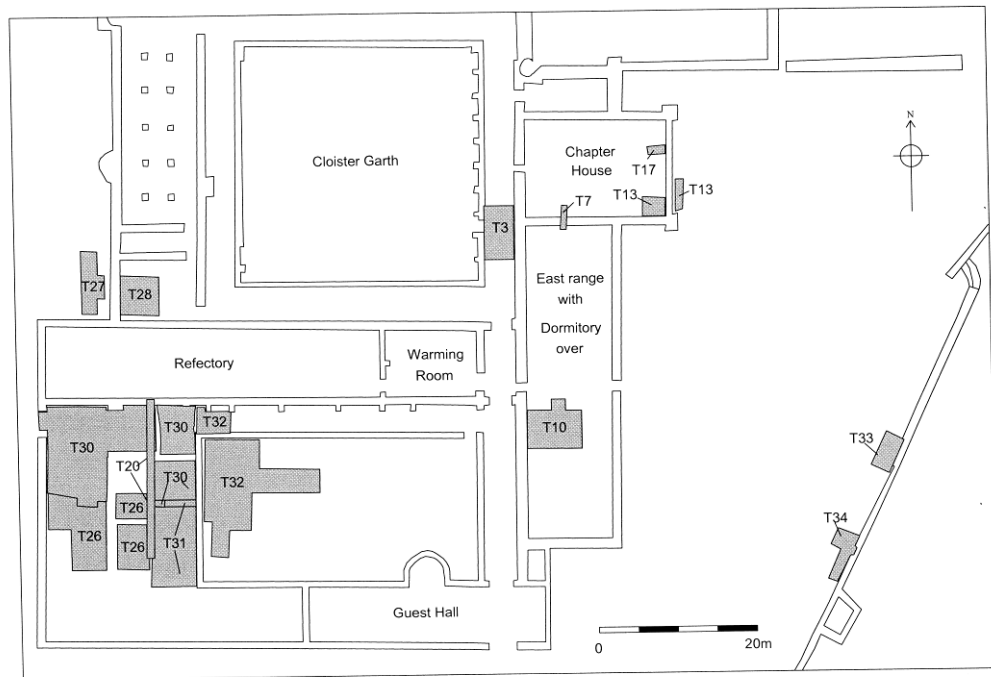


Figure 3 Location of trenches within the claustral ranges and infirmary buildings

### Cavendish House, Trench 29

Trench 29 was located in the angle of Abbey House and Cavendish House. Prior to excavation, a number of large shrubs occupied much of the space along both walls which indicated that it was likely that some root disturbance would be seen within these areas. Initially a 3 metre square box was excavated down to the archaeological deposits whereupon it was decided to extend outwards to the south and east to form a 5m by 5.5m trench up to the stub of a wall projecting southwards from Cavendish House. The decision to extend was based on the archaeological results seen so far and on one of the excavation objectives of finding evidence relating to the north wall of the medieval abbey gatehouse. The Crown Commissioners' survey of 1538 suggests that the gatehouse was a large rectangular structure with corner turrets, although the only archaeological and illustrative evidence for this so far relates to the south elevation. Previous excavations had suggested that the north wall of the late medieval gatehouse lies slightly to the south of the present standing north wall of the south range of Cavendish House and that the north-east corner of the building (together with any evidence for a corner turret) would have been destroyed by a cellar of the mansion phase in this area. Hence, only the north-west corner of the gatehouse retained any potential for archaeological evidence for polygonal turrets.

The turf layer was removed by hand along with the shrubs around the north and west edges of the trench butting onto Abbey House and Cavendish house. Following this a thin layer of mid greyish brown silty clay topsoil (2900) was revealed. Beneath this was a similar mid grey brown silty clay containing many small fragments of mortar, stone, brick and slate (2901). This layer appeared to be quite disturbed and contained a half penny from the 1930's indicating that it could be backfill from earlier excavations and works. At the same level a band of orangey brown silty clay with stone rubble (2902) could be seen running along the

northern edge of the trench following the wall line of Cavendish House. As the fill was so loose this context was probably dug and used as a trench for plants.

The full 0.25m depth of context (2901) was excavated down to a greyish-white degraded mortar spread (2905) beneath which a pale grey-brown silty clay destruction, or levelling layer, extended (2904). This fill butted up against the edge of a number of well-laid sandstone flagstones (2903) which could be seen projecting out from the north east corner of the trench. Fill (2902) continued down beyond this depth.



Figure 4 Trench 29 View west showing south wall of 18th-century gatehouse and stone flagged floor of the 16th-17th century mansion phase

At this stage Trench 29 still measured 3m x 3m (see plan 92.01) and, before excavating any further, it was decided to increase it to the final size of 5m x 5.5m. Once the trench had been extended, contexts (2905), (2904) and (2902) were removed to reveal undisturbed archaeological deposits (plan 92.02). The most recent deposit was (2908) an east to west base of a mortared granite wall. This headed east from the Abbey House wall and stopped just before the eastern edge of the trench. This seems likely to be the remains of the farmhouse known to have occupied this site. Up against the northern edge of the wall was a solid tumble of mortar and bricks (2912). Because this deposit sits above the same contexts as the wall (2908) it is reasonable to assume that this forms part of the demolition rubble from the farmhouse. Granite fragments (2909) and (2911) were also observed along the eastern edge of the trench and could be the remains of the return wall of the farmhouse as seen in contemporary illustrations. Context (2911) sat directly on top of the flagstone surface (2903) indicating that this structure was from a later phase than the flooring.

The flagstone surface (2903) covered the north east corner of Trench 29 and continued to the eastern section of the trench apparently going around the projecting stub of wall attached to Cavendish House. The flagstones had clearly been lifted and robbed along the southern and western edges of the surface. Holes had also been broken through in two places along the north edge against Cavendish House, it would appear that this was done by the park gardeners to grow specimen plants.

Directly beneath (2903) were two contexts; the first was a light greenish-grey layer of fine sandstone chippings (2907), the second was a solid creamy coloured mortar surface (2906) showing the distinct impressions of slabs that had been robbed from its surface. Context (2907) formed a small spread in the north of the trench and appeared to be waste chippings from dressing and fitting the flagstones. This deposit was not excavated so it is not possible to say how deep this went. Layer (2906) covered much of the western half of Trench 29 and could be seen to extend beneath tumble (2912), passing beneath the wall (2908) and under masonry fragment (2909). Because (2906) was obviously contemporary with flagstones (2903) it is clear that they must form part of an earlier phase of building, almost certainly that of the final phase of the mansion, Cavendish House, in the early 17th century. In part of the south-east corner of the trench, layer (2906) had been removed, probably during robbing, to reveal an orange brown silty clay layer (2910) which had the appearance of a levelling or bedding layer for the mortar.



Figure 5 Trench 29 View south-east showing stone-flagged floor and south wall of 18th-century house

Towards the end of the excavation a small 1m x 2m slot was excavated through layer (2906) (shown as a dotted rectangle on Figure 6) to assess the depth of archaeology and as part of the search for the gatehouse tower. As expected (2910) was found beneath (2906) which then revealed a dark red brown silty clay layer (2913) around 0.2m thick. As such a small area was seen it is difficult to state what this could relate to but it had the appearance of a possible surface due to its hard and compact nature. Beneath this was a similar layer of mid brown silty clay with an abundance of charcoal (2914). Time did not permit full excavation of this layer and no evidence of a tower or structure was observed.

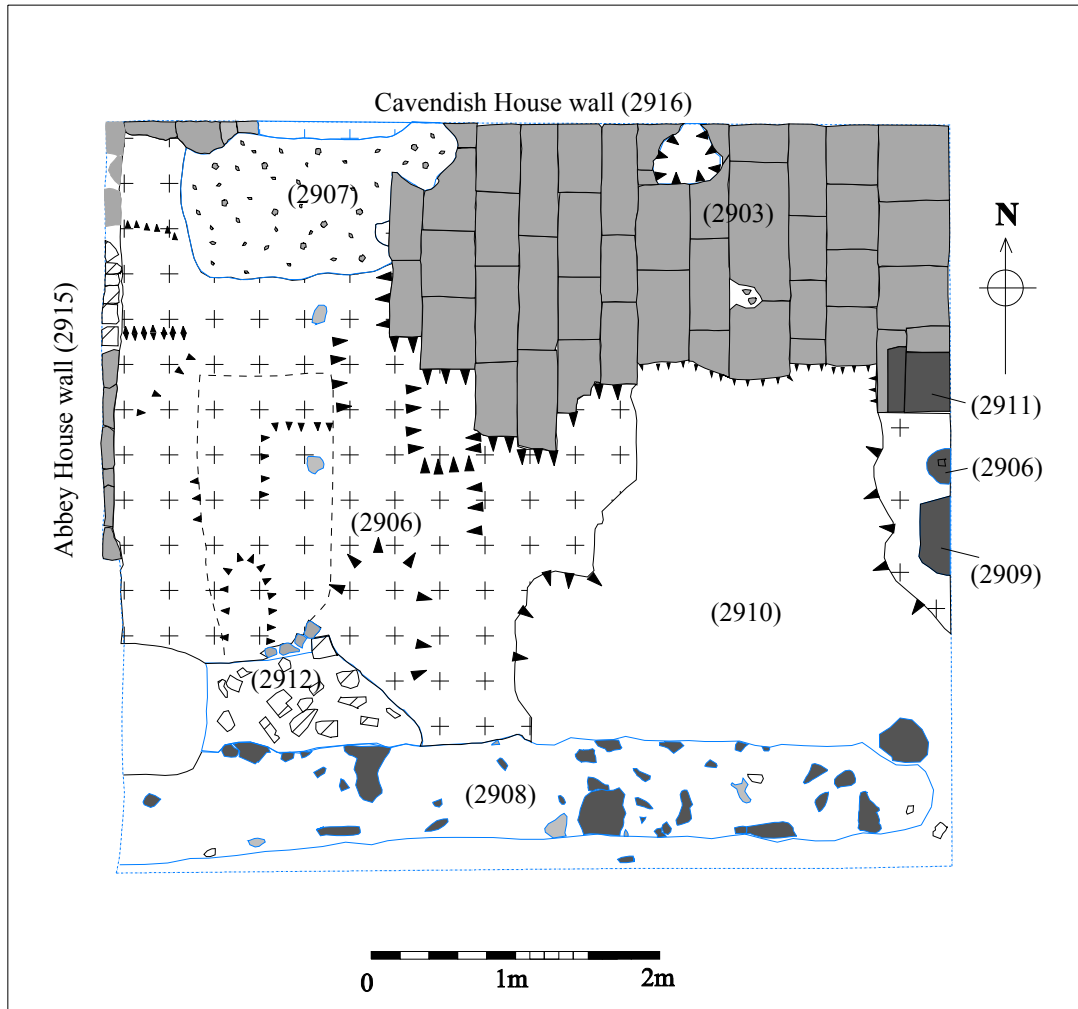


Figure 6 Trench 29 plan

### Excavation of the kitchen 2002-2005, Trenches 30-32

#### *Introduction*

Following the examination of a narrow exploratory trial trench in 2002, which located the north and south walls of the building, the kitchen was subject to rather more thorough investigation between 2003 and 2005. In 2003, Trench 26 was excavated to investigate the south-west corner of the kitchen, revealing an oven constructed within the internal angle of the walls and the remains of a stone-lined and capped drain running southwards and matching that on the 1920s excavation plan. Also in this season, evidence was located for structures apparently post-dating the kitchen to the west. The results of the 2004 season (trench 30) revealed the robbed lines of the northern and western walls of the kitchen and indicated the presence of further corner fireplaces, represented by substantial sequences of superimposed burnt deposits and possible stone arch abutments, although these were not themselves examined in detail. Outside the kitchen, evidence for a complex water-management system was encountered, comprising several stone-lined and capped drains of different phases, taking rainwater from the refectory and kitchen roofs, some of which may then have been used to flush the drain within the kitchen itself.

Other activity identified in 2004 included cobble yard surfaces, some contemporary with the kitchen, whilst others seemed to post-date its demolition and are presumably associated with reoccupation of the site in the late 16th to early 17th century. Two circular stone-lined

features, probably wells, were also evident in this area. Evidence for a pair of parallel walls at right angles to the west wall of the kitchen was uncovered, one of which had been revealed in 2003. These would now seem to suggest the provision of a wide passageway leading to the kitchen from another range of buildings to the west, as yet undiscovered. Pre-dating these features was a lead water pipe which ties in with a course of lead piping illustrated on the 1920s excavation plan, indicating the provision of a piped supply of fresh water into the kitchen. Evidence for the south wall of the refectory range was also revealed this season, confirming the position of its south-western corner and the possible point of access from the kitchen block.

In 2005, Trench 31 was placed in the south-eastern corner of the kitchen and overlapped with earlier trenches to aid identification of features already investigated. It also was hoped that this corner would provide the opportunity to record the remaining corner fireplace together with the drainage system identified just to the south in the 1920s and 30s excavations. Also this year, Trench 32 was located to the south of the refectory and to the east of Trench 31, separated from it by a modern north to south reconstructed wall. The objectives for this trench were to investigate the area east of the kitchen and to assess the survival of the two drains heading in this direction recorded by Bedingfield and earlier excavators. A small extension to the north of Trench 32 was also excavated in order to examine a further stone-capped drain noted in 2004 running in an east to west direction between the kitchen wall and the refectory.

### *Upper deposits*

In trench 30, removal of the turf and a 0.35m thick deposit of topsoil revealed what was assumed to be the backfill of the 1920s – 30s excavation trenches. This was then excavated by hand down to the uppermost archaeological deposits. Independent dating for the deposit came from a chrome disc with a screw through the middle, identified by Roger Bird of the Morris Register and Stephen Laing of the motor museum at Gaydon, Northants as a hubcap from a Dunlop Magna wheel, introduced in 1932 and fitted to Morris models from 1933 until 1937. As the Leicester Abbey example was fixed by a screw rather than a nut, it could be dated accurately to 1934 and came from a Morris Minor or Morris 8. This confirmed that as suspected, the final works associated with laying out the plan of the site with low walls was not completed until 1934 at earliest, two years after the official opening. This date was later confirmed during a watching brief on the rebuilding of the low walls in 2006, when a bottle containing a note from the workmen dated 1934 was discovered built into a wall.

In trenches 31 and 32 extensive layers of redeposited material containing modern finds were also encountered beneath the turf and subsoil and again represent backfill of the 1920s excavations. In the centre of the trench was a 2.5m wide east to west cut [3117] with a dark grey brown silty clay fill (3116) containing many large sandstone blocks and sheets of slate. The finds indicate that it is modern and almost certainly a 1920s trench excavated to chase walls at the south-east corner of the kitchen, in the process removing any post-Dissolution robbing material. In trench 32, another 1920s sondage was identified, represented by a large 2.4m wide cut [3204] running north to south along the western edge of the trench. This followed the eastern wall (3230) of the kitchen and the drain (3216) described below. Cutting the southern edge of [3204] was a 0.5m wide rectangular pit [3225] which was probably a later garden feature.

At the easternmost end of Trench 32 was a 1920s trench [3206] running in a north to south direction, joined at right angles by another, [3276] heading west. Although no masonry survived beneath these cuts, it is possible that they follow the line of robbed walls, as the excavations have shown that on occasion, the workmen were able to recognise medieval robber trenches.

The dating of the trench fills is unfortunately insufficiently refined to associate them with the specific excavation campaigns of 1923-5 or 1929-32.



Figure 7 Trenches 30 and 31 (2004): general view north

### ***Kitchen Walls***

#### *South and west*

The south wall of the kitchen (2032/2625), previously visible in Trench 20 during the 2002 season, was re-located to the west of the area in 2003 (Trench 26). The disturbed dark greyish-brown silty-clay backfill of the 1920s excavation trench which overlay the wall was once again clearly evident, and it was apparent that the fill of a post-Dissolution robber trench had been removed to reveal the footings of the wall. Although a 4m stretch of wall footings, 1.37m in width, was found to survive beneath these later deposits, the western end of the wall was entirely robbed, as represented by robber trench (2665) [2666]. This lay beneath a compact orange-brown silty-sand demolition layer, some 0.2m deep, (2637/2652). Also below this layer, the west wall of the kitchen (2660/2669), on a north-south orientation, was exposed for a length of about 5m. Its junction with the south wall had been truncated by the 1920s excavation trench, (2663), presumably located to investigate the south-western corner of the structure. The wall was constructed with a mortared rubble core faced with sandstone, of which two courses of superstructure survived. It had an overall width of 1.72m, but had been refaced with sandstone ashlar on its western (external) face – the original wall being of the same width as the south wall – 1.37m. At the external south-west corner of the west and south walls, the presence of three large sandstone blocks, *c.* 0.4m x 0.4m, suggests the truncated remains of a possible buttress, which had also apparently been exposed in the 1920s trench.

In 2005, the south wall (3176) was again revealed and proved to be constructed with a well-mortared rubble core of fine grained sandstone approximately 1.8m wide with the appearance of facing stones surviving along the lowest course on both north and south faces at the eastern end. Its alignment corresponded with that detected in Trench 26 (3176) and it continued

eastwards beneath the modern north-south reconstructed wall. A possible corner fireplace structure was evident along part of the north face of this section. The stone was bonded with a bright orangey-yellow colour soft lime mortar. A 1920s/30s trench [3117] continued across into Trench 32, whilst the turn in the wall could be seen to pass beneath a brownish red silty clay and mortar layer (3112) which appeared to be quite compact and undisturbed by recent excavation and, when removed, contained a sherd of 12th-century glazed fine Stamford Ware and a fragment of lead window came. Beneath this layer was another similar context but containing larger stone fragments (3125) and no finds except for a piece of folded lead. As these layers seemed to be reasonably undisturbed they probably relate either to a rebuilding phase of the kitchen or to demolition and robbing in the post-Dissolution period. Layer (3112) was removed but (3125), after cleaning and removal of two fragments of 13th/14th century inlaid floor tile, was left in-situ over the projected line of the south wall (3176). Abutting the north and south sides of this wall respectively, were almost identical deposits of dark orange-brown silty sand (3128) and (3129). As they were not excavated, it is uncertain whether they pre- or post-date the wall.



Figure 8 Trench 30 View east, showing section through 1920s-30s excavation trench, reconstructed south wall of refectory (left of picture) with the actual foundations of it immediately to the right. Parts of the footings of the north-eastern corner of the kitchen may be seen towards the centre right of the picture.

The apparent width of the south and west walls of the kitchen at 1.37m (before refacing) would appear to be at variance with the evidence gained from trench 20 in 2002, when part of the south wall was revealed to be over 2m wide. Unfortunately it was not possible to excavate further to resolve this discrepancy, but the most likely explanation is that the south wall of the kitchen was thickened at its mid point to accommodate the footing for a fireplace arch abutment.

#### *North*

The continuation of the west wall to the north was identified in trench 30 of the 2004 season (30107), where a *c.*7m length was observed, before it turned to the east to become the north

wall (3049). The wall consisted predominantly of light grey fine-grained sandstone blocks, (average size *c.*0.25m by *c.*0.35m by *c.*0.45m) bonded with an orangey-brown clayey soft sand mortar. The depth of the footings was unclear, and unexcavated, but likely to be more than two or three courses deep. A well-faced offset (30145) was visible on the western side of the wall, presumably part of the same refacing visible in the west face of (2660) exposed in 2003. Excluding the later refacing, the wall measured approximately 1.4m in width. The offset formed by the refacing overlay a deposit of mortar, rubble and silt (30108), presumably relating to a demolition or construction phase, suggesting that the re-facing may have been associated with a later remodelling of the kitchen. Although buttresses had been postulated for the south-west corner of the kitchen from the results of the 2003 season, there was no evidence from the current season for a similar arrangement at the north-western corner. However, it is possible that any remains were hidden by later deposits.



Figure 9 Trench 30 General view looking east showing the reconstructed south wall of the refectory and buttress (left of picture), north wall of kitchen (centre), stone lined drains running between these buildings and later cobbled yard surfaces.





Figure 10 Trench 30 View east, showing west wall of kitchen (left to right across top of picture), parallel walls of later passageway, slate-capped drain and cobbled surfaces



Figure 11 Trench 30: View of the external face of the west wall of the kitchen showing later refacing, the entry point of the slate-capped drain and lead water pipe.

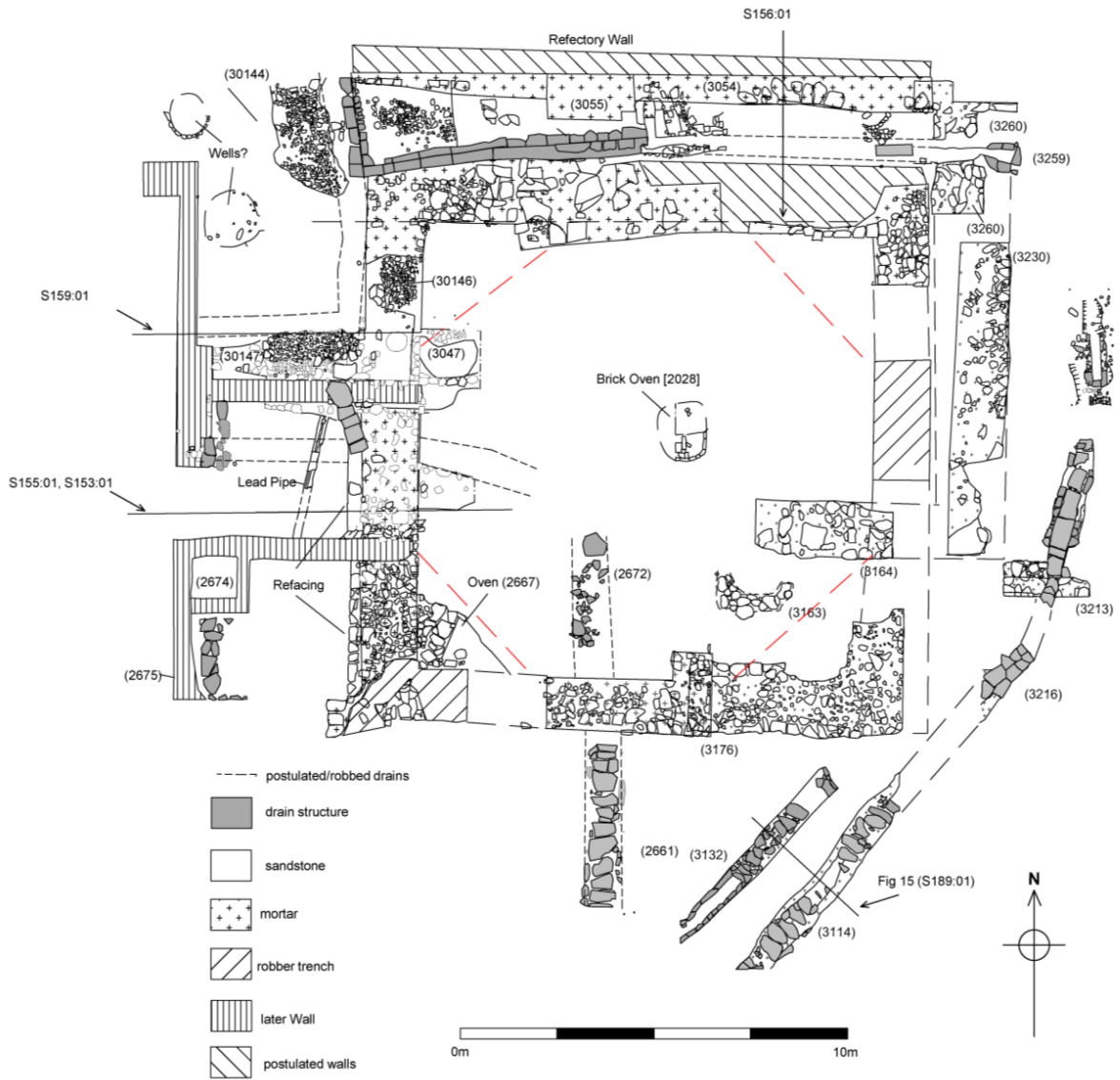


Figure 12 Excavated remains of the kitchen

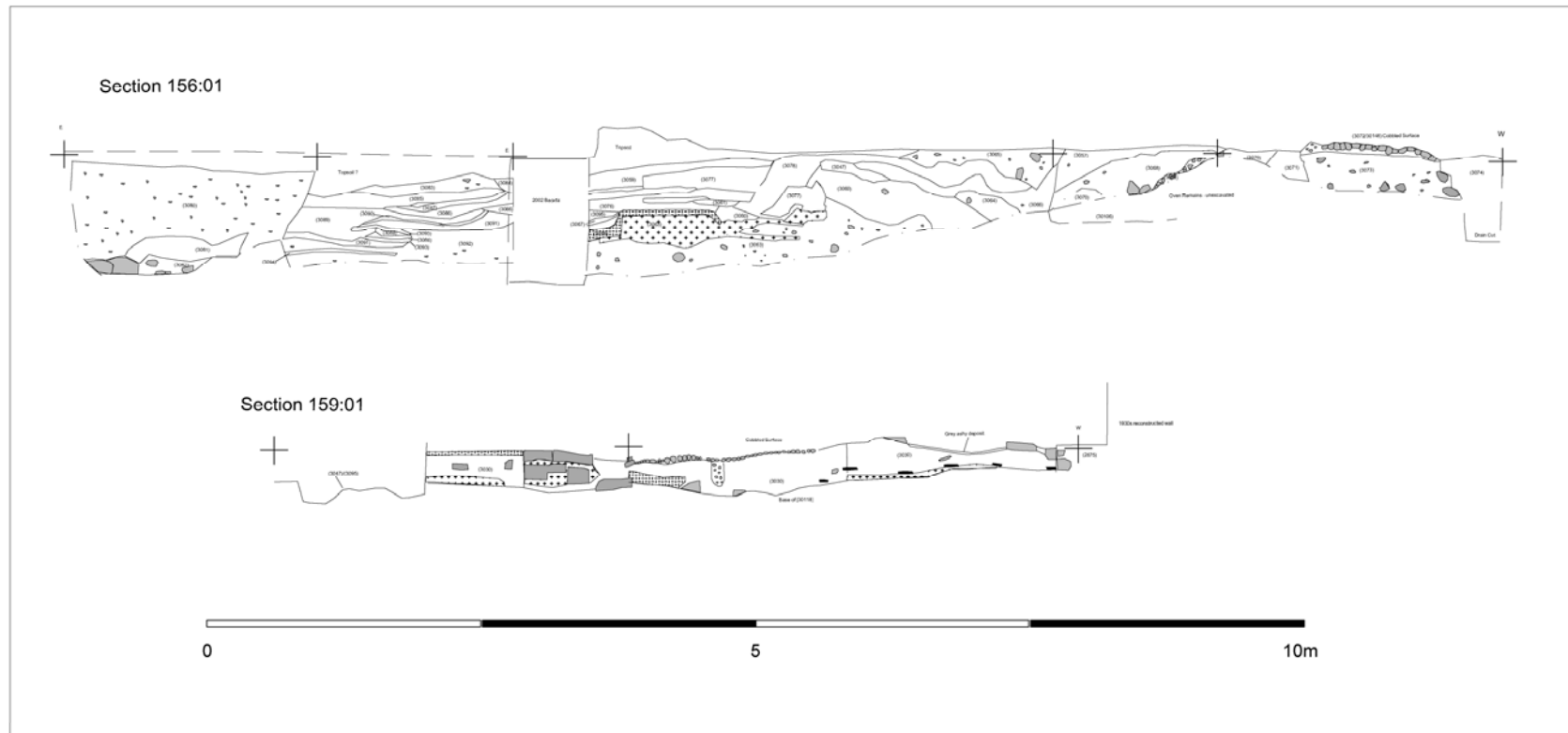


Figure 13 Trench 30 Sections. See Figure 12 for locations

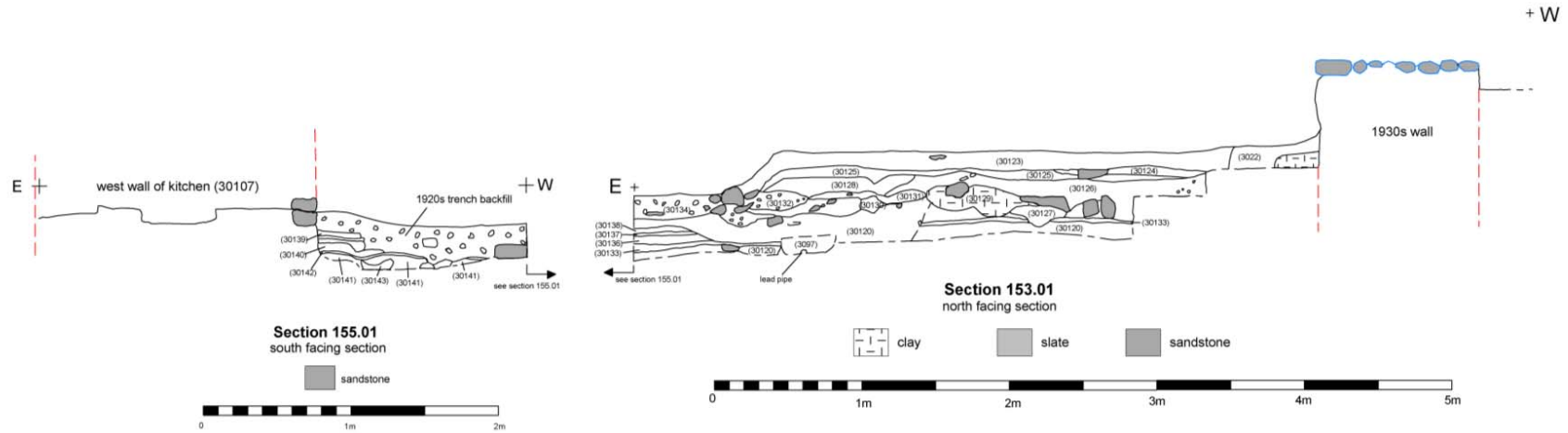


Figure 14 trench 30 sections. See Figure 12 for locations

Also in 2004, the north wall of the kitchen (3049) was revealed for a total length of *c.*12.7m, adjoining (30107) to the west and (30110) to the east. As previously seen in the narrow exploratory trench excavated across this area in 2002 (Trench 20), the 1920s excavators had clearly followed and removed the rubble deposits of the post-Dissolution robber trenches down onto the intact kitchen wall remains. Towards the eastern end of (3049) some of these original robber trench deposits (3048), had, however, remained undisturbed.

This wall measured approximately 1.4m in width and consisted predominantly of light-grey soft fine-grain sandstone with occasional blocks of granite and pale-grey sandstone, ranging from *c.*0.25m by *c.*0.35m by *c.*0.45m to *c.*0.8m by *c.*0.7m by *c.*0.5m. It was bonded with a similar mortar to (30107).

#### *East*

In 2004, trench 30 was extended to the south-east with the aim of locating the east wall of the kitchen. The remains of the north-east corner of the kitchen wall (30110) appeared to be less intact than the other exposed wall footings, suggesting that the eastern side of the building could have been more extensively robbed. The northern end of the east wall was visible as poorly-bonded sandstone rubble, and appeared to be completely robbed beyond the baulk in the south-east extension trench. It was unclear whether the latter had resulted from the 1920s excavation or from post-Dissolution robbing.

In the north extension of Trench 32 a layer of light reddish-brown sandy clay (3254) covered part of the kitchen wall (3237). This context was a firmly compacted deposit unlike any modern spreads left by the 1920s excavators and appeared to date to the demolition phase of the wall. One sherd of mid 13th- or early 14th-century Nottingham Ware was found when this spread was removed to expose the top of the wall. On the other side of the drain, above (3260), was a mid orange brown compacted layer of sand (3258) probably forming another post-dissolution demolition layer but which did not contain any dateable finds.

#### *A later kitchen?*

Approximately 2.5m north of wall (3176), beneath layers (3146) and (3147), Trench 32 in 2005 also revealed a second length of east to west orientated stone wall (3164) of similar width and construction to wall (3176), although with a much greyer-coloured mortar. No facing stones could be seen on the short exposed section. Earlier seasons of excavation had not detected this wall as it passed beneath (3146) and (3147) which at the time were deemed to be contexts belonging to the abbey phases which could not be excavated. This wall appeared to join north-south wall (3230) and (3237), forming the south east corner of a building which seems to have replaced the square kitchen. As with the south wall (3164) in Trench 31, this was constructed predominantly of fine-grained sandstone with a small amount of granite rubble, bonded with a hard grey coloured lime mortar with no obvious use of dressed facing stones. Its western edge was obscured by the modern reconstructed wall, but in the northern extension of the trench, a small length was visible, measuring approximately 2 m wide before being cut by, or incorporating, the east to west drain (3259) (seen further to the west as (3053) in the 2004 excavations). North of this drain the wall was allocated context number (3260), although it is actually a continuation of (3237); it then butted up against the southern wall of the refectory (3257) indicating that this later building probably post-dates the construction of the latter.

#### ***Internal features***

It had been clear from the initial trial trench in 2002, that the interior of the kitchen contained deep stratified deposits, perhaps in excess of 1m in thickness. In line with the stated objectives of the project, these were not excavated, the record of them deriving only from sections revealed by the removal of later intrusions. Other internal features identified were of a structural nature, providing indications of the form of the building at least in its final phase.

### *Fireplaces and ovens*

#### (i) South-west.

In 2003, trench 26, the excavation of a possible demolition deposit (2637), within the internal angle formed by the west and south kitchen walls, exposed an orange sandy rubble spread (2662), some 0.2m deep, containing a fragment of Potters Marston ware dating to the 12th or 13th century. On removal of this deposit, the remains of an oven structure base (2667) were revealed, possibly set within a corner fireplace constructed across the south-western internal angle of the kitchen. To the north, excavation in 2004 (trench 30) revealed an area of compact rubble (30121), some 1.8m by 1.2m in diameter, which was visible to butt up against the west kitchen wall (30107). This could be associated with the footing for the abutment for the arch of this fireplace.

The oven was roughly circular, approximately 1.2m in diameter internally and constructed of sandstone blocks measuring a maximum of about 0.3m by 0.3m. Lying over the floor of the oven structure, a shallow charcoal spread (2668), some 0.05m deep, was half sectioned and sampled for environmental evidence. The sieved samples showed that burnt remains in the oven included wheat and barley grains with a little bread-wheat chaff and arable weed seeds. These remains may have been waste from cleaning cereals to prepare food such as potage. The oven fill also contained other domestic rubbish including numerous fish scales, including those of the carp family, fish bones of eel and herrings, and hazel nutshell, probably accumulated from the surroundings of the kitchen. Animal bone was also recovered, and included domestic fowl (cf *gallus* sp.), mouse bones (cf. *mus domesticus*) and bones from the thrush family (including cf *turdus merula* and unknown passeriform). The bones do not seem to represent food preparation or table waste. The probable domestic fowl bones were from the wing tips, which would probably have been removed soon after slaughter. There is no direct evidence whether the thrush sp. were used for food, however, their small size and the fact that the bones are not clearly associated with other food debris makes it less likely. The mouse bones are indicative of scavenging animals living in and around the kitchen.

#### (ii) North-west.

In the north-western corner of the kitchen, trench 30 in 2004 revealed the remains of another probable fireplace or oven structure beneath a demolition deposit of orange sandy rubble (3047). The remains were also visible in the north-facing east-west section (as revealed by the excavation of the 1920s trench) covering an area c.0.6m deep by c.2m (max) wide. This area was unexcavated and other layers associated with the structure, or more likely its robbing, comprised deposits of mortar, re-used slate and burnt layers of red sand and charcoal. The charcoal layer (30106), at the base of the structure, possibly associated with an *in situ* deposit, was also sampled for environmental evidence. The sample contained abundant charcoal and a few charred plant remains, mainly weed seeds with a few burnt straw fragments, perhaps cleanings from cereals or straw used as kindling.

Context (3047) was semi excavated in its southern extent. Below it, layers (3040) and (3045), also associated with robbing, were revealed, consisting of dark grey and mixed reddish-brown silty clay containing fragments of brick, roofing slate and charcoal, residual medieval pottery, two sherds of post-medieval earthenware, two oyster shells and a mussel shell. The deposit also contained ten fragments of animal bone, including cattle and pig. Below this a compact orange mortar layer (3095) was exposed and appeared to butt up against the remains of a solid structure about 2.3m south of the corner (30111). This was constructed from sandstone blocks (c.0.22m wide) set within yellowish-white mortar and could represent the southern abutment for the north-western corner fireplace arch.

#### (iii) North-east.

Evidence for a fireplace structure in the north-eastern corner of the kitchen was less clear, although burnt deposits did at least point to the presence of one

(iv) South-east

The 1920s excavation plan shows a curious thickening of the east wall just north of the south-east corner, whilst the 2002 trial trench suggested a similar thickening of the south wall just west of the corner. This suggested the presence of a south-eastern corner fireplace, subsequently confirmed with the excavation of Trench 31 in 2005, when a circular burnt patch of charcoal and fine sand (3126) measuring approximately 0.7m in diameter and 0.05m thick was revealed. It appeared to be an in-situ burnt ash deposit from a corner fireplace and contained a significant number of sherds of Potters Marston ware, including a 12th or 13th century thumbled jug strap handle. Beneath it was a thin yellowish white sandy silt layer (3167), similar to sandstone dressing debris layers noted elsewhere on site, which contained three sherds of Potters Marston ware including a rilled collared jug rim. Underneath (3167) were the remnants of a possible surface made of closely packed cobbles (3166) bonded with a small amount of red clay and which could be part of an original kitchen surface or floor. Lodged within the clay was a small fragment of mid to late 13th century medieval sandy ware. A similar context, but with a more heavily-burnt appearance (3174), was seen in an excavated section of the oven beneath the centre of (3167) and also extending southwards. Another similar layer to (3166), but with less closely-packed cobbles (3168) spread southwards to be cut by the 1920s robber trench [3117]. (3166) had been laid on a compact layer of brownish-grey sandy silt (3173) which contained the occasional large sub-angular stone. This layer extended beyond the limits of (3166) and passed beneath layer (3168). Around the northern perimeter of (3173) was a compact dark brownish-grey silty clay layer (3170) which was thought to be the surface on which the kitchen floor layer was laid. Beyond this, to the west, was a burnt dark grey silty clay deposit (3171) which was similar to (3170) but with less burnt debris mixed in. West of these deposits was a possible floor level without any burnt debris but which had still been affected by heat from the oven to create a dark orange red sandy clay (3172).

Unlike the possible corner hearth structures exposed in Trenches 26 and 30, no similar features were detected in Trench 31. However, a distinctly curved indentation could be seen in the corner of wall (3176) and it may be that this represents the robbed masonry of a fireplace hood structure. If this is the case then the possible facing stones on the northern side could in fact be the remnants of the supporting stones for the return of the hood.

Approximately 1 metre north of wall (3176) and beneath layers (3125) and (3147) was a partially truncated structure made of rough sandstone rubble blocks bonded with red clay (3163). The structure measured 1m wide by 1.9m long and had a concave semicircular outline on its north face. From its shape it appeared to be half of a circular oven or hearth which had been truncated by, or robbed during, the later phase of kitchen wall (3164). A burnt sandy clay deposit (3162) lay between this structure and 1920s cut [3117] and may represent a spread of debris from the oven and the outer wall when it was in use.

(v) Central.

Tantalising evidence of another oven, located in the central part of the kitchen, was revealed in trench 20 of the 2002 season. This consisted of a circular brick structure [2027](2028), *c.*1.23m wide, *c.*0.2m deep, one course wide and two to three courses deep. The base of the structure (2034) also consisted of brick, and was sealed by a compact pale yellow mortar layer (2033). Above this was a dark greyish-brown silty-clay fill (2009), some 0.16m deep, containing brick, charcoal, Midland Yellow pottery<sup>1</sup> and a fragment of glass goblet dating to

<sup>1</sup> Wide mouthed bowl – Woodfield form Obj, Woodfield 1984. This ware is dated generally from *circa* 1500 at Leicester, Woodland 1981, 128, Sawday 1989, 35, with a terminal date in the 18th century,

the mid 16th or early 17th century<sup>2</sup>. Environmental samples from this deposit have revealed charred legumes, including peas and beans with barley and oat grains, consistent with domestic waste from a kitchen, perhaps representing spillage during cooking together with cleanings from the crops burnt in the oven or hearth. It could however be similar material raked from hearths which has accumulated or been dumped in this area of the site. The deposit also contained a small number of fish scales of the carp family together with small fragments of what was presumed to be eggshell and a sheep-size rib fragment, probably representing waste from kitchen activities. The northern extent of the structure had been truncated by a robber pit [2030], c.0.24m deep and c.0.98m wide, which contained a mid orangish-brown medium sand fill (2029), containing common small fragments of brick, slate, stone and rubble. This feature could relate to an oven, partially robbed after disuse some time after the mid 16th to early 17th century. Whether it was constructed before or after the Dissolution, however, remains uncertain, although it would seem likely that it relates to the structure represented by walls 30122/3164 and 3230 (Figure 12) which appears to have replaced the square medieval kitchen.

#### *Floor levels*

The east-west section revealed along the southern edge of Bedingfield's northern trench [3011] (S156:01, S158:01) exposed a 1.1m maximum depth of complex demolition layers and floor levels, previously exposed in the 2002 excavations. To the south-east of the extension trench area, the brick oven (2028), also previously revealed in the 2002 excavations, was re-exposed and was visible as clearly c.0.3- 0.5m higher level than much of the surviving archaeology, such as the top of the wall (3017) to the south-west, suggesting post-Dissolution activity in the kitchen area.

On the same level as the oven, another area of brick, c.0.3m in diameter, was also visible in the north extent of this area, possibly part of a hearth. This was set within burnt red clay and dark brown silty clay and charcoal. In the centre of this area a more mixed deposit also containing charcoal, bone, shell and brick was also visible.

#### *Drain*

Adjacent to the south-eastern stretch of the south wall of the kitchen, further 1920s activity was visible in trench 26 of the 2003 season. An investigative trench (2631)[2641], c.1.94m wide, c.0.7m deep, containing residual medieval and post medieval pottery was evident to have been excavated to expose a substantial slate-capped drain structure (2661). This crossed the line of the south wall of the kitchen on an approximately north-south orientation and was observed for a length of some c.4m, whilst another 3m stretch was also exposed to the north following the removal of more of the 1920s trench backfill. Due to the level of truncation from earlier excavations, the true relationship between the drain and the south wall of the kitchen cannot be determined with any degree of certainty. However, the most likely interpretation is that it continued through the wall and was probably built into it when the kitchen was constructed in the medieval period. A less attractive theory, although one which should not be discounted, is that the drain could be a post-Dissolution feature, truncating the robbed walls of the kitchen but serving another structure altogether.

The drain structure consisted of a pair of narrow sandstone walls capped with substantial Swithland slates, averaging c. 0.6m by 0.3m. It was about 0.26m deep and contained a dark greyish-brown silt fill (2671) with fragments of shell and a single sherd of Cistercian or Midland Blackware dating to the 15th or 16th century (Sawday 2004). The fill was sampled for environmental evidence, revealing numerous fish scales including those of the carp family and perch, numerous fish vertebrae including some of eels and with marine fish represented by herrings. Charcoal and ash were also present suggesting that the drain had become filled

<sup>2</sup> Fragment of a goblet – a knobbed stem in the form of an inverted baluster, mid 16th – 17th C. 'The majority of high quality 16th-century drinking vessels found on monastic sites can be attributed to occupation on the site after the dissolution.' Willmott 2002, 21, plate 7, fig.156.10.2



with domestic rubbish from the surroundings. The charred material included occasional charred cereal grains and a few charred seeds of docks, knotgrass, vetch and fat-hen which grow as weeds of disturbed ground and gardens. Numerous small bones were present, including frog or toad living in the drain, pygmy shrew, and small rabbit, perhaps from later burrowing.

Evidence from the 1920s-30s excavation plan suggests that the drain flowed south out of the kitchen, joining up with other branches to feed a single outlet to the river, although the latter has yet to be located. Levels taken over the length of the base of the drain showed very little difference, implying that the fall was slight.

### ***External features***

#### *Later passageway to the east of the kitchen*

Walls associated with a structure or structures to the west of the kitchen were identified in the north-western corner of Trench 26 in 2003. Cutting across the west wall of the kitchen (2660) was a stretch of east-west wall (2602) some 4.2m long and 0.6m wide. It was constructed of sandstone blocks with an average size of 0.28m by 0.25m, faced on both sides and bonded with pale-white lime mortar. This was set upon a single course of rough foundations at its base, offset some 0.15m to the north and south. An area of mortar just visible north of 2602 may represent a floor surface associated with this structure. This lay beneath rubble layer (2656), which contained late medieval pottery and a fragment of medieval floor tile.

The western end of 2602 abutted a north-south wall (2675), a straight joint indicating that they were probably of different phases. The latter was exposed for a length of 4.1m and was similar in appearance and make-up to (2602). It was also probably of a similar width, although its western edge was concealed by the modern reconstruction wall. In 2003, a continuation of this wall was located to the north, together with a possible turn to the west. Built into the angle of the two walls (2602) and (2675) was a drain or soakaway, represented by an L-shaped wall (2674). The two walls forming this feature were *c.*1.4m long, *c.*0.3-0.4m wide and at least *c.*1.1m deep and were similar in construction to (2602). Leading into the soakaway, through a small opening in its southern wall, measuring 0.6m wide and *c.*0.13m high, was a north-south orientated open drain, (2676), lined with sandstone blocks, *c.*1m by *c.*0.2m, and with a slate base. The drain lay beneath an orange sandy clay (2678), similar in appearance to (2637), interpreted as a post-Dissolution demolition deposit, suggesting it might be a medieval feature. The soakaway, however, contained a modern backfill and this whole area appears to have been exposed and truncated comparatively recently as it appears on the surviving excavation plan, with the date 14 June 1923. On 19 June of that year, a short stretch of north-south granite wall was also exposed. At the time of this work, a large shed appears to have been standing to the east of the soakaway, perhaps explaining why the east-west wall was not located at the same time.

In 2004, the east-west wall 2602 was again exposed, whilst some 3.4m to the north, a parallel wall was revealed for a length of about 3.8m (30109). The walls ran at right angles away from the approximate mid-point of the west wall of the kitchen and clearly post-dated it. Neither wall extended eastwards beyond the inner face of the kitchen wall suggesting that they represent a later passageway structure added to the pre-existing building. Unfortunately, the area between these two walls appeared to have been excavated previously, perhaps in the late 1920s after the removal of the shed referred to above. The upper layers exposed in this area – (3018), *c.*0.25m deep, and below it (3036), *c.*0.45m deep – consisted of disturbed dark-greyish yellowish-brown silty sand and light-grey sandy silt with frequent fragments of rubble, brick and tile and much residual medieval and post-medieval pottery. The fill (3036) did initially appear to have more rubble within it, and was slightly more compact, suggesting it could have related to an earlier deposit, but contained Earthenware 3 pottery of the mid 17th-18th century and a sherd of modern flower pot. Removal of this backfill revealed a

section just north of the south wall of the postulated passageway in which a number of floor layers were evident, generally consisting of mortar, red clay and occasional charcoal. These were not excavated.

Also between the passageway walls, removal of the later excavation trench backfill revealed a number of other earlier deposits which pre-dated the passageway and its floors, including a possible north-south wall line and a 1.1m length of lead pipe, running approximately north-south. At its northern end was a square join, *c.*0.06m wide, whilst at the other end were a number of small holes where the pipe had been worn or damaged. It was set within a construction trench (3097), some 0.2m wide, containing mixed red and dark greyish-brown silty clay, with occasional mortar fragments and a sherd of Potters Marston ware of the 12th-13th century. Some 20m or more to the north, further lead pipes are shown on Bedingfield's 1930 excavation plan, apparently serving the west range. Since part of the run is north-south aligned, it is possible that the pipe located beneath the later passageway could represent its southerly extent, presumably serving the kitchen.

Initially, the deposits within the passageway were interpreted as a possible cistern or sump, perhaps lined with grey clay. This was partly due to the nature of the deposits and partly due to the fact that some of the rainwater drains appeared to feed into the area between the parallel walls. However, it now seems more likely that the area between the passageway walls was excavated in the 1930s, truncating surviving floors and makeups and revealing earlier deposits. An alternative interpretation is that holes were dug here in the medieval period to address the problem of a leaking water pipe (see below), although there is little evidence to support this theory.

#### *Cobbled yard*

A cobbled, presumably external, yard surface (30144, 30147) was revealed to the north-west and west of the kitchen. This consisted of rounded medium to large sized pebbles (average size *c.*0.06m > *c.*0.11m in diameter) set within dark-greyish sandy-silty-clay, some *c.*0.1m in depth total. Some resurfacing was visible, with some areas of larger, slightly less compacted cobbles overlying the surface. Whilst the majority of the cobbled surface could be interpreted as a yard external to the kitchen, a small patch of cobbling of a slightly different character (3072/30146) clearly overlay the northern end of its west wall (30107) suggesting post-Dissolution activity. Two circular stone-lined features, possibly wells, together with fragments of possible robbed walls relating to buildings of unknown date to the west of the kitchen were also identified, but were not examined in detail as art of this phase of work.

#### *Circular stone-lined features*

Two circular stone-lined features, (30114 & 30115) possibly wells, were evident in the north-west extent of the area. Both remained unexcavated, so remain undated. Feature (30114) was *c.*1m in diameter and only partially visible beneath the reconstructed 1930s wall to the north. It was constructed from fragments of limestone some *c.*0.1m in diameter and contained a disturbed dark greyish-brown sandy-silt fill built within an area of compact orange mortar (30116), some *c.*0.7m wide. To the west extent of this feature, an orange-brown sandy rubble deposit (30116) was also visible; containing frequent fragments of slate and rubble, suggesting it had been robbed. Context (30115) was only partially visible further to the south, and was *c.*2m wide, constructed from limestone fragments, *c.*0.2m wide, set within a compact pinkish-orange red clay (3043).

In between the two stone-lined features a compact orange sandstone feature (30117), some 0.5m wide, was also revealed and appeared to be roughly in line with the north kitchen wall (3049) and join with up with footings of the exposed outer wall (2675), previously revealed in 2003, which formed the basis of the 1930s reconstruction to the west.

#### *Rainwater drains*

(i) East-west drain, north of kitchen

Running between the north wall of the kitchen and the south wall of the refectory, beneath a modern hardcore path (3007) and a deposit of compact modern rubble (3032), was a stone-lined and capped drain (3053). A small section of this drain had been exposed in 2002, but its full extent could now be seen to run along the north face of the kitchen wall (3049) at a slight south-west to north-easterly angle. It was constructed from pale grey sandstone or fine grained oolitic grey limestone blocks, typically 0.25m long by 0.23m high, most of which appeared to be re-used architectural fragments. At its western extent, the southern wall of the drain had been robbed, possibly at the same time as the kitchen wall (3049), although it is possible that the latter may also have served as its south face. Located just south-east of the refectory wall buttress (3055), a later re-build (3050) of this southern wall of the drain was evident, consisting of sandstone, granite and slate bonded within red clay. This section had also been partially exposed in 2002 and appeared to post-date the robber trench fill (3048) below it, suggesting this part of the drain was in use after the Dissolution. A similar re-build (3051) of the northern extent of the drain was also visible, also suggesting a later re-use. Just south-east of the refectory wall buttress (3055), a drain inlet or chute (3052), some c.0.24m wide and constructed out of white mortar, slate and red clay was observed, which presumably channelled water from the refectory roof into the drain.

Although the eastern end of the drain was unexcavated, its line could be traced beneath a mortar-rich rubble layer (30112). At this point the drain, previously exposed by Bedingfield, was probably robbed. The 1920s excavation plan indicates that the drain continued eastwards, along the south side of the south range, to the south of the dormitory, eventually joining a larger drain close to the possibly site of the infirmary before discharging into the river Soar via an arch in the precinct wall (see trenches 33 & 34 below). As noted above, rainwater flowing down this drain may have flushed the reredorter probably located to the south or east of the dormitory.

(ii) North-south drain, west of kitchen

At the western end of the north wall of the kitchen, drain (3053) possibly fed into a north-south drain, the evidence for which comprised a linear feature, probably a robber trench, some c.7m long, c.0.6m – c.0.8m wide and c.0.35m deep, which truncated the cobbled surface (30144). The feature was filled with a loose dark-brown silty sand (3037), containing fragments of brick, slate, small stones, clay pipe, shell, bone and post-medieval and modern pottery. Part of the base and the eastern wall of the northern end of the drain remained intact and consisted of sandstone blocks, c.0.4m x c.0.3m, linking up with the western extent of (3053). Due to the robbing, it was unclear whether the drain predated the cobbled surface. The southern end of the drain appears to have fed into the kitchen (see below). An east-west linear feature [30118], measuring c.0.5m wide and c.3.4m long, was also visible to the south-west, and may represent a robbed drain feeding into [30113]. Its fill, (3027), was very similar to that of the north-south drain (3037) and contained late medieval Cistercian Ware pottery and clay pipe.

The robbed out north-south drain [30113] appeared at one time to feed into the kitchen via a channel through the west wall, c.0.8m deep. Possible *in situ* slate capping for this was visible at its southern end, some of which also overlay, or was incorporated into, this stretch of the kitchen wall. A course of two blocks of sandstone, c.0.6m by c.0.3m, at this point also appeared to form part of the end of the structure. A very dark-brown silty fill of the drain (30105), containing frequent fragments of animal bone, 0.4m deep was sampled, whilst a soft, pale greyish-brown silty-clayey deposit, c.0.4m wide, c.0.2m deep, containing common charcoal flecks and fragments of animal bone (30103) to south of the course of sandstone, could be associated. The two latter deposits contained fragments of cattle, sheep/goat, domestic fowl and a butchered goose humerus, suggesting food refuse. Environmental samples from the two latter deposits contained large animal bones, abundant charcoal, a few charred plant remains, and very numerous fish remains, with scales including those of the

carp family and bones of herring and some larger fish, as yet unidentified. These samples appear to represent domestic waste, although it is possible that the fish remains were washed into the drains from food preparation in the kitchen. The sample from the drain end (30104) in the kitchen lacked the animal bones and fish remains (although a frog/toad humerus and a fish scale of indeterminate species were collected) and consisted entirely of charcoal with more charred plant remains and appeared similar to the deposits associated with the ovens. This probably represents an accumulation of spent fuel from the fires used to heat the ovens including waste from the preparation of cereals and legumes for consumption.

It was impossible to determine whether the drain was contemporary with the west wall or whether it had been introduced later when the wall was breached and the passageway built to serve another range of buildings. However, it did seem clear that the later refacing of the wall (30145) respected the drain and was therefore later than it. Following the robbing of the drain, rainwater still appears to have flowed freely southwards, now via a surface channel *c.*0.4m wide constructed from a single course of flat laid flagstones (*c.*0.2m-*c.*0.6m) set within the cobbled surface.

Evidence for the entry of a drain into the kitchen was also exposed on the eastern side of the north-south kitchen wall (30107), and consisted of an aperture constructed from slate and sandstone, *c.*0.4m wide and 0.2m deep which contained a loose, mixed deposit (3014) of red and greyish brown silt, mortar and charcoal which contained a fragment of modern drainpipe. The drain channel leading from this entrance, taking water into the kitchen appeared to have been robbed. Removal of (3014) in this area revealed a compact red clay rubble (3041) and, slightly further south, a compact orangey-white mortar-rich rubble (30121); the junction of these two deposits may mark the southern edge of the robbed drain channel.

#### (iii) East-West drain, west of kitchen

Some evidence for an east-west rainwater drain heading towards the opening in the western kitchen wall was also identified. It survived as a small opening in the masonry of north-south wall (3096) to the west of the kitchen, but the remainder of it had presumably been destroyed by later excavation of the area between the passageway walls.

A possibility considered at the time of the excavation was that the area between the parallel walls forming the suggested passageway was in fact a sump or cistern for the storage of rainwater, later backfilled with rubble and floored over. The evidence for this was thought to comprise a stretch of north-south wall to the west, forming the western end of the feature, a number of silty deposits, together with the fact that a number of drains appeared to converge at this point. This theory is now considered rather less likely and is discussed in more detail below.

#### (iv) Drains at south-east corner

After removal of the modern backfill layers south of the kitchen wall (3176) a number of in-situ surfaces and features could be seen. As mentioned above, it was obvious that the 1920s team had also excavated here as two diagonal north-east to south-west cuts could be seen running across this area and two drains following this orientation had been plotted on Bedingfield's 1930s excavation plan. Unfortunately, the earlier excavators had dug trenches to follow and expose the drains, thereby destroying any stratigraphic relationships with adjacent deposits.

Three main deposits covered the southern area: (3124) cut by [3117] as already described, (3123), a mid grey brown clay silty sand, butting up against the western edge of (3124) and containing a single sherd of Chilvers Coton pottery dating from the 13th to 14th centuries and a sherd of Potters Marston ware, and (3133) in the south-eastern corner which was a light orange brown clay and silty sand layer.

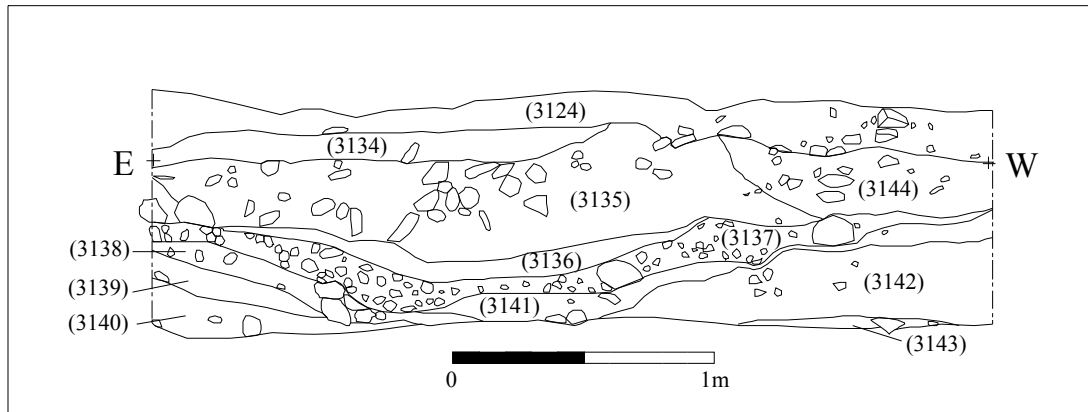


Figure 15 North facing section (178.01) of 1920s trench cut [3117] Trench 31 See Figure 18 for location

Cutting across (3123) and (3124) was a 0.7m wide and 6m long linear cut [3120] which appeared to have been made by the 1920s excavators to chase a stone-lined and capped drain (3132). This consisted of a series of shaped rectangular sandstone blocks set on a sandstone base, capped with flat stones. Some capping stones were missing over the south-western portion of the drain, giving a view of the dark brownish-grey silt (3160), from which a sample was taken and a sherd of 12th or 13th century Potters Marston was recovered. Projecting this wall north-east showed that it would just clip the south-east corner of the kitchen wall (3176), although any stratigraphic relationships had been destroyed by the previous excavators. Hence, the drain could either predate the wall, necessitating diverting it to a more southerly course when the first kitchen was built, or it could serve a downpipe or spout at the corner of the kitchen. A third possibility is that it in fact postdates the square kitchen and instead relates to the later structure represented by wall 30122. Future excavation of the junction of the drains to the south of Trench 31 may help to clarify the sequence. It is also possible that a small part of drain (3132) protrudes beyond the corner of the kitchen, underneath the modern reconstructed wall into Trench 32 to be seen as a small stub of projecting masonry (3272) although without removing the modern wall this cannot be proven. A red clay layer (3134) could be seen in the drain cut created in the 1920s, as could a mid-brown silty sand (3131), which (3132) appeared to be laid in.

One metre to the east of drain (3132) was a shallow 0.8m wide 1920s trench cut following another stone drain (3114) laid on the same alignment. This was constructed using very roughly hewn sandstone blocks for the sides and base and thin slabs of slate to cap it. Not as much care appeared to have gone into the construction of this drain as went into (3132), although a lot of mortar was used to fill the gaps between the badly fitting stones. A dark brown grey silt (3161) filled the feature although no dateable finds were recovered from it. Projecting this drain northwards indicated that it would just miss the south-east corner of kitchen wall (3176). After removal of the 1920s backfill in Trench 32 in 2005, the base and one side of the continuation of this drain to the north-east were revealed. Only a 1.9m length survived before being robbed away to reappear as a sandstone and slate channel passing through a block of masonry (3213) and rising gently towards a stone-lined gully and a cobbled surface where it stopped. As the drain passed through the masonry (3213) a small amount of mid grey brown clay sandy silt (3214) was observed. This appeared to be in-situ surviving drain fill especially as it covered a thin layer of pea gravel at the base of the drain. No dateable finds were recovered from this context but a soil sample was taken. The function of this drain appears to be to channel surface water from the cobbled area east of the kitchen south-westwards to join the drain taking waste from the south of the kitchen. The remains of some sidewall stones indicate that this drain was also capped and at one time was beneath a surface. It is not clear what purpose the block of masonry (3213) served despite it being 2.3m long, 1m wide and nearly 0.5m high and constructed from faced courses of limestone with

slate levelling. It formed an east to west structure but does not appear to align with anything seen so far, it is also shown on the Bedingfield plan as an indeterminate block of masonry. If it is not a wall, it could be part of a channel taking rainwater from the kitchen roof and directing it down the drain (3216); it may also have extended further eastwards where a loose orange sandy fill may show where it has been robbed away.

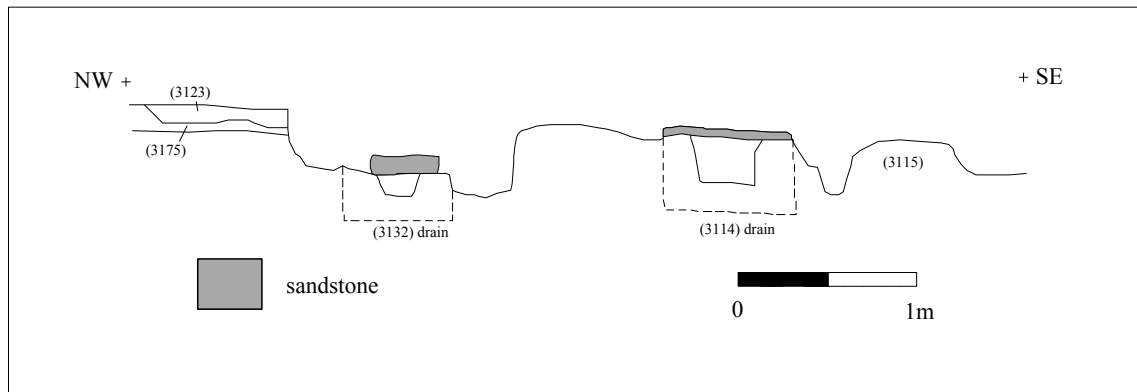


Figure 16 Trench 31 profile of drains (189.01) north-east facing

One metre south of the end of kitchen wall (3230), a small stub of heavily-mortared sandstone masonry (3272) extended out of the east-facing trench section into the line of Bedingfield's trench. As such a small piece was exposed it is difficult to state exactly what function this served although by projecting the line of drain (3132) north-east these two features can be joined together. Bedingfield's plans also show the line of (3132) extending beyond the corner of the earlier kitchen close to where (3230) is located.

Approximately 1.4m to the north of drain (3216) another stone-lined drain commenced. This drain (3286) consisted of a sandstone lined channel over a well mortared dressed sandstone base but without any capping remaining. The southern end finished as a flat-ended terminus in the middle of the cobbled area (3210) discussed below. Only a short length of drain was exposed but it could be seen to head due north possibly to join with east to west drain (3259) although only further excavation would confirm this. The drain fill (3285) was a dark grey-brown sandy clay but no dating evidence was recovered from it. Covering the length of the drain and its fill was a light greyish-brown fine sand (3233) having the appearance of washed-in material from the surrounding cobbles which were significantly higher than the drain and set at a slope probably to direct water away from the kitchen buildings towards the drain.

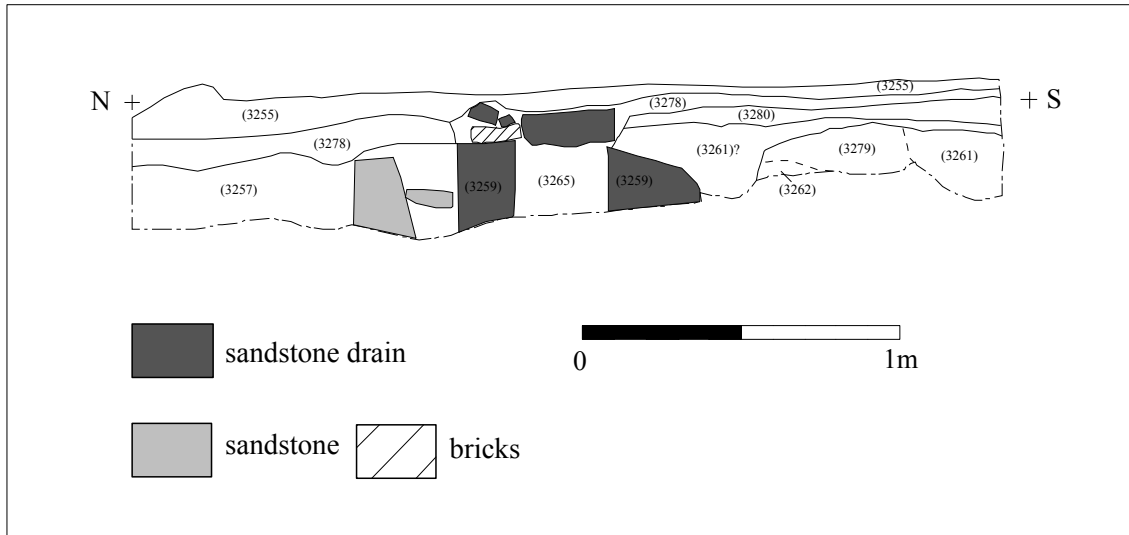


Figure 17 Trench 32 northern extension, west-facing section (Section 186.02) See Figure 18 for location

As mentioned above, an east to west stone lined and capped drain (3259) was exposed in the northern extension of Trench 32. The drain was constructed from partially-dressed blocks of sandstone and slate plus some thin bricks measuring 200mm by 50mm to create a smooth channel capped with sandstone blocks. The fill consisted of a mid grey-brown silty clay (3265) but no dateable finds were recovered from it. Although much of the drain had been robbed away in this area, to be exposed again by the 1920s excavators, it was clear that this feature was a continuation of the east-west drain (3053) seen in Trench 30 running between the kitchen and the refectory. Further eastwards (3259) retained its capping stones as it continued beneath stratified layers of archaeology that were not excavated. Unfortunately the level of robbing and damage from the 1920s investigations has destroyed any clear evidence of the relationship between the drain and the later structure which post-dated the kitchen. However, the drain did appear to cut through red clay layer (3280) which may be the same clay layer seen across the site and interpreted as a post-Dissolution or demolition phase spread. The drain also cut (3278) a mid grey brown silty clay which covered layer (3257) over wall (3260) discussed earlier. Above both of these layers was a light orange brown sandy silty clay (3255) containing a small amount of building rubble but no dateable finds.

A tentative base of a drain structure was also identified at the south-eastern corner of wall (3230). This consisted of a small 0.4m<sup>2</sup> rectangle of firm greenish brown clay layer (3292) set on a sheet of slate within the remnants of a narrow cut [3288]. The function of this was identified as the base of a possible drain running along the outside of the kitchen wall although it is significantly lower (approximately 0.4m) than the other drains in this trench. The fill of this drain was a rubbly mix consisting of sandy silt and sandstone rubble (3281). The end of the drain finished at a pale red brown silty sand deposit (3291) which appeared to extend beneath a brownish grey silty clay layer with lots of sandstone rubble and charcoal fragments (3290). These deposits were probably exposed in the 1920s when the excavators followed the line of the kitchen wall.

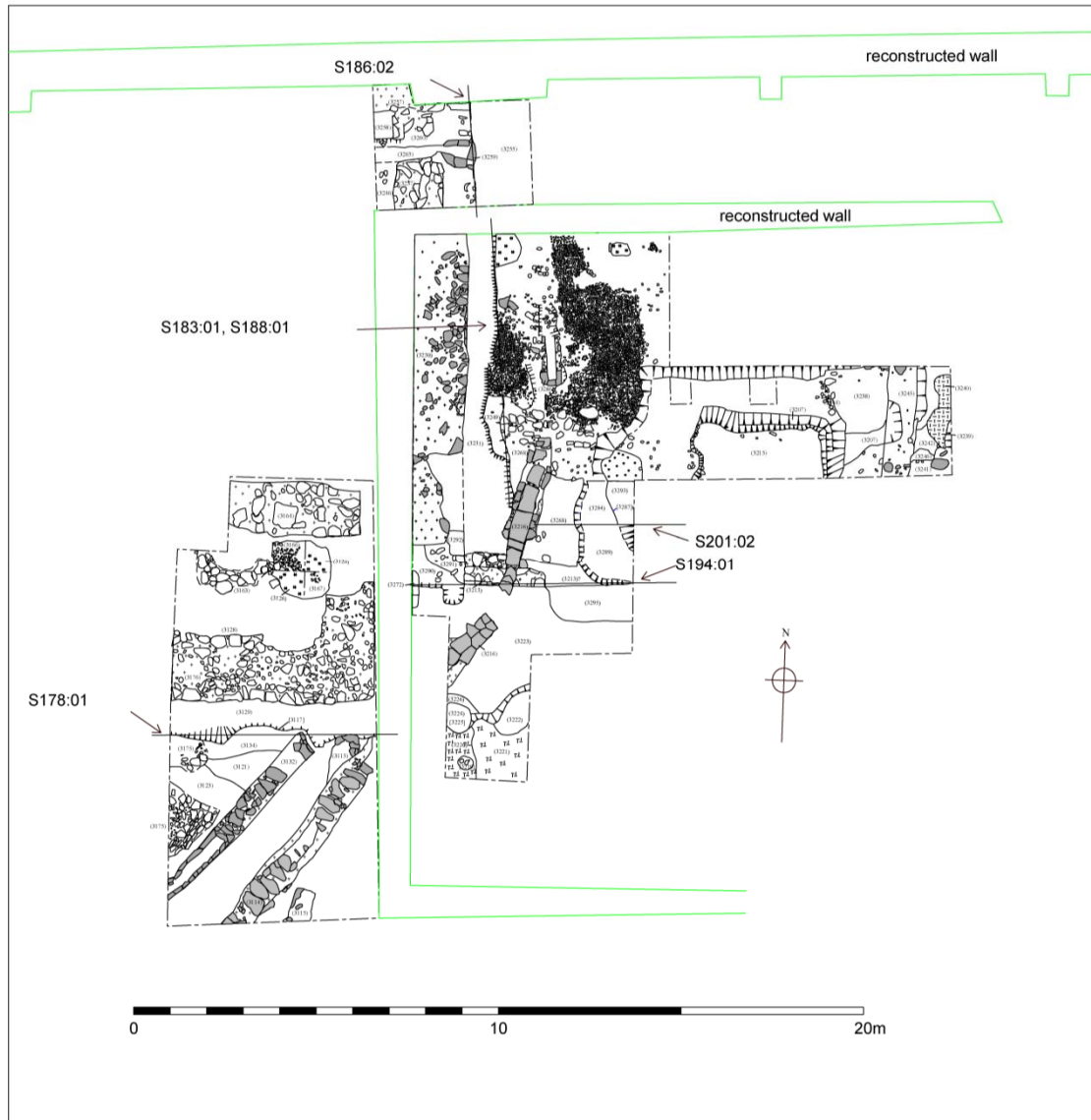


Figure 18 Plan of Trenches 31 and 32.

### *Refectory walls*

The south-western corner of the refectory was located just to the north of the north wall of the kitchen (3049). The evidence consisted of a 14.48m stretch of wall (3054), slightly to the south of the 1930s reconstruction wall, observed for a maximum width of 0.8m, and the probable south-west corner buttress (3055) which measured about 2m wide. Both buttress and wall were constructed of similar materials to the north wall of the kitchen. The former was located slightly to the east of its reconstructed counterpart and, on the assumption that it is a corner buttress, indicates that the present reconstructed wall continues rather too far to the west than it should.

It is assumed that there was a door in the mid point of the north wall of the kitchen providing access into the refectory undercroft, although it was not possible to identify any unequivocal evidence for this on the ground.-



***Other archaeological deposits****Trench 31*

Running roughly north-east from the south section of Trench 31 was a firmly mortared sandstone wall (3115), measuring 0.45m wide, which survived for a length of about 1m before being cut by drain (3114). A small portion of it reappeared on the northern side of the drain before stopping at cut [3117]. The date and function of the wall remain unknown – if it continued northwards, it would cross the line of both phases of kitchen wall. Alternatively, it is earlier. As with the drains, no relationship survives between wall (3115) and the kitchen wall (3176).

Removal of the fill of the 1920s excavation trench [3117] revealed a section through a number of possible occupation layers which tended to be fairly level and in horizontal layers on the northern side of the wall and probably relate to the kitchen. Beneath (3112), on the same stratigraphic level as (3125) and (3128), was a densely packed orange sandy layer (3152), approximately 0.05m thick, containing a number of sandstone rubble lumps. Beneath it was (3153), grey silty clay 0.015m thick and (3155), a light beige-green sandstone dressing layer 0.03m thick. Context (3155) sat on top of, and separated, a possible early floor level (3156) consisting of numerous pebbles set in an orange-brown clay. Another small patch of sandstone dressing debris (3154) lay beneath part of (3156) indicating further possible construction work nearby. It is possible that (3156) was a repair patch near the corner oven in a much thicker, 0.2m, floor or surface layer (3149) which consisted of a mid brown silty clay with many small pebbles and stone fragments throughout. Separating this layer and the next lower layer (3159) was a further narrow band of sandstone dressing debris (3150). (3159) was a light brown silty clay which could have been laid as a levelling layer for (3149) and which in turn covered a thin deposit of dark grey sandy clay (3148). The lowest context exposed by cut [3117] was a compact mid brown sandy clay containing frequent small stones and pebbles (3151). At the eastern end of the cut, between layer (3112) and the north to south section of wall (3176), was a 0.15m thick layer of orange-brown silty clay containing many small pebbles and larger sub-angular lumps of sandstone (3158). This deposit may have been a deliberate backfill episode acting as a levelling layer after the demolition of the original kitchen wall.

On the southern side of 1920s cut [3117] the deposits represented layers outside the kitchen building. A large orange-brown sandy silt spread (3124) containing animal bone, shell, slate and small sandstone fragments was seen covering much of the area south of the kitchen wall (3176) and the 1920s drain cut [3120]. This covered a 0.1m thick band of brownish-red silty clay (3134) which appeared elsewhere across the trench and as (3280) in Trench 32. As this appeared to be an almost continuous layer, it may represent a post-Dissolution levelling layer across the remains of the robbed kitchen complex. Limited excavation of this deposit meant that only three small sherds of late 14th-century hard-fired Chilvers Coton ware were recovered from it. A small semi-circular deposit 0.05m thick of dark grey brown silty sand (3165) covered the north-western edge of the red clay. Also on the western side of layer (3134) was a 0.25m thick deposit of orange-brown sandy silt (3144) which could have been a pit cutting through (3134), although as it was only seen in section a cut number was not allocated. A thin band of greenish beige silty sand stone dressing (3145) lay directly below this context. Beneath (3134) and (3144) was a brownish grey sandy silt layer containing numerous stone fragments (3135) varying in depth from 0.1m to 0.45m thick.

At this point a possible trench or depression with a surface running across it could be seen in the section with (3140) and (3142) on either side, both of which were brownish-red firm silty clay layers. Again as it was only seen in section, no cut number was assigned. Filling this potential feature were five layers or fills starting with (3139), another brownish-beige sandstone dressing layer. Above this was a dark brown mottled clay silt deposit (3138) containing a small amount of rounded pebbles. Above this, and spread across most of the potential cut, was a thin layer of dark brown grey clay and sand (3141) containing small

flecks of charcoal and a small quantity of sub angular pebbles. From this layer three sherds of Potters Marston ware recovered along with three sherds of Chilvers Coton ware, one of which was a roller stamped jug base. Covering this layer was a stony deposit within an orangey-yellow silty clay matrix (3137) which could have been a possible floor level or surface which had sunk into the layers below. Over this was a greenish beige sandy silt (3136) layer having the appearance of a dressing layer.

South of cut [3117], a number of patches of small cobbles set in a whitish-grey sand occurred across the southern part of the trench at the same level as each other and were given the same context number (3130). No dateable finds were recovered from these deposits but they could relate to a surface laid outside the southern end of the kitchen, although which phase of kitchen is not clear. One patch is either cut by, or runs alongside, part of the northern edge of drain (3132) but no other relationships with the drains can be seen apart from the fact that the cobbles sit above layers (3123) and (3124).

Another area of possible flooring lay beneath (3123) and (3124). This consisted of a 1m wide area of sandstone and granite blocks measuring approximately 0.21m x 0.06m x 0.1m set in a dark grey brown sandy silt (3175). The southern boundary was truncated by cut [3120] which destroyed any relationships as it had elsewhere. This surface appeared to have been heavily used as it became quite fragmentary in the middle before reappearing close to the 1920s kitchen wall cut.

The 1920s trench [3120] cut through a dump of mid grey silty sand full of oyster shell (3121) which sat beneath layer (3124).

### *Trench 32*

Below the cobbles, a number of archaeological layers were revealed in the eastern section of 1920s trench [3204]. At the northern end, adjacent to the modern wall was a thin deposit of dark grey-brown sandy silt (3228) containing a high level of ash. South of this, and partially beneath it, was another thin layer or deposit of light greyish-brown sandy clay (3229). Both were apparently higher than the cobbles (3227) and it is possible that they could have been used to fill a hole where the cobbles had been worn away or robbed at this point. Possibly in the same sequence of events, beneath (3229), was a patch of loose degraded mortar (no context number) which in turn covered a mid grey brown silty sand and ash deposit (3267) containing two sherds of mid 13th century Chilvers Coton ware. Further south, sealed by the cobbles, was a small patch of demolition debris consisting of orangey-yellow sand, slate fragments and degraded mortar (3251). At the southern end of the section a layer of grey brown silty clay with frequent stone fragments and rubble (3268) was observed. This layer, sitting below (3208), extended eastwards to be cut by drain (3216) and [3287] discussed below. No dateable evidence was recovered from (3268). It stopped at the stone gully bounding the southern edge of the cobbled area and at the stub of masonry (3213) in the south.

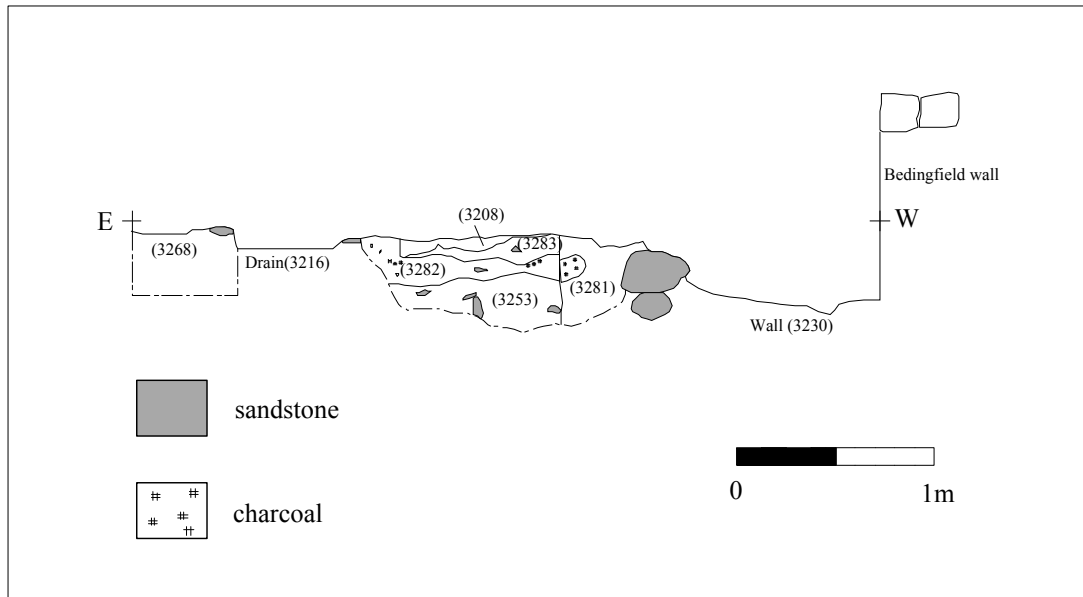


Figure 19 Trench 32 north-facing (Section 194.01). See Figure 18 for location

Directly beneath (3268) was a reddish-brown sandy clay containing frequent fragments of mortar (3269) which appeared to be a firm surface. As with the layers above, no datable finds were recovered from this layer. Next in the exposed sequence was a dark orange red sandy clay (3249) similar to (3269) but slightly darker and with a lower mortar content. This 0.2m thick layer almost extended across the whole length of the wall robber cut but again, as it was only seen in section, no finds were forthcoming. Beneath (3249) on the same stratigraphic level as each other were (3235) and (3250), a light yellow-orange fine sand and a light brown sandy silt respectively, neither of which yielded any finds. A narrow band of dark grey silty sand and charcoal (3252) containing two sherds of Potters Marston ware separated (3235) from the layer beneath which was a light brownish-beige sandstone dressing layer (3232) similar to those seen in Trench 31. This layer was up to 0.2m thick in places, ran along the whole length of kitchen wall (3230) and may be related to its construction and final dressing. A number of sherds of pottery came from this layer during cleaning and have been identified as Chilvers Coton ware, Medieval Sandy ware and two sherds from a Nottingham ware 1 jug. At the extreme southern end of the section a small deposit of dark-grey silty sand (3253) similar to (3252) was noted beneath (3232) from which sherds of Potters Marston, Chilvers Coton and Nottingham 3 ware were recovered.

The base of 1920s cut [3204] finished at the bottom of the dressing layer (3232) and exposed layer (3231) as mentioned earlier. However, where the robber trench had been cut rather deeper in places it was possible to see lower levels of stratigraphy. A layer of small rounded stones firmly bedded in a pale orange sandy matrix (3256) was seen in the section beneath (3231) and it is possible that this may relate to the stony layer (3130) noted in Trench 31 indicating a continuation of the surface all around the kitchen. If this is so then the cobbled layer (3247) may also be part of the same surface. The lowest layer seen in this sequence beneath (3256) was a red brown clay layer (3270) but no finds were recovered

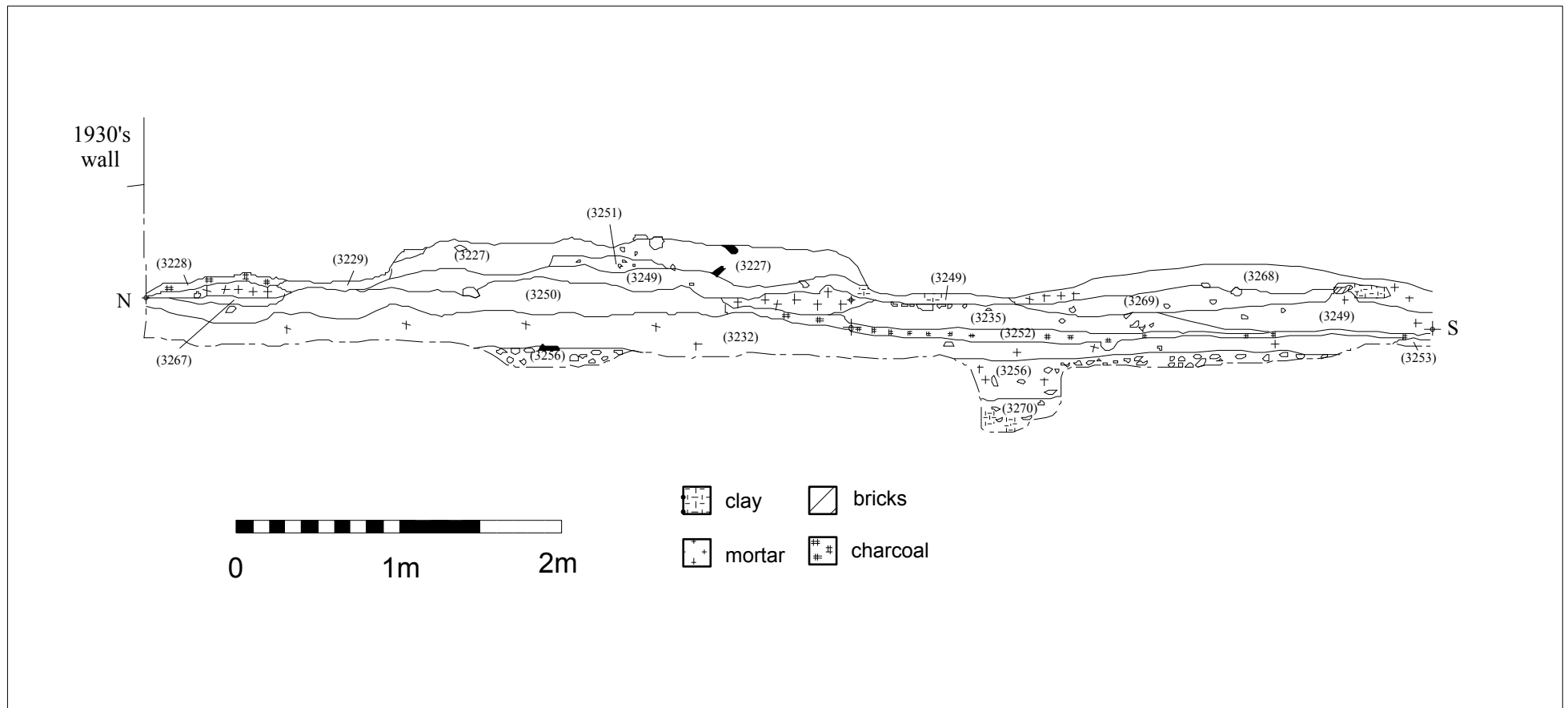


Figure 20 Trench 32: west-facing section of 1920s cut [3204] (Section 183.01 and 188.01). See Figure 18 for location

Cut [3204] extended northwards beneath the modern reconstructed wall into the north extension of Trench 32. In addition to the drain and the upper contexts, the section revealed a series of apparent occupation layers. Beneath clay layer (3280) already mentioned was a pale red-brown sandy silt (3261) containing two sherds of Potters Marston ware. This appeared to overlie an orange-brown silty sand (3279) which in turn sealed a burnt silty deposit (3262). At the southern limit of cut [3204] was a series of apparently intact archaeological layers. As already mentioned, pit [3225] cut into the edge of [3204] and gave a glimpse of the layers beneath. Beyond this, three main layers could be seen although their stratigraphic relationships remained unclear. The first layer, (3220), was a mix of red-brown clay and cream-coloured sandstone debris having the appearance of a demolition material. This was cut by a small post hole [3219] filled with a mid grey-brown silty sand and small angular lumps of sandstone. No dateable evidence was found in either deposit. To the east of (3220) was a mix of red clay and orange sand patches which could also be part of a demolition spread. Finally in this area was a loose spread of mid orange sand and gravel (3222) which again was not excavated and did not yield any finds.

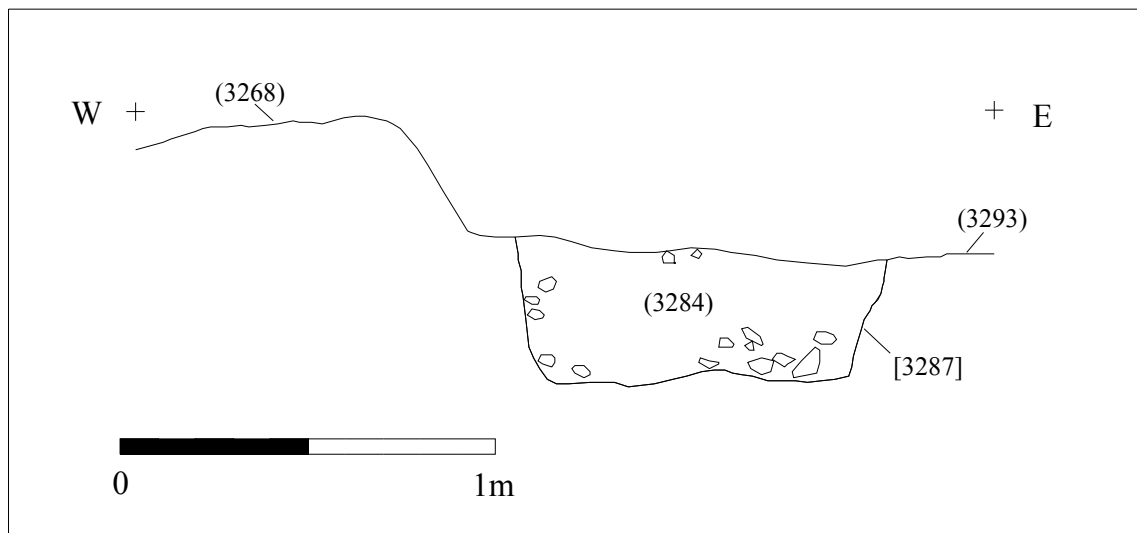


Figure 21 Trench 32 South facing section through cut [3287] (Section 201.02). See Figure 18 for location

To the south-east of the cobbled area was an apparent post-Dissolution robber cut [3287] which had not been excavated in the 1920s. The cut had rather uneven edges but tended to run on a parallel line to the east of drain (3216) stopping at the possible robbed line of masonry stub (3213). The fill (3284) consisted of pale brown silty sand containing much sandstone rubble and a large sherd of 14th or 15th-century Midland Purple 2 ware with the appearance of undisturbed post-Dissolution robbing or rubble material. Partial removal of this fill revealed a dark red-brown sandy clay with some mortar fragments similar to (3249) seen in the kitchen wall robber trench. Running alongside the eastern edge, and cut by [3287], was a pale red brown sandy clay (3293) containing charcoal flecks but no dateable finds. In turn, this deposit was cut by a similar rubble fill to (3284) but with more mortar and was given the number (3217). This could in fact be another cut feature running from south to north before being cut by east to west 1920s trench [3276]. Context (3217) contained a variety of pottery, none of which was later than the mid 16th century. The finds were: one sherd of Potters Marston, one sherd of medieval Sandy ware 1, two sherds of medieval Sandy ware 3, one sherd of medieval sandy ware 8, one sherd of Midland Purple 2, seven sherds of Cistercian ware/Midland Black ware and one sherd of mid-16th-century earthenware. Among the small finds were three fragments of window glass, two of which were painted. Unfortunately there is a possibility that a small number of finds from the layer beneath this might have been mixed with the finds from (3217). This particular layer, (3294), was a dark brown clay silt

running beneath (3217) and cut by [3287], it could be seen in the section created by extending the east to west 1920s cut southwards.

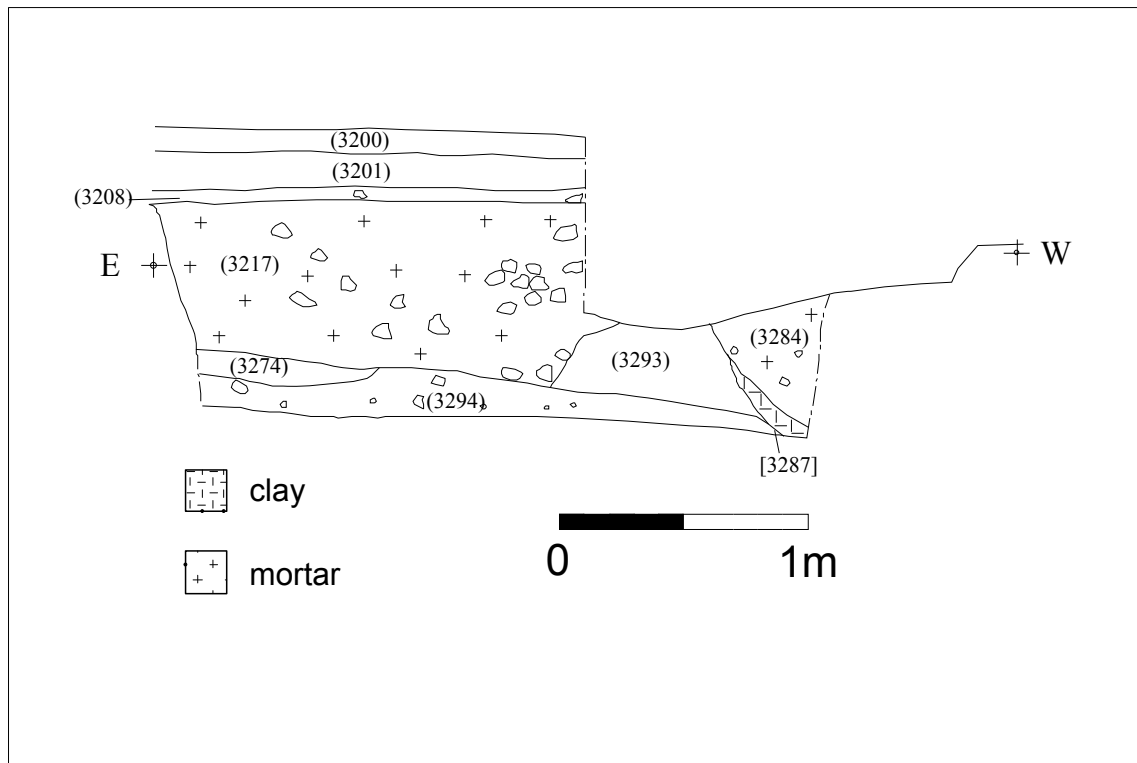


Figure 22 Trench 32: North facing section at cut [3287] (Section 188.02)

The east to west 1920s cut [3276] and fill (3263) cut through a number of layers seen in section at either end of the east extension of Trench 32. At the highest level, beneath the modern overburden, was a mix of very dark grey sand, charcoal and degraded mortar (3215). On the west-facing section, created by cut [3287] a light grey loose sandy rubble (3275) could be seen beneath (3215) that in turn sealed a red sandy clay and mortar layer (3274) which continued alongside the cut to appear as layer (3248) seen in the east-facing section. Running beneath this layer and fill (3263) was a layer of orange sand with abundant angular stones (3207) (which was also called (3273) at the west end of the trench).

Because it was not clear exactly what the 1920s cut was following, two small exploratory excavations were made through (3207) to check for surviving masonry. Although a small piece of lead window was found, no trace of masonry was seen after removal of approximately 0.1m and it was thought likely that the 1920s excavators had followed a post-Dissolution robber trench which had probably removed all traces of masonry. Evidence for this may be a thick tip line of sandstone rubble and mortar seen within the cut [3276] in the west-facing section at the far end of Trench 32.

At the far end of the trench it was apparent that a lot of disturbance had taken place and that excavations has taken place here in the 1920s, as shown by the wide north to south cut (3205)[3206] described earlier. This revealed a number of possible surfaces and evidence of a robbed wall running along a north to south alignment. The possible wall remains only survived as a mix of mortar and charcoal within an orange sandy silty clay (3243) and as a slightly stonier tip of sandstone rubble and red clay (3241) probably from the original robbing phase. This deposit ran across the width of the trench and was approximately 1.2m wide which is rather narrower than the surviving walls seen in the trenches. At the base of the cut was a spread of dark grey-brown sandy silty clay with abundant mortar and charcoal (3238). It is likely that this represents the trampled spread created during the robbing phase of this

probable wall. To the west of [3206] and seemingly cut by it, was a mixed spread of red clay and dark grey sandy silt (3244) which appeared to extend a short way along the base of 1920s cut [3276]. To the west of [3206] were several potential surfaces, the most substantial of which being a dark red hard clay with a very level upper surface (3239). Although quite worn and only measuring 0.4m by 0.9m it is possible that this had formed part of a more extensive beaten-earth floor. To the north and south of (3239) was a less well-defined surface of dark grey brown clay with charcoal and small stone inclusions (3240). Earlier disturbance in this area had removed any surviving relationship between these two deposits but both of them partially covered a compact layer of light grey mortar (3242) which could have acted as a bedding layer for a more substantial surface.

## **Preliminary investigation of the site of the postulated infirmary**

### ***Introduction***

The Crown Commissioners Survey of Leicester Abbey, undertaken shortly before the Dissolution (Fox 1938, 14-15), describes a number of buildings to the south of the refectory, including the kitchen and a large hall containing lodgings and a great dining chamber. From the hall, a passage led out to the infirmary houses which had recently been constructed, with six heated chambers:

‘And an entree ledyng owt of the same to the fermore housses wherof parte ys newly and lately buyldyd wherin be vj chaumbers with chymneys.’

The infirmary is thought to be represented by a complex of buildings constructed against the inner face of the eastern precinct wall, excavated by Bedingfield in 1930-32 (on the basis that they do not appear in the 1930 plan, where the area is marked ‘unexplored’; Buckley 2006, fig. 7). The surviving plan (fig. 23) suggests that the foundations survived in good condition – i.e. they had not been extensively robbed – although they were never laid out with low walls as elsewhere.

Several buildings appear to have abutted the eastern precinct wall, using it to form their own eastern walls, while another appears to have intruded into the thickness of the wall. One structure which projects beyond the precinct wall into the course of the river may be a garderobe tower (Buckley 2006, 19).

Also in this stretch of the precinct wall, Bedingfield discovered a large archway, assumed to represent the outlet of the abbey main drain, thought to run immediately south of the refectory and dormitory ranges, presumably also serving the reredorter.

The main aim of the work in this area in 2005 was to make an initial assessment of the potential for surviving archaeological deposits associated with the postulated infirmary buildings and for the outlet of the abbey main drain.

The evaluation Trenches 33 and 34 were located along the western side of the precinct wall. Trench 33 was placed alongside a partially buried archway (3305) that could be seen to pass through the precinct wall, presumably to discharge into the river before it was realigned in the 19th century. Earlier geophysical survey work and the results from Trench 10, excavated during the 2000 season, indicated the presence of a feature possibly heading eastwards from the abbey complex in the general direction of the archway. In order to verify whether these features were associated with one another it was decided that a small evaluation trench would be excavated, possibly in advance of further work in future seasons.

Trench 34, to the south of Trench 33, was situated adjacent to a blocked doorway slightly north of a break in the precinct wall. Prior to excavation it was not clear if the doorway was part of the original structure or if it was a more recent reconstruction. A trench in this location would help to assess the age of the visible wall and to investigate if features such as the blocked doorway were simply cosmetic details.

Both trenches were set within a narrow flowerbed running parallel to a pathway. The garden indicated that there would be a degree of root disturbance within the area, whilst the presence of existing specimen plants that could not be moved limited the available space in which to excavate.

### ***Trench 33***

Initially a 1.5m x 1.8m trench was excavated westwards across the whole width of the archway the top of which was just visible above the current topsoil level. Soon after starting to excavate, it was decided to extend the trench out towards the pathway and either side of the archway to eventually cover an area measuring 2.5m x 4.9m. A 0.25m layer of topsoil/garden soil (3300), containing a variety of late- or post-medieval and modern pottery and modern rubbish, was removed to expose three bands of fill extending westwards containing what appeared to be disturbed rubble or demolition layers mixed with topsoil. The central layer (3302) consisted of an orangey-brown silty clay with a great deal of mortar lumps, welsh slate and stone fragments and was the only fill contained within a definite cut [3313] extending down to a stone-capped drain (3303). It is thought that this cut represents an earlier excavation trench dug to investigate the archway and drainage system of the abbey, probably the excavations by Fosbrooke and the Bedingfields around the 'old watergate' mentioned in the Leicester Mercury in April 1923 (Buckley 2006, 8). A variety of pottery dates were obtained from this context ranging from around the time of the Dissolution to modern earthenware. Fosbrooke *et al* must have disturbed a number of archaeological layers as pottery finds from (3302), in addition to modern material, included post-medieval pottery and an interesting decorated sherd of Cistercian Ware with possible lettering on it which has, as yet, no parallel in Leicester. The other two fills, a pale orange-brown silty clay (3301) and a mid-brown silty sand (3311), also gave the appearance of being quite recent robber fills although both were cut by [3313]. (3301) contained blocks of mortared bricks similar to those still in-situ, laid on top of the arch and which probably belonged to a cistern (3306) demolished in the 1920s.



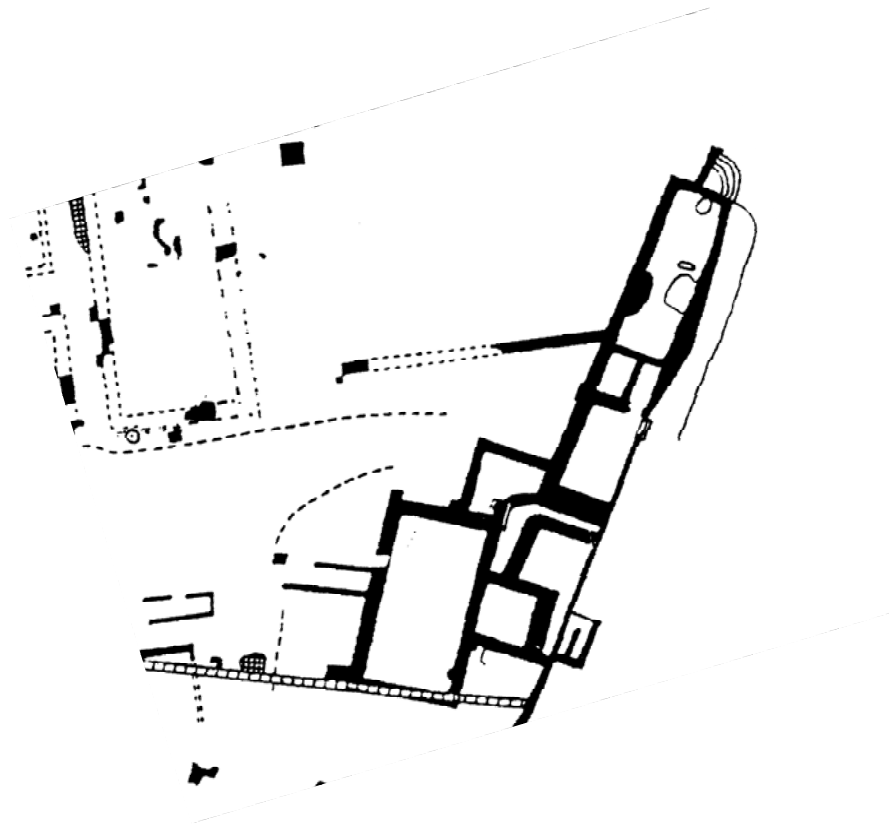


Figure 23 Bedingfield's plan of the postulated infirmary buildings

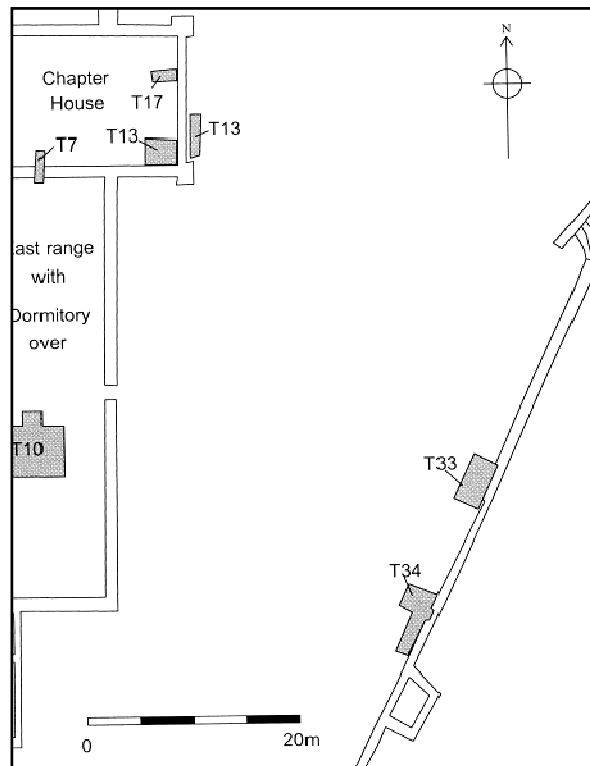


Figure 24 Location of trenches 33 and 34

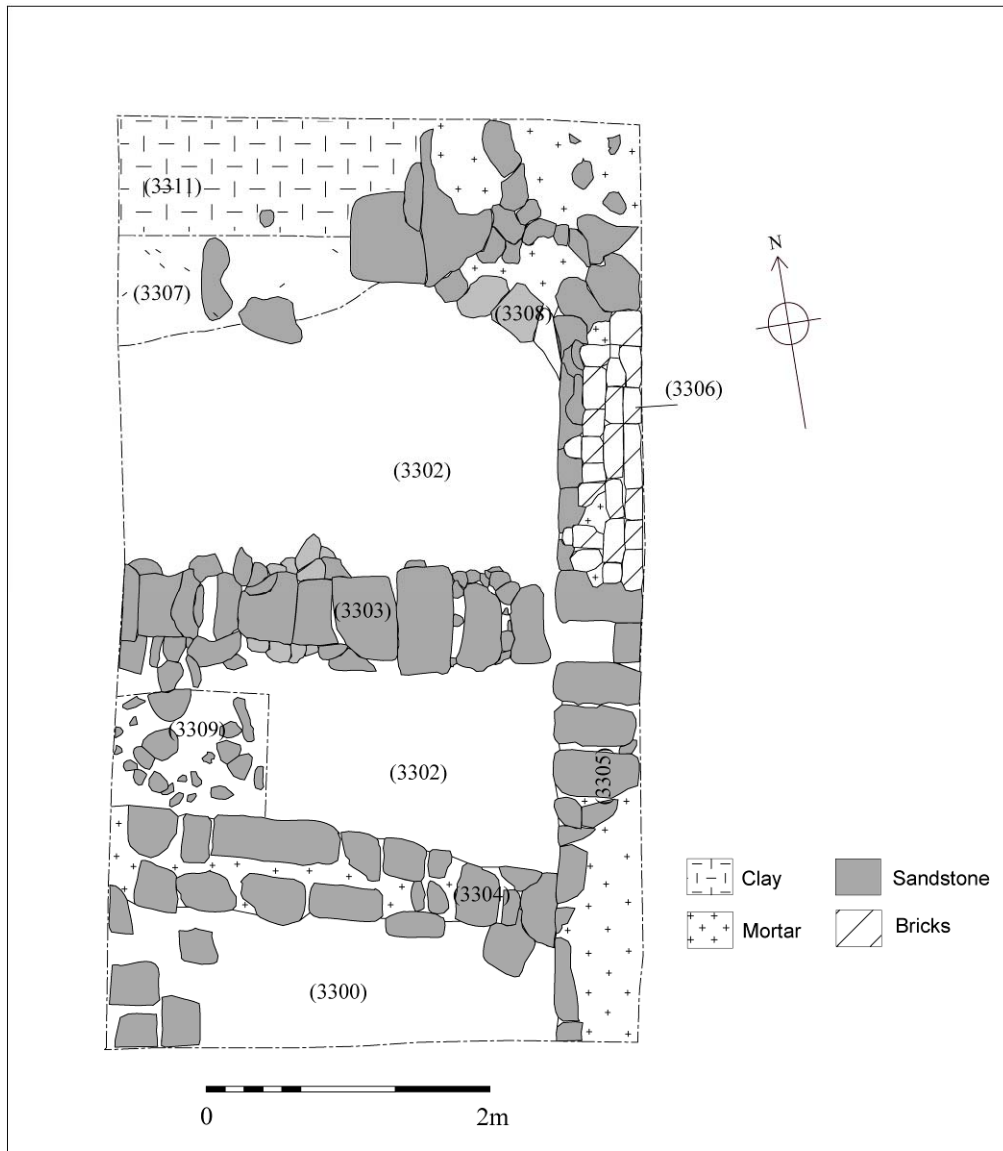


Figure 25 Trench 33

After the robber/backfill material had been removed, a series of stone-built structures was revealed (fig. 25). A small test excavation in the north-west base of the trench showed that cut [3313] was directly above a silty sand layer containing many sandstone fragments (3309). However, it may be possible that the 1920s trench truncated this context to an unknown extent.

The remains of two substantial walls, (3303) and (3308) were uncovered which almost certainly represent the side walls of the abbey main drain – perhaps serving the reredorter – discharging into the Soar via the arch in the precinct wall. The south wall, context (3304), was constructed of random-sized dressed stones laid in five courses and was bonded with a small amount of clay to seal the larger gaps. Mortar had been used to cover the joint between the end of the wall and the base of the precinct wall so it was not possible to see if they butted against or were bonded to each other. The best-dressed side faced inwards towards the centre of the drain whereas not as much care appeared to have been taken in the face which would have been backfilled with earth. Chiselled dressing marks could be seen on one stone whilst another had a semi-circular bead running along one edge indicating that the stone had been re-used from elsewhere. The whole structure appeared to have been laid on the surface/layer (3309).



Figure 26 Trench 33: precinct wall

The north wall of the drain comprised a roughly-built stub of wall (3308), made of sandstone and mortar, extending out from the northern side of the arch at an angle of around 45°. This wall appeared to be bonded into the thicker part of the precinct wall foundations. After 0.8m, the wall (3308) ended and two shaped stones formed the base of an arch on the same alignment. No more of this structure survived although a very stony/rubbly fill (3307) could be seen where the other side of the arch would have been. No dateable finds were recovered from any of the contexts around this feature.

Removal of the 1920s excavation backfill (3302) between the two walls of the main drain revealed another, much smaller, drain (3303) running parallel with it. This is thought to post-date the main drain and it was rather crudely built of stone blocks creating a structure 0.5m wide that was filled with a dark-brown sandy silt (3310). Presumably, it was either left on a 'pedestal' of main drain fill when it was excavated in the 1920s, or it had been cut right through it down to the base deposit (3009), although this could not be confirmed during this season's work. Had any main drain fill been identified, finds from it could have provided indications of when the main drain became disused, together with a *terminus post quem* for the construction of the small drain. The latter was clearly intended for a much reduced flow

and probably represents a later rainwater drain, a continuation of that which has been found running to the south of the refectory and dormitory (trenches 12 and 30/31) and which appears as a dashed line on the Bedingfield plan (fig. 23). In the 2000 season, Trench 12, to the south of the dormitory, revealed evidence for a similar stone-lined drain cutting into the top of what is likely to have been a larger backfilled linear feature, perhaps the main drain, which one might expect would have served a reredorter (Buckley 2006, 44-5; fig. 26). No evidence for this structure has been found as yet – it might be expected to be at the south end of the dormitory block, immediately to the east of the south range. Based on his reconstructed walls, Bedingfield clearly thought that the dormitory had been extended at some time to a point much further to the south. If true, this might provide a rationale for the backfilling of the main drain, on the assumption that the reredorter was relocated at the same time.

The small drain stopped just before it passed beneath the arch, although it is not clear if this is by design or indicates truncation by later robbing. As with the wall of the main drain (3304) this drain was built on top of layer (3309). Unfortunately a lack of datable finds prevents a date being allocated to this episode. It is likely that the main drain would have had some sort of flooring when in use to seal it and to prevent the base of the walls from being washed away. This was either robbed away in antiquity, or (perhaps less likely), destroyed in the 1920s excavations.

Once exposed, the arch (3305) was seen to be built of two superimposed arches with chamfered lower front edges. The centre keystone is missing on the outer arch and was probably removed when the brick cistern (3306) was built which also cut into some of the stones in order to create a level building surface. On the east-facing side of the precinct wall, the archway is smaller and less imposing, possibly suggesting that the west-facing arch was exposed at some stage and that the large drain may have been open.

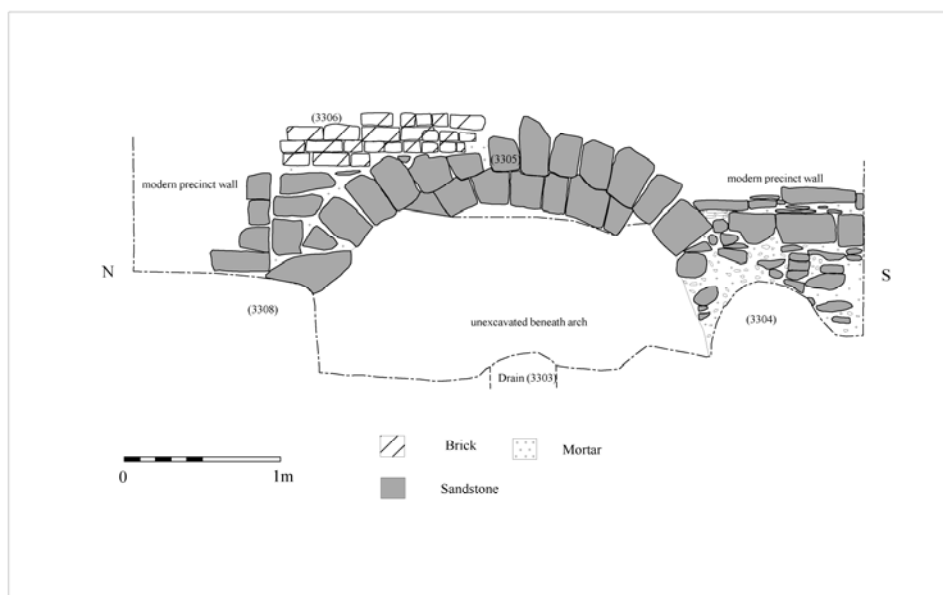


Figure 27 Trench 33: drawing of the west elevation of the arch of the main drain in the east precinct wall.

Also in this trench, the foundations for the precinct wall were exposed. Although these were completely covered by the standing precinct wall from the modern gateway to the north up to a point 8.5m north of the arch, at this point the wall stepped inwards leaving a continuous 0.9m wide exposed face at current ground level before narrowing even further at the arch. After the arch, only 0.4m of wall foundation was exposed. The width of the foundations could

indicate that they were originally for the walls of a structure, beneath which passed the main drain. South of the archway for the drain, the wall is narrow and was perhaps simply a free standing precinct wall.

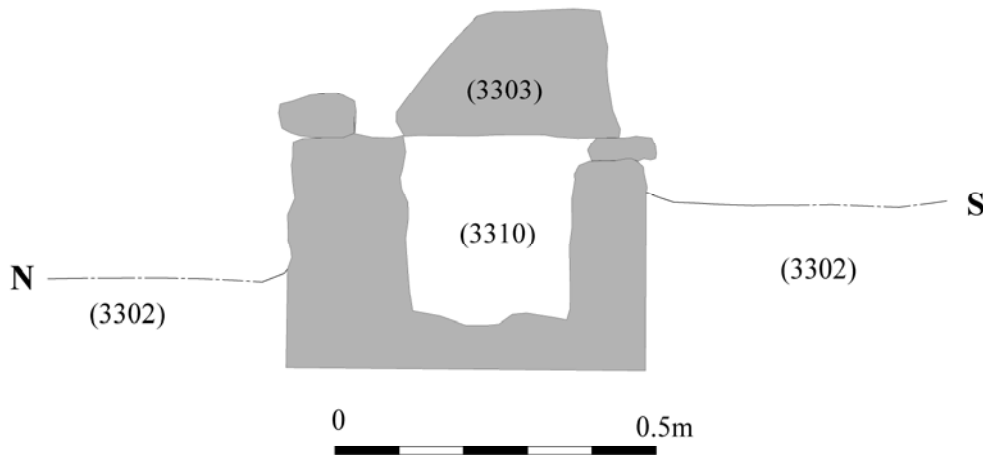


Figure 28: Trench 33: section through drain

No further excavation took place and after full recording the trench was backfilled.

### ***Trench 34***

Trench 34 began as a 6.5m long x 1.5m wide trench running along the eastern face of the precinct wall, within which was evidence for a blocked doorway. Soon after excavation commenced, it was decided to extend the north-western corner by a further 1.5m x 2.3m to fill the available space between plants in the flowerbed.

A 0.25m thick layer of topsoil/garden soil (3400), identical to (3300), was removed to reveal an orange-brown sandy silt deposit (3404) covering the whole of the exposed trench floor. A small quantity of later medieval and post-medieval pottery, including Cistercian Ware and Midland Yellow, was retained from this layer. In addition to this, some very modern pottery and plastic fragments were recovered throughout the depth of (3400), none of which was retained. Approximately 0.1m of (3404) was removed but the base of this context was not reached. A small quantity of bone, glass (small find 41), splashed ware ridge tile and a single sherd of Roman Samian ware was found within this layer and may indicate the presence of a demolition spread, although the date of deposition is not known. No surfaces or walls relating to the blocked doorway were detected during excavation.

As the topsoil was removed a number of phases of wall construction were revealed. The upstanding section of wall was set on wider foundations (3402) as seen in Trench 33. (3402) consisted of small roughly shaped sandstone and limestone slabs creating a wall approximately 0.4m high with lime mortar bonding set into orange silty layer (3404) before apparently terminating within this layer. The doorway used some moulded stones set into the base of the doorjamb but none survived above the first course. Above this course both the wall and blocking stones looked quite sharp and unweathered and were bonded with a hard pale grey mortar. One metre south of the blocked doorway was a small stub of wall (3406) running at an angle outwards from beneath wall (3402). This wall, constructed in rough courses of sandstone with lime mortar, appeared to be cut by a stub of masonry (3403) which was laid along the same line as (3402). It is not clear what purpose (3406) served as it was on a different alignment to the precinct wall and no scar could be seen on the east facing side of

this wall. It is possible that (3406) continued southwards as a further stretch of wall, context (3408), of similar construction could be seen adjacent to block (3403).

Because of the lack of features within the excavated area no further work was carried out and after all recording had taken place the trench was backfilled.

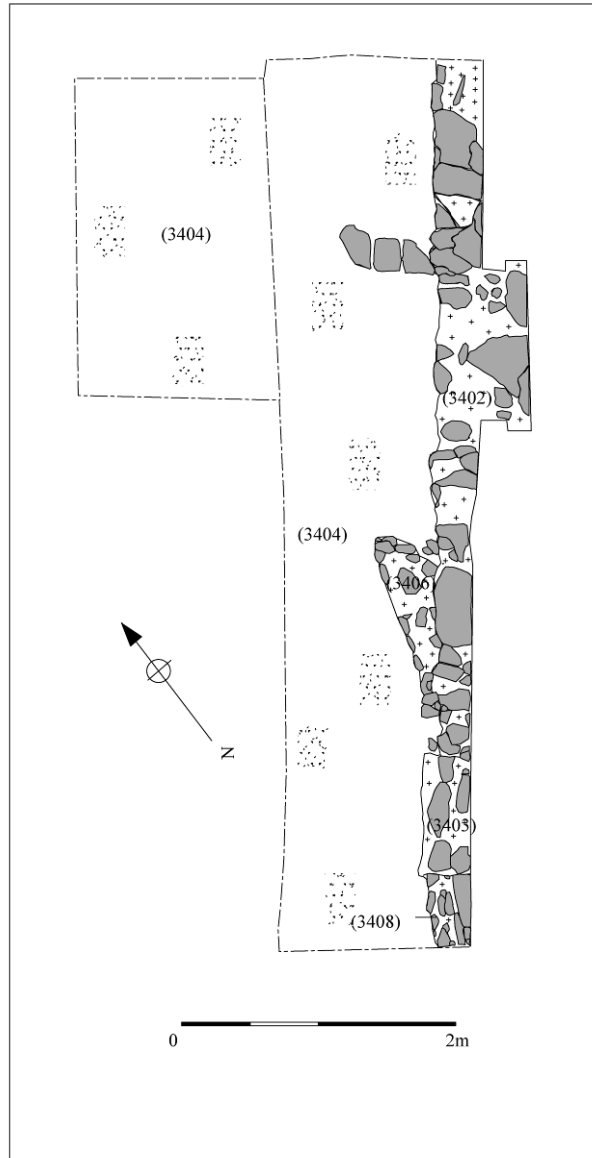


Figure 29 Plan of Trench 34

## Discussion

### *The kitchen*

The surviving plan of the 1923 excavation indicates that at that time, the south wall and south-eastern corner of what we now know to be the abbey kitchen was uncovered. Three substantial drains were also revealed, leading from within the building and from a possible adjacent structure to the east, which converged just to the south into a single, larger, drain

which continued for some distance to the south. A short stretch of north-south wall and a small square structure to the west of the kitchen – the soakaway revealed in 2003 – also appears on the plan. The investigations of 1929-31 located part of the east wall of the kitchen, the south wall of the refectory, as shown on the survey plan of 'Aug. & Sept. 1930', together with some of the north wall, and an east-west drain running between the kitchen and refectory, added to the tracing of the plan of 'foundations disclosed up to Sept 1930' in the Jewry Wall Museum.

Based on the nature of the remains discovered, and the description of this part of the site in the Crown Commissioners' Survey of 1538, this general area is labelled on the published plan (Fox 1971, 14-15) as the probable site of the kitchen and the 'Kynge's lodging'. The survey also seems to describe a yard to the south of the claustral ranges, surrounded by a hall and chambers, apparently guest facilities including a tower called the King's Lodging and a great dining chamber (with bay window). These are linked by 'galleries' – perhaps covered walkways – to the kitchen and officials' quarters.

The earliest high-status medieval kitchens were generally detached buildings, presumably to reduce the risk to adjacent structures in the event of fire, and were commonly square or octagonal in plan. The hearth might be located centrally initially, the smoke being carried out through a great timber or stone-vaulted louvred roof. Later the fireplaces are more commonly moved to the sides. Some kitchens were square externally, but octagonal internally, such as the Abbot's Kitchen at Glastonbury. Other square kitchens might have fireplaces in the side walls, or in both the walls and corners whilst pairs of fireplaces adjoining at right angles are not uncommon, as at South Wingfield.

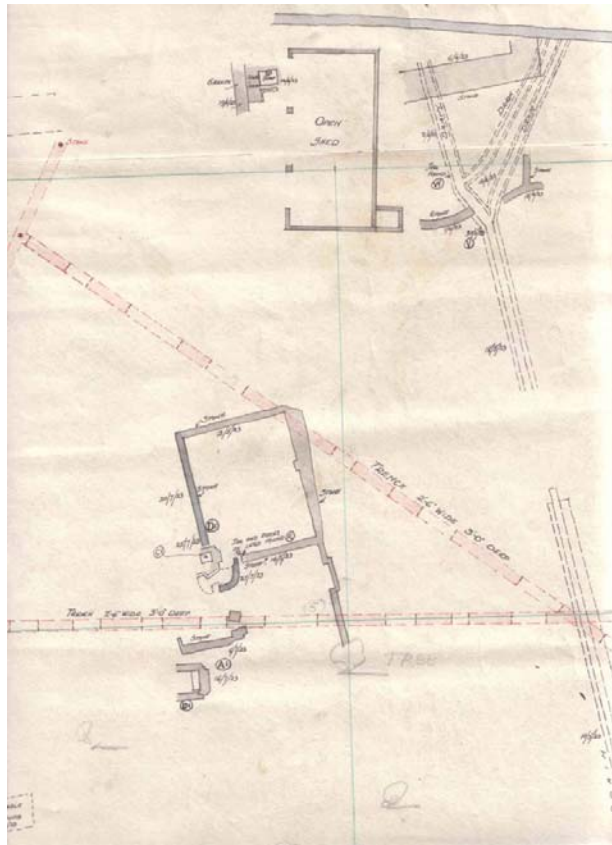


Figure 30 Part of the 1923 excavation plan showing the southern part of the kitchen and other buildings

From the evidence encountered so far, the kitchen at Leicester Abbey would appear to be a substantial building measuring approximately 39 feet (11.88m) square internally with walls

about 4ft 6in (1.4m) thick, except for the west wall which has been refaced, increasing the thickness to about 5.7 feet (1.74m). The trenches excavated in 2003-2005 suggest corner fireplaces, at least two of which (that at the south-west and south-east) contained circular ovens. Possible evidence for fireplace arch abutments was also located, adding weight to the suggestion that the kitchen was octagonal internally, and of a similar plan to the Abbot's Kitchen at Glastonbury. The latter measures about 10.32m square internally (about 33 ft 4 ins) and has corner fireplaces, each containing a circular oven. In the centre is an octagonal lantern to ventilate the kitchen, supported by diagonal vaulting ribs which spring from either side of each fireplace. Externally the building is buttressed.

Interestingly, the lengths of the internal walls of the Leicester Abbey kitchen, at 39 feet, are neatly divisible by three to locate the position of the fireplace arch abutments, thereby creating the internal octagon plan. It is tempting therefore to suggest that the numbers themselves are indicative of Christian religious symbolism: three representing the Holy Trinity and thirteen representing Jesus and the twelve apostles. However, it has been suggested elsewhere that the unit of measurement used on many sites was a 'medieval foot' of 0.295m, hence the kitchens at Leicester and Glastonbury could be approximately 40 and 35 medieval feet square respectively.

A substantial kitchen such as this must surely have served not only the refectory, but also the adjacent guest hall, perhaps corrodian's lodgings (as yet unlocated) and, in the early period at least, the abbot's lodging which may have been on the first floor of the west range. Clearly there must have been many modifications over a long period of time not only to the building itself, but also through the construction of passageways and pentices to link with neighbouring buildings and also alterations to the associated water management systems. Investigations in 2003-5 provided some archaeological evidence of such activities and a particularly complex sequence was identified. A number of modifications and built-up floor levels inside the kitchen were clearly evident, leading to the accumulation of almost 500mm of stratification. Outside, a wide passageway was added to western side of the kitchen, probably serving another range of buildings yet to be revealed by excavation, but perhaps the 'Kings Tower' complex known from the 16th-century Survey. Dating of the addition of this link is uncertain, but the substantial depth of surviving floor levels and make ups within it suggests that it was some considerable time before the Dissolution. Other activity identified in the trench included cobbled yard surfaces, some contemporary with the kitchen, whilst others seemed to post-date its demolition and are presumably associated with reoccupation of the site in the late 16th-early 17th century. Two circular stone-lined features, probably wells, were also identified in this area which may have supplemented the piped supply of water to the kitchen.

Investigation of the area to the west and north of the kitchen revealed the comparatively well-preserved remains of a number of drains, providing an insight into the complexity of the water-management systems which existed on the site. One stone-lined drain – presumably to carry rainwater from the refectory roof – was located in the alley between the kitchen and refectory and ran eastwards along the full length of the latter (traced on the 1930s excavation plan), ultimately to join the outlet of the main drain which discharges into the river Soar via an archway in the eastern precinct wall. A small stretch of this rainwater drain was also examined in 2000 just to the south of the dormitory. At that time, it was assumed that the line of the drain marked on the 1930s excavation plan represented that of the abbey main drain, taking effluent from the reredorter which might be expected at the southern end of the dormitory. Instead, a narrow-stone-capped drain was revealed of a similar build to that examined during the current season and almost certainly for rainwater rather than sewage. Investigations in trench 33 adjacent to the archway in the precinct wall, presumed to be the outlet of the main drain, revealed a similar picture: a small stone-lined and capped rainwater drain apparently post-dating the main drain itself. From this evidence, it would now seem clear that the reredorter was at some point relocated, perhaps following an extension to the dormitory.



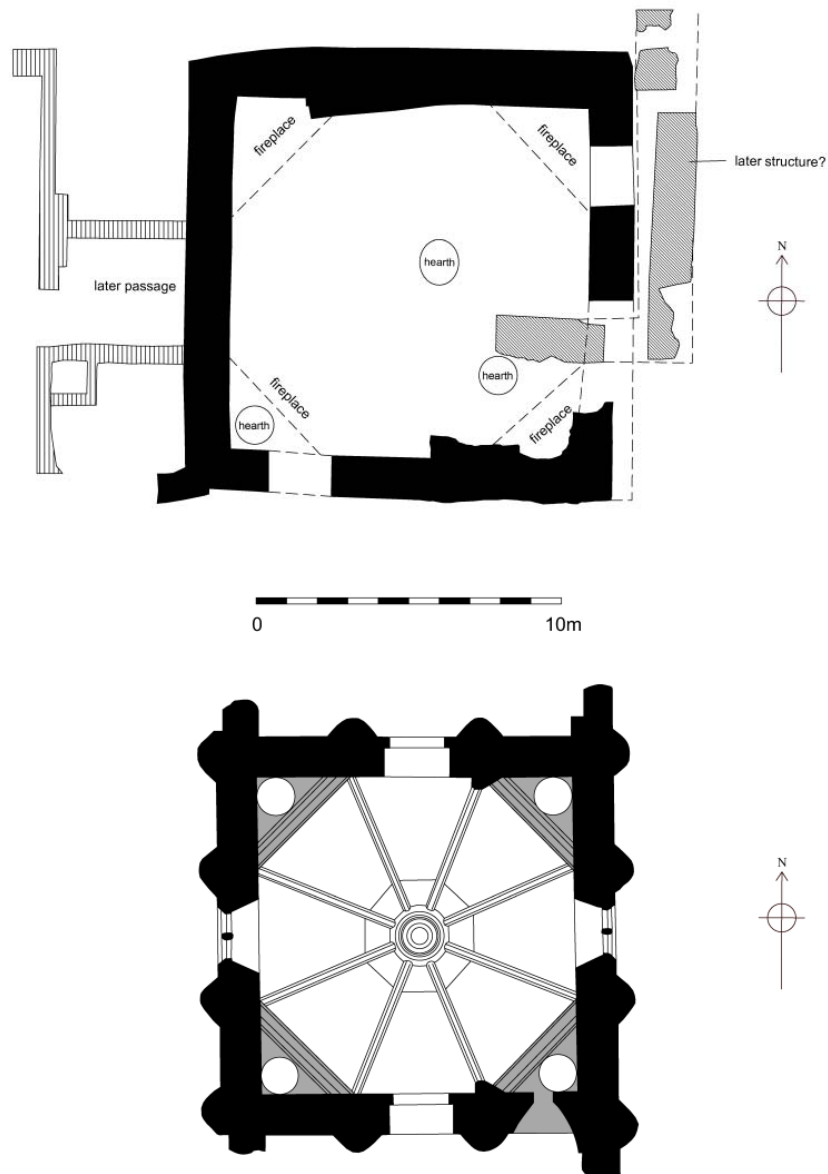


Figure 31 Comparison of the kitchen at Leicester abbey (top) with the Abbot's Kitchen, Glastonbury (bottom) (thanks to Vicky Dawson for sending a copy of the 1851 plan, and to David and Tim Dawson for taking measurements of the building to enable this scale drawing to be prepared.

Other rainwater drains appear to have run southwards along the western side of the kitchen, including one turns eastwards to go through the kitchen wall, suggesting the careful control of a supply of rainwater into the kitchen, probably to flush away food-preparation debris down the wider stone-capped drain inside the building. The evidence from the western side of the kitchen has led to the suggestion that a head of water was created for this purpose by channelling the rainwater into a stone-lined sump or cistern some 3.5m wide by 5m long and 1.45m deep constructed adjacent to the west wall of the building. Interpretation of this feature, however, remains problematic. It was identified initially as a rubble-filled area

between the parallel walls thought to represent a later passageway connecting the kitchen to another range of buildings. Removal of the rubble – which appeared to represent backfill from the 1930s excavations – revealed (or perhaps created) a rectangular flat-bottomed feature bounded by a number of walls and apparently fed by at least two rainwater drains. It is now thought more likely that in the 1930s, an area of stratification was excavated between the passage walls, effectively destroying all relationships between structural features and creating the illusion of a rectangular feature. This interpretation may be supported by the presence of a narrow block of stratification running along the north face of the south wall of the passageway which may incorporate the fragmentary remains of floor surfaces, presumably relating to the passage itself. That there was not standing water in this area may be supported by the environmental sample from (3098) at the base of the feature created, which produced only a small number of snails normally associated with damp places, unlike samples from other drains examined on the site. The presence of a cistern or sump, in this position, is therefore unlikely although there is no doubt at all that rainwater entered the kitchen through its west wall via stone-lined drains.

Of particular interest was the discovery of a length of in-situ lead piping at the base of the putative sump or excavation trench, pointing to a supply of fresh water to the building at an earlier date. The line of the pipe – approximately north-south along the side of the west wall of the kitchen – ties in with a course of lead piping illustrated on the 1930s excavation plan. Although the source of the abbey's fresh water supply remains unclear, the 17th-century William Senior map plan shows a small circular building surmounted by a cross to the west of the kitchen which could possibly be a conduit or well house. A plentiful supply of fresh water to the kitchen for the preparation and cooking of food was clearly essential, whilst evidence from other sites indicates that a piped supply, usually under pressure, was provided to other buildings, such as the scullery, refectory and guest hall, along with the laver or lavatorium where the canons would have washed before meals. As noted above, pipes and drains serving the latter (located in the west cloister alley) appear on the 1930 excavation plan.

During the excavations of 2002-5, a number of environmental samples were taken from key deposits associated with the kitchen with the aim of identifying evidence for food which was being prepared and cooked. Samples from the probable north-western corner fireplace and south-west corner contained abundant charcoal and ash together with charred cereal grains, weed seeds and occasional chaff fragments, probably representing waste sorted from the cereals before use together with accidentally spilled cereal grains. Some of the burnt material in the oven may represent the remains of fuel which would normally be raked out when the oven was at the correct temperature before food was put in whilst other grains, probably including a mixture of seeds, may have resulted from the cooking process itself, having been scattered on the oven floor to stop bread sticking. Some uncharred fish remains were also found in this hearth suggesting that the deposit also includes general kitchen waste. In the centre of the kitchen, a brick hearth was excavated which probably dates to the 16th or early 17th century and therefore may belong to the post-Dissolution use of the site. It is impossible to determine whether the hearth represents an internal feature, indicating that the kitchen building survived into the mansion phase of the site, or whether it is an external feature. Environmental evidence from the hearth included charred peas, a small variety of bean and hazel nut shell, probably waste or spillage from preparing meals.

Environmental samples from the drains contained numerous fragments of fish scales and bones probably from preparing fish for consumption, or perhaps from clearing away after meals, together with accumulated domestic rubbish from the kitchen area during disuse. The fish remains include eels, perch and carp family, with sea fish represented by plaice and cod with numerous herrings, as have been found on other medieval to post-medieval sites in Leicester such as at Causeway Lane. Unlike the Cistercians, who were prohibited from eating meat until the 14th century, the Augustinians had a rather more relaxed attitude to meat eating, although it was banned on a large number of days throughout the year, so fish was still of particular importance in their diet. The evidence from animal bones suggests that beef,

mutton, pork and chicken were consumed, while domestic birds may also have contributed to the diet, together with venison as indicated by the recovery of a single deer bone. Other bones included those of mice found in one of the oven fills, suggesting that the human occupants shared the kitchen area with small creatures such as these.

The drains and ovens also included abundant charcoal with small numbers of charred cereal grains and weed seeds, peas, beans, a fruitstone of sloe or cherry and bramble, indicating that the deposits probably represent an accumulation of waste from the kitchen area.

### *A later kitchen?*

In the 2005 season, a substantial wall was encountered on the east side of the kitchen which undoubtedly represents a later structure, although it is not possible at present to determine when it was constructed or whether it represents a replacement kitchen with a different plan form. Unfortunately, the western extent of the south wall of this building was not identified in trench 26 in 2003 – however, an examination of the site plan (fig.12) raises the possibility that this replacement structure incorporated some elements of the original kitchen building and the later passageway to the west of it. The size of the walls would seem to suggest a pre-Dissolution building and it is tempting to associate it with remodelling of facilities (in particular guest accommodation) in this area in the 16th century hinted at by the Crown Commissioners' survey.

### *Trenches 33 and 34*

The main aim of the investigation of trenches 33 and 34 was to examine evidence for the presumed outlet of the abbey main drain and to provide some preliminary indications of the extent of survival of buildings constructed against the eastern precinct wall, excavated in about 1932 and thought to represent the infirmary.

Despite a lack of secure dating evidence, it now is clear that the drains in this area of the abbey have a more complex sequence than originally thought. Bedingfield's excavation plan shows a large drain running directly from the archway in the precinct wall westwards, towards the main complex of claustral buildings before branching to the south. The side walls of the main drain revealed in trench 33 are about 3m apart, making it slightly smaller than that at the Austin Friars, Leicester, although here it was later narrowed to 2.5m (Mellor and Pearce 1981, 35). The re-use of building stone to construct the southern side wall indicates that some rebuilding was probably taking place elsewhere on the site, perhaps with this drain being dug or enlarged in order to cope with additional waste. The different style of construction of the north wall (3308), and the fact that it seems to be bonded into the precinct wall could suggest that is the earlier of the two and is contemporary with the precinct wall, or at least with its foundations. Also of note was the discovery of part of an arch in this wall, indicating a connection with another drain, probably serving a structure to the north.

It is assumed that the main drain would have carried effluent away from the reredorter and possibly other structures, but was then backfilled at some point in the later medieval period perhaps following a remodelling of the dormitory range. It was replaced by a much smaller stone-lined and capped drain which is more likely to have been associated with general rainwater management on the site, being the end of a long drain running between the refectory and kitchen into which other drains most probably fed. Such a small drain would be able to cope with rainwater runoff from roofs but probably not waste from within the buildings. The stone-capped drain seen in Trench 10 was of similar size and construction and seems likely to be the same structure, although only more trenching work would prove or disprove this. Further to the west, the drain could also be the same as that uncovered in the northern extension of Trench 32. Here, the drain appeared to cut the wall of the later structure which post-dates the original square kitchen, although it is also possible that it ran through the wall.

If so, this would perhaps add weight to the idea that this is a replacement kitchen since the earlier square kitchen also has a drain running through it.

The limited excavations show that much of the visible part of the precinct wall in this section is heavily restored but is built upon older foundations. Much of the visible wall is a great deal thinner than the foundation base and suggests that some of the facing and core may have been removed during restoration in the 1930s. The narrowing of the wall foundations at the point where the archway discharged into the Soar is also significant and may help in locating structures constructed against it. It would appear that the blocked doorway in Trench 34 is a modern restoration perhaps imitating an earlier opening and partially reuses some surviving stone from this feature. The small fragments of masonry seen to the south of the blocked doorway need further excavation to determine their origins and use but may have links to the possible mill nearby.

### **Conclusion**

The evaluative excavations at Leicester Abbey in 2004-5 concentrated principally on clarifying a number of outstanding questions relating to the interpretation of the monastic kitchen examined partially in 2002 and 2003, together with more limited investigation of the site of the gatehouse and infirmary. Excavation of the kitchen confirmed that it was a large square building, measuring some 11.8m across (39ft) internally, and 14m (45.9ft) externally, with walls about 1.3m (4.2ft) thick, making it one of the largest structures of its type from medieval England. Internally, the kitchen was almost certainly octagonal, with large fireplaces constructed across the corners, probably with circular ovens as at the Abbot's Kitchen, Glastonbury. A passageway appears to have been added to the west side of the kitchen at some point in the medieval period, probably to serve adjacent buildings. A surprising discovery during the 2005 season was that the kitchen was replaced by a rectangular building, perhaps late in the medieval period. This may also have been a kitchen and possibly incorporated some of the earlier structure in its fabric.

The investigations of 2005 indicated that the abbey main drain was backfilled at some point in the medieval period, perhaps indicating the relocation of the reredorter, assumed to have been at the southern end of the dormitory. Trenches in this area also provided initial indications

## SPECIALIST REPORTS

**The Small Finds, Fifth Season 2004 Siobhan Brocklehurst**

***Category 1: Objects of personal adornment or dress***

*Cu Alloy*

SF 6: (2900) Post Medieval copper alloy button (21mm x 1.5mm)

***Category 18: Objects the function or identification of which is unknown or uncertain***

*Pb*

SF 37: (u/s) Partial lead rod, rounded one end, flattened / spatulate on other end with etchings on one side (43mm x 10mm)

***Coins & tokens***

*Cu Alloy*

SF 7: (2901) 1932 Coin (25mm diameter x 2mm)

SF 31: (u/s) Medieval copper alloy token i.e. Jetton (25mm diameter x 0.5mm)

SF 33: (u/s) Medieval copper alloy token i.e. Jetton (25mm diameter x 0.5mm)

SF 35: (3000) George V One Penny coin, 1917 (30mm diameter x 1.5mm)

***Other finds***

(3014), Chrome-plated disc with a screw through the middle. Identified by Roger Bird of the Morris Register and Stephen Laing of the motor museum at Gaydon, Northants as a hubcap from a Dunlop Magna wheel, introduced in 1932 and fitted to Morris models from 1933 until 1937. As the Leicester Abbey example was fixed by a screw rather than a nut, it could be dated accurately to 1934 and came from a Morris Minor or Morris 8.

***Category 15: Objects and waste material associated with metalworking***

*Pb*

SF 57: (3118) Folded lead sheet fragment (52mm x 22mm x 22mm; thickness of sheet 2mm)

SF 48: (3127) Curled lead sheet fragment (77mm x 18.5mm x 5mm)

SF 51: (u/s) Tangled fragment of window lead debris/cutting (91mm x 22mm x 2.5mm)

SF 47: (3112) Small curl of thin lead debris/cutting (13mm x 11.5mm x 0.25mm)

SF 49: (3125) Curled fragment of lead (47mm x 19mm x 5mm)

SF 50: (3263) Curled fragment of lead (49mm x 10mm x 2mm)

(3105) Curled fragment of lead sheet debris/cutting (60mm x 33 x 2mm)

(3302) Folded lead sheet, lozenge shape (63mm x 48mm x 2.5mm)

*Cu Alloy*

(3246) Copper alloy sheet fragment (40mm x 18mm x 1mm)

(3100) Copper alloy fragment, nodule of rust? (19mm x 8mm x 5mm)

(3116) Copper alloy sheet fragment (52mm x 50mm x 4mm)

***Coins & tokens***

*Cu Alloy*

(3100) Two One Penny copper alloy coins, George VI 1944 and Elizabeth II 1967 (30mm diameter x 2mm thickness).

**The pottery and miscellaneous finds (season 5, 2004).***Deborah Sawday*

A summary of the pottery retained from the excavations, 287 sherds, weighing 10.331 kg, from the site of the abbey kitchens, and a further 72 sherds, weighing 1.873 kg from Cavendish House, is listed below, (tables 1 and 2). Twenty-six fragments of medieval ridge tile, weighing 2.576 kg were also recovered from the site of the abbey, (table 3), together with quantities of flat roofing tile and medieval floor tile. Tiny pieces of medieval window glass and a small number of architectural fragments were also found. These and other miscellaneous Roman, medieval, post medieval and modern finds, except for the medieval and later brick, are listed in the catalogue below.

Table 1 The pottery totals by fabric sherd numbers and weight (grams) from Leicester Abbey.

Fabric/Ware	Sherd Nos.	Weight Grams	Average Sherd Weight
Roman			
GW – Grey ware	1	33	
Sub Total	1	33	
Medieval			
PM – Potters Marston	14	243	
CC1 – Chilvers Coton ware 1	4	86	
NO2, 3 – Nottingham wares 2 & 3	8	109	
MS – Medieval Sandy ware	6	130	
Sub Total	32	568	17.7
Later Medieval/Early Post Medieval			
MS3 – Medieval Sandy ware 3	18	365	
MP1, 2 - Midland Purple ware 1 & 2	24	943	
CW2/MB – Cistercian/Midland Blackware	22	162	
EA1 – Earthenware 1	44	2131	
MY – Midland Yellow ware	27	799	
LA – Langerwehe - Stoneware	1	12	
MAIII – Martincamp Stoneware	1	32	
? FR – Frechen - Stoneware	8	96	
SW2 – Salt Glazed Stoneware	1	4	
GRE – Glazed Red Earthenware	4	118	
Sub-Total	130	4662	35.8
Post Medieval/Modern			
EA/SW – Earthenware/Stoneware	124	5068	
Sub Total	124	5068	
Totals	287	10331	

Most of the medieval finds were residual in contexts representing modern activity on the site. However, the layer (3040), apparently associated with the robbing of the buttress (3047) in the north west extent of the kitchen, produced five sherds of medieval pottery dating from the 12th to the 14th or 15th centuries and a fragment of 13th-century medieval ridge tile, which was covered in mortar and had evidently been re-used as building material, and a single sherd of early post-medieval pottery dating to the 15th or 16th centuries. Another associated layer, (3045) produced a fragment of earthenware of uncertain date. A fragment of late medieval midland purple ware occurred in a clay layer (3043), associated with one of the two circular stone lined features – probably a well – also in the north-eastern extent of the kitchen.

The only other contexts producing exclusively medieval finds were the fills (3097) and (30100) of the construction trench [3096] for a lead pipe, in the south western extent of the

kitchen, which contained a sherd of Potters Marston ware dating from the 12th or 13th centuries and two fragments of glazed floor tile.

The pottery and ridge tile from both the Abbey and Cavendish House, is generally typical of Leicester and its *environs* in terms of the range of pottery vessel forms, tile crest types and fabrics present. Similarly, most of the identifiable inlaid floor tile is in designs, which have already been recorded at the Abbey, (Whitcomb 1956) or at the major kiln source, Chilvers Coton in Warwickshire (Eames 1984). However, two of the unclassified pottery sherds in medieval sandy ware probably represent slightly less common regional imports from East Anglia and Hampshire. The continental pottery imports comprise a fragment of Martincamp stoneware from northern France, and several sherds of Rhenish stoneware, including a piece of Langerwehe and several sherds from Frechen or Cologne, all of which were traded in vast quantities to Britain during the medieval and post medieval periods.

Table 2 The pottery totals by fabric sherd numbers and weight (grams) from excavations at Cavendish House.

Fabric/Ware	Sherd Nos.	Weight Grams	Av. Sherd Weight
Medieval			
PM – Potters Marston	1	12	
CC1 – Chilvers Coton ware 1	2	16	
Sub Total	3	28	9.3
Later Medieval/Early Post Medieval			
TG1 – Tudor Green	1	2	
CW2/MB – Cistercian/Midland Blackware	2	20	
EA1 - Earthenware 1	2	114	
GRE – Glazed Red Earthenware	1	52	
Sub Total	6	188	31.3
Post Medieval/Modern			
EA/SW – Earthenware/Stoneware	63	1657	
Sub Total	63	1657	
Total	72	1873	

Table 3 The Medieval Ridge Tile from Leicester Abbey by fabric, fragment numbers and weight (grams).

Fabric/Ware	Frag. Nos.	Weight Grams	Average Frag. Weight
PM – Potters Marston ware	1	25	
CC1 - Chilvers Coton ware 1	13	1322	
MS2 – Medieval Sandy ware 2	2	218	
MS3 – Medieval Sandy ware 3	6	470	
MP2 - Midland Purple ware 2	4	541	
Totals	26	2576	99.0



Table 4 Season 5 medieval pottery, ridge & floor tile & clay pipe, trenches 29 and 30

Site/Parish: Contexts 2000+ Cavendish House/ Contexts 3000+ Leicester Abbey Accession No/ Doc Ref: A8 2000 (season 5)/leabbey7 Material: medieval pottery, ridge & floor tile & clay pipe Site Type: Contexts 2000+ Cavendish House/ Contexts 3000+ Leicester Abbey – monastic kitchen – southern half:	Submitter: A. Hyam/S. Jones Identifier: D. Sawday Date of Id: 4.2.05 Method of Recovery: excavation
--	--

Context	Fabric/ware	Sherd nos.	Weight grams	Comments
<b>POTTERY –LATER POST MED/MODERN SCANNED</b>				
2900	EA1	1	54	
2900	EA2	11	303	
2900	EA3	1	4	
2900	EA	2	25	
2900	SW5	2	40	Modern
2901	EA1	1	60	Modern drain pipe discarded
2901	EA2	8	278	
2901	EA3	1	5	
2901	EA7	1	18	Press moulded dish
2901	SW5	1	5	Handle – later 17 <sup>th</sup> – 18 <sup>th</sup> C.
2902	EA2	8	170	Post Med/Mod
2904	TG1	1	2	Cup rim
2904	CW2/MB	2	20	
2904	EA2	21	615	Modern drain pipe discarded
2904	SW3	1	36	Tankard/mug base, iron stained ext, later 17 <sup>th</sup> – 18 <sup>th</sup> C.
2905	EA2	4	132	
2905	EA7	2	26	press moulded
2905	GRE	1	52	? pipkin, rod handle – 17 <sup>th</sup> – 18 <sup>th</sup> C., or slightly earlier, (Jennings 1981).
2913	PM	1	12	12 <sup>th</sup> – 13 <sup>th</sup> C.
2913	CC1	2	16	Highly fired semi vitrified, ? 14 <sup>th</sup> C.
3000	PM	2	12	
3000	CC1	1	16	
3000	MS3	1	12	
3000	MP2	3	78	
3000	? LA	1	12	c. 1350-1450

3000	EA1	6	328	
3000	EA2	5	188	
3000	EA6	1	5	
3000	EA	1	146	Bedingfield - Mod
3002 [3003]	CW2	1	7	Bedingfield - Mod
3004	NO3	1	7	
3004	MS3	1	42	
3004	MP2	1	17	
3004	MY	1	115	
3004	FR	1	5	1600+
3004	EA1	3	185	
3004	EA2	6	85	'joins' 3035
3004	GRE	1	68	Red bodied, sparse quartz, green gl int
3004	SW	1	84	Bedingfield - Mod
3005 [3006]	CC1	1	10	(mod drain pipe & pot discarded)
3005	MS	1	45	Fine pink sandy ware, brown gl int. (MS8)
3005	MY	4	142	
3005	EA1	1	5	
3005	EA2	1	47	
3005	EA7	1	20	Bedingfield - Mod
3007	MP1	1	27	Under fired
3007	MY	2	25	
3007	FR	1	15	C. 1500+
3007	EA1	5	160	
3007	EA2	3	65	
3007	EA7	1	24	
3007	EA/SW	10	228	Bedingfield - Mod
3008 [3009]	CW2	3	13	
3008	MY	5	192	
3008	FR	1	11	1600+
3008	EA1	5	218	
3008	EA2	1	13	Bedingfield - Mod
3010 [3011]	MS	1	9	Fine red bodied, orange gl + white clay handle ext, ? Lincoln/Scarborough or W. Norfolk/Norwich.
3010	NO2	1	7	
3010	MP2	1	34	
3010	EA1	6	226	
3010	EA2	3	80	Bedingfield - Mod
3014	MS2	1	7	Mod drain pipe discarded
3014	EA1	1	24	
3014	EA	1	5	Bedingfield - Mod
3015 [3016]	MY	2	15	
3015	EA1	1	16	
3015	EA3	1	1	
3015	EA/SW	3	15	Bedingfield - Mod

3018	PM	1	17	handle
3018	CC1	1	52	
3018	NO3	1	17	
3018	MP2	1	98	
3018	CW2/MB	1	10	
3018	EA2	2	198	
3018	EA3	1	5	
3018	EA	5	63	Bedingfield - Mod
3021	PM	1	4	
3021	MS3	2	30	vitified
3021	CW2	1	10	
3021	EA2	1	32	
3021	EA	3	18	Bedingfield - Mod
3022	EA1	1	5	
3022	EA2	2	43	
3022	EA3	1	7	Bedingfield - Mod
3023	PM	2	30	
3023	NO3	1	57	
3023	MS	1	3	Glossy gl, orange int ?Brill?/polychrome
3023	MS	1	18	Green gl int
3023	CW2/MB	10	75	
3023	MY	9	220	
3023	GRE	1	23	
3023	MP2	2	14	
3023	FR	1	6	1600+
3023	EA1	6	350	
3023	EA2	6	403	
3023	EA7	1	7	Bedingfield - Mod
3024	NO2	1	8	
3024	MS2	1	2	mod drain pipe discarded
3024	MS3	1	28	
3024	CW2	2	23	
3024	MY	4	90	
3024	EA1	3	68	
3024	EA2	5	188	
3024	EA3	1	7	
3024	EA6	1	84	
3024	GRE	1	16	
3024	EA/SW	14	235	Mod Bedingfield - Mod
3025	GW	1	33	Roman
3025	PM	2	53	Mod drain pipe discarded
3025	MS3	3	30	
3025	CW2	1	6	
3025	EA2	4	84	
3025	EA6	1	7	
3025	EA7	1	18	
3025	SW2	1	4	
3025	EA	15	168	Bedingfield - Mod
3027	MS3	1	20	(MS7)

3027	MS3	4	82	
3027	MP2	3	205	
3027	CW2	3	18	Pot later med (one post med/mod clay pipe stem ? intrusive)
3028	EA1	1	210	16 – 17 <sup>th</sup> C.
3029	NO2	1	7	
3029	FR	1	10	c. 1600+
3030	CC1	1	8	
3030	MP2	5	258	? some MS3
3030	TG2	1	22	
3030	FR	1	8	1500+
3030	GRE	1	11	16 <sup>th</sup> – 17 <sup>th</sup> C
3031	NO3	1	4	light bodied, mid 13 <sup>th</sup> C. Bedingfield - Mod
3032	EA1	2	198	? going into EA2, oxidised but ‘dense’ fabric
3032	FR	1	11	1600+, Bedingfield - Mod
3033	EA1	1	92	As above Bedingfield - Mod
3034	PM	1	18	
3034	MP2	2	40	
3034	EA2	1	12	
3034	EA	1	13	Post med or later flower pot
3035	PM	1	22	Everted bowl
3035	MS3	1	57	
3035	EA2	10	2142	Bowl profile, post med
3035	EA	1	2	Modern flower pot, ? intrusive
3036	MS3	1	13	
3036	EA1	1	8	
3036	EA2	2	95	
3036	EA3	1	2	mid 17 <sup>th</sup> – 18 <sup>th</sup> C
3036	EA	1	5	Modern flower pot, ? intrusive
3037	MS3	1	18	vitriified
3037	EA	1	38	? Post med rather than modern flowerpot, sandy fabric – type series.
3037	EA	1	15	Modern flower pot
3040	PM	1	65	Bowl, rounded
3040	NO3	1	2	
3040	MS3	2	38	Vitriified
3040	MS	1	43	Brown gl etc ( MS8)
3040	EA1	1	38	Oxidised, 16 <sup>th</sup> C. +
3043	MS3	1	7	
3043	MP2	1	12	Later med
3044	PM	2	18	Simple everted jug rim & pouring lip

3044	MP2	4	160	? small jug base, stacking evidence underneath, later med
3045	EA2	1	6	Post med/mod
3097	PM	1	4	12 <sup>th</sup> – 13 <sup>th</sup> C.
U/S	MA3	1	32	
U/S	FR	1	30	1600+
U/S	SW5	1	8	? bellarmine
U/S	EA9	2	170	Pearl ware bowl with turned foot ring, painted under & over glaze, c. 1770+
<b>ROMAN TILE</b>				
3007	EA	1		Possible tegula
3008	EA	1		Fragment of box/flue tile
<b>MED RIDGE TILE</b>		Frag nos	Weight grams	
3000	CC1	1	65	
3007	CC1	1	286	Mortar underneath – joins 3032
3007	MP2	1	73	
3008	MS2	1	130	Spiked knob crest, but without the finger smearing at base
3023	CC1	1	13	
3023	MS2	1	88	Fragment of serpentine crest
3023	MS3	2	348	
3023	MP2	1	210	
3026	CC1	1	80	
3027	CC1	2	44	
3027	MS3	3	110	
3027	MP2	1	72	
3030	CC1	3	515	Join – same tile
3032	CC1	2	240	Join same tile
3034	CC1	1	17	
3034	MP2	1	186	Small abraded crest – not id
3040	CC1	1	62	Re-used, mortar over broken edges and both surfaces
3042	PM	1	25	gl
3044	MS3	1	12	
<b>MED FLOOR TILE</b>				
		Frag No.	Max Dim.	
2900		5		Abraded
2901		1		Abraded
2902		3		Abraded
2904		1	128 x 128 x 18	Complete dark green black glaze

2904		1		Triangle, abraded
2904		4		Abraded
3000		3		Inlaid frags, not id. One sec.use with mortar
3000		6		Misc.
3004		2		abraded
3006		1		Abraded, triangular
3007		1	117 x 117 x 24	Complete, monochrome yellowish green glaze
3007		1	112 x 26	½ survives plain – dark brown gl
3007		3	25	Frag, plain, dark green gl, abraded
3007		1		Abraded, dark grn gl, triangular tile
3007		1	115 x 115 x 21	Complete, abraded no evidence of inlaid dec.
3007		1	34 x 20	Broken, part of a rectangular border tile, inlaid, abraded, prob. Chilvers Coton, where possibly similar tiles of small dragon with foliate tails known, (Eames 1984, 17), also known at Leicester Abbey (Whitcomb 1956, 143).
3007		12		Misc. all heavily abraded
3008		6		
3010		1	115 x 80 x 80 x 15	Complete, triangular, with cut corners, abraded
3010		1	65 x 55 x 22	Corner, pos cut into a rough square & re-used (after firing)), mortar on cut edges
3014		1		Inlaid, not id.
3014		1	115 x 20	abraded
3018		1	24	Corner, abraded, inlaid. ? Whitcomb 1956.65 – pos intended for arms of Leicester Abbey
3018		1		Monochrome, dark brown gl, abraded
3018		3		Misc abraded.
3022		1	157 x 22	Mono green gl over white slip, abraded
3023		1	22	Inlaid, corner, not identified ? Nottingham
3023		1		Inlaid, abraded,
3023		8		misc
3024		1	52 x 53 x 30	Small square tile, cut edges, mono orange brown gl
3024		1		Mono, white slip – green gl, abraded
3024		2		Inlaid, not identified
3024		4		misc

3025		1	24	Fragment inlaid. ? Whitcomb 73, known at Leicester Abbey
3025		1		Inlaid, not id.
3027		6		Misc, abraded
3027		1		Broken part of a triangle, abraded
3030		1	130 x 132 x 23	Complete (save for a corner), traces of gl, abraded
3030		4		Abraded
3032		2		Abraded
3034		1		Inlaid. ? Whitcomb 65, found in situ at Leicester Abbey
3034		1	120 x 23	Triangular, mono, brown gl
3034		1		Abraded
3034		1		Broken part of a triangle, abraded
3036		1	22	Inlaid, not identified.
3044		1		Abraded
30100		1		Mono, white slip with yellow gl
30100		1		Mono, brown gl
U/S Trench 26 back fill		3		Frag, 2 join, inlaid not id.
<b>NIB ? FLAT ROOF TILE</b>				
3001		1		? Modern
3004		1		With nib protruding from smooth side
3018		6		
3025		1		
3027		1		
3034		2		
3037		3		
<b>MISC ROOF TILE</b>				
3000		1		? Valley tile, post med or modern
<b>CLAY PIPE</b>				
2900		2		stems
2901		2		stems
2902		2		stems
2904		3		stems
2904		1		Bowl, midland spur tiype, later 17 <sup>th</sup> C., Higgins 1985, fig.1.9
3000		7		stems
3001		1		stem
3004		2		stems
3005		2		stems
3008		1		stem
3015		1		stem
3018		1		stem
3018		1		Bowl – late 18 <sup>th</sup> – 19 <sup>th</sup> C.,
3022		1		Stem
3023		2		stem

3024		2		Stems
3025		6		stems
3027		1		stem

<b>MISC FINDS</b>		Frag. No.	
2004 <32>	Bone	1	Worked -? Medieval, hollow cylinder with inscribed horizontal lines
3024	Bone	1	Worked -? Medieval, hollow cylinder with inscribed lines in spiral up length of object.
3025	Plastic	1	Modern – discarded.
2902	Glass	1	Bottle glass base with kick up and pontil mark, probably Victorian
2904	Glass	2	Bottle Glass – 17 <sup>th</sup> – 18 <sup>th</sup> C – modern glass discarded.
3018	Glass	2	Two lumps - possibly modern
3024	Glass	1	Medieval window glass with rolled edge
3027	Glass	1	Medieval painted window glass
3040	Glass	1	
3005	Lead	1	Medieval window came
2900	Composite	1	? Modern button
<31>	Metal	1	? Medieval coin or token
<33>	Metal	1	As above.
2901	-	1	Half penny – George V
300	-	1	One penny –George V - 1917
2905	Iron	2	Nails
3033	Iron	1	
3034	Iron	1	
3037	Iron	2	
3004	Stone	1	Fragment of window tracery?
3007		1	Part of a small column? drum.
3008		1	Fragment of window tracery
3027		1	Worked stone
3035 [3036]		1	Worked stone
3036		1	? Worked stone
T30 – Cleaning over cobbles		1	Worked stone (NB There may be more architectural fragments)



## **The pottery, medieval floor tile and medieval and later roof tile and clay pipe (6th season 2005) Deborah Sawday**

### ***The Pottery and Tile***

#### *Introduction*

The pottery, four hundred and three sherds, weighing 8.868 kg, together with fifteen fragments of decorated medieval floor tile, and forty two fragments of medieval ridge tile, weighing 2.109 kg, was catalogued with reference to the ULAS fabric series (Davies and Sawday 1999). The results for the pottery, which included a single fragment of Roman Samian ware, are shown above (Table 5).

Twenty two fragments of monochrome floor tile, twenty four more that were too worn to identify, three fragments of late medieval or post medieval curved roof tile and three fragments of flat roof tile – probably nib tile – and what may be part of an 13th century floor tile and a post medieval or modern chimney pot respectively were also examined by the author. One hundred and thirteen fragments of clay pipe, including parts of three bowls, dating from the later eighteenth or nineteenth centuries were also recorded.

### ***The Post Roman Pottery***

#### *The Stratified Record*

Seventy-three sherds of stratified pottery were recovered from the medieval levels in the two trenches, 31 and 32, which were associated with the monastic kitchen. Most of this material occurred in layers below the dissolution levels, notably the dressing layers 3167 and 3168, and comprised 12th and 13th century Potters Marston ware, and Chilvers Coton and Nottingham wares dating from *circa* 1250. The one stratified sherd of Stamford ware, fabric ST2, dating from the 12th century, was possibly residual in the layer, context 3112. Of note was the single fragment of 12th or 13th century Potters Marston in the fill of the drain 3132, and the thirteen sherds in the same ware from contexts 3125 and 3126, thought to be associated with an oven. A fragment of Medieval Sandy ware dating from *circa* 1250 had been incorporated into the cobbled area 3166 around the oven. The possible dissolution layer 3134 contained three sherds of hard fired Chilvers Coton ware, dating from the 14th century if not later, but probably residual in this context.

Table 5 The pottery totals by fabric, sherd numbers and weight (grams)

Fabric/Ware	Sherd Nos.	Weight Grams	Av. Sherd Weight	% Med/Early Post Med by sherd numbers
Roman				
SW – Samian Ware	1	1		
Sub Total	1	1	1.0	
Late Saxon				
ST2 – Fine Stamford ware	1	8		
ST1 – Very Fine Stamford ware	1	8		
Sub Total	2	16	8.0	0.6
Medieval				
PM – Potters Marston	55	956		
SP3 – Splashed ware 3	1	12		
OS – Oxidised Sandy ware	1	2		
CC1 – Chilvers Coton ware 1	50	716		
CC2 – Chilvers Coton ware 2	1	9		
NO1 - Nottingham ware 1	3	68		
NO3 – Nottingham ware 3	14	345		
BR2 – Brill/Boarstall type ware	3	9		
MS1 – Medieval Sandy ware 1	1	13		
MS2 - Medieval Sandy ware 2	11	255		
MS - Medieval Sandy ware	8	110		
Sub Total	148	2495	16.8	49.1
Late Medieval/Early Post Medieval				
TG1 – Surrey White ware	1	1		
MS3 - Medieval Sandy ware3	12	419		
MS7/8 - Medieval Sandy ware7/8	6	120		
MP, MP1/2 – Midland Purple wares	30	1617		
CW2/MB – Cistercian ware 2/Midland Blackware	56	844		
MY – Midland Yellow ware	16	406		
EA1 – Earthenware 1	15	486		
RH – Rhenish Stonewares	13	154		
MA3 – Martincamp 3	2	13		
Sub Total	151	4060	26.8	50.1
Total Late Saxon – Early Post Medieval	301	6571	43.5	99.8
Modern				
EA, EA2 – EA8 Post Med/Modern Earthenwares	90	1931		
SW, SW4/5/7 – Post med/Mod Stonewares	6	63		
GRE – Glazed Red Earthenware	5	302		
Sub Total	101	2296		
Grand Total	403	8868		

One of the lower layers, context 3261, in trench 32, produced two sherds of 12th or 13th century Potters Marston ware, whilst Potters Marston, Chilvers Coton, Nottingham and

Medieval Sandy wares dating from the mid or later 13th century were recovered from the layers, contexts 3232, 3252, 3253, and 3267, in the same trench. A 13th-century Potters Marston bowl together with medieval ridge tile and a 14th-century inlaid floor tile occurred in the demolition layer 3207. A fragment of the Nottingham fabric NO1, dating from the mid 13th century was found in the spread, context 3254, over the wall 3237, whilst the backfills of the robber trenches 3287 and 3288 contained Nottingham, Medieval Sandy and Midland Purple wares dating from the mid or later 13th, 14th and 15th centuries if not later. A sherd of Medieval Sandy ware, fabric MS3, dating from the 15th century occurred in the backfill of the post hole 3219, whilst the rubble spread, 3208, contained late medieval Midland Purple ware, and a fragment of Rhenish Stoneware of 16th- or 17th-century date. Context 3217 contained a range of medieval pottery, but a single sherd of post medieval earthenware, fabric EA1, and sherds of late medieval or early post medieval Cistercian or Midland Blackware also suggested a terminal date in the 16th or 17th centuries for this group.

The only stratified medieval pottery from trenches 33 and 34 comprised four sherds in Chilvers Coton, Nottingham and Medieval Sandy ware from context 3404, associated with a wall 3403, with a terminal date in the 14th, or possibly, the 15th centuries.

### *The Ceramic Record*

The range of fabrics is typical of that found in Leicester, even accounting for the continental imports, most of which were imported into the country in huge quantities from at least the 16th century. Only the Brill Boarstall type ware is an uncommon regional import, although it has been recorded in the city before. The pottery vessel forms were also typically domestic in nature, jars, bowls, and jugs were all present, including four highly decorated jugs in Chilvers Coton, Nottingham and Brill Boarstall type war. The late medieval and early post medieval vessels included cisterns, pipkins, cups, posset pots, mugs, tygs and drinking jugs. One Cistercian ware cup was decorated with an applied white clay pad or leaf, another had a leaf stamped directly onto the wall of the pot, both types of decoration have been recorded elsewhere in Leicester, notably at the Austin Friars (Woodland 1981). More unusual for Leicester, although known elsewhere (Woodfield 1984) was a fragment of Midland Yellow ware with roller stamped decoration, and – much more unusual - another Cistercian ware sherd with what may be Lombardic lettering in applied white clay strips, unfortunately too fragmentary to decipher but with, as yet, no known parallels. Medieval pottery with slip trailed motifs has been noted elsewhere, notably at Toynton All Saints. Many of these pots occurred at religious sites and may be interpreted as having a symbolic meaning associated with Christianity (Walker 2005, 1-2). Equally unusual was part of the neck of a vessel of unknown form with two parallel pierced lugs, possibly for suspension in Cistercian or Midland Blackware. Both vessels are so uncommon it seems very likely that they were ‘made to order’, perhaps by the monks.

### *The Medieval Ridge Tile*

The range of ridge tile fabrics present is shown below (Table 6), and like the pottery is typical of that found in Leicester and its environs. Twenty of the forty fragments were found in stratified contexts, generally from levels that also contained medieval pottery as discussed above. The only context that contained ridge tile alone was the spread, 3233, which lay above the drain 3286. The tile was in a late medieval ware, fabric MS3, dating from the 14th or 15th centuries. Fragments of two crests were noted, a spiked knob and a possible ram’s horn, both previously recorded in Leicester (Allin 1981).

Table 6 The medieval ridge tile by fabric, sherd number and weight (grams).

Fabric/Ware	Fragment	Weight
-------------	----------	--------

	Nos.	Grams
PM – Potters Marston	1	12
SP3 – Splashed ware 3	2	60
CC1 - Chilvers Coton ware 1	11	433
NO3 – Nottingham ware 3	2	88
MS1 – Medieval Sandy ware 1	2	22
MS2 – Medieval Sandy ware 2	8	480
MS3 – Medieval Sandy ware 3	7	479
MS8 – Medieval Sandy ware 8	1	72
MS – Medieval Sandy ware	1	60
MP2 – Midland Purple 2	5	268
MP3 – Midland Purple 3	1	128
MP – Midland Purple	1	7
Total	42	2109

### ***The Medieval Floor Tile***

Only two of the fifteen fragments of decorated medieval floor tile were found in stratified contexts in association with medieval pottery in the layers 3207 and 3208 as noted above. All save one fragment appeared to have inlaid decoration and most apparently originated from Chilvers Coton and corresponded to Whitcomb's Group IV, (Whitcomb 1956) dating to the 14th century. One fragment from Nottingham, and two Wessex type tiles – Whitcomb's Group II, dated from the 13th and 14th centuries. There was one 14th century Westminster type tile, Group III, and one 15th century printed tile, Whitcomb Group V.,

The twenty two fragments of monochrome floor tile were glazed yellow under a white slip, greenish yellow, or dark brown or black. The remaining tiles were too worn to identify.

Table 7 The medieval and later pottery, tile and clay pipe catalogue

The Pottery											
cut	context	feature	ware	fabric	sherd	grams	Form	part	dec	date	Leicester Abbey Pot - season 6
	3108	layer	MS	MS	1	3				1250+	STRATIFIED
	3110	layer	PM	PM	1	5					
	3110	base layer	PM	PM	1	48	jug	handle		12th	
	3112	layer	ST	ST2	1	8				12th	glazed
	3123	layer	PM	PM	1	12					
	3123	layer	CC	CC2	1	9				1250-14th	
	3125	dem/oven	PM	PM	2	22				12th/13th	
	3126	?oven waste	PM	PM	11	116	jug	handle	yes	12th/13th	thumbed, strap
	3134	diss. layer	CC	CC1	3	22				14th+	quite hard fired
	3141	layer	PM	PM	3	77					
	3141	layer	CC	CC1	3	90	jug	body	yes	1250+	splayed baluster base, roller stamped iron rich vertical clay strips
	3148	layer	PM	PM	1	10				12th/13th	
	3149	layer	PM	PM	1	11	jar	rim	yes	12th/13th	thumbed
3132	3160	drain	PM	PM	1	2				12th/13th	
	3166	cobbles by oven	MS	MS	1	3				1250+	sparse quartz inclusions
	3167	?dressing layer	PM	PM	3	32	jug	rim		12th/13th	collared with pronounced rilling at neck
	3168	?dressing layer	CC	CC1	1	1					
	3168	?dressing layer	NO	NO3	1	1				1275+	
	3207	dem rubble	PM	PM	2	27	bowl	rim		13th	simple rim with external bevel, rounded form
	3208	spread/mortar	MP	MP	3	212	cistern	rim			with cut outs
	3208	spread/mortar	RH	RH	1	12					
	3217	feature fill	PM	PM	1	6					
	3217	feature fill	MS	MS	1	4					secondary use, with mortar
	3217	feature fill	MS	MS3	2	35	jug	base			small
	3217	feature fill	MP	MP2	1	293	jug	base			

	3217	feature fill	MS	MS8	1	22		rim			
	3217	feature fill	CW	CW/M B	7	76					
	3217	feature fill	EA	EA1	1	92	bowl	body		1500/1550+	flared
3219	3218	post hole	MS	MS3	1	5				15th	?
	3232	?dressing layer	PM	PM	1	16					
	3232	?dressing layer	CC	CC1	2	18					
	3232	?dressing layer	NO	NO1	2	57	jug	body	yes	1250+	highly decorated with applied pads of iron rich clay
	3232	?dressing layer	MS	MS2	1	8					
	3252	layer	PM	PM	1	25	jug	rim		12th	simple everted with internal bevel
	3253	layer	PM	PM	1	27					
	3253	layer	CC	CC1	1	5					
	3253	layer	NO	NO3	1	26				1275+	
	3254	spread on wall	NO	NO1	1	11				1250-1300	
	3261	layer	PM	PM	2	18				12th/13th	
	3267	layer	CC	CC1	2	24				1250+	relatively fine fabrics, but too coarse for Brill/Boarstall
3288	3281	robber trench	MS	MS3	1	10	jug			14th	upright, flat topped
	3281	layer	NO	NO3	1	11				1230/1250+	
	3281	layer	MS	MS2	1	8					
3287	3284	robber trench	MP	MP2	1	35				14th/15th	later 14th C +
	3404	wall	CC	CC1	1	6					
	3404	wall	NO	NO3	1	18	jug	handle		1230/1250+	rod
	3404	wall	MS	MS3	2	74	jug	handle		14th+	
	3100	topsoil	PM	PM	1	63	jug	base			SCANNED POT - thumbled base
	3100	topsoil	CC	CC1	6	78					
	3100	topsoil	NO	NO3	2	105					
	3100	topsoil	BR	BR2	1	2	jug	body	yes		applied iron rich clay strips
	3100	topsoil	MP	MP2	6	196	cis/jar	rim/by	yes		
	3100	topsoil	MP	MP1	1	32					
	3100	topsoil	CW	CW/M	13	260	cups	body			& misc forms including a rare ?posset pot flanged lid

				B							
	3100	topsoil	MY	MY	2	78					
	3100	topsoil	EA	EA2	7	172					
	3100	topsoil	EA	EA3	4	52	mugs				#NAME?
	3100	topsoil	EA	EA7	2	16	dich				
	3100	topsoil	EA	EA8	1	8					
	3100	topsoil	SW	SW	2	18					
	3100	topsoil	FR	FR	1	8	jug				16th C+
	3100	topsoil	RA	RA	1	17					
	3100	topsoil	EA	EA	3	73	teapot				modern brown china
	3101	subsoil	MS	MS	3	68					
	3101	subsoil	MP	MP2	1	38	jug	neck			
	3101	subsoil	MY	MY	1	11					
	3101	subsoil	EA	EA1	1	7					
	3101	subsoil	EA	EA2	3	44					
	3101	subsoil	EA	EA	1	5					
	3101	subsoil	EA	EA6	1	6					
	3102	subsoil	CC	CC1	1	13					
	3102	subsoil	CW	CW	2	4					
	3102	subsoil	MY	MY	3	18	bowl	rim			
	3102	subsoil	EA	EA2	2	22	bowl				wt
	3102	subsoil	EA	EA2	2	15					prob pancheons
	3102	subsoil	FR	FR	1	8	jug	handle			16th C+
	3102	subsoil	EA	EA8	3	26					
	3102	subsoil	EA	EA	2	5					
3106	3103	Bedingfield	CC	CC1	1	27	jug	base			thumbed
3106	3103	Bedingfield	MS	MS2	1	3					
3106	3103	Bedingfield	CW	CW/M B	2	30					
3106	3103	Bedingfield	EA	EA3	1	17					





3117	3116	Bedingfield	EA	EA3	2	13					
	3118	mod layer	CC	CC1	1	2					
	3118	mod layer	MP	MP2	1	5					
	3118	mod layer	CW	CW	4	19					
	3118	mod layer	RH	RH	1	11					with applied foliage dec. ?Cologne
	3118	mod layer	EA	EA3	2	25					
	3118	mod layer	EA	EA6	1	24					
3120	3119	modern trench	MS	MS2	1	5					
3120	3119	modern trench	MS	MS8	1	6					
3120	3119	modern trench	EA	EA2	1	47					
	3127	mod layer	PM	PM	1	4					
	3127	mod layer	NO	NO3	1	8					
	3127	mod layer	GR	GRE	1	22					
	3200	topsoil	PM	PM	1	6					
	3200	topsoil	CC	CC1	3	20					
	3200	topsoil	MS	MS2	1	52					
	3200	topsoil	MS	MS3	1	20					
	3200	topsoil	CW	CW/M B	3	20					
	3200	topsoil	MY	MY	2	77					
	3200	topsoil	MA	MA3	1	12					17th C.
	3200	topsoil	FR	FR	1	45	jug	base			wire cut
	3200	topsoil	EA	EA1	3	152	jar	rim			
	3200	topsoil	EA	EA2	3	27					
	3200	topsoil	EA	EA3	1	7					
	3200	topsoil	EA	EA7	1	4					
	3200	topsoil	SW	SW4	1	10					
	3201	subsoil	PM	PM	1	5					
	3201	subsoil	CC	CC1	3	98					
	3201	subsoil	NO	NO3	3	45					



3206	3205	Bedingfield	SW	SW5	1	25			yes		mod machine turned
3204	3211	Bedingfield	PM	PM	11	295	jug	handle	yes		thumbed
3204	3211	Bedingfield	CC	CC1	3	116	jug	base	yes		thumbed base, curved applied iron rich clay strip
3204	3211	Bedingfield	CC	CC1	4	30					
3204	3211	Bedingfield	NO	NO3	2	78	jug	handle	yes		stabbed - double - is this // At Nottingham ?
3204	3211	Bedingfield	CW	CW	1	1					
3204	3211	Bedingfield	MA	MA3	1	1					
3204	3211	Bedingfield	GR	GRE	2	70					
3204	3212	Bedingfield	PM	PM	2	37					
3204	3212	Bedingfield	CC	CC1	1	2					
3204	3212	Bedingfield	NO	NO3	1	47	jug	base			thumbed
3204	3212	Bedingfield	BR	BR2	1	2					
3204	3212	Bedingfield	MS	MS2	2	43					
3204	3212	Bedingfield	MS	MS3	3	257	bowl	rim			2 vessels, one very hard fired
3204	3212	Bedingfield	CW	CW/M B	2	18					
3204	3212	Bedingfield	MY	MY	1	58					
3204	3212	Bedingfield	RH	RH	1	11			yes		fragment of applied foliage - ? Cologne
3204	3212	Bedingfield	EA	EA2	1	12					
	3216	drain str	MP	MP2	1	52				15th mid 16th	context probably wrongly numbered = modern 3111
	3216	drain str	EA	EA2	1	88				17th/18th	
3225	3224	pit	EA	EA3	1	1					
3225	3224	pit	EA	EA	2	87	pot	body			? Flower pots
3225	3224	pit	SW	SW7	1	5				18th/19th	late 18th/early 19th
3204	3246	Bedingfield	MS	MS1	1	13					
3204	3246	Bedingfield	CW	CW	1	9					
3204	3246	Bedingfield	MY	MY	2	38					incised horizontal lines, separate band of diagonal lines
3204	3246	Bedingfield	EA	EA2	1	68			yes		
3276	3263	Bedingfield	MP	MP2	1	55					
	3300	topsoil	CC	CC1	1	15					

	3300	topsoil	CW	CW/M B	1	47					
	3300	topsoil	MY	MY	1	28					
	3300	topsoil	EA	EA1	2	15					
	3300	topsoil	EA	EA3	1	30					
	3301	dem layer	SP	SP3	1	12					
	3301	dem layer	EA	EA2	3	478					
	3301	dem layer	FR	FR	1	5	jug	handle		17th C	
3313	3302	dem layer	TG	TG1	1	1					reduced grey body ? Fabric
3313	3302	dem layer	CW	CW2	1	10			yes		appl vert & hori clay strips, pos an inscrip. viz tiles, (Whitcomb
3313	3302	dem layer	CW	CW/M B	2	8					1956, 220 etc.)
3313	3302	dem layer	MB	MB	1	165	tyg	base			stubs of three handles
3313	3302	dem layer	MY	MY	1	18					
3313	3302	dem layer	EA	EA2	3	62					
	3400	topsoil	MS	MS3	2	18			yes		one body with applied thumbed round white clay pad, sim at
	3400	topsoil	MP	MP2	1	5					Harefield Lane, Nuneaton, (WMPRG 6. 1985). Also known at
	3400	topsoil	CW	CW/M B	2	22					Glaphorn Johnston 1997, Med Ceramics 21, fig16.108)
	3400	topsoil	MY	MY	1	2					
	3400	topsoil	EA	EA1	3	70					
	3400	topsoil	EA	EA2	3	45					
	3400	topsoil	EA	EA4	1	14					
	3400	topsoil	EA	EA6	3	38					
	3400	topsoil	EA	EA7	1	18					
	3404	drain str	SA	SA	1	1				l. 2nd - 3rd	* Roman Samian

The Floor Tile							
cut	cntxt	feature	type	date	ware	design	comments - single frags identifiable floor tile, L. Abbey season 6
	3100	topsoil	Group IV Inlaid	14th C	CC2	W73	part of 4 tile design - frag, crowned head beath a canopy, known at L. Abbey

	3100	topsoil	Group IV Inlaid ?		CC2		unidentified
	3108	layer	Group IV Inlaid		CC2		worn, but some evidence of glaze and inlay
	3111	layer	Group IV Inlaid ?		CC2		unidentified
	3201	subsoil	Group IV Inlaid		CC2	W73	
	3203	Bedingfield	Group IV Inlaid ?		CC2		unidentified
	3207	layer	Group IV Inlaid		CC2		too fragmentary to identify
3204	3211	Bedingfield	Group IV Inlaid		CC2	W65 sim E1563	pos intended for Arms of Leicester Abbey
	3211		Group IV Inlaid ?		CC2		too fragmentary to identify
	3211		Group IV Inlaid ?		CC2		too fragmentary to identify
	3100	topsoil	Group IV Inlaid		?NO	W120	cross keys, known at L. Abbey
3206	3205	Bedingfield	Group III - Westminster type inlaid	14th C	CC2	W17	elongated fleur-de-lis, known at l. Abbey
	3102		Group II - Wessex type - inlaid	13th/14th C	WT		very worn, but probably originally inlaid rather than monochrome
	3208	spread	Group II - Wessex type - inlaid		WT	W8	very worn - prov. Id, part of four tile design of 4 fleur-de-lis, id at L. Abbey
	3100	topsoil	Group V - Printed	15th C	MS	W164	Arms of Beauchamp, known at Leicester Abbey, yellow part of design sunken
	3102	subsoil					strongly recessed design, unworn, fabric etc suggests not modern
3204	3211	Bedingfield					? Nottingham - design outlined in dark clay like W27
							DESIGN: W - Whitcombe N.R., 1956 The Medieval Floor Tiles of Leicestershire
							E - Eames, E.S., 1980. Catalogue of Medieval Lead-Glazed Earthenware Tiles

										in the Department of Medieval and Later Antiquities, British Museum, London
			MISC TILE			frag	grams			
			monochrome floor tile		22		4924			
			worn unidentifiable floor t.		24		3469			
			curved roof tile		3		360			
			flat roof tile		10		1520			
			MISC							
	3200		?floor tile		1		187			c. 42mm thick, green gl upper surface, two holes pierced before firing, CC1
	3300		?Chimney pot		1		88			wheel thrown, brown glaze interior, EA2

<b>The Ridge Tile</b>										
cut	context	feature	ware	fabric	sherd	grams	part	dec	date	Leicester Abbey ridge tile - season 6
	3113	layer	MS	MS	1	60			14th/15th +	STRATIFIED
	3207	dem rubble	MS	MS2	3	332	crest	spiked knob	1300+	no thumbing at crest base
	3217	feature	MS	MS3	1	7			14th/15th +	
	3217	feature	MP	MP2	2	188			14th/15th +	
	3217	feature	MP	MP3	1	128			14th/15th +	
3225	3224	pit	MS	MS1	1	10			1250+	
	3232	dressing l?	CC	CC1	1	13			1250+	
	3233	spread	MS	MS3	1	18			14th/15th +	
	3404	layer	SP	SP3	2	60				
	3404	layer	CC	CC1	3	108				
	3404	layer	MS	MS2	4	118				3 join
	3404	layer	MS	MS3	1	100			14th/15th +	
	3100	topsoil	CC	CC1	3	111				SCANNED
	3100	topsoil	NO	NO3	1	6				

	3100	topsoil	MP	MP2	1	10				underfired
	3102	subsoil	MP	MP2	1	27				underfired
3106	3103	Bedingfield	MS	MS1	1	12	crest	?rams' horn		pos Nottingham
	3104	layer	MS	MS8	1	72				list as CC2 variant
	3104	layer	CC	CC1	1	98				highly fired
	3111	mod	MP	MP2	1	43				
	3201	subsoil	CC	CC1	2	67				
3204	3203	Bedingfield	NO	NO3	1	82				
3204	3203	Bedingfield	MS	MS3	1	32				
3206	3205	Bedingfield	PM	PM	1	12				
	3207	dem layer	MS	MS3	1	88				
3204	3211	Bedingfield	CC	CC1	1	36				
3204	3246	Bedingfield	MP	MP	1	7				probably highly fired CC1
3276	3263	Bedingfield	MS	MS2	1	30				
3276	3263	Bedingfield	MS	MS3	1	162				
3313	3302	dem layer	MS	MS3	1	72				

<b>The Clay Pipe</b>								
cut	context	feature	stems	mouthpiece	spur	bowl	date	Leicester Abbey season 6 clay pipe - comments
	3100	topsoil	23					
	3100				1		19th C.	
	3100					1	c1780-1820	fluted bowl with leaf dec on seams, similar Leicester (Higgins 1985, fig.7.107)
	3101	subsoil	3					
	3102	subsoil	11					
	3102				1			
	3103	Bed.	1					
	3104	mod		1				
	3104		1					
	3105	Bed.	6					

3106	Bed.	1					
3107	Bed.	1					
3110	spread	1					
3111	mod	4					
3115	wall	1					
3116	Bed.	1					
3119	Bed.	1					
3127	mod	1					
3200	topsoil	13					
3200					1		plain frag
3201		18					
3201	subsoil				2	c.1820	(Higgins 1999, fig.99.18) - plain, damaged spur
3205	Bed.	1					
3208	spread	2					
3212	Bed.	1					
3224	pit	2					
3246	Bed.	1					
3271	layer	1					
3300	topsoil	2					
3302	dem				1	modern	plain spurless bowl (ibid, fig.101.39-40)
3302		1					
3400	topsoil	7					



## **Building Materials (5th Season 2004) Elizabeth Johnson**

### *Introduction*

The material discussed in this report was recovered from excavations carried out in July and August 2004 at Abbey Park, Leicester, as part of a training excavation for archaeology students at the University of Leicester. Two areas were excavated, with Trench 30 placed in the kitchens of Leicester Abbey and Trench 29 within Cavendish House. The variety of building materials retrieved comprises roofing slate, ceramic brick and tile, architectural fragments, building stone and plaster/mortar.

### *Trench 30 (Abbey Kitchen): Roofing Slate*

A total of 142 fragments of roofing slate weighing 37.675Kg was recovered from Trench 30. Of this, 23 fragments (7.383Kg) were from undisturbed contexts, 106 fragments (28.485Kg) were from modern disturbed contexts and 13 fragments (1.807Kg) were unstratified. The summary tables below provide details for each context. Measurements were only taken from complete slates. Length measurements were taken from the tip to tail end. Width and thickness measurements are maximum figures.

The two types of slate present are Swithland and Welsh slate. Swithland slate clearly dominates the assemblage forming 77.5% of the total, Welsh slate accounts for 19% and a few unclassified fragments comprise the remaining 3.5% for Trench 30. Within the undisturbed contexts only one fragment is not Swithland slate. With one exception all the slates have peg/nail holes present for fixing onto the roof and many also have mortar attached. The holes in the Swithland slate are generally around 10mm in diameter and show signs of boring from both sides leaving a slightly bevelled edge. This is a characteristic of Medieval roof slates. The Welsh slate is much thinner and finer and is typical of post-medieval slates (Gnanaratnam 1991: 305). All the slates were rectangular or sub-rectangular with no evidence of diamond shaped slates.

In Leicestershire, slate from the Charnwood/Swithland area was first used as a roofing material in Roman times and from the late 12th century until the 19th century was the most common source of slate roofing. During the 19th century mass-produced Welsh slate became more easily available and largely superseded Swithland slate (Clifton-Taylor 1987: 163-6). In this respect it is likely that the Welsh slate from the assemblage is modern and the single fragment from context 3100 may be intrusive.

Table 8 Trench 30: Slate, undisturbed contexts:

Context	Frag	Wgt (Kg)	Meas. (mm)	Origin	Comments
3030	4	1.566		Swithland	Some mortar present. All with holes.
3034	11	4.584		Swithland	Varying sizes. 2 with lots of mortar attached, traces on a further 4. Traces of mortar on both sides. All with holes.
3040	3	0.17		Swithland	Traces of mortar on 2. All with holes.
3098	1	0.133		Swithland	Quite thin, still probably Swithland, hole present.
3100	1	0.099		Welsh	No mortar, hole present.
3100	1	0.443	225x115x8	Swithland	Mortar traces, hole present..
3100	2	0.388		Swithland	1 small with hole, rounded and shaping for overlapping with mortar.

Table 9 Trench 30: Slate, modern contexts

Context	Frag	Wgt (Kg)	Meas. (mm)	Origin	Comments
3000	3	0.183		Welsh	1 with hole.
3000	17	2.286		Swithland	10 with hole/trace of hole. 4 with mortar/traces.
3000	1	0.785	200x120x20	Swithland	Traces of mortar round edges. Looks Medieval?
3001	3	0.378		Swithland	All with holes. 2 with mortar attached.
3004	3	2.243		Swithland	2 with holes, 1 with mortar present.
3004	1	0.642	178x132x12	Swithland	Mortar on both sides. Medieval?
3004	1	0.56	200x110x14	Swithland	Mortar on both sides. Medieval?
3005	1	0.162		Welsh?	Welsh? Hole present and mortar traces on both sides. Post Med./Modern?
3007	6	1.9		Swithland	All with holes. 3 with mortar traces. (1 has odd texture? Swithland?)
3008	1	0.37		Welsh	
3008	1	0.592	241x113x15	Swithland	(almost) complete, mortar on both sides.
3008	5	0.464		Swithland	All with holes. 3 with mortar/traces.
3014	3	1.589		Swithland	All with holes, 2 with mortar traces.
3018	2	0.668		Welsh	Both with holes.
3018	1	0.98	300x112x14	Swithland	Hole, mortar.
3018	1	0.339	195x88x12	Swithland	Hole, mortar.

3018	4	1.05		Swithland	All with holes, 3 with mortar traces.
3021	3	0.356		Swithland	All with holes, 2 with mortar/traces.
3022	1	0.606		Welsh?	Welsh? Hole and mortar traces.
3023	3	0.395		Welsh	1 with 2 holes, 1 with red surface on the side, some mortar traces.
3023	13	4.316		Swithland	All with holes, 6 with mortar/traces. 1 almost complete maybe with 2 holes.
3024	1	0.441		Welsh	Hole present.
3024	7	1.642		Swithland	All with holes. 2 with lots of mortar attached, 2 with traces. 1 possibly Pmed/Modern?
3025	4	0.369		Unsure	All with holes. 1 with mortar.
3027	1	0.081		Swithland	Hole present. Looks quite modern?
3031	1	0.057		Welsh?	Hole and mortar.
3033	2	0.452		Welsh	Hole present, mortar traces, red surface on side break again.
3033	1	0.329		Swithland	Hole and mortar.
3036	4	0.646		Welsh	All with holes, 1 nearly complete, 2 with mortar.
3036	1	1.182	310x120x15	Swithland	Mortar on both sides. Rectangular shape.
3036	2	0.165		Swithland	Holes, 1 with mortar trace.
3037	3	0.833		Swithland	All with holes. (1 maybe Welsh?)
3044	2	0.177		Welsh	Same slate, hole and mortar.
3044	3	1.247		Swithland	All with holes and mortar. 2 with evidence for 2 holes. 1 almost complete.

Table 10 Trench 30: Slate, Unstratified Material

Context	Fraggs	Wgt (Kg)	Meas. (mm)	Origin	Comments
T30 U/S	5	0.417		Welsh	3 with holes, 1 with mortar.
T30 U/S	5	0.239		Swithland	4 with holes inc. 1 with 2 holes. 2 with mortar traces. All thin, look modernish.
T30 Cln	1	0.125		Unsure	Welsh/Swithland? Hole, mortar, thin - looks modernish.
T30	1	0.353		Swithland	Hole, no mortar traces.
T30 NW	1	0.673		Swithland	Hole, mortar on both sides. Looks Medieval?

*Trench 30 (Abbey Kitchen): Ceramic Brick and Tile*

A total of 42 fragments of ceramic brick weighing 7.018Kg and 10 fragments of ceramic tile weighing 0.815Kg were recovered from Trench 30. Of this, 9 brick fragments (0.857Kg) and 5 tile fragments (0.240Kg) were from undisturbed contexts, with 33 brick fragments (6.161Kg) and 5 tile fragments (0.575Kg) from modern disturbed contexts. The summary tables below provide details for each context.

Brick became more commonly used as a building material from the 15th century, although it was still only used for important buildings such as schools, churches and large houses. Before the industrial revolution, most manufacturing was carried out on a local basis and bricks were not particularly standardised, though average measurements were about 225mm x 110mm x 50mm (Clifton-Taylor 1987: 213-223). Most of the bricks within this assemblage are incomplete and thickness varies from 28mm to 78mm. This is a large variance but consideration must be given to abrasion, breakage and addition of mortar fragments on some. Where width measurements were possible, these ranged between 112mm and 122mm.

Very little material was obtained from undisturbed contexts, which makes dating very difficult. The glazing and apparent slot found on the brick from context 3041 could be accidental. Most of the brick is probably post medieval or later however 4 brick fragments from context 3036 may be Tudor (*D. Sawday pers. comm.*).

Ceramic floor tiles were widely used between the 12th and 16th centuries, especially during the 13th and 14th centuries. Like brick manufacture, until industrialisation, they were made on a local basis (Clifton-Taylor 1987: 266). Roof tiles are generally not closely dateable and those from this assemblage are likely to be Late Medieval or Post Medieval (*D. Sawday pers. comm.*).

Table 11 Trench 30: brick, undisturbed contexts

Context	Frag	Material	Wgt (Kg)	Meas. (mm)	Comments
3040	1	Brick	0.332	64mm thick	Mortar on surfaces.
3040	1	Brick	0.19	50mm+ thick	Sooting/burning.
3040	1	Brick	0.098	40mm thick	Mortar on 3 surfaces and evidence for burning.
3040	5	Brick	0.148		
3041	1	Brick	0.089	43mm thick	Green/brown glaze covered with mortar. Semi-circular slot cut into the edge, also with glaze.
3030	1	Tile	0.085	16mm thick	Plain red flat roof tile.
3046	1	Tile	0.009	13mm thick	Plain red flat roof tile.
3040	1	Tile	0.072	16mm thick	Plain red flat roof tile. Mortar on sandy surface and along edge.
3040	1	Tile	0.031	25mm thick	Decorated glazed inlaid floor tile. Green/yellow glaze with white painted decoration. Very abraded
3040	1	Tile	0.043	20mm thick	Glazed inlaid floor tile, dark green/brown glaze, patchy on surface and along the edge. Quite thick mortar on underside. Also a cut-away/notch in the side edge - for fitting? Very abraded.

Table 12 Trench 30: brick, modern contexts

Context	Frag	Material	Wgt (Kg)	Meas. (mm)	Comments
3008	1	Brick	0.081	40mm thick	Mortar on all outer surfaces.
3014	1	Brick	0.245	28mm+ thick	Plain red, burnt, mortar on outer surfaces, incomplete.
3024	1	Brick	0.1	30mm+ thick	Burnt.
3024	1	Brick	0.016		Tiny frag with mortar.
3027	1	Brick	0.057		Highly glazed yellow/brown/green, mortar on the surface, red/grey core.
3027	1	Brick	0.666	60mm thick	Red with dark red core, mortar on outer surfaces.
3027	1	Brick	0.245	68mm+ thick	Very burnt and broken, mortar on outer surfaces.

3031	1	Brick	0.402	52mm thick	Lots of mortar attached.
3035	2	Brick	0.046		
3036	1	Brick	0.084	48mm thick	Green glazed brick, mortar on surfaces.
3036	1	Brick	0.352	78mm wide	Red brick with slightly curved top and feint ridges on the surfaces. Modern.
3036	2	Brick	0.517	32mm & 40mm	Same fabric, dark grey core with purple outer core and grey surface. Mortar on surfaces. Possibly Tudor.
3036	1	Brick	0.088	46mm thick	Purple core, one black shiny surface, mortar on surfaces. Possibly Tudor.
3036	1	Brick	0.266	40mm thick	Dark grey core, mortar on surfaces. Possibly Tudor.
3036	1	Brick	0.345	64mm+ thick	Red fabric, burnt, mortar on surfaces, incomplete.
3036	1	Brick	0.109	40mm thick	Red brick with buff surface and feint mortar traces.
3044	4	Brick	0.072		
3045	7	Brick	0.073		
3045	1	Brick	0.703	112mm wide x 45mm thick	Red fabric, splashes of green glaze on a burnt edge. Mortar on 3 surfaces including on broken edges suggesting re-use.
3045	1	Brick	1.543	122mm wide x 40mm thick	Red fabric, splashes of dark green glaze on one surface over mortar. Mortar on 3 surfaces.
3024	1	Brick	0.094	23mm thick	Mortar traces. Modern
3036	1	Brick	0.057		Very broken, mortar on one surface.
3023	1	Tile	0.043	21mm thick	Mortar on 3 surfaces.
3023	1	Tile	0.383	26mm thick	Feint mortar trace.
3036	1	Tile	0.062	24mm thick	Red fabric with orange/brown band in the core. Surface has mortar traces.
3044	1	Tile	0.047	19mm thick	Flat roof tile in 2 pieces with splashes of green/brown glaze.
3044	1	Tile	0.04	12mm thick	Plain red tile with mortar on edges and lower surface.

*Trench 30 (Abbey Kitchen): Architectural Fragments and Stone*

A total of 17 architectural fragments and pieces of stone were recovered from Trench 30, only two of which were from undisturbed contexts (3030 and 3040). The list below provides a description of each fragment by context.

(i) Undisturbed Contexts:

Context 3030: Fragment of grey sandstone (Dane Hills?) weighing 1.77Kg. Measurements: 210mm+ long, 100mm wide, 80mm+ thick. A decorative feature, possibly a colonette for window or door adornment.

Context 3040: Broken fragment of sandstone (Dane Hills?) weighing 0.125Kg.

(ii) Modern Contexts:

Context 3004: Fragment of grey sandstone (Dane Hills?) weighing 0.235Kg and with a diameter of 50mm. Column-like with rectangular protrusion covered in mortar, perhaps a fitting into a slot. Opposite surface flattish.

Context 3007: Fragment of grey sandstone (Dane Hills?) weighing 0.618Kg with a diameter of 123mm at its widest part. Part of a columnar type structure – incomplete. Ridged curved surface and mortar on the base and sides. A cut away section also has mortar present, perhaps suggesting re-use.

Context 3008: Fragment of sandstone covered with mortar weighing 0.724Kg.

Context 3024: Fragment of grey sandstone (Dane Hills?) weighing 0.898Kg with a diameter of 92mm at its widest part. Possibly a colonette-type decorative feature. Ridged surface with mortar on the base and a carved edge. Evidence of a painted or whitewashed surface?

Context 3027: Fragment of grey/green sandstone weighing 0.597Kg and measuring 55mm thick. Surfaces are curving and fairly smooth.

Context 3027: Small fragment of stone weighing 0.011Kg and covered in mortar.

Context 3031: Fragment of limestone weighing 0.205Kg. Decorative feature/moulding with undulating curved surface. Measurements: 77mm wide and 23mm thick.

Context 3033: Fragment of grey sandstone building stone weighing 1.832Kg. Appears to taper on one surface: thickest point 90mm, thinnest 64mm.

Context 3035: Fragment of grey sandstone weighing 0.504Kg. Measurements: 80mm+ long, 113mm+ wide and 55mm diameter. Carved decorative feature with some mortar traces and a rectangular protrusion comparable with that found in context 3004 above. This example has a second curved columnar carving attached as well.

Context 3036: Fragment of dark grey stone weighing 0.508Kg. Measurements: 70mm wide and 50mm thick. Rounded carved fragment covered in mortar or limewash(?) with one squared-off surface.

Context 3036: 3 fragments of green/grey sandstone building stone weighing 1.152Kg in total. One measures 65mm thick, the others are not measurable. One also comprises a conglomeration of stone and lots of mortar. One fragment of granite(?) weighing 0.061Kg with mortar on the surfaces.

(iii) Unstratified Material:

Clean up over cobbles: Fragment of grey sandstone weighing 3.330Kg, measuring 140mm wide and 75mm thick. Rounded carved columnar shape with flattish rear surface.

*Trench 30 (Abbey Kitchen): Slate/Stone Fragments*

A small number of stone and slate fragments possibly used as roof or floor tiles were also recovered from Trench 30. In total 7 fragments weighing 0.764Kg were recovered. Of this, 3 fragments (0.402Kg) were from a single undisturbed context and 4 fragments (0.362Kg) were from modern disturbed contexts. The summary tables below provide details for each context.

Table 13 Slate/stone fragments

## Undisturbed Contexts

Context	Frag	Material	Wgt (Kg)	Meas. (mm)	Comments
3034	1	Slate	0.299	14mm thick	Possible mortar trace along one edge.
3034	1	Slate	0.082	13mm thick	
3034	1	Slate	0.021	5mm thick	Very thin, traces of mortar on one side edge and surface.

## Modern Contexts

Context	Frag	Material	Wgt (Kg)	Meas. (mm)	Comments
3036	1	Stone/Slate	0.194	32mm to 22mm thick	Irregular, mortar on 3 surfaces.
3036	1	Stone/Slate	0.018	5mm thick	Thin, covered in mortar.
3044	1	Stone	0.036	14mm thick	Pink/red sandstone?
3044	1	Stone	0.114	14mm thick	Grey/buff colour, mortar on the edges.



*Trench 30: Plaster/Mortar*

A total of 16 fragments of plaster and mortar weighing 1.088Kg were recovered from Trench 30. Of this, 4 fragments (0.472Kg) were from undisturbed contexts and 12 fragments (0.616Kg) were from modern disturbed contexts. The summary tables below provide details for each context.

Table 14 Plaster/mortar

## Undisturbed Contexts:

Context	Frag	Material	Wgt (Kg)	Meas. (mm)	Comments
3040	3	Plaster/ Mortar	0.23		One with possible sooting/burning. "L" shapes indicating sandwich between tiles/bricks?
3041	1	Plaster	0.242	85mm+x65mm+x50mm	Part of a decorative feature/moulding? 2 surfaces very smooth, slate frags mixed in. One smooth surface curved, possibly painted?

## Modern Contexts:

Context	Frag	Material	Wgt (Kg)	Meas. (mm)	Comments
3022	1	Plaster	0.027	16mm thick	Thin, one smooth surface, one grooved surface, white.
3035	2	Plaster/ Mortar	0.24		Squared off "L" shapes.
3036	4	Plaster/ Mortar	0.25		2 small frags, 2 squared off "L" shapes.

*Trench 29: Cavendish House*

A small amount of material was recovered from this trench, most of which was retrieved from disturbed levels. Context 2914 is the only layer identified as undisturbed and may be an *in situ* floor. A plain red tile and Post Medieval curved roof tile were recovered from this context.

**Roofing Slate**

A total of 12 fragments of roofing slate weighing 5.760Kg were recovered from Trench 29. The summary table below provides details for each context. Measurements were only taken from complete slates. Length measurements were taken from the tip to tail end. Width and thickness measurements are maximum figures.

Table 15 Roofing slate

Context	Frag	Wgt (Kg)	Meas. (mm)	Origin	Comments
2901	3	3.759		Swithland	1 huge, almost complete. All with holes and mortar.
2904	4	0.501		Welsh	All with holes, 2 with mortar traces.
2904	1	0.474	212x95x17	Swithland	Hole, mortar on both sides.
2904	2	0.907		Unsure	Purplish/red/grey? 1 with mortar trace.
2905	2	0.119		Welsh?	Holes, no mortar.

### *Architectural Fragments*

One architectural fragment was retrieved from context 2902 as described below.

Context 2902: Fragment of limestone weighing 0.655Kg and measuring 125mm+ long x 68mm+ wide x 60mm+ thick. Rectangular block with chamfered edge and cut away.

### *Plaster/Mortar*

One fragment of mortar was recovered from Trench 29 as detailed below.

Context 2905 1 frag Slate embedded in mortar, large "T" shape with evidence of burning/sooting. 1.06Kg

### *Slate/Stone Fragments*

A small number of stone and slate fragments possibly used as roof or floor tiles were also recovered from Trench 29. In total 7 fragments weighing 1.245Kg were recovered. The summary table below provide details for each context.

Table 16 Trench 29 slate/stone

Context	Frag	Material	Wgt (Kg)	Meas. (mm)	Comments
2904	1	Slate	0.072	16mm thick	Mortar attached tile?
2901	1	Stone	0.077	48mmx44mmx16mm thick	Irregular but squarish. Mortar on 3 edges and 1 surface.

***Ceramic Brick and Tile***

A total of 5 fragments of brick weighing 1.655Kg and 11 fragments of ceramic tile weighing 2.057Kg were recovered from Trench 29. The summary table below provides details for each context.

Table 17 Trench 29 ceramic brick &amp; tile

Context	Frag	Material	Wgt (Kg)	Meas. (mm)	Comments
2900	2	Brick	0.071		
2901	1	Brick	0.107	46mm+ thick	Red fabric, mortar on one side.
2901	1	Brick	0.037		Purple core, grey surface, very broken.
2904	1	Brick	1.44	145+x120x45	Red fabric.
2900	1	Tile	0.085	10mm thick	Modern tile.
2901	1	Tile	0.189	25mm thick	Red fabric with orange/brown band through core, buff surface on one side, shiny black on the other. Mortar traces, but not much.
2902	1	Tile	0.143	19mm thick	Plain red roof tile with grey core.
2905	1	Tile	0.365	24mm thick	Dark red fabric with a green glazed sandy surface and green/brown glaze on edges. Mortar on base and edges. Lower surface possibly glazed too. Mortar visible in breaks suggesting re-use. Floor tile.
2905	1	Tile	0.11	24mm thick	Orangey fabric with brown/yellow glaze on the edges. Mortar on one surface. Floor tile.
2914	1	Tile	0.069	19mm thick	Plain red/orangey tile.
2902	1	Ridge Tile	0.081	13mm thick	Red fabric, purple glaze. Post Medieval
2902	1	Ridge Tile	0.3	20mm thick	Red fabric, green glaze, has holes in the top. Post Medieval
2900	1	Roof Tile	0.077	17mm thick	Curved roof tile. Post Medieval.
2902	1	Roof Tile	0.588	18mm thick	Curved roof tile, red fabric. Post Medieval.
2914	1	Roof Tile	0.1	14mm thick	Curved roof tile. Post Medieval.

## Charred plant remains from Leicester Abbey (A8.2000 Seasons 1-6)

### *Introduction*

Excavations were carried out by ULAS and Leicester University Dept of Archaeology directed by Steve Jones. Environmental samples were taken for the recovery of charred plant remains which can give evidence of diet, agriculture and activities on sites in the past. The samples were also examined for small bones and other remains. The features sampled were mainly from the kitchen area and included ovens and drains and were of medieval to post-medieval date.

### *Methods*

Features were sampled which were datable and had the potential to contain charred plants and other remains. Samples from ten contexts were processed in 15 parts.

Samples were wet sieved in a York tank using a 0.5mm mesh with flotation into a 0.5mm mesh sieve. The residues were air dried and the coarse fraction over 4mm sorted for all finds which are included in the relevant sections of this report. The fraction of the residue below 4mm was reserved for sorting if required. The flotation fraction (flot) was air dried and packed carefully in self-seal polythene bags. The flots were then examined with a x10 stereo microscope and the plant remains were removed to glass specimen tubes, the flots were large so not all sample parts were examined (table E3). The plant remains were identified by comparison with modern reference material at ULAS. The remains were counted and those with most plant remains were tabulated (tables 1 and 2) including the botanical names which follow Stace (1991).

## RESULTS

### *The Ovens*

*Oven fill (3106), sample 130:* This was taken from a charred deposit from the oven in the north-west corner of the kitchen. The sample contained abundant charcoal and a few charred plant remains, mainly weed seeds with a few burnt straw fragments and a couple of fruit stones of sloe or cherry (table 1). This may represent a small amount of cleanings from cereals, possibly final sorting before use of cereal as whole grains together with other food waste. However, it may be from straw used as kindling with arable weeds present. The spent fuel from the fire may be left from the last uses of the oven.

*Oven fill (2668) sample 103:* This material of 12th -13th century date was from an oven with evidence of *in situ* burning in the corner of the kitchen. The samples contained charred grains of wheat and barley. The wheat grain was of free-threshing type and a fragment of wheat chaff was identified as a rachis of bread wheat. Weed seeds included corn flower, stinking mayweed, vetches, wild radish and fat-hen were probably mainly from the cultivated field brought in with the crops. A fragment of charred hazel nutshell was present. Mixed with these charred plant remains and abundant ash and charcoal were numerous fish scales and a few fish bones, the fish remains were not burnt. The deposit may therefore consist of material burnt in hearths mixed with other domestic rubbish accumulated around this kitchen area of the site.

*Oven fill (2009), part 1 and 2:* This deposit contained abundant charred material but was disturbed by robbing in the 17th century although the charred material could be of earlier date. Charred legumes, peas, beans and fragments of peas or beans, barley and oat grains were found. Weed seeds outnumbered the cereal grains and included docks, clover type plants and cleavers all probably weeds of the crops. This charred material may be from spillage during cooking with cleanings from the crops burnt in the oven or hearth. It could however be similar material raked from hearths which has accumulated or been dumped in this area of the site.

### ***The Drains***

*Drain fill (80) sample 1:* Charcoal was found with charred plant remains including a couple of cereal grains and peas with a few charred seeds; this material probably represents waste from food preparation from hearths accumulated in the drain (table 2). There was no sign of waterlogged or mineralised plant remains except for a few uncharred elder seeds which are common on archaeological sites. However, snails were quite numerous including *Oxychilus* sp, *Trichia* sp., *Discus rotundatus*, *Cochlicopa lubrica*, all of which are snails of damp places such as ditches, *Pupilla muscorum* is a snail of disturbed ground, *Clausilia bidentata* is found in walls, and *Vallonia* sp. are usually found in open environments. These may have inhabited the drain during use or disuse. No water snails were found to suggest permanent water but the snails present could all have lived in or near the drain.

*Drain fill (100) sample 2:* Abundant charcoal was present with a few cereal grains and a charred bramble seed also suggest domestic waste accumulated in the drain. A fish scale was present and a small mammal bone. Similar snails to the last sample were found also suggest a damp environment but not standing water.

*Drain fill (2671) sample 104:* The drain fill was an undisturbed deposit of 15-16th century date. The sample contained very numerous fish scales including delicate scales broken into segments, with numerous fish vertebrae of small size some possibly of marine fish and including some of eels. Charcoal and ash were also present suggesting that the drain had become filled with domestic rubbish from the surroundings. The charred material included occasional charred cereal grains and a few charred seeds of docks, knotgrass, vetch and fat-hen which grow as weeds on disturbed ground and in gardens. Numerous small bones, probably of rodents, were present. A few snail shells included some modern shells of a small burrowing snail (*Cecilioides acicula*), but these are common in archaeological deposits.

#### *Samples from the drains and passageway base near the kitchen (5th season)*

A series of drains associated with the kitchen were investigated in 2004. Samples were taken from the passageway base (3098) sample 126, and a drain opening (3105) sample 128. Then both ends of a drain between the kitchen and the passageway base were sampled as (3103) sample 127 at the passageway end, and (3104) sample 129 inside the kitchen (table 2) in order to investigate the functioning of the drains.

The passageway base (3098), the drain opening (3105) and the end of the kitchen drain (3103) all contained a rubbish deposit with large animal bones, abundant charcoal, a few charred plant remains, and very numerous fish remains including many scales and small bone fragments with some complete vertebrae. Only a small number of snails of damp places were found in the passageway base, no evidence of standing water was found here nor in the other drains examined in this area of the site. These samples appear to represent domestic waste accumulated in the drains although it is possible the fish remains were washed into the drains from food preparation in the kitchen. These deposits have good potential to reveal the types of meat and fish consumed on the site. The sample from the drain end (3104) in the kitchen lacked fish remains and consisted entirely of charcoal with more charred plant remains and appeared similar to the deposits associated with the ovens. This probably represents an accumulation of spent fuel from the fires used to heat the ovens including waste from the preparation of cereals and legumes for consumption.

#### *Samples from the kitchen area (6th season)*

Further deposits from the kitchen area were investigated and samples where possible during the 6<sup>th</sup> season of investigations. These included a deposit associated with the oven, possibly representing later activity, and four contexts from the drains. Very few charred plant remains were recovered although all these samples contained occasional cereal grains, legumes or weed seeds.

Sample 136 from context (3126) from a deposit associated with the oven contained abundant charcoal and with a small number of charred plant remains including a wheat grain, a few legume fragments probably of beans, a nutshell fragment and a few weed seeds. Numerous uncharred fish remains were recovered including probable herring bones (over 50 otic bullae) (Rebecca Nicholson pers comm..) representing at least 25 fish. Other fish bones and numerous scales probably of carp family were also found. A few fragments of eggshell probably represented eggs consumed. This deposit appears to represent a mixture of domestic waste from food preparation and cooking accumulated in the kitchen area.

Four contexts from the drains were sampled (3265), (3160), (3161) and (3285) (table E3) and all contained abundant charcoal and ash with a few charred plant remains of cereal grains and weed seeds probably from cooking spills and kindling accumulated from the oven cleanings. Smaller numbers of fish remains were present in all of these samples as additional food remains. Small animal bones were also present and were very numerous in drain context (3161). Snail shells were also present of snails of damp places but not standing water suggesting the same conditions as found in the rest of the drains from this area. These samples also appear to represent accumulated kitchen waste as found above.

### ***Discussion and conclusions***

The drain fills (80) and (100) examined in the 2nd season of excavation do not seem to have *in situ* material as there is no sign of waterlogged or mineralised material but contain probably waste from domestic hearths accumulated in the drains. The snails present may reflect the conditions within and around the drains as a damp environment without standing water in surroundings with disturbed open ground.

The three deposits from the ovens in the kitchen (2668, 3106, 2009, and 3126) all consisted of abundant charcoal and ash from the hearths and ovens. The deposits also contained burnt cereal grains together with weed seeds and occasional chaff fragments, probably representing cereal cleanings burnt as waste in the hearths or ovens. The cereal grains may have been included because they were accidentally spilled. The cereals include bread wheat, barley, oats and rye although present only in small numbers. Charred peas and a small variety of bean were also found in the deposit from the later hearth, probably as waste or spillage from preparing meals. Fruits were represented by sloe stones. Some hazel nutshell was also found showing that nuts were also consumed. The burnt material may have been present in the ovens because some ovens of this type were heated by burning fuel inside the oven which was then raked out before food was placed in the hot oven to cook. Sometimes grains, probably including a mixture of seeds, were scattered on the oven floor to stop bread sticking to the oven. Hence the ovens could have been used to cook bread although the flour would have been ground at a mill rather than in the kitchen (Dyer 1989). The fuel and waste from hearths gives some indication of the type of foods cooked. Here there were whole grains mainly of wheat and barley, with peas and beans, all of which may have been remains from preparation of pottages which were thick soups made from whole or coarsely ground grains, and were an important part of the diet in these times.

The deposit from the drains (2671), (3105), (3103) and passageway base (3098) also contained numerous fragments of fish scales and bones possibly from preparing fish for consumption, or perhaps from clearing away after meals. Smaller amounts of similar fish remains were found in drains (3160), (3285), (3265) and (3161). The fish remains possibly include sea fish and eels as were found in medieval to post-medieval sites in Leicester such as at Causeway Lane (Nicholson 1999). Fish is likely to have been particularly important in the diet at religious sites, such as the Abbey, because meat was prohibited by the Church at least on Fridays and during Lent. The drains also included abundant charcoal with small numbers of charred cereal grains and weed seeds, peas, beans and elder and bramble pips are also represented so the deposits probably represent an accumulation of waste from the kitchen area. Fish remains were also found in the earlier hearth (2668) and in deposit (3162) and these were uncharred so the deposit may also represent an accumulation of kitchen waste

in this area. Although the oven (2009) was disturbed it seems likely that all these deposits reflect the use of the kitchen before dissolution of the Abbey and so give an indication of the diet at the time.

### **Conclusions**

Charred plant remains were recovered to show that the cereals wheat, barley, rye and oats were all represented. Only bread wheat was identified from the small amount of wheat chaff. Seeds of arable weeds were found which had probably been sorted from the grain before use. Other crops included peas and field bean with hazel nutshell, elder and bramble suggesting the use of food gathered possibly from hedgerows. A fruitstone of sloe or cherry may be gathered or cultivated. The remains from the ovens or hearths may represent waste from the preparation of such food as pottage from whole grains or legumes left where it was burnt. The plant remains are similar to those found in rubbish pits in Leicester and do not appear to differ from the range of foods found in Leicester at the time (Monckton 1999). The drains contain abundant charcoal similar to that from the hearths with a scatter of cereal grains and other charred plant remains in small numbers. Some of the drains contained abundant fish remains including fish of the carp family, eels and herrings, with cod and plaice, perhaps washed into them from food preparation in the kitchen and table waste, but most of the material in the drains seemed to be accumulated domestic rubbish from the kitchen area during disuse. These samples have provided an unusual opportunity to examine remains from a known kitchen and show the types of food prepared and consumed.

### **Acknowledgements**

I am grateful to Steve Jones and Andy Hyam for taking the samples and for information about the site and to John Tate and Alistair Hill for processing the samples season 1-5, and to Anita Radini and Keith Johnson for conscientious sorting of samples of season 6.

Table 18 List of charred plants from ovens (A8.2000)

Feature type	Oven	Oven	Oven	
Context	3106	2668	2009	
Sample Number	130	103	Pt. 1+2	
CEREAL GRAINS				Botanical name
Wheat free-threshing	-	5	-	<i>Triticum</i> free-threshing grain
Rye	-	1	-	<i>Secale cereale</i> L. grain
Barley	-	2	12 + 6ge	<i>Hordeum vulgare</i> L. grain
Oat	2	-	3	<i>Avena</i> sp. Grain
Cereal	-	3	7	Cereal grains indet.
CEREAL CHAFF				
Bread wheat	-	1	-	<i>Triticum aestivum</i> s.l. rachis
Wheat rachis	-	1	2	<i>Triticum</i> sp free-threshing
Straw	5	-	4	Culm node large
LEGUMES				
Field Bean	-	-	3	<i>Vicia faba</i> L.
Bean/Pea	-	-	14	<i>Vicia/Pisum</i>
Pea	-	-	3	<i>Pisum sativum</i> L.
Cultivated Vetch or Peas	-	-	14	<i>Vicia/Pisum/Lathyrus</i>
SEEDS				
Hazel nut shell	-	1	-	<i>Corylus avellana</i> L.
Sloe/Cherry	2	-	-	<i>Prunus</i> sp.
Fat-hen	1	3	8	<i>Chenopodium album</i> type
Goosefoot	-	1	6	<i>Chenopodium</i> sp.
Chickweed type	-	-	1	<i>Stellaria</i> sp
Knotgrass	-	-	1	<i>Polygonum aviculare</i> agg.
Docks	2	-	16	<i>Rumex</i> sp
Wild Radish	-	1	-	<i>Raphanus raphanistrum</i> L.
Loosestrife/Pimpernel	3	-	-	<i>Lysimachia/Anagallis</i>
Vetch or Vetchling	-	2 + 1m	4	<i>Vicia/Lathyrus</i>
Clover type	-	-	4	<i>Medicago/Melilotus/Trifolium</i>
Cleavers	-	-	1	<i>Galium aparine</i> L.
Corn flower	-	1	-	<i>Centaurea cyanus</i> L.
Stinking Mayweed	1	1	2	<i>Anthemis cotula</i> L.
Grasses, large	2	3	5	Poaceae (large)
Indeterminate seeds	9	5	9	Indeterminate seeds
OTHER REMAINS				
Buds, woody	11	4	4	Buds
Thorns	10	-	1	Thorns
Fish scales	(3)	++	-	Fish scales
Fish bones	-	(5)	-	Fish bones
Small bones	-	(1)	-	Small bones
Charcoal	++	++	++	Charcoal
Plant remains total	27	31	125	Total (excluding other remains)
Volume of sample	2	15	13	litres
Flot. volume	75	290	315	Mls
Items per litre of soil	13.5	2.1	9.6	items/litre

Key: + = present, ++ = abundant, m = mineralised, ge = germinated, Pt. = sample part.

Remains are charred and are seeds in the broad sense unless stated.



Table 19 Plant remains from Drains (A8.2000)

Feature type	D	D	D	D	PWB	D	D	
Context	80	100	2671	3105	3098	3103	3104	
Sample Number	1	2	104	128	126	127	129	
CEREAL GRAINS								Botanical name
Wheat free-threshing	-	-	1	-	2	-	4	<i>Triticum</i> free-threshing grain
Rye	-	-	-	-	-	-	3	<i>Secale cereale</i> L. grain
Barley	-	1	-	-	1	1	-	<i>Hordeum vulgare</i> L. grain
Oat	-	-	-	-	-	1	-	<i>Avena</i> sp. Grain
Cereal	2	2	-	1	2	3	4	Cereal grains indet.
CEREAL CHAFF								
Wheat rachis	-	-	-	-	-	-	1	<i>Triticum</i> sp free-threshing
Straw	-	-	-	-	3	2	-	Culm node large
LEGUMES								
Bean/Pea	2	-	-	-	-	-	2	<i>Vicia/Pisum</i>
Pea	1	-	-	-	-	-	1	<i>Pisum sativum</i> L.
SEEDS								
Hazel nut shell	-	-	-	-	-	-	1	<i>Corylus avellana</i> L.
Bramble	-	1	-	-	-	-	-	<i>Rubus fruticosus</i> agg.
Fat-hen	-	-	1	-	2	-	-	<i>Chenopodium album</i> type
Knotgrass	-	-	1	-	-	-	-	<i>Polygonum aviculare</i> agg.
Docks	-	-	1	-	-	-	1	<i>Rumex</i> sp
Black mustard	1	-	-	-	-	-	-	<i>Brassica nigra</i> L.
Vetch or Vetchling	2	-	1	-	-	1	2	<i>Vicia/Lathyrus</i>
Clover type	-	-	-	-	-	1	-	<i>Medicago/Melilotus/Trifolium</i>
Grasses, large	-	-	-	-	2	-	-	Poaceae (large)
Indeterminate seeds	-	2	1	-	1	-	3	Indeterminate seeds
OTHER								
Buds, woody	-	3	1	-	1	-	3	Buds
Thorns	-	-	-	-	-	1	1	Thorns
Fish scales	-	(1)	++	+	+	++	(1)	Fish scales
Fish bones	-	-	++	+++	++	+	-	Fish bones
Small bones	-	+	++	+	+	+	(2)	Small bones
Snails	++	++	-	-	+	-	+	Snails
Charcoal	++	++	++	++	++	++	++	Charcoal
Total plant remains	8	6	6	1	14	10	20	Total (excluding other )
Volume of sample	6	21	5.5	4	6.5	7	6	litres
Flot. volume	20	100	120	22	20	25	85	mls
Items per litre of soil	1.3	0.3	1.1	0.3	2.2	1.4	3.3	items/litre

Key: + = present, +++ = abundant, m = mineralised, D = drain PWB = Passageway base

Remains are charred and are seeds in the broad sense unless stated.

Table 20 Summary of samples processed and sorted (Leicester Abbey, A8.2000 Seasons 1-6).

Samp No	Cont No	Feat type	Vol litres	Flot Vol mls	Chc	Gr. Ch	Cf ch	Se ch	Se Un	Oth ch	Fish, Bone, Oth	Comments
S.1												
1	80		6	20	x	2	-	6	X	3 L	Sn xx	Indet cereal, vetch, black mustard, pea hilum, legumes. Snails.
2	100		21	100	xx	2	-	-	X	-	Fsc 1 Bo 1	Barley grain, elder and bramble, a small bone.
S.2												
Pt.1	2009	Ov	7.5	200	xx	13	-	26	2	18 L	Sn 25	Barley, oats, peas, legumes. Snails
Pt.2	2009	Ov	5.5	115	xx	14	-	36	X	9 L	Fsc 1 Fbo 1	Barley, legumes, weed seeds. Capsules indet.
S.3												
103.1	2668	Ov	8	55	xx	8	1	9	1	-	Fsc xx Fbo 1	Wheat grains, bread wheat chaff, barley grain, weeds. Fish scales xx.
103.2	2668	Ov	9.5	65	xx	3	1	2	2	buds	Fsc xx Fbo 1	25% sorted 2005
103.3	2668	Ov	9.5	235	xx	3	1	7	1	buds	Fsc xx Fbo x Sn 1	Wheat, barley, barley rachis. Mineralised capsule 2005 ?Apiaceae. Fish scales xxx.
104.3	2671	Drn	5.5	120	xx	1	-	6	2	-	Fsc xx Fbo xx Sn 25	A wheat grain and few seeds. Fish abundant. Snails.
104.1	2671	Drn	6.5	xx	xx							Not sorted
104.2	2671	Drn	5	xx	xx							Not sorted
S.5												
126	3080	Pwb	6.5	20	xx	5	-	6	5	stem	Fsc x Fbo x Bo. xx Sn 10	Wheat, barley grains, few straw frags.
128	3105	Pwb	4	22	xx	1	-	-	-	-	Fbo xx Bo. xx	Charcoal and uncharred fish remains.##
127	3103	Pwb	7	25	xx	5	-	3	-	stem	Fsc xx Fbo x Bo. x	Barley and oats.
129	3104	Drn	6	85	xx	11	1	4	x	Buds Stem Nut 3 L	Bo.2 Fsc 1 Sn 7	Wheat and rye, wheat chaff. Capsule indet. Hazel nutshell frag.
130	3106	Ov	2	75	xx	2	-	20	2 FS	buds thorn straw	Fsc x	Weed seeds, charred thorns, stem and straw frags. Fruitstones x2.
S.6												
136.1	3126	Ov	6	110	xx	1	-	2		5 L 1 nut	Fsc xx Fbo xxx Bo. xx Egg	Wheat, legumes and nutshell. Fish scales, carp, fish bones herring.
136.2	3126	Ov	6	xx	xx							Not sorted, Fish ##.
139	3160	Drn	17	75	xx	2	-	6	-	thorn	Fbo 3 Fsc x Bo. 6 Egg Sn xx	Few seeds, uncharred elder and bramble. Fish few but one large vertebra. Snails not sorted, include modern.
141	3285	Drn	8	20	xx	-	-	1	2	-	Fsc 1 Fbo 1 Bo 4	Sparse remains.
138	3265	Drn	15	55	xx	4	-	11	x	stem	Fsc x Bo. xx Sn xx	Barley and weed seeds. Snails, examples only removed, some modern.
134	3161	Drn	14	50	xx	3	-	3	-	-	Bo. xx Sn xx Egg Fsc x Fbo 1	Small animal bones very numerous.## Snails c.90 sorted. Few seeds only.

Key to Table E 3: (S.1-S.5 excavation seasons). Chc = charcoal, ch = charred, gr = cereal grains, cf = chaff, se= seeds, un = uncharred, oth = other, L = legumes, Bo = small bones, Fsc = fish scales, Fbo = fish bones, Sn = snails, Egg = eggshell fragments. Drn = drains, Pwb = passage base, Ov = oven, x = few, xx = numerous, ## = more work needed.

## **The Animal Bone Season 5 2004 *Jennifer Browning and Anthony Gouldwell***

### ***Introduction***

Excavations were carried out on the site of the kitchen of Leicester Abbey by ULAS and University of Leicester (School of Archaeology and Ancient History). A small assemblage of animal bones was recovered during excavation of features identified. Bulk soil samples were taken for the recovery of charred plant remains and small bones, which can provide evidence of diet, agriculture and activities on sites in the past. The features sampled were mainly ovens and drains of the medieval to post-medieval periods. Fish remains consisted of bones and scales and were identified by Anthony Gouldwell. Jennifer Browning identified the mammal and bird bones.

### ***Methods***

Bone was recovered both by hand and through sieving of bulk samples. Samples were wet sieved in a York tank using a 0.5mm mesh with flotation into a 0.5mm mesh sieve. The residues were air-dried and the coarse fraction over 4mm was sorted for all finds. The fraction of the residue below 4mm was reserved for sorting if required. The flotation fraction (flot) was air dried and packed carefully in self-seal polythene bags.

The bones were examined with reference to comparative skeletal collections at the School of Archaeology and Ancient History, University of Leicester. Typically, species, anatomy, state of fusion and completeness was recorded for each specimen and fragments were also examined for evidence of butchery, burning, pathological conditions and gnawing. The results were recorded upon a computerised spreadsheet. Age at fusion for domestic mammals follows Silver (1969), measurements were taken with reference to von den Dreisch (1976).

### ***Results***

#### *Post medieval/modern mortar rich deposit. Context (3034)*

Six bones were recovered by hand from (3034); a mortar rich deposit. Five were identified as cattle; three exhibited butchery and gnawing was also observed. A single domestic fowl tibiotarsus was also present in the context.

#### *Post-dissolution demolition deposit (3040)*

There were 10 bones from (3040), a post-dissolution demolition layer. These were quite fragmented; therefore few were positively assigned to species. The identified fragments belonged to cattle and pig. Butchery marks and gnawing were observed on the fragments, which appears domestic in nature. It is likely that these bones were re-deposited.

#### *The Ovens*

##### *(i) 16th century Burnt Deposit (3029)*

The largest group of hand-recovered material (46 fragments) was recovered from (3029), a 16th-century burnt deposit, and are likely to represent food debris. The bones included 15 sheep-size rib fragments. These were mostly fragments from the dorsal end; some still had the dorsal articulation. Several of the ribs had fine cut marks or had been cut through, indicating preparation for the table and consumption. Although no vertebrae were present, it is conceivable that these are the remains of rib chops or rack of lamb.

A sheep/goat pelvis fragment had cut marks and had also been chopped through the acetabulum.

The rest of the bones were identified as domestic fowl and goose. The number of coracoid bones suggests that a minimum of two domestic fowl were present. Puncture marks on some of the bird bones suggested gnawing by cats. A goose radius had fine cut marks on the distal articulation and heavier cut marks further up the shaft.

(ii) Oven fill (2668) sample 103:

This 12th to 13th-century material was from an oven with evidence of *in situ* burning in the corner of the kitchen. The identified remains included domestic fowl (cf *Gallus* sp.), mouse bones (cf. *Mus domesticus*) and bones from the thrush family (including cf *Turdus merula* and an unknown passeriform). The probable domestic fowl bones were from the wing tips, which would probably have been removed soon after slaughter. There is no direct evidence that the thrush species were used for food, however, despite their small size and the fact that the bones are not clearly associated with other food debris, evidence from other sites suggests that thrushes were consumed from an early period (Serjeantson 2006, 142). The mouse bones are indicative of scavenging animals living in and around the kitchen.

Among the fish scales, some have radial breakage suggesting **carp family**. Vertebrae included those of **eel**, *Anguilla anguilla* (Linnaeus, 1758), and another species which match those of **herring**, *Clupea harengus* Linnaeus, 1758, though there may be other possibilities.

(iii) Oven fill (2009), part 1 and 2:

This deposit contained abundant charred material but was disturbed by robbing in the 17th century although the charred material could have an earlier date (see *Charred Plant Remains*). Very few bone fragments were recovered from this deposit; they included small fragments of what was presumed to be eggshell and a sheep-size rib fragment, probably representing waste from kitchen activities.

Scales with radial breakage suggest members of the **carp family**, Cyprinidae, which includes the freshwater species: barbel, bitterling, carps, chub, dace, gudgeon, minnow, orfe, roach, and tench.

### *The Drains*

(i) Drain fill (80) sample 1

A total of 7 tiny bone fragments were recovered from the coarse fraction. None were identifiable. A fragmentary tibiotarsus from a small bird was present but it was not possible to ascertain the species.

(ii) Drain fill (100) sample 2:

A very small number of bone fragments were recovered through sieving. A sheep-size rib fragment and part of a pig tooth were retrieved from the coarse fraction. A limb bone of shrew consistent with pygmy shrew (cf. *Sorex minutus*) was retrieved from the flot.

(iii) Drain fill (2671) sample 104:

The drain fill was a 15-16th century deposit. The majority of identifiable bones consisted of rabbit (*Oryctolagus cuniculus*) and frog/toad (*Rana/Bufo* sp.). A single shrew bone, possibly pygmy shrew (cf. *Sorex minutus*), was also recorded. The amphibians are likely to have been attracted by the damp environment, while the rabbit bones may result from later burrowing. Pygmy shrew has a widespread habitat and is common in many areas (Lawrence and Brown 1973, 23).

Fish scales broken radially suggest cyprinids (**carp family**). A few other scales are of ctenoid form. These are small and light and if they derive from local freshwater fish indicate **perch**, *Perca fluviatilis* Linnaeus, 1758, or the somewhat less widespread native relative, ruffe,

*Gymnocephalus cernua* (Linnaeus, 1758). Although marine fish may not be excluded as sources of the scales, ctenoid scales generally are found in fish with spiny fin-rays, which are not common among traditionally caught British fish. Other cycloid scales remain unidentified. Vertebrae are mostly unidentified. Some are of **herring** size. Some are of **eel**.

#### *Passageway and drains to the west of the kitchen*

A series of drains associated with the kitchen were investigated in 2004, together with a passageway on the western side of the kitchen which was truncated by the 1920s excavations. Samples were taken from the base of the latter (3098) sample 126, and a drain opening (30105), sample 128. Both ends of a drain between the kitchen and the passageway were also sampled as (30103) sample 127 at the passageway end, and (30104) sample 129 inside the kitchen. The passageway base (3098), the drain opening (3105) and the end of the kitchen drain (3103) in the passageway contained a rubbish deposit with large animal bones, abundant charcoal, a few charred plant remains, and very numerous fish remains.

These samples appear to represent domestic waste accumulating in the drains although it is possible the fish remains were washed into the drains from food preparation in the kitchen.

##### (i) The passageway base (3098) sample 126

This deposit contained the largest amount of material (75 fragments) and included cattle, pig, sheep/goat, fallow deer (*Dama dama*) and rabbit. Several varieties of bird were also present; domestic fowl, partridge (probably *Perdix perdix*), thrush family (cf *Turdus iliacus*). A small number of fragments (all unidentified) were burnt. Several of the larger bones had been butchered, suggesting that the remains comprised food debris.

There are cyprinid-type scales displaying radial breakage (**carp family**).

An atlas of **cod**, *Gadus morhua* Linnaeus, 1758, is fused with the posterior part of the basioccipital. Breakage is consistent with decapitation.

Two vertebrae derive from flatfish (order Pleuronectiformes). They could have come from large **plaice**, *Pleuronectes platessa* Linnaeus, 1758. The size difference between the two (one is a fragment of spine) may indicate more than one fish.

##### (ii) Deposits (30103), (30104), (30105)

It is interesting that the sample from inside the kitchen- (30104) sample 129- contained no food debris; a single frog/toad humerus (probably intrusive) was identified. Fish bone fragments and possible scale fragment were indeterminate. Perhaps this suggests that the area was kept quite clean. However, fragments of cattle, sheep/goat, domestic fowl and a butchered goose humerus recovered from the samples at either end of the drain (30103) and (30105) suggested food refuse.

Within Context 30103, radially broken scales suggest cyprinid (**carp family**).

A distinctive dentary comes from **herring**. A caudal vertebra may derive from the same species, though there may be other possibilities.

Other unidentified bones (fin rays) indicate larger fish.

Context 30105, cut 128, Drain

Scales include some of ctenoid form, indicates **perch**.

Herring is represented by a broken maxilla and possibly by a quadrate bone which appears indistinguishable from reference material. Some degraded bone (operculum?) has acquired a lace-like texture similar to some **herring** bone buried and recovered for the reference collection.

### *Conclusion*

A small assemblage of animal bones was recovered from deposits relating to ovens and drains in the vicinity of the kitchen. These deposits have good potential to help reveal the types of meat and fish consumed on the site. The animal bones suggest that beef and mutton and pork were consumed, while domestic birds, wild birds and both marine and freshwater fish also contributed to the diet. A single deer bone may represent a leg of venison consumed at the abbey.

Not every deposit appears to represent dietary remains. Gnawing, including some puncture marks thought to have been produced by feline teeth, provides evidence of animals kept for non-dietary reasons. Small bones, such as those of mice, found in an oven fill, suggest that the human occupants shared the kitchen area with small, opportunist creatures, which may be intrusive or have colonised the area after abandonment.

There is some evidence for accumulated food debris in the material in the drains, along with intrusive creatures, such as amphibians and shrews. The butchered bones derived primarily from domestic species. Rabbit could have been eaten but might be the result of later burrowing.

The excavations have provided a rare opportunity to examine remains from a known medieval kitchen and it would be helpful if larger samples were to become available for study.

Table 21: Hand-collected bone from Season 5 deposits

	Context No	2009	3029	3034	3040	Total
Common name	Species					
cattle	Bos taurus			4	2	6
sheep/goat	Ovis/Capra		1			1
pig	Sus scopa				1	1
domestic fowl	Gallus gallus		7	1	1	9
goose	Anser anser.		3			3
?domestic fowl			4			3
Indeterminate bird		2	5			2
Large mammal			4	1	4	9
Medium mammal		1	15		1	17
Indeterminate		1	7		1	9
Total		4	46	6	10	66

Table 22: Bone fragments from Season 5 sieved residues (not including fish bones referred to in text)

	Context No	80	100	2668	2671	3098	30103	30104	30105	Total
	Sample No	1	2	103	104	126	127	129	128	
Common name	Species									
cattle	Bos taurus					2				2
sheep/goat	Ovis/Capra					1	1		2	4
pig	Sus scopa					1				1
fallow deer	Dama dama					1				1
rabbit	Oryctolagus cuniculus				30	5				35
rabbit cf	cf. Oryctolagus cuniculus				4					4
cf .house mouse	cf. Mus musculus			4						4
shrew cf pygmy	cf Sorex minutus		1		1					1
domestic fowl	Gallus gallus			2		2			2	6
cf domestic fowl	cf. Gallus gallus				1	2				3
goose	cf. Anser anser.						1			1
red legged partridge	Alectoris rufa					4				4
cf. blackbird	cf Turdus merula			1						1
cf. redwing	cf Turdus iliacus			2		1				3
wild bird	passeriform			1						1
cf frog	Cf. Rana rana								3	3
frog/toad	Rana/Bufo				37			1		38
fish					1					1
?pig			1							1
?rabbit					4					4
large mammal						18	3			21
medium mammal			1	1		3	6		4	14
small mammal				2	8	1	1		1	12
indeterminate bird				1	1				4	6
goose- size bird							1			1
med/small bird						4				4
small bird		1								1
indeterminate		6	8	18	47	30	38	1	23	95
Total		7	11	32	134	75	51	2	39	351

## **The Animal Bone Season 6 (2005)      *Jennifer Browning***

### ***Introduction***

The 2005 6th season at Abbey Park aimed to complete the examination of the Abbey kitchen and its immediate environment. The excavated deposits dated from the medieval and post-medieval periods and provided the opportunity to look for evidence of food preparation and waste from the kitchens, as well as recovering the remains of non-food species dwelling in the vicinity. The sieving of bulk samples from these deposits permitted the recovery of a wider range of the species present, as many small mammal, bird and fish bones are unlikely to be recovered through hand collection alone.

Three drains had been noted south of the kitchen wall, one of which (2661), had been studied during a previous season. The remaining two were targeted during the current work along with a previously unexposed oven. Two further trenches were positioned against the precinct wall and one (Trench 33) was placed alongside a partially buried archway (3305) passing through the precinct wall, presumably to discharge into the river. During previous work at the site, the ovens and drains produced evidence for the consumption of mutton (*Ovis aries/Capra hircus*), beef (*Bos taurus*), pork (*Sus scrofa*), venison (*Dama dama*), domestic fowl (*Gallus gallus*), goose (*Anser anser*) and a small number of wild birds. Rabbit (*Oryctolagus cuniculus*) and several rodent species were also present. Fish species recovered included eel (*Anguilla anguilla*), herring (*Clupea herengus*), cod (*Gadus morhua*), plaice (*Pleuronectes platessa*) and cyprinid scales, many of which were of the ctenoid form and may belong to perch (*Perca fluviatilis*) (A. J. Gouldwell *pers comm*).

### ***Methodology***

A small number of bones were recovered during hand-excavation but most of the specimens included in this analysis were retrieved from bulk samples. Samples were wet sieved in a York tank using a 0.5mm mesh with flotation into a 0.5mm mesh sieve. The residues were air dried and the coarse fraction over 4mm sorted for all finds, with the fraction of the residue below 4mm also sorted in many cases (A. Monckton *pers. comm.*). The flotation fraction (flot) was air dried and packed carefully in self-seal polythene bags and the flots were then examined with a x10 stereo microscope. The faunal remains were identified with reference to the comparative skeletal collection held by the School of Archaeology and Ancient History at the University of Leicester.

The bones described below, while hopefully representing a good range of species from the deposits, are not a comprehensive list; some fish bones currently remain unidentified and unsorted residues are likely to contain further small bones. The tables in the text do not include specimens which were not identified to species or family. A complete list of the recorded fragments, including those listed as indeterminate, can be found at the end of the report.

### ***Results***

#### ***Oven***

Context 3126 Sample 135; 136;

Context 3126 appeared to be an in-situ burnt ash deposit from the southeast corner oven and contained a significant number of Potters Marston pottery sherds including a 12th or 13th century thumbled jug strap handle. A significant quantity of bone was recovered from this deposit, incorporating a range of mammals, birds and fish. All of the species recovered could result from food preparation.





Table 23 Identified animal bone, oven (3126)

Common name	Species	Hand-recovered	Sieved residues	Flots
cattle	<i>Bos taurus</i>	2		
sheep/goat	<i>Ovis aries/Capra hircus</i>	3	5	
pig	<i>Sus scrofa</i>	13	47	
domestic fowl	<i>Gallus gallus</i>	7	3	
goose	<i>Anser anser</i>	23	27	
golden plover	<i>Charadrius apricarius</i>		1	
passeriformes:cf sparrow	cf <i>Passer</i> sp.		1	
passeriformes: cf blackbird	cf <i>Turdus merula</i>		1	
eel	<i>Anguilla Anguilla</i>		23	
herring	<i>Clupea harengus</i>		180	61
cyprinid	Cyprinidae		3	
cod	<i>Gadus morhua</i>		2	
haddock	<i>Melanogrammus aeglefinus</i>		11	
gadid	Gadidae			

The pig remains present in the hand-recovered material were almost entirely from the head and the feet. Juvenile and neonatal animals were also represented in the assemblage. The goose bones in both the hand-collected and sieved assemblages, with the exception of two bones from the wing, consisted of posterior phalanges, representing several birds. These bones probably represent primary butchery and preparation for the oven, although it is surprising that adjacent bones of the lower leg, such as the tarsometatarsus, are not represented. Such accumulations are not uncommon where carcasses are being prepared; a similar but larger assemblage of phalanges, consisting of domestic fowl rather than goose, was noted in an early 14th century context at Wigmore Castle (Thomas and Vann forthcoming). A number of digits from the wingtip were noted in an oven fill of the previous season (Browning and Gouldwell, this report). Wild birds represented in the oven deposit included golden plover and two Passeriformes species, tentatively identified as sparrow and blackbird. The remains from both marine and freshwater fish are also evident. Haddock was more common than cod and was represented by a premaxilla and vertebrae, which suggests that some of the fish brought to site may have been fresh as well as preserved, since the head is often removed during the preparation of stockfish or saltfish (Cutting 1955, 133). The herring bones largely consisted of the otic bullae, distinctive bones from the otic region of the head, which are found in pairs; therefore the numbers recorded represent a minimum of 104 fish. This is a minimum as many more are present within the unsorted residue (A. Monckton *pers. comm*). This is unusual, as at many sites vertebrae are the most common elements. The presence of these bones indicates that the fish arrived whole onto site and they may represent a significant amount of preserved herring, although it must be borne in mind that, unlike larger fish, one portion could constitute several herring.

A small number of calcined specimens were noted (n=26) among which sheep and pig bones were observed, however most fragments were indeterminate. The majority of the bones recovered from the feature did not appear to have been burnt, which could mean that they are unlikely to have been incorporated in the feature while it was in use. However, methods of cooking that did not involve exposing the bones to direct heat are not readily identifiable on faunal specimens.

*Drains*

## Context 3214 Sample 131

Table 24 Animal bone: Context 3214 Sample 131

Common name	Species	Hand-recovered	Sieved residues
pig	<i>Sus scrofa</i>		2
domestic fowl	<i>Gallus gallus</i>	1	
duck	<i>Anas sp.</i>	1	
salmon	Cf <i>Salmo salar</i>	1	
eel	<i>Anguilla anguilla</i>		8
herring	<i>Clupea herengus</i>		1
cod family	Gadidae		4

Context 3214 appeared to be an in-situ surviving drain fill. The function of this drain appears to be to channel surface water from the cobbled area east of the kitchen south-westwards to join the drain taking waste from the south of the kitchen. The bones retrieved from this feature can all be attributed to food species. The hand-recovered assemblage numbered 27 fragments and included ribs from cattle and sheep-sized animals which were chopped into sections (not included in table). A cattle sacrum and femur from a calf were also chopped. Pig, domestic fowl, duck and salmon were also identified. A single herring and several eel vertebrae were identified among the sieved remains. Several Gadid bones were also present. These were from the head and may represent a small cod.

## Context 3121 Sample 133

Table 25 Animal bone: Context 3121 Sample 133

Common name	Species	Sieved residues
cattle	<i>Bos Taurus</i>	2
sheep	<i>Ovis aries</i>	1
pig	<i>Sus scrofa</i>	1
rabbit	<i>Oryctolagus cuniculus</i>	1

Context 3121 was a dump of mid grey silty sand, associated with one of the drains. Indeterminate fish fragments were also present in the sieved residues. Oyster shell was also recovered but there were no hand-recovered bones.

## Context 3160 Sample 139

Table 26 Animal bone: Context 3160 Sample 139

Common name	Species	Hand-recovered	Sieved residues
cattle	<i>Bos Taurus</i>		9
sheep	<i>Ovis aries</i>		18
pig	<i>Sus scrofa</i>	1	7
rabbit	<i>Oryctolagus cuniculus</i>		5
rabbit/hare	<i>Oryctolagus cuniculus /Lepus europaeus</i>		1
domestic fowl	<i>Gallus gallus</i>		6
eel	<i>Anguilla Anguilla</i>		1
pike	<i>Esox lucius</i>		2
cod	<i>Gadus morhua</i>		1
cod family	Gadidae		2

A sample was taken from the fill (3160) of the south-western portion of the drain from which a sherd of 12th or 13th century Potters Marston ware pottery was also recovered.

The drain fill (3160) contained little hand recovered bone: only a pig phalanx and a cattle-sized shaft fragment were collected. However, the sieved residues contained a variety of species, including the main domesticates. The cattle bones from the samples consisted mainly of phalanges and carpals and the sheep/goat bones are mostly carpals, tarsals and loose teeth, which may suggest the incorporation of slaughter waste or general domestic refuse into the feature. Juvenile and neonatal remains are present among both the pig and rabbit remains. Marine fish were represented by fragments of cod and possibly other members of the Gadidae family. Freshwater species included pike (represented by a premaxilla fragment and a vertebra) and eel (vertebrae only).

#### Context 3161 Sample 134

Table 27 Animal bone: Context 3161 Sample 134

Common name	Species	Sieved residues	Flots
cattle	<i>Bos taurus</i>	8	
sheep/Goat	<i>Ovis aries/capra hirus</i>	7	
pig	<i>Sus scrofa</i>	14	
rabbit	<i>Oryctolagus cuniculus</i>	22	
mouse	<i>Mus sp.</i>	21	
vole cf bank vole		1	
domestic fowl	<i>Gallus gallus</i>	17	
goose	<i>Anser anser</i>	3	
woodcock	<i>Scolopax rusticola</i>	1	
thrush cf songthrush	Cf <i>Turdus philomelos</i>	1	
frog	<i>Rana sp.</i>	1	
eel	<i>Anguilla anguilla</i>	13	1
pike	<i>Esox lucius</i>	12	
herring	<i>Clupea harengus</i>	1	1
perch family	Perchidae	2	
cod	<i>Gadus morhua</i>	3	
haddock	<i>Melanogrammus aeglefinus</i>	3	
carp and minnow family	Cyprinidae	3	
cod family	Gadidae	3	
salmon/trout	Salmonidae	2	

There were no hand-recovered bones from drain fill (3161) but the samples produced a variety of mammal, bird and fish bones. The mouse bones were mostly wood mouse and consisted of cranial, mandible and pelvis fragments. The pig bones were neonatal or juvenile. Ribs, vertebrae, teeth and the hind limb were represented but no butchery marks were noted on any of the bones. Most of the cattle bones derived from the foot and several were juvenile. There was a predominance of bones from the upper part of the body (especially scapula and coracoid) but the leg was also represented by tibiotarsii and tarsometatarsi. The majority of bones belonged to juvenile birds. Most of the rabbit bones were juvenile: no butchery marks were observed and it is possible that these are intrusive. Sheep were represented by carpals, tarsals or skull fragments; elements that are frequently recovered through sieving.

## Context 3265 Sample 138

Table 28 Animal bone: Context 3265 Sample 138

Common name	Species	Sieved residues
domestic fowl	Gallus sp.	1
rabbit	Oryctolagus cuniculus	3
mouse cf wood mouse	Apodemus sylvaticus	4
vole cf field vole	Microtus agrestis	3
amphibian	Rana/Bufo	2
herring	Clupea harengus	1

The fill consisted of mid grey brown silty clay (3265) from which no dateable finds were recovered. Although much of the drain had been robbed away in this area, this feature was a continuation of the east west drain (3053) seen in Trench 30 running between the kitchen and the refectory. There was no hand-collected bone. The herring bone was an otic bulla, a distinctive bone from the head which has been found in large quantities in other samples. The domestic fowl bone is small and also compares reasonably well with pheasant.

## Context 3285 Sample 141

Table 29 Animal bone: Context 3285 Sample 141

Common name	Species	Hand-recovered	Sieved residues
Pig	Sus scrofa	3	
Domestic Fowl	Gallus gallus	2	
Herring	Clupea harengus		1
Cod family	Gadidae		1
Flatfish	Pleuronectidae		1
Carp and minnow family	Cyprinidae		1

Context 3285 was the fill of a short length of drain. The hand-collected bone included pig bones, an immature domestic fowl bone and a sheep-size rib fragment. Although the sample yielded few remains, several fish vertebrae and a specimen attributable to herring were present.

## Occupation and other layers

## Context 3148

The Bedingfield trench [3117] exposed a number of probable occupation layers which were only seen as deposits in the section, including a thin deposit of dark grey sandy clay (3148). Two bone fragments were hand-recovered from this feature; one was a sheep-sized rib, the other was unidentified.

## Context 3252

All four of the hand-recovered fragments from context 3252 were from pig. Elements from the skull, pelvis and mandible were identified; an unerupted third molar indicating that age at death was less than two years.

## Context 3253

At the extreme southern end of the section a small deposit of dark grey silty sand (3253) similar to (3252) was noted, from which a pig ulna was recovered.

## ***Discussion***

The largest quantity of bones was recovered from a context within an oven (3126). However, the drain fills also contain significant assemblages. Although the remains of the domestic food species; cattle, sheep and pig, are all present, it is not surprising that the assemblage is dominated by small species. Large bones are likely to have been collected and disposed of in refuse pits or possibly fed to dogs but the small bones would have washed down into the drains. For the same reasons, it is possible that the bones represent an accumulation over time rather than discrete deposits.

The avian assemblage was dominated by goose and domestic fowl but duck was also identified. A number of bones from smaller bird species, including golden plover, woodcock and possibly blackbird, thrush and sparrow suggest that a greater variety of species were consumed. The samples also contain a large number of fish bones, which would have been an important food resource at the Abbey, with so many fast and fish days in the medieval calendar (Henisch 1976, 36). The presence of cyprinids, perch and pike, together with eel, suggest exploitation of a river along with a possible still-water source, for which the Abbey is well-located. A variation in size among the eel vertebrae may suggest that the fishing took place throughout the year in the river through generalised fishing methods (Wheeler and Jones 1989, 164). However, marine species such as cod and haddock indicate that there was also a supply of fish from the coast, which given the inland location may have been salted or dried (Wheeler and Jones 1989, 163). However, the presence of bones from the head suggests that some of the marine fish may have been fresh; methods of preparing saltfish or stockfish usually involve the removal of the head at the place of preservation (Cutting 1955, 133). Herring bones are usually the most numerous species in this period and the Abbey is no exception. Despite the more numerous herring bones, the larger size of the cod and other Gadidae suggests that they made a greater contribution to the diet. Given the inland position of the Abbey it is likely that most of the herring was preserved (Serjeantson and Woolgar 2006, 117), as it perishes easily and heavy smoking or salting would be required to keep it palatable (Cutting 1955, 53-4).

It is possible that the significant numbers of immature rabbit bones observed are intrusive and have become incorporated in the site in more recent years. Unfortunately, in the absence of cut marks indicating preparation of the carcass, it is impossible to be certain that they are food remains. The presence of mouse, vole and amphibian bones in some of the drain samples may either be intrusive or represent animals exploiting the environmental conditions and feeding opportunities that the Abbey provided.

The bones recovered from the 2005 season provide an indication of the range and diversity of species exploited at the Abbey during the medieval period. The site is unique within Leicester and, considering that the assemblage studied was small, the variety of species is noticeably broader than those from many contemporary sites in Leicester recently examined by the author. Although some of the bones may have entered the archaeological record by other mechanisms, most were recovered from features associated with the kitchens and are likely to represent waste from food preparation and consumption. It is evident that bones are well-preserved at the site and significantly increased number and variety of fauna recovered from the bulk samples is clear, when contrasted with the hand-collected bones. Future study of the bones recovered from the Abbey will undoubtedly provide further insights into the diet of the inhabitants and the recovery of a larger stratified assemblage would be very desirable.

Table 30: Animal bone: Hand-collected bones from Season 6 deposits

	Context								
Common name	Species	3126	3148	3160	3214	3252	3253	3285	Total
cattle	<i>Bos taurus</i>	2			1				3
sheep/goat	<i>Ovis/Capra</i>	3							3
pig	<i>Sus scopa</i>	13		1	1	4	1	3	23
domestic fowl	<i>Gallus gallus</i>	7			1			2	10
goose	cf. <i>Anser anser.</i>	23							23
duck	<i>Anas sp.</i>				1				1
cf blackbird	cf. <i>Turdus merula</i>	1							1
salmon (cf)	cf <i>Salmo Salar</i>				1				1
large mammal		2		1	3				6
indeterminate fish		4							4
medium mammal		27	1		10			1	39
indeterminate bird		1			1				1
indeterminate		22	1		8			6	37
Total		105	2	2	27	4	1	12	153

Table 31: Animal bone: Mammal and bird bones from Season 6 sieved residues

Sieved Residues	Context No	3214	3121	3161	3126	3126	3265	3160	3285
	Sample No	131	133	134	135	136	138	139	141
Common name									
cattle	<i>Bos taurus</i>		2	8				9	
sheep/goat	<i>Ovis/Capra</i>		1	7	3	2		18	
pig	<i>Sus scopa</i>	2	1	14	24	23		7	
fallow deer	<i>Dama dama</i>								
cat	<i>Felis catus</i>							1	
rabbit	<i>Oryctolagus cuniculus</i>		1	22			3	5	
hare	<i>Lepus sp.</i>							1	
mouse	cf. <i>Mus musculus</i>			21			4		
vole	cf. <i>Microtus agrestis</i>			1			3		
mouse/vole				1					
domestic fowl	<i>Gallus gallus</i>	3		17	2	1	1	6	
goose	cf. <i>Anser anser.</i>			3	7	20			
woodcock	<i>Scolopax rusticola</i>			1					
Thrush family (cf. mistle thrush)	cf. <i>Turdus viscivorus</i>							1	
Thrush family (cf. song thrush)	cf. <i>Turdus philomelos</i>			1					
cf frog	cf. <i>Rana rana</i>			1					
frog/toad	<i>Rana/Bufo</i>			1					
large mammal		14	3	121		2	2	66	18
medium mammal			5	13	15	18	3	105	2
small mammal									
indeterminate bird		3		25	10	21	5	11	2
indeterminate		79	27	712	254	351	33	423	116
Total					315				

Table 32: Animal bone: recorded fish from Season 6 flots

	Flots	3161	3126	3265	3285	
Common name		134	136	138	141	Total
eel	Anguilla Anguilla	1				1
herring	Clupea harengus	1	61	1		63
	Poss herring?		150			150
	indeterminate	10	10		2	22
	Total	12	221	1	2	236

Table 33: Animal bone: recorded fish from Season 6 sieved residues

	Sieved Residues	3214	3121	3161	3126	3126	3160	3285	
Common name		131	133	134	135	136	139	141	Total
eel	Anguilla Anguilla	8		11	9	14	3		45
pike	Esox lucius			11			1		12
	cf Esox lucius			1			1		2
herring	Clupea harengus	1	1	1	62	114		1	180
	Clupea harengus (cf)						3		3
	Clupeidae					4			4
salmon	Salmo salar			2					2
carp family	Cyprinid (carp family)			2		2			4
	Cyprinid: cf rudd?? Tentative id					1			1
	Cyprinid?							1	1
perch?	Perca			1					1
	perchiform poss. Perchidae			2					2
cod/haddock/hake	Gadid	1		3			4	1	9
	Gadidae; cf gadus morhua?	3							3
cod	Gadus morhua (cod)			3	1	1	2		7
haddock	Melanogrammus aeglefinus			3		4			7
	melanogrammus aeglefinus (cf)					7			7
	indeterminate rays/spines, fragments					25			25
	indeterminate (gadid?)			18					18
plaice?	flatfish - plaice?							1	1
	indeterminate seafish??					25			25
	indeterminate	58	4	94			34	1	191
	Total	71	5	152	17	197	48	5	550

## Bibliography

Allin, C.E., 1981 'The ridge tile' in J.E. Mellor and T. Pearce 1981, 52-70.

Buckley, R., 1997 Abbey Park, Leicester: An Archaeological Desk Based Assessment and Survey. Revised March 18 1997. ULAS Report: 97/12



- Buckley, R.J. 2006 'The archaeology of Leicester Abbey' in J. Story, J Bourne and R. Buckley (eds) *Leicester Abbey: Medieval History, Archaeology and Manuscript Studies*. Leicester: Leics. Archaeological and Historical Society.
- Buckley, R. and Butler, A., 2001 'Leicester, Leicester Abbey (SK 58 05)' *Trans. Leicestershire Archaeol. and Hist. Soc.* **75**, 129-30
- Buckley, R and Derrick, M., 2001 An Archaeological Evaluation at Leicester Abbey: First season, Summer 2000. ULAS Report 2001-074
- Clifton-Taylor, A., 1987 (4th edition): *The Pattern of English Building*. London: Faber & Faber.
- Connor, A., and Buckley, R., 1999. *Roman and Medieval Occupation in Causeway Lane, Leicester*, Leicester Archaeology Mon. **5**.
- Coppack, G., 1990 *Abbeys and Priories*. London: Batsford and English Heritage
- Cutting, C.L., 1955 *Fish Saving* Leonard Hill (Books) Ltd: London
- Davies, S., and Sawday, D., 1999. 'The Post Roman Pottery and Tile' in A. Connor and R. Buckley, *Roman and Medieval Occupation in Causeway Lane, Leicester*, Leicester Archaeology Mon. **5**, 165-213.
- von den Driesch, A 1976 *A guide to the measurement of animal bones from archaeological sites*. Cambridge, Mass., Peabody Museum of Archaeology and Ethnology, Bulletin no. 1.
- Dyer C., 1989 *Standards of living in the later Middle Ages*. Cambridge University Press.
- Eames, E. S., 1984. 'Appendix 1: The Decorated Floor Tiles' in P. Mayes and K. Scott 1984. *Pottery kilns at Chilvers Coton, Nuneaton*. Soc. Medieval Archaeol Mon. Ser. **10**, (173-187).
- Fox, L., 1949 *Leicester Abbey* A4 Guidebook. Leicester: Leicester City Council
- Gnanaratnam, A.G., 1991 'Non-ceramic building materials' in A. Connor and R. Buckley *Roman and Medieval Occupation in Causeway Lane, Leicester*, pp 304-307. Leicester: University of Leicester Archaeological Services.
- Grant, A. 1987 'Some observations on butchery in England from the Iron Age to the Medieval period.' *Anthropozoologica. Premier Numero Special*.
- Hensch, B. A., 1976 *Fast and Feast: Food in Medieval Society* Penn State Press
- Higgins, D.A., 1985. 'Leicester Clay Tobacco Pipes' in P.J. Davey (ed) *The Archaeology of the Clay Tobacco Pipe IX*, 291-307. Brit. Archaeol. Rep. (Brit. Ser.) **146**.
- Higgins, D. A., 1999. 'The Clay Tobacco Pipes' in A. Connor and R. Buckley, 215-234.
- Jennings, S., et al 1981. 'Eighteen centuries of pottery from Norwich'. *East Anglian Archaeology* **13**
- Jones, S., 2003 'Leicester Abbey (SK 584 060)' *Trans. Leicestershire Archaeol. and Hist. Soc.* **77**, 125-6
- Jones, S. and Buckley, R., 2004a An Archaeological Evaluation at Leicester Abbey: Third Season, Summer 2002. ULAS Report 2004-65
- Jones, S. and Buckley, R., '2004b 'Leicester Abbey (SK 584 060)' *Trans. Leicestershire Archaeol. and Hist. Soc.* **78**, 143
- Jones, S. and Buckley, R., 2005 An Archaeological Evaluation at Leicester Abbey: Fourth Season, Summer 2003. ULAS Report 2004-65
- Lawrence, M. J., and Brown R.W., 1973 *Mammals of Britain: their tracks, trails and signs'* Blandford Press, Poole

- Meek, J. and Buckley, R., 2002a 'Leicester Abbey (SK 584 060)' *Trans. Leicestershire Archaeol. and Hist. Soc.* **76**, 81-84
- Meek, J. and Buckley, R., 2002b An Archaeological Evaluation at Leicester Abbey: Second season, Summer 2001 Unpub. ULAS Report 2002-010
- Mellor J.E., and Pearce, T., 1981 *The Austin Friars, Leicester*. London: Counc. Brit. Archaeol. Res. Rep. **35**
- Monckton A., 1999 'The Plant Macrofossils' in A. Connor and R. Buckley *Roman and Medieval Occupation at Causeway Lane, Leicester*. Leicester Archaeology Monograph No.5, University of Leicester Archaeological Services and Leicester City Museum Service 1999.
- Nicholson, R., 1999 'The Fish Remains' in A. Connor and R. Buckley *Roman and Medieval Occupation at Causeway Lane, Leicester*. Leicester Archaeology Monograph No.5, University of Leicester Archaeological Services and Leicester City Museum Service 1999.
- Scott, K., 1985. 'The Middle to Later Phases at Chilvers Coton' in *West Midlands Pottery Research Group Newsletter* **6**
- Searly, P. and Sturgess J., 'Leicester Abbey precinct walls survey' Unpub. ULAS Report 1997-012
- Serjeantson, D., and Woolgar, C.M. 2006 'Fish Consumption in Medieval England' in C.M. Woolgar, D. Serjeantson and T. Waldron *Food in Medieval England: Diet and Nutrition* Oxford University Press
- Serjeantson, D., 2006 'Birds: Food and a mark of status' in C.M. Woolgar, D. Serjeantson and T. Waldron *Food in Medieval England: Diet and Nutrition* Oxford University Press
- Silver, I. A. 1969 'The ageing of domestic animals', in D. Brothwell and E. S. Higgs, *Science in Archaeology*. London.
- Stace C., 1991 *New Flora of the British Isles*. Cambridge University Press.
- Walker, H., 2005. 'Semper: Outcomes from the autumn meeting.' in *Medieval Pottery Research Group Newsletter* **53**, 1-2.
- Wheeler, A. and A. J., Jones *Fishes Cambridge Manuals in Archaeology*
- Whitcomb, N.R., 1956. *The Medieval Floor Tiles of Leicestershire*. Leicestershire Archaeol. & Hist. Soc. Leicester.
- Wood, M., 1965 *The English Medieval House*. 1971 reprint. London: Ferndale Editions
- Woodfield P., 1984. 'Midland Yellow' in *West Midlands Pottery Research Group Newsletter* **2**.
- Woodland, R.R., 1981. 'The pottery' in J.E. Mellor and T. Pearce 1981, 81-129.

## Contact Details

Richard Buckley or Patrick Clay

University of Leicester Archaeological  
Services (ULAS)

University of Leicester,

University Road,

Leicester LE1 7RH

**T:** +44 (0)116 252 2848

**F:** +44 (0)116 252 2614

**E:** [ulas@le.ac.uk](mailto:ulas@le.ac.uk)

**w:** [www.le.ac.uk/ulas](http://www.le.ac.uk/ulas)



INVESTOR IN PEOPLE

