JOHN MOORE HERITAGE SERVICES

ARCHAEOLOGICICAL INVESTIGATIONS BENEATH THE FORMER BRYAN HOUSE, CHAPEL STREET, BICESTER, OXFORDSHIRE; PLUS TWO ADDITIONAL AREAS AND WATCHING BRIEF

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Summary

John Moore Heritage Services undertook an archaeological evaluation followed by three open area excavations (Area's A, B & C) on land beneath the former Bryan House (NGR 45844 2222) and land fronting onto Chapel Street throughout the summer of 2011, following planning permission for demolition works and the construction of 27 flats (10/00106/F). The first phase of archaeological work comprised the opening of six trenches, in which demolition deposits and walls associated the 12th century Augustinian Priory Church were located. Two trenches were excavated on Chapel Street, which revealed evidence for the post-medieval houses, which used to front the street until the 1960's.

The excavations opened areas not destroyed by deep wall footings of the former Bryan House (Area C) and on two areas fronting onto Chapel Street (Areas A & B). An almost complete plan of the eastern end of the Priory Church (choir, chapels & chancel) first constructed in c. 1183 on land donated by Gilbert Bassett was uncovered. Three main phases of building works were identified, the earliest being an intact 12th century culvert with arched roof. Wall footings of the choir and chapels, which formed the main church building, were 2m wide reaching depths of over 1.5m. The latest phase was a 14th century chantry chapel built against the north chapel plus an enlargement of the north transept. These later additions were phased by stratigraphic relationships and documentary evidence of purchased building materials listed in the account rolls. The preservation of the archaeology was best outside the building footprint of the former Bryan House where parts of some floors survived almost in situ. The discoveries within the church included burials with traces of wooden coffins, charnel pits and a stone-lined cist. Two of the skeletons (SK1 & SK7) were radiocarbon dated to the latter half of the 15th century. The burials are considered to be the church benefactor's, Prior's, and high status canons. Covering the burials were bedding layers for decorated tiled floors. Burials and charnel pits were also located outside the eastern end of the main church, occupying the space between the end of the church and the stream (once culverted). Beneath the former Bryan House the floor layers were not surviving, but the walls of the church and below floor levelling deposits were surviving.

The north transept was partially revealed and the floor layers within it were hand excavated. The remains of a reliquary, which were probably once displayed within the purbeck marble shrine as Saint Edburg, were discovered within a lead container buried into the latest floor layer of this part of the Church. Within the lead container were the remains of c. 20% of a human skeleton with no pelvis or skull meaning determination of sex impossible, but all bones were considered to be from the same individual. Two bones inside the reliquary were radiocarbon dated producing a date range of 1163-1277AD. This would suggest that although they were probably the bones which were displayed on the shrine (now at Stanton Harcourt Parish Church), they cannot be the remains of the real Saint Edburg, the daughter of a 7th century Saxon Earl. The scientific evidence showed the person had a high marine diet, which suggest that the bones within the casket probably belonged to a Prior or member of the aristocracy.

Post-dissolution demolition layers and intrusive features were also encountered across the site, in particular outside the southern chapel where moulded stone blocks

could be seen in rubble layers. During the post-medieval period the site was left as pasture until the 1940's when a Territorial Army centre was erected, followed by a block of flats in the 1960's (Bryan House). The two additional areas located on Chapel Street (A & B) revealed walls and floors of houses which were first constructed in the early post-medieval period with many additions and rebuilds over the centuries until they were demolished in the 1960's. The site has now been re-developed into affordable houses and flats.

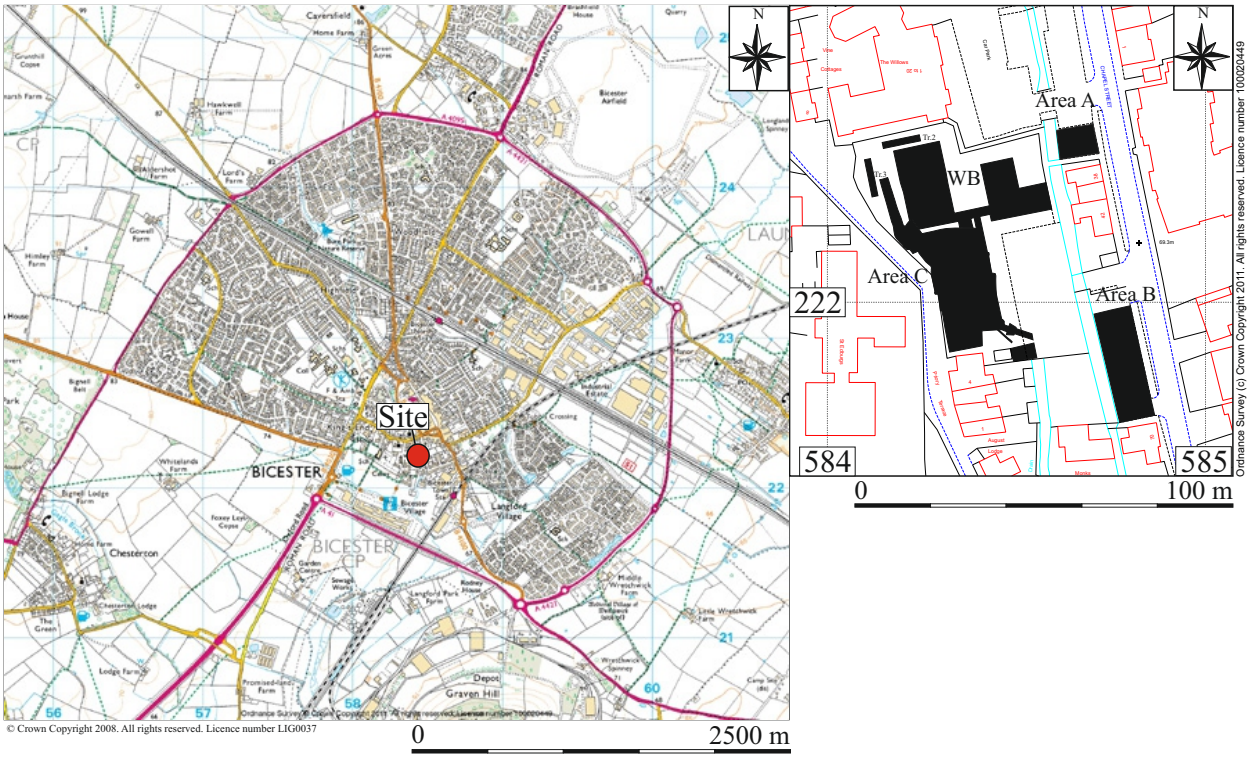
1 INTRODUCTION

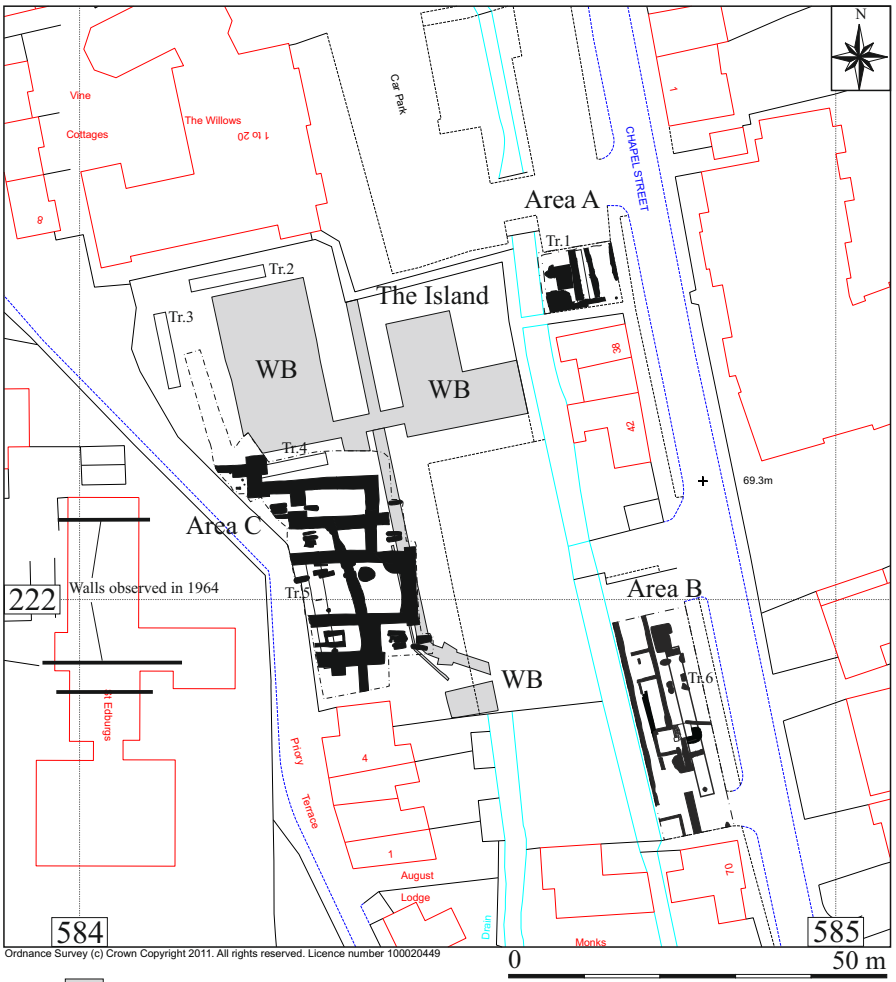
1.1 Site location, geology & topography (Figure 1)

Bicester occupies a relatively flat expanse of ground at approximately 69.3m above OD and the underlying geology is limestone Cornbrash (BGS Sheet 219;1:50 000). The site of the new development lies to the west of Chapel Street and east of Priory Lane over the site of the former Bryan House (Figure 1). It is located within the core of the medieval settlement of Bicester, within the precinct of the medieval Priory and directly over the eastern end of the medieval Priory Church.

The River Bure, which separates the area around the parish church (King's End) from the area of the town (Market End, formerly Bury End) to its east, still gently drains through the development site as two separate streams, one canalised, and one culverted. The River Bure would have been broader in the prehistoric, Roman and Saxon periods and this would be the reason for the origin of the causeway. Presumably it originated as a simple raised trackway across the slowly drying channels during the Saxon period (or earlier) linking the Market and King's End of the town. John Blair in his article on Anglo-Saxon Bicester (Blair 2002) marked the maximum extent of the alluvial channel (River Bure). The eastern edge of the River Bure was against a ridge of Cornbrash on which the houses were constructed fronting onto Chapel Street. The western edge of the palaeo-channel has been observed on the Proctor's Yard site north of the Priory Church (Hull & Preston 2003).

The present causeway is thought to be at least 14th century in origin and the land between the site and causeway was proved to have been low lying and marshy ground during the medieval period and subsequently leveled during the early post-medieval period (JMHS 2004; PRN 16212). The Priory Church was constructed on the mud flats of the alluvial silt, which once formed this river channel. In the late 12th century, the ground over the river must have been firm enough for construction at this time, although clearly not ideal. The archaeological evidence may suggest that the once large river became three small streams with one beneath the church culverted before the church was built during the late 12th century (See results section 4.5.1). The eastern most stream (Bure) was canalised and can still be seen to rush at the location of the medieval water mill within the grounds of the old church building at the junction between Priory Road and Chapel Street. The other stream which was culverted beneath the site in the 1960's has now been re-diverted and opened as a feature across the front of the new builds. No other upstanding remains of the priory exist although re-used masonry is clearly apparent in some properties, in particular the 'Old Priory' on Priory Lane.





Key: WB Watching brief

Figure 1: Site location

1.2 Planning Background

Outline planning permission has been granted for the demolition of existing buildings and construction of 27 flats on the site under the application reference 05/00412/OUT in March 2005. This was approved in June 2006. A subsequent planning application was made for the demolition of the existing Bryan House and development of 23 units of affordable housing (10/00106/F) in January 2010. Due to the potential presence of archaeological remains a field evaluation was required as the first stage of archaeological works. This was in line with PPS5 and Policy BE13 of the Local Plan.

The field evaluation was carried out in accordance with a Written Scheme of Investigation (WSI) (JMHS 2011a) and Oxfordshire County Council Design Brief (OCC 2011). Following the results of the archaeological evaluation (JMHS 2011b) Oxfordshire County Archaeological Services (OCAS) required further archaeological work in the form of a full-scale excavation over areas of proposed impact. John Moore Heritage Services submitted a further Written Scheme of Investigation (JMHS 2011c), which detailed the methodology to be employed during the excavation works.

The archaeological excavations were carried out from 13th June 2011 to the 19th August 2011 by a maximum team of ten professional field archaeologists directed by Paul Riccoboni (Project Officer) and managed by John Moore (Director) and Dave Gilbert (Project Manager).

Following the main excavation works a watching brief was undertaken across the site during ground works commensurate with a further WSI (JMHS 2011d).

1.3 Archaeological Background

Prehistoric

Prehistoric evidence has come from such archaeological investigations as Slade Farm (Ellis *et al* 2000) where Mesolithic, late Bronze Age and early Iron Age features were recorded. Four or possibly five middle Iron Age ring gullies associated with a farmstead were uncovered along with a number of pits and kilns of late Iron Age date. Of particular note was a Halstatt Razor found within an early pit. Birmingham University Field Archaeology Unit undertook further excavations at Oxford Road, Bicester where they produced transitional evidence of late Iron Age/early Romano-British settlement over two distinct phases during the 1st century AD (Mould 1996). Two ring ditches have been identified on the south-western outskirts of Bicester (NM-338911) and four possible Bronze Age ring ditches (3 of which now destroyed) to the north of the town. A middle Bronze Age cremation has been found adjacent to Gagle Brook, off Chesterton Lane (HER 16213), near Alchester Roman town. Excavation at Bicester Fields Farm (Cromarty *et al* 1999) located a settlement of probable middle to late Iron Age date (HER 16120).

The most recent prehistoric evidence from Bicester has come from excavations at Whitelands Farm, south west of Bicester, which revealed a multi-period site ranging from the early Bronze Age to the mid Saxon period (Martin 2011). Of particular rarity was a Beaker burial with grave goods including a bone point, flint knife and beaker vessel (2450-2250 BC). An extensive middle Iron Age farm with settlement evidence

and agricultural activity into the late Iron Age was uncovered and proved to be in disuse by the Roman conquest.

Roman

The small Roman town of Alchester (HER 1583) is the principal Roman settlement in the area, 3km south of Bicester. The town was established in the late 1st or early 2nd century AD on the site of a probable Claudio-Neronian vexillation fortress. The town plan is set on a north-south and east-west axis linking Towcester and Dorchester-on-Thames and St Albans and Cirencester. The site was abandoned during the late fourth century and remains under pasture protected as a Scheduled Ancient Monument. Archaeological evaluation (TVAS 2010) has discovered a Roman farmstead at Langford Park Farm adjacent to the A41, north of Alchester.

Excavations at Bicester Park on the eastern outskirts of Bicester uncovered a Roman rural settlement beginning in the early Roman period, which continued until the late third to early fourth century (Westgrath & Carlyle 2008). Whitelands Farm a large new development on the south-western outskirts of Bicester showed that crop processing, baking and possibly brewing was occurring at the site (Martin 2011) within a wealthy Romano-British farmstead. A stone lined tank may have been used for malting barley. It was likely the discovered imported items came from Alchester rather than as direct continental imports.

At Kings End Farm and South Farm, now both housing estates on the west side of Bicester, gradiometer survey and rescue excavation by Peter Biebrach in 1978 (with volunteers) recorded Roman features over two and a half hectares and the team collected roof tiles and comb decorated tiles, leading to the suggestion of a Roman villa in the immediate vicinity (Chambers 1979).

Saxon

The Saxon town of Bicester has been of considerable archaeological interest for some time and the origin of the town name has been a matter of conjecture for several centuries, summarised in Dunkin's *History and Antiquities of Bicester* (Dunkin 1816) and in *The History of Bicester; its Town and Priory* (Blomfield 1884). The name probably derives from 'Burne-Ceaster' the Saxon name for Roman brook or stream encampment. The parish church (St Edburg's) can be recognised from the enshrinement there of the local *St Eadburg* as an Anglo-Saxon minster surrounded by a ditch discovered at the Proctor's Yard site (Blair 2002). The relationship between the minster church on the west bank of the Bure and the lay settlement on the east bank with long houses discovered on the east side of Chapel Street has emerged from piecemeal excavation across the town over the past 20 years. The Chapel Street excavations revealed three early Saxon sunken feature buildings and five late Saxon timber buildings (Harding & Andrews 2002). Other sites in Bicester include The Kings Arms site (SP 5851 2223), which revealed Anglo Saxon activity along the street frontage (PRN 16137). A cemetery north of Church Street was recorded by Steven Weaver (in 2000) with a minimum of 28 graves partially uncovered but not excavated in advance of a new car park. More recently in 2011 a further 15 skeletons were discovered beneath the new John Paul II centre to the rear of the Catholic Church of the Immaculate Conception (TVAS 2011 *forthcoming*). The western side of

the Bure developed into an ecclesiastical centre throughout the medieval period with the Parish Church and Priory in close proximity to each other.

Medieval Priory

The Priory at Bicester was founded by Gilbert Bassett around 1183 for a Prior and eleven canons. It was endowed with land and buildings around the town and other parishes, but it has been suggested to have always collected only a modest income (Hinton 1968). The history and building history of the Priory has been well summarised in Blomfield's *Deanery of Bicester, History of Bicester part II* (Blomfield 1884), *Victoria County History* (V.C.H *Oxon* VI) and Hinton's article on *Bicester Priory* (Hinton 1968). The Priory was typical of Augustinian traditions of the time, set within a precinct wall containing church, cloister, refectory, kitchens, dormitory and Prior's lodgings. None of the buildings survive above ground since the dissolution of the Priory Church. The cloisters were finally pulled down in the late 17th century. Some architectural elements of the original priory have been reused in the building called 'Old Priory', Priory Lane, with the rest of the house later in date. A plan of the Priory has been somewhat conjectured by Hinton (1968) largely based on the archaeological work by John Dunkin in 1823 and David Watts' observations from 1964-8. The known plans of other Augustinian priories also helped in ascertaining a conjectured plan of the monastic buildings as they often adopted a very similar pattern and layout.

Other Augustinian Houses in Oxfordshire include Chetwode (1245-1460), Cold Norton (1150-1507), Wroxton (1217), Chalcombe, Oseney (1129), St Frideswide (1122), Notley (*c*. 1160) and Dorchester (*c*. 1140). The accounts suggest few gifts were received after the first Priory's existence (Blomfield 1884 pp.125-127) and during the 14th century tenants and servants were hard to find 'because almost all men in these parts are dead in this pestilence (i.e. Black Death) and the Priory had to enclose much of its land to counter such troubles' (V.C.H *Oxon* VI). The Priory account rolls have been admirably summarised in Blomfield's *Deanery of Bicester* (Blomfield 1884) and again should be consulted for actual expenditure and benefactions of the Priory. The expenditure on the Church in the early 14th century is of most relevance to this report as must relate to work at the eastern end of the Priory Church, leading up to re-consecration in 1312. One event of particular relevance is the donation of £40 by Master Walter de Foderingeye, a lawyer long connected to the priory. He donated the money at his death so that he might be buried within the Priory Church and a mass said for his soul. The Bishop in 1323 granted an Indulgence of 11 days to 'all persons who pray for the soul of the late Master Walter de Foderingeye, whose body rests in the conventual church at Burncestre, in the diocese of Lincoln.' A new chantry chapel was then prepared with his portrait in stained glass placed in one of the windows. A chantry chapel is a dedicated area within a greater church, set aside or built especially for and dedicated to the performance of the chantry duties by the priest generally dedicated to the donor's favourite saint. It is believed the chantry chapel at Bicester Priory has now been discovered, but the only skeleton within the chapel was not that of Master Walter (see results section), but a later 15th century burial. Chantries as part of the religious precincts were suppressed by a parliament act under the orders of Henry VIII and subsequently by Edward VI mainly in 1547.

A shrine to house the relics of St Edburg was built in 1300-1310 and was explicitly mentioned in 1320 as a 'feretory'. A feretory is the receptacle to hold the relics of saints or an area of a church in which reliquaries are kept. Other major building works and benefactions for burial inside the church occurred at the end of the 14th century in addition to a 'new choir' indicating the Priory was wealthier at this time than any other. Within the walls of the church were buried various generations of not only Priors, monks and inmates of the convent, but many other special benefactors such as Egeline de Courteney, the widow of the founder, Phillipa Basset, Countess of Warwick, several members of the De Amory family, lords of Bukenhall and some of the lords of Burncester Manor (Blomfield 1884).

Work had begun on the new choir at least by 1393 according to the account roll for 1395–6. Robert Dryffeld was paid £10 in addition to the £10 paid in each of the two preceding years for his work on the new choir. A smith from Bedford was paid for making the hinges (*gemellae*) for the stall seats, while Robert Dryffeld received an extra 33*s*. 4*d*. for making 30 finials for them. Work was still being paid for in the account of 1397–8. John Stacy was paid £20 for finishing the end of the choir and *sawyers* for three weeks work sawing the boards for the floor, which was supported on walls (Lobel 1959). The masons worked on these for four weeks. John Smyth was employed to mend the hinges (*gemewes*), and the boards under the 'crestying' of the walls were varnished. At the same time the old choir was removed and the floor levelled and some unspecified work, described as 'novum opus ultra vestiarium', was carried out. Work was still going on in 1411–12, when a new roof was placed over the high altar. The roll refers to purchases of timber and expenses of sawing and carting, which were sufficiently large to be accounted for separately. Carpenters, including one from Brackley, and masons, including a freemason and his mate from Eynsham, were hired; Peter the painter of Banbury and John the painter of Thame were brought in to colour the roof with oil colours supplied by the latter. Gold leaf was bought in Oxford, and 'divers colours' in London. In the 15th century the Priory's financial troubles continued again with litigation common, not helped by the Priors business trips often at considerable expense (Hinton 1968).

In 1425 the monks spent a large sum rebuilding the dormitory at a cost of £34/17s/4d with stone, from Crockwell quarry. The new dormitory had a slate roof surmounted at each end with tin weathervanes (an instrument to show the direction of the wind) bought from a blacksmith at Charlton-on-Otmoor (Blomfield 1884, 110). Within the vicinity of the cloister some interesting discoveries were made including two stone coffins (minus the lids). The western extension of the cloister proved to be a very large building paved with large 15th century blue, brown and cream glazed tiles. The building also had windows with painted glass which has led to the suggestion this may have been the prior's lodging (Watts 1989).

In 1489 Pope Innocent VIII granted to John Morton, Archbishop of Canterbury, at the request of King Henry VII, an authority to enquire into, and correct, the abuses existing in many of the Religious houses in England. Once royal supremacy had been established the King gave authority to Thomas Cromwell, his Vicar General to hold a visitation of the monasteries when it was decided that all monasteries with a yearly value of less than £200 should be given to the King. Bicester Priory along with 374 other lesser monasteries of England surrendered into the Kings hands. It was Cromwell's order that the churches together with their adjoining cloisters should be

pulled down once the materials were sold. The Seal of the priory showing whole length figures of Virgin and Child and St Edburg (Fig. 50) under a double Gothic canopy survived along with parchments containing the priory's accounts. Henry VIII came to Bicester to inspect the priory on Tuesday September 11th 1526, but it was not until 1536 that Bicester Priory was dissolved and the church pulled down under the supervision of Sir Simon Harcourt. As the Shrine of St Edburg (Figure 2) survived the dissolution it is assumed that Simon Harcourt had it transported to his local Church at Stanton Harcourt (where it remains to this day). The cloister court survived dissolution in 1536 and it was not until 1673 it was demolished on the orders of William Glynne. The priory accounts suggest several cloister apartments were quite imposing. Work carried out in 1964 and 1965 showed the surviving remains of the cloister to be very fragmentary with many of the walls completely robbed.

St Edburg

Edburg (or Eadburg) was a popular Anglo-Saxon name for girls in England. The patron Saint of Bicester (St Edburg) should not be confused with the more well-known St Edburg of Winchester, daughter of Edward the Elder and granddaughter of Alfred the Great. Another St Edburg where confusion has arisen over recent years is St Edburg the daughter of Penda, King of Mercia. One of four sisters they were all nuns at Dormundcaster or Caister, otherwise called Kuneburgcaster, in Northamptonshire. Her relics were translated to Peterborough and part of them was carried in about 1040 from there to St. Winnok, in Flanders, where her memory is still honoured. Internet sources have led to the confusion of this St Edburg with the suggestion that the Bicester Saint was moved to Flanders in 1500AD, but this seems not to be the case.

The patron Saint of Bicester is almost certainly St Edburg of Aylesbury (pronounced Eadburh at the time), who is thought to have given her name to Adderbury (Eadburhs *Burg*) and was mother to St Osgyth of Aylesbury. St Edburg was a 7th century nun thought to be the daughter of Frewald, Earl of the East Angles. Born in Quarrendon, a small and secluded parish in the Vale of Aylesbury, Edburg had a sister called Edith (pronounced Eadith at the time), who is said to have 'left the world and her husband and took the veil' (King 1989). Both Edburg and Edith were almost certainly Benedictine Nuns and Edith seems to have been the more famous of the two sisters, which is surprising as today Edith has been almost forgotten and Edburg is the one with the many dedications around the town. The story of St Osgyth of Aylesbury is very similar to that of St Edburg's and it has been commented that the two stories have become synonymous (Turner 1977). Other sources suggest that St Edburg was the aunt of St Osgyth who Edburg and her sister trained up in the religious life (Lawrence 2011). Whatever the confusion of St Edburg, she and her sister would have led exemplary lives in the Benedictine tradition, which is why she was sainted and still venerated to this day.

St Edburg is thought to have died in the year 650AD; nothing is known of her death or where she was buried. The parish church (St Edburg's) was probably part of a Saxon minster and the church was called St Eadburh, a dedication adopted by the canons of the parish church. It is assumed the relics of the saint were housed in the minster church (the present day St Edburg's church). Papal Privilege of Alexander III (1181) (before the priory church was established) confirms the property of the church including the *Eccesliam Sancte Edburge Burncestre.* It was assumed the bones were transferred to the Priory Church when Bicester Priory annexed St Edburg's church

(Blair 2002), but we now know by radiocarbon dating of the bones within the reliquary, that a new set of bones (late 13th century in date) were used for display in the Priory Church shrine.

The Shrine of St Edburg

The Priory must have purchased or simply moved St Edburg's relics, and enshrined them in the new Priory Church. It was not until 1300-10 that the shrine of St Edburg was installed, which displayed her bones. The shrine was moved by Sir Simon Harcourt, the sheriff responsible for the Priory's destruction, during its dissolution in 1553 and it is still at the parish church of Stanton Harcourt to this day. It is dated to the late 13th - early 14th century on stylistic grounds and would have probably been sited within the north transept wing of the Church. Medieval floor tiles were discovered here in 1967 (Hinton 1969), which were worn, possibly as a direct result of pilgrims visiting the shrine. Today the shrine is a unique piece of sculpture in that it is one of few shrines to have survived almost intact from the Middle Ages (Watts 1989). The shrine with a decorated oolitic limestone base is supported by five Purbeck marble columns and vaulted canopy. The lower section of the shrine now forms two walls of the tomb of Sir Robert Harcourt in the Harcourt Chapel. Two of the side panels are decorated with ogee arches containing two angels and four bearded Augustinian monks holding rosary beads. The shrine can be dated to between 1294-1312 and it has been suggested that it was a gift from Henry de Lacy of Lincoln following the marriage of de Lacy's daughter Alice to Thomas Plantagenet, Earl of Lancaster (a grandson of King Henry III). The wedding may have taken place at Bicester Priory.

Figure 2; The shrine of St Edburg (photos courtesy of Bob Hessian Chairman of BLHS)

The greatest day in the religious celebrations of the church was St Edburg' Day, celebrated in June (now July). Pilgrims would come to visit the Shrine and make their offerings to the saint. Only on St Edburg's Day would they be allowed to view the

relics within the shrine. The days around St Edburg's Day were known as the 'feast of the relics' as the celebrations usually lasted three days. Pilgrims would receive refreshments before leaving and there would be a feast for the servants and a play performed for the canons and clerks. The celebrations of St Edburg's Day would have contributed significantly to the costs of the Priory. In particular sick people with incurable diseases or illnesses often visited the shrines in the hope of a miraculous cure and they often donated money to help in this process. In Sacristans accounts there are references to money received such as in 1408 'oblations on various feasts and saint days- 13d. rec. on the day of St Edburga the Virgin, at the Great Altar, 16d. rec. at the relics within the actave of St Edburga, 4½ d rec. at the feast of the dedication, 4d. found in the box at the shrine of St Edburga'. St Edburg is important as she exemplifies the category of obscure, purely local cults, which were so characteristic of 7th- to 9th-century minsters (Blair 2002). During the Saxon period every church of significance would have had its own dedicatory saint. The saints were seen as men and women who had led ordinary lives, with their legends passed through successive generations. They were seen as contacts through which God could be reached. The importance of the cult of Saint Edburg to the local community is evidenced by its longevity through the Norman Conquest until the present day.

Previous archaeological investigations at the Priory Church

The Priory site first attracted antiquarian interest at the beginning of the 19th century, by then gardens and orchard. Bicester had already had a notable historian in White Kennett, and John Dunkin was a worthy follower. Dunkin's interest in the Priory led him to record what little was known about the buildings, as seen by the former gardener at the Old Priory. These included a well, 'a neat little place walled with brick, and paved with six-inch square tiles ornamented with plain circles, and flowers of various kinds', and 'an immense arched vault'. Dunkin's curiosity being unsatisfied, he 'set workmen to dig', in October 1819, and published his results in an appendix to his next history, which was expensive but comprehensive for the time (Dunkin 1823). A plan was produced of the walls seen 'four feet in thickness' and of particular relevance to this report, walls at the eastern end of the Priory Church were recorded but on a distinctly strange angle to the rest of the Church. These walls were re-investigated during these excavations and the original trenches of the 1819 workmen recorded. A revised plan has now been produced nearly 200 years after its first recording by the pioneering archaeologist of his day John Dunkin who published his research and subsequent findings over two volumes (Dunkin 1816 & 1823).

After John Dunkins excavations the Old Place Yard, otherwise incorrectly referred to 'Palace Yard' (Hessian 2011), remained under horticulture. In 1890 a row of terraced cottages called Priory Terrace was constructed and during the Second World War the site of the former Bryan House was occupied by a Territorial Army Centre. The Yard began to be developed in 1964, when David Watts (then a Schoolboy) started what in effect was watching brief during groundworks by contractors constructing St Edburg's House (a retirement home). The findings have been summarised in Hinton's report on the findings (Hinton 1968) (see below).

The most important building revealed was the nave of the church, at about floor level. Some 40 ft. of the north wall, 6 ft. 6 in. thick, were uncovered; it had limestone dressings and a rubble core. Nine feet to the south was a line of pier bases, of which

two were uncovered totally, and a third partly. Both those uncovered were 7 ft. 6 in. square; they were 18 ft. apart. A second line of bases was 22 ft. south of the first; two were fully revealed, two partly. Each measured 8 ft. by 4 ft., and they stood 17ft. 6 in. apart. Eleven feet south again was another wall, 5 ft. wide, also with limestone dressings and rubble core. Abutting this on the north side were small projections (not precisely measured), one opposite each pier base. Some 34 ft. west of the east side of the last pair of piers, a short length of wall about 4 ft. wide running north- south was seen during trench digging. West of this was a lime floor. Various skeletons orientated east-west were observed, but were not retained. They were not in stone coffins. The majority of the floor-tiles found 'were in the rubble at the east end of the exposed part of the church; the small area of laid floor which was found…. This was slightly east of the ground excavated by the bulldozers. About '4 ft. (the measurement is not exact) south of the south wall of the church, and parallel with it, was a 3 ft. wide wall, of which 38 ft. were uncovered.

David Hinton followed his 1968 article with a trial excavation in the area of the north transept of the Priory Church and successfully established the location of the northern wall. He also encountered a mortar layer interpreted as a stone masons' yard area (Hinton 1969). Hinton did not investigate the floor surfaces of the north transept, which as a result of these excavations has now been partially undertaken (See Section 4.5.2.5).

During building work for an extension on the old peoples home (St Edburg's House) a watching brief revealed the west wall of the south transept of the Priory Church. The foundations also impacted upon the north-east corner of the cloister and south chapel. Much of the ground had been disturbed during the construction of St Edburg's House old peoples home and no dating evidence was recovered from any context. A human burial was discovered within the south chapel of the church with later intrusions through it, but the remains of a wooden coffin were noted in section (Chambers 1983). Inhumations have been recorded on the western side of the Priory Church, regarded as part of the lay cemetery. In particular a burial was recorded during the extension to the Library which stands on what would have been the area immediately NW of the end of the Church (PRN 15868).

We can now extensively add to the interpretations and summaries first proposed by Dunkin (1823) and Hinton (1968 & 1969). In 2011 John Moore Heritage Services were commissioned to undertake an archaeological evaluation at the site the results of which are summarised in Table 1. This was followed by full scale excavation of the eastern end of the Priory Church, which is the focus of this report.

Augustinian Houses

The canons of the Augustinian Order, to which Bicester Priory belonged, were unlike other clerics in that they lived under a communal monastic rule and were ordained priests spending some time in the community looking after the spiritual well-being of the lay people (Dickinson 1950). The rules they observed were based on a letter by St Augustine of Hippo who died in AD430. The rule was demanding but fell short of the strictness and uniformity of other orders. The daily office was less protracted with more freedom concerning food, drink and movement. Hospitality was one of the monastic virtues and this gave opportunity to depart from the strict rule. Visitors, such as Earls and

Lords, Archbishops and Bishops, also other Priors, would expect expensive gifts and to be well entertained. The rule of St Augustine was suitable for communities serving priories, collegiate churches, cathedrals and hospitals in both rural and urban settings. As clergy in holy orders rather than monks, Augustinian canons were regarded in the 11th & 12th centuries more as clerks with monastic characteristics rather than vice versa, and as clerks they were normally under diocesan authority, their heads of houses preferring the title Prior to that of Abbot. The rule of St Augustine was first adopted by the movement in north eastern France in the mid 11th Century and spread rapidly over the next 50 years. St Botolphs in Colchester (Essex) is usually regarded as the first English clerical community to adopt the observance and so the first English house of the Order. During the early 12th century the Augustinians expanded further at places such as St Frideswide's, Oxford (1122) and St Bartholomew's, Smithfield, London (1123). By the late 12th Century the Order became the largest religious institution in the country (Lawrence 1984). Augustinian foundations varied in type and size with many being small, some in towns and others rural.

The Seals of Bicester Priory

The Bicester Priory Seal was a seal of Office used by the Prior to stamp official orders of the house. The seal of Bicester Priory (Fig. 50) survived attached to the deed of surrender during 1536. The front side shows two women with the woman on the left holding a baby therefore considered to the Virgin Mary. The woman on the right holds a cup and is clearly a nun and is assumed to be St Edburg. The figures are standing within highly ornate shrine, perhaps a stylised representation of the Shrine of St Edburg. Both of the figures are wearing crowns, which may signify the Royal links of St Edburg as daughter of royalty and the regal status of Mary as the Queen of Heaven. Two further seals (not illustrated) of Bicester Priory survive; one which shows a Prior and the other a floral design.

Post-medieval Chapel Street (Figure 3)

Chapel Street developed in the post-medieval period with construction of almshouses and dwellings along both sides of the street. It was previously called Water Lane and was known to be liable to flooding. The street was densely lined with cottages (Fig. 3), which had origins from at least the early 17TH century. The buildings on the east side of the street (three of which still exist; No's 38-42 Chapel Street) were constructed on a raised bank of limestone Cornbrash. The dwellings would have used the River Bure for daily needs as its course runs to the rear of the properties and is still presently open, although not well flowing as it was considerably widened during the 20th century to prevent flooding.

On the eastern side of the street were six almshouses, very small cottages with no back exit. Water Lane was once the main road into Bicester from London before Priory Road was created when the railway arrived via the level crossing. There was a toll gate at the southern end giving admission to the town.

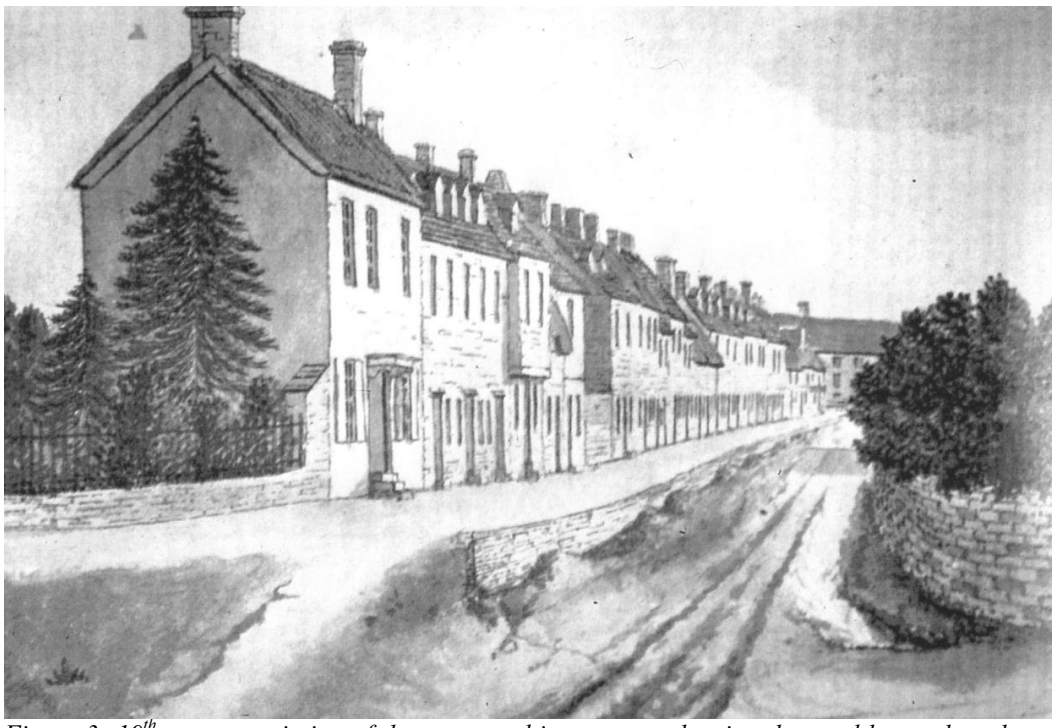


Figure 3; 19th century painting of the street and its cottages showing the road lower than the present day (Bicester Local History Society Archive)

2 AIMS OF THE INVESTIGATION

2.1 Evaluation Aims

The aims of the evaluation were set out in the *Written Scheme of Investigation* (JMHS 2011a) were as follows:

- To establish the presence or absence of any archaeological remains within the site;
- To determine the extent, condition, nature, character, quality and date of any archaeological remains encountered; and
- To assess the ecofactual and environmental potential of the archaeological features and deposits.

In particular:

- To establish whether features related to the medieval priory survive in the area; and
- To establish whether features related to the Roman and Saxon settlement survive in the area.

2.2 Excavation Aims

The aims set out for the archaeological excavation in the *Written Scheme of Investigation* (JMHS 2011c) were to:

- To identify, investigate and record any archaeological remains within the site to an appropriate level; and

- To confirm that the previously identified remains are part of the Augustinian Priory church.

In particular:

- To establish the extent of features related to the medieval priory in the area;
- To record and date the remains of buildings along Chapel Street and investigate the potential for a sequence of overlying buildings;
- To establish whether there are earlier features that relate to the possible Roman and the Saxon settlement;
- To establish whether any deposits/features found help us understand the scale and character of the later medieval activity; and
- To establish whether any palaeo-environmental evidence survives on the site that might assist with landscape reconstruction and building an understanding of the use of the site in the medieval period.

3 STRATEGY

3.1 Research Design

In response to a *Design Brief* from Oxfordshire County Archaeological Services a *Written Scheme of Investigation* was prepared by John Moore Heritage Services (2011c) and agreed with Oxfordshire County Council's Archaeological Services.

Site procedures for the investigation and recording of potential archaeological deposits and features were defined in the *Written Scheme of Investigation* (JMHS 2011c). The work was carried out in accordance with the standards specified by the Institute of Field Archaeologists (1995) and the principles of MAP2 (English Heritage 1991).

3.2 Methodology

The proposal site was subject to evaluation through the machine excavation six trenches supplemented by hand investigation of archaeological deposits. The evaluation was undertaken by 5 tonne excavator equipped with a ditching bucket.

Two trenches (2 & 3) of the archaeological evaluation did not produce any archaeological evidence and were considered to lie over an area of marsh ground outside of the Priory Church. As a result it was considered a watching brief would be the appropriate response to be carried out during the demolition of the northern part of Bryan House.

Trench 1 was located in Area A close to the street frontage of Chapel Street and revealed evidence of post-medieval buildings, which formerly occupied this side of the street. Trench 6 was excavated as a second stage of evaluation works and also revealed post-medieval structural remains, which was immediately followed by archaeological excavation of the entire development plot. Trenches 4 & 5 were located to the rear of Bryan House and subsequent excavation (Area C) was located over the general area of the trenches. As a result, important discoveries were made

over the Priory Church and the area beneath Bryan House was also excavated revealing further remains of the entire eastern end of the Priory Church.

The full scale field excavation carried out comprised excavation around Trenches 1, 4, 5 & 6 of the archaeological evaluation (Areas A, B & C). Originally four areas were set out for archaeological excavation (Areas A-D). As a result of truncation by most areas of Bryan House, Area C was extended and formed one area of excavation. Area D was not investigated further as after removal of the deep wall footings of Bryan House it was apparent that any archaeological remains would have been destroyed (if ever present).

Area C was reduced using a 21 tonne mechanical excavator fitted with a flat bladed ditching bucket. The ground was reduced in controlled spits up to 100mm in depth until the uppermost surface of the archaeology was reached. Once the correct level had been reached hand excavation of features began in accordance with the *Written Scheme of Investigation* (JMHS 2011c).

No environmental samples were taken from the excavations except, from within the culvert, as the potential of the deposits was not felt to be sufficient to warrant sampling.

The first stage of the watching brief was conducted by monitoring the removal of the Bryan House footings with a 21 tonne mechanical excavator, fitted with a 1m wide toothed bucket. The following areas of watching brief were undertaken with a 13 tonne mechanical excavator. The standard John Moore sampling strategy was employed which is fully commensurate with the Institute for Archaeologists *Standards and Guidance for Archaeological Excavations* (IFA 1995).

4. ARCHAEOLOGICAL RESULTS

4.1 Introduction

In total 6 evaluation trenches and three excavation areas have been excavated at the site, during the two stages of work. Of the 6 evaluation trenches, 4 trenches were recorded as containing archaeological features. These trenches were: 1, 4, 5 & 6. The results of the evaluation trenches are summarised below in Table 1 (JMHS 2011b). Full details of the results of the excavations are given below. All details are housed with the site archive.

Table 1: Summary of features within Stage 1 evaluation trenches

Tr. No.	Cut No.	Feature Description	Provisional Date
1	1/6 1/4	Walls of Post med structure	Post med
4	4/6	Wall	Med
5	5/6	Wall	Med
6	6/12	Wall	Post med

A fairly restricted range of dates were obtained from specialist assessment during the post-excavation process. This places the majority of activity on the site within the 12th to 14th centuries. The pottery data, as it was so sparse, generally could not provide any more refined site phasing. During the excavation and subsequent initial post-

excavation analysis, walls and coherent sets of features were grouped together. The groupings were established on the basis of the association of the features in plan and the stratigraphic relationships established on site, combined with the dating evidence. This facilitated consideration of site development.

The phasing and dating of the burials has proven problematic. There is a lack of precise dating and finds from within the graves. Stratigraphic relationship between burials can be a result of association between individuals rather than pressure on space. It has been the preferred option for these excavations to phase the burials related to datable structural alterations to the church. Without a carbon 14 dating suite for the skeletons precise phasing will not be possible. Two samples have been submitted for dating from SK1 and SK7.

All original context numbers (assigned on site) have been kept as unique identifiers for sections excavated across layers. Every section had a unique cut and fill number assigned. Context numbers without brackets indicate features i.e. cuts, while numbers in ( ) show feature fills or deposits of materials. Numbers in bold show masonry features such as walls.

4.2 Quantification of Site Archive

Excavation phase
Across all three areas a total of 551 further individual contexts were encountered during the Stage 3 excavations and each was recorded on a pro-forma context sheet. Thirty five sheets of plans and sections were drawn on plastic drawing film, providing plans at scales of 1:50, 1:20 and Sections at 1:10 & 1:20. An overall site plan was maintained at a scale of 1:50 and a total of 35 section drawings. A total of 257 level readings were taken during the excavation phase using the dumpy level and these were recorded on Level Recording Sheets. The photographic record is listed on pro-forma sheets and consists of approximately 243 black and white exposures, approximately 297 colour transparencies. A full digital photographic record was also maintained for section photographs and general working shots.

Table 2: Summary quantification of site archive

Number of Contexts	551
Plan and sections sheets	49 (1:50, 1:20 and 1:10)
Bulk Samples	2
Registered finds	18
Photographs	243 black and white exposures and 297 colour slide exposures
Bulk finds	80 boxes
Environmental flots/residue	1/2 box

4.3 Excavation Results

The excavation results cover four main periods of activity over three excavated areas (Fig. 1) (labelled A, B & C).

Period 1: Saxo-Norman; (10^{th}-11^{th} Century AD)
Period 2: Medieval (12^{th}- 15^{th} Century AD)
Period 3: Post-medieval (16^{th}-19^{th} Century AD)

Period 4: Modern (20th Century AD)

4.3.1 The Stratigraphic Sequence; Area A

The Excavation Area A revealed a total of five walls *c*. 1m in width (Figs. 4 & 5), two postholes, three stakeholes, demolition layers and floor surfaces all associated with a post-medieval cottage. The stratigraphic sequence of overburden consisted of the following deposits (earliest to latest). The natural geology was light brown-orange compact clay silt with dense Cornbrash (152). Lying directly above the natural was mid brown silty clay (151), up to a maximum depth of 0.10m, which was considered subsoil. Also above the natural were made ground deposits consisting of a demolition layer with brick rubble and one sherd of Saxo-Norman pottery (101) with the latest deposit dark grey brown topsoil (100) (69.39m).

The site had been occupied from at least the early post-medieval period (17th century); with a possible earlier medieval wall **111**, which may be earliest structural remains discovered in this area. The building was proved to have three main phases of development (Phases A2-A4). The different 'phases' of activity can be ascertained from stratigraphic relationships established during archaeological excavation in conjunction with datable finds (where possible).

4.3.2 Period 1: Possible Saxo-Norman (11th century); Phase A1

Discrete Features
Towards the southern end of the site was dark grey blue clay silt (Fig. 4; Fig. 28, Section 2), which was beneath wall **103** and cut by 172 & **105**. This deposit was probably natural alluvial clay which silted up against the edge of the river before the wall of the cottage was constructed. Within this deposit (154) (68.73m) was the almost complete skeleton of a dog alongside one sherd of Saxo-Norman pottery.

4.3.3 Period 3; Post-medieval; (17th Century AD); Phase A2

The post-medieval building (Fig. 5; building 1), constructed of walls **103**, **105** and **114**, had at least three phases of construction. The building was simply demolished and the stone building material levelled across the area, complicating the archaeological plan (Fig. 6). Walls of the building could be distinguished with difficulty from the surrounding rubble and some floor surfaces.

Building 1
Wall **111** (top 69.09m AOD) (Fig. 5), construction cut 110, was 1.10m wide with sharp sides and consisted of roughly hewn irregular shaped limestone blocks with modern pottery, which may have been intrusive. The wall was difficult to distinguish in plan and section, but could tentatively be seen in section (Fig. 28, Section 5) to be earlier than wall **105** (Phase 3). As the wall was so close to wall **103** it was considered probably not contemporary and therefore possibly earlier. It contained two fragments of brick considered to be early in date, which was why it was assigned to this phase.

A large north-south aligned back property wall; **103** (Evaluation 1/4) (69.03m); construction cut 102 (same as Evaluation 1/3) was recorded near the centre of the site. The wall had a later east-west return; **105**.

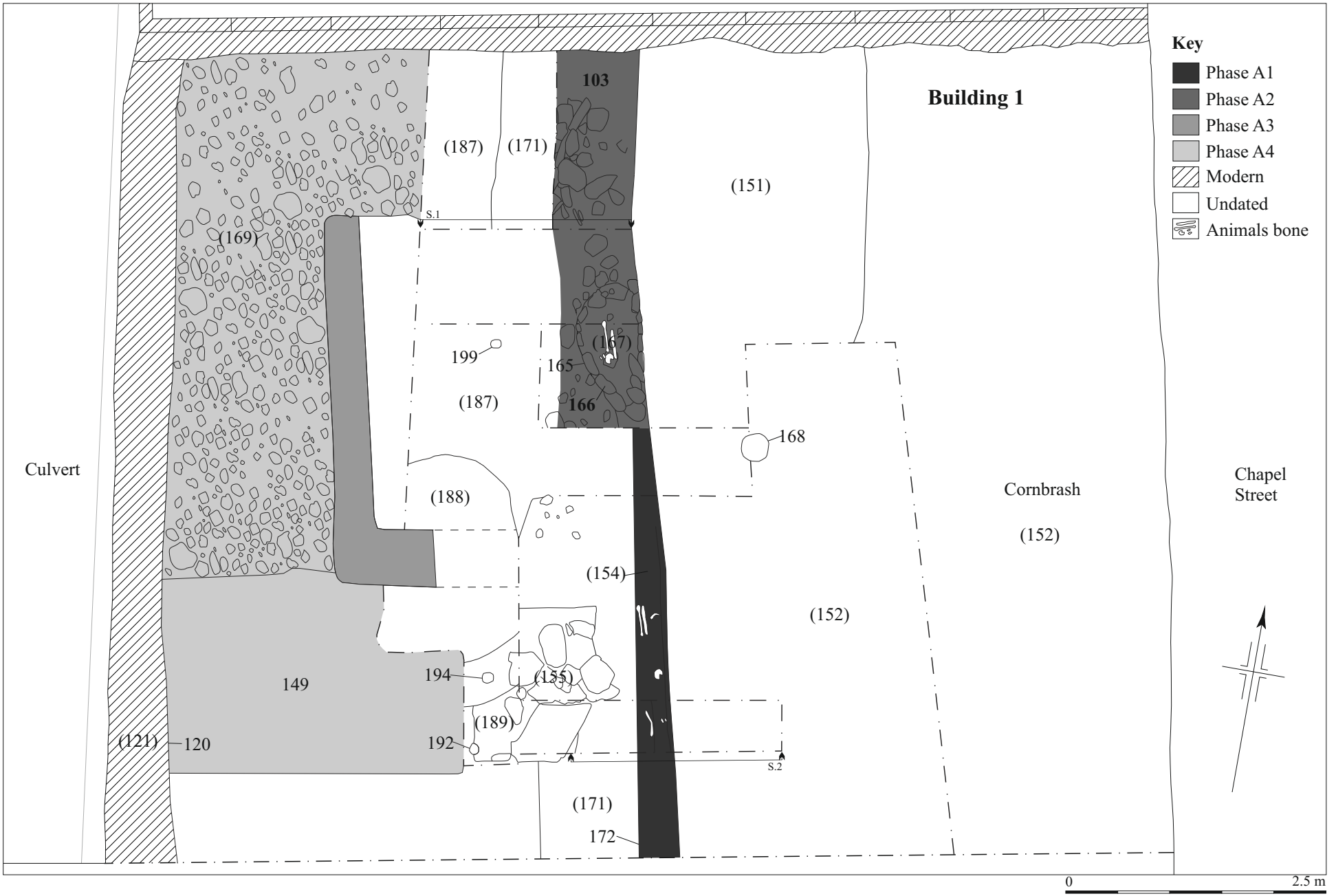


Figure 4. Area A; Lower level

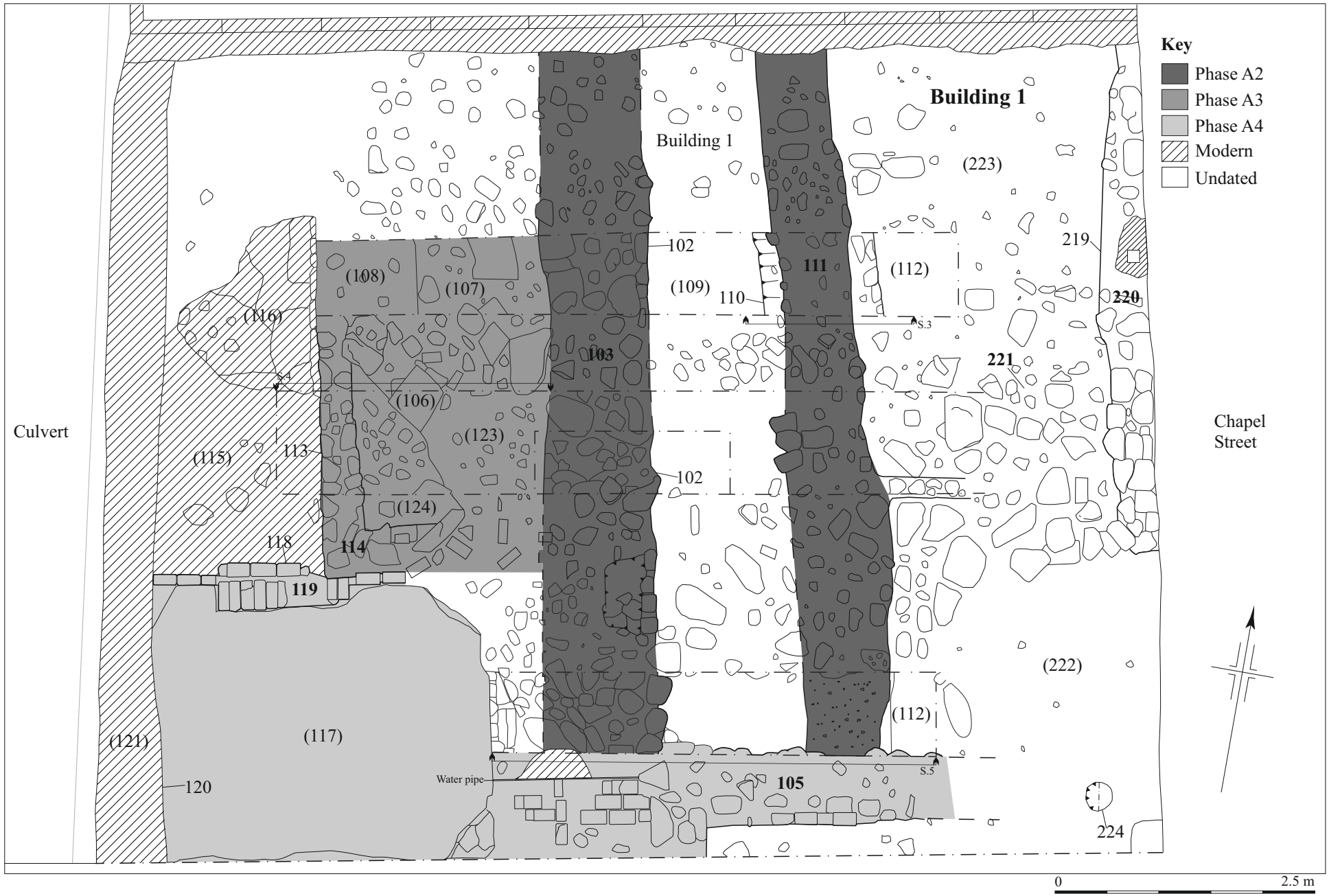


Figure 5: Area A; Higher level

It was constructed of roughly squared limestone blocks, firmly fitted of irregular sizes (<100-300mm) with three sherds of early post-medieval pottery (17th century latest date) recovered during the evaluation stage with another four sherds of similar dated pottery obtained during the excavation stage.

4.3.4 Period 3; Post-medieval (18th /19th Century AD); Phase A3

Extension to Building 1
An extension was added to the western side of Building 1 formed by wall **114** (Fig. 5); construction cut 113 (69.32m). It was constructed of roughly hewn limestone blocks (<100-200mm) two courses wide bonded with a silty clay mortar. It had an east-west return forming a doorway connecting the room with floor (106) to the yard (117).

Deposits beneath floor surface (106); Extension of Building 1 (Fig 5)
On the southern side of the interior of the extension to the building the earliest deposit was friable dark greyish black silty clay (125) with six sherds of post-medieval pottery (Fig. 28; Section 4). This deposit was possibly the same context as (109) which may have been the remains of surviving early post-medieval topsoil (Fig. 28; Section 3). Overlying (125) was 0.35m thick dark greyish brown silty clay bedding (123) with three sherds of post-medieval pottery (1550+). In the southern corner of the room was light cream lime mortar (124) with frequent Cornbrash fragments defined in a small triangular area of unknown function, but was probably a patchwork repair. All of these deposits were overlain by polished stone slabs (106).

Within the northern side of the extension were deposits (107) & (108) (69.19m AOD) (Fig 5). Deposit (107) on the east side of the extension was mottled light brown yellow clay with sand laid down as bedding for floor 106. To the west of this area was the other bedding deposit of dark greyish brown silty clay (108). All of these deposits were overlain by polished stone slabs (106).

4.3.5 Period 3; Post-medieval (18th/19th century); Phase A4

Above buried topsoil (109) was mid grey brown silty clay levelling deposit (149) with occasional limestone fragments (Fig. 4). Overlying (149) was a solid concrete floor of a light grey red colour (117) (69.33m AOD) (Fig. 5).

The north side of (149) was consolidated with made ground (169), which overlaid the natural alluvial clay (187). Deposit (169) consisted of large stones dumped into the side of the silted up river channel with three sherds of 16th century pottery, covered by a patch of dark brown silty clay with animal bones (170). A rare 'chicken-feeder' was recovered from this context (Figure 32; BIC1). Even though the recovered finds are post-medieval this deposit was considered to be later, as it extended up to the back wall of the building **103**. It was also covered by modern deposits (115) & (116).

Walls
Wall **119** (Fig. 5) (construction cut 118) was 2.25m in length and 0.40m wide, filled by unfrogged red and yellow bricks, which perhaps formed the back end of a fireplace. This wall was truncated by the 1960's concrete canal wall cut 120 (see below 4.3.6).

Wall **105** (construction cut 104) was constructed of limestone (<100-250mm) with occasional brick fragments orientated on an east-west alignment butting up against wall **103** and overlying wall **111**.

4.3.6 Period 4; Modern (20th century)

On the west side of wall **114** was a very badly degraded concrete with a lattice design with red patches and fire cracking (115). This deposit probably represented the remains of the concrete bedding for a tiled floor (116) with one sherd of modern pottery (69.29m AOD) (Fig. 5).

The construction cut of the canal wall was recorded at the western end of the site 120, filled by loose dark grey brown silty clay (121), which filled the gap to the canal wall itself (Fig. 5).

Figure 6; General view of Area A looking south (1m scales) showing demolition deposits

4.3.7 Undated

Discrete Features
The earliest undated feature ascertained through stratigraphic relations cut into the Cornbrash (152) was a *c* 0.10m thick sub circular feature 168 considered to be a posthole, filled by dark grey brown silty clay with one very small fragment of brick (201), which could not be dated (Fig. 4).

The earliest features cut into the alluvial clay (188) & (189) (68.37m) of the silted up Bure channel were features 192 & 194 (Fig. 4). These were two steep sided narrow stakeholes located in close proximity. Stakehole 194 still had the wooden stake within

it (195) with sharp angle of inclination indicating the stake was angled to the west. Located to the north of 192 & 193 was stakehole 199, 0.13m in diameter and 0.22m deep, filled by dark grey brown clay (200). Other numbers given to varying River alluvium deposits were (187) (Fig. 4) and (196), (197) & (198) (Fig. 28; Section 1).

Posthole 224 (Fig. 5) was sub circular in shape 0.25m wide by 0.09m deep with gradually curving concave sides and a gently rounded base. It was filled by friable dark blackish grey silty clay (225) with no finds.

Within wall **103** (68.73m AOD) was a space (166) created within the limestone wall (<150-200mm) forming a void in the centre containing animal bones (167). Perhaps a rat or small rodent used this as living space before dying.

Deposits/layers
A section across the bank (Fig. 28; Section 1) and the river deposits revealed a sequence of alluvial silts, which made up this space.

The earliest deposit was moderate grey sandy clay (199), followed by sticky thick grey brown silt (197), tipped from the east overlain by a thin layer of orange to red brown sandy gravel (198). Filling the eastern side of channel cut 172 was sticky grey brown clay silt (171). Further silting deposits were sticky grey clay (196) and *c*. 0.20m thick dark grey brown clay silt (187). All these layers were overlain by deposit (169).

On the eastern side of the excavation area overlying the natural Cornbrash was dark greyish brown silty clay with frequent stone and charcoal flecks (112) (Fig. 5).

Beneath the tarmac towards the eastern side of the development plot were floor surfaces (222) & (221) (Fig. 5). The southern-most deposit was mid orange brown silty clay (222) and further north was a floor surface formed of irregular limestone blocks (221). Directly beneath the tarmac was friable dark brown grey silty clay (223), which may have been the remains of the interior floor of the building.

Towards the south- western end of the site directly overlying (171) was a collection of broken flat stones (155), 0.10m thick laid over a *c*. 1m² area (Fig. 4), although this was recorded as a separate feature it was probably the remains of wall 103.

On the eastern side of the excavation was a firm mid brown silty clay (151), which directly overlaid the natural Cornbrash (152).

Walls
219 was a linear construction cut for the wall of the house fronting onto Chapel Street. The wall was constructed of limestone blocks **220**, only partially seen within the excavations (Fig. 5).

4.4 The Stratigraphic Sequence; Area B (Figure 8)

Within this excavation area a series of walls and floor surfaces were revealed across the excavation area (Fig. 8). The stratigraphic sequence of overburden consisted of the following deposits (earliest to latest).

The natural geology was light brown-orange compact clay silt overlain by dense Cornbrash (190). Lying directly above the natural was demolition material up to a maximum depth of 0.10m, overlain by tarmac.

The Excavation Area B revealed a total of seven walls *c*. 1m in width (Fig. 8), associated with the post-medieval cottages known across this area which were demolished during the mid 20th century.

The different 'phases' of activity can be ascertained from stratigraphic relationships and pottery dating established during archaeological excavation.

4.4.1 The River Deposits (Figure 28; Section 6)

The earliest river silt recorded was dark grey silt clay (216). Overlying this was 0.40m thick dark brown grey, with mottled black patches, river silt (215). Overlying (215) was 0.20m thick dark grey silty clay with frequent charcoal flecks (211) with two sherds of early post-medieval pottery. Overlying (211) was 0.40m thick re-deposited Cornbrash (214) and pale grey layer (213) with one sherd of modern pottery and finally redeposited Cornbrash layer (212). Layers (212), (213) & (214) were all cut by 218 (not illustrated on plan), which was filled by 0.60m thick dark grey silt clay (210) with one sherd of early post-medieval pottery (1550+).

Figure 7; Working shot during excavation in Area B

4.4.2 Period 1; Saxo-Norman (10/11th century): Phase B1

The earliest feature was cut into natural and consisted of one pit. Pit 203 was sub circular with gradually sloping sides forming a gently rounded base.

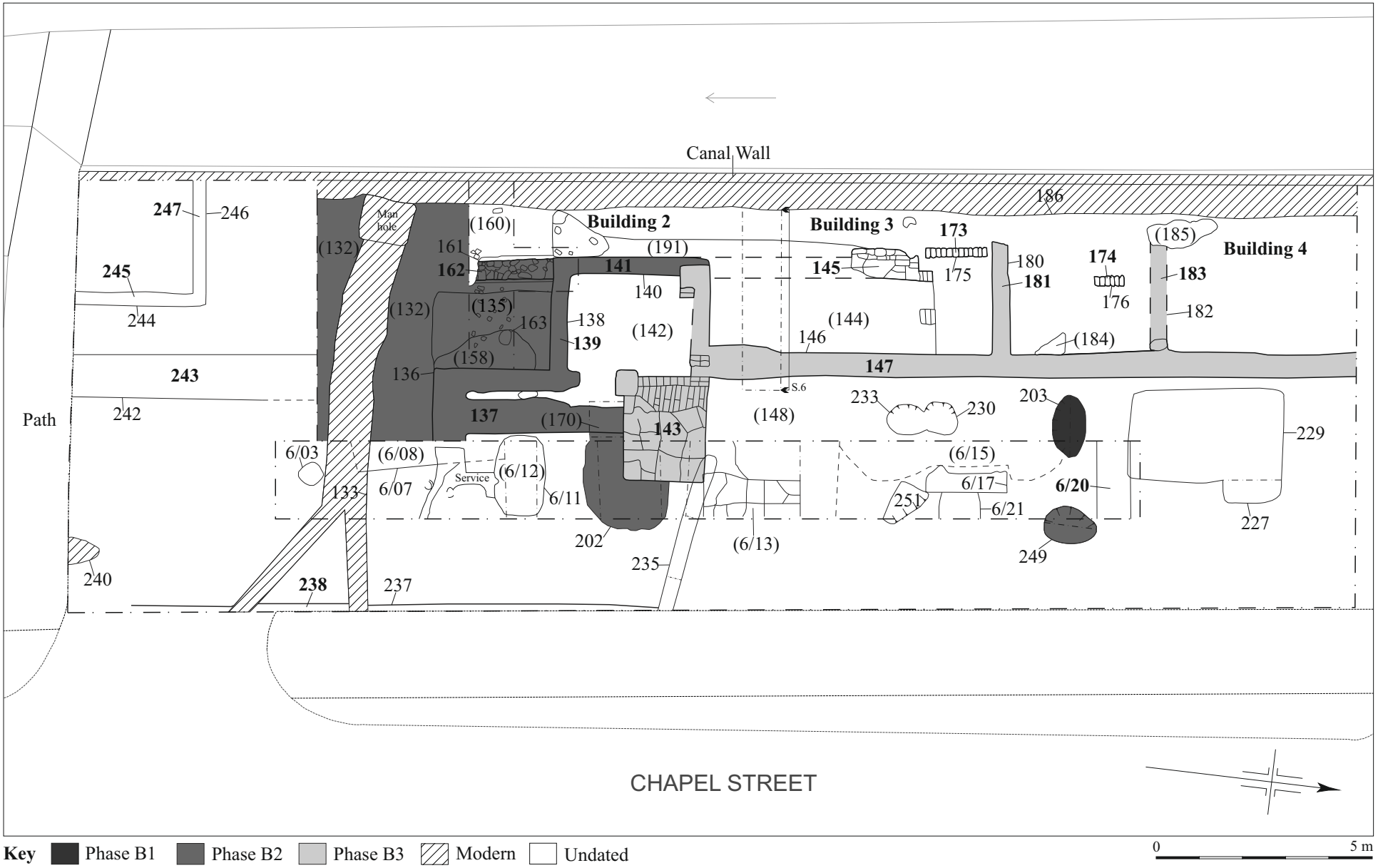


Figure 8: Plan of Area B

It was filled by 0.46m dark brown grey silty clay (204) with two sherds of Saxo-Norman pottery and occasional animal bones.

4.4.3 Period 3; Post-medieval (17th to 19th century) Phase B2

The footings and floor surfaces of some of the post-medieval dwellings, which occupied this side of the Chapel Street, were uncovered within Area B.

Building 2

Earliest deposits
Pre-dating wall **137** was natural reddish brown clay (177) overlain by 0.12m thick mid brown silty clay with moderate sandy mortar (178) with six sherds of early post-medieval pottery (post 1550), overlain by (135) with five sherds of early post-medieval pottery (1550+) (Fig. 8).

Walls
Linear construction cut 136 was 4m in length and 0.80m wide with straight sides filled by roughly squared limestone blocks (<100-250mm) **137** surviving one course thick, backfilled by grey clay deposit (179). The stones were bonded with a yellow sandy mortar on the eastern side with more brown grey coloured mortar on the western side.

Figure 9: Wall 162

The gap in the wall suggests that the wall had two phases of repair or construction. A further phase of building was evident with the presence of an extension; wall **162** (see below).

Extension
Extension wall **139** (construction cut 138) was orientated approximately east-west and was 0.50m in width and 3m in length with vertical sides and flat base, filled by brick and roughly hewn limestone blocks. The back wall of the extension, construction cut 140, wall **141**, was identical to wall **139** indicating that the two walls were constructed at the same time.

Wall **162** was constructed entirely of limestone with no brick, and formed a later addition to the extension of Building 2 (Figs. 8 & 9). The construction cut 161 went through river deposits and it was backfilled with mid grey brown sandy silt (159).

Wall **162** cut through a thin layer of mottled grey silty clay with modern finds (160). This was overlain by 0.10m thick friable dark grey black sandy clay with charcoal flecks (132).

Deposits/floors
Deposit (158) was the latest floor layer and was 0.10m thick firm dark grey silty clay mottled with sandy lime mortar. The layer was dated by a coin dated 1917.

Within Building 2 the bedding for a once tiled floor of the back room of the house was surviving up to *c*. 0.20m in thickness (142) and consisted of dark grey brown sandy silt with brick fragment inclusions throughout.

On the west side of wall **141** was firm light yellow brown deposit (191).

Discrete Features; Phase B2
Pit 249 was sub circular in shape 1.42m in length and 0.44m in depth with sharp almost vertical sides and flat base. It was filled by mid grey brown silty clay (248) with one sherd of early post-medieval pottery alongside gravels and limestone fragments throughout.

Pit 202 was 1.5m x 1.5m and was sampled during the evaluation stage of works. It had sharp concave sides forming a flat base, filled by two distinct fills primarily (6/24) and latest (6/23) with pottery 1550-1700 with other earlier residual sherds.

Posthole 163 beneath (158) was 0.37m in depth with gradual concave sides filled with a stone post pad (164).

4.4.4 Period 3; Building 3; (17th to 19th century) Phase B3

An area of stone floor with some red unfrogged bricks at its western end (143) may have perhaps formed an alley or gap between Buildings 2 & 3.

The main back wall of the properties **147** (Buildings 3 & 4) was constructed of roughly hewn limestone blocks (<100-250mm), set neatly within construction cut 146, 0.60m wide and a minimum of 15m in length. At the southern end it had an east-west return with a projection overlying **141**.

Walls
Cut 175 was 1.45m in length and 0.25m wide filled by a brick wall set in a lime mortar **173** considered to be a structural fragment of Building 3 perhaps a garden wall.

Wall **147** had an east-west return, cut 180, 2.60m in length and 0.40 wide constructed of unfinished randomly coursed limestone blocks **181**.

Deposits; undated
A soft deposit of mixed clays and silts (144) with mortar inclusions was observed near the centre of the building to the east of the main back wall of the properties **147** (Building 3). These clays were alluvial and deposited as river silted up to the immediate rear of the properties.

To the west of (144) and directly overlying it was a stone and brick floor area (145) damaged on its eastern side, which was once possibly a yard area at the back of the property during the latest stage of the properties development.

On the eastern side of wall **147** was dark grey brown silty clay with occasional limestone inclusions (148) which probably once formed a bedding layer for a stone floor (6/13). Another deposit similar to (148) also beneath the stone floor was mid brown sandy clay (6/15).

Other features; undated
A drain 6/17 was recorded filled by light orange brown sandy clay (6/18). A stone block (6/21) was recorded immediately adjacent to this drain.

Building 4

Walls
An ephemeral wall line **182** was seen orientated east-west, 2.45m in length and 0.40m wide filled with unfinished randomly coursed limestone blocks **183**. Another short stretch of red brick wall **174** in cut 176 was seen adjacent to wall **183**.

Walls; undated
A possible internal dividing wall orientated east-west **6/20** was recorded in the evaluation trench but not seen during the wider excavation area, indicating it was unlikely to have been a wall.

Deposits; undated
Close to the main wall of the property was a firm stone (184), which may have been the only surviving remains of the cottage stone floor. A patch of concrete (185) was seen close to the canal wall cut 186.

4.4.5 Period 4; Modern

Linear features
A drain 133, *c*. 1m wide was seen traversing the site orientated approximately east-west connected to a manhole. It was filled by dark grey black gravelly clay silt (134).

The canal wall cut 186 can be seen on the western side of the site.

Discrete features
A modern oval shaped pit 240 was 0.80 wide x 1m long cut into natural and filled by pale grey brown sticky clay (241) with modern plastic.

4.4.6 Undated

Walls
Two walls constructed of unfrogged red bricks were observed at the southern end of the excavation area **245** & **247**, both set in construction cuts 246 & 244. To the east of these walls was cut 242 which contained a limestone wall **243** assumed to be part of another cottage seen on the drawing (Fig. 3).

A linear construction cut 237, 0.50m wide *c*. 20m long was observed orientated parallel with the Chapel Street frontage. It was filled by limestone wall **238** and deposit (239). This was the front wall of the cottage which faced Chapel Street.

Discrete features; undated
Feature 251 was of sub rectangular shape 1.05m in length and 0.24m deep with vertical or sharp sides and a flat base. It was filled by grey brown silty clay (250) with limestone fragments throughout but no other finds.

Two intercutting pits were located to the west of 251. The earliest feature was pit 230 that was circular in shape *c*. 1m in width and 0.50m in depth with the primary fill dark grey silty clay (231). The latest fill of the pit was 0.30m thick mid brown clay (232). The latest pit was circular shaped 1.1m wide and 0.42m in depth; 233. The feature had a single mid brown silty clay fill (234).

Pit 229 was a sub rectangular shaped feature with rounded corners and sharp vertical sides forming a flat base. The pit was large and measured 3.34m in length and 0.54m in depth. It was filled by dark brown sandy silt with small limestone fragments (228).

Cut into the corner of pit 229, although somewhat ambiguous, was feature 227 which had a length of 1.44m and width of 0.60m with vertical sides and a flat base. It was filled by grey brown silt with limestone (226) and no other finds.

Immediately adjacent to drain 133 was a small posthole 6/03 with sharp sides and a flat base. It was filled by mid brown sandy silt (6/04). To the north of drain 133 was feature 6/11 a sub circular shaped feature 1.6m in length and 0.90m wide, uncovered during the evaluation trench. It was filled limestone blocks (6/12) which also contained some brick fragments and mortar. This feature was interpreted as a possible disturbed wall or more likely a waste pit.

What originally was considered a possible wall line 6/07 filled by limestone blocks **6/08** was recorded during the evaluation stage of works. When the area was reduced this proved to be a layer of demolition rubble.

Linear features
An almost curving gully 235 was seen cut into natural Cornbrash 0.45m wide and 0.05m thick. The gully was filled by dark grey silty clay (236) with charcoal flecks.

4.5 The Stratigraphic Sequence; Area C

Within the excavation area a series of walls, floor surfaces and burials were revealed across the site (Figs. 12 & 18), all associated with the 12th century Priory Church dedicated to St Edburg of Bicester. The excavations enabled a rare opportunity to investigate the entire eastern end of the Priory church.

The stratigraphic sequence of overburden recorded across the area was variable. Over an area to the north of the Priory Church a section was recorded (not reproduced here) which consisted of the following deposits (earliest to latest). The earliest deposit recorded was the natural dark grey blue clay silt (258)=(316) (Fig. 12). Overlying the alluvial clay (258) was 0.10m thick pale grey clay (257) and compact yellow sand

with stone inclusions (256). Next in sequence was 0.25m thick heterogeneous mid brown sand with clay and stone (255) and dark brown grey clay with limestone inclusions (254). The latest deposits were 0.30m thick dark grey black clay with charcoal flecks and ceramic building material (253) and 0.50m thick redeposited Cornbrash (252).

Another section recorded the deposits directly above the church, in an area outside the area of the previous Bryan House (not illustrated). Overlying wall **269** was 0.40m thick loose mid brownish grey silty clay (347). This was covered by 0.05-0.15m thick demolition layer (351) with frequent crushed limestone inclusions. Overlying this was 0.40m thick dark blackish grey silty clay buried topsoil (350), not removed by the previous TA building. This was sealed by 0.50m thick dark brownish orange redeposited Cornbrash (349) and finally the most recent topsoil 0.20m thick dark grey brown silty clay (348).

The natural geology was dark grey blue clay silt (301)=(316). Overlying the natural clay were a series of levelling deposits beneath the once tiled floors of the Church. The walls were cut through the natural river clay deposits to a depth greater than *c*. 1.5m.

The **e**xcavation area revealed a total of 11 large walls *c*. 2m in width (Figs. 12 & 18), 20 articulated skeletons (not all complete), four charnel pits, one large culvert, two disturbed decorated tiled floor surfaces and five postholes. Other layers include floor levelling deposits and demolition layers associated with the dissolution of the Priory church in 1536. The site had been occupied from *c*. 1183 and the church building was proved to have four main phases of development from the 12th century through to the 14th century. The different 'phases' of activity can be ascertained from stratigraphic relationships established during archaeological excavation usually in conjunction with artefactual evidence. An attempt was made by the author to establish the actual size of the church using the excavation plan from Hinton (1968) and the plan from the new excavations (Fig. 51). As a result, the church was reconstructed as perhaps measuring a total of 58m in length and 31m in width. The church was likely to have had a central tower with 3 and in later years 4 bells (Blomfield 1884, 108), constructed in typical medieval style. The central crossing of the church lay outside of the development area, beneath Priory Lane.

4.5.1 Period 2; Medieval; Phase C1; The Culvert

The earliest evidence of medieval construction at the site of the Priory Church was a large arched culvert **471** that was seen orientated approximately north south intact beneath the walls of the Priory Church (Figs. 10, 11, 12, 29; Sections 10, 11 & 12). No evidence was found of Gilbert Bassett's house, which was thought may have existed beneath the church. However, if Bassett's house did exist, it was probably sited away from the marshy ground towards the western end of the church. The culvert was *c*. 1.5m in depth x 1.8m wide and of an indeterminate length to the south of the site limits. The culvert was not seen during the removal of Bryan House footings towards the northern end of the development site, and may therefore be postulated to have been present only beneath the actual church building at this end. It was seen in section beneath the north chapel covered by masonry **484**; cut 483, a curious projection from the main church perhaps covering the end of the culvert. A

construction cut 470 for the culvert was seen on the eastern side of the culvert cutting into natural clay (518) with floor levelling deposits covering it (Fig. 29; Section 11). The construction cut was filled by light orange brown clay silt (519) and then *c* 0.08m thick compact grey orange sand and clay with limestone inclusions (459) (top 67.32m). On the western side of the culvert the construction cut was dense grey clay (452) overlain by 0.08m thick orange sandy silt (453).

It is considered from the environmental sample that the culvert was used to drain water, but not for human waste. Two fills were noted within the culvert during the ground works for the new build, the earliest fill (558) was the most organic and was waterlogged consisting of a rich fauna of aquatic molluscs and insects while there were numerous seeds from the vegetation of the marsh which was the source of the water carried by the drain (for full details see environmental section 5.3). (558) was overlain by light brown silty clay with a high gravel frequency and noticeably less waterlogged organics (557) (Fig. 29; Section 12). Directly overlying culvert **471** were two deposits recorded in section. The earliest deposit was 0.14m thick compact light blue grey clay (497), overlain by 0.14m thick compact light grey brown silty clay (496) and 0.32m thick compact reddish brown silty clay (517).

Figure 10; section through large drain/culvert 471 – Looking South

Figure 11; culvert 471 showing overlying church wall 267

4.5.2 Period 2; Medieval; Phase C2; The Priory Church

4.5.2.1 The Choir

The work on the church was started in *c*. 1183 and the choir (6.7m wide internally) was erected at the same time as the two side chapels in one phase. The walls had near identical widths and depths with the same mortar and building stone. It was common for other Augustinian churches to be without chapels when they were originally constructed. The choir and chancel were located within the centre of the church between **265** & **269**. The choir was an area of the church reserved for the clergy often separated from the nave by a rood screen. The wall footings were constructed of compact roughly hewn limestone blocks *c*. 1.60m in width and had a minimum depth of 1.5m, set within construction trenches 266 & 270 which cut deeply into the natural river clay (316). Any evidence of vaulting was not well preserved by *ex situ* moulded vaulting shafts, arcades, parapets or finials. This may be due to the removal of any moulded stone during the 1819 excavations or the construction of the TA centre and

Bryan House. It can be assumed however that vaulting or a central tower was likely to have existed outside the excavation area to the west side of the site beneath the present Priory Lane. The crossing had an estimated width of *c*. 15m (Fig. 51).

The floor of the Choir would have been tiled suggested by the many tiles found in the burials beneath the floor levels and in the demolition layers and features cut into the latest floor make-up layers. In the accounts we know the choir was enlarged and it was previously assumed that wooden floors would have substituted the previous earthen floors during the renovation works in 1396 (Blomfield 1884, 108), particularly as no tiles had previously been found in this area and the abundance of local wood. During these excavations a large quantity of tiles was recovered from this area and it is now considered that tiles were used. It is assumed that as the tiles were usually broken and rarely complete, they were actually hammered and/or smashed out by the workmen who dissolved the monastery in 1536. Another theory as to why so much of the tile was broken may have occurred when the tiles were installed. Tiled patterned floors were likely to have been purchased in complete patterns and the original pattern was altered, or installed to fit the area of floor. Some tiles would have been cut to fit as necessary which would leave a surplus of tiles, which were then discarded and some worked their way into levelling deposits and burials.

The Floor Layers
Within the choir was a sequence of layered deposits which were make-up layers used for levelling beneath the floor of the church. The earliest deposit recorded in this sequence (Fig. 29; Section 13) was *c*. 0.10m thick fairly compact dark grey brown silty clay (407). This was overlain by *c*. 0.06m thick firm mid brown grey sandy silt (381) and mid grey brown silty clay (293). To the east of (293) (not shown on plan or section) was 0.20-0.30m thick dark black grey silty clay with mottled orange specks (380). Above (380) & (393) was mid brown sandy clay (291) with a possible rosary bead fragment SF16 also with tile, pottery and bone dated to the 12th century (Fig. 29; Section 13). This was overlain by 0.06m thick mid brown grey sandy silt (287) with darker thin lenses and small angular limestone fragments dated by just one pottery sherd to the late 11th to 12th century. All of these layers were cut by later pit 260 (Fig. 18).

Dissolution features (or later); Phase C3
Feature 260 (Fig. 29; Section 13) was a fairly steep sided pit cut through (287) and filled by mid grey brown clay silt (259) with many broken decorated tiles. On the northern side of cut 260 the earliest deposit was *c*. 0.10m thick dark brown orange clay silt (421). This was overlain by a 0.10m thick layer of dark grey brown clay silt (420) (both not illustrated). Overlying this was *c.* 0.20m thick firm dark orange brown silty clay (419)=(372) (Fig. 18). Next in sequence was firm light cream brown silty clay with flecks of sandy mortar (371) (Fig. 29; Section 13). This was followed by (291) with five pottery sherds dated between the 12th and 14th century with one later 16th century sherd which may have been intrusive. On the eastern side was 0.11m thick grey brown clayey silt (318) with eight sherds of late 15th – mid 16th century pottery and 0.18m thick light grey brown silty clay (317) (both not illustrated). These deposits were cut by pit 346, 0.40m deep and 1.8m wide with concave sides and a flat base (Fig. 29; Section 13). It was filled by mid brownish grey silty clay with rare undressed limestone blocks and frequent broken decorated tile (347). Covering pit 346 was demolition layer (351) (not illustrated).

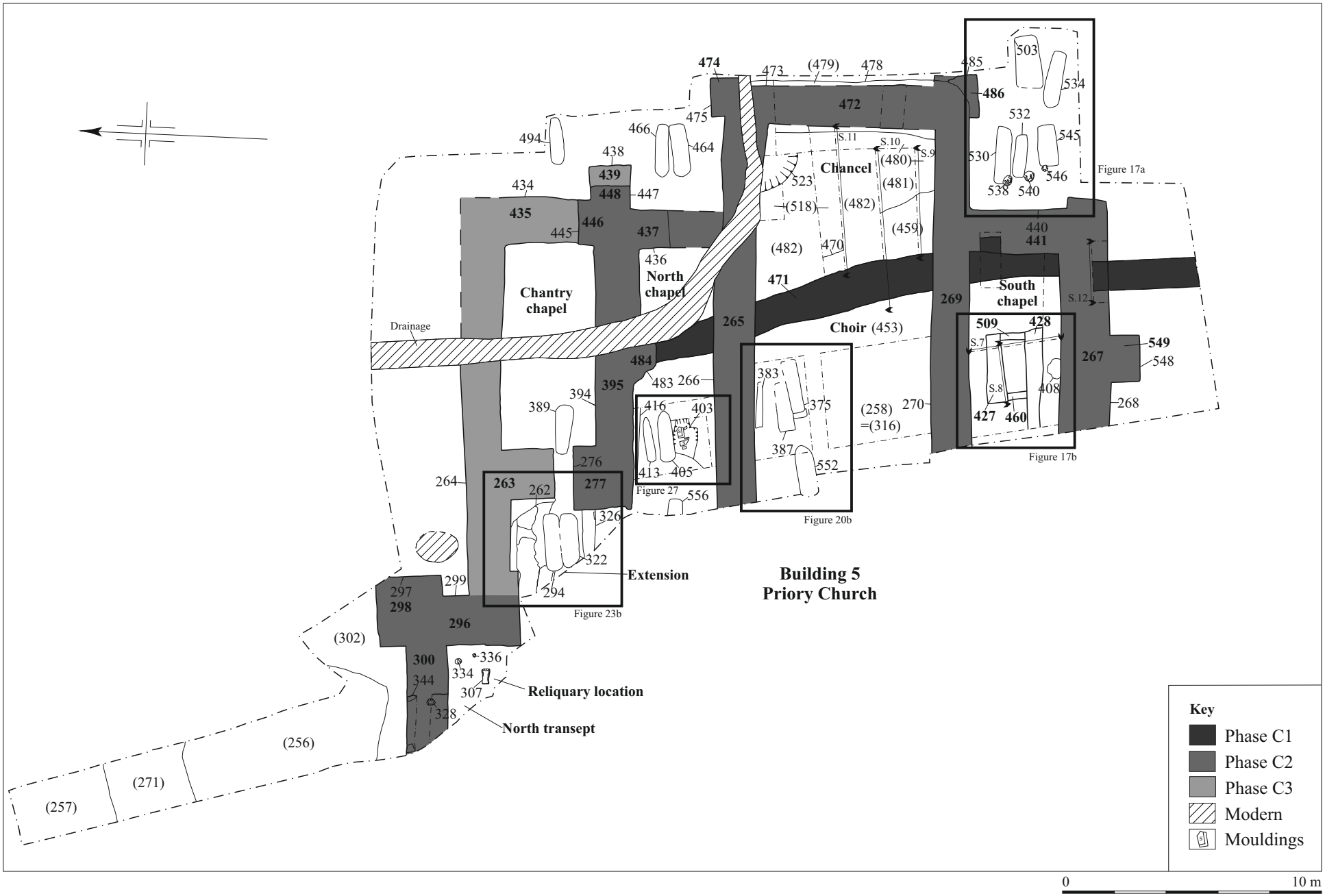


Figure 12: Area C plan of Lower level

The Choir Burials

A group of three skeletons (SK4, 5 & 6) were located against the northern chapel wall of the choir **265**. The burials were once probably covered by a stone memorial slab (Fig. 13).

Figure 13; Group of three burials in choir

Grave cut 385, Skeleton 4, filled by (386); 1.90m length x 0.40m wide x c. 0.10m depth (Figure 20b). This grave cut was sub rectangular in shape and had the remains of a stone wall on its northern side; cut 383/wall **384**. This masonry would have likely supported a stone memorial slab or tomb of some kind. The skeleton SK4 (68.12-68.24m AOD) was over 46 years old at death set within friable mid yellow brown sandy silt (386) in a supine position.

Grave cut 387, Skeleton 5, fill (388); 2m length x 0.60m wide and c. 0.10m depth (Figure 20b). Cutting grave 385 was grave cut 387 of a sub rectangular shape with straight sides. It was filled by friable mid yellow brown sandy clay (388), which contained Skeleton 5 (68.10-68.20m AOD) again in a supine position, but poorly preserved. There were limestone and tile fragments within the backfill of the grave.

Grave Cut 373, Skeleton 6, fill (374), (375); 2.20m long x 0.50m wide and c. 0.90m deep (Figure 20b). Cutting through the side of grave cut 387 was grave 373 with almost straight sides and a flat base. It was filled by mottled grey brown clay silt at the eastern end (374) and by 0.60m thick dark brown grey clay silt with blue clay patches and at the base (375). Skeleton SK6 was in a supine position with the left leg flexed probably as the individual was too tall (183cm) for the grave cut.

Grave 552 Skeleton 19, Fill (553), Length 1.80m x 0.60m wide (Figure 20b). This grave was recovered during the machine excavation of a wall footing trench (as part of the watching brief). It contained a complete skeleton (SK19), which was in supine position located beneath the former choir (Fig. 12).

Grave 443, Skeleton 8, fill (444) 1.10m length x 0.90m width x 0.18m depth, Level 68.02m AOD (Fig. 18). This grave was within the foundation material of wall 265 and was almost certainly a disturbed grave, which was perhaps scattered across the destroyed wall during the dissolution of the priory. The skeleton was incomplete but enough survived to place an age over 18 years with clear evidence of well healed fractures and traumas to the bones.

Discrete feature; undated
A posthole 393 (Fig. 18) was beneath layer (381) described above. It was sub circular in shape and had sharp concave sides and a flat base filled by compact yellow orange coarse sand with limestone flecks (392). The latest fill of the posthole was a thin layer of pinkish brown silt with burnt stone and limestone flecks (391).

4.5.2.2 The Chancel (Figs. 12, 14 & 18)

The chancel is the space around the altar in the sanctuary at the liturgical end of a traditional Christian church building. The chancel may be separated from the choir by a raised floor, which although probably existed leaves little archaeological trace.

At the eastern end of the church wall **472** (cut 473) was *c*. 1.6m wide with buttresses on each corner **486** (cut 485; filled with (512) & **474** (cut 475). The outer and inner face of the wall was constructed of irregular dressed limestone block facing and the centre of the wall was constructed of smaller (<20-80mm) limestone rubble. This construction technique was not seen on any of the other walls.

Figure 14; Showing Chancel looking east (1m Scales)

Chancel Floors (Figure 29; Section's 9, 10 & 11)
The natural clay was the earliest deposit seen beneath the floor of the chancel (518). Overlying the natural was a thin levelling deposit of firm yellowish brown sandy silt (482) and (520). This was overlain by 0.21m thick dark grey silty clay (481) and 0.26m thick light yellowish brown sandy silt (480)=(459). The latest levelling deposit beneath the chancel floor was firm blue grey clay silt (521). As expected no *in situ* tiled floors survived in the chancel area and no burials were found. The lack of burials is an indication of the spiritual importance of this area of the church, which contained the high altar dedicated to St Mary.

Discrete Features
In the north east corner of the chancel was a sub circular shaped feature 1.4m wide and 0.24m deep with sharp concave sides and a flat base 523. It was filled by heterogeneous red brown silty clay (524) with one sherd of 11th to 12th century

medieval pottery. This may have been the backfilled grave of a skeleton discovered by John Dunkin near this location. This one person from beneath the altar of the church would have been very important during the medieval period. The present location of this skeleton is unknown and therefore no further comment can be made.

A sub circular feature 432 (Fig. 18), 2.30m in length and 0.21m deep with steep concave sides and a gently rounded base was cut into (482) and was filled by firm mid grey sandy silt with occasional broken floor tiles (433). This is of unknown purpose.

4.5.2.3 The South Chapel (Figure's 12, 15, 17, 18 & 19)

The south chapel had a total width of 3.5m and was *c*. 15m long (7m uncovered during these excavations). It consisted of three walls **269**, **267** and **441** and contained one stone cist. The wall foundation **267** was *c*. 1.8m wide and had a minimum depth of 1.5m. It was set within a vertical sided construction cut 268. The south chapel wall was constructed of roughly hewn limestone blocks with the outer and inner faces of the wall constructed of roughly dressed limestone blocks. A buttress **341** (Fig. 18) was initially uncovered in a hand excavated section, and subsequently fully uncovered during the watching brief within construction cut 548, 1.10m wide, filled by roughly dressed limestone blocks **549** (Fig. 12) (<250-300 x 120mm) set within a sandy lime mortar. The east wall **441** formed of roughly hewn limestone blocks (<100-200mm) was set in construction cut 440. Both walls **267** & **441** were overlying the culvert **471**.

Figure 15; Showing south chapel looking south east (1m scale)

Floor Layers

At the western end of the uncovered south chapel, there were a series of levelling deposits laid down before the suspected final installation of a decorated tiled floor.

The earliest layer was blue grey natural clay (431) (Fig. 17b; Figure 28; Section 7). This was overlain by 0.10m thick dark grey brown clay silt (430) with limestone fragments followed by light yellow orange sandy mortar (429) with limestone fragments. These layers were probably formed to fill the gap between the church wall and the stone cist wall **427**. Covering all these deposits and wall **427** was layer (370), a demolition deposit associated with the destruction of the church similar to (339). Layer (370) contained a medieval tuning peg (SF7) and three earlier sherds of Brill/Boarstall ware medieval pottery (12^{th}-15^{th} century).

To the west of (370) was compact 0.07m thick mid yellow to light brown silty sand with gravels and charcoal flecks and two decorated tiles (358) directly above wall (427) (Fig. 18). These last were considered to support a stone slab across the cist burial.

Floor make-up layers and demolition layers
A section was excavated eastwards from wall 509 (part of cist burial), which revealed a series of layers, the latest of which (424) & (476), are considered to be formed with the destruction of the church (not illustrated). The earliest layer encountered was the natural dark grey silt (513), overlain by 0.07m thick soft grey orange sandy clay (514). Overlying this was 0.27m thick grey blue clay silt and 0.10m thick firm grey orange brown clay silt (516). More layers were recorded above these layers in a hand excavated box section against wall 267. A mixed grey brown orange clay silt (423) was overlain by 0.20m thick dark grey brown silty clay with limestone fragments throughout (424), followed by 0.20m thick mid orange brown sand with a high clay content. The latest layer was 0.12m thick light grey brown clay silt (476) (Fig. 18) with one sherd of residual Roman pottery.

To the south of buttress 341=549 was 0.50m thick fairly compact mid yellow brown clay silt (342). Overlying this was 0.29m thick compact yellow brown clay silt with one sherd of Brill/Boarstall medieval pottery (12^{th} – 15^{th} century AD) and rare gravels (333), followed by mid-dark brown sandy silt 0.23m thick (331) with 11 sherds of medieval pottery (Shelly ware & Brill/Boarstall ware; 1100-1600) and one sherd of early post-medieval pottery (1475-1600). The latest layer was 0.24m thick firm yellow silty sand with small gravels (340) (Fig. 12).

Immediately to the north of wall **267,** overlying cist wall 428 and charnel pit 408 (Fig. 17) was a steep sided cut 369, 0.30m deep running parallel with wall **269**. It was cut into loose limestone fragments with orange grey clay and occasional human bone (359). Overlying this was a 0.08m thick heavily compacted rubble layer with dark brown clay silt content (453)=(368) (not illustrated).

South Chapel; Stone Cist Burial

Grave Cut 425, Skeleton 12, walls 427, 428, 509, 460; fills (442) & (423). The stone cist was 2.70m in length and 2.2m wide. Set within construction cut 425 were four walls constructed of dressed stone blocks (<0.10-40mm length x 0.02- 0.10mm depth) of even courses with a maximum depth of 0.90m for the walls. At the base of the crypt was a complete skeleton (SK12) (67.39-67.49m AOD) in supine position with feet angled to the right (Figs. 16 & 17). The skeleton was over 46 years old at death and had clear signs of degenerative vertebrate disease. The skeleton was within grey

brown clay silt with limestone fragments throughout (442) with five sherds of medieval Shelly Ware and Brill/Boarstall Ware pottery (1100-1600). The widest wall of the stone cist consisted of wall **428** (cut 369), with a dark brown orange sandy silt (477) with one sherd of residual early medieval pottery and four fragments of decorated tile filling the gap between cut and wall.

Figure 16; Stone lined burial (SK12)

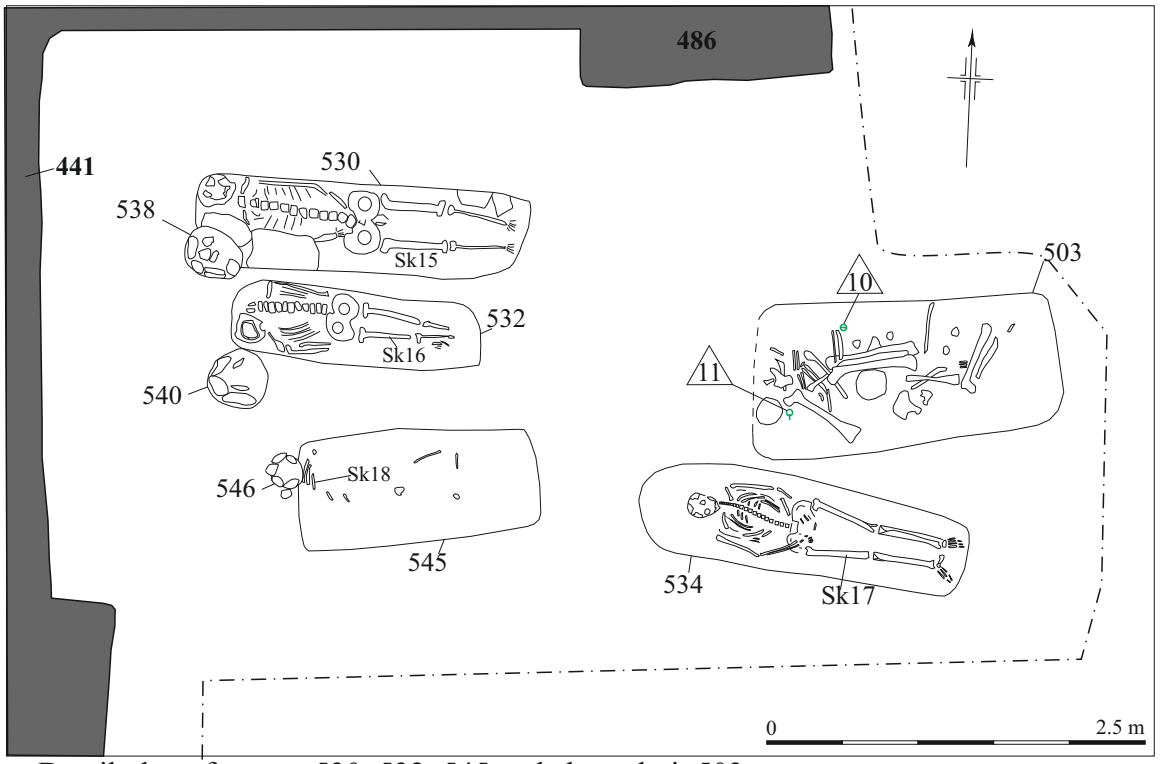
Wall **427** was set within a construction cut 425, filled by dark grey blue clay (426) (Fig. 28, Section 8). The grave was cut from (429), sealed by a demolition layer (370). (Fig. 28; Section 7). Walls **460** & **509** were short connecting walls (0.25m wide).

4.5.2.4 The North Chapel (Figures 12, 18 & 27)

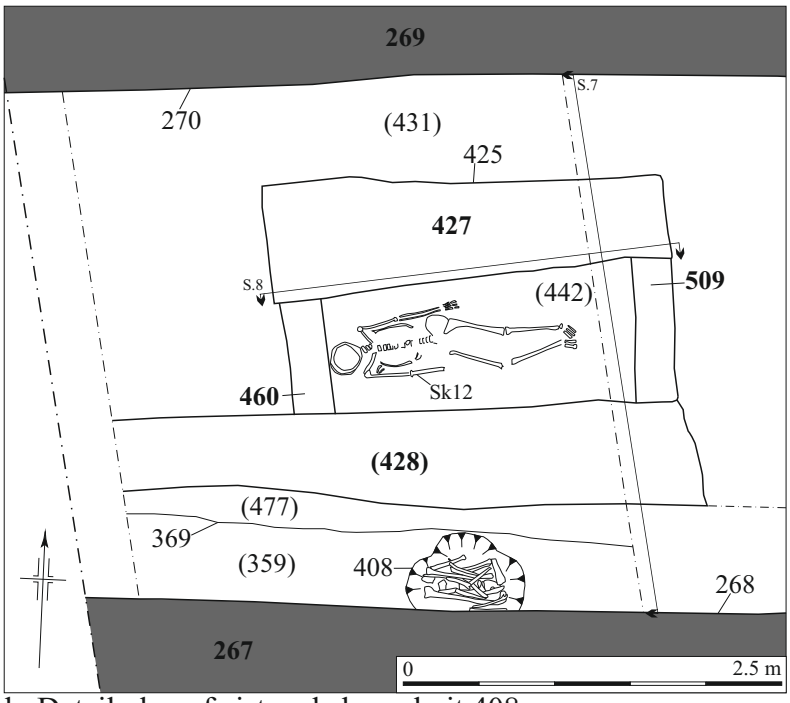
The north chapel was *c*. 3.2m wide and a total of *c*. 15m in length (10m uncovered during these excavations), constructed of wall **395** with irregular limestone blocks (<50-200mm) 1.7m wide with facing stones on both the outer and inner faces. The wall was set into a vertical sided construction cut 394=416. On the outer face of wall **395** was buttress **277** (cut 276). It was 0.80m wide and 2.2m in length with dressed limestone blocks (<0.10 x 0.40mm) forming the outer face. This outer face subsequently became part of the inside of the church (see 4.5.3.1). Walls **265** and **395** were joined by **437**, construction cut 436, 1.5m wide and *c*. 3.5m in length. The wall was constructed of roughly hewn limestone blocks (<50-200mm) set within a sandy orange mortar.

On the corner were two buttresses **446** (1.7m x 0.60m) & **448** (1.5m x 0.8m). Buttress 448 was extended in Phase 3 **439**. All three buttresses were set tightly within construction cuts 445, 447 & 438. Burials and charnel pits were discovered within the north chapel (see below).

Floor Layers (not illustrated)
In the north-western corner of the north chapel a section was hand excavated across the floor. The section revealed a series of deposits the earliest being the natural dark grey clay (458). This was overlain by 0.08m thick light yellow brown sandy silt (457). In turn was 0.26m thick mid grey clay with blue grey mottling (456) and 0.08m thick light brown sandy silt (455) and orange brown sandy silt (454). Following this was firm yellowish brown sandy silt (450) with two intrusive sherds of early post-medieval pottery (1550+ & late $16^{th}/17^{th}$ century) and finally 0.15m thick light grey white sandy lime mortar (449) (Fig. 18) (top 68.18m AOD). There were no surviving *in situ* tiles in this area, which presumably would have been set onto the surface of layer (449). The two later post-medieval sherds, beneath lime mortar layer (449) may be found out of context as a result of truncation from the drainage channel which cut across this area (Fig. 12).



a. Detail plan of graves 530, 532, 545 and charnel pit 503



b. Detail plan of cist and charnel pit 408

Key: Phase C2

Figure 17: South chapel cist burial and graves 530, 532, 545 and charnel pit 503

North Chapel Burials

Grave 462, Skeleton 9, fills(463) & (414), 2m length x 0.35m wide x 0.20 depth, Level 67.47m AOD (Fig. 27, Spit 6). This grave was cut by later charnel pit 403 and only contained a partial skeleton of an over 18 year old male, found beneath the water table. It was filled by light yellow grey silty clay (463) with the remains of a disturbed skeleton at its base. The latest fill was mid brown sandy silt (414).

Grave 413, No skeleton, fill (414,) 1.40m length x 0.40m depth (Fig. 27, Spits 2-5). This possible robbed or fully decomposed grave of a child. It was adjacent to 468=405 with a single mid brown sandy silt fill (414) with no human bone surviving.

Grave 405 (=468), Skeleton 13, fills (469) & (406), 1.70m length x 0.48m width and 0.24m depth, Level 67.37-43m AOD (Fig. 27, Spits 2-6). This grave was sub rectangular in shape and cut deposits (376) & (415). It had almost vertical sides filled by compact dark blue grey clay (469), at the base of which (below the water table) was a skeleton in a supine position (SK13). The grave was seen in plan to cut through the edge of the charnel pit 403 (Fig. 27; Spit 1). The latest fill was compact brownish grey clay silt (406). This skeleton showed evidence that the individual was a robust male and aged between 36-45 years old. The grave was covered by floor layer (382) (described below) and demolition deposits (410), (411) & (402).

Grave 556, Skeleton 20, fill (555), length unknown x 0.50m wide x 0.50m depth (Fig. 19). This grave was seen in a north south orientated footing trench during the watching brief stage of works. Only the legs of an west – east aligned skeleton were recovered, within a dark blue grey clay silt fill (555).

North chapel floor and demolition deposits
Above charnel pit 403 were a series of floor layers and demolition deposits (376) (Fig. 27, Spit 2), (382), (410), (402), (411) (Figure 27; Spit 1). The earliest layer was mid yellow brown sandy silt (410), followed by compact yellow sandy silt with blue clay mottling and containing decorated tiles (382), overlain by mid brown silty clay with frequent limestone fragments considered to be a demolition deposit (411). This was overlain by redeposited creamy brown mortar (402) with limestone rubble and broken decorated tiles. Overlying charnel pit 403 and layer (415) was a 0.20m thick demolition layer (376), which was cut by later intrusive feature 377, filled by mottled silty clay with very frequent limestone fragments (378), also perhaps a demolition feature. In the north-west corner of the excavated area of the north chapel (Figure 27) were two more deposits, the earliest (499) was firm dark grey brown clay silt with one sherd of residual medieval pottery, overlain by (498), a 0.15m thick mid grey brown silty clay (Fig. 27; Spit 2). Both deposits were covered by (411) described above.

4.5.2.5 The North Transept

The north transept was cited on the north side of the north chapel, where it is believed the shrine of St Edburg was located. The north transept was subject to a later 14th century addition, which coincides with construction of the Shrine of St Edburg (see background & 4.5.3.1). Only part of the north transept was uncovered during the excavations.

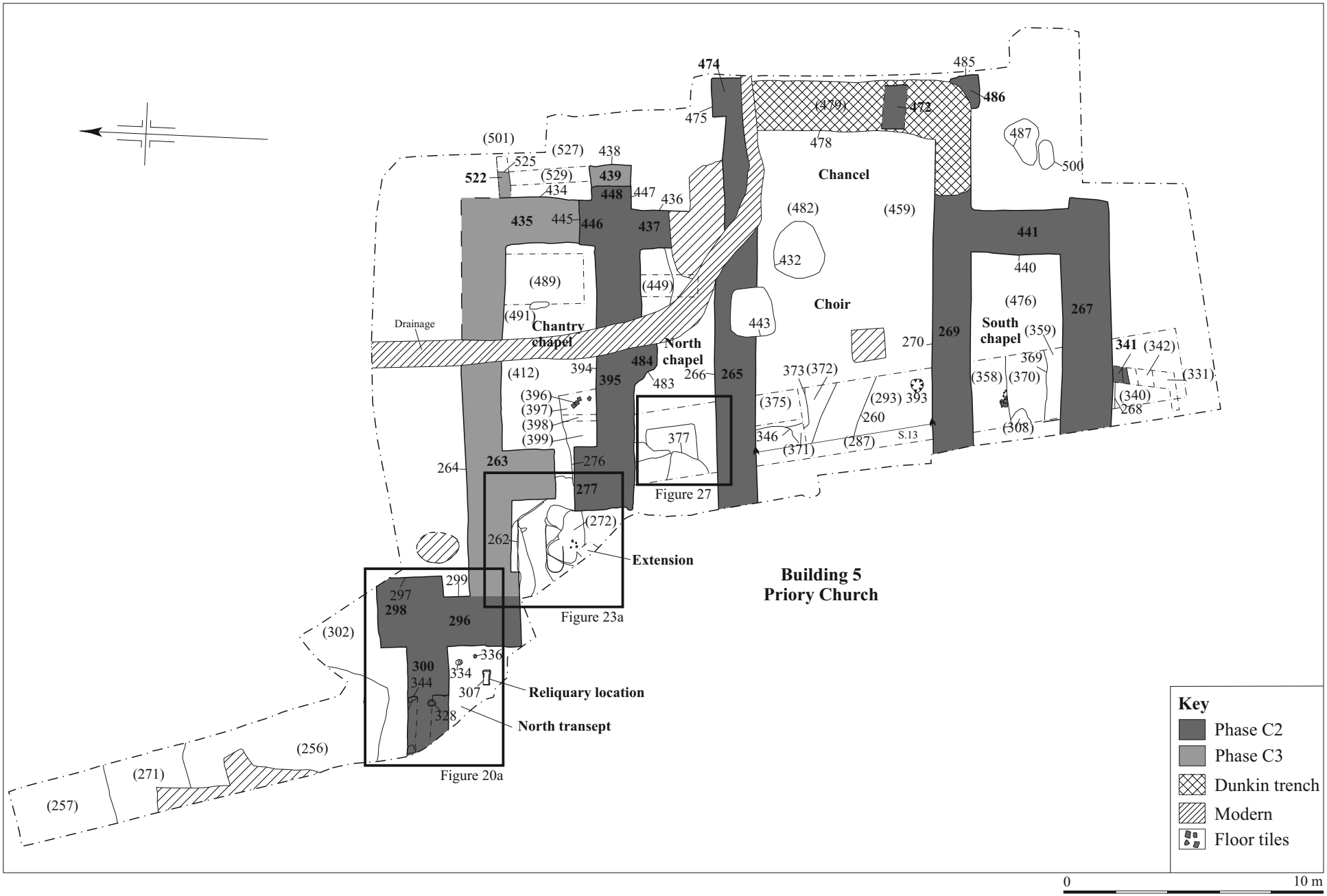


Figure 18: Area C; Upper level

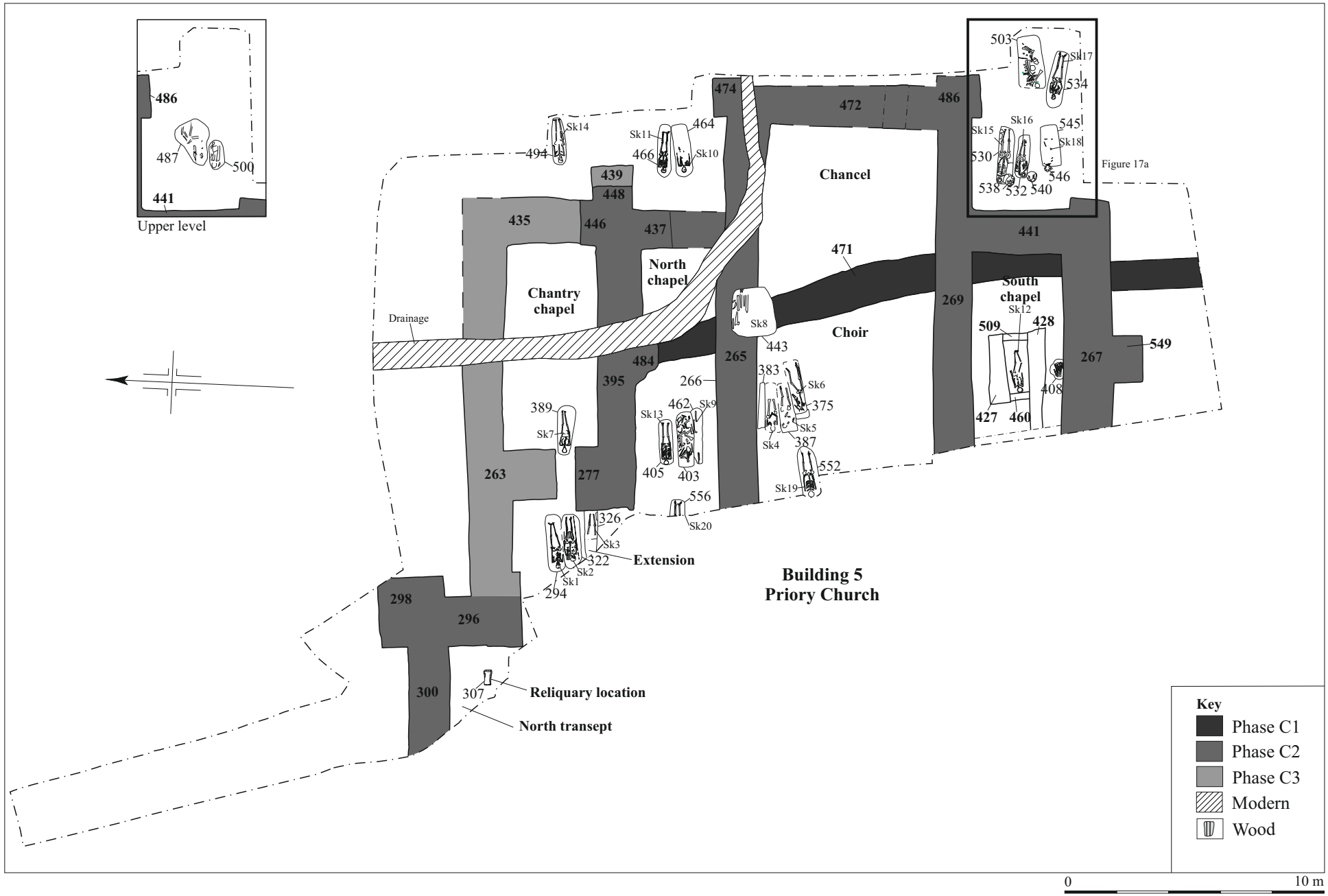
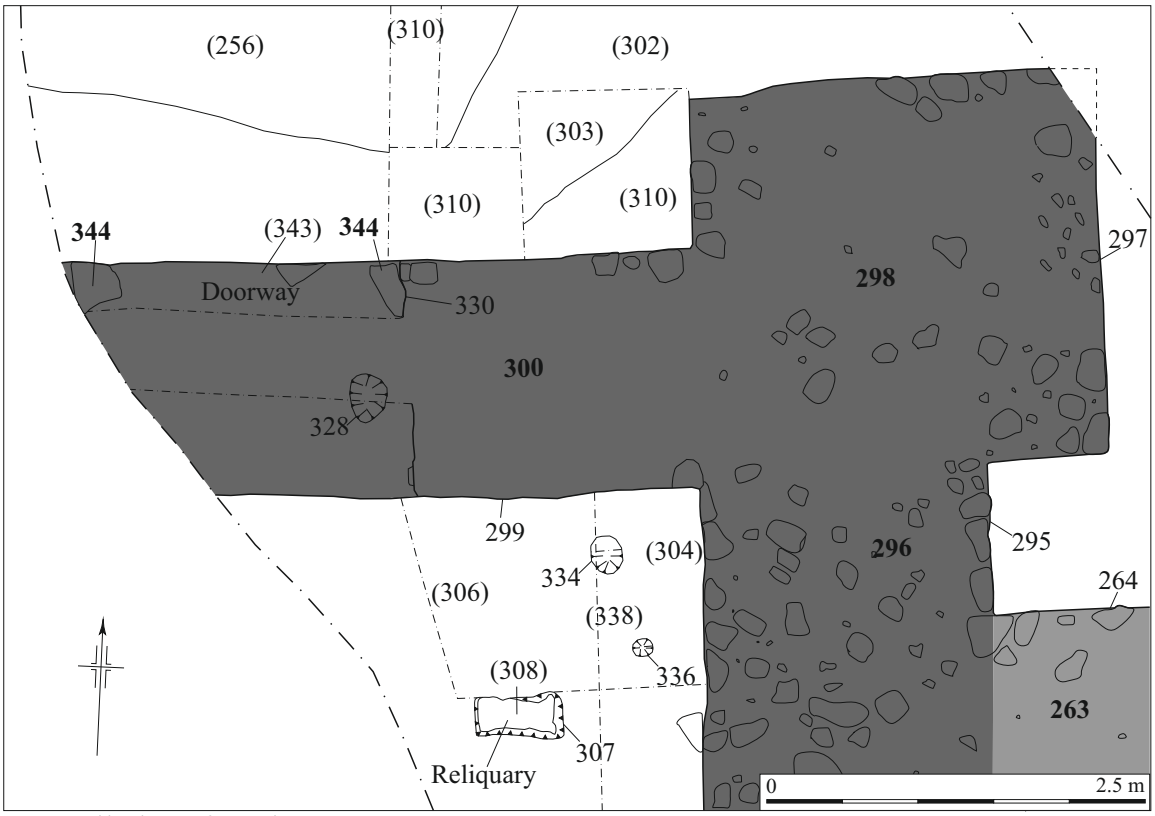
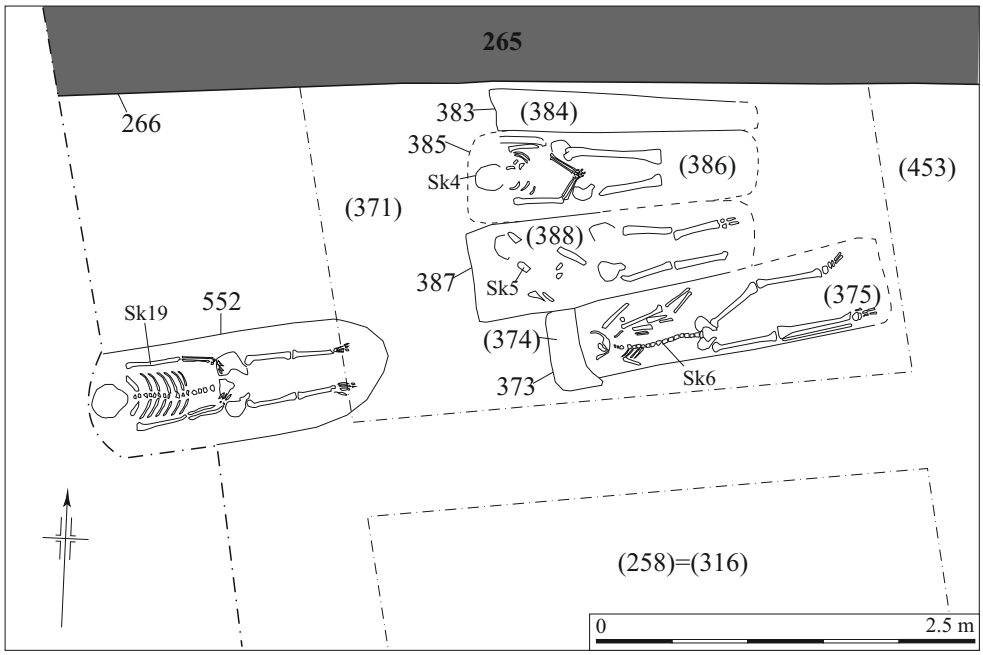


Figure 19: Skeleton locations plan



a. Detail plan of north transept



b. Detail plan of graves 373, 385, 387 and 522

Key: Phase C2 Phase C3

Figure 20: Detail of north transept and plan of graves within choir

The remainder continues beneath the present Priory Lane, but enough was observed to suggest it had a total width of 6m (2.8m uncovered) x *c*. 7.2m (6.2m uncovered). This area of the church was where the medieval reliquary, thought to be St Edburg was recovered (308) (Figure 20a; Figure 44; Appendix 4 & discussion). Early features within the north transept were two postholes 334 (brown grey fill 335) and 336 (brown grey fill 337) seen cut into the natural, covered by the overlying floor surfaces (see below). The postholes were sub circular in shape with steep concave sides and were both *c*. 0.30m in depth (Figure 20a). The postholes were considered to be scaffolding posts probably created during the construction of the church.

The Walls
The main east-west wall **300** of the north transept was 1.54m wide constructed of roughly hewn limestone blocks set within construction cut 295; the gap between the wall and construction cut was infilled by dark grey blue clay silt (330) (not illustrated). There is a short return where wall **300** returns southwards; 296 (construction cut 299). At the corner of the north transept was evidence of buttresses; **298** (2.80 x 2.80m), constructed of roughly hewn limestone blocks set in orange yellow sandy mortar set tight against construction cut 297 (Figure 20a).

Doorway
Wall **300** had clear evidence of a doorway on its northern side where the wall was lower. Two large stones 1.8m apart (344) had been dressed and may have once formed a doorway. A deposit immediately adjacent to the doorway was 0.10m thick mid-dark brown grey silty clay with grit (343) which overlay (310), (345) & (256). Overlying (344) was 0.20m thick dark brownish grey firm silty clay with frequent limestone fragments (327) which infilled the doorway. This was the only defined evidence of a doorway as no superstructure survives *in situ*.

This deposit was cut by a sub circular posthole 328, which was 0.30m wide and 0.30m deep with gradually curving concave sides and a gently rounded base. It was filled by mid brown grey silty clay with limestone fragments (329). This posthole is assumed to be a scaffolding post connected with the construction of the church.

The Floor Layers
Within the north transept were a series of surviving floor/levelling deposits above natural clay (338). The earliest deposit was a very thin deposit of firm dark cream grey clay with mortar inclusions (306), overlain by 0.05m thick dark brown manganese rich gravels (305). The final layer was 0.30m thick mid orange brown silty clay with limestone inclusions (304). Cut 307 through layer (304) contained the medieval lead casket (308 - reliquary) - see Figure 20a; Figure 44; Appendix 4 & discussion. Above this were a series of modern layers from the TA centre and Bryan House.

Layers to the north of the north transept
A series of deposits originally discovered by David Hinton (1969) were re-investigated over a larger area during the course of these investigations. Hinton's Trench A was uncovered and re-emptied; cut 288 fill (289) (not illustrated). The east section of Trench A (Hinton 1969) revealed a similar sequence. The earliest deposit (Hinton; context 8) described as black mud with small stones, flecks of charcoal and small bone fragments, otherwise sterile =(310) described as firm grey brown clay

alluvial silt with charcoal flecks with an iron nail and sherd of 12th century medieval shelly ware along with one iron nail. Within (310) was a thin lens of 0.06m thick light cream brown sandy mortar (367). Overlying this was a thin deposit (0.03-0.04m thick) of cream buff sandy mortar with limestone inclusions (309) (not illustrated) interpreted as a floor surface, perhaps a yard deposit, which corresponds to layer (7) from Hinton's excavation; described as mortar, yellow and white, firm and sterile. The thin layer of burnt mortar recorded by Hinton (6) was not recorded in the re-examined section. Instead a further two layers were seen butting against the north transept wall. Overlying (309) was *c*. 0.10m thick reddish brown silty clay (303) (Fig. 20a) with iron oxide and manganese inclusions. The latest layer was *c*. 0.10m thick dark brownish grey silty clay (302) with limestone fragments (<10-50mm) and seven pottery sherds between the late 12th and 13th century with occasional animal bones.

Deposit (256) (Fig. 20a) overlay (302) and was compact cream yellow silty mortar with frequent unworked limestone fragments and rare dressed stone. This deposit is considered the same as Hinton's Trench B deposit (5) or (6) (Hinton 1969) described as a clean yellow white mortar layer thought to be a stone-masons yard, or lodge. The pottery is sufficient to connect this with the work carried out after 1296 at the east end to house St. Edburg's shrine, consecrated in 1312. A workshop might well be placed outside the north transept, as far from the cloister as possible (Hinton 1969) to keep noise levels to a minimum. The further dressed stone fragments recovered from layer (256) would suggest that this area was a masons yard, but no postholes were discovered suggesting the area may not have been covered. To the north of (256) was dark grey clay silt with limestone fragments (271) and 0.10m thick pale grey clay (257) (Fig. 12).

Overlying (256) were a series of modern made ground deposits (255), (254), (253) (252) all associated with the former Bryan House or TA Centre covered by topsoil (286).

4.5.3 Period 2; Medieval Phase C3; 14th Century

4.5.3.1 The North Transept extension (Figure 23)

Fig 21: Medieval floor tiles on (272)

The deposits

The north east corner of the church was extended with the addition of the chantry chapel, wall **263** (cut 264). Wall **263** had a southerly extension (Figure 12 & 23) which may have formed a doorway into the chantry chapel form the extension to the transept, filled by compact clay (261).

A series of deposits were recorded in section across this area of the church (Figure 29;

Section 14). The earliest layer was (316) dark grey clay of natural origin. Overlying this was 0.26m thick firm mid grey clay silt (363) and 0.24m thick mid brown grey silty clay (362) with eight sherds of medieval pottery dated to the late 11th /12th century AD. Covering (362) was a thin layer (0.04m) of grey sandy gravel (361) overlain by 0.01m thick light orange brown sandy lime mortar spread (285) with three sherds of 12th – 15th century pottery thought to be a possible floor layer. Overlying (285) (Figure 29; Section 14) was a 0.05m thick firm red brown iron oxide gravels (332) (not illustrated) and (281) (Fig. 23a) which was removed before the section was excavated. These deposits cut by 264, presumably as part of the walls re-facing/re-modelling and then backfilled by deposits (364) and a re-established floor layer deposit (292).

Sealing graves 294, 322 & 326 were a series of floor levelling deposits. The earliest was mid yellow brown sandy silt (280) (Fig. 23a) overlain by (274) and dark brown silty clay (273) with one sherd of 13th to 15th century pottery and sandy lime clay mortar (272). On the surface of (272) were medieval decorated tiles (Fig. 21).

Cutting through (285) was 262, probably a result of re-modelling wall 263 with facing stones. It was filled by 0.10m thick firm dark grey clay silt (275).

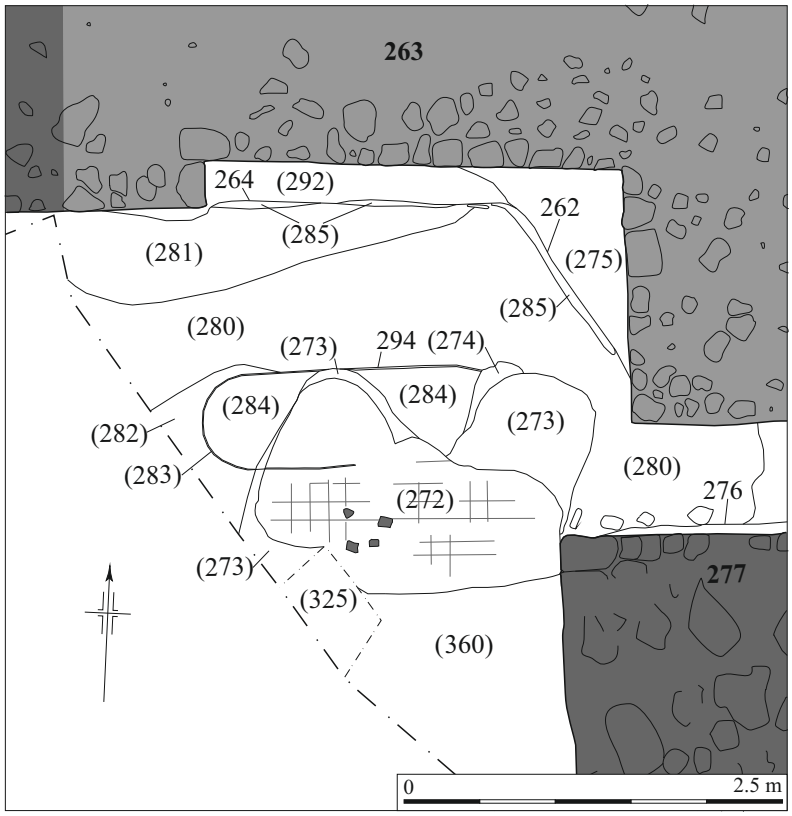
North Transept Extension Burials

The north transept extension burials were cut through 0.13m thick mid yellowish brown sandy silt (282), dark grey clay (283), (362), & (312).

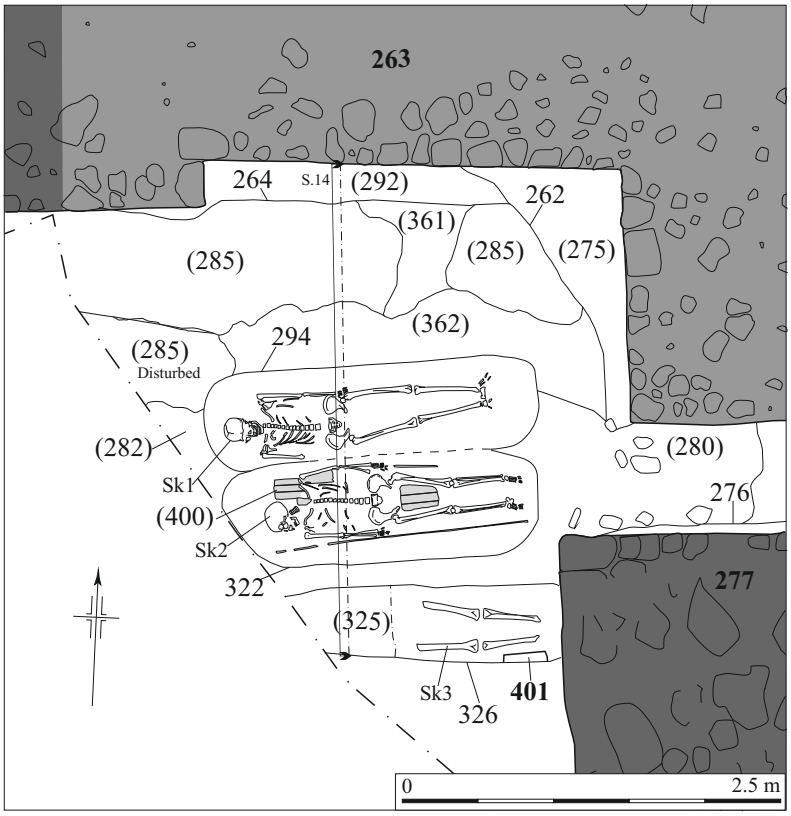
Figure 22; Skeleton 1 grave cut 294

Grave 294, Skeleton 1, fills (365), (362), (366) & (284), 2.2m length x 0.66m width x 0.72m depth, level 67.43m AOD (Figs. 22 & 23b). This grave was sub rectangular in shape 2.2m length and 0.60m wide and was filled by a series of heterogeneous deposits with a complete skeleton at the base (SK1). The skeleton was orientated west-east in the supine position and was complete except for the right arm which was discovered later within grave 322 (see below). The earliest deposit was 0.22m yellowish sandy silt (365) overlain by dark mottled yellowish dark brown grey sandy silt and silty clay (366) with dark grey brown patches throughout and light brown sandy silt with limestone fragments (284). This was overlain by floor levelling deposit (274) and then (273). This skeleton was radiocarbon dated to the 15th century (1487 calAD; 95.4% probability).

Grave 322, Skeleton 2, coffin 400, fills (324), (320), (321), (313), (314) & (315), 2.03m length x 0.80m width x 0.70m depth, level 67.33m AOD.



a. Detail plan of floor surfaces



b. Detail plan of graves 294, 322, 326 and floor surface 285

Key: Phase C2 Phase C3 Floor tiles Coffin

Figure 23: North transept extension burials and overlying floor surfaces

This grave cut was a sub rectangular in shape and had traces of a wooden coffin at its base (400). It was clearly seen cutting grave 294 and contained the arm of SK1 in its backfill.

The earliest recorded deposit within the coffin was 0.24m thick light yellowish brown sandy gravel, which contained the skeleton (SK2), in extended supine position (323). Overlying this was firm mid brown sandy silt (324) and red brown silty gravels (320). The grave was then filled by mid grey brown sandy silt (321). Fill (313) was yellow brown sandy silt with one sherd of medieval pottery dated to the late 11th early 12th century with 50 tile fragments. Of note was one half of a decorated floor tile was discovered, with the other half found on the south side of the church. Fill (315) was the final fill consisting of dark grey brown silty clay with five sherds of medieval pottery broadly dated between the 13th-15th centuries.

Grave 326, skeleton 3, fill (325), 1.78m (min) length x 0.5m width x 0.40m depth, level 64.41-43m AOD. This grave was of a similar size and shape of the adjacent graves 294 & 322, but not fully exposed within the limits of the excavation. This grave was close to the edge of the excavation area and contained one discernible fill (325), which contained the lower half of the body from skeleton (SK3).

Overlying grave fill (325) was loosely compacted mid brown to dark brown clay silt (360) (Fig. 23). Seen on the southern side of the grave cut was a large limestone block **401** (Fig. 23) which likely represented the continuation of wall **277** before the north transept was enlarged and the wall was lowered across this area.

4.5.3.2 The Chantry Chapel; Phase C3 (14th century)

An extension to the north chapel was added during the 14th century and is mentioned in the accounts of the time (see background) as a chantry chapel. The walls **435** & **263** were constructed of roughly hewn limestone blocks, but set in different greyish brown silty clay mortar. The stones were tight against the construction cuts 434 & 264 and butted up against the earlier buttress **446** and wall **296**. A buttress **522** on the north eastern corner of the later addition **435** was picked up in a hand excavated section (Fig. 18) (construction cut 525). The mortar within the buttress had traces of burning which may indicate a fire at this location.

Floor deposits
The earliest below ground floor deposit of this chapel was mottled grey silty clay with brown grey patches and limestone inclusions (399) (Fig. 18). This was overlain by 0.12m thick dark orange brown silty clay with crushed limestone (398). The final levelling layer of the floor was light cream yellow sandy silt mortar (397) with decorated tiles on the surface (396) (Fig. 18). To the north of the tiles was a demolition layer of dark grey clay silt with frequent limestone fragments (412).

At the eastern end of the chantry chapel a hand excavated section revealed a series of layers beneath the floor. The earliest deposit was firm dark greyish brown silty clay (489) overlain by 0.14m thick light yellow brown silty sand (490) and 0.30m thick loose mid reddish brown sandy silt (492) (both not illustrated). Overlying (492) was 0.14m thick light yellow brown sandy silt (493) (not illustrated). The final layer recorded in section was 0.20m thick light greyish brown silty silt (491) (Fig. 18).

Figure 24; Grave cut 389 with SK7 (dated 1455calAD)

Chantry Chapel burial

Grave 389, skeleton 7, fill (390), 2m length x 0.65m wide x 0.20m deep, level 67.42-51m AOD) (Figs. 12 & 24). This grave cut was sub rectangular in shape with straight sides and a flat base. The grave was filled by firm mid greyish brown silty clay (390) with a complete skeleton (SK7) towards its base in the supine position. The individual was aged between 26-35 years old at death. Master Walter de Foderingeye donated £40 for the construction of the chantry chapel in 1323. A radiocarbon date obtained from this skeleton of 1455calAD, has established this was not the remains of Master Walter de Foderingeye. This grave was overlain by floor layer (399) described above.

Layers to the east of the chantry chapel
The layers outside the east of the chantry chapel was recorded in a hand excavated section placed between buttress **439** & **522**. The earliest layer was 0.28m thick firm dark brown silty clay (529), overlain by 0.30m thick mottled blue brown with grey patches clay silt (528) and firm mid red brown silty clay (527) (Fig. 18).

4.5.4 The Graves outside the Church

Figure 25; Skeletons 10 & 11

All of the individual burials outside the Church were removed during the course of the excavations. All were extended supine inhumations, unaccompanied by grave goods, orientated west-east. The earliest graves were cut into layer (510), a mottled made ground seen across the back of the church with graves and charnel pits cut into it. Three of the skeletons outside the church had postholes at the western end indicating wooden crosses were used to mark the graves. The importance of this is referred to in the discussion.

Grave 464, skeleton 10, fill (465), 2.14m length x 0.65m wide x 0.10m depth, level 67.92-68.02m AOD (Figs. 19 & 25). This grave cut was located on the outside of the church and was sub rectangular in shape and had sharp almost vertical sides and a flat base. It was filled by firm mid grey silty clay (465), which contained skeleton 10, an

over 18 year old male, of which only the upper half remained as the rest had been truncated by the construction of the former Bryan House.

Grave 466, skeleton 11, fill (467), 2.06m length x 0.52m wide x 0.25m depth, level 67.85-90m AOD (Figs. 19 & 25). This grave was located on the outside of the church cut through a mottled 0.15m thick layer (536) which had a sherd of medieval pottery 10th to 11th century and was sub rectangular in shape with sharp almost vertical sides and a flat base. It contained one yellowish brown fill (467) with a skeleton (SK11) a 26-35 year old female in supine position, perhaps the wife of SK 10. The grave contained three sherds of 10th to 11th century pottery, which may be residual considering the burial is likely 12th-15th century.

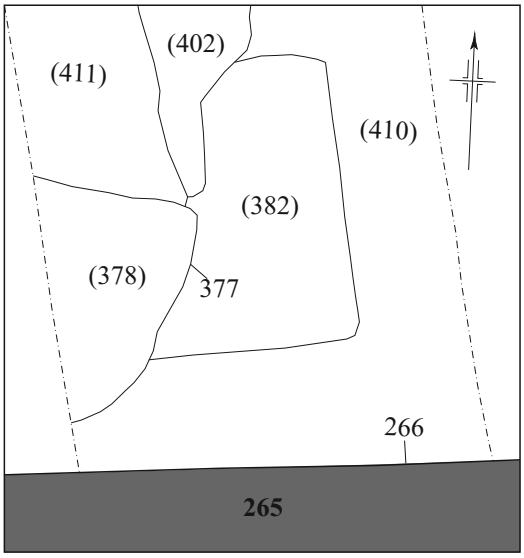
Grave 494, skeleton 14, fill (495), 1.80m length x 0.45m width x 0.20m depth, level 68.04-09m AOD (Fig. 19). The grave was located on the outside of the church walls and was sub rectangular in shape with almost vertical sides and a gently rounded base. It contained one fill (495) with a complete skeleton (SK14) in supine position of a male 36-45 years old with degenerative joint disease. One sherd of medieval pottery and one iron coffin nail were the only recovered dating evidence.

Grave 530, skeleton 15, fill (531) & (537), length 2.20m x 0.60m wide x 0.58m depth., level 67.56-62m AOD (Fig. 17a). This grave was located on the outside of the Church and was sub rectangular in shape with sharp concave sides and a flat base. The earliest fill of the grave (531), which contained the Skeleton (SK15) was *c*. 0.47m thick composed of mid grey brown sandy silt, overlain by 0.13m thick blue grey clay (537) (not illustrated). This grave had a marker probably once a wooden cross survived by a 0.40m wide posthole 538 with dark grey brown sandy clay (539) with stone packing.

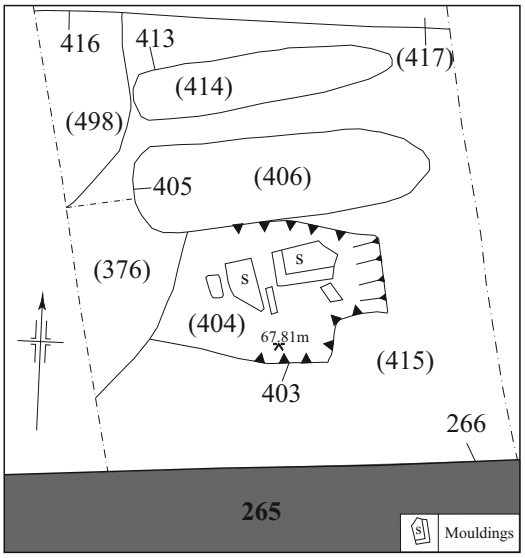
Figure 26; Skeleton 17

Grave 532, skeleton 16, fill (533), length 1.64m x 0.49m x 0.30m, level 67.83-68.04m AOD (Fig. 17a). This grave was located on the outside of the church and was sub rectangular in shape with sharp concave sides and a gently rounded base. It was filled by dark grey brown silty clay (533) with one sherd of medieval pottery (late 12th century) accompanying a complete skeleton (SK16) at the base of the grave cut of an individual over 46 years old. This grave also probably once had a wooden cross. Posthole 540 was circular in shape and 0.40m wide with concave base filled by dark grey brown sandy silt with stone post packing (541).

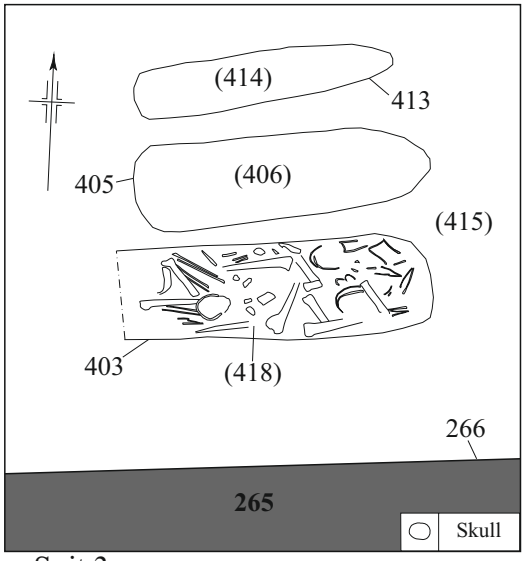
Grave 534, skeleton 17, fill (535), length 2.2m, 0.68m width x 0.35m depth, level 68.01-09m AOD (Figs. 17a & 26). This grave located on the outside of the church was sub rectangular in shape with vertical sides and a flattish concave base. It had one mid brown fill (535) with one sherd of medieval pottery (late 12th century), which contained the remains of a poorly preserved skeleton (SK17).



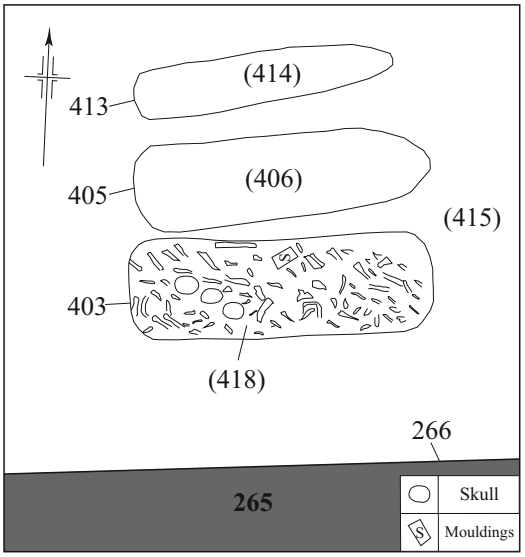
a. Spit 1



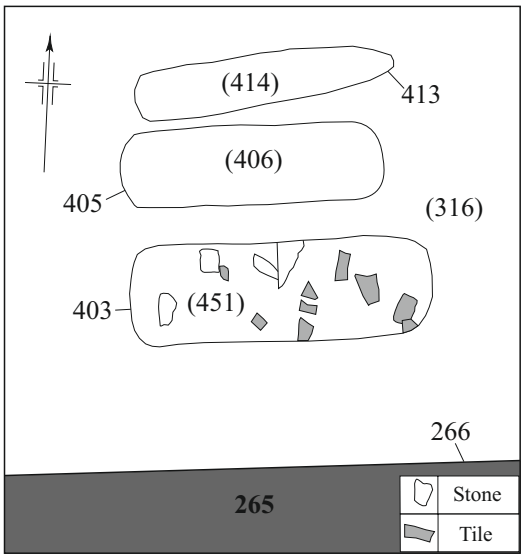
b. Spit 2



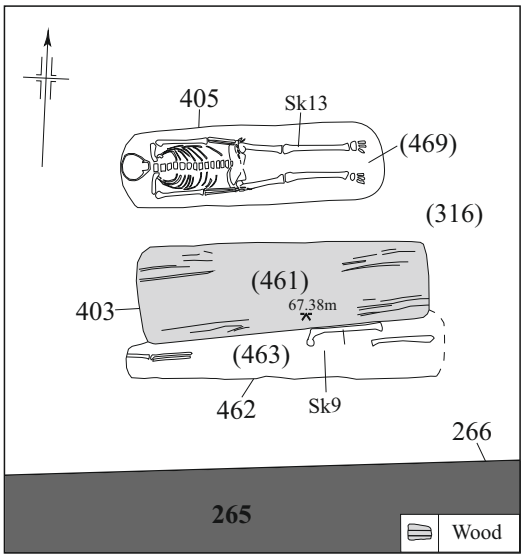
c. Spit 3



d. Spit 4



e. Spit 5



f. Spit 6

Key: Phase C2

0 2.5 m

Figure 27: Plan of spits of charnel pit 403 and graves 405 and 413

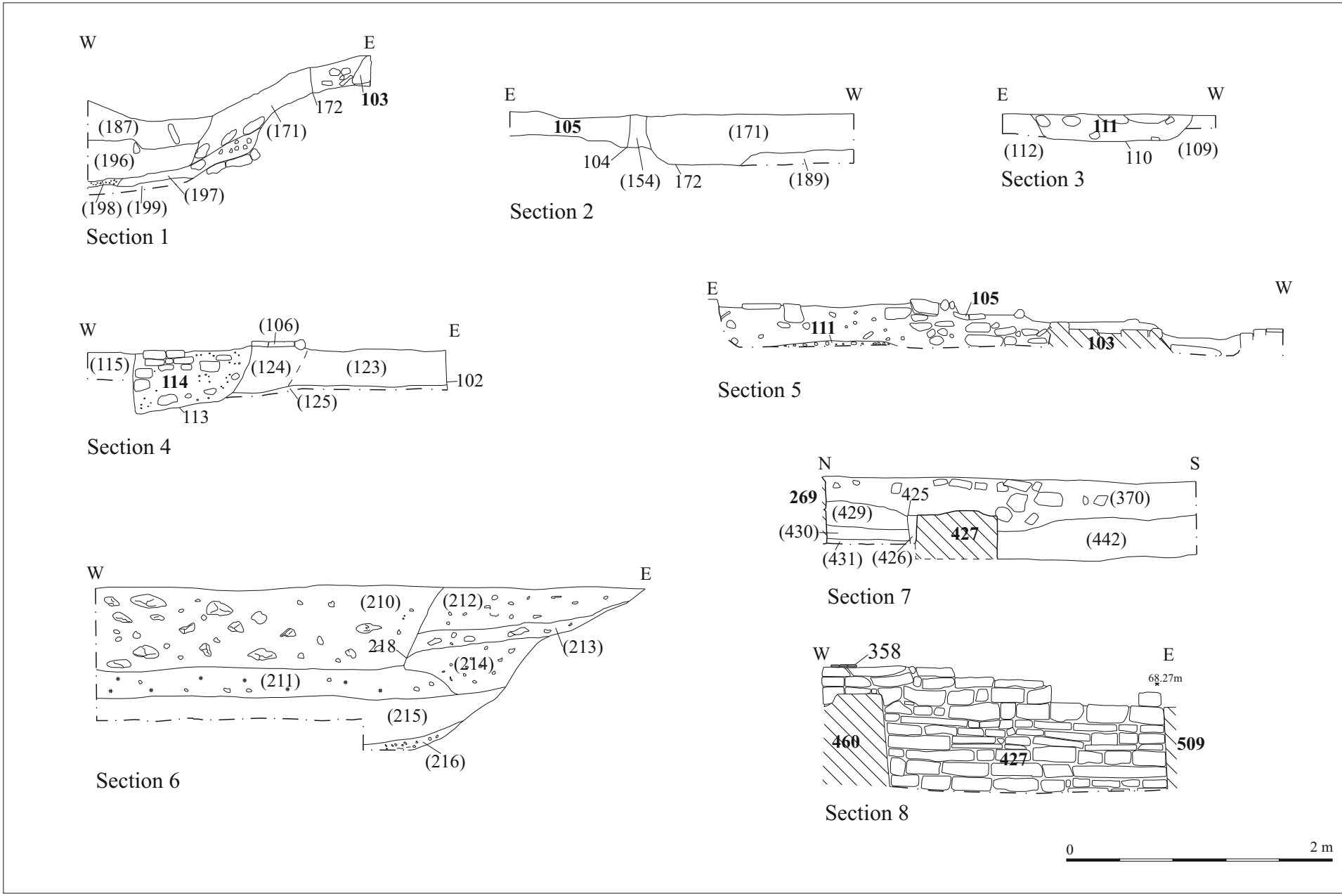


Figure 28: Sections 1-8

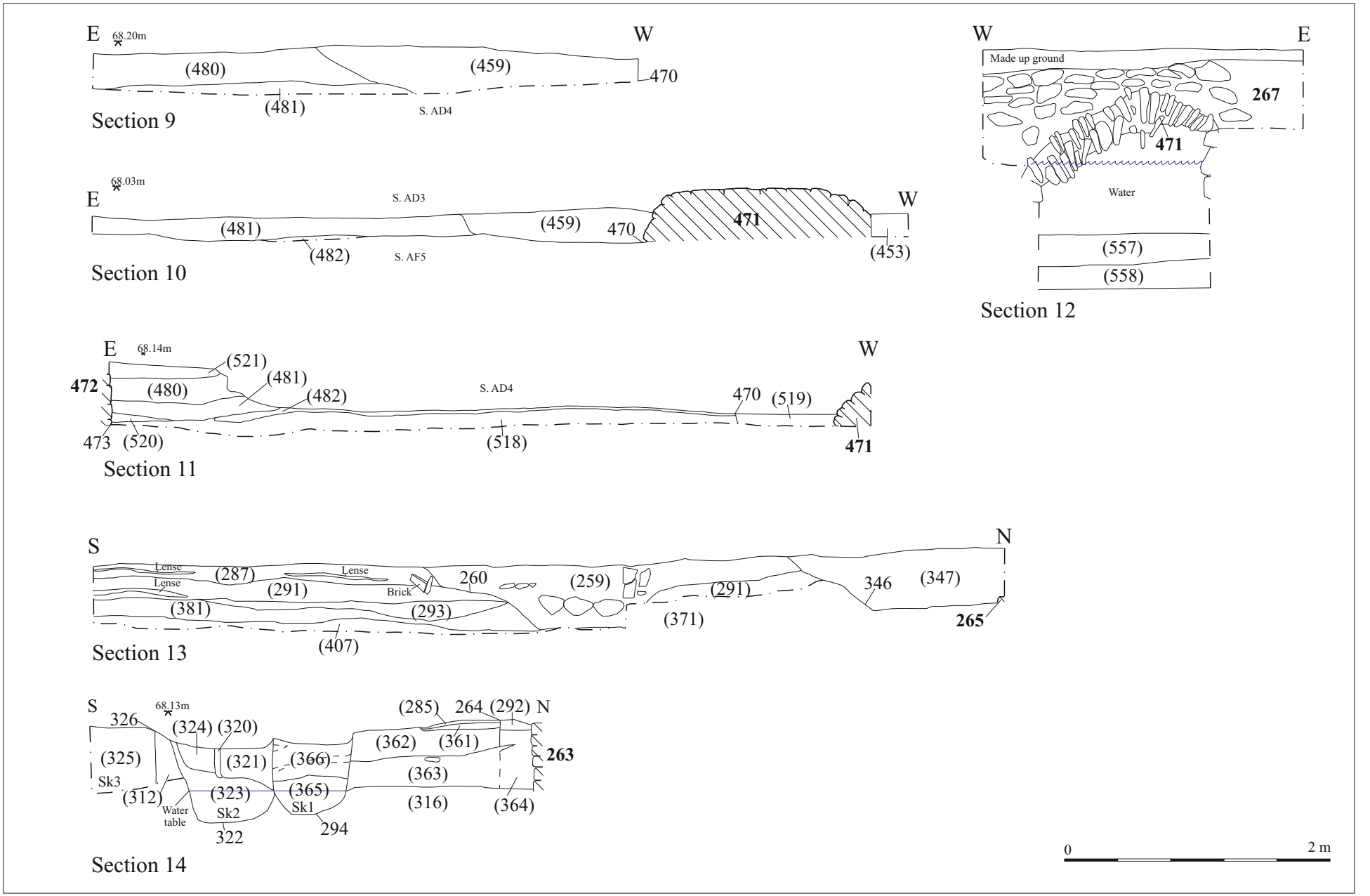


Figure 29: Sections 9-14

Grave 545, skeleton 18, fill (544), length 1.70m x 0.50m wide x 0.20m deep, level 67.71-76m AOD (Fig. 17a). This grave was located to the south of graves 530 & 532. It had sharp sides and a flat base with one fill (544) containing a partial skeleton (SK18) of unknown sex accompanied by three medieval pottery sherds (late 12th century). A wooden cross was placed at the western end survived by a posthole 546 of 0.28m diameter filled by dark grey silty clay with post packing (547).

4.5.5 The Charnel Pits

Charnel pit cut 408, deposit (409). A small charnel pit 408 was located against the southern side of the south chapel wall 267 cut into layer (359). It was 0.70m wide x 0.35m depth with a flat base. It was filled by mid grey brown silty clay (409), which was sealed by layer (339) with a small variety of human bones.

Charnel cut 403, deposit (404), (418), (451) & (461)

Figure 30; Charnel pit 403

This charnel pit (Fig. 30) was the largest recovered from the site. It was sub rectangular in shape (1.8m x 0.5m wide) and contained cranial elements, mandibles, maxillae, long bones, vertebrae and a small number of hand and feet bones. The excavation of the charnel pit was reduced in spits (Fig. 27; Spits 1-4) each of 0.10m as it was not known whether any different fills would be determinable or even present. The charnel pit was cut through layer (415) a thin layer of sandy brown sand (Fig. 27; Spit 2). During the course of excavation three distinguishable fills were recorded within the wooden box which contained the bones. At the base of the excavation were the remains of a wooden lined box consisting of semi waterlogged dark brown black wood (461). The earliest identifiable fill was 0.14m thick wet brownish grey silty clay (451) with a high density of mixed human bone and floor tiles. Within the centre of the charnel pit was 0.12m thick mid red brown clay silt with mixed human bone (418). The latest fill was 0.08m thick mid brown clay silt with mixed human bone, tile and smashed stone plaque with flower ball motif around the edges (404) (Fig. 27, spit 2; Fig. 48). The charnel pit was covered by layers (410) & (382).

Overlying inhumations 530, 532 & 545
Charnel pit 487 (Fig. 18) was sub rectangular in shape (1.85m x 1.0m) located outside the church to the east of the south chapel, cut through made ground layer (505). It was filled by 0.15m thick firm mid grey silty clay (488) with high frequency of mixed human bone and animal bones with one sherd of medieval pottery (13th-15th century).

Pit 500 (Figure 18) was sub circular in shape and located adjacent to charnel pit 487 (1.3m x 1.4m) with gradual concave sides and a rounded base.

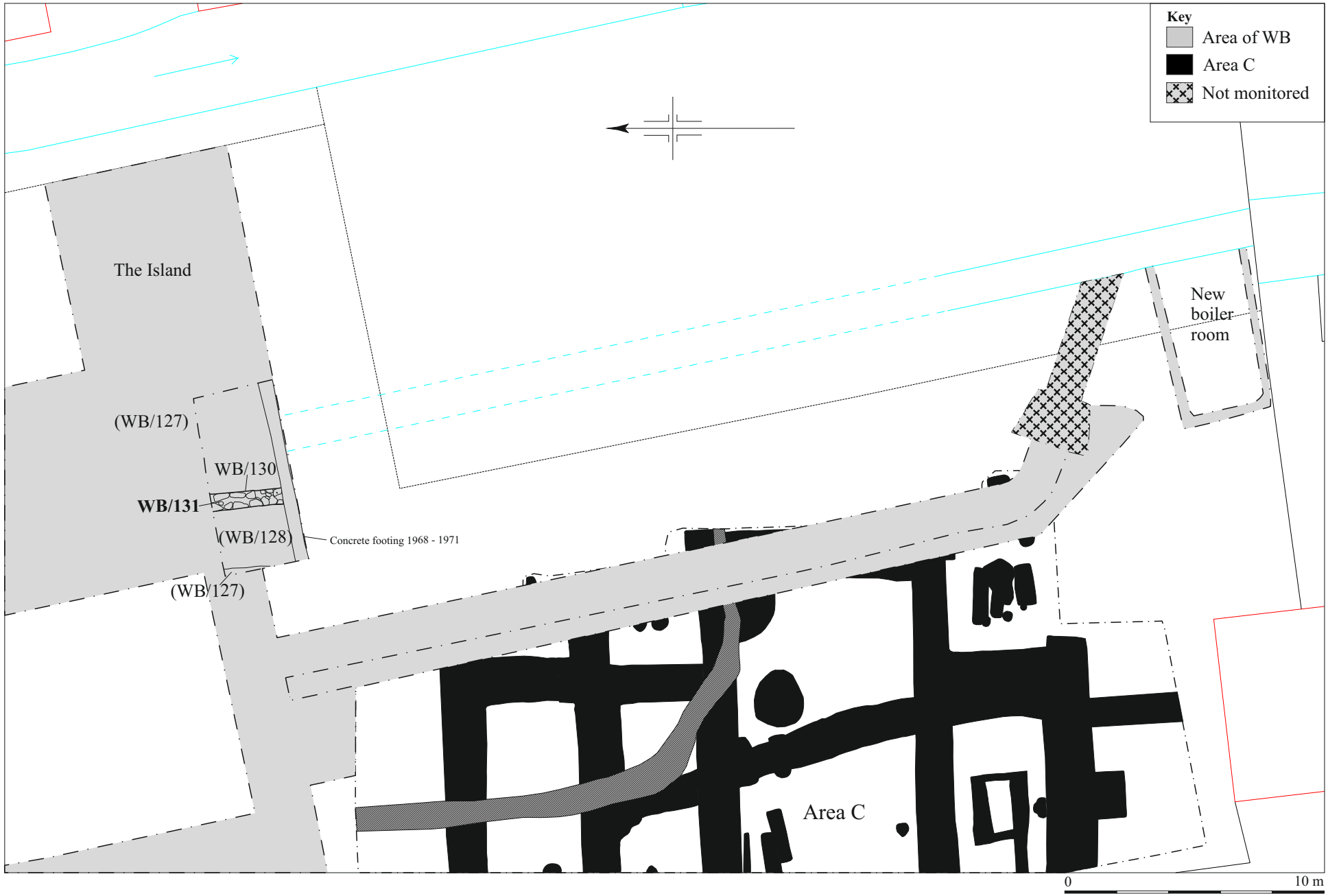


Figure 31: The Watching Brief Area

It was filled with mid grey brown silty clay (501) with one inhumation dated to the medieval period by six sherds of pottery (13th-15th century). The burial had one set of post-cranial remains and two skulls. The inhumation is male, 35-45 years of age, approximately 175.5cm in height.

Charnel pit 503 (Fig. 17a) was sub rectangular in shape (1.9m x 0.90m wide) with sharp vertical sides and a flattish base. It was filled by mid grey brown silty clay with the disarticulated remains of at least two individuals, two penannular brooches (504) SF10 & SF11 with a flint SF12 and two sherds of pottery (13th-15th century).

The charnel pits were cut through a series of made ground layers above the natural blue grey clay alluvium (508), considered to be clay derived from the excavation of the wall footings used to raise the ground to protect against flooding. The earliest layer was a thin deposit of dark grey blue clay silt with rare limestone fragments (507). This was overlain by 0.15m thick dark grey brown silty clay (506). Layer (506) was covered by two deposits (505) & 0.05m thick firm light yellow orange sandy mortar (510). Adjacent to (510) was 0.30m thick light blue grey clay silt with rare limestone fragments (511) with two sherds of medieval pottery (13th to 15th century). Overlying all the charnel pits were modern made ground deposit associated with Bryan House.

4.5.6 Period 3; Post-medieval; Dunkin's 1819 Trench (Figure 18)

A trench was investigated over the eastern end of the Priory church. This trench 478 was filled by mid grey sandy silt with post-medieval finds such as clay pipe stems (479) and post-medieval pottery. The trench was the remains of the original archaeological investigations by John Dunkin's team of workmen in 1819. Section 543 was across Dunkin's trench and was 0.21m deep filled by grey to dark brown silty clay with post-medieval finds (542).

4.6 The Watching Brief (Figures 1 & 31)

The Island (Fig.1)
During the removal of deep concrete footings from Bryan House a watching brief was conducted to record any visible archaeological remains. The earliest deposit recorded was the river clay (128) and natural Cornbrash with yellow clay (127), both overlain by *c*. 1m thick dark greyish black silty clay made ground (129) with modern finds throughout. Another modern made ground layer consisted of 1m thick dark greyish black silty clay with frequent gravels (126).

Cut into the natural river clay (128) was a linear wall **131** set within construction cut 130. It was 0.60m wide of undetermined length and depth. The wall was constructed of roughly hewn limestone blocks (<100-200mm) interpreted as the original stream retaining wall of probable medieval or early post-medieval date.

The New Boiler Room (Fig. 31)
A series of wall footing trenches were excavated for a new boiler room located at the southern end of the site (Fig. 1). The stratigraphic sequence was recorded was as follows. The earliest deposit was mid grey brown clay silt (563) but it was not possible to fully investigate due to the depth of the trenches. Overlying this was

0.20m thick layer of dark brownish black silty clay buried topsoil (562). This was covered by 0.60m thick modern made ground deposit (561) and modern grade 1 (560) and tarmac (559).

The Diverted Stream with new retaining wall
The new diverted stream crossed the chancel end of the church and impacted upon the layers and walls already discussed earlier in this report. Some areas not previously investigated due to safety, access points and time constraints were further examined during these works. As a result no further skeletons or other medieval remains were discovered.

5 THE FINDS AND ENVIRONMENTAL REMAINS

5.1 The Pottery *by Paul Blinkhorn*

Analytical Methodology

The pottery was initially bulk-sorted and recorded on a computer using DBase IV software. The material from each context was recorded by number and weight of sherds per fabric type, with featureless body sherds of the same fabric counted, weighed and recorded as one database entry. Feature sherds such as rims, bases and lugs were individually recorded, with individual codes used for the various types. Decorated sherds were similarly treated. In the case of the rimsherds, the form, diameter in mm and the percentage remaining of the original complete circumference was all recorded. This figure was summed for each fabric type to obtain the estimated vessel equivalent (EVE).

The terminology used is that defined by the Medieval Pottery Research Group's Guide to the Classification of Medieval Ceramic Forms (MPRG 1998) and to the minimum standards laid out in the Minimum Standards for the Processing, Recording, Analysis and Publication of post-roman Ceramics (MPRG 2001). All the statistical analyses were carried out using a DBase package written by the author, which interrogated the original or subsidiary databases, with some of the final calculations made with an electronic calculator. Any statistical analyses were carried out to the minimum standards suggested by Orton (1998-9, 135-7).

Fabric Occurrence

The pottery assemblage comprised 262 sherds with a total weight of 4484g. The estimated vessel equivalent (EVE), by summation of surviving rimsherd circumference was 0.66. It was recorded utilizing the coding system and chronology of the Oxfordshire County type-series (Mellor 1984; 1994), as follows:

F100: OXR: **St. Neots Ware** c AD850-1200. 9 sherds, 59g, EVE = 0.13.
F200: OXAC: **Cotswold-type ware**, AD975-1350. 7 sherds, 77g, EVE = 0.
F300: OXY: **Medieval Oxford ware**, AD1075 – 1350. 38 sherds, 547g, EVE = 0.16.
F330: OXBK: **Medieval Shelly Ware**, AD1100-1350. 19 sherds, 263g, EVE = 0.15.
F351: OXAW: **Early Brill/Boarstall ware**, L12th – 13th C. 1 sherd, 39g, EVE = 0.12.
F352: OXAM: **Brill/Boarstall ware**, AD1200 – 1600. 25 sherds, 274g, EVE = 0.10.
F355: OXBB: **Minety-type ware**. L12th – 16th century. 1 sherd, 17g, EVE = 0.
F404: OXCL: **Cistercian ware**, 1475-1700. 1 sherd, 3g, EVE = 0.

F405: OXST: **Rhenish Stoneware**, AD1480 – 1700. 1 sherd 44g, EVE = 0.
F408: OXAM: **Brill/Boarstall 'Tudor Green' wares**, 1475-1600. 4 sherds, 22g, EVE = 0.
F410: OXCE: **Tin-glazed Earthenware**, 1613 – 1800. 3 sherds, 36g.
F411: OXRESWL: **Polychrome Slipware**, 17thC. 13 sherds, 279g
F412: OXEAH: **Midland Blackware**, L 16th – 17th C. 2 sherds, 31g.
F420: OXAM: **Late Brill/Boarstall Ware**, 15th – 16th century. 21 sherds, 731g.
F425: OXDR: **Red Earthenwares**, 1550+. 48 sherds, 1261g.
F451: OXFH: **Border ware**, 1550 - 1700. 1 sherd, 4g.
F1000: WHEW: **Mass-produced white earthenwares**, 19th - 20th C. 61 sherds, 744g.

F1001: All Romano-British. 6 sherds, 47g.
In addition, the following, not included in the Oxfordshire type-series, was also noted:

F421: **Martincamp Ware**, L 15th – 17th century (Ickowitz 1993). 1 sherd, 6g.

The pottery occurrence by number and weight of sherds per context by fabric type is shown in Appendix 1. The range of fabric types is largely unremarkable and typical of sites in the area, with the exception of the single bodysherd of Martincamp Ware. Such pottery, which is French, is usually in the form of flasks which were originally encased in woven wicker 'cages'. It is fairly common at British ports during the late medieval and early post-medieval periods, but rare at inland sites, and this is the case in Oxfordshire. The few finds of such material in the county have been made mainly at high-status and ecclesiastical sites, such as Eynsham Abbey (Blinkhorn 2003). The presence of the sherd here reflects the fact that the site was a place of considerable wealth and status in the late medieval period.

Chronology and Pottery Occurrence

Each stratified, context-specific pottery assemblage has been given a ceramic phase ('CP') date based on the range of ware and vessel types present, and adjusted according to the stratigraphic matrix. The chronology, defining wares and the amount of pottery per phase is shown in Table 3. The data show that there was low-level activity in the late Saxon and Saxo-Norman periods (CP1 – CP2), then an increase in the 12th century. There then seems to have been a fairly steady rate of pottery deposition throughout the medieval and post-medieval periods, although the largest group of pottery dates to the second half of the 16th century (CP8).

Table 4 shows the pottery occurrence by ceramic phase, by major fabric type. The pattern is more or less as would be expected from a site in the region. Residuality is high in some of the Ceramic Phases, particularly CP7 (52.4%). The data for CP9 and

Table 3: Ceramic Phase Chronology, Occurrence and Defining Wares

Phase	Defining wares	Date	No Sherds	Wt. Sherds	EVE
CP1	OXR	10thC – M 11th C	6	20	0
CP2	OXAC	M-L 11th C	3	22	0
CP3	OXY	L11th -12th C	18	306	0.16
CP4	OXBK	12th – L 12th C	6	67	0
CP5	OXAW	L12th -13th C	9	199	0.12
CP6	OXAM	13th -15th C	30	283	0.07
CP7	Late OXAM, OXCL	L15th – M16thC	24	305	0.25
CP8	OXDR, OXFH	M16th – 17thC	56	1454	0
CP9	OXCE, OXREWSL	17th – 18th C	28	638	0.06
MOD	WHEW	19th C +	80	1180	0
		Total*	260	4474	0.66

* two sherds of Romano-British pottery (10g) occurred in contexts without any later material

MOD indicates that there was disturbance of Late Saxon, Saxo-Norman and early medieval deposits during that period.

Table 4: Pottery occurrence per ceramic phase, by major fabric type, expressed as a percentage of the phase assemblage

Phase	CP1	CP2	CP3	CP4	CP5	CP6	CP7	CP8	CP9	MOD
RB	0	0	2.6	0	0	0	1.6	0	0	2.0
OXR	100%	0	0	0	0	10.2	0	0	0.8	0.4
OXAC	-	100	0	0	0	0	0	0	8.6	0
OXY	-	-	97.4	13.4	71.9	23.0	0	1.5	0.3	0.7
OXBK	-	-	-	86.6	0	11.3	50.8	1.2	0	0
OXAW	-	-	-	-	19.6	0	0	0	0	0
OXAM	-	-	-	-	-	55.5	23.3	2.3	0	1.1
Late OXAM	-	-	-	-	-	-	20.7	44.0	0.6	2.0
OXDR	-	-	-	-	-	-	-	46.1	47.5	24.4
OXEAH	-	-	-	-	-	-	-	1.4	1.6	0
OXCE	-	-	-	-	-	-	-	-	5.6	0
OXREWSL	-	-	-	-	-	-	-	-	34.0	5.3
WHEW	-	-	-	-	-	-	-	-	-	63.1
Total	20	22	306	67	199	283	305	1454	638	1180

The Assemblages

Ceramic Phase 1, 10th – mid 11th century. 6 sherds, 20g, EVE = 0

The entire assemblage from this phase comprised plain bodysherds in St. Neots Ware. Their presence, coupled with three further sherds which were redeposited in later contexts, shows that it is very likely that at least part of this site was an extension of the settlement of the period which was excavated on the east side of Chapel Street (Mepham 2003).

Ceramic Phase 2, mid-late 11th century. 3 sherds, 22g, EVE = 0

All the pottery from this phase comprised undecorated bodysherds of OXAC

Ceramic Phase 3, late 11th – early 12th century. 18 sherds, 306g, EVE = 0.06

The entire assemblage from this phase comprised Oxford Ware (fabric OXY), apart from a single small sherd of Romano-British material. The medieval material consisted of undecorated bodysherds, apart from a rimsherd from a jug.

Ceramic Phase 4, early – late 12th century. 6 sherds, 67g, EVE = 0

The pottery from this phase was all undecorated bodysherds, and all in fabric OXBK, apart from a single sherd of OXY.

Ceramic Phase 5, late 12th – early 13th century. 9 sherds, 199g, EVE = 0.12

This ceramic phase broadly corresponds with the foundation of the priory, and all the pottery of this date comes from a single context, (302). It combines a mixture of OXY, OXAW and the only sherd of OXBB from the site. Four of the OXY sherds are from a glazed jug with rouletted decoration, and the OXAW sherd is a rim from a jar. It is an assemblage which is entirely typical of the period in the region.

Ceramic Phase 6, early 13th – late 15th century. 30 sherds, 283g, EVE = 0.07

This assemblage is rather small given that it represents around 150 years of activity at the site. It is dominated by OXAM, mainly in the form of glazed jugs, which is typical of sites in the region, along with smaller quantities of OXY and OXBK, at least some of which is likely to be residual. A redeposited St Neots Ware bowl rimsherd with an inturned profile, a typical late Saxon vessel form, was also noted, suggesting that there was some disturbance of earlier strata during the 14th-century rebuilding of the priory. The bowl rim aside, the rest of the assemblage comprised bodysherds from jugs and jars.

Ceramic Phase 7, late 15th – mid 16th century. 24 sherds, 305g, EVE = 0.25

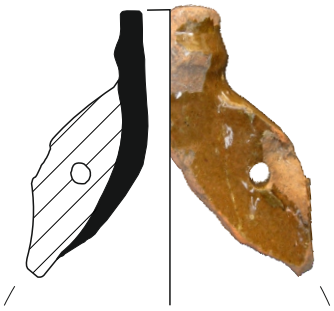
The assemblage from this phase is dominated by a small assemblage of large but residual sherds of OXBK, including two handles from jugs, a typical- 12th – 13th century product of the tradition, which shows that there was further disturbance of earlier strata at this time, possibly as a result of the Dissolution. A further residual sherd, of Romano-British pottery was also noted. The contemporary pottery included the rim of an OXAM drinking jug and sherds from Brill 'Tudor Green' and Cistercian Ware cups.

Ceramic Phase 8, mid 16th – early 17th century. 56 sherds, 1454g

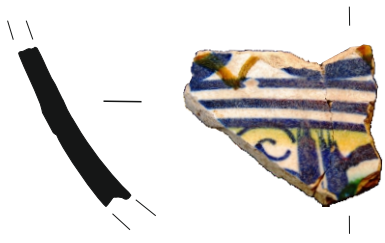
This is the largest ceramic phase assemblage from the site, and indicates that there was a lot of activity at the site in the immediate post-Dissolution period, presumably as the priory was being dismantled. The assemblage was dominated by late OXAM and OXDR, the typical utilitarian wares of the period. The Martincamp flask fragment, which is likely to be residual, occurred during this period, but the assemblage, slightly surprisingly, appears largely domestic, with the vessels including a fragment of a chafing dish, which was used to keep food hot at the table, and a so-called 'chicken-feeder', although the latter, despite its name, was actually a drinking-water container for domestic fowl (Fig. 32 BIC1). It is possible that the chafing-dish is residual, as it is a little abraded, and such a vessel was also noted at the Dominican Priory in Oxford (Mellor 1994, Fig. 54 no. 12). The chicken feeder is in fabric OXDR, and is definitely contemporary. Its presence indicates that the site (Area A) could have been used for domestic occupation within 50 years of the Dissolution. A sherd from a neck of a late OXAM costrel (Fig. 32 BIC2), a very unusual vessel in such fabric, was also noted. As with the chafing-dish, this could be residual or contemporary. The illustrated finds were all from Area A and lend weight to a suggestion that this side of Chapel was inhabited soon after the dissolution of the Priory.

Illustrations

BIC 1



BIC 2



BIC 3

Figure 32: Pottery illustrations BIC 1- 3

Figure 32 BIC1: Context (169), fabric OXDR. Largely complete 'chicken feeder'. Brick red fabric with dull orange glaze on the upper surface.

Figure 32 BIC2: Context (169), fabric late OXAM. Lug and rim from a costrel. Pale orange fabric with darker surfaces, glossy apple-green glaze on outer surface and inside of neck.

Ceramic Phase 9, 17th- 18th century. 28 sherds, 638g

All the pottery from this phase is 17th century or residual, indicating that the site was abandoned during the 18th century, or used in such a way that pottery was not deposited. The commonest ware type is OXDR (47.5%), as would be expected, but Slipware bowls are also well-represented (34.0%), which is a little unusual on sites in the region, and suggests that the site may have had inhabitants of greater than normal wealth at the time, although the assemblage largely comprises fragments of just two vessels. This suggestion is supported by the presence of a sherd of Border Ware (OXFH), which represents one of the most northerly known finds of this pottery type, and there is further evidence in the form of a sherd of very high-quality polychrome tin-glazed earthenware (Figure 32 BIC3).

Illustrations
Figure 32 BIC3: Context 1/4, fabric OXCE. Bodysherd from a dish or Figure. Pale buff fabric with pale green lead glaze on the outer surface, tin-glaze on the inner with blue, ochre, yellow and green painted decoration.

Ceramic Phase MOD, 19th century +. 80 sherds, 1180g

The bulk of this phase assemblage largely comprises mass-produced white earthenwares (fabric WHEW) and Red Earthenwares (fabric OXDR), although earlier, residual material is present in the form of OXREWSL, OXAM, OXR, OXY and Romano-British material, indicating that there was some disturbance of much earlier strata at this time. The contemporary material is unremarkable.

5.2 Ceramic Building Materials *by Gwilym Williams*

Introduction

The ceramic building material assemblages comprised brick, roof-tile and floor-tile recovered from Areas A and C across the site. No ceramic building materials were recovered from the occupation sequence in Area B.

The composition of the assemblages is illustrated in Table 5. The brick and the majority of the roof-tile is certainly post-medieval and associated with the buildings fronting Chapel Street, which were built in the early part of the 17th century, when the area appears to have been laid out *de novo*. The difference in materials between the small assemblage of medieval tile and the slightly larger assemblage of post-medieval tile might well reflect this, but there was too little material recovered from those excavations to attempt any form of a fuller analysis. The small quantity of roof-tile recovered from the church of St Edburg is not sufficiently significant to pursue any work beyond a simple enumeration of the data.

By contrast all the floor-tile – bar a small amount of modern technical tile, which is assumed to have entered the contexts during machining – recovered during the excavation is medieval in origin, although much was from early post-medieval contexts, deriving from the demolition phases of the church of the Priory of St Edburg. The majority of these contexts were layers associated with the demolition of the former priory post-date – and by only a short period – the Dissolution. A small number of tiles also come from grave fills, which predate the Dissolution.

Table 5. Ceramic Building Materials

Material	Fragments	Weight (g)
Brick	7	1338g
Roof-tile	68	4090
Floor-tile	1275	155 010g

The tile was washed and marked prior to weighing and counting as a minimum. Examination of the fabrics, and eventually designs, followed as appropriate, with further assessment or analysis carried out. Concluding comments and recommendations are made at the end of each material type section.

There was little brick and most of the roof tiles were small fragments. Much of the floor-tile was in a poor condition: many pieces were broken in fragments representing between 10% and 25% of the original tile and a lot of the later 'Penn style' tile was heavily worn obscuring and, indeed occasionally, obliterating the design. The broken examples had evidence of breaking prior to having been laid as well as after having been lifted in association with the demolition of the priory. A small number of examples had evidence of mortar on the upper face. In a few cases the design on the upper face was fresh and well defined; this was, however, rare.

Brick

There were seven fragments of brick from Area A. These fragments comprised a broken half-bat (103) and four much smaller fragments from two further contexts (Table 6). The half brick is hand-made in a pinkish marly fabric with no mortar traces, although the extant header has traces of paint. These undoubtedly derive from the former building which existed within area A. The brick fabric is not dissimilar to the marly fabric A used for the tiles, although without petrographical analysis this cannot be asserted unequivocally. If this were so, however, this probably indicates a local production.

Table 6. Brick

Context	Frags	Wt (g)
103	1	946
106	2	97
111	2	147
160	2	148
Total	**7**	**1338**

The assemblage does not warrant retention due to the limited potential for further study.

Roof-tile

A total of 68 fragments, weighing 4090g, of roof-tile were recovered from Areas A and C during the excavation (Table 7). There were 54 fragments, weighing 3335g, from Area A and 14 fragments, weighing 755g, from Area C.

Table 7. Roof-tile

Area	Context	Frags	Wt (g)	Type×frags ×wt (g)	Sub-total frags	Subtotal wt (g)
A	101	2	78	A × 2		
	103	1	34	A × 1		
	106	2	60	A × 2		
	108	23	1050	A × 16 (560) B × 7 (490)		
	111	2	334	A × 1 (127) C × 1 (203)		
	135	3	669	A × 3		
	147	3	25	A × 3		
	149	1	24	A × 1		
	156	1	34	B × 1		
	160	8	201	A × 8		
	162	4	568	A× 3 (424); B × 1 (154)		
	171	1	36	A × 1		
	178	3	222	A × 3	**53**	**3335**
C	259	7	200	B1 × 2 (90) D × 5 (110)		
	260	1	137	D × 1		
	267	2	87	B1 × 1 (31); D ×1 (56)		
	331	1	86	B1 × 1		
	370	2	228	B1 × 2		
	442	1	17	D × 1	**14**	**755**
Total		**68**	**4090**			

The tile was dominated by fabric A, a creamy yellow marly clay, with pink oxidisation on the surface, although, occasionally some tile fragments evidenced a reduced core. The marl was not evident in such examples, although the fabric was very clearly laminated. The fabric had frequent, small particles of haematite through it. This fabric yielded a few examples of under-fired tiles, which were of an overall yellow colour. Several of the tiles in this fabric were partially reconstructable, although many of the fragments were spalled, indicating that it was not a very robust fabric.

Other tiles were of a deeper red colour with a more sandy clay, fabric B. These tile fragments were harder and were generally evenly fired, so that none had a reduced core. The fabric B1 is similar, although of a lighter more orange colour, with the exception of the single example of such tiles with a reduced core from (331). As the

difference was noticeable across the chronological divide, this may well represent a tradition which changed only very modestly over time, or equally, may well be only indicative of small changes in the tempering of tiles between different firings all the while using the same clay. In the absence of petrographical analysis, which is not appropriate to this very small assemblage, it is not possible to comment further.

There was only a single example of fabric C which was a deep red, hard clay with some sand through it. The upper face of the roof-tile had blistered green glaze, little of which was in good condition.

Fabric D was a pale beige fabric, similar to fabric A, although better mixed; there were no lumps of marl through the fabric, nor was there any lamination present. Only a few fragments were present, and indeed several of the fragments from demolition (259) conjoined.

Conclusion

The quantities of tile recovered during the excavation were extremely limited, with the vast majority coming from Area A, which dated from the 17th century onwards. The roof-tile recovered was, in addition to being a small assemblage, for the most part extremely fragmentary. Only three fragments from (162) were sufficiently well preserved to enable the width of a tile to be measured (164mm); for the rest, the tile was of little diagnostic value. It was noted above that fabric A may well have been used for brick production, but at present this is only conjecture based on visual examination of the fabrics. This may well represent local post-medieval production in the close vicinity.

In respect of the tile from Area C, it is not easy to make comparison with the results of the previous work (Hinton 1969, 41), as the roof tile and ridge tile (of which none was recovered during the most recent work) are only discussed obliquely there. There is no quantification of the data. Nevertheless, this perhaps can be taken to indicate that comparatively little was recovered. The place of manufacture cannot at present be determined, although Brill, which is close to Bicester, was producing brick, and presumably tile, during the late medieval period (Pantin 1942, 90; see also Williams forthcoming); however, there are records in the priory accounts in 1327 'To the tyler of Cherlton [Charlton-on-Otmoor?], 20s' (Blomfield 1884, 154), which was a fantastically large sum at a time when a millstone was costed at 13s 4d (*ibid*. 154), as well as one hundred years later in 1433-34 for '1000 large tiles bought at Cherlton, 6s. 8d. To William Horshale with his son, hired for 24 days to tile and amend the defects of the house, 9s' (Blomfield 1884, 174), offering an intriguing alternative provenance for the roof-tile. There are further records in 1452 for the 'purchase of tiles at Cherlton'(Blomfield 1884, 186) and in 1453 'To John Abre, tiling upon the sacrist[y] house, 8 days 2s 8d … Tiles 4s; carriage of same, 2d … To John, tiler of the houses, 7 days 2s 1d. to the same tiling upon the Chapter-house 4 days, 16d' for the presumed use of these local sourced roof-tiles.

The whole assemblage does not warrant retention due to the limited potential for further study. A representative fabric collection would be worth maintaining with a view to comparing this material with other sites in the vicinity.

Floor tile

The assemblage comprised 1270 tiles, weighing 154,585g (Table 8), of which 320, weighing 52 458g, were clearly decorated. The remaining 955 fragments, weighing 102 552g, comprised a mixture of plain tiles – 102 fragments, weighing 13 496g – and smaller broken fragments of indeterminate character, including 9 fragments of modern tile, weighing 933g. As these fragments are always associated with larger assemblages of medieval tile, it has been considered that these are intrusive or have fallen into the site from beyond the edges of excavation during the adjacent demolition works which were on-going during the excavation.

Table 8. Table of contexts with tile by quantity and weight.

Context	Frags	Weight (g)		Context	Frags	Weight (g)
55	281	9364		368	5	325
259	163	13150		370	38	4160
260	82	5824		376	18	2614
267	1	56		381	3	471
272	5	478		382	163	32819
273	3	912		386	8	1264
276	2	95		388	4	477
280	1	638		395	16	1527
283	1	109		396	3	1347
284	6	849		404	108	26369
287	106	6246		418	19	3189
291	43	2369		422	2	117
297	4	415		424	4	145
313	50	8222		427	5	601
314	14	2451		429	15	2521
315	12	160		430	8	754
321	3	794		433	10	936
325	2	162		437	2	143
329	3	419		442	13	589
339	21	1742		451	37	7505
347	14	1748		452	1	84
358	6	2040		461	10	1980
365	7	635		477	4	177
366	9	719				
				Total	**1270**	**154,585**

The groups of decorated tile can be split between earlier 'Stabbed Wessex' style tiles and later 'Penn style' tiles, with a small group of rectangular border tiles, Hinton P (Hinton 1968), which appear to be similar fabric to the 'Penn style' but do not appear to be known elsewhere in Oxfordshire apart from Bicester. There do not appear to be any early tiles with 'scooped' undersides which Elizabeth Eames (1980, 187) dated to the middle of the 13th century. The 'Penn style' tiles do not appear to comprise any that Eames identified as being in the earliest phase of production, that is after 1332, which consisted of tiles with Hohler's identifications P1-P36 and P40-P41, although the historic evidence introduces some ambiguities (see below). By and large, the 'Penn style' tiles are single tiles, which can be laid next to similar tiles permitting the formation of areas of similar tiling, in contrast with a number of the 'Stabbed Wessex' which are one of a group of four, or more, tiles forming a larger pattern (Fig. 33). Nevertheless, tiles such as Hohler 123 or Hinton N are clearly one of four or more tiles also forming a larger pattern (Fig 34).

During the recording of the tile, many of the designs were unclear due to wear, and as a consequence were assigned a temporary alphanumeric identification, until sufficient could be examined together to establish the design. This alphanumeric has been used to identify them in the archive, and is referred to below where it has not been possible to assign a design to the known typologies.

Background to floor tiles at Bicester

Floor tile was produced in England at a very small-scale during the Late Saxon period, and was not produced in any great quantity again until the middle of the 13th century**,** at which point the production of floor tile began to be undertaken on an industrialised and, indeed, commercially organised basis (Stopford 1992). Although the precise origins of the tile industry are still somewhat opaque, it is apparent that the earliest production of floor tiles on a commercial basis is closely linked to either Church or Crown, depending on the context. Excavations at Clarendon Palace in the 1930s (Borenius and Charlton 1936) and subsequently after the war in 1957 and during the 1960s (James and Robinson 1988, 50-55) revealed that the kilns excavated were producing for the palace initially, under royal patronage, but that a 'surplus' was being sold to other parties within a short period of time after the founding of the kilns (Eames 1988, 159).

Medieval floor tiles in the Oxfordshire region are characterised in the main by two stylistic groups: the earlier is 'stabbed Wessex' and the latter is 'Penn-style', formerly referred to as 'painted' or 'printed'. For the purposes of this report 'Penn style' is preferred. Medieval inlaid tiles were made by impressing a pattern block into the red clay of the tile proper, and then introducing a contrasting colour of white clay into the impressed clay (Eames 1985, 36). The techniques and technology of this are still a subject of research and discussion.

The 'stabbed Wessex' group of tiles, which dates from between the middle and the end of the 13th century, was characterised by deeply inlaid white clay and stabbing on the reverse of the tile. The stabbing was carried out in part for the mortar to better adhere to the tile surface, but would also have assisted greatly in the drying out of the clay prior to firing, minimising the possibility of trapped water, which in the kiln would heat and risk damaging the tiles.

The economic process outlined above would explain the wide spread of 'Stabbed Wessex' style tiles in Oxfordshire, if it were applied to an institution, such as Abingdon Abbey, with holdings on land suitable for producing tiles. There are, however, no mentions of kilns or tile production, in the abbey cartulary (Mellor 1994, 78), although as Maureen Mellor points out *(ibid),* wasters have been found at Bagley Wood. It is clear that it required a corporate entity with a view to the long term to invest in 'infra-structure' projects such as kilns. A similar process probably occurred at Brill (Williams *forthcoming*). Similarly, 'claygavel', or the rent payment for land for digging clay, provided an on-going return on the long-term investment after the initial need for tile, or indeed pottery, lessened. Equally, social and economic ties could be forged and strengthened through the provision of such produce to further clients.

The supply of Penn tile to Windsor by the de la Penne family provides such an illustration of how this process might have functioned. John de la Penne, the King's Clerk in 1359, furnished the Crown with goods from his manor, for which he was paid by both Crown and tilers. This was a lucrative and worthwhile project: in the Subsidy Rolls for 1332 John de la Penne, possibly father to the above, is the only man in Penn richer than Simon the paver (Green 2005, 118), and the tile-industry would appear to be reasonably mature at this point as the combined wealth of Simon, John the tiler and Henry Tyler (who also feature in the Subsidy Rolls) almost equal John de la Penne and his mother's incomes *(ibid).*

John de la Penne is mentioned in the Bicester Priory accounts in 1327, when the Vicar of Caversfield, a detached parish in Buckinghamshire, which was held by Missenden Abbey appears to owe John de la Penne for goods, presumably tiles. Nevertheless, the presence of 'Penn style' tile within the chantry chapel, which dates from after 1323, compounded by the reference to John de la Penne, is suggestive of a an active industry potentially seeking out further markets. The extensive presence of Penn tiles at various priories and institutions in Oxfordshire and Buckinghamshire, with evidence for distribution as far east as London, as well as in north Berkshire and Middlesex, indicates that 'Penn style' tiles were extremely popular, with a distribution network along the Thames corridor.

'Penn style' tiles appear to have been popular with royal clerks, in part perhaps because they themselves were sometime tile producers, and in part because the tile-manufactories appear to have been very good organisers of a reasonably good quality product (Eames 1980, 225), with a wide range of standardised designs. Furthermore, unlike the earlier 'Stabbed Wessex' tiles, which tended to be tiles forming a multiple tile design of four or more single tiles that together made a greater pattern than the individual tile, the 'Penn style' tiles are frequently 'stand-alone' tiles, which could be laid more swiftly by less skilled labour, although repeating four-tile patterns are nevertheless also quite frequent. It appears that the tile industry at Penn wound down after the 1380s, although pottery and roof-tile continued to be produced there (i.e. Zeepvat 2009).

The rescue monitoring, particularly, and trial excavations carried out by David Watts and David Hinton in the 1960s (Hinton, 1968 & 1969) yielded a large corpus of medieval floor tile of both 'Stabbed Wessex' and 'Penn style' traditions. Many designs have been recognised, but as they were not published in 1968, it is felt that it is worth publishing some of these designs which are less commonly seen round Oxford and the county.

All tile recovered from the recent excavation at Bicester Priory was recovered from either demolition or secondary contexts. There was no assemblage from a primary context, even where there existed the imprint of tiles in the bedding mortar. As a consequence it is not easy to assign any patterning or layout of the tiles, although it is clear, for example, that there exists strong evidence for the chantry chapel having been laid with a significant number of Hohler P66. Nevertheless, it is equally apparent that the demolition of the priory during the Dissolution was so effective that there is now only a limited quantity of the tiles which formerly existed. It is also clear, looking at the contexts from which a number of these tiles were recovered, that

lifting of and removal off site of the tiled floors must have gone hand in hand with the razing of the walls, as a number of tiles were recovered from wall contexts.

'Stabbed Wessex' tile group

There were 221 'stabbed Wessex' tiles, weighing 28 488g, recovered during the excavation. Of this total 132 fragments, weighing 19 420g, were decorated; 15 pieces, weighing 2 188, were plain; and two fragments, weighing 244g, were worn to the clay, and therefore most likely to have been plain. The rest of the pieces were too small or too damaged to identify the pattern which was on them (Table 9).

Table 9. 'Stabbed Wessex' tile designs by context, fragment count and weight

Decoration Type	Bicester type	Cxt No.	Frags	Wt (g)	Dec Description
**		404	1	158	floriate design
		287	1	169	
Eames 2191 (Parker-Hore O111)	A20	259	1	346	fleur-de-lis-style motif
Eames 2371		259	1	37	central quatrefoil with triangles and central dot in corners
		272	4	333	
		287	2	215	
		388	1	104	
		U/S	2	136	
Eames 2456 (Parker-Hore B537)	A8	259	1	120	quatrefoil in corner with two fine lines four piece
			5	411	
		376	1	113	
		382	1	198	
Eames 2591 (variant) Parker-Hore A505	A7	381	1	153	floriate design
		404	2	425	
Eames 2777 (variant?)	A23	55	1	186	arced bands with dot
		313	2	149	
		325	1	131	
		451	2	95	
		U/S	1	137	
Hinton A	A15	259	1	207	curving floriate design
		291	1	91	
		370	3	772	
Hinton F	A35	259	4	777	geometric motif
Hinton N	A18	451	1	448	
Hohler W17	A26	55	1	94	
		259	1	37	
		287	1	100	
		291	1	120	
		347	2	311	
		370	1	67	
		386	2	274	
		442	1	45	
Hohler W29	A25	314	1	126	corner fragment with anchor?
		404	1	146	
Hohler W36		370	1	85	Tridentine design with quarter circle and quatrefoil
		429	1	405	
LH XXIV/XXV; Hohler W39	A24	259	8	423	corner ring with radiating semi-circles, and arc with dots
		260	2	305	
		287	3	220	
		291	1	207	
		347	1	65	

Decoration Type	Bicester type	Cxt No.	Frags	Wt (g)	Dec Description
		U/S	1	192	
LH I; Hohler W13	A33	370	1	541	central ring with cruciform trefoils and poly-lobed floral design in corners
		382	1	48	
LH LIII	A11	259	2	222	
LH LIV	A13	55	1	156	fleur-de-lis x4 in corners, central square with small squares x4 within
		259	1	65	
		347	1	168	
		358	2	884	
LH LXI; Hohler W7	A9	55	1	85	double-headed eagle with open wings cross in corner
		259	4	756	
		287	2	319	
		339	4	548	
		358	2	337	
		368	1	46	
		370	1	170	
		404	1	45	
		427	1	195	conjoins with 2 fragments 430
		429	2	22	
		430	2	177	conjoin with 427 fragment
		433	1	342	
LH XI/XII Variant	A22	287	2	394	arc with edging; not very distinct large flower pattern geometric motif
		347	1	62	
		386	4	846	
		U/S	1	143	
LH XXV; Hohler W38-39	A10	55	1	197	geometric motif
		259	2	193	
		287	1	290	
LH XXVI	A31	259	1	47	design unclear
		260	1	37	
		339	2	266	
		U/S	1	254	
Eames 1791 (variant)	A27	358	2	819	rampant lion with tail curled over back, front paws raised, within a circle with trefoils or fleur-de-lis in the corners of the tile
	A16	55	1	206	fleur-de-lis in corners, with central fleur-de-lis motif
		259	1	74	
		287	1	152	
	A10	287	1	129	unknown
		382	1	180	
	A3	451	1	294	
	A29	259	1	153	floral motif in corner
		368	1	185	
Total			**132**	**194 20**	

The ‘Stabbed Wessex’ assemblage was the earliest tile assemblage on the site, and dates from between the core period AD 1280-1330, with the possibility of production having been carried out up to 10 years either side of this (Eames 1980, 205-6). Illustrations of the ‘Stabbed Wessex’ tiles were included along with the later ‘Penn style’ – or ‘Printed’ – tiles in Loyd Haberley’s seminal catalogue *Mediaeval English Pavingtiles* (1937). The earlier, ‘Stabbed Wessex’ tradition, which was first identified as such by Christopher Hohler (1942), is characterised by tiles, measuring *c*. 135-150mm × 135-150mm, with a number of stab marks in the underside of the tile, which

are often assumed to be for mortar to adhere to; it is possible that these might also be to enable effective drying out of the tile prior to firing. Later 'Penn style' tiles do not have stabbing, and earlier tiles were produced with a marked 'scoop' on the underside.

The 'Stabbed Wessex' group dominates the early tile assemblages in Oxfordshire and Buckinghamshire, with a distribution extending from Gloucestershire to Leicestershire. The tiles ranged in thickness from 17mm to 25mm, although for the most part were between 20mm and 23mm; the thicknesses observed at the lower end were due to wear. The 'Stabbed Wessex' style tiles are made of a notoriously soft fabric, with the inlaid white decoration frequently subsisting in relief while the glaze and fabric of the body of the tile has been worn away. There was only a single tile 25mm thick. The tiles were broken; for the most part only fragments, only a single example was complete, which was itself in two pieces. The 'Stabbed Wessex' designs present at Bicester Priory are sharp, showing a tendency for floral designs, particularly fleur-de-lis patterns, and poly-lobed flowers, as well as at least three depictions of animals: a double-headed eagle (LH LXI; Hohler 7), a hunting scene with two stags facing one another (Eames 1980; dec type 1931) and a rampant lion (Eames 1980; dec type: 1791; variant). Many of the other designs are also geometric and one of four or more which when set together create a larger and more complex design.

There are no known kilns in the immediate vicinity of Bicester, and those which have been found in Oxford are usually assumed to have been fired to the south of Oxford. This is usually assumed to be somewhere between Newbury and Reading (i.e. Cotton 2006, 296). Ashampstead which produced pottery between the 11th and 15th centuries is a possible production place, as there is a frequent correlation between tile and pottery production, although Bagley Wood, to the southwest of Oxford has also been proposed as a production centre (Mellor 1994, 79). Both Ashampstead and Bagley Wood were holdings of Abingdon Abbey (Field 1923, 449), which would have the need and the means to finance tile production.

'Penn style' tile group

There were 119 tiles weighing 30,093g which can be identified as in the Penn tradition. The smaller number of tiles weighing as much as the 'Stabbed Wessex' group indicates the relative robustness of the smaller denser tiles. Of these tiles 79, weighing 16,212g, were recognisably decorated with one of 18 designs (Table 10).

Table 10. 'Penn style' tiles from within the priory church.

Decoration Type	Bicester temp type	Cxt	Frags	Wt (g)	Description
	A3	260	2	263	octofoil at corners of concave quadrilateral with intertwined trefoil motif surround
		273	1	232	
		382	7	1788	
		404	2	612	
	A5	382	3	622	diamond with internal trefoils and external polylobes in corners
		404	1	303	
		442	1	31	
	A12	382	1	400	design unclear

Decoration Type	Bicester temp type	Cxt	Frags	Wt (g)	Description
Hinton L; variant LH XCIV; Hohler LB15		451	1	360	1 of 4 piece design; oak leaves from quarter circle; circle in corner with face?
Hinton N	A18	313	2	1140	cross in two opposing corners; semi-circle surrounding cross with foliates
		451	1	448	
		461	1	507	
Hinton O (variant)		376	2	212	Two semi-circles with serrated semi-circles in corners; central unidentifiable motif
Hinton P	A2	382	5	1232	oak-leaf and trumpet flower motif
		404	2	121	
Hinton Q	A6	382	2	429	arc with quatrefoil flowers
Eames 2191 (Parker-Hore O111)	A20	418	1	280	fleur-de-lis-style motif
		U/S	1	281	
Eames 2411 Variant		260	1	154	quatrefoils in corner, dots and arcs
		382	1	136	
Hohler P123		404	1	455	1 of 4 piece design; oak leaves and face of a mythical beast oppose 2 fleur-de-lis
Hohler P66	A14	260	1	298	central circular design with trefoils and plant decoration in corner
		272	1	145	
		273	1	87	
		313	4	1488	
		324	1	484	
		396	1	92	
		396	1	578	
		442	1	70	
		U/S	1	512	
Hohler P70	A34	329	1	154	edged with possible fleur-de-lis in corners radiating from central circle
		382	1	250	
Hohler P92	A21	382	4	914	centred floriate design, with radiating petals, terminating in arches with a dot; all within a circle with spoked wheels at the corners
	A21	404	3	1333	
	A21				
		418	1	328	
LH CCVIII; Hohler P147	A17	5/5	1	137	arc with dots and floriate pattern
		259	1	116	
		260	4	478	
		313	1	176	
		376	1	403	
		404	1	332	
LH CLXII; Hohler P69	A4a	287	1	195	
LH CVIII Variant	A30	259	2	270	1 of 4; central fleur-de-lys with quarter circles in corners, serrated arcs and poly-lobed flowers?
		382	1	213	
		404	2	546	
		442	1	102	
LH CXXIV; Hohler P107	A1	382	2	452	half of tile missing; 4? cinquefoils in rondels with dot-design in corners linked by a cross?
		429	1	62	
LH CXXX; Hohler P71	A4	259	1	240	fleur-de-lys in corners, with trefoils between; concave square
		382	1	194	

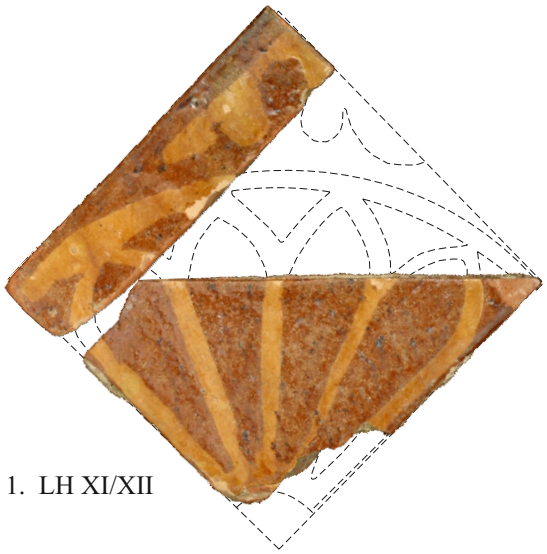
Decoration Type	Bicester temp type	Cxt	Frags	Wt (g)	Description
LH I; Hohler W13	A33	427	1	187	cinquefoil in corner trefoils and tracery
LH LIII	A11	55	1	466	octofoil in centre, with concave square and half-octofoils on sides; scored for triangular piece
Total			**79**	**187 54**	

The Penn floor-tile industry dates from at least the beginning of the second quarter of the 14th century (Eames 1980, 221, 223), although the earliest recorded production is in 1222 (Green 2005, 118) when Nicholas the tiler is evidenced holding property of the lord of Seagrave manor, Stephen de Segrave. During the 14th century Penn manor, a subinfeudated manor at Penn, was held by the de la Penne family, which since the end of the 13th century had held position at court. Hugh de la Penne was Treasurer to Queen Eleanor (Green 2005, 129), while John de la Penne, and his son also John were Commisioners of Array and for taxes, respectively. In 1359 John de la Penne – although whether father or son is not clear – was King's Clerk (Green 2005, 129), responsible for procurement of goods and materials for the Crown.

Other local men include John de Alkeshull, a foreman under John de la Penne's successor Robert of Burnham, and Richard Gregory, who both lived in Beaconsfield, also seem to be deeply involved in the Penn tile industry. Beaconsfield is the production place for M40 ware. Part of the 'Penn style' assemblage can be associated with the flooring of the chantry chapel, which is associated with Walter de Foderingeye, who gave £40 to Bicester Priory in or around 1323. The tiles from here are dominated by Hohler's P66 style tile. In the priory accounts for 1327 John de la Penne is mentioned in connection with Bicester Priory and the vicar at Caversfield '17s from the Vicar of Caversfield of the arrears of the goods of John de la Penne' (Blomfield 1884, 154), which seems to indicate that there was a debt for goods, which may well have been floor-tiles, outstanding between the vicar of Caversfield, held by Missenden Abbey, and John de la Penne, in which Bicester Priory received 17 shillings of the owed sum. In contrast to the 'Stabbed Wessex' tiles, the range of 'Penn style' tiles is more restricted and the majority of the tiles are geometrically arranged floral designs, with a use of, as with the 'Stabbed Wessex' tiles, fleur-de-lys motifs. However, the defining floral design of the 'Penn style' is frequent trefoils and quatrefoils frequently coming out of other more geometric forms, such as circles, squares and triangular borders. A single example of a mythical beast (Hohler P123) was also recovered.

Conclusion

Although similar weights of tile were recovered from both 'Stabbed Wessex' and 'Penn-style' assemblages, there was a significantly larger number of fragments of the 'Stabbed Wessex' tiles. This is undoubtedly a consequence of the larger size and softer fabric of the 'Stabbed Wessex' group.

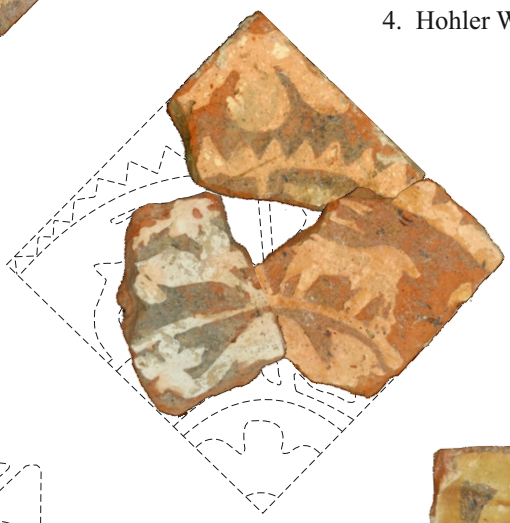


1. LH XI/XII

2. LH LV

3. LH LXI
Hohler W7

4. Hohler W 17



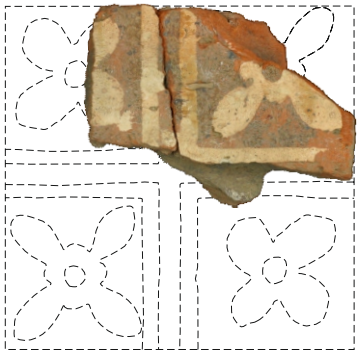
5. Eames 1931

6. Eames 2191

7. Eames 2371

0 150mm

Figure 33: 'Stabbed Wessex' style floor tile

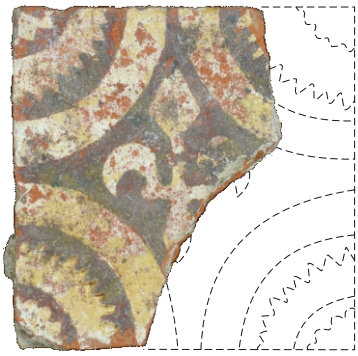


1. Eames 2456

2. LH XX

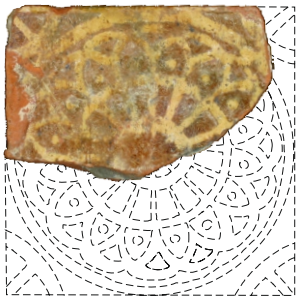
3. A 29

4. A 27

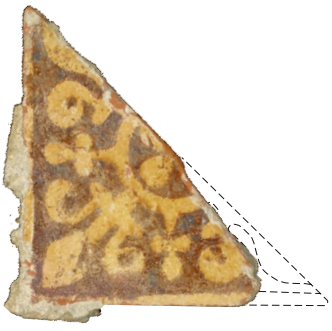


5. LH CVIII

6. Hohler P123

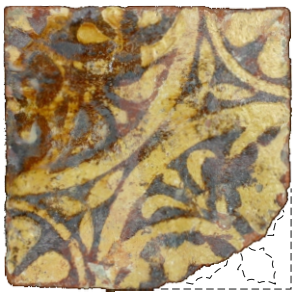


7. Eames 2074



8. Eames 2200
Hohler P70

9. Hinton Q



10. Hinton N (variant)

0 150mm

Figure 34: 'Stabbed Wessex' style floor tile (1-4) 'Penn style' floor tile (5-10).

As many of the contexts yielded both types of tile, it is not possible to comment in any depth of the distribution of the tiles; furthermore, as the majority of the contexts were associated with the demolition of the church, and are often similar to the tiles previously published by David Hinton (10968), it is not certain that the archaeological provenance is the same as the historic location of the tiles within the church. Movement of demolition material within the church may account for the wide spread of tile-groups as much as the distributions reflecting the historic location of the tiles.

Fabrics

In the absence of a full petrographical study of the tile-fabrics it is not readily apparent that too much can be made of the different tile fabrics. Different quantities of sand, grit, haematite, grog and other, accidental, inclusions, combined with different firing temperatures – due to location in the kiln, length of time in the kiln, and so forth – as well as deliberate reduction or oxidisation during firing, can be responsible for the over-ready identification of differing fabrics.

As a consequence the two primary fabrics, for the 'Stabbed Wessex' and 'Penn style' tiles respectively, are discussed with variations of the two core fabrics acknowledged but not discussed in detail. These minor differences are not reported here. The Hinton P tiles are in a further fabric which appears to be similar to the Penn fabric, but is far more evenly fired, despite the comparatively greater thickness of the tile.

This said, there was an overall high degree of homogeneity within the two traditions represented. The sandy 'Stabbed Wessex' tiles, which tended to a more granular texture with occasionally large inclusions of haematite, small angular calcined flinty gravel and so forth, were more frequently heavily reduced through the body of the tile. This may have affected the surface colour.

The 'Penn Style' tiles were overall only reduced, if they were at all, lightly and in the core of the tile. As a result the 'Penn style' was more easily recognised as a single batch. A higher degree of control over the firing process might be inferred from this remark.

The Hinton P tiles were a deep even red colour and although the fabric was much the same as the acknowledged 'Penn style' tiles, the apparent better firing suggests potentially a different kiln provenance where the tile-maker was better skilled, although it is also possible that the better firing might be due to the location of the tiles in the kiln.

The source of the white piping clay is unknown, but may well have been provenanced from Devon or Cornwall, which is the source of the only easily mined and substantial kaolinite outcrops (Drury and Pratt 1975, 141-2). As with the glaze used for the tiles, there has not been sufficient scientific work on the analysis of these materials to identify provenance.

'Stabbed Wessex' tile group

The earlier 'Stabbed Wessex' tiles were typically in a sandy clay fabric, which ranged from a well-oxidised mid pink orange to a reduced dark grey colour, into which the white clay was laid. Haematite and grit were occasionally present, as was the very occasional small stone, but the quantities were not significantly frequent to warrant identifying the tiles as a separate group, when they shared common designs.

The technology and techniques of stamping the designs of floor tile have been extensively discussed elsewhere (Eames 1980, 221; Green 2005, 135-8), and need not be revisited here. Nevertheless, the white decorative clay in the 'Stabbed Wessex' series of tiles was impressed, for the most part, to a depth of 2-3mm into the body of the tile. The designs are usually clear and well-defined despite the frequent wearing away of glaze. Occasionally, the red sandy fabric has worn away, leaving the white clay standing proud, which is a not uncommon feature of 'Stabbed Wessex' tiles.

'Penn style' tile group

The later 'Penn style' tiles were characterised by a mid orange silky clay fabric, with a high proportion also having a pale grey reduced core. In contrast with the 'Stabbed Wessex' style tiles the 'Penn style' is clearly less well stamped with the intended design. The white clay is only up to 1mm thick, and on many of the tiles the design has been removed during the tile's lifetime. Loyd Haberley proposed that the stamping and inlaying of clay was carried out as a single operation in contrast to the earlier group.

Frequently wear meant that the orange fabric was all that subsisted of the tile, with no identifiable pattern, although staining on the upper surface suggested that these tiles had indeed been printed. The few Hinton P border tiles were largely very well preserved. Although the fabric seemed to be quite similar to the obviously 'Penn style' tiles, the well-fired deep red colour indicated a high degree of control over the firing process. It is clear that to resolve the issue of the source of these finely made tiles comparative petrographical analysis is required.

Glazes

Glaze is made with galena, the lead ore, and in England could be sourced from the Mendips, in Somerset, Kingswood, in South Gloucestershire, the Peak District or Cumbria. At present the source of the lead for glaze has not been investigated scientifically using lead isotope analysis.

It is not clear whether the lead ore or a prepared product was transported to the tile production site. The lead ore for glaze was roasted and, according to Theophilus, the 12th-century monk who wrote on medieval arts, mixed with salt, and subsequently sand, which when it had formed a glass, was then cooled and ground up to be mixed with sour wine or watered ale for application to dry, unfired tiles (see Cherry 1991, 191). No evidence has, as yet, been recovered for the preparation of glaze on a tile or pottery site, suggesting that this was prepared off-site.

'Stabbed Wessex' tile group

The glazes on the 'Stabbed Wessex' group of tiles ranged from an iron-rich red brown colour over the fabric of the tile with a honey-coloured yellow over the white piping to a copper-rich brown, and indeed almost black on occasion, over the red fabric with a light green over the white piping. This colour variation was observed across styles of tile, indicating that colour variation was a factor as much as design in the laid floors.

'Penn style' tile group

For the most part, the later 'Penn style' tiles, of those which were decorated, were characterised by an iron-rich glaze which rendered the red fabric a red brown and the white stamped decoration a honey-coloured yellow. No copper-rich glaze was observed on the tiles recovered. However, while this accounts for the surviving decorated tiles, it should be noted that a significant number of the 'Penn style' tiles were worn to the clay, which prevents any further comment on the original colour of the tiles. Furthermore, there were some plain green to green black tiles without stabbing, which form part of the 'Penn style' corpus, but these are quite worn too.

5.3 Macroscopic Plant and Invertebrate Remains from a Medieval Drain beneath the Priory Church *by Mark Robinson*

Excavations at Bicester Priory discovered a drain running beneath the floor of the chapel. The drain pre-dated the construction of the chapel and was probably part of medieval drainage work related to the construction of the priory buildings. The drain was filled with dark grey organic clay, context 558. A 1kg sample of this material, <3>, was analysed for macroscopic plant and invertebrate remains. The sample was sieved down to 0.2mm, sorted under a binocular microscope and identified. The results are listed in Tables 11-16. They suggested the water which flowed into the drain had a rich fauna of aquatic molluscs and insects while there were numerous seeds from the vegetation of the marsh which was the source of the water carried by the drain.

The molluscs were almost all aquatic species. The most numerous, including *Planorbis planorbis*, *Anisus vortex* and *Bathyomphalus contortus*, occur in a wide range of aquatic habitats. However, there was a small element which requires clean flowing water, including *Valvata cristata*, *V. piscinalis* and *Physa fontinalis*. This suggests that the drain carried a flow of water from a spring or a seepage rather than just serving to take away rainwater. The insects were mostly species of stagnant or slowly-moving water including the larvae of Trichoptera and Chironomidae, and the water beetles *Hydroporus* sp. and *Hydrobius fuscipes*.

The most abundant seeds were of *Polygonum hydropiper* (water-pepper), which grows in shallow water and on marshy margins to water, and *Lycopus europaeus* (gipsywort), a plant of ditch sides and marshes. There were also seeds of other waterside and marsh plants including *Lychnis flos-cuculi* (ragged robin). *Bidens* cf. *cernua* (bur-marigold) and *Carex* spp. (sedge).

The other habitat that was well-represented amongst the waterlogged seeds was disturbed or waste ground, with vegetation including *Atriplex* sp. (orache), *Conium maculatum* (hemlock), *Rumex* spp. (dock), *Hyoscyamus niger* (henbane) and *Sambucus nigra* (elder). However, these seeds were not as abundant as the seeds from plants of wet

habitats. There were also a couple of waterlogged seeds of *Ficus carica* (fig) and a few carbonised grains of free-threshing *Triticum* sp. (rivet or bread wheat) and hulled *Hordeum* sp. (hulled barley). Some remains of woody plants were present, mostly of *Salix* sp. (willow or sallow) including a twig, buds and seed capsules.

These results suggested that some of the water or the margins of the ditch which fed the drain supported much vegetation with some willow trees or sallow bushes. Beyond the marshy area was weedy disturbed ground as occurs around settlements. At least limited crop-processing was occurring while the fig pips point to high-status dietary waste.

Table 11: Waterlogged Seeds from the Bicester Priory Drain Context 558

Taxa	**Family**	**Quantity**
Ranunculus cf. repens L.	creeping buttercup	7
R. sceleratus L.	celery-leaved crowfoot	2
Papaver rhoeas tp.	field poppy	1
Brassica nigra (L.) Koch	black mustard	2
Lychnis flos-cuculi L.	ragged robin	1
Cerastium cf. fontanum Baum.	mouse-ear chickweed	1
Chenopodium album L.	fat hen	3
Atriplex sp.	orache	8
Malva sylvestris L.	common mallow	1
Medicago lupulina L.	black medick	1
Filipendula ulmaria (L.) Max.	meadowsweet	5
Rubus fruticosus agg.	blackberry	1
Conium maculatum L.	hemlock	2
Angelica sylvestris L.	wild angelica	1
Polygonum aviculare agg.	knotgrass	4
P. persicaria L.	red shank	2
P. hydropiper L.	water-pepper	52
Rumex crispus L.	curled dock	1
R. conglomeratus Murr.	sharp dock	24
Rumex sp.	dock	11
Urtica dioica L.	stinging nettle	6
Ficus carica L.	fig	2
Hyoscyamus niger L.	henbane	1
Mentha cf. aquatica L.	water mint	1
Lycopus europaeus L.	gipsywort	31
Prunella vulgaris L.	selfheal	1
Ballota nigra L.	black horehound	1
Plantago major L.	great plantain	1
Sambucus nigra L.	elder	11
Knautia arvensis (L.) Coult.	field scabious	1
Bidens cf. cernua L.	bur-marigold	4
cf. Cirsium sp.	thistle	3
Leontodon sp.	hawkbit	1
Alisma sp.	water plantain	1
Eleocharis S. Palustris sp.	spike rush	1
Carex spp.	sedge	9
Total		205

Table 12: Other Waterlogged Plant Remains from the Bicester Priory Drain Context 558

Taxa	Family	Qnty
Crataegus or Prunus sp.	hawthorn or sloe - thorny twig	1
Leaf abscission pads		3
Rubus sp.	blackberry - prickle	4
Salix sp.	willow - twig	1
Salix sp.	willow -bud	8
Salix sp.	willow - capsule	5

Table 13: Carbonised Seeds from the Bicester Priory Drain Context 558

Taxa	Family	Qnty
Triticum sp. - free-threshing	rivet or bread wheat	1
Hordeum sp. - hulled	hulled barley	1
cereal indet.		1

Table 14: Coleoptera from the Bicester Priory Drain Context 558

Taxa	Qnty
Hydroporus sp.	2
Helophorus aquaticus (L.) or grandis Ill.	2
Megasternum obscurum (Marsh.)	1
Hydrobius fuscipes (L.)	1
Lathrobium sp.	1
Aphodius sp.	1
Gastrophysa polygoni (L.)	1
Phyllotreta atra (F.)	1
Chaetocnema sp. (not concinna)	1

Table 15: Other Insects from the Bicester Priory Drain Context 558

Taxa	Qnty
Trichoptera - larva	3
Trichoptera - case	1
Myrmica sp. - worker	1
Chironomidae - larvae	27
Diptera - puparium	1

Table 16: Mollusca from the Bicester Priory Drain Context 558

Taxa	Qnty
Valvata cristata Müll.	1
V. piscinalis (Müll.)	1
Carychium sp.	2
Physa fontinalis (L.)	1
Lymnaea peregra (Müll.)	1
Planorbis planorbis (L.)	6
Anisus vortex (L.)	12
Bathyomphalus contortus (L.)	7
Gyraulus albus (Müll.)	1
Armiger crista (L.)	2
Succinea or Oxyloma sp.	1

Taxa	Qnty
Cochlicopa sp.	1
Discus rotundatus (Müll.)	2
Vitrea sp.	1
Aegopinella nitidula (Drap.)	1
Trichia striolata (Pfeif.)	1
Sphaerium sp.	2
Pisidium sp.	2
Total	45

5.4 The Human Remains *By Linzi Harvey MSc*

Nature of sample

Twenty probable inhumations were identified in separate east-west grave-cuts during open area archaeological investigations at the site of a former 12th century Augustinian Priory Church in Bicester, Oxfordshire, in 2011. All skeletal material recovered from these contexts has been assessed here in order to provide information about the demography and health of the population (see Appendix 2). A large quantity (approximately 46 kilograms) of human skeletal material was also recovered from charnel pits and unstratified deposits. No attempt has been made to fully age and sex the disarticulated material, although a Minimum Number of Individuals (MNI) has been calculated, the material weighed and every fragment checked for evidence of disease and injury (See Appendix 3). Burials and charnel pits were located both within the church and outside the eastern end of the church.

During the course of excavations at the site of the former Bicester Priory, a lead box was uncovered in the area of the floor of the north transept of the church, which was found to contain a partial skeleton. This lead box is presumed to be a reliquary, containing the bones of a 13th century person, which were displayed on the shrine as St Edburg. The remains within this container have been fully assessed and the results summarised in Appendix 4.

The excavated remains are likely to date from the 12th to the 14th century onwards and have been assessed in comparison to late-medieval (*c*. 1050AD – c. 1550AD) British populations described in Roberts & Cox (2003).

Methods

Skeletal remains were examined macroscopically and data recorded onto paper record forms following both IFA and English Heritage standards and guidelines (Brickley & McKinley 2004, Mays & Brickley *et al* 2004 respectively). The assemblage was assessed using site attained information, including skeleton recording sheets and site plans in order to better contextualise the skeletal material.

Preservation and completeness

An assessment was made of the state of preservation of the inhumed remains: from ‘good’ (1) to ‘poor’ (3).

1) 'Good' Bone surface is in good condition with no erosion, fine surface detail such as coarse woven bone deposition, if present, would clearly be visible to the naked eye.

2) 'Moderate' Bone surface is in moderate condition, with some post-mortem erosion on long bone shafts, but the margins of the articular surfaces and some prominences eroded.

3) 'Poor' Bone surface is in poor condition with extensive post-mortem erosion, resulting in pitted cortical surfaces and long bones with articular surfaces absent or severely eroded.

A skeletal inventory, estimation of completeness and description of each context was undertaken. Disarticulated material or bone that appeared charnel in nature was also examined in order to calculate the minimum number of individuals present in the assemblage. This report however, focuses primarily on the twenty individuals that were given skeleton numbers on-site (SK1 through to SK20).

Age at death

Age at death estimation was based on a number of commonly-used aging techniques. The adult sample was aged using epiphyseal fusion data (Schwartz 1995), cranial suture closure (Meindl & Lovejoy 1985), age-related changes of the pubic symphysis and the auricular surfaces of the ilium (Buikstra & Ubelaker 1994, Schwartz 1995) and dental attrition (Brothwell 1981) where appropriate. The age of the sub-adult and neonatal sample was determined using epiphyseal fusion data, dental development (Moorrees *et al* 1963ab) and length of long bones (Scheuer *et al* 1980) where appropriate. For descriptive purposes, the skeletons were assessed and then assigned to the following broad age categories:

Table 17: Age codes

Description	**Age range**
Neonate	< 1 year and *in utero*
Infant	< 3 years
Juvenile	< 18 years
Young adult	18-25 years
Middle adult A	26-35 years
Middle adult B	36-45 years
Older adult	>46 years

Sex estimation

Estimation of sex was only considered appropriate for the adult sample and was based on macroscopic observation of key skeletal landmarks in the cranium/mandible and pelvis. Where present, a number of predetermined sexually diagnostic features were marked on a five point scale as follows: 1 = male, 2 = possible male, 3 = intermediate, 4 = probable female and 5 = female. The sex category that was scored most frequently for each skeleton was taken to reflect the overall sex of the individual.

Stature

The maximum lengths of complete long bones were used to provide an estimate of stature for the adult skeletons. This was calculated using formulae created by Trotter (1970). When sex could not be determined, stature was calculated using both female and male data and averaged.

Metrical data

Where preservation and completeness allowed, measurements were taken of a number of cranial, dental and post-cranial features, using landmarks identified in Brothwell (1981) and Bass (2005).

Non-metric traits

Non-metric traits were not recorded in this sample due to the incomplete nature of the assemblage and the fragmentation of the cranial material.

Palaeopathology

Pathological changes were recorded using guidelines set out by the British Association of Biological Anthropologists and Osteologists (Roberts & Connell 2004). Basic pathological information was obtained from Roberts & Manchester (1995) and Roberts & Cox (2003) with additional references as required.

Dental pathology

The recording of dental pathology, where dental remains were present, covered five pathological changes; calculus deposits, periodontal disease, carious lesions, hypoplastic defects, periapical lesions and antemortem tooth loss. Each observation was recorded by tooth or tooth position as appropriate and scored for severity according to established schemes such as Brothwell (1981).

Results

Completeness and preservation
The individuals awarded skeleton numbers on-site were largely complete or near complete. Of the twenty, nine were between 75-100% complete. Long bones were well represented, as were midline elements such as skulls, vertebrae and pelvises. Although a small number of hand and foot bones were retrieved from many inhumations, these were not well represented elements, which may reflect the lack of sampling of the feet and torso areas during excavation.

Table 18: Completeness of individual inhumations SK1 through to SK20.

Completeness	No.	Skeleton nos.
0-25%	5	3, 9, 10, 18, 20
26-50%	3	4, 5, 8
51-75%	3	11, 16, 19
76-100%	9	1, 2, 6, 7, 12, 13, 14, 15, 17
Total	**20**	

Due to the nature of the excavation, partial remains were occasionally excavated where whole remains were present. In the case of SK3 for example, the majority of

the skeleton was below the water table and only the legs were excavated. In one case a complete skeleton may have been present prior to machine stripping (SK10).

The preservation of skeletal elements was generally good, with surface detail visible on most elements. However, much of the material was highly fragmentary, with a few fragments very abraded in appearance. As is to be expected, the disarticulated material was highly variable in nature with both well preserved and abraded fragments recovered in the same contexts. Some fragments of human bone were recovered from contexts such as 267, a limestone wall, indicating disturbance and re-dispersal of the graveyard soils and their contents. This is not unusual in medieval and post-medieval burial contexts, where inhumations are frequently disturbed by the insertion of later graves or even renovation of church buildings.

All results have been summarised in Appendices 2-4.

Animal bone

A number of fragments of animal bone were recovered along with the human bone and were removed from the human bone assemblage to be combined with the animal bone assemblage. These are likely to be the remnants of food preparation. Animal bone is a common find on medieval and post-medieval cemetery and church sites.

Other finds

No other finds were observed in the human bone assemblage. However, a number of bones exhibited copper and ferrous staining, indicating the presence of coffin furniture and/or shroud pins for some, if not all of the burials in the site. For example, middle aged adult male SK17 had a ferrous stain in the right pelvis area and middle aged adult male SK6 had copper alloy staining in the area of his left pelvis.

Minimum number of individuals (MNI)

A minimum number of 48 individuals are represented in this assemblage (see Table 19, below). This number should be thought of as a conservative estimate of the number of individuals present in the assemblage, and the true number is likely to be much higher.

This includes 20 individual inhumations (SK1 through to SK20), the remains discovered within the reliquary (context no. 308) and 27 individuals in the disarticulated charnel and unstratified material. Context 501, described as the fill of a charnel pit in the site archive appears to contain an inhumation of a near complete single individual. Although this does not affect the MNI as such, it may be of importance to the interpretation of feature 500. The MNI of the disarticulated material was calculated using the presence of the most numerous repeated skeletal element (the right femur in this case), different age categories being represented and on the basis of colour, condition and size of bones.

Table 19: Minimum number of individuals (MNI) in the assemblage.

	Context numbers / information	**MNI**
Inhumations	Grave-cuts for SK1 through to SK20.	20
Reliquary	Cut 307, lead box 308.	1
Disarticulated and charnel material, including graveyard soil, demolition and construction cut deposits.	156, 259, 267, 284, 287, 314, 370, 404, 409, 418, 422, 424, 429, 430, 451, 476, 477, 488, 501, 504 and unstratified.	27
	Total	**48**

Age at death

The age of death for all individuals associated with inhumations could be broadly estimated (see Fig. 35, below). It was possible to attribute an adult age estimation, i.e. over 18 years of age at death, to seven (SK3, SK5, SK8, SK9, SK10, SK18 and SK20). Four individuals (SK7, SK11, SK17 and SK19) were aged between 26 and 35 years of age at death, falling into the 'Middle Adult A' category, whilst SK2, SK6, SK13, SK14 and SK15 were between 36 and 45 years of age at death, falling into the 'Middle Adult B' category. The oldest individuals were SK1, SK4, SK12 and SK16, who were almost certainly all over 46 years old at death, placing them into the 'Older Adult' category.

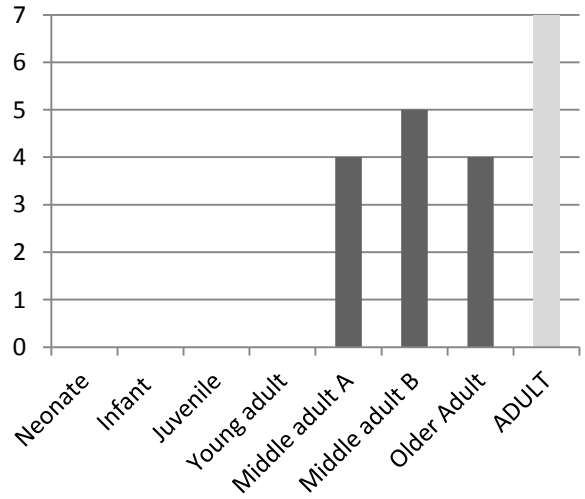


Figure 35: Age Distribution

Almost all of the disarticulated material appeared to be adult in age. A very small amount of sub-adult (i.e. less than 18 years old at death) remains were observed within this material, representing perhaps a single sub-adult individual. However, the elements recovered were minimal in quantity, very fragmentary and have not been included in the overall assessment of age distribution.

Mortality profiles are typically 'U' or 'J' shaped, reflecting peaks of death in the population occurring in the infant years and then again in older adult years. However, as is clear from Figure 35, there are no infant, juvenile or even young adult

individuals in the assemblage. Although there is some recovery bias inherent in the recovery of infants and very young children due to their small size (see Buckberry 2000), this is probably not the case in this assemblage, as even young adult individuals are under-represented. This indicates that the population presented here was not representative of the wider, general population, but was in fact biased towards older adults, i.e. middle age and older adults were selected for burial at this site, or formed the population from which these individuals were taken.

Sex estimation

The biological sex of seventeen inhumed adult individuals could be estimated using diagnostic features of skull/pelvis fragments or measurements (See Fig. 36 below). Thirteen definite males (SK1, SK4, SK6, SK7, SK8, SK9, SK12, SK13, SK14, SK15, SK16, SK17 and SK19), two probable males (SK3, SK10), one definite female (SK2) and one probable female (SK11) were identified. It was impossible to ascertain the sex for three individuals (SK5, SK18 and SK20) as well as the individual from the lead box 308.

Males and probable males (n=15) outnumber females and probable females (n=2) and the number of 'unknown sex' are not enough to account for the difference. This is likely to be significant. Clearly there are more males than females from this area of excavation, which is what would be expected from a burial ground associated with an all-male priory.

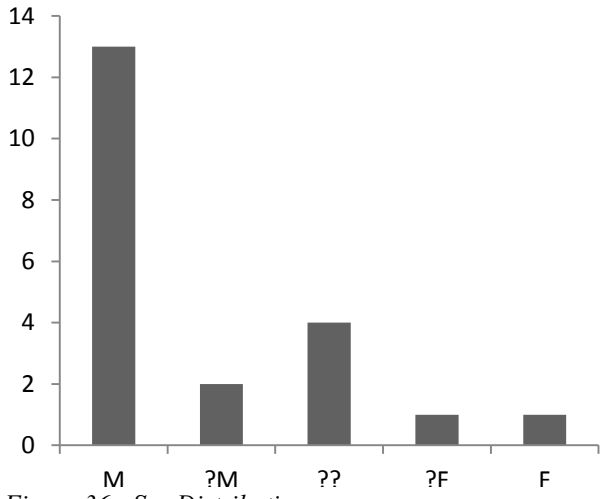


Figure 36: Sex Distribution

Dissection of the distribution of the age and sex of the individuals of the assemblage is not particularly informative (Fig. 37). The female and probable female skeletons are in the 'younger' age groups, but this does not appear to be significant given the size and nature of the assemblage.

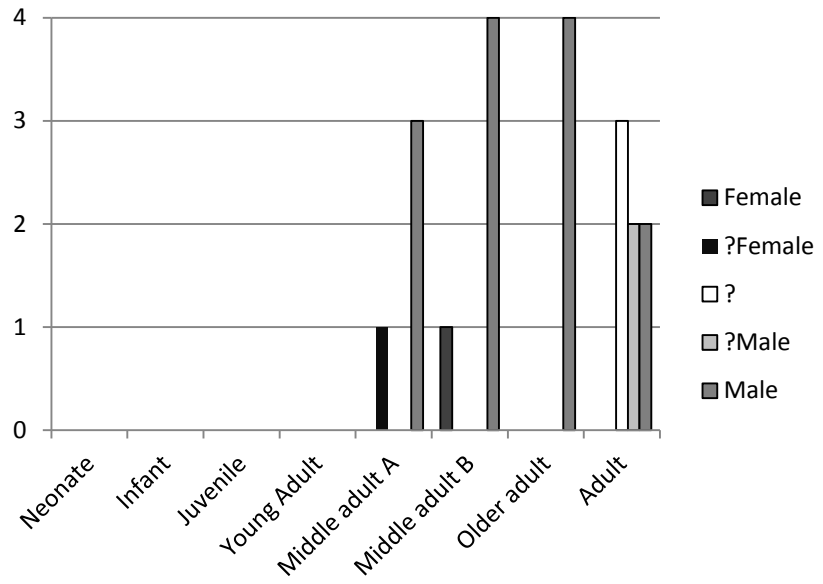


Figure 37: Sex Distribution by age category

Although the assemblage is small, there does not appear to be a meaningful spatial distribution of burials based on age or sex. The female and probable female individuals have been buried next to and within the same area as the male skeletons. There does not appear to be any age related distribution of skeletons.

Stature

Stature could be reliably estimated in sixteen known sex individuals using complete long bone measurements (See Figure 38 below). Two female or probable females (SK2 and SK11) were identified and were estimated to be 162.5cm and 160cm tall respectively, the average height being 161.25cm. The male or probable male assemblage ranged between 164cm and 183cm, with an average height of 172.5cm. The tallest individual was SK6, a middle adult male at 183cm. The shortest male was an older adult, SK12, at 164cm.

On the most part, these measurements appear to fall within the mean range of heights observed in late-medieval Britons, with the range for males being 167 – 174cm and for females, 154 – 165cm (Roberts & Cox 2003: 248). Although stature is primarily genetically determined, the attainment of maximum height is dependent on nutrition, social position and lifestyle. It is therefore possible that individuals who are outliers of the norm, such as the taller male SK6 or shorter male SK12 experienced better or worse socio-economic conditions in their formative years.

Interestingly the reliquary remains from 308, can be estimated at approximately 175cm tall. This stature estimation falls towards the higher end of the male range and well outside the female range for this site. This may indicate that the skeleton from 308 is male. However, it is also possible that the remains from 308 are from a different period or from a significantly better socio-economic background, compared to the bulk of the assemblage.

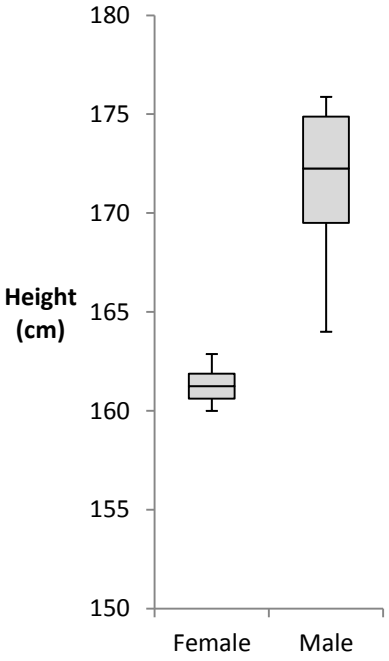


Figure 38: Box-plot showing the mean and quartile stature ranges for males and females.

Metrical data

Metrical data, including complete long bone lengths for all articulated individuals, were collected where preservation allowed and have been stored within the paper archive.

Palaeopathology

A number of pathological conditions and several possible examples of trauma (i.e. fractured bones) were observed in this assemblage.

Periostitis

Periostitis (inflammation of the periosteum) was observed in two individuals. SK1 exhibited new bone formation on the anterior left and right tibia (See Figure 39, below) as well as the distal right femur. SK15 was affected on both the left and right fibula. The anterior tibia surface is close to the skin and is often affected by recurrent small trauma (Aufderheide & Rodriguez-Martin 1998: 179). Periostitis can also be indicative of non-specific infection or a manifestation of a more general disease.

Figure 39: New bone formation, SK1 tibia. Scale bar 5cm.

Degenerative joint disease

Several individuals (no = 6, 28%) within the inhumed Bicester Priory Church assemblage exhibit pathological changes consistent with degenerative joint disease (DJD). Degenerative joint disease is a progressive condition in which joint cartilage is lost and lesions subsequently form on the joint surfaces. SK5 has eburnation (a polished surface caused by bone-to-bone contact in cartilage free areas) between the distal and inter-proximal phalanges of the right index finger. SK15 is also affected in the hand/wrist area, with eburnation of the left scaphoid and trapezium wrist bones. SK6 has ridged eburnation and macroporosity of the anterior femur and patella (see Figure 40), which is a very common site for DJD. Another common target of DJD is the hip joint, which has been affected in two individuals (SK14 and SK16).

Figure 40: SK6, distal femur with clear eburnation and macroporosity in area of articulation with the patella. Scale bar 5cm.

Degenerative spinal disease

Degenerative spinal disease (DSD) is also well represented in the sample. Of the nineteen individuals recovered with some spinal remains present, twelve exhibit degenerative change in the spine (63%). These changes included osteophytosis (the development of new bone at the vertebral body margins), eburnation and porosity of the articular surfaces and vertebral disk hernias, where a defect is caused by the

intervertebral disc pushing into the vertebral body. This defect is commonly termed 'Schmorl's nodes' (Aufderheide & Rodriguez-Martin 1998: 97). A good example of the typical changes seen in degenerative spinal disease can be seen in the cervical vertebrae of SK12, which show advanced osteophytic change, eburnation and porosity of the articular surfaces and vertebral bodies (See Figure 41, below).

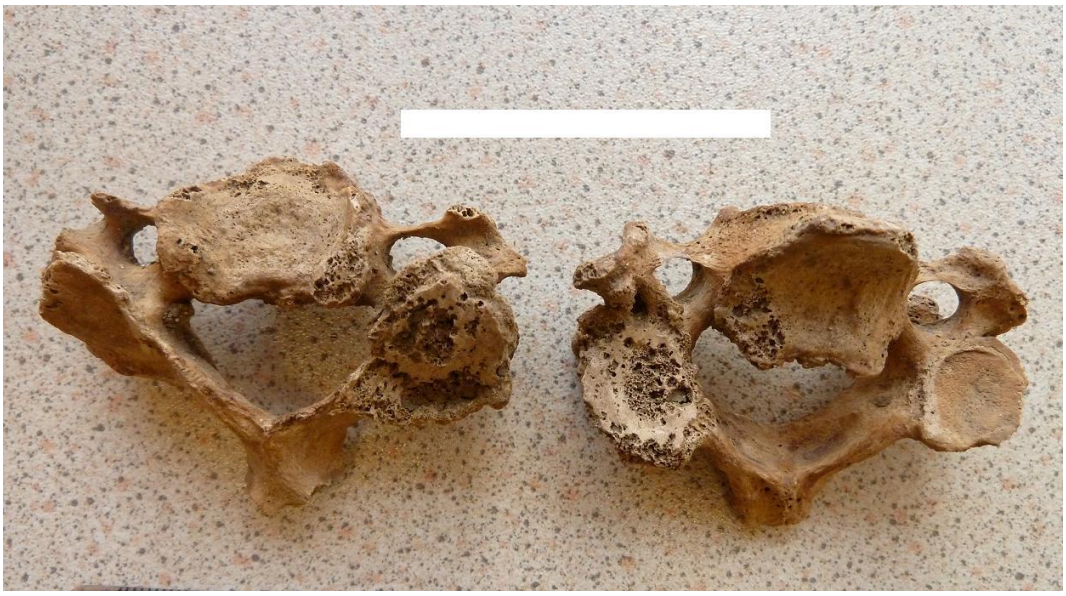


Figure 41: SK12, cervical vertebrae superior (left) and inferior (right) articulating views. Scale bar 5cm.

Diffuse idiopathic skeletal hyperostosis

Diffuse idiopathic skeletal hyperostosis (DISH) is a disorder in which spinal ligaments ossify and fuse vertebral bodies together. It occurs primarily on the right hand side of the thoracic vertebrae, but may occasionally have extra-spinal manifestations. DISH has been frequently associated with the 'monastic way of life' (Rogers & Waldron 2001) with prevalence rates of the condition much higher in monastic populations in comparison to lay populations. For example, excavations at the medieval Wells Cathedral in London revealed a prevalence rate of 6.5% in the lay cemetery and of 13.3% and 23.1% in both of the chapels known to contain priests and lay benefactors.

Out of 15 male or probable male individuals recovered from the Bicester Priory, three (SK1, SK12 and SK16) have osteophytic growth and spinal changes consistent with DISH (see Figure 42) – a prevalence rate of 20%. Various explanations have been put forward for this relationship between the monastic life and DISH, but it is likely to be associated with obesity and late-onset (type II) diabetes (Rogers & Waldron 2001). We know that those living in monasteries often enjoyed a highly calorific 'rich' diet, enough to render some of them obese, and it is possible this is the case for at least some of those interred within the Bicester Priory Church.

Figure 42: Mid-thoracic vertebrae of SK12, note the 'candlewax' effect of ligament ossification down the vertebral bodies. Scale bar 5cm.

Ankylosing spondylitis

SK19 was also found to have vertebrae fused together, but this was not diagnosed to be DISH due to the location of the lesions – the middle cervical vertebrae. It is likely to be ankylosing spondylitis (AS), which is a progressive disorder in which calcification of connective tissues of the spine, sacroiliac joint and peripheral major joints. Conditions such as AS typically limit the mobility of the sufferer and usually cause a great deal of discomfort.

Trauma

Clear evidence of trauma was present in a single skeleton, SK8. This adult male had three clear and well healed fractures. The right femur was distorted mid-shaft and bent medially towards the proximal end. Several osteomyelitis related drainage holes were observed around the area of the break, indicating the presence of an acute inflammation of the bone and marrow and related infection (See Figure 43 below). The fibula of the same leg was also slightly displaced at the proximal end, although well-healed. The right radius of the same individual had thickening and some exostosis (bony growth) at the distal wrist end, which is also consistent with a well-healed fracture. It is possible that all injuries occurred at the same time in some sort of traumatic event, a fall or a work related accident for example. These fractures would have certainly decreased the length of the right leg and produced a change in locomotion for the individual.

Figure 43: Right femur of SK8, anterior surface. Note how proximal end bends towards the midline. Scale 30cm.

Two examples of possible trauma were also observed in the disarticulated material. From fill of wall cut 370, a complete right clavicle with an enlarged and osteophytic medial joint surface was recovered (See Figure 44, below). A similarly distorted clavicle was also found in layer 476. Whilst this could be a result of degenerative or occupation-related change over time, it could also indicate the displacement of the clavicle at the medial end, through the tearing of the sterno-clavicular ligaments. Whilst unusual, this kind of trauma can occur through traumatic incidents such as falling whilst carrying heavy loads (Lunseth *et al* 1975).

Figure 44: Clavicle from context 370, superior surface. Note how medial end is enlarged and distorted, both in a posterior and anterior direction. Scale bar 2cm.

Dental pathology

Only a small quantity of dental material was recovered from the excavations at Bicester Priory. Out of the twenty probable inhumations, only eleven had dental remains present and most of those dentitions were incomplete. The individual recovered from the reliquary had no cranial remains at all. Dental pathology prevalence rates have been calculated using the number of individuals present (n=11) who had dental remains, rather than the number of individuals overall. This can be termed the Crude Prevalence Rate (CPR) and represents a more significant indicator of the numbers of individuals affected by the various conditions. 'True Prevalence

Rates' (TPR) of dental disease, i.e. the number of affected teeth present within the actual number of teeth recovered is also presented in Table 20, below.

Table 20: Overall prevalence rates and rates per tooth position for the Bicester priory assemblage and the late medieval sites of Britain (data after Roberts & Cox 2003: 258 – 263).

	Bicester Priory Church		**Late medieval period prevalence rates**	
	Overall prevalence rate - CPR (%)	Prev. rate per tooth position - TPR (%)	Overall prev. rate - CPR (%, range in parentheses)	Prev. rate per tooth position - TPR (%, range in parentheses)
Caries (cavities)	27.3	5.55	52.3 (6 – 94)	5.55 (1 – 41)
Dental calculus	72.7	64.8	59.2 (4 – 93)	54 (38 – 71)
Periapical voids (abscesses, cysts)	9.1	2.5	26.3 (1 – 53)	3.11 (1 – 4)
Periodontal disease	72.7	-	37.5 (6 – 100)	-
Dental Enamel Hypoplasia	18.2	-	35.4 (4 – 76)	-
Antemortem tooth loss	63.6	20.9	36.4 (5 – 75)	19.4 (6 – 30)

The overall rates of disease in this assemblage are, on the most part, within the ranges observed for other sites in Britain in the late medieval period. Dental disease can be highly variable between and within populations depending on factors such as location, diet, socio-economic status and age/sex profile of the population.

Caries (cavities) had a CPR of 27.3% in the Bicester assemblage, compared to an average CPR of 52.3% in late medieval British assemblages. However, the TPR was 5.55%, the same as the British average. Carious lesions are formed by the acidic waste products of bacteria, which are typically associated with starch and sugar rich diets, in addition to poor dental hygiene.

Dental calculus was present in over 70% of the skeletons, with 64.8% of teeth affected. This is certainly higher than in many populations in the late medieval period. Calculus is a mineralised plaque deposit which adheres to the surface of the tooth and is often linked to poor dental hygiene and carbohydrate consumption.

The CPR of periapical voids (dental abscesses and cysts) was less than the mean CPR of British sites (9.1% and 26.3% respectively), but was still within the range observed in British sites. It is possible the fragmentary nature of the cranial material and the destruction of the maxillary and mandibular areas, might have affected the number of observable abscesses.

72.7% of the skeletons with dental remains had periodontal disease present. This is higher than the mean for overall periodontal disease (37.5%), but still within the range observed for the period. Periodontal disease is commonly linked to poor dental hygiene, diet and the presence of other conditions such as dental calculus.

The CPR of individuals who lost teeth before death was 63.6%. This is within the range observed for similar populations (5 – 75%). The prevalence rate per tooth position was 20.9%, similar to the TPR of 19.4% of late medieval sites. Antemortem tooth loss (AMTL) is usually an indication of dental disease or trauma, particularly the damage caused by caries (Roberts & Cox 2003:265). The high rate of antemortem tooth loss could indicate that the rate of caries was much higher than suggested by the caries CPR of 27.3%. Since AMTL is cumulative and the population examined are all older adults, it would be reasonable to assume that more than 27.3% of the population suffered with caries in their lives.

Two individuals (18.2%) exhibited dental enamel hypoplasia (DEH) a condition linked to periods of malnutrition or poor health in childhood years. This is within the range typically observed in late medieval populations (4-76%). DEH is visible as horizontal lines on adult teeth and is present in the upper second incisor of older adult male SK1, and on three lower teeth of middle aged female SK2.

The reliquary remains (Figure 20a; Figure 45 & 46)

The remains recovered from cut 307 (See Figure 45, below) and lead box 308 are radiocarbon dated to the late 13th century AD (see scientific results section) and therefore are not that of St Edburg, the daughter of a 7th century Saxon Earl (see background). The bones would have almost certainly been displayed within the shrine as St Edburg.

Figure 45: Bones recovered from reliquary after conservation/excavation and some refitting of the skeletal elements. Black coloured elements likely a result of in situ water staining.

The skeleton was disarticulated and incomplete, with only 20% present within the lead container. The remains were also highly fragmentary. This is likely to indicate that partial remains were deposited within the container, during or sometime after the decomposition of a complete individual. On the basis of size, shape, condition and

lack of repeated elements it seems reasonable to assume the bones within the box are from one individual.

There were no skull or pelvis fragments present, and metrical data proved inconclusive when trying to sex the individual, since the femoral head measured 46mm (indicating a possible male) and the femoral bicondylar width was 77mm (indication an individual of unknown sex). Therefore, the sex of the individual cannot be determined at this point. The remains from 308 are certainly adult (i.e. 18+ years) in nature, as evidenced by fully fused long bone epiphyses. The remains of a few sternal ribs ends indicate a slightly older adult however, somewhere between 25 and 42 years old at death.

The right femur was near complete and its length could be estimated at 484mm. Using formulae by Trotter (1970) this is likely to indicate a stature of around 175cm (5'8"). The range of stature observed in late-medieval Britons for males is between 167 – 174cm and for females, 154 – 165cm (Roberts & Cox 2003: 248). In the earlier medieval period, the range of stature was 170 – 182cm for males and 152 – 170cm for females. This means that the stature exhibited by this skeleton is outside the range for females in both periods, and outside the later period male range.

The skeleton from 308 also exhibited a small amount of pathology. A number of thoracic vertebrae had osteophytic changes to the articular surfaces, a degenerative condition usually associated with advancing age. There was also a small patch of eburnation on the left distal fibula and on the proximal 1st metacarpal (at the articulation with the trapezium). This is also a degenerative condition associated with old age. It is likely that this individual had osteoarthritis of the back, wrist and ankle.

Disarticulated material

The same kind of traumatic and pathological conditions observed in the individual skeletons SK1 to SK20 were also reflected in the disarticulated material. This included a fragment of fibula with a possible healed fracture and related osteomyelitis from fill of charnel pit 501, a left femur head with an osteophytic rim, eburnation and macroporosity (degenerative joint disease) from fill of charnel pit 488 and the two clavicles with medial osteophytic lesions already mentioned in section 2.7.4. DISH was also observed in the disarticulated material (from charnel pit 418, spit 3) reiterating its presence on the site. Other degenerative spinal disease was also present, in the form of osteophytic growth on vertebral joint surfaces and bodies. The small amount of dental material recovered also exhibited conditions such as antemortem tooth loss, periodontal disease, calculus and caries.

Recommendations

A full catalogue of the quantity and nature of the assemblage has been undertaken for inclusion within the site archive, and the skeletal material itself may be deposited at an appropriate museum or reburied.

5.5 Stonework (*by Stephen Yeates*)

5.5.1 Introduction

Figure 46: Reliquary remains during micro-excavation

Excavations at Bicester Priory uncovered the remains of architectural fragments, which can be divided into two categories: building fragments and funerary monument fragments. Both can be diagnostic in respect to periods of time, but it is the architectural building fragments that are one of the most important finds that can be recovered on high status medieval buildings. This is because architectural styles change over time and within regions. Studies in this area have amassed significant data with moulding profiles on standing and demolished churches and by cross referencing these styles through textual references which specifically date building phases on churches it is possible to suggest stylised dates for mouldings for which no textual sources survive. The primary series of moulding styles consulted here were established by Paley (Paley and Fawcett 1865) and refined by Richard K. Morris (1978, 18-57; 1979, 1-48; 1992, 1-17), which has been supplemented with consultation of other sources. The architectural building fragments are thus an indication of the date of construction of the building, while funerary monument fragments can only provide the date at which a specific monument was inserted into a building. Sometime these details will combine, for example at Gloucester Cathedral, previously abbey, where the whole choir was remodelled to house the tomb of Edward II (Verey and Brooks 2002, 397).

Historic references do survive to construction work at Bicester Priory, which where catalogued by Dunkin (1823, 252-7), and which can be supplemented with other sources. The priory was founded by a grant of Gilbert Basset, which is dated 1182 x 1185 (VCH 1907, 93-95). In 1397 a new choir with a boarded floor was constructed beyond the vestry, to which John Stacy was paid £20 (Dunkin 1823, 252-7). In the same year John Fige was paid 25s 8d for the construction of a new chamber (Dunkin 1823, 252-7). In 1424 the priory sets out expenditure for the rebuilding of the dormitory covering £20 20d (Dunkin 1823, 252-7). In 1425 the dormitory was rebuilt at an expense of £34 17s 4½d. In 1430 the bakehouse was rebuilt, which was located adjacent to the monastery and cost £17 19s (Dunkin 1823, 252-7).

There are also a number of references that have been identified concerning the locations of the stone quarries which were used for the building stone of the priory (Hinton 1968, 39-40). The priory owned quarries at Kirtlington that are referred to in 1425, and from Crockwell at Bicester in 1425, and also Caversfield in 1395, 1398 and 1407. Better quality building stone was supplied from Taynton in 1395 and 1398 and from Bloxham in 1296. Roofing slates are known to have been purchased in 1440 from Slaughter in Gloucestershire.

A number of architectural fragments have previously been recovered from the priory (Dunkin 1823, 250-2), but as these are derived from antiquarian sources they often lack specific dates and adequate descriptions. These fragments will be considered after the new building fragments have been described.

Stonework recovered from the building: 2011

M1 is a carved piece of limestone recovered from context (287). The piece measured 75m x 65m and was 75m in depth (Fig. 47).

M2 is a carved piece of limestone recovered from context (287). The piece measures 195m x 64mm and had a depth of 84mm (Fig. 47).

M1 and M2 consist of a roll with three fillets (Morris 1992, 1-17). The two side fillets have ogee style rather than angular profiles. The origin of the filleted roll as an architectural component is first recognised at Saint Denis Abbey in France *c*. 1140; however, in England it has been recognised as a style developing from the 1180s and has its first recognised and early use from the late 12th century at Byland Abbey. Roll and fillet mouldings have been recognised as being employed in ribs and arches in the Southeast of England at Canterbury Cathedral, Kent, 1179-84. These designs are recognised as being used more widely from c. 1200 for example at Saint Mary's, Shrewsbury, Shropshire. The roll and fillet design becomes extremely common in church architecture in the reigns of Edward I and Edward II (Paley and Fawcett 1865, 36, 38, 45), however, this is during the Decorated period when the roll and fillet of the design broadens. These two artefacts show a narrower roll and fillet, which means that the artefacts are of an Early English style and a date in the 1180s is feasible (Paley and Fawcett 1865, 23, 34-35) for these architectural fragments and they may well be details from the original priory church.

M3 was a piece of carved limestone recovered from context (260). The piece measured 255mm x 140mm x 93mm (Fig. 47). The stone contains light brown colouration and a marked line. M3 consists of a symmetrical moulding with a flute with a wave or ogee with quirk and pointed fillet beyond a shallow hollow (Paley and Fawcett 1865, 17, 33, 50, 52). The end of the moulding is broken and it is possible there that the stone contained a simple roll or perhaps a roll and fillet. The shape of the stone is perhaps indicative that this moulding was used for a mullion between windows. These features are common in Early English and Decorated style churches. If the broken feature is a narrow roll then it is perhaps indicative of this stone being of an Early English style rather than Decorated and is generally indicative of a construction date in the later part of the 12th century or the early part of the 13th century.

M4 was a piece of limestone recovered from context (287) measuring 117mm x 185mm (Fig. 47). M4 is a ¾ circular section, previously called a bowtell or great bowtell (Morris 1992, 1-17), with a ½ circular bead or torus. The top of the stone retains a circular marking divided into quarters where the mason was marking out the stone. The stone would be used in the mouldings of doorways and windows predominantly. The origins of this design go back to the Romanesque traditions, but it continued in use into the Gothic traditions as they developed from the middle of the 12th century. Local examples predominantly occur in Norman style architecture, and noted examples include the late 12th century doorway at Water Stretford (RCHME 1913, 310 plate), an elaborate north doorway at Twyford, Buckinghamshire, dated *c*. 1180 (RCHME 1913, 306 plate) where the left hand column still contains a bead or torus around the neck. Further examples of this feature can be found in the south door at Bradenham, Buckinghamshire, dated to the late 11th to 12th centuries (RCHME 1912, 61 plate), at Dinton, Buckinghamshire, in the west doorway where the columns are dated *c*. 1250 (RCHME 1912, 61 plate, 124 plate) and in the south doorway where the columns have a spiral design and are dated c. 1140, and in the north doorway at Horton, Buckinghamshire, where a date of *c*. 1165 has been allotted (RCHME 1912, 206 plate). Paley and Fawcett (1865, 53) noted that the feature is used extremely sparingly in Decorated architecture and so it is very unlikely that this piece of

stonework is later than 1272, and thus a date from the 11th, 12th or the 13th century prior to that date is generally feasible.

M5 is a limestone fragment recovered from context (404); measuring 155mm x 75mm x 65mm (Fig. 47). A mark is recognisable on one part of the stone. M5 can best be described as a compound moulding with two narrow rolls, one with a fillet or quirk flanked by two hollow chamfers and the other flanked by two deep hollows. The use of hollows between prominent members such as narrow rolls is more likely to be an example of the Early English period dated by some 1189-1272 (Paley and Fawcett 1865, 35), although the earliest date that this feature could occur is perhaps slightly earlier. The hollows between the rolls are joined by what could be interpreted as a spiked hollow or angle fillet (Morris 1992, 6) a further early Gothic moulding.

M6 is a limestone fragment which was recovered from context (418). The stone measures 180mm x 75mm x 56mm (Fig. 47). M6 is a simple chamfer with an angle of 39o. Chamfers are a common feature of Romanesque and Gothic architecture and have early use in abaci and plinths (Paley and Fawcett 1865, 29; Morris 1992, 1-17). The moulding is regularly used in arches, ribs and mullions from the 13th century, and later has a use in piers, rēsponds, and continuous mouldings.

In the 14th century the width of the chamfer narrows. As the fragment of the surviving chamfer is incomplete it is not possible to be certain of the width.

M7 is a limestone fragment recovered from context (340). The stone measures 320mm x 340mm x 70mm (Fig. 47). M7 can be described as either a demi roll with fillet or a chamfered beak with deep undercut hollow (Paley and Fawcett 1865, 91; Morris 1992, 1-17). The use of deep undercut hollows is recognised as being a typical feature of string courses of the Early English period (1189-1272), but could be slightly earlier.

The last piece of stonework 9 is a squared piece of stonework measuring 280mm x 230mm x 170mm. The stone contains one well worked ashlar corner.

It is apparent that the excavations recovered a number of architectural features; of which various dates can be attributed On the one hand we have features such as the simple chamfer (M6) and the ¾ circular section (M4), which have a providence in the Norman style of the late 11th and early 12th centuries and in the Early English period of the late 12th and early 13th century. Other mouldings such as the roll and triple fillet (M1 and M2), the undercut string course (M7) and mouldings (M3 and M5) show features that are more in keeping with Early English and could continue in some slightly altered form in the Decorated period of the later 13th and early 14th centuries. It is apparent that the only cross over period into which all of these stone mouldings would easily fit is the Early English period, and it is quite feasible that a date in the 1180s or 1190s depending on how many years it took to build the church is feasible.

Stonework recovered from the building: early 19th century

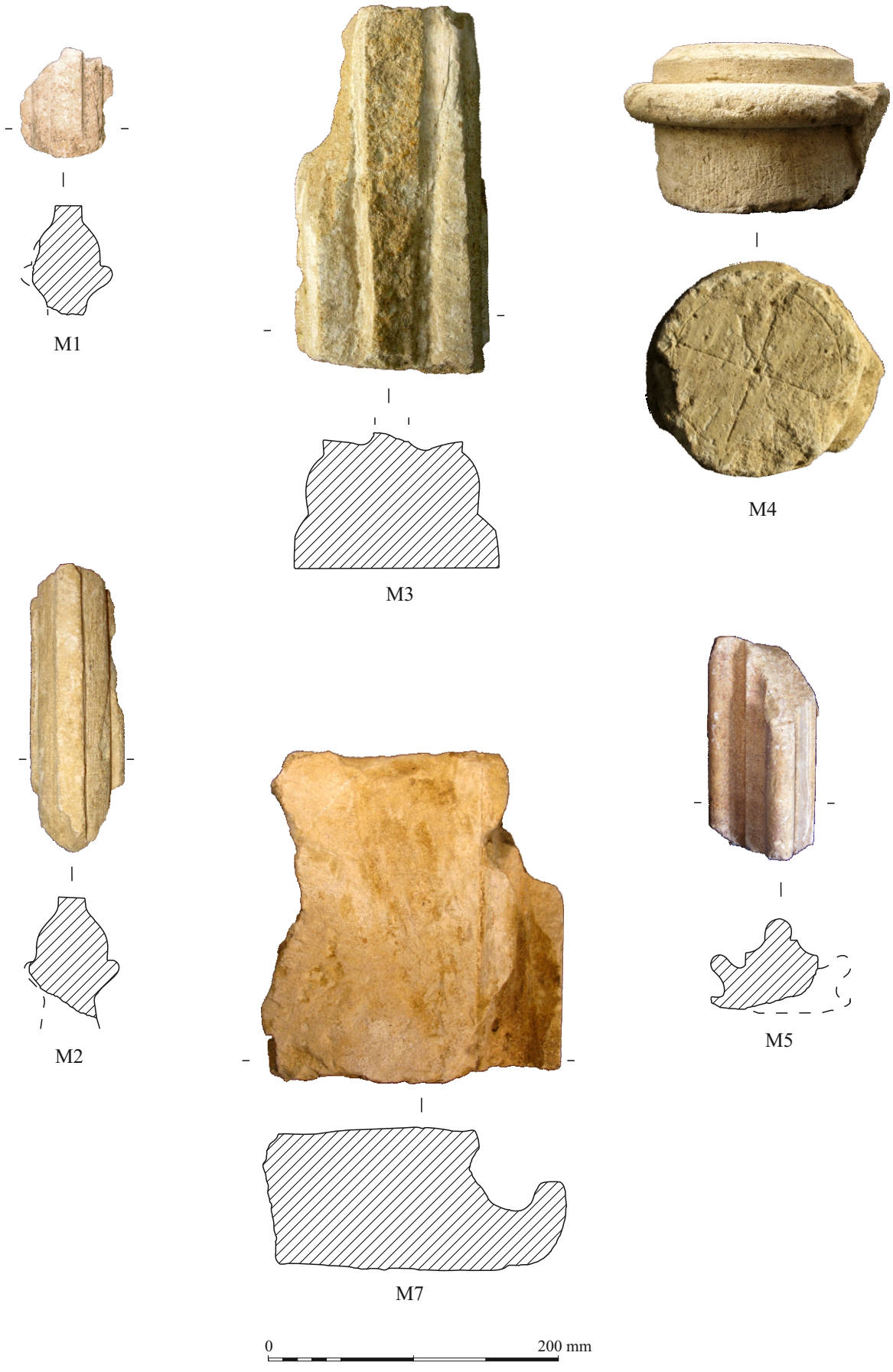


Figure 47: Illustrated worked stone

TL 3

TL3-1

TL3-3

TL3-4

TL3-6

TL3-7

Figure 48: Tomb lid detail with flower ball motifs. TL 3

The mouldings recovered from the site at the beginning of the 19th century appear in antiquarian accounts (Dunkin 1823, 250-1, plate). They occur in illustrations but the descriptions are not necessarily the most accurate, and the lettering system is somewhat confusing using variously lower case and capital letters.

Moulding (a) is interpreted as a Corinthian capital, while moulding (b) has been given ditto, that is the same description (Dunkin 1823, 250-1, plate). These features both contain foliated carvings. Foliated designs on capitals use two different forms the crocket and the stiff leaf design (Cocke, Findlay et al. 1996, 16-7). The examples illustrated are the stiff leaf design with triple projection of leafs. Moulding (b) appears to be a capital of the top of a ¾ circular round. The stone contains part of a moulded feature, perhaps a simple roll flanked by two hollows. Floral capital designs can be found in a number of examples in the southeast Midlands or Home Counties, the following examples come from Buckinghamshire. Foliated decoration exists on the south doorway of the church of Saint Leonard at Grendon Underwood where it is dated to *c*. 1220 (RCHME 1913, 220 plate), and at Bledlow where the foliated arcade capitals have been attributed a date of *c*. 1200 (RCHME 1912, 54 plate). Further examples in the capitals of the south arcade at Bradwell dated *c*. 1210, in the north arcade in Ivinghoe church dated c. 1230 and in the nave and north transept at Marsh Gibbon (RCHME 1913, 39 plate). In the latter two cases the columns to which the capitals are of an octagonal shape, and it is only in the example of Bradwell that the column and capital are round. This point indicates a date in the later part of the 12th century or first decades of the 13th century. Paley (Paley and Fawcett 1865, 77) discusses floral designs on a bell shaped capital and attributes this characteristic to the early English style.

Mouldings (e) and (f) also show capital and base associated with a ¾ or ½ circular round features (Dunkin 1823, 250-1, plate). In the case of moulding (e) it is a moulded capital with three rounded beads or torus set on a bell shaped capital. The capital design is similar to those found in the King's Hall, Winchester, Hampshire, which have been attributed a date of 1222-35 (Turner 1877). More locally examples can be identified at Iver, Buckinghamshire (RCHME 1912, xxiv plate), and at Slough, Buckinghamshire, carved in oak and given a 13th century date (RCHME 1913 280 plate). With moulding (f) we have the base of the column which has a waterholding moulding, two rolls separated by hollow (Cocke, Findlay et al. 1996, 46).

Mouldings (E), (F) and (H) are described in the following manner (Dunkin 1823, 250-1, plate). Moulding (E/F) is described as a capital from a column which formed mullions in the windows. The capital contains two components which are of two different styles and types and it is difficult to accept this as one carving. On the one hand part of the capital shown is long and slender, while the other half is a more slender moulded capital. Moulding (H) is described as a double capital of a window, but could also be from a section of arcading. Examples of these types of capitals can be found at Iver, Buckinghamshire, used in the piscine and sedilia where they are generally awarded a 13th century date (RCHME 1912, xxiv plate).

Moulding (I) is described as a reeded column with bands (Dunkin 1823, 250-1, plate). This is possibly a circular column, but from the illustration it is not apparent if this was free standing or attached to a more elaborate arrangement. The chancel at

Haslope (Buckinghamshire) church contains a half round column arcade on which there is a half moulded external sill course dated to c. 1170 (RCHME 1913, 136 plate), and a later example from Slough, Buckinghamshire (RCHME 1912, 280 plate). Moulding (J) is described as a section of a band; it may represent a section through (I) or be part of a separate moulding. The moulding displays a triple roll design (Morris 1992, 6), which is a feature attributed an early Gothic or Early English origin. Trefoil designs can be identified in the church of Water Stretford (RCHME 1913, 310 plate), where they are of this period.

Mouldings (C) and (D) are both from springing points, this is the level at which the arch or vault rises from its support (Cocke, Findlay et al. 1996, 40-1). In the case of moulding (C) it is stated that this is part of a double arch probably from the refectory or aisle of the church (Dunkin 1823, 250-1, plate). The one arch contains two rolls and the other a three roll arrangement. The springing here is illustrated as if the two arches may have two different angles of projection (if this is accurately drawn) and it is feasible that this shows an architectural component relating to the triple lancet window or replicated triple arches with the central arch being far taller than its flanking companions. This triple arch design is a frequently found feature, for example the lancet windows at Princes Risborough, Buckinghamshire, in the south aisle dated c. 1280 (RCHME 1912, 270 plate), or the rood-screen at Stebbing in Essex (Smith, Cook et al. 84-85 plate 79). In the case of moulding (D) it would appear that this is from the spring of a continuous arch with two rolls diverging and a further group of rolls being inserted between them.

Moulding (K) is described as a moulding from a window mullion (Dunkin 1823, 250-1, plate). Due to the angle that the moulding is drawn at it is not easy to attribute specific descriptions to the component parts of this moulding. It is possible that the end moulding is a half roll flanked by a spiked hollow and then a fillet, with a hollow, a pointed fillet and a fillet before a further hollow.

One further reference is made to a corbel with a human head (Dunkin 1823, 250-1, plate). The piece is not illustrated, but the further reference is to the springing of arches. The term corbel in this case is used in a very broad term, as corbels are generally used to support a parapet or roof (Cocke, Findlay et al. 1996, 19). Supports for springing arches are often called capitals when located on the top of a column or bosses when located at the springing of a vault. The use of human heads on corbelling is evident from richly decorated Norman churches for example Kilpeck in Herefordshire (Pevsner 1963, 201-203), and Elkstone in Gloucestershire (Verey and Brooks 1999, 356-8). The use of heads continues unabated into the Gothic period.

Stonework recovered from the site 1964-6

Three pieces of stonework were recovered in the excavations 1964-6, which were described by Hinton (1968, 39-41). These have been described as (I) a fragment of stiff-leaf ornament, from a pier capital of the 13th century, (II) a foliage ornament from a capital dated to the 13th century, and finally (III) ball-flower ornament in ironstone dated to the 14th century.

Discussion of architectural stonework

The re-evaluation and interpretation of the worked stone recovered from the priory is indicative of a building of an Early English architectural style. Like the new pieces of worked stone recovered it is apparent that some of the features are residual from the Norman style and that others continue in some form into the decorated style, but that they only co-exist in the flourishing of early English. The foundation date attributed to the construction of the priory in the 1180s is of interest as it is indicative that the priory is an early construction of that style within the region, being built in the era c. 1175 that is considered the transitional period between Norman and Early English or Romanesque (Saxon and Norman) and Gothic (Early English, Decorated and Perpendicular). If this is the case, as it would appear from documentary and architectural sources, then it should be regarded architecturally as an extremely important building locally and influential in this transitional period in parish churches in the area.

Bicester priory was founded for Augustine canons and was given the church of Bicester, with the chapel of Stratton Audley, and the chapels of Little Missenden, Compton Bassett, and Ardington in their foundation charter, and was given Newton Purcell just after this date (VCH 1907, 93-5). The parish church at Bicester, Oxfordshire, contains elements of an early 13th century church with evidence of stiff leaf foliage (Sherwood and Pevsner 1974, 452-4). At the parish church of Stratton Audley, Oxfordshire, the aisles were added in the 13th century (Sherwood and Pevsner 1974, 794-5). At Little Missenden, Buckinghamshire, the chancel was rebuilt in a 13th century Early English style (Pevsner and Williamson 1994, 442-3). The church of the Holy Trinity of Ardington, historic Berkshire, is also mainly of a 13th century date of an Early English style (Tyack, Bradley et al. 2010, 129-30). Compton Bassett, Wiltshire, is the only one of the early holdings that does not contain 13th century material but it was rebuilt in a later Perpendicular design (Pevsner and Cherry 1975, 188-9). At the later addition to the priory's holdings the church of Newton Purcell remained as a small Norman chapel (Sherwood and Pevsner 1974, 717). It is of interest that a number of the churches held by Bicester Priory contain similar Early English detail, normally attributed to the early part of the 13th century. It has been recognised that major churches, for examples cathedrals, abbeys and priories, after going through a period of major construction or reconstruction would often send their masons to other churches that they held. It is likely that the churches of Bicester, Stratton Audley, Little Missenden and Ardington were built by the same masons who constructed the priory and may give us an impression of what Bicester looked like architecturally.

Table Tomb Slab

TL1 (not illustrated) came from context (404) top of charnel pit 403, SF 6. The dimensions are length 360mm (max) 300mm (min) x width 178mm x depth 90mm. The dimensions of the ball-flowers are 1) 38mm, 2) 38mm, and 3) 39mm. Coloured paints or pigments are preserved gold on ball-flower 1 and 3, and red and blue on the edge. The distance between the middle of the ball-flowers 1 and 2 is 83mm and 2 and 3 is 88mm. There is part of a recess on the underside.

TL2 (not illustrated) came from context (404) top of charnel pit 403, SF 6. The dimension are length 265mm (max) 220mm (min) x width 110mm x depth 89mm. The dimensions of the ball-flowers are 1) 31mm, 2) 30mm, and 3) 32mm. Colours

preserved are gold on ball-flower 2 and red and blue on the edge and mortar. The distance between the middle of the ball-flowers 1 and 2 is 77mm and 2 and 3 is 85mm. The piece also has a drilled hole of which the diameter is 16mm. There is part of a recess on the underside.

TL3 (Figure 48) came from context (404) top of charnel pit 403, SF 6. The piece is from the corner of a tomb. The dimensions are length 490mm (max) x width 275mm x depth 85mm. The dimensions of the ball-flowers are 1) 42mm, 2) 41mm, 3) 44mm, 4) 44mm, 5) 40mm, 6) 41mm, and 7) 40mm. Colours preserved is gold on ball-flower 1, 3, 4, 6, and 7, and red and blue on the edge. The distance between middle the ball-flowers 1 and 2 is 93mm, 2 and 3 is 93mm, 3 and 4 is 105mm, 4 and 5 is 85mm, 5 and 6 is 81mm, and 6 and 7 is 92mm. There is part of a recess on the underside.

TL4 (not illustrated) consists of two fragments and came from context (418) top of charnel pit 403. The piece is from the corner of a tomb. The dimensions are length 345mm x width 210mm x depth 90mm. The dimension of the ball-flowers are 1) 34mm, 2) 37mm, 3) 32mm, 4) 40mm, 5) 35mm, and 6) 40mm. Colours preserved include gold on ball-flower 3 and red and blue on the edge and mortar. The distance between the ball-flowers 1 and 2 is 85mm, 2 and 3 is 72mm, 3 and 4 is 79mm, 4 and 5 is 85mm, and 5 and 6 90mm. There is a rectangular setting on the upper surface of the stone, and part of a recess on the underside.

These four fragments could have been part of a chest or table tomb top or altar, the former is more likely due to the rectangular setting on TL4. The edge of all of these pieces of stone contains an ogee chamfer in that it contains a moulding with an S curve profile (Morris 1992, 13-14), and with a simple quadrant chamfer on the underside. Together they could be termed as an ogee keel. This feature is characteristic of the late Gothic period, primarily of the Decorated period. The ball-flower is also a characteristic feature of the Decorated period of the later 13th and early 14th century. The Decorated style was initiated at Reims Cathedral in France in *c*. 1240 (Coldstream 1994, 7). Even though the ball-flower is part of the Decorated style it is apparent that the detail was predominantly an English addition to the style. The upper stage of the central tower at Lincoln Cathedral was initiated by the chapter and constructed 1306-11 (Clifton Taylor 1967, 174). The upper Decorated stage of the tower at Salisbury is covered with a ball-flower frieze that is dated to 1334 (Clifton Taylor 1967, 179; Pevsner and Cherry 1975, 400). At Bristol Cathedral there are a series of stella tomb recesses of which the one containing the tomb of Walter Newbury contains ball-flower decoration dated roughly to the 14th century and the reredos in the eastern lady chapel also contains this decorative feature, though restored in the 19th century, is a work dated 1298 to 1330 (Harrison 1975, 6, 8-9, 12). The south aisle windows at Hereford Cathedral also contain the ball flower as a dominant feature where as does the central tower, they are dated to *c*. 1300 (Smith, Cook et al. 1976, 83-4 plate 74; Clifton Taylor 1967, 179). Similar ball-flowers occur on funerary monuments in the north transept of the church at Witney (Smith, Cook et al. 1976, 85 plate 80). The octagonal chapter house at Wells Cathedral contains geometric decorated windows with ball-flower design (Clifton Taylor 1967, 157). Though some of the examples seem to have been commenced at the very end of the 13th century the feature is generally seen as being characteristic of the early 14th century (Clifton Taylor 1967, 157).

Post-medieval stonework

The last piece of stonework is a piece of iron stone measuring 320mm x 340mm x 70mm thick. The stone is roughly rectangular with rounded corners and rough edges. The stone is probably broken on its lower end. On the one side there is a carved script, the top row contains letters of which the first two are not clear but the last could be an M. It is possible, but inconclusive, that this reads MM. The lower line contains a date 1799. This tomb stone was not connected with the priory but the independent chapel on the east side of Chapel Street (now Trinity Restaurant). Other tombstones were found during a watching brief in the grounds of this chapel were very similar to this one (Riccoboni 2012a). The stone as it contains a date is clearly a date stone of some type. Early memorials from the 17th century sometimes only contain dates, for example recognized memorials from Broadway in Worcestershire or Lower Swell in Gloucestershire (Mytum 2000, 5-7), but an example from Over Silton, Yorkshire, contains a date of 1661 and uses initials. This Yorkshire tradition of placing date and initials on a stone is recognized as a 17th and 18th century tradition in the Calder Valley in the vicinity of Dewsbury, Halifax, Todmorden and Wakefield (Mytum 2000, 46-47). The stones are called ledger stones. The Calder study recognizes that there are regional traditions apparent for funerary monument forms. However, very few of these local traits and ideas have been satisfactorily plotted. The size of the stone is indicative of it being a standalone ledger stone or being a foot stone rather than a head stone (Mytum 2000, 118-119).

5.6 The Special Finds

There were 18 finds identified on site for special treatment and were separated from the bulk of the other finds and packed appropriately. Appendix 5 details all the information of each find, object number in the first column and context number in the second column. There is a description of each special find. And some are illustrated in Figure 49, p. 106).

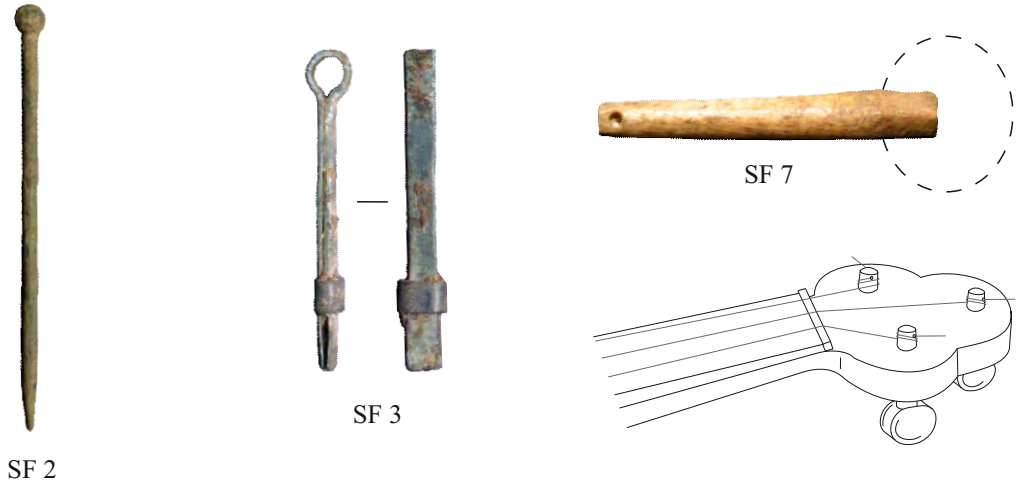
5.7 The Animal Bones

A small assemblage of animal bones were collected from across the excavation areas. The assemblage was very small and did not warrant specialist analysis. Identification of an animal skeleton from Area A (context 154) was identified by the post-excavation team as being that of a dog. One other small mammal (possibly a rat) skeleton was observed from (164) with stones placed around it.

6. THE SCIENTIFIC DATING

6.1 Introduction

Four radiocarbon measurements were obtained from three separate contexts at the Bicester Priory Church excavations. The aim of the radiocarbon samples was to try to refine questions of chronology relating to the excavated burial sequence. The principal aim of the two radiocarbon samples taken from the ‘reliquary’ was to prove whether this was the remains of the real St Edburg, which was venerated on a purpose built shrine for over two hundred years. The results are discussed below and in Chapter 7.



SF 2

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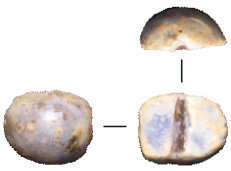

SF 16

Figure 49: Illustration of Special Finds

A radiocarbon date was needed for the dating of the burials beneath the north transept extension. The stratigraphically earliest skeleton was chosen (SK1) of the group of three skeletons in this area. As a result, the radiocarbon dates have shed light on when burial practice ceased within the Priory Church (see discussion). It was hoped that a radiocarbon date would help establish whether the lone skeleton in the doorway of the chantry chapel was that of Master Walter de Foderingeye, who donated £40 for the construction of the chapel after his death in 1323.

All four samples were processed by the Scottish Universities Environmental Research Centre (SUERC). The samples were from;

1. Context (294) SK1 Human Bone SUERC-41586 (GU27946)
2. Context (390) SK7 Human Bone SUERC-41587 (GU27947)
3. Context (308) Sample 1; Edburg Femur SUERC-41588 (GU27948)
4. Context (308) Sample 2; Edburg Tibia SUERC-41589 (GU27949)

The calibrated age remains are determined from the University of Oxford Radiocarbon Accelerator unit calibration program (OxCal13). The full results are presented in Appendix 8, a summary of the results are shown below. The dates were recalibrated as a high marine component in the diet is known to affect calibration. The full results of the re-calibration against a marine curve is presented in Appendix 9. For recalibration $\delta^{13}C$ end members of -21‰ for 100% were used for terrestrial diet and -12.0‰ for 100% marine diet. A linear extrapolation between these was ascertained and calculated where $\delta^{13}C$ values fell in terms of percentage marine diet. In the absence of any specific information on the marine reservoir effect a ΔR value of 0 ± 50 was used. The marine calibration extended the date range, probably making them appear later than they truly are. For example, the skeletons would not be dated to after the reformation as the Priory Church was demolished in 1533.

6.2 Summary Results against the terrestrial calibration curve

1. Context (294) SK1; 95.4% Probability 1416-1487calAD
2. Context (390) SK7; 95.4% Probability 1408-1455calAD
3. Context (308) Edburg Femur; 95.4% Probability 1219-1277calAD
4. Context (308) Edburg Tibia; 95.4% Probability 1163-1265calAD

6.3 Discussion of radiocarbon dates

The radiocarbon date of the human bone (taken from a femur) from grave 294 Skeleton 1 (SK1) established the date of the earliest skeleton in this area of the church which was dated later than expected (terrestrial calibration 1416-1487calAD; marine calibration 1444-1634AD). The date for the addition of the north transept extension was probably when the shrine was installed in *c.* 1300AD. It was assumed that the burials found within this extension would have also been 14th century. The 15th century date would mean the tiled floor (dating from 1280-1330AD), found overlying these graves, must have been pulled up and then re-laid after each burial. This may help to explain the high number of levelling deposits found across this area.

The radiocarbon date from context (390) Skeleton 7 (SK7), also proves a later medieval date for the person (terrestrial calibration 1408-1455calAD; marine 1427-

1533-68.7% probability). This grave was chosen for radiocarbon analysis as it was the only grave in the chantry chapel. It was therefore possible that it may have been the chapels sponsor, Master Walter de Foderingeye. The radiocarbon date proves that this was not Walter de Foderingeye who died in 1323. This grave also had a tiled floor overlying it (396) dated to the beginning of the second quarter of the 14th century (at the earliest). The radiocarbon date therefore also indicates that the tiled floor was pulled up and re-laid after the insertion of the grave.

The two radiocarbon dates from the bones within the lead box 'reliquary' (308) were similar using the terrestrial curve at 1219-1277calAD & 1163-1265calAD. The margin of error of the radiocarbon dates crossed (775BP ± 25 and 825BP ± 30) meaning the bones are therefore likely to have come from one individual. The dates prove beyond any doubt that the bones within the reliquary were not that of the original St Edburg, daughter of a 7th century Saxon Earl. The bones are dated to before the construction of the shrine, which was dated stylistically to 1295-1312.

The evidence of a high marine diet (-18.7-18.8% $\delta^{13}C$) would be expected from a monastic community. The presence of fish in the monks diet (both sea water and fresh water breeds, which were likely to have been salted) are known from the account rolls, discussed below. All of the samples displayed higher than average fish content of diet, in particular the bones of the reliquary which had a marine calibrated date range of 1265-1398calAD & 1208-1327calAD. The marine date ranges when compared with the terrestrial date ranges tend to have a later emphasis, of which the later dates do not correspond with the known historical timeline. The earlier date ranges of the terrestrial calibration should therefore be regarded as more accurate.

7. DISCUSSION

Area A

Early features
The earliest feature encountered on this area was a dog skeleton dated to the Saxo-Norman period by one accompanying sherd of pottery, which cannot be considered definitive dating evidence, as one sherd may be residual. The dog skeleton either died and washed up against the edge of the river or was deliberately placed on the edge of the stream (154).

Post-medieval buildings
The investigation across Area A revealed the remains of at least one early post-medieval building. The structural elements of this building consisted of north-south and east-west walls, a stone floor, and later extension with yard spaces constructed of concrete.

The earliest possible wall was tentatively considered to be wall 111, although it contained a modern find which may have been intrusive (pressed down) when the site was levelled. This wall was very close to wall 103 and may represent the remains of an earlier structure. The closeness to Wall 103 means that the two walls were unlikely to be contemporary. Wall 103 formed the main structural element to the dwellings which fronted onto Chapel Street and was the most significant feature discovered on

the site. The only dating evidence recovered from the wall was early 17th century (at the latest), which is the first direct dating evidence for the construction of the cottages (three of which (No's 38-42) still exist but may be later rebuilds). The 17th century date is earlier than the previously anticipated date of construction thought to be early to mid 18th century, which is when the independent church (now Trinity Restaurant) was constructed (1719) (Riccoboni 2012a). The three illustrated finds (Fig. 32) all from Area A also indicate the site may have been occupied almost immediately post-dissolution. This is the earliest evidence yet for the first post-medieval occupation of the west side of Chapel Street.

Other parts of this building were later additions dated to the 19th and 20th century closest to the stream (contexts 115-119), which included an outside yard space and brick built extension, possibly used for a fireplace (for cooking use), perhaps noticeable on the first OS map of 1881. It would seem that when the stream was canalised in the 19th century the back yards of some of these properties were destroyed. The stream would have been narrower in the past and was widened to prevent flooding. Cartographic study shows that dwellings (previously numbered 32-36) were gone by the OS map of 1967-8. The buildings would have had ground plans, which conformed to the vernacular buildings of the 17th and 18th century.

The two rooms revealed by the excavations would have provided a small ground floor plan and they were built as slum dwellings for the working classes. The western room was likely a small parlour extension and the kitchen perhaps in the centre of the site with living area closest to Chapel Street frontage.

The edge of the stream was investigated and the recorded sections proved the River Bure passed closely to the back of the properties (before the yards were instated) and was almost certainly used for washing clothes and other abolutions. It has been well documented by Hedges (1991) that the properties on this street were in poor condition and rats were a major problem. The archaeological investigations have further added to this picture with the discovery of a rat skeleton (167) within the back wall of the property (103).

When the dwellings were demolished in the 1960's they were in a poor condition and simply levelled by a machine, leaving a layer of demolition rubble which complicated the archaeological plan (see Fig. 6).

Area B

Early features
A pit of probable Saxon date was discovered and is probably related to the known Saxon settlement site excavated in 1999 on the other side of Chapel Street (Harding & Andrews 2002). This was the only feature of this date, which suggests the known Saxon settlement did not extend this far south of Chapel Street. Other discrete features often without dating evidence may also be related to the Saxon settlement, perhaps representing the limits of a peripheral area to the main settlement used for waste disposal.

Post-medieval buildings

A number of dwellings were identified from the archaeological plan. The dwellings were known to have existed along the Chapel Street frontage (Fig. 3). There were at least three separate dwellings with additional later extensions recorded, for example (162). The excavated evidence fits well with the historic OS maps, which show the dwellings fronting onto the street until the 1960's. As the road was the main route into Bicester before the railway was instated, the road was lively even until the 1920's with many entertainers and strolling players (Hedges 1991). Beneath the earliest walls of Building 2 was similar dating evidence to Area A Building 1, with pottery dated as 1550+, suggesting the dwellings were first constructed in the early post-medieval period. It should be assumed that they are broadly contemporary with the building from Area A and are early 17th century in origin (at the latest). Over the centuries of occupation many cottages were rebuilt with later additions and extensions, proved by a coin dated from 1917 within the latest floor layer of Building 2. The almshouses on the eastern side of Chapel Street were inhabited by tenants who likely paid just a few pence a year in rent up until the 1930's. It is likely that the excavated cottages also were relatively cheap living space for the residents, but conditions were poor.

The foundation of the Priory

The historical documents which are still surviving (which include the Bursar's, Hospitaller's, Kitchener's, Granger's and Sacristan's accounts) state that from the medieval period Gilbert Bassett (the second of that name), established in his native place a Priory of which 12 inhabitants (to match the number of disciples) were to live by the rules of St Augustine of Hippo. It was common for many great medieval families to found monasteries on their lands, partly so that the monks and canons could say masses for their souls, but also so that the church could act as a mausoleum for the burials of members of their families. This was the case at Bicester, with the Priory Church becoming the main burial place for the Bassett family. Our excavations uncovered the bases of some tombs and the skeletons within them were considered to be the Bassetts (or relations of the Bassetts) or high dignitaries and medieval clergy.

The order of Augustine was first bought into England by Adelwald, confessor to Henry I at Nostel in Yorkshire. He favoured the order, which enabled them to prosper and spread rapidly across the country. The Priory Church at Bicester had been built before 1201 and was of considerable size. We now know the church nave/choir/chancel, north and south aisles, and north and south chapels were built during its first construction phase. Both aisles appear to have been fully vaulted as John Dunkin recovered several complete arches of equal size to those usually in the largest parish churches (Dunkin 1823 p. 251). The choir and chancel had continuous wall footings. It is possible that due to the weight of the central bell tower solid walls were needed at the eastern end of the church nave/choir, rather than open columns often found elsewhere within the church nave during the 1960's. Alternatively solid wall foundations may have been used to support open columns, which were perhaps necessary due to the soft geology at the eastern end of the building, closest to the River Bure. The construction of such a large Priory Church would have had an immeasurable impact on the local population. Local tradesman and workers from Bicester and the surrounding area would have been hired to begin its construction of which an unknown number surely died as a result of dangerous working conditions. It is probable that the church was the first building to be erected on the site in stone, with the cloisters and other accommodation blocks presumably originally constructed

in timber before the stone masons completed the work over these areas once the church was finished. No evidence was seen of Bassetts House, which was thought to have existed beneath the Priory Church, but may still exist beneath the western end of the church on the drier ground further away from the River Bure.

The ground plan of the conventual buildings was typical of the many monasteries of the period. The archaeological investigations have enabled a detailed reconstruction of the church from the late 12th century through to the later addition of a chantry chapel in the early 14th century. Side chapels are common on Augustinian churches and are often adjoining the north transept, although it has been known for a gap to exist between the chapel and transept at Newark Priory. The Church was originally constructed with two aisles unlike other Augustinian churches, which often begin aisleless such as St Mary Merton, Lilleshall, Norton and Newark. This would indicate that all necessary funds were in place from the outset of construction.

The location of the Priory close to two streams was ideally located with sufficient room for the construction of church and other buildings, which is presumably why the priory was never relocated after its creation. Other priories have been known to relocate usually within a year if these basic requirements are not met. The site's location close to the River Bure would have had flooding implications for the priory. The large culvert was the first phase of construction at the site and presumably served as a drainage channel to help dry out the area before the church was first constructed. The river was known to flood regularly until the early 20th century when it was canalised. The problem was so bad that Chapel Street was formerly known as Water Lane. Flooding did not result in the removal of the monastery to another site at any point in its history although the addition of buttresses to every wall may be testament the ground was not ideal for a large stone building. The walls of the church also had very deep foundations, which we now know reached a depth of at least 1.5m. Such deep footings would have enabled strong structural support for the building and helped against subsidence.

The Priory Church was built from sandy grey oolitic local limestone probably from a quarry beyond Crockwell (situated in the vicinity of Barry Avenue off the Bucknell Road), which is a hard stone resistant to weathering. The church was constructed in Early English architectural style, with some features residual from the Norman style. However, during the first archaeological investigation by John Dunkin many architectural fragments were recovered some of which he termed ornamental Corinthian columns (now termed floral capitals), but these were lost, stated by Dunkin as being originally placed in Wilson's Yard or deposited in an outhouse belonging to Mr Reynold's. The columns, arches and mullions from the windows were illustrated in his excavation report and reappraised in section 5.5. There were few additional ornamented architectural fragments recovered (Fig. 47), but some of which were from the original church (M1 & M2).

As the excavations are limited to within the Priory Church it is not possible to discuss the other aspects of the Priory, of which we know a little of from previous excavations (see background) and historical texts.

1300-1399 (period M3)

During the 14th century the Priory Church was enlarged in 1300 with a loan of £200, and the excavations uncovered the extension of the north transept presumably to accommodate the shrine of St Edburg. Further additions of a chantry chapel attached to the north aisle around this time were also undertaken due to the donation in 1316 of £40 by Master Walter de Foderingeye at the time of his death. One skeleton was found within this chapel near the doorway (Skeleton 7), radiocarbon dated to 1408-1455calAD (marine calibration 1425-1533AD). This skeleton was therefore not the chapels sponsor, Walter de Foderingeye. The extension to the north transept would have made space available for the installation of the Shrine of St Edburg in about 1310-1320, which was beautifully carved by Alexander of Abingdon, stylistically dated between 1296-1312AD. During the excavations of 1967, tiles of the same date as the shrine were uncovered in the north transept and showed considerable wear which may be a direct result of the numerous pilgrims which visited the shrine. The shrine would have been important to the church not only because of the importance of St Edburg but also because of the income that pilgrims would generate for the church and its upkeep. The tradition of local saints was promoted in a number of ways including celebration masses and feast days. The veneration of a local saint would be important for the local community and gave the people a sense of identity. The shrine would have been visited by able bodied people, including the sick, the lame, maimed and possessed when all else had failed to heal them. The discovery of the reliquary within the north transept is a further indication that this was where the shrine was located during the 14th century. At the time of the dissolution when the shrine was being removed, perhaps one (or group of) workmen hurriedly buried the reliquary so that they would remain in Bicester and not be lost or destroyed.

The excavations at Bicester Priory Church represent one of the most comprehensive studies of a Priory Church ever undertaken in Oxfordshire, outside of Oxford. The excavations shed useful light on the internal layout and design of an Augustinian Priory Church with comparisons in the region providing invaluable information on these enigmatic buildings. The project enabled us to clarify the shape and spatial organisation of the Church previously incorrectly recorded by John Dunkin in the early 19th century. The eastern end of the church although uncovered by Dunkin's workmen in 1819 was not properly planned for reasons unknown. The recently recovered archaeological plan means we can now reconstruct the appearance of the church with great accuracy and understand more fully the lifestyle of the inhabitants including their medical care, health and diet and the manner of the death and burial. The full excavation of all the encountered burials within and outside the church enabled a comprehensive study of the people who lived their lives within the Priory complex devoted to God and the Order they served.

Water Conduits, Ponds and the Well of St Edburg

Water supply was of upmost importance to a religious house as discussed earlier if water supply was not sufficient then the priory could relocate for it. Open spaces were important for running conduits, pipes and drains and it was not unusual to find water supply structures within cemeteries. The large culvert beneath the Priory Church originally discovered by John Dunkin in 1819 was a masterpiece of medieval engineering. The arched roof gave the culvert the strength to hold the incredible weight of the church above. Dunkin notes that the culvert was 'apparently designed for conveying the back stream, as well as the superfluous waters of the large pond in

Place Yard under the Priory buildings into the brook.' A pond was marked on Dunkin's plan to the immediate north of the church chancel but the accuracy of this location remains sceptical. The molluscs found within the culvert were almost all aquatic species and there was a small element which requires clean flowing water, including *Valvata cristata*, *V. piscinalis* and *Physa fontinalis*. This suggests that the drain carried a flow of water from a spring or a seepage rather than just serving to take away rainwater. The insects were mostly species of stagnant or slowly-moving water including the larvae of *Trichoptera* and *Chironomidae*, and the water beetles *Hydroporus* sp. and *Hydrobius fuscipes*. The environmental remains would back up Dunkin's theory of flowing water from a back stream and pond into the brook, successfully installed and managed before the church was erected.

At Christchurch Cathedral Priory, Canterbury a map by Prior Wibert (dated 1165) shows that water was fed from the (extant) water tower in the infirmary cloister and piped under the cathedral church, to reach a large, free-standing basin in the lay cemetery to the south where it flowed to fish ponds to the east (Gilchrist & Sloane 2005). The provision of a basin and well confirms that visitors to the cemetery could draw a supply of water for their immediate use. No such basin or well is known from Bicester priory, but it would seem that fish ponds were kept clean with a fresh supply of water from a back stream.

The holy well of St Edburg was however not located within the walled monastic precinct. In 1282 a long sward of grass *St Edburge's Greneway* led from the village to the spring called *St Edburg's Well* (Hedges 1991). In 1339 the position of the well was described as lying 'between the Oxenford-wey and the aforesaid furlong of Over Nyneacre, and abuts the lower end on Nether-Stanford…lying at the end of a footpath called St Edburg-wey, for here the field of Bury-end and Kyng-end divide.' The Well is considered to exist close to the footpath running from Kennedy Road to Leach Road (Hedges 1991) and opposite St Mary's Close (King 1989). Recent map research suggests a location in an undeveloped plot of land between Greenwood Drive and Blythe Place (Lawrence 2011). Hedges location was excavated by OAU in 1979 and included an early geophysical survey (PRN 11204). This recorded a 1st to 4th century settlement, but did not mention any medieval remains. Lawrence's preferred location was not formally excavated but reported in late 1970 as a Roman site consisting of skeletons, pottery, floor or road, ditches, and evidence of smelting and kilns (PRN 16294). The curing properties of the well continued throughout the medieval period and many sick people, after making offerings at St Edburg's Shrine, would have made their way to the well (thought to be a spring) as the monks reputedly told pilgrims God himself presided at the waters and used them to cure the sickness of all persons qualified. In the drought of 1666, John Coker (the Lord of King's End) opened the well up again, after it had all but dried up, and put it back into public use (King 1989). We don't know how long the well lasted after this date, except to say local historians over the last century have claimed to have found it overgrown with reeds and remaining damp.

The Inhabitants of the Priory

The Priors

The Prior was elected from the Brethren (except the last prior) and was generally beyond middle age before attaining the superior office. Both within and outside the

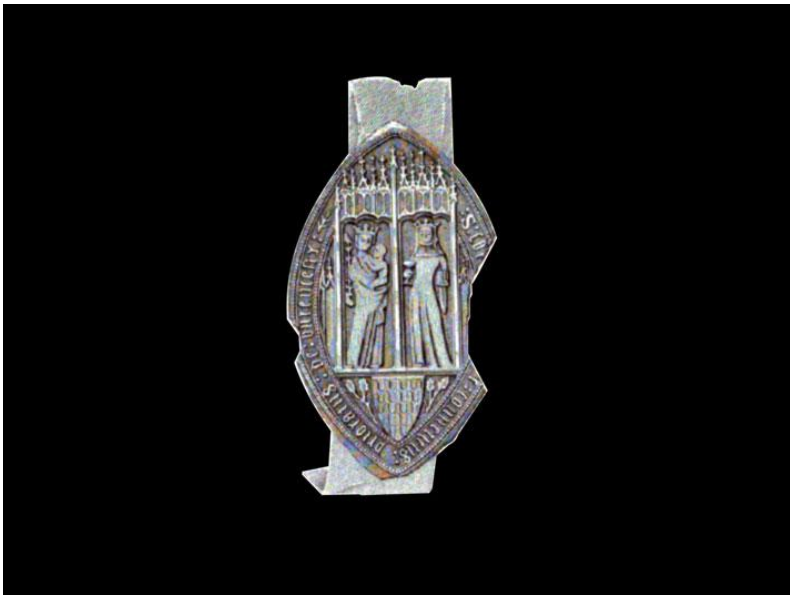

Figure 50; Seal of Bicester Priory showing Virgin Mary with St Edburg

Priory he was treated as a high dignitary and his authority of the affairs of the house was absolute. He had his own set of apartments and even his own private chapel and hall. When the Prior appeared in public he often was on a horse or mule with gilded bridle and saddle, attended by grooms. He wore in addition to the dress of his order a travelling cloak with hood lined with white fur or wool, leather gloves and hat with feathers. Twenty-six Priors presided over Bicester Priory in regular succession, of whom five resigned office and two were preferred. None left any mark except their names and dates of office, which can be obtained from Blomfield's Deanery of Bicester (1884).

The Brethren

The Augustinian Orders were divided into Canons Secular and Regular. The former lived in the community on the monastic model. The later were professed brethren lay and clerical, of varying numbers who lived within the monastery, taking vows to obey the rules of life which governed their order (Blomfield 1884). At Bicester Priory was the Prior, eleven Canons, the Clerks of the Church and the Novices.

Many sons of noble and gentle families and sons of peasants flocked to the monasteries to become Canons. They abandoned their family name and assumed the name of the village they came from. They were maintained out of the common fund of the house and would receive extra 'pittances' on certain anniversaries and festivals, which was usually some meat and drink. Some of the Canons were yearly chosen by the Prior for certain offices of trust within the Convent. First of these was Prior's Deputy sharing his duties in his residence and fulfilling them in his absence. His other duties were general supervisory ones such as calling each night the names of the brethren in the dormitory and sleeping near the dormitory with a light burning to prevent any wandering at night. Next in importance was the Sacristan and then Cellarer or Kitchener. One of the monks had the charge of the sick in the infirmary and the management of the funerals (the infirmarer). Others were responsible for the education of the novices and treasurers or bursars. The servants were numerous and were paid officials; the most trusted was the Gatekeeper, the Janitor and Porter who resided at the chief entrance, and kept watch over all persons going in and out. The

keeper of the grain had charge of the grain stores in the two barns of the Close. Other domestic servants included the Prior's Chamberlain (Yeoman of the Prior Chamber) having under him a boy (Page of the Prior's Chamber); a cook; baker; chandler and miller. The established was therefore formed of 25 to 30 men whose daily life was ordered by the rule.

Two clerks were attached to the Priory Church and had the general services of assistant. Corrodies were sold at Bicester Priory, and a common chest inaugurated (Hinton 1968, 24). A Corrody was a private agreement with the priory for a lump sum usually a clergyman or prosperous citizen who could purchase in effect a retirement home within the priory precinct, receiving stipulated rations of food and drink from the kitchens and clothing and candles.

The Graves *by Linzi Harvey*

This assemblage in its entirety represents a group of 48 individuals who were buried in accordance with typical Christian funerary rites in the late medieval period at the site of the former Augustinian Priory Church at Bicester. There were twenty skeletons considered to be individual inhumations, SK1 to SK20. The inhumations that were fully or partially excavated were aligned east-west, with their heads towards the west. Some ferrous and copper staining of a number of skeletons indicates that at least some of inhumations were shroud wrapped and/or buried in a coffin.

Some of the burials examined are likely to have been disturbed sometime after deposition, either for the insertion of new burials, or for maintenance/building works. The amount of disarticulated material present within charnel pits and other contexts was substantial, with approximately 46 kilograms recovered. This disarticulated material represents a minimum of 27 individuals, calculated using number of right femurs observed.

Although a few small sub-adult fragments representing perhaps one individual less than 18 years old at death were recovered in the disarticulated material, the assemblage was almost exclusively made up of middle aged and older adults. There were an unequal number of males and females present in this assemblage, with men outnumbering women at a ratio of 1:7.5. This is clearly not what would be expected from a general burial population, and is in keeping with a male dominated monastery or priory population. It is not unheard of for women to be found buried alongside male priors, and it may be that the women found in this assemblage were benefactresses who wished to be buried within the confines of the church (Waldron 1985: 1762).

Many of these adults exhibited changes in the joint surfaces of their vertebrae and long bones indicative of degenerative joint and spinal disease. This is probably what we would call osteoarthritis today and is an almost inevitable consequence of aging. Since the population examined here is biased towards middle aged and older adults, it is not surprising that so much DJD is present. Many of the skeletons and skeletal elements recovered were also particularly robust with large and well expressed muscle attachments.

This may indicate at least some of the degenerative change observed was related to occupation or activity, through repetitive movement. The robusticity of many of the skeletons may indicate a population who took part in strenuous activities at times. There was evidence of trauma in the assemblage, with one skeleton (SK8) exhibiting a number of well healed fractures. It is also possible that some sort of traumatic event caused the osteophytic changes seen in two clavicles in the disarticulated material. 'Industrial' accidents were probably commonplace in the medieval and post-medieval periods, with 'work-related disease and trauma as a consequence of earning a living' (Roberts & Cox 2003, 241). Dental remains were sparse, but several pathological conditions were present (caries, calculus and dental hypoplasia) which indicate a lack of dental hygiene common for the medieval period and a period of possible childhood malnutrition or illness for two individuals. The presence of DISH is interesting, since its presence is often associated with well-fed clerical or monastic populations, rather than lay populations. The primarily male, older adult nature of the assemblage is also in keeping with the setting in which the material was recovered – a former Augustinian Priory Church.

In summary, the assemblage assessed here is an interesting and well preserved one, from which detailed information regarding the age, sex and health status of many individuals was possible to attain. The skeletons from the former Priory Church at Bicester add to the corpus of information regarding religious communities in Oxfordshire and the United Kingdom. The remains from the reliquary are particularly exciting, since very little work has taken place using archaeologically recovered material of this nature. This find provides an opportunity for unique analysis of the bones of a 'saint', proved by radiocarbon dating to be medieval hoax.

Institutional Activities

Few remains were found of the religious life of the priory. The dissolution effectively removed most of the movable goods and the larger aspects of the church such as the High Altar or rood screen. The choir and/or presbytery were not fully exposed but it would seem nothing of any church furniture survived. The only object which would have been used on a daily or weekly basis, were the tweezers used for plucking the hair of the monks heads and the rosary bead.

Food and Diet

Monastic communities enjoyed a relatively high standard of living, with dietary habits consistent with the gentry and sanitary provisions higher than any other form of medieval settlement (Gilchrist & Sloane 2005). Monastic meals consisted largely of bread, cheese, vegetables, beans and cereals with pittances of fish and eggs on special occasions; generally there were two meals a day. The area around the Priory would have been set aside for the harvesting of the cereals and vegetables patches. Some more exotic foodstuffs would have been imported such as fish and oysters. We know that the priory had two mills; a water mill and horse mill, the later now converted to a house, but may not be on the original site of the horse mill (see Riccoboni *forthcoming*). How much meat was eaten by the canons is unknown but special food was largely imported as seen from the expenses of the household for guests. By modern standards the monks would have had a high protein diet with high alcohol content. The Carbon 13 component retrieved from the radiocarbon dates indicates a

high marine component to the monks diet (*c*. 25%). In 1301 the account rolls provide a clear picture of wealth and show guests were well received.

….a purchase of stock-fish bought at Oxford by Richard de la March, 2s, for the use of the prior and convent; bread bought in the market place of Berencestre, for the coming of Adam de Tusmere, Mater R de Wendlebure, the Parson of Herdewick and others 6d; fresh fish bought for the same persons, 28d; in ale bought for the prior and convent on St Michael's day, 4d…eels bought for Brother Nicholas de Stratton and Gilbert the Bailiff and others…fresh fish bought on Friday after the feast of St Frideswide for the coming of John Hubert; Richard de Kalu and others, 29d; almonds on account of the same persons 16d, for herrings 41/2 d; pike, perch, roach bought for stocking fish pond….by the prior's command poultry bought for the coming of Matilda de Wans, neice of the Earl of Lincoln, 7d……

It would seem that the monks were consuming more than they needed and similar examples of excessive consumption of meat and fish has been identified at the Benedictine monastery of Westminster leading Harvey (1993) to conclude the monks were 'surely on average rather obese'. The osteological analysis has identified that at least some of the Bicester interred (20%) were probably clinically obese. This compares with 8.6% of individuals at Merton showing signs of DISH on their bones (Miller & Saxby 2007, 273). However, the Bicester skeletons were of very high status, mainly coming from inside the church, and wealthier people may be expected to be larger in the medieval period.

The hospitality of visitors to the priory continued during the mid 14th century in 1356 it was recorded that;

Herrings, fish, merling, salmon, oysters, congers, codling, 'hadduc' hens, pigs…wine for certain persons, herrings for two benhertes on the same day, 22d...hens bought. Veal, wine and 'alland' (Ale) bought for certain persons... treatment of guests…

At the end of the 14th century, between 1377 and 1399, a large portion of the accounts are lost but some records remain of the expenses of the kitchen again mostly for visiting dignitaries and parishioners feasts. In the early 15th century in the account roll of 1412 we see a continuation of Priors gifts and debts acquitted along with repair work to the Church with a new roof over the high altar. Expenses of the kitchen include various spices bought at 'Oxford in the fair of St Fritheswyde, red herrings bought at Northampton, oysters and fish bought at Oxford, salmon bought at Bannebuy'.

The last surviving detail of the kitchen expenditure account was 1456, which detail a rise in the purchase of meat perhaps indicating a general rise of meat consumption during this time.

20 sheep, bought of Master Thomas John, 40s. 23 tithe lambs bought for Don. John Barbour, Chaplain of Pidyngton 16s. 6d. Vinegar bought at times for the prior being sick and for other necessaries, 3s 4d…all kinds of expenses of the kitchen by weeks 22l. 15s 7d.

The rise in meat consumption during the 15th century is supported with the scientific results showing a lower fish content (δ^{13}C-19.6%) of the bones from Skeletons 1 & 7 than the bones within the lead casket dated to the late 13th century. Both skeletons were radiocarbon dated close to the date of the last kitchen account in 1456. This would also indicate both skeletons were therefore members of the monastic institution with a diet which correlates to the account rolls shown above to be more meat orientated. The recovered faunal assemblage from the site was very limited but this would be expected to be small across the Church. The kitchens, hall and cloister garth together with the reredorter, the main kitchen and refectory all lay outside of the areas of excavation. As we can see from the accounts the inhabitants enjoyed a varied diet with pittances as treats on special occasions. The skeletal remains exemplify this picture further with many (*c*. 20%) displaying spinal conditions similar to that of people with obesity.

Burial Location

The chancel was excavated and no burials were recovered which led Dunkin to the conclusion when he first excavated this area of the church that the lack of burials at this location meant that ' the idea of this structure having been the conventual church was much weakened in the spectator's minds and my own, when the area without the garden wall exhibited in appearance of sepulture though dug up to a considerable depth, especially as it comprised the whole of the eastern end, usually the scite of the high altar, and consequently the spot selected by chief benefactos of religious houses for internment of their bodies..' After re-examining this area during the course of these excavations and subsequently again during a watching brief no skeletal remains were recovered but this fits in with more updated theory that this area of the church was too important for burial for anyone, even the Priors.

As discussed earlier, burial within the church was the most spiritual place of burial with preference apparent to the proximity to the high altar, transept chapels, doorways and other elements of church structure. It has been noted that shrouds were used to wrap the bodies before internment which fits within the burial tradition of the time. Within monastic establishments the medieval burial ritual can be separated into a number of stages, the most extended of which was the lifelong preparation for a Christian's 'good death'. The approach of death itself signalled an anticipatory phase, where the religious community gathered in the infirmary. After the moment of death itself, these 'preliminary rites' were completed and the corpse was purified. The threshold or liminal rites began with the washing, dressing and wrapping the corpse in a shroud and (if appropriate) placing the body in a container whilst reciting the Office for the Dead. The body was then carried on a bier to the chosen burial plot accompanied by bell ringing. A religious vigil and Requiem mass was held. This was followed by a further processional phase to the graveside where the body was committed to the ground, usually the morning after death with the grave prepared by the monks while the monastic community were standing around it. The post-liminal rites comprised various commemorative events that took place either in the church or graveside, at specified intervals after interment (Gilchrist & Sloane 2005).

The cemeteries were planned in conjunction with the major buildings. The external cemeteries were placed in direct physical conjunction with the church. The location of the individual graves was determined by the identity of the deceased, defined by

religious and secular social hierarchies. The monastic cemetery was placed adjacent to the eastern side of the claustral range and the church. The area set aside for burial of lay people was usually away from the conventual buildings and close to the principal gate into the precinct and on the northern side of the church. From the excavations we can see burials on the northern and southern sides of the chancel, clustered around the eastern end of the building, but not as many or as densely placed as at other Augustinian priorys such as St Mary Merton (Miller and Saxby 2007). As this area was for the clergy and laymen of the monastic community, it may be an indication of the small size of the monastic population.

Monastic cemeteries were often bounded by walls, which defined the sacred space of consecrated ground. Walls were not always used and hedges would have provided effective protection from grazing animals. At Bicester the limit of the monastic cemetery closest to the church is assumed to be the stream which passes just a few metres to the east of the chancel, but excavations were limited at this end of the site and did not fully investigate the gap between the church and the stream.

The graves of the north transept were set deeply buried beneath the floors of the church, across the north aisle and choir. The levelling deposits beneath the tiled floors in this area of the church consisted of yellowish mid grey clay, which overlaid the natural grey blue clay (316).

The grave cuts seen across the church were steep sided and regular in shape with occasionally a hint of wood seen at the base of the cut indicating they were once placed in a coffin (400). The body positions were supine with head at the west and arms laid at the side. The burials were probably shrouded, but little evidence survived of them. Generally a tight body position with feet close together would suggest a shroud had been used as seen with SK1, SK7 & SK12.

It was reported that during the earlier investigations in the 1960's twenty skeletons were uncovered (not retained for study) within the Priory Church. One skeleton was also recovered by John Dunkin near the chancel end.

If we add these skeletons to the 13 discovered within the church during these excavations we have a total of 41 skeletons buried within the Priory Church, so far discovered. This figure does not include the 27 minimum number of individuals from charnel pits or the seven skeletons found outside the church in the monastic cemetery.

At St Mary Merton the majority of the burials occurred in the northern cemetery with roughly 1 per year between 1120-1300, rising to 1.5 per year between 1300-1390 but then falling to just 1 in final years until the dissolution. The two radiocarbon dates from Skeletons 1 & 7 prove that burial was still taking place within the Priory Church until the later part 15th century. It is probable that these skeletons represent the last people to be interned within the Priory Church. The general reduction in the rate of burial during the 15th & 16th centuries was a common theme across Britain. This may have been due to a lack of people to bury as a result of plagues and local people began using their local parochial cemeteries. This general reduction in the burial rate during the 15th and 16th centuries was not seen at Bicester Priory Church. As previously discussed the burials discovered during the excavations represent only Prior's or important clergy, still using the church until the dissolution beginning in 1533.

Female Burials

One definite female (SK2) and one probable female (SK11) were identified from the excavations. It was common place in Priory's to have a few female burials. At the Cluniac House of St Saviour, Bermondsey, six females were found within the excavated area of the cemetery (just 2.8%) (Gilchrist & Sloane 2005). The presence of women in a monastic cemetery would suggest they had a particular relationship to the community through patronage, religious role, or family ties. Other women may have been linked with the church in a religious capacity such as an anchoress or vowess, the latter being widows who vowed to lead chaste lives and were veiled and given a ring to denote their status. An interesting anchoress was discovered at All Saints Church in York, a middle aged woman buried in a crouched position rather than the normal extended supine position, thought to be Lady Isabel German (McIntyre & Bruce 2010). Anchoretism developed into an elite vocation which was popular amongst both men and women; in the later period it was particularly associated with pious laywomen who appear to have opted for this extreme way of life as an alternative to marriage or remarriage, allowing them, instead, to undertake the role of 'living saint' within the community. At Bicester Priory we have no records of anchoretism and the only two female burials were found next to males of older age. It is therefore considered that they were the wives of important benefactors or Prior's. The female skeleton (SK2) was stratigraphically proved to be buried after Skeleton 1, which was radiocarbon dated to 1416-1487calAD.

Stone Cist

One stone cist was fully excavated placed within the south chapel. The walls of the grave were well constructed and may have provided structural support for a surface-laid slab or super-structural tomb. In religious houses stone lining was a widely distributed form of grave elaboration with stylistic design and method determined by local tradition rather than a coherent national pattern. The stone cist was well constructed with good faced stone in medieval coursing.

It is assumed that the stone used for these walls were reused from construction phases within the church. The wall lining was as deep as the grave cut which is not common for medieval stone lined grave cuts, often they are only two courses deep. There was no decoration on the stone cist except two surviving decorated tiles at the western end, which may have marked the burial at contemporary floor level. This unusual form of grave marker is commonly decorated using a *graffito* technique as found at the Augustinian house of Norton, Cheshire (Greene 1989). They often show panels of lettering and effigial images including chain armour. There was no lining beneath the skeleton, which can often be of wood, stone or tile.

There were no stone or lead coffins discovered or any other deviant burials or young children and infants. One feature 413 adjacent to grave 405 was considered to possibly be a child grave, based only on the size and shape of the feature, but no bone was surviving. The pattern of burial would fit in with the suspected notion that the discovered burials represent a population of high status individuals all connected with the priory and all adult and often middle aged.

Wooden Crosses

In the area to the south east of the chancel (outside the church) three burials had postholes filled with post packing at the western end of the grave. These postholes would have held a wooden (or perhaps slender stone) cross often depicted on medieval paintings particularly from the Offices of the Dead to be found in the 15th century Books of Hours. They appear to range in height from knee high to perhaps the height of a person. The wooden grave marker represents a distinctly continental mortuary tradition. It is uncommon for archaeologists to report on grave markers such as wooden crosses with hardly any postholes or even stakeholes found at the head or foot of graves. The recovered evidence from Bicester Priory Church is therefore important to the archaeological discussion of how widespread the use of wooden crosses were at medieval graves.

Charnel remains

Charnel pits were found both inside and outside the Priory Church. The majority of the charnel remains were found within one large pit 403, which contained the remains of at least eight individuals. It was common for medieval builders to move bodies about within cemeteries often as the by-product of digging a new grave or through construction of new buildings or extensions. The largest charnel pit was within the north chapel which contained the smashed remains of a tomb stone with flower ball motif (see Fig. 48) found alongside the bones. This tomb lid could have come from anywhere inside or outside the church. This grave shaped pit contained a random assortment of bones, but the other charnel pit 408 against the south aisle seemed to contain a more carefully selected group of bones placed in an orderly fashion. The need for rebuilding and the moving of buried remains to charnel pits was in contradiction to the religious belief that the dead would physically rise out of their graves at the day of judgement. It is possible belief extended to the notion that certain bones were all that was needed for the judgement day, such as femurs, for walking to judgement. This would explain the formal deposition of primarily long bones within charnel pit 408.

Discussion on the reliquary remains

An individual (*c*. 20% of a human skeleton) was recovered from lead box 308 or 'reliquary', found within the north transept of the church. This reliquary was thought to contain remains of St Edburg, the patron saint of Bicester and the daughter of a 7th century Saxon Earl. Her remains were thought to have been transferred to Bicester Priory in the early 14th century from the Parish Church. The two terrestrial radiocarbon dates of 1163-1265calAD and 1219-1277calAD prove that the bones within the container were not that of the real St Edburg. However, the bones are dated to just before the installation of St Edburg's Shrine in around 1310-1320AD.

The remains were largely incomplete, providing only a small amount of osteological information. The lead box contained an adult of indeterminable sex, probably aged between 25 and 42 years of age at death, with a stature of around 175cm. On the basis of skeletal element size and shape in addition to the lack of repeated elements, it is likely the remains are from one individual. This individual exhibited a small amount of degenerative osteophytic change in the vertebrae and wrist joint, indicative of osteoarthritis. This may be a result of advancing age, trauma or a repetitive

movement, i.e. in occupation. It is difficult to determine sex of the individual within the reliquary, due to a paucity of diagnostic skeletal elements. However, based on one sexually diagnostic measurement and the large stature of the individual, it is tentatively suggested that the bones from 308 are more likely to be from a male than a female.

Two other known examples of Saxon reliquaries, St Eanswith from Folkestone Church and St Wite from Dorset were kept in similar sized lead boxes. The Bicester reliquary has some comparisons with the reliquary discovered in June 1885 in the parish church at Folkestone dedicated to St Mary and St Eanswith. The reliquary was found within a large arched niche of the north wall of the church during renovation works. The reliquary was 14 inches high, 9 inches long and eight inches high without its cover (Robertson 1886). The surface of the leaden coffer was ornamented with large open lozenges in relief. The lead box from the Bicester Priory Church was not ornamented but the lead could be seen to have been wealded together at stress points near the base. The upper part of the box was badly decayed with no decoration visible. Within the Folkestone coffer were heaped together many bones of a young woman.

I found amongst them nearly the whole of one jawbone (shewn in the woodcut at an angle of the coffer), with two double teeth still firmly fixed in the jaw. Three other teeth which I found loose among the bones were sound and little worn. One of them had, all over it, a dark pink tinge, for which I cannot account. Portions of the skull, arms, hands, ribs, legs, and feet could be recognised, but much had been pulverised. On the surface of the bones there was a beautiful hue of deep crimson-like purple, and a formation of minute crystals which sparkled brightly.

The only other known lead box to contain the remains of a Saint in England is that of St Candida (or St Wite) and Holy Cross from Whitchurch Canonicorum, Dorset. The Shrine beneath the north transept window still exists with three holes in the shrine where the pilgrims would be able to insert diseased limbs or handkerchiefs. The shrine was opened in 1900 due to damage from a fissure in the north transept wall and the lead box containing the relics was examined. On the lead box was written an inscription, translated as “here rest the remains of St. Wite”. No inscription survives on the St Edburg lead box. Within the box were a number of bones thought to be the remains of a small woman (Stubbs 1907). The bones were transferred to a stone box and remain in the shrine to this day.

The bones of St Edburg, although not containing any teeth or jaw bones, did also have a rather large selection of bones, not common with reliquaries during the later medieval period. Both St Eanswith and St Wite when examined contained a fairly large quantity of bones. Also of comparative note was the curious colour noted on the bones of St Eanswith. A similar dark soot like substance covered most of the bones of within the Bicester lead box, which was assumed to have formed during a process of oxidisation or *in situ* water staining.

It is not known whether the lead box was the original container used to display the bones within the shrine. Blomfield believed a wooden chest was used resting on a stone base (Blomfield 1884, 108).

The act of 'creating' first class relics (i.e. the actual body parts of saints) became commonplace in Europe in the medieval period, which often resulted in there being 'more relics of a specific Saint curated at various churches than bones in a single body' (Petaros *et al* 2011: 29). The surfeit of relics we have today is a reflection of this period in time, which for example, produced over 290 teeth for St Appolonia in Spain (Petaros *et al* 2011: 30). Although the radiocarbon dates have proven that the individual within the reliquary was not the original St Edburg, we can assume that the bones within the lead container were those that were displayed on the shrine. The bones were from a person who probably died in the century prior to the construction of the shrine (see Appendix 8), although may have been later (see Appendix 9 for marine calibration).

The terrestrial calibrated dates are probably more accurate than the marine calibrated dates. The marine dates seem to have stretched the date ranges beyond what was likely. Reliquary dates of the Edburg tibia for example using the marine curve produced a result of 1208-1327 AD (89.4% probability) and Edburg femur 1265-1398 (95.4% probability). These are still roughly comparable with the terrestrial dates; Edburg Tibia 1163-1265calAD (95.4% probability) and Edburg femur 1219-1277calAD (95.4% probability), but obviously extend the dates beyond the shrines construction. When the marine curve was applied to the other buried skeletons (SK1 & SK7) it extended the dates ranges beyond the reformation. It should be therefore assumed the earliest date ranges are more probable than the later date ranges.

This would mean there would have been enough time for any flesh and residue tendons to have fully decomposed from the skeleton, enabling them to be displayed on the shrine. The time of decomposition beneath the ground generally takes about 10 years, even if in waterlogged conditions (*pers. comm.* osteo-archaeologist; Linzi Harvey). The bones could then have been easily collected from a graveyard or stone tomb and placed in the lead container (or similar) to be presented as St Edburg. The bones would need to look older than they really were. This may explain the dark 'soot' like substance over the bones, originally considered to be *in situ* water staining.

This leaves us with many possibilities as to why the bones, if they were placed on the shrine as belonging St Edburg, were not the real relics. It was previously thought that the relics were transferred from the Parish Church (now St Edburg's Church) to be placed on the new shrine in around 1300-1310 (Blair 2002). We know that the Parish Church did originally have relics of St Edburg as they were listed as property of the Parish Church in 1181. The radiocarbon dates prove that the relics found in the lead container were probably not those that were originally in the Parish Church, unless we take the very earliest date within the range. The bones were viewed by the pilgrims on St Edburg's Day, and perhaps only from a distance. This may explain the large quantity of bone within the casket, as the pilgrim's would have needed a substantial amount of bone to look at, in order to enhance their viewing experience. The use of fake reliquaries in the medieval period was common practice. For example, during the fourteenth century, both the towns of Amiens and Constantinople claimed to own the head of St John the Baptist. By the later Middle Ages the cult of relics was decadent, and widely ridiculed as a result of the suspected large number of fakes (Gayford 2011). Perhaps the displayed relics of St Edburg always had a question mark over their authenticity in the local community, but nonetheless provided an opportunity for people to visit the church and offer a donation for the upkeep of the building. The fact

that the bones were not genuine, may not have taken away the importance of the relics within the monastic and lay community.

We know from the account rolls that fish was consumed on a regular basis and that fish stocks were kept in fish ponds, a common feature on monastic sites. The high proportion of fish in the diet of a monastic community was underpinned by prohibitions of meat, particularly on certain days of the week. The fish content of the diet of the analysed bone from the reliquary was higher than that of the other two skeletons (SK1 & 2), indicating fish content of diets during the latter half of the 15th century had declined, from the 13th century.

The high fish diet of the individual within the lead 'reliquary' box would indicate the person was likely a member of a religious house or aristocratic family. This may mean the bones inside the 'reliquary' were of a Prior, simply displayed as St Edburg. Alternatively, during the dissolution of the Priory, a prior not associated with the shrine was hurriedly buried inside the lead container, although no other examples are known of such practices (*pers. comm.* Prof. John Blair).

This leaves us with the question - where is the real St Edburg? The answer to this we may never know. The original relics housed at St Edburgs Church, may have also been known to be fakes, which was why new bones were used within the Priory Church shrine. Perhaps the original 'relics' are still buried somewhere in the Parish Church, yet to be discovered.

Dissolution of the Priory

In 1533 Sir Simon Harcourt was under order to dissolve the Priory of Bicester after it surrendered to the crown (Henry VIII). During the demolition process of the Church a large amount of building stone would have been created and the church would have effectively become a demolition yard. The stone would have been carted away for use in other buildings across the town of Bicester and wider region. Some of the moulded stone can be seen reused in the parish church of St Edburg. However, the cloisters (and perhaps water mill) survived the dissolution process and remained standing until the late 17th century. Demolition layers were recorded across the site in particular the southern areas of the church where some architectural fragments could be seen within a general layer of building stone. Perhaps this was where the stone was sorted after it was pulled down from the walls of the church. The men carrying out the dissolution would have been local workmen who probably profited directly from the selling of the stone and lead from the church. This is why the survival of the reliquary in a lead container is particularly remarkable considering its monetary value. We can tell from the amount of broken tiles that the floors were smashed during the destruction of the priory and some of the skeletons in stone coffins were probably spread about the church as part of the general destruction by some of the workmen, which may explain the unusual location of SK8, seemingly within the wall of the church.

During the dissolution the monks may have remained in the dormitory block adjacent to the cloisters. The monks would have probably had to look on while their church was destroyed. Only the account rolls and three Priory Seals survived, the most interesting seal is shown below (Figure 50) discussed in the background section, p12.

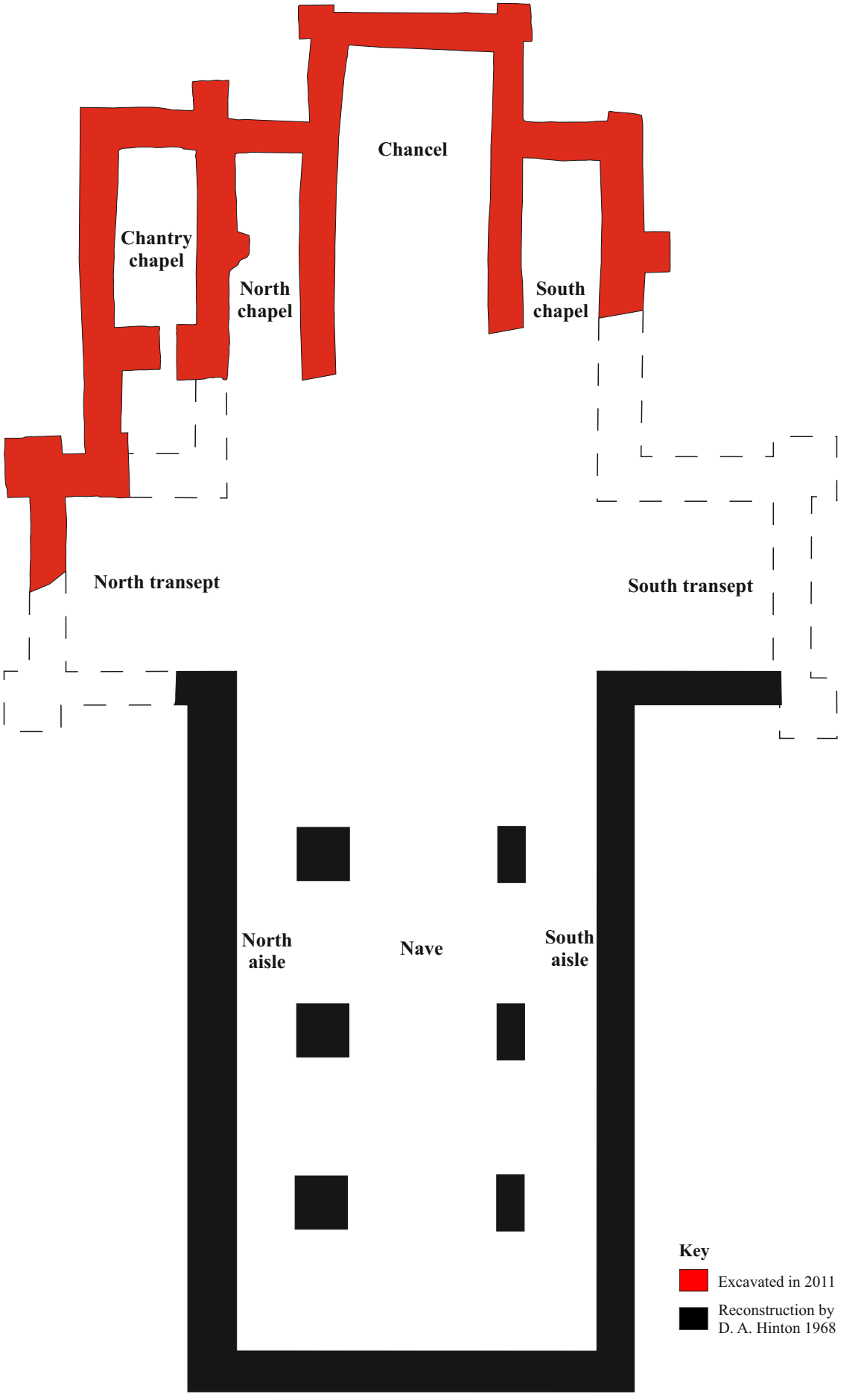

Figure 51: Possible reconstruction of church

After the church was dismantled the area became a waste ground and eventually grassed over and the church building forgotten. It was not until the 1940's that the site was re-occupied with a building (TA centre).

Conclusion

The archaeological investigations have enabled a more detailed study of the Priory Church and monastic life within the Priory of Bicester. Other Augustinian Houses across the country have been subject to extensive excavation and study. The church at Bicester (59m length x 31m width, Fig. 51) holds comparison with the general large size of Augustinian Priory Churches, such as St Mary Merton, Surrey (88m x 39m), Norton Priory Church, Runcorn (45m x 22m), Newark Priory Church, Ripley (56m x 28m) and Lilleshall Abbey, Shropshire (65m x 34m) (Miller & Saxby 2007).

The choir was liturgically the most important part of the church and it is here that stereo-typing of dimensions might be expected (Miller & Saxby 2007). Most of the larger houses have a choir of *c*. 9m wide, but Norton shares a similar size to Bicester priory at nearly 7m. The excavations were across the Priory Church only and other areas of the monastic complex are yet to be excavated to modern standards. The architectural remains have to some extent enabled a rudimentary reconstruction of parts of the interior of the church, especially if used in conjunction with the architectural fragments recovered by John Dunkin (Dunkin 1823). Reconstructions of the church have not been possible at this stage of the reporting process.

The burials from the excavations at the priory church have enabled a study of the high status clergy that lived and died at this monastic institution. The study has amplified work at other Augustinian priories indicating a restriction of burial rights to select, predominantly male lay groups. The only female within the church was buried adjacent to a male and probably represents the wife of a prior or important benefactor, radiocarbon dated using a terrestrial calibration to 1416-1487calAD.

The charnel pits, both inside and outside the church, are stratigraphically later than the inhumations. This may represent a change in burial practice towards the end of the 15th and 16th centuries with more people or groups of people (perhaps plague victims) being allowed burial in the church or just outside. The medieval and early post-medieval belief was based on the physicality of the human remains rising at the day of judgement. However, limited space within graveyards often meant bodies being moved into charnel pits perhaps with the belief that only certain bones were needed to enable the dead to rise at the day of judgement, which may be why one charnel pit inside the church (408) was composed of predominately carefully laid long bones.

The discovery of the 'reliquary' made national press and its location within the north transept would indicate the original location of the shrine. This was common location for shrines with reliquaries within churches as evidenced at Whitchurch Canonicorum, Dorset which is still there to this day. The bones within the 'reliquary' have been established as not of the real St Edburg, a 7th century nun. It was common in the medieval period for reliquaries to be fake. It would be interesting to radiocarbon date the other two known Saxon reliquaries in England discussed earlier (St. Eanswith and St. Wite) to prove whether they are genuinely Saxon. The bones within the reliquary were probably of a Prior, which may have been presented as St Edburg. The priory

would have been hit hard by the general taxations in 1291 of all ecclesiastical possessions in England towards defraying an expedition to the Holy Land granted by Pope Nicolas IV (Dunkin 1816). A list was made of the Priory's possessions for taxation and was summarised in Dunkin (1816). The Priory may have had to become commercially inventive in order to survive into the 14th century. The excavations have shed light on monastic practices rarely discussed and allowed a full analysis of the stratigraphic sequence and buried skeletal remains.

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APPENDIX 1: Pottery occurrence by number and weight (in g) of sherds per context by fabric type

	F100 850-1200		F200 975-1350		F300 1075-1350		F330 110-1350		F355 1190-1500		F351 L12th		F352 1200-1600		F404 1475-1700		F405 1480-1700		F408 1475-1600		F410 1613-1800		F411 17thc		F412 17th c		F420 15th-16th c		F421		F425 1550+		F451 1550-1700		F1000 19-10TH c		
Cntxt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
4																					1	18															CP9
11			1	6																																	CP2
23			3	53															1	2	2	18					1	4					1	4			CP9
101	1	5																																			MOD
103			1	2																			1	10							2	8					CP9
111																																			2	10	MOD
115																																			1	4	MOD
116																																			1	2	MOD
123																															3	38					CP8
125																													1	6	5	173					CP8
135																															5	48					CP8
149*																							2	60							5	197			7	254	MOD
152*																																					RB
154	1	2																																			CP1
156													1	33													11	321			6	137					CP8
158																																			2	17	MOD
159																							1	48							1	213					CP9
160																											1	24			3	39			44	419	MOD
162																															2	34					CP8
169																	1	44									2	319									CP8
171	1	5																					7	151							2	82					CP9
178																															6	63					CP8
204			2	16																																	CP2
210																															1	52					MOD
211																															2	59					CP8
213																																			1	5	MOD

	F100 850-1200		F200 975-1350		F300 1075-1350		F330 110-1350		F355 1190-1500		F351 L12th		F352 1200-1600		F404 1475-1700		F405 1480-1700		F408 1475-1600		F410 1613-1800		F411 17thc		F412 17th c		F420 15th-16th c		F421		F425 1550+		F451 1550-1700		F1000 19-10TH c		
Cntxt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
248																															1	58					CP8
259*					1	2							1	13					1	12			2	10	1	10									1	17	CP9
267																															2	25					CP8
273	1	29																																			CP6
281					3	48																															CP3
285					2	17							1	5																							CP6
287					1	2																															CP3
291					4	22	1	18																							1	8					CP8
302					7	143			1	17	1	39																									CP5
310							1	12																													CP4
313					1	19																															CP3
315					2	19	2	7					1	2																							CP6
318*															1	3			1	4									6	63							CP7
331							6	155					8	71					1	4																	CP7
333													1	13																							CP6
362					8	111																															CP3
363					1	16																															CP3
370													3	36																							CP6
381					1	8																															MOD
442					3	29							2	12																							CP6
450																									1	21					1	27					CP8
467	3	7																																			CP1
476*																																					RB
477	1	3																																			CP1
479																																			2	16	MOD
488													1	22																							CP6
495													1	14																							CP6
499					1	70																															CP3
501							5	25					1	1																							CP6

	F100 850-1200		F200 975-1350		F300 1075-1350		F330 110-1350		F355 1190-1500		F351 L12th		F352 1200-1600		F404 1475-1700		F405 1480-1700		F408 1475-1600		F410 1613-1800		F411 17thc		F412 17th c		F420 15th-16th c		F421		F425 1550+		F451 1550-1700		F1000 19-10TH c		
Cntxt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
504													2	7																							CP6
511													1	42																							CP6
518*					1	12																															CP3
524					1	20																															CP3
533							1	3																													CP4
535							1	4																													CP4
536	1	8																																			CP1
542													1	3																							CP6
544					1	9	2	39																													CP4
Date	9	59	7	77	38	547	19	263	1	17	1	39	25	274	1	3	1	44	4	22	3	36	13	279	2	31	21	731	1	6	48	1261	1	4	61	744	

* = includes one sherd of R-B

Appendix 2 – Summary table for probable inhumations.

Skeleton no.	***Pres.***	***Completeness***	***Alig.***	***Age***	***Sex***	***Stature***	***Pathology and trauma***	***Notes***	***MNI***
SK1	1	c.90% Skull near complete, all long bones represented except right ulna/radius, most vertebrae present. Some hand and foot bones present.	E-W	40-60 *OA*	M	177.2cm (5'8")	New bone on anterior left/right tibia and distal right femur. Osteophytic lipping on cervical vertebrae, 'candlewax' osteophytic growth on thoracic vertebrae. Dentition heavily worn, with calculus, caries and enamel hypoplasia present.	Very robust individual, with pronounced deltoid tuberosity and clavicle attachments. Radiocarbon dated to 1487 calAD	1
SK2	1-2	c.90% Skull near complete, all long bones represented, vertebrae all present, ribs very fragmentary, some hand and foot bones present.	E-W	35-45 *MAb*	F	162.5cm (5'4")	Eburnation present on upper thoracic vertebrae, some osteophytic lipping on vertebral bodies. Antemortem tooth loss, calculus, caries and enamel hypoplasia present.	-	1
SK3	1	c.25% Left/right legs present, right talus and fragment of pelvis.	E-W	Adult	?M	169.5cm (5'7")	None observed.	Not fully excavated (whole body present under water table).	1
SK4	1	c.45% Skull highly fragmentary, all vertebral groups represented but incomplete, rib fragments, right acetabulum and small fragment of sacrum, most long bones represented, most hand and wrist bones present, no feet.	E-W	Adult *OA*	M	170.5cm (5'7")	Several vertebrae exhibit osteophytic change on/around articular surfaces. One cervical vertebra with enlarged right superior articular facet, with macroporosity. One thoracic with new bone formation and macroporosity on left side. Right/left femur heads porous.	Very robust individual, prominent exostosis posterior distal tibia.	1
SK5	3	c.30% Very fragmentary, most skeletal elements represented in small fragments. Feet well represented.	E-W	Adult	?	-	Eburnation and osteophytic lipping of right index finger (joint between distal and interproximal phalange).	-	1

Skeleton no.	***Pres.***	***Completeness***	***Alig.***	***Age***	***Sex***	***Stature***	***Pathology and trauma***	***Notes***	***MNI***
SK6	2	c.80% Very fragmentary, all long bones represented, sacrum, left pelvis, all vertebrae present by fragmented, most hand and foot bones present.	E-W	35-40 *MAb*	M	183cm (5'11")	Eburnation of anterior femur (and left patella), left and right sides.	Copper alloy staining on anterior rib, pelvis and sacrum.	1
SK7	1-2	c.90% Skull highly fragmentary, all long bones represented ribs also highly fragmentary, near complete pelvis and sacrum, vertebrae all present.	E-W	25-35 *MAa*	M	174.5cm (5'8")	Lipping on bodies of cervical and thoracic vertebrae, possible Schmorl's Nodes on C5 and L1. Teeth worn with small amounts of calculus adhering to many.	Additional fragment of left talus (extra individual). Radiocarbon dated to 1455 calAD.	1
SK8	1-2	c.35% No skull, few rib and vertebrae fragments, most long bones represented by fragments, no hand or feet bones.	E-W	Adult	M	173.5cm (5'8")	Right femur distorted mid shaft, with two bulges causing femur to bend medially at proximal end. Two drainage holes (osteomyelitis) on posterior, one on anterior surface. Well healed break. Right fibula with slight displacement at proximal end, well healed fracture. Right radius exhibits thickening and exostosis at distal end – another possible healed fracture.	-	1
SK9	1	c.15% Long bones of right arm, four carpals, three metacarpals, left and right femurs.	E-W	Adult	M	175cm (5'9")	None observed.	-	1
SK10	2	c.25% Skull very fragmentary, cervical vertebrae 1-6, few rib fragments, left and right humerus near complete, small fragments of left ulna and right femur.	E-W	Adult	?M	-	None observed.	Skeleton machined through during excavation.	1

Skeleton no.	***Pres.***	***Completeness***	***Alig.***	***Age***	***Sex***	***Stature***	***Pathology and trauma***	***Notes***	***MNI***
SK11	2-3	c.60% Skull very fragmentary, vertebrae represented but abraded and fragmentary, long bones all present but in poor condition. Several hand and feet bones present.	E-W	25-30 *MAa*	?F	160cm (5'3")	Small deposits of dental calculus.	-	1
SK12	2-3	c.80% Skull present but fragmentary, vertebrae and scapula likewise, all long bones present, carpals, tarsals and phalanges well represented.	E-W	45-49 *OA*	M	164cm (5'4")	Antemortem tooth loss, small calculus deposits on remaining teeth and a carious lesion to the right second incisor. Three thoracic vertebrae have fused together, mostly in the lateral bodies, with candlewax appearance. Several other vertebrae with osteophytic lipping and enlarged articular surfaces, also macroporosity of the joint surfaces.	-	1
SK13	1-2	c.80% Skull mostly present, but fragmentary, majority of vertebrae present, likewise pelvis, sacrum and scapula. Few rib fragments. All long bones except right fibula present. Left hand and both feet present.	E-W	40-49 *MAb*	M	168.5cm (5'6")	Osteophytic lipping of cervical vertebrae 6/7, some thoracic likewise. Antemortem tooth loss, remaining teeth worn.	Robust individual with prominent muscle attachments.	1
SK14	2	c.80% Skull highly fragmentary, all vertebrae represented, some rib, pelvis and sacrum fragments, all long bones except right tibia present. Most feet bones and some hand bones present.	E-W	35-40 *MAb*	M	167cm (5'6")	Right hip joint (interior of acetabulum and femur head) with eburnation, osteophytic lipping around rim and macroporosity. Osteophytic lipping of cervical vertebrae also, primarily of left side bodies and articulations. Antemortem tooth loss, modern to severe calculus and heavily wear.	Extra individual present; left humerus, pelvis and radius fragments, femur fragments with osteomyelitis present.	1

Skeleton no.	***Pres.***	***Completeness***	***Alig.***	***Age***	***Sex***	***Stature***	***Pathology and trauma***	***Notes***	***MNI***
SK15	1-2	c.80% Skull highly fragmentary, maxilla not present, most vertebrae represented, some rib, pelvis and sacrum fragments, all long bones present and majority of feet and hand bones.	E-W	35-45 *MAb*	M	177cm (5'9")	Left scaphoid and trapezium with small patches of eburnation where they articulate. All groups of vertebrae with osteophytic lipping and macroporosity, at least 5 thoracic with possible Schmorl's Nodes. Some eburnation between C3/4 on lateral vertebral bodies. Both fibulas with patches of striated, new bone formation indicative of infection. Calculus deposits on present teeth, teeth worn.	Extra individual present; humerus, mandible, scapula and fibula fragments repeated.	1
SK16	2	c.70% Skull mostly present, all skeletal elements except right humerus, clavicle and scapula represented.	E-W	45+ *OA*	M	174.5cm (5'8")	Right hip joint diseased, with head of femur fused into the socket. Rim of acetabulum heavily osteophytic, anterior femur head with bony projections. Body of sacrum (S1) is fused to lower lumber vertebra (L5). Lower thoracic (L11, L12) and first lumbar vertebrae fused together also. Two other thoracic vertebrae also fused together. Cervical vertebrae 2/3 fused together at body and articulations. Dens of bC2 and corresponding articulation of C1 very osteophytic, with very limited movement.	Generally robust individual.	1
SK17	2	c.80% Skull highly fragmentary, all skeletal elements except right clavicle and patellae represented.	E-W	30-35 *MAa*	M	171cm (5'7")	Slight to moderate calculus deposits on remaining teeth.	-	1
SK18	3	<10% No skull, C1, C2 and few sternum fragments, distal right humerus, right clavicle and right calcaneus. Two proximal hand phalanges.	?E-W	Adult	?		None observed.	Truncated by excavation.	1

Skeleton no.	***Pres.***	***Completeness***	***Alig.***	***Age***	***Sex***	***Stature***	***Pathology and trauma***	***Notes***	***MNI***
SK19	2-3	c.60% Partial skull, no mandible, vertebral groups all represented, pelvis present but fragmentary. Most long bones present but fragmentary. No feet. Four left metacarpals.	E-W	25-35 *MAa*	M	169.5cm (5'8")	Posterior part and bodies of C3 and C4 fused together, small amount of osteophytic lipping on other cervical vertebrae.	Robust individual. Extra individual present; additional left femur.	1
SK20	1	<5% Complete left tibia.	E-W	Adult	?	173cm (5'8")	None observed.	Robust muscle attachments.	1
								MNI	**20**

Key: MAa = Middle Adult A, MAb = Middle Adult B, OA = Older adult.

Appendix 3 – Summary table for the charnel, disarticulated and unstratified material

Context no.	***Context info.***	***Pres.***	***Description***	***Pathologies and trauma***	***Notes***	***Fragment count***	***Weight (g)***	***MNI***
U/S	Unstrat	1-3	Cranial, scapula, humerus, ulna and pelvis fragments, two near complete femurs.	None observed.	-	50	861	1
156	Deposit	1	1 femur shaft fragment.	-	-	1	42	-
259	Demolition layer	2	Adult hand and foot phalange, left MT4 and talus. Adult proximal and interproximal hand phalange, 1 right MT3 and 1 fragment MC?	-	-	8	31	-
267	Limestone wall	3	1 abraded ulna/radius shaft fragment.	-	-	1	9	-
284	Fill of possible grave cut	2	Young adult, femur head.	-	-	1	15	-
287	Demolition deposit	2	Adult rib and cranial fragments.	-	-	3	33	-
314	Fill of grave cut 322	3	Adult, possible pelvis fragment.	-	-	1	9	-

Context no.	***Context info.***	***Pres.***	***Description***	***Pathologies and trauma***	***Notes***	***Fragment count***	***Weight (g)***	***MNI***
370	Fill of?	1-2	Rib fragments, 1 right clavicle, and 1 near complete mandible.	Clavicle has osteophytic growth and change to the articular area of the medial end. Mandible with calculus (right M7, M8) and dental abscess of the right M6.	-	4	150	-
404	Fill of?	1	1 right MT1	-	-	1	10	-
409	Charnel pit	1-3	Variety of fragmentary material, including cranial elements and long bones, and a small number of hand and feet bones.	1 tibia fragment with small amount of new bone formation.	5 right femurs (adult) Frontals indicate at least 2 males, 1 female.	108	6217	5
418	Charnel material (Spit 1)	1-3	Variety of fragmentary material, including cranial elements, mandibles, maxillae, long bones, vertebrae and a small number of hand and feet bones.	16 teeth recovered in total, 2 with calculus, 1 with root caries, 1 dental abscess, and also antemortem tooth loss. 1 mandible fragment with M3 erupting (sub-adult present)	Although spits 1, 2 and 3 of context 418 have been assessed separately here, the MNI for all three has been combined. 6 right femurs (adult), 1 sub-adult mandible.	196	6960	7
418	Charnel material (Spit 2)	1-3	Variety of fragmentary material, including cranial elements, mandibles, maxillae, long bones, vertebrae, sternum and rib fragments, patellae, pelvis, and a small number of hand and ankle/feet bones.	6 teeth recovered, 1 with calculus, 1 with caries, also antemortem tooth loss. Several rib fragments osteophytic (bony spurs present). 1 cervical vertebra with severe osteophytic lipping, one thoracic with moderate osteophytic lipping.	5 right femurs (adult).	523	9184	5
418	Charnel material (Spit 3)	1-3	Variety of fragmentary material, including cranial elements, mandibles, maxillae, long bones, vertebrae and rib fragments, patellae, pelvis, and a small number of hand and ankle/feet bones	6 teeth recovered, 5 abscesses, 2 carious lesions, also antemortem tooth loss. 3 cervical and 1 lumber vertebrae with osteophytic lipping around bodies and articular surfaces. 2 thoracic vertebrae fused together, with ‘candlewax’ appearance.	2 right femurs (adult).	420	4704	2

Context no.	***Context info.***	***Pres.***	***Description***	***Pathologies and trauma***	***Notes***	***Fragment count***	***Weight (g)***	***MNI***
422	Deposit?	1-3	Variety of fragmentary material, some very abraded. Long bone fragments, misc rib and pelvis fragments, one patella and some hand and ankle/foot bones.	1 partial thoracic vertebra with osteophytic lipping.	1 right femur (adult).	58	812	1
424	Deposit?	1-3	Rib and vertebrae fragments, two near complete humerii (left and right), various indet. bone fragments.	1 C2 vertebra fragment with osteophytic lipping on dens.	-	25	452	-
429	Deposit between walls	2	Left 1st rib, possible femur, ulna and radius fragments, 1 MC.	-	-	6	114	-
430	?	2	Small probable radius fragments.	-	-	2	24	-
451	Charnel (below 418)	1-3	Material includes maxillae fragments, rib and pelvis fragments, clavicle, long bones and some hand and foot bones.	2 teeth, one with caries. 1 C2 with macroporosity of right superior articular facet and osteophytes on dens.	-	47	991	-
476	Layer	1	Clavicle fragments.	1 fragment with osteophytic lesion on anterior surface.	-	2	23	-
477	Fill of?	2	Adult scapula, ulna/radius shaft fragment, 1 right MC1, 1 misc. MC and some small misc. frags.	-	-	15	76	-
488	Charnel	1-2	Cranial fragments, two near complete mandibles, clavicle, rib and vertebrae fragments, long bones and few hand and feet bones. Large number of very small fragmentary remains.	27 teeth in total, 11 with calculus, also exhibiting AMTL, PDD and wear. One left femur head with osteophytic rim, eburnation and macroporosity. Some vertebral fragments with osteophytic lipping.	2 right femurs (adult).	304	3595	2

Context no.	***Context info.***	***Pres.***	***Description***	***Pathologies and trauma***	***Notes***	***Fragment count***	***Weight (g)***	***MNI***
501*	Fill of charnel pit 500.	1	Two fragmentary skulls, both probably male. Scapula and rib fragments, right humerus, left and right ulna/radius, near complete pelvis, right and left femur/tibia, few hand bones.	Fragment of fibula shaft exhibits osteophytic spurs and thickening, also small and well healed cloaca. Two lumbar vertebrae fragments with osteophytic lipping.	Presented as charnel, this appears to be one inhumation, with one set of post-cranial remains and two skulls. Inhumation is male, 35-45 years of age, approximately 175.5cm in height.	58	3254	1
504	Charnel	1-3	Variety of fragmentary material, including cranial elements, mandibles, maxillae, long bones, vertebrae, sternum and rib fragments, patellae, pelvis, and a small number of hand and ankle/feet bones.	23 mandibular teeth, no caries or calculus, some AMTL and PDD. 6 broken post mortem. 22 maxillary teeth, 11 with calculus, 1 with occlusal caries, PDD present and 4 with DEH. 4 broken post mortem.	2 right femurs. 1 fragment unfused radius (sub-adult).	413	7092	3
* = May be the remains of a single inhumation, rather than a charnel pit.						**TOTAL FRAG. COUNT 2200**	**TOTAL WEIGHT 44, 658g**	**MNI 27**

Appendix 4 – Summary table for the humans remains found within lead box (308).

Context no.	***Pres.***	***Completeness***	***Alig.***	***Age***	***Sex***	***Stature***	***Pathology and trauma***	***Notes***	***MNI***
(308)	2-3	20% Highly fragmentary (number of fragments c. 120) with parts of right and left humerii and scapulae represented, proximal right radius, right 3rd metacarpal, left 1st MC and proximal phalange, rib fragments including 3 rib ends. Right femur, partial tibia and distal parts of left tibia and fibula. C1 vertebrae, five fragmentary thoracic vertebrae and possible L1 or L2.	-	Adult, probably between 25-40	?	175cm (5'8")	Few instances of osteophytic lipping on thoracic vertebrae (articular surfaces). Small patches of eburnation on left distal posterior fibula, and of the proximal 1st metacarpal (surface that articulates with trapezium).	Some bones (primarily ribs, vertebrae and left humerus) are stained black. May be water staining? Bones appear to be quite gracile, based on size and structure assumed to be from one individual.	1
								MNI	**1**

Appendix 5; Special Finds catalogue

SF No.	Context No.	Identity	Preservation	Material	Length (mm)	Width (mm)	Thickness (mm)	Diameter (mm)	Weight (g)	Comments	Date
1	158	Coin	Complete / good	Cu-alloy	30.85	/	1.6	/	9.61	**Obv.** Bare head of George V left, GEORGIVS V DEI GRA:BRITT:OMN:REX FID:DEF:IND:IM[P:] **Rev.** Britannia seated right on rock by sea, holding shield and trident, ONE PENNY date 1917	1917
2	135	Pin	Complete	Cu-alloy	55.4	/	/	1.8 (pin) 4 (head)	1.12	Spherical solid head with thin horizontal line in the middle	early post-medieval
3	259	Tweezers	Complete	Cu-alloy	41.4	4	2	/	2.29	Tweezers with clasp, no obvious wear. Thickness of cu-alloy sheet 0.5-0.9mm. Dimension of adjustable band (LWT):6x4x0.5mm.	medieval
5	362	Sea urchin	Good	Fossil	02.2	/	10.1	/	6.09	VOID	Jurassic
7	370	Tuning peg	Missing head	Bone	45	/	/	6 (max)	2	This tuning peg of bone once secured the strings of a musical instrument,	13th-15th century
9	442	stain glass window mould	Fragment	Lead	32.5	7	3.5 (edge) 1 (middle)	/	3.61	stain glass window frame mould	12th - 15th century
10	504	Annular buckle	Complete	Cu-alloy	0.52	4	5	4	24.08	Copper alloy buckle Period M1-4 Pin has decorated lines at base, no obvious wear. From charnel pit	12th - 15th century
11	504	Annular buckle	Complete	Cu-alloy	0.50	4.5	5	6	26.68	Copper alloy buckle Period M1-4 Pin has decorated lines at base, no obvious wear. From charnel pit	12th - 15th century
12	504	Blade	Broken	Flint	31	24.4	6	/	4	From charnel pit 503 (residual).	Prehistory
13	331		Fragment	Lead	70	10	3 (max)	/	10.03	stain glass window frame mould	12th -

SF No.	Context No.	Identity	Preservation	Material	Length (mm)	Width (mm)	Thickness (mm)	Diameter (mm)	Weight (g)	Comments	Date
											15th century
14	488		Fragment	Lead	58	15	2	/	16.99	stain glass window frame mould	12th - 15th century
15	124	Window frame	Fragment	Lead	148	6	6	/	41.38	window frame mould	12th - 15th century
16	291	Bead	Broken / half	Glass	12	/	10	/	1.12	Possible rosary bead fragment with glaze	12th - 15th century
17	6/10	Coin	Complete /	Cu-alloy	30.85	/	1.6	/	9.29	**Obv.** Bare head of George V left, GEORGIVS V DEI GRA:BRITT:OMN:REX FID:DEF:IND:IMP: **Rev.** Britannia seated right on rock by sea, holding shield and trident, ONE PENNY date 1920	1920
18	158	Wedge	Complete	Fe	150	80	11 (middle)	/	916	Iron wedge used for splitting wood	Post-med
19	6/23	Hook	Complete ?	Fe	102	27 (top) 10	7	/	88	unknown function	Post-med

Appendix 6; The iron objects

Context No.	Description	Secure date
289	A small collection of corroded iron objects possibly from a door or window frame	Modern; In backfill of 1967 archaeological test pit.
479	A small collection of iron objects including a bucket handle	Post-medieval; found in backfill of John Dunkins archaeological trench over the chancel wall
162	An iron door frame	Post-medieval modern; from extension to building 2
259	Iron rod fitting & 2 iron nails	Within the demolition layer across the presbytery
160	Iron disc	Within 19th/20th century extension to building 2
291	Iron nail	Within the demolition layer across the presbytery
310	Large iron nail	From layer north outside of church
159	Iron window frame	Within 19th/20th century extension to building 2
160	Large broken key	Within 19th/20th century extension to building 2
160	42 rusty nails	Within 19th/20th century extension to building 2
467	16 Heavily corroded iron nails	From grave 466 (SK11)
476	Heavily corroded iron nail	Demolition layer from south aisle
339	Heavily corroded iron nail	Demolition layer across presbytery
158	Four rusty nails	Dated by coin to 1917
388	Heavily corroded iron nail	Fill of grave 387 (SK5)
342	Heavily corroded iron nail	South of buttress 341=549
495	Heavily corroded iron nail	Fill of grave 494 skeleton 14
108	Heavily corroded iron nail	Beneath floor slab (106)
149	Heavily corroded iron nail	Levelling deposit close to stream canal
442	Three corroded iron nails	Grave Cut 425, SK 12
135	Three corroded iron nails	Within 19th/20th century extension to building 2
501	Two iron nails	From charnel pit 500

Appendix 7; Catalogue of illustrated tile

Figure 33 Tile

1. LH XI/XII: two fragments: 1 diagonally scored and broken half piece (386) 332g and 1 longitudinally broken fragment U/S 192g; 1 of 4 consisting of four arches within a quarter circle with two quarters of tri-lobed floriate design in corner
2. LH LV: two conjoining fragments: (358) 884g; four fleur-de-lys to corners meeting to a square at base which contains four dots
3. LH LXI, Hohler W7: five fragments (372g): three conjoining fragments: (427) 195g and (430) 177g; two conjoining (404) 293g; double-headed spread eagle in square with semi-circles along the axes and small equal-armed crosses at corners

4. Hohler W17: four fragments: (291) 118g; 2 fragments (347) 310g; 1 of 4 tiles;1 fragment (386) 170g; octofoil comprising four long and four short lobes within square with semi-circles along the axes with two quarters of tri-lobed floriate design in corner
5. Eames 1931: 2 fragments: (259) 234g; 1 fragment (287) 169g; 1 of 4 tiles; one and two half octofoils in corner, with running chevron below enclosing two stags face to face, above serpentine beast with clubbed tail above one and two half octofoils in corner
6. Eames 2191: two diagonally scored and broken half pieces: 1 fragment (289) 345g; 1 fragment U/S 280g; four interlinked fleur-de-lys to corners of tile around a circle in centre
7. Eames 2371: five fragments (340g); (5/5) 47g; 2 fragments (272) 190g; (388) 103g; quatrofoil in centre with interlocking lentiforms to corners with a dot corner sections

Figure 34 Tile

1 Eames 2456: two conjoining fragments: (370) 214g; four quatrofoils around equal-armed cross, comprising two opposing pairs of long and short lobed quatrofoils
2 LH XX, Eames 2591 (variant): two conjoining fragments: (404) 423g; tree of life design with trefoil at top of staff, cross at base, three dividing branches either side of staff with trefoil terminals
3 A 29: two conjoining fragments (337g): (259) 152g; (368) 185g; 1 of 4 tiles, perhaps illustrating thistle(?) possibly the same as Hinton J.
4 A 27: two conjoining fragments: (358) 819g; very worn, with mortar on upper surface; lion rampant in circle with unidentifiable motifs in corners
5 LH CVIII: (404) 425g; 1 of 4 tiles; fleur-de-lys in centre with quarter circles to corners
6 Hohler P123: (404) 452g; 1 of 4; upper part of tile design not clear, but oak-leaf and part of a face visible
7 Eames 2074: (404) 226g; 1 of 4; central circle with radiating arches, spoked circle in corner
8. Hohler P 70, Eames 2200: (382) 249g; central quatrofoil in circle with fleu-de-lys in corners and trefoils between
9. Hinton Q: (382) 219g; fragment with moulded curve and short edges, longest edge scored and broken; Hinton suggests for pier-base or similar, although the fragments recovered recently suggest perhaps a roundel or circular tile of *c* 150mm (6”)
10. Hinton N: (461) 508g; 1 of 4 tiles with sexfoil at centre; two opposing trilobes within area defined by external arcs of quarter circles; trefoils in corner on one side of tile, ‘very crude foliage’ (Hinton 1968, 44) on opposing side of tile

Appendix 8; Summary of radiocarbon dates; calibrated using the IntCal09 Curve for Terrestrial Samples

Laboratory No.	**Context**	**Radiocarbon Age (BP)**	**δ 13C (0/00)**	**Calibrated date range (95.4% confidence)**	**Estimated date range 68.2%-95.4% confidence**	**Sample details**	**Associated material**
SUERC-41586 (GU27946)	cut [294]/fill (365) Skeleton 1	445±30	-19.6	1421-1487calAD	1429-1456calAD (68.2% Probability. 1416-1487calAD (95.4% probability)	Human Bone (femur)	None
SUERC-41587 (GU27947)	Cut [389]/fill (390) Skeleton 7	475 ± 30	-19.6%	1408-1455calAD	1421-1445calAD (68.2% probability) 1408-1455calAD (95.4% probability)	Human Bone (femur)	None
SUERC-41588 (GU27948)	(308) Sample 1; Edburg Femur	775±25	-18.7%	1219-1277calAD	1225-1272calAD (68.2% probability) 1219-1277calAD (95.4% Probability)	Human Bone (femur)	None
SUERC-41589 (GU27949)	(308) Sample 2; Edburg Tibia	825 ± 30	-18.8%	1163-1265calAD	1188-1199calAD (9.1% probability) 1207-1258calAD (59.1% probability) 1163-1265calAD (95.4% probability)	Human Bone; Tibia	None

Appendix 9; Summary of radiocarbon dates; calibrated using the Marine 09 curve

Laboratory No.	**Context**	**Radiocarbon Age (BP)**	**δ 13C (0/00)**	**Calibrated date range (95.4% confidence)**	**Estimated date range (68.2% confidence)**	**Sample details**	**Associated material**
SUERC-41586 (445,30)	cut [294]/fill (365) Skeleton 1	445±30	-19.6%	1434-1634AD (95.4% probability) agreement 101.1%	1449-1525AD (46.5% probability) 1575-1583 (3.5% probability) 1590-1623 (18.2% probability)	Human Bone (femur)	None
SUERC-41587 (475,30)	Cut [389]/fill (390) Skeleton 7	475 ± 30	-19.6%	1427-1533AD (68.7% probability) 1541-1631AD (26.7% probability)	1436-1520AD (61.2%) 1601-1616AD (7.0% probability)	Human bone (femur)	None
SUERC-41588 (775,25)	(308) Sample 1; Edburg Femur	775±25	-18.7%	1265-1398 (95.4% probability)	1276-1319 AD (44.7% probability) 1359-1386 (23.5% probability)	Human Bone (femur)	None
SUERC-41589 (825,30)	(308) Sample 2; Edburg Tibia	825 ± 30	-18.7%	1208-1327AD (89.4% probability) 1355-1390 (6% probability)	1228-1232 (2.9% probability) 1240-1297 (65.3% probability)	Human Bone (Tibia)	None