



**KAVLI ROYAL SOCIETY
INTERNATIONAL CENTRE FOR
THE ADVANCEMENT OF SCIENCE
CHICHELEY HALL
NEWPORT PAGNELL
MILTON KEYNES**

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Preface

Every effort has been made in the preparation of this document to provide as complete a summary as possible within the terms of the method statement. All statements and opinions in this document are offered in good faith. Albion Archaeology cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party, or for any loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in this document.

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Structure of the Report

After the introductory Section 1, Section 2 describes the methodology for the fieldwork. There is a summary of the results of the fieldwork in Section 3, followed by a synthesis of the results and discussion of the significance (Section 4). Section 5 contains a publication proposal. Section 6 is a bibliography. Section 7 consists of eight appendices which contain the specialist analysis reports on artefacts, ecofacts and human remains.

Key Terms

Throughout this report, the following terms or abbreviations are used:

Albion	Albion Archaeology
MKAO	Milton Keynes Archaeological Officer
Client	The Kavli Foundation
Consultant	RPS Planning, Transport and Environment
IFA	Institute of Field Archaeologists
Observation	Watching Brief
Procedures Manual	<i>Procedures Manual Volume 1 Fieldwork</i> , 2 nd Edition 2001. Bedfordshire County Council
RPS	Overall Archaeological Project Managers
SMS	Strip, Map and Sample

Non-Technical Summary

Between May and November 2009 Albion Archaeology undertook archaeological monitoring and mitigation works during work to renovate and convert Chicheley Hall for use as a conference facility; The Kavli Royal Society International Centre. The archaeological works were commissioned by RPS Planning on behalf of the Kavli Foundation.

Chicheley Hall is an early Georgian country house (grade I listed). The results of a desk based assessment indicated earthwork remains in the fields around the Hall associated with a possible shrunken medieval village.

The work undertaken comprised strip, map and sample excavation of discrete areas where groundworks had the potential to expose archaeological remains and archaeological monitoring of areas of more limited groundworks such as service trenches.

Strip, map and sample excavations within the Coach House to the west of main house uncovered medieval and later remains. This included boundary ditches and pits dating from the early medieval period. The pits contained pottery animal bone, and ecofacts including a significant assemblage of charred plant remains. A number of human burials were found in the western part of the Coach House which are associated with the adjacent parish churchyard. Further features possibly dating from the medieval period were identified during monitoring of a service trench in a field to the south of the house.

Deposits associated with the post medieval, eighteenth century and modern periods were also identified. These included features associated with the use of the Coach House as stables and masonry lined pits in the northern part of the Coach House.

The report includes a proposal for publication of the results in Records of Buckinghamshire. The focus of the proposed article would be on those periods which produced the most significant archaeological remains. The medieval and to a lesser extent the post medieval periods represent the largest body of data with potential to provided new information on the development of the site.

On publication of the final report the archive of materials (subject to the landowner's permission) and accompanying records will be deposited with Buckinghamshire County Museum (Accession Number AYBCM:2009.258).

1. INTRODUCTION

1.1 *Background*

The Kavli Foundation has undertaken a major programme of repairs and refurbishment at Chicheley Hall, an early eighteenth century country house. The former residence has been converted for use as a conference centre. A planning condition requiring a programme of archaeological works was attached to planning approvals for refurbishment, listed building consent and change of use. RPS Planning prepared a desk-based Assessment (RPS 2009a) detailing the existing archaeological information available for the site and a written scheme of investigation (RPS 2009b) outlining the methodology for archaeological mitigation works. RPS acting on behalf of the Kavli Foundation commissioned Albion Archaeology to undertake a programme of archaeological evaluation and mitigation works in advance of development.

1.2 *Site Location and Description*

The site is centred on grid reference SP 9055 4585 and covers an area of approximately 30ha (Figures 1 and 2). It is located 4km northeast of Newport Pagnell and is bounded to the west by the village of Chicheley and a main road (A422), to the south by Chicheley Road and to the north and east by agricultural land. The site comprises Chicheley Hall, with its associated gardens and parkland (listed as Grade II* on the Register of Parks and Gardens).

Further information can be found in sections 1.4 to 1.8 of the RPS desk based assessment report (RPS 2009a).

1.3 *Archaeological Background*

The archaeological background of Chicheley Hall and its environs has been covered in detail in the desk based assessment (RPS 2009a).

Prehistoric, Roman and Saxon evidence has been recorded in the wider environs but not from the site itself.

The fields around Chicheley Hall contain earthworks which may relate to a shrunken medieval village. It is possible that the Hall is on the site of a former manor house given the location next to the church and the subsequent gentry residence on the site.

The site was occupied by a mansion during the sixteenth century, no traces of which survive above ground.

Chicheley Hall was built during the early eighteenth century. The majority of the existing buildings and the layout of the much of the gardens also date from the eighteenth century.

The buildings on the site comprise Chicheley Hall (Grade I listed), the North and South Wings (Grade II* listed), a Dovecote (Grade II* listed), a Coach House, Quadrant, Garden House and garden walls (all Grade II listed). The formal gardens, which include a U- shaped canal, are listed as Grade II* on the Register of Parks and Gardens.

The first stage of field work for this project consisted of the archaeological monitoring and recording of twelve geotechnical test pits which were excavated against the foundations of the Coach House, Quadrant buildings and in the basement of the main house. The results are detailed in an interim report (Albion 2009b). The majority of deposits observed formed part of foundations of the existing buildings along with associated construction make-up and floor layers. Human remains found in Trench 6, in western part of Coach House. These appeared to be associated with the cemetery of the parish church which is situated immediately to the west of Chicheley Hall.

2. METHODOLOGY

2.1 Introduction

The archaeological field work was undertaken between May and November 2009. During this period, all groundworks which required monitoring were completed.

The locations of all the archaeological works are shown in Figure 2. The initial phase of work consisted of the investigation and recording of twelve geotechnical test pits. These comprised eight test pits in the Coach House area, three in the Quadrant building and one in the basement of the main house. The methodology for the monitoring of the test pits is detailed in a separate method statement (Albion 2009a). The results of the test pit investigations are presented in an interim report (Albion 2009b).

Strip, map and sample excavation was undertaken in two areas. Inside the Coach house and the associated atrium area outside a series of trenches were examined which made up an approximate area of 400 square metres. An isolated trench at the north end of gardens, roughly square in plan, covered an area of 150 square metres.

Watching brief monitoring was undertaken within service trenches and soakaway pits within garden and gravelled areas close to the house and within a service trench extending across the field to the southwest of the house.

All archaeological features and deposits were issued a unique context number, specific to that feature or deposit.

Throughout the project the standards set out in the Institute of Field Archaeologists' *Codes of Conduct and Standard and Guidance for an Archaeological Excavation* (1999), Albion Archaeology's *Procedures Manual: Volume 1 Fieldwork* (2nd edn, 2001), East Anglian Archaeology Occasional Papers (no.14), *Standards for Field Archaeology in the East of England* (ALGAO 2003) and English Heritage's *Management of Archaeological Projects* (1991) were adhered to.

2.2 Strip, Map and Sample Methodology

The archaeological works inside and immediately in front of the coach house and in one area at the north of the site were undertaken as small open area excavations using a strip, map and sample methodology. The works adhered to the standards and field methods set out in the Method Statement for Archaeological Strip, Map and Sample (Albion 2009b). In summary:

- 1 Machine excavation within the coach house area was carried out under constant archaeological supervision using a mechanical excavator fitted with a toothless bucket.
- 2 Recent floor makeup deposits were removed by mechanical excavator down to formation level or archaeological deposits, whichever was encountered first.
- 3 Within Areas 1 and 4 of the Coach House (Figure 3) it was possible to agree a proportion of sub-surface archaeological remains could be preserved within the structure. The parameters of this preservation *in-situ* were agreed between the MKAO, RPS, Albion and the client.
- 4 Disturbed soil was scanned for artefacts.

- 5 The archaeological deposits were cleaned by hand and planned at a suitable scale on base plans that were tied in to the Ordnance Survey national grid.
- 6 An appropriate sample of the archaeological deposit was excavated to characterise the features, determine stratigraphic relationships and recover artefact and ecofacts.
- 7 Soil samples were collected for ecofacts, artefact and human bone recovery from significant dated features and deposits with a high potential for ecofacts recovery. Where
- 8 All excavated features and deposits were fully recorded in accordance with Albion's *Procedures Manual*.

2.3 Watching Brief Methodology

Archaeological works across the remainder of the site were undertaken as an intermittent watching brief during the excavation of service trenches and soakaway pits. The trenches were examined at suitable intervals when sections had been exposed. The deposits were recorded in plan and section with detailed investigation where required.

3. RESULTS

3.1 Introduction

This section details the results of the investigation. The results have been divided into three areas in the following description. These are the Coach House, the service trench in the field to the south of the house and the service trenches and soakaways close to the house.

During the initial post-excavation analysis the contexts were assigned to a hierarchical structure consisting of Groups, Landscapes and Phases. This consists of groups of related features, landscapes formed from related groups and chronological phases formed from landscapes belonging to the same period.

The Groups represent functionally related features of a similar date. These have been placed into Landscapes which represent a wider scale of activity. The Landscapes have been arranged into Phases which encompass all of the activity on the site within a chronological phase.

The results are described by Phase, Landscape and Group. Within this report Phases are expressed as P*, Landscapes as L* and Groups as G*. Context numbers referring to cut features are expressed [**], and layers or deposits within cut features are expressed (**).

3.2 Coach House Area

In the coach house a programme of excavation and recording was undertaken following the removal of the existing floor surfaces (Figures 3, 6 and 7). This produced a detailed sequence of deposits beginning in the early medieval period and extending up to the modern period with details relating to the use of the coach house.

Within Areas 1 and 4 of the Coach House it was possible to preserve a proportion of the sub-surface remains in-situ. The agreement regarding preservation in-situ within Areas 1 and 4 of the Coach House was reached on-site and agreed between the MKAO, RPS, Albion and the client. This was possible within these areas as the proposed future floor levels would not require the complete removal of sub-surface remains in those parts of the former Coach House.

3.2.1 Geological deposits

The undisturbed geological deposits observed in this area consisted of yellow sand with occasional small stones. The uppermost part of the sand was partially naturally cemented, forming a friable crust.

3.2.2 Medieval

Evidence for activity during this period includes early medieval features and later features which have been dated to the high and late medieval periods.

Landscape 2 comprises all of the early medieval (c.1150 to 1250) features identified within the Coach House area.

3.2.2.1 L2: Early medieval pits G7

Eleven pits dated to the early medieval period were found in this area. Two isolated pits in area 1, three pits in area 2, one in area 3 and an alignment of five partially inter-cutting pits situated in the atrium area.

The two pits in area 1 were similar in size and shape, 1.4m long by 0.75m wide, with rounded concave profiles. Pit [1320] was on 0.16m deep with a single fill that contained few finds (Figure 6). Pit [1304] was 0.47m deep with a sequence of three fills (Figure 6). The base contained a sandy fill with fragments of limestone and pockets of clean clay. The middle fill was dark, charcoal rich deposit with ashy lenses. It contained a spur (RA1), pottery, small fragments of animal bone much of which was burnt. Ecofacts recovered from this fill included large amounts of charred grain (sample 6). The uppermost fill contained smaller amounts of pottery, bone, some fragments of mortar and pieces of limestone.

Three pits found in area 3 had rounded outlines and rounded concave profiles (Figure 7). Two of them [1517] and [1548] were partly truncated by an early medieval ditch, [1568], G8. Pit [1520/1543] was 1.3m by 0.8m and 0.07m deep. These pits contained very few artefacts, a single sherd of pottery in [1520/1543] dated to the 11th or 12th century.

A single pit [1424] in area 2 had an irregular outline that measured 1.9m N to S, at least 1.6m E to W and 0.4m deep (Figure 7). Above a clean, sandy primary fill the main fill consisted of grey brown silty sand. This had a mixed appearance with darker lenses containing fired clay, charcoal, mortar and stone. A small amount of animal bone and early medieval pottery (1:4g) were recovered from the fill. Ecofacts recovered from the fill include a large number of charred cereal grains (sample 5). The pit was partially truncated by grave [1418].

A cluster of five pits was partially exposed within the atrium area [1922], [1924], [1927], [1931] and [1933] (Figure 3). The pits formed a row aligned NNE to SSW with the three northernmost partially overlapping. They varied from 0.5m to 1.9m wide and from 0.2m to 0.39m deep. In plan three appeared roughly square with rounded corners, with the other two being less regular. In profile they varied from concave to steep sided with a flat base. The fills consisted mostly of dark brownish grey sandy silts. They contained small amounts of pottery (21:339g).

3.2.2.2 L2: Early medieval ditches G8

Ditches dated to the early medieval period were found in Areas 1 and 3 inside the Coach House.

In area 1 a ditch [1318] aligned NNE-SSE was subsequently re-cut on the same alignment by a larger ditch [1317] (Figure 6). The initial ditch was up to 0.4m deep and 1.4m wide, its eastern edge being truncated by the subsequent re-cut. It had a single fill which appeared mixed, mostly grey brown but with areas of green mottling. It contained fragments of limestone, a small amount of animal bone and pottery (ecofacts sample 8). The re-cut was up to 3.5m wide and 0.8m deep. It was filled by dark grey sandy silt with occasional stones, including some limestone fragments. It contained small amounts of animal bone and pottery (ecofacts sample 7).

In area 3 a ditch [1502/1522/1537/1568] aligned NNE-SSE was partially re-cut by a smaller cut [1506/1539/1566] on the same line (Figure 7). The first ditch appeared irregular in plan with quite wavy edges. It was up to 1.15m wide and 0.3m deep. It had lower fills of mid orange or red brown and a main fill of mid grey brown sandy silt which contained a very small amount of pottery. The subsequent re-cutting of the ditch was variable with a shallow re-cut into the upper fill of the first ditch at the north end which became deeper and wider towards the south where it diverged slightly from the initial cut. The uppermost fill of the re-cut was a very shallow charcoal rich deposit, below which the main fill consisted of mid brown sandy silt. It contained a small amount of animal bone and pottery.

3.2.2.3 L2: Early medieval post pit G17

A single structural feature [1510] was found in area 3 (Figure 7). It consisted of a sub-circular pit with a shallow concave profile, 0.6m diameter by 0.16m deep, with an area of darker fill at the centre marking the location of a probable decayed post [1512]. The fill of the pit contained a small amount of pottery (4:6g).

3.2.2.4 L2: Early medieval graves G9

A number of graves were located in Areas 2 and 3 and test pit 6 inside the Coach House (Figure 7). They were restricted to a narrow band that extended no more than 1.5m from the rear wall of the building. Eight inhumations were confirmed by excavation and three more possible graves were identified in plan. Six of the inhumations were excavated and lifted. The remainder were left *in situ*, as they lay below the level of the planned groundworks.

In Area 2 four graves were excavated and another possible grave [1460] was identified at the south of the area. The alignment of the graves varied between E to W and ENE to WSW.

- Grave [1444] was 0.6m wide, 0.47m deep and contained a full adult skeleton (1446).
- Grave [1404] was 0.58m wide and only 0.2m deep. It was truncated by the foundations of the building and a posthole. The skeletal remains (1406) consisted of the incomplete lower legs.
- Grave [1418] was 0.6m wide and 0.5m deep. The grave extended below the foundations of the building. The remains (1419) consisted of the lower half of an adult skeleton. The burial produced a radiocarbon date (SUERC-28698) of 920 ± 35 BP, giving a calibrated date range of 1020AD to 1210AD (95.4%).
- Grave [1415] was 0.41m wide and 0.28m deep. The grave extended below the foundations of the building. The remains (1417) consisted of the lower half of a probable young adult; the epiphyses of the leg bones had not fused. The burial produced a radiocarbon date (SUERC-28699) of 850 ± 45 BP, giving a calibrated date range of 1040AD to 1100AD and 1110AD to 1270AD (95.4%).
- Grave [1460] was a probable grave identified in plan that could not be investigated because it extended beneath an internal dividing wall.

In test pit 6 two graves were investigated (Figure 7). The graves extended beyond the limits of the test pit but appeared to be aligned approximately WNW to ESE. The deeper remains (616) were left *in-situ*.

- Grave [605] was 0.6m deep. The skeleton (616), only the lower legs were visible, appeared to be an adult.
- Grave [607] was only 0.2m deep. The partial remains of a neonate skeleton (615) were recovered during the excavation of the test pit.

In Area 3 one inhumation burial (1530) was fully excavated, another [1516] was confirmed by partial excavation [1460] but left *in situ* (Figure 7). Two more possible graves were identified in this area. The alignment of the graves was approximately NE to SW.

- Grave [1514/1550] was 0.75m wide and more than 0.4m deep. The cut contrasted with the other excavated examples; it was wider and more regular in shape with straight sides, a square end and vertical sides. The skeleton (1516) was only partially exposed to confirm that this was a burial and was left *in situ*.
- Grave [1528/35] was 1m long, 0.47m deep and 0.41m deep. It contained a poorly preserved infant/child burial (1530) consisting of the lower legs only. The upper part of grave had been removed by a later cut. The burial produced a radiocarbon date (SUERC-28697) of 905 ± 35 BP, giving a calibrated date range of 1030AD to 1210AD (95.4%).
- Cut [1560] was a possible grave which was not investigated due to its proximity to the foundations of the building.
- Cut [1531/1533] was a possible grave cut. It was partially investigated to a depth of 0.57m, however no human remains seen.

The burials within the separate excavation areas had differing alignments. The NNE-SSW alignment of the burials in Area 3 may have been influenced by the proximity of a boundary. Some of these graves are cut into the fill of a ditch which may have marked the line of the boundary.

The shape and size of the graves, the arrangement of the skeletons and absence of nails suggest that the burials were not in coffins. Small fragments of textile were recovered from a soil sample <4> taken at the feet of inhumation (1417) in grave [1415]. This was a medium-coarsely woven linen fabric which is likely to be the remains of a shroud (see Appendix 5). One of the grave cuts [1514] was relatively wide with a square end and vertical sides. This was different in character to the other graves and large enough to contain a coffin; however as the burial was left *in situ* we have no further evidence.

Graves G9 contained a small amount of pottery dated to the early medieval period (1150-1250). This pottery in the grave fills is likely to be derived from either earlier features or the topsoil through which the graves were cut. Two of the burials produced calibrated radiocarbon dates of 11th or 12th century with one spanning the mid 11th to later 13th centuries. The presence of graves on differing alignments suggests that the burials represent more than a single phase of burial.

3.2.2.5 L3: High medieval pit G2 and G19

A large cut feature G2, [1621], [1625] in Area 4 contained pottery which dates from the high medieval period (1250-1400) (Figure 6). It was more than 5.7m long and 3.8m wide. Only the northern edge lay within the stripped area. This side was aligned WNW to ESE and was relatively straight. The uppermost part of the cut was very steep; the lower part lay below the formation level of construction works and

was not excavated. The upper part of feature was filled by mixed deposit of mid grey brown sandy loam with occasional patches of red-brown sand and lumps of light yellow brown clay throughout. Finds from the deposit consist of animal bone (12:180g) and pottery (30:287g). The pottery includes a mixture of medieval fabric types, the latest dated to the high medieval period.

Feature G2 truncated feature G19 [1623]. This earlier feature had a shallow profile with a northern edge parallel to that of G2. No dateable material was recovered however the parallel edges suggest that the features may have been related, with the possibility of G19 being a precursor to G2.

The full extent and function of these features is unknown. Feature G2 did not appear to extend westward into Area 1. The features are tentatively identified as pits, possibly quarry pits, though alternative interpretations are possible. In G2 the mixed fill suggests deliberate infilling whilst the absence of erosion in the steep edge could indicate that it did not remain open for an extended time.

3.2.2.6 L3: Late medieval features G20 and G22

A small number of features in L3 are assigned to the late medieval period (1400-1500).

In Area 4 there were two postholes of similar size and shape G20, [1606], [1612] one of which contained late medieval pottery (Figure 6). These were rectangular or sub-rectangular in plan with steep sides and flat bases. The larger of the two was 0.64m long, 0.54m deep and 0.45m deep. A large block of sandstone in the southern posthole may have been remains of post-packing. Finds comprise two sherds of late medieval pottery from [1606] and a single sherd (1g) of early medieval pottery from [1612]. Both postholes were cut into the fill of feature G2 which contains pottery dated to the high medieval period.

A single pit G22, [1552] found in Area 3 contained a small amount of animal bone and a sherd of late medieval pottery (Figure 7). It was cut into the fill of underlying features dated to the early medieval period.

These feature represent activity on the site during the late medieval period, however they do not provide a great deal evidence for the character of that activity. The dating evidence for the features themselves is relatively slight, relying as it does on a very small amount of pottery.

3.2.2.7 L3: Robber trench G16

Linear feature G16 was located in the north-eastern part of Area 1, [1322], [1328], [1334] (Figure 6). It was aligned NNE-SSW and was 0.9m wide, 0.27m deep with vertical sides and flat base. It appeared to continue beyond the limits of Area 1 northward and to be truncated by a later foundation trench at the south. The fill consisted of very loose, yellowish brown silty sand that contained small to medium sized limestone fragments. No artefacts or ecofacts were recovered.

The square cut profile and the loose rubble fill of this feature suggest that it was a robber trench left when a former wall foundation was excavated for its reusable stone content. No dateable artefacts were recovered from the feature. The feature was cut into the fill of a ditch which contained early medieval pottery and was

subsequently truncated by the foundation trench of the Coach House, which is likely to date from the late medieval or early post medieval period.

3.2.3 L4: Construction of Coach House G3

Landscape 4 represents the initial construction of the range of buildings which now form the Coach House (Figures 6 and 7). The building consists of two ranges arranged in an L-shape around the southern and western sides of an open yard area. The southern range is aligned WNW - ESE and is 24.8m long and 6.4m wide. The western range is aligned NNE – SSW and is 30m long and 6.1m long.

The earliest surviving masonry forms the rear and end walls of the building with the internal dividing walls and the walls facing the yard are later modifications. Original features include a blocked air vent in the form of a narrow vertical slit situated in the western end wall of the southern range. These walls are constructed in roughly coursed limestone rubble. Where examined the foundations consisted of roughly coursed or random limestone rubble. The foundation plinth extended between 0.12m to 0.17m from the inner face of the wall and was between 0.8m and 0.6m deep with the deepest section at the eastern end wall in the southern range. Within the southern range of the Coach House (Areas 1 and 4) a foundation construction cut was visible in plan, extending between 0.3m and 0.7m from the inner face of the wall. In Areas 2 and 3 in the western range no separate foundation cut was visible, the masonry filled the construction cut and the earlier truncated features extended right up to the wall. A reused architectural fragment was identified in the foundations at the west end of the southern range. It had a straight chamfered outer edge on one side and an ovolo moulding which formed a mitred 90° corner on its inner side. This appears to form part of a surround for an opening, possibly the lintel due to the chamfered outer edge. This type of moulding was in use during the 17th century.

The Coach House was not subjected to a detailed fabric analysis as part of the archaeological works. Some details of the building sequence were recorded during the archaeological works adjacent to the foundations, in particular during the recording of the test pits at the junctions of walls. The rear walls of the building appear to be the earliest surviving fabric. There could have been more than one construction phase but no obvious evidence for this was seen. The fragment of reused masonry in the foundations suggests a construction date in the 17th century or later for the southern range.

3.2.4 L5: Modification of Coach House (18th century)

Landscape 5 represents the modification of the Coach House during the 18th century and various other features dated broadly to this period of activity (Figures 6 and 7).

Group G4 comprises the re-fronting of the Coach House in brick and various inserted dividing walls. The walls that face onto the yard area were replaced in brick with a series of wide door openings with brick arches of approximately parabolic shape. The wall is built in Flemish bond, is 0.35m thick and sits on limestone foundations between 0.65m and 0.4m deep. The roof construction consists of collar and tie-beam trusses with vertical or slightly inclined queen posts. At least one of the tie-beams in the western range has been reused from an earlier structure. This slightly curved tie-beam has mortice holes in its lower face for braces towards each end indicating that it was re-used from a building with timber framed walls.

The various internal walls within the Coach House have been included within this group though some may have been inserted at considerably later. All demonstrably post date the original construction of the building, being butted up against the rear walls. The brick wall that forms an internal division between the south and west ranges appears to be constructed from a variety of reused bricks. Its construction appears integral with the re-fronting of the building and the northern end of one the roof trusses in the southern range is built into the wall.

Internal features which could be associated with this phase of activity include cobbled floor surfaces G15, postholes G5 and two stone-lined pits G10.

Remains of former cobbled floors (G15) were found in Areas 1, 2 and 3 beneath the modern floor layers. These are not closely dateable and may relate to different phases of use, they do however indicate the treatment of the floor surface.

Postholes (G5) comprise a series of postholes found in Areas 2 and 4. In Area 2 the postholes formed a row of four ranged along the rear wall whilst others in the middle of the floor appear to be in line with some of those against the wall. In Area 4 a row of three postholes were aligned next to the rear wall. The postholes were up to 0.5m in diameter, some contained evidence of re-cutting or post-pipes. The postholes next to the wall in Area 2 were separated by a distance of approximately 1.4m between centres and those in Area 4 by approximately 1.6m. Artefacts from the fills included a small amount of flat roof tile and brick which is broadly dateable to the post medieval period. It seems likely that the postholes were supports for animal stalls. No sign of similar features was found in adjacent areas suggesting different activity areas within the building which correspond to the areas formed by the internal walls between Areas 1 and 4 and between Areas 2 and 3.

Two stone-lined pits (G10) were found in Area 2, the northernmost part of the western range (Figure 7). The eastern of these [1457], was clearly disused at or before the re-construction of the front wall of the Coach House. It had been intentionally backfilled with limestone rubble prior to the construction of the wall foundation. During construction work the feature was exposed in plan and partially emptied. Internally it was 2.17m long from NE-SW and more than 2m wide; its eastern edge was not located. It was lined with coursed limestone masonry with roughly faced blocks. The lining was mainly one stone in thickness; however in the northwest corner it was widened to form a rectangular block. Along the southern edge the blocks were laid to form a row of at least three steps into the pit. It was more than 0.4m deep. The other stone-lined pit [1454] was situated in the northwest corner of the building. It was constructed in coursed, roughly face limestone masonry of slightly heavier construction compared to [1457]. Internally it was approximately 1.7m square and at least 0.63m deep. A small test hole following its southern wall suggested that it continued beneath the western wall of the Coach House, which had no foundation below ground on that side. Where the masonry lining met the northern end wall of the Coach House the masonry was partly keyed into the foundations of the building. The fill of the pit consisted of loose rubble with some occupation debris including animal bone, wine bottles and decayed wooden planks. It is likely that it was deliberately infilled during the 19th century and the decayed planks may have been the remains of covering boards. The function of these pits is uncertain. Pit [1457] had steps to access it and the block of masonry at its northwest corner may have been reinforced to support something over the hole. It

is possible that pit [1454] was a replacement for [1457] which would have gone out of use when the front wall of the building was reconstructed in brick.

Structural features (G24 and G25) were found to the north of the western range of the Coach House, Area 5. The initial construction consisted of four square postholes, forming a staggered row aligned east-west. The largest of these was 0.50m square by 0.32m deep. The post built structure was subsequently replaced by a limestone foundation (G25) in a foundation trench 3.1m long and 0.5m wide. The foundation consisted of limestone blocks which included some reused dressed stone. These features may have formed the foundation of a precursor to a brick building appended to the end of the Coach House as a lean-to structure.

Features located in the Atrium Area in front of the Coach House comprise a series of postholes G11 and stone foundations for a small building or structure G12.

Postholes G11 comprise a line of four square postholes, a line of three circular postholes and a single square posthole (Figure 3). The square postholes formed a line parallel to the front of the Coach House, 1.5m from the wall. The postholes had maximum dimensions of 0.28m square and 0.23m deep and were separated by 3.1m to 3.14m between centres. Three quite widely spaced circular postholes formed a possible line which partly overlapped that formed by the square holes. These were up to 0.3m in diameter and the one excavated example was 0.12m deep. A single square posthole was towards the northwest corner of the yard, immediately in front of the Coach House. As a group the postholes are not closely dateable, the row of square posts contained some residual early medieval pottery and some roof tile and brick. The function of the post is unclear, they could have been scaffolding used in construction work, supported a fence or barrier or possibly a lean to structure. If they were part of a fence or structure it seems likely that they would predate the re-facing of the Coach House as they would have interfered with the operation of the doorways.

Stone built structure G12, was situated immediately in front of the southern range of the Coach House (Figure 3). The structure consisted of a rectangular cut 2.25m wide, more than 3.8m long, and at least 0.5m deep. This was lined with rough limestone blocks bonded with clay and faced on the inside with a layer of brick to form lined structure with internal dimensions of 1.4m wide and at least 3.3m long. A rectangular block of limestone masonry, 0.9m by 0.7m, was situated at the western end of the structure. The fills of the structure consisted of a dark fill towards the base which extended partly up the sides, above which it had been infilled with sand natural, a layer of tile rubble and at the top a layer of purple/black burnt material. The fills of the feature appear to be largely the product of deliberate infilling unconnected with the original function of the feature. It is possible that it was a water tank or trough, something which could have been used for watering horses in the stables. If this interpretation is correct then the rectangular block of masonry at the west end could have been a base for a pump.

Cobbled yard surfaces, G28, were recorded beneath the modern ground surface during test pitting and observation of service trenches in the yard area.

3.2.5 Continued use of Coach House (19th and 20th century)

Modern features and deposits in the Coach House area included internal features inside the Coach House (G6), an internal deposit (G23) in a lean-to building at the

north end of the Coach House, a modern external yard surface (G27) and recent pits/disturbance (G13) within the yard area.

Group G6 consists of postholes and drains inside Area 1 of the Coach House (Figures 3 and 6). Most of these postholes still contained the remains of decayed timber uprights and a number of them had obviously formed stalls and internal divisions within a stable area. Three postholes in the mid part of Area 1, together with corresponding holes in south wall would have supported stalls. Two postholes at the west end of Area 1 show that this end of was divided into three stalls. Here, timber lining survived on the side walls along with wooden supports for a feed trough. A line of four postholes towards the southern end of Area 1 indicates the position of an internal division, probably forming a loose box. The floor in the southern end of Area 1 also had three drains which exited the building towards the south, presumably to an external soakaway.

Group G23 comprises floor deposits within the lean-to building at the north end of the Coach House. A brick building built against the end wall of the western wing of the Coach House was in a poor state of preservation and was dismantled during the building works. The building contained a 'copper' built against its west wall. This consisted of hemispherical cast iron boiler set into brick built hearth with a space for fire beneath. The floor deposit G23 consisted of compacted rubble.

The yard area adjacent to the Coach House had been surfaced with gravel during the modern period (G27). Below the modern surface evidence there were areas of recent disturbance or pitting that contained 19th or 20th century refuse (G13).

3.3 Service trench to south of the house

Archaeological deposits observed during the excavation of a trench in pasture to the south of the house included pits and ditches associated with a possible area of medieval occupation (Figure 4).

3.3.1 Geological deposits: L7

The geological deposits (G32) within the trench consisted of mid orange sand beneath a layer of mid brownish grey clay silt. In the mid part of the trench a possible subsoil deposit (G33) of mid brownish grey silty clay up to 0.45m thick was cut by archaeological features.

3.3.2 Undated pond: L8

An alluvial clay deposit G34, [2106] was interpreted as the fill of a 'pond' in the southwest end of the trench (Figure 4). This was mid brownish grey silt forming a deposit more than 1m deep.

3.3.3 Medieval pits and ditches: L9

A number of ditches and pits were identified in the central and northern part of the trench (Figure 4). One of these features, pit G35, [2103] contained dateable finds. It was 1.7m wide, 0.42m deep with sides sloping at approximately 45° to a flat base. It had a main fill of mid greyish brown clay silt over a lower fill of mid orange to greenish brown silt which was interpreted as a possible cess deposit. Lower fill contained a small amount of medieval pottery, the latest dated to the high medieval period (1250-1400).

The other archaeological features in the trench, G36, comprised seven ditches, a pit and a possible gravel surface or path. These were mainly clustered in the mid part of the trench with a single pit and ditch located at the northeast end of the trench. The ditches were between 0.75m and 3m wide and from 0.28m to 0.85m deep. The majority of those found in the mid part of the trench were aligned broadly northwest-southeast. The features included a possible gravel surface or path [2110]. It was 0.9m wide by 0.2m deep and filled with mid brownish grey silty gravel. The features that comprise G36 were identified in during a watching brief on a machine cut trench. They are grouped with pit G35 in landscape 9 by association, based on their location. No dating evidence was recovered and it is possible that they represent more than one phase of activity.

3.4 Groundworks in vicinity of the house

This area includes a small open area excavation at the northern end of the garden, two soakaway pits and a series of service trenches (Figure 5). The service trenches extended between the open area at the north and through area between the Coach House to the west and the range of buildings to the east.

3.4.1 Geological deposits: L11

The geological deposit in the north part of the site, beyond the north wing of the house, was light brownish yellow clay which graded into dark grey clay at around 1m below the ground surface.

Further south, in service trenches through the garden area west of the north wing and main house the geological deposit consists of clay above sand. The sand occurred at a depth of between 0.4m and 1.2m below the ground surface.

The geological deposits beneath the quadrant building, the main house and in the area between the south wing and coach house consisted of sand. The sand varied from mid reddish sand to light yellow in colour. In places the sand contained horizontal layers of stones, clay or a cream coloured calcareous deposit. The stones consisted of thin beds of rounded pebbles with a few flat limestone fragments.

3.4.2 Medieval features: L12

A ditch and furrow G45 were investigated in the northernmost part of the site in an area to the north of the walled garden areas (Figure 5). These features were both aligned northwest-southeast, separated by a distance of 2m to 3m. The ditch was 0.83m wide and 0.32m deep with a U-shaped profile [1807] [1810]. The furrow lay to the north of the ditch. It was 1.98m wide and 0.22m deep with a shallow U-shaped profile [1802] [1814].

No finds were recovered from G45. Both features were sealed beneath a subsoil layer G52. Historic map and documentary evidences show this area would have formed part of the open fields of Chicheley. It was in the southern part of a furlong referred to as Super le Madelond furlong c.1330 and Maydlond furlong begynnyng at Claye pyttes in 1557 (Baines, 1997). By the late 19th century it was an area of woodland called the Grove (1st edition O.S.). The woodland is likely to have been established as part of landscaping work during the 18th or 19th century.

3.4.3 Late medieval/post medieval transition deposits: L13

G52, a soil layer of mid orange brown clay silt 0.29m thick lay above ditch and furrow G45. This layer was clearly differentiated from the overlying topsoil and

appeared to seal the features of G45. No dating evidence was recovered from this layer. The sequence for this part of the site allows for a possible hiatus in activity between the field going out of arable cultivation and the creation of woodland at the edge of the gardens

3.4.4 Eighteenth and early 19th century deposits: L14

During this period it is likely that earlier buildings were demolished prior to or around the time of the construction of the present hall. The hall, constructed during the first quarter of the 18th century, was followed by the construction of service wings and ancillary buildings. Archaeological features and deposits associated with this period were recorded during test-pitting and during the subsequent watching brief.

Deposits assigned to this period include foundations (G39) and floor layers within the basement of the hall (G50), and foundations of both the quadrant building (G41) and the north wing (G40). Associated with these buildings were a series of brick lined culverts or drains (G48) which were observed during the excavation of the service trenches.

A large feature G46, [1820] was observed in the service trench to the west of the north wing (Figure 5). It was approximately 13m across from north to south and over 1m deep. The fill consisted of mixed deposits of brownish grey silty clay with limestone rubble and occasional brick fragments. The feature was interpreted during fieldwork as a pond that had been deliberately filled. An alternative possibility is that it could be a robbed out and infilled basement belonging to an earlier building on the site. A reconstruction of the fields and closes in Chicheley based on a survey undertaken in September 1557 (Baines, 1997, Figure 1) shows an approximately square plot centred on this location which is labelled Chicheley Grange.

Wall foundations G47, [1822] recorded a short distance to the north of G46 appear to correspond to a garden wall which is shown on the 1st edition Ordnance Survey map.

Excavation of a soakaway adjacent to the south wing uncovered limestone masonry (G49) 1.5m below the ground surface (Figure 6). This appeared to be the base of a wall aligned east-west. The deposits exposed in the sides of the trench to the south of the wall consisted of soil with small amounts of limestone, brick, tile and bottle glass. The feature was interpreted as a stone-lined pit or cellar from which most of the masonry had been robbed before it was infilled with soil.

A ditch G44, [1804] [1813] was found in the northernmost part of the site was cut into subsoil deposit (G52, L13) (Figure 5). It was aligned northwest-southeast, 0.62m wide, 0.55m deep with a steep U-shaped profile. The fill contained fragments of coal.

3.4.5 Later 19th and 20th century deposits

Some archaeological features and deposits relating to the modern period were recorded during the excavation of the service trenches and test pits. These comprise; G51 services pipes in the quadrant building, G42 modern external surfaces and G38 topsoil layers.

4. SYNTHESIS

4.1 Discussion

4.1.1 Iron Age and Roman

A single abraded sherd of Iron Age pottery recovered as residual material from the fill (1805) of a recent ditch G44 [1804] in northernmost part of site (Figure 5).

4.1.2 Saxon

A single abraded sherd of Saxon pottery was found in context (1906), the fill of a pit [1905] G7 located in the yard area in front of the Coach House (Figure 6). It may be residual in this context.

4.1.3 Medieval

Evidence for this period consists of a furrow at northernmost end of the site, pits and ditches beneath Coach House, pits in an area to south of house and burials beneath coach house.

The possibly furrow in the trench in the northernmost part of the site can be related to documentary evidence for open field cultivation on this part of the site (Figure 5). The furrow corresponds to the location and alignment of a furlong referred to as *super le Madelond* in the 1330s and *Maydlond furlong begynnyng at Claye pyttes* in 1557 (Baines 1997, 13, fig 1).

The pattern of evidence found in the Coach House area indicates domestic activity extending from the Saxo-Norman or early medieval period through to the late medieval period. This consists of boundary ditches and pits which contain domestic debris including pottery, animal bone and charred grain. The alignment of the ditches follows that of the modern boundary that separates Chicheley Hall from the adjacent churchyard.

The burials found represent the easternmost extent of the cemetery. Calibrated radiocarbon dates obtained from three of the burials range from the 11th to the second half of the 13th century (1030AD to 1210AD, 1020AD to 1210AD, 1040AD to 1270AD). Some of the burials were cut through an earlier boundary ditch and pits which contained domestic debris suggesting that the edge of the cemetery extended into an earlier area of domestic activity.

Pottery recovered from the infill of some of these burials comprised nineteen early medieval (12th-13th century) sherds in date (Appendix 1, Section 7.1.3) which are broadly contemporary with the period within which the graves were cut. These sherds were incorporated accidentally within the graves, having derived from surrounding topsoil or pits through which the graves were cut. A piece of textile, part of a burial shroud, was recovered from one of the graves ([1415]). This was dated by association with other similar examples to the Medieval – post-Medieval periods (Appendix 5); determining a tighter date range than this was not possible. An undated nail was also recovered (Appendix 4, Section 7.3.3), this may have been associated with a coffin, or may have been derived from a timber building in the vicinity of the graves.

A number of pits were found during the monitoring of the service trench excavated in the field to the south of the Hall suggesting that the area of domestic activity extended southwards.

The field that abuts the eastern side of the ornamental canal was called Freyewell furlong in 1330s, suggesting the location of a spring/water source (Baines 1997, 8-9) presumably the one that still feeds the canal in the formal garden laid out in the 18th century. The water source is likely to have been a factor in the choice of location for the medieval settlement. Chicheley contained three manors before and after the Norman Conquest, Thickthorn, Maunsell and Chicheley. The location of the church suggests that Chicheley Hall may be situated on the site of one of the manorial centres. It has been suggested that the parish church could have been founded after the minster of St. Firmin at Crawley fell into disuse in the early twelfth century Baines (1997, 6).

A survey in mid sixteenth century shows closes on either side of a small green with buildings to the south of church that extended into area to the south of the Hall. This corresponds with the evidence of earthworks in the field to the south of the church and the pits observed in the service trench.

4.1.4 Post medieval

Evidence for activity in the post medieval period was relatively slight. Documentary evidence indicates that the site of the Hall was occupied by a substantial house in the sixteenth century. Previously it has been suggested that this house was situated to the north of the present Hall based on reports of parch marks in the lawn during the nineteenth century and the location of cellars investigated in the 1990s. It is possible that an extensive area of infill which contained some limestone and brick rubble located in the service trench to the west of the Hall may represent demolition debris from a former building. An interpretive Figure (Baines 1997) based on a survey of 1557 could suggest a location to the east of the present house where a close labelled Chicheley Grange is shown.

A moulded fragment of stone of probable seventeenth century date was seen in the foundations of the Coach House below ground level in the west end of the south range. This suggests a construction date during or later than the seventeenth century. The Coach House is situated in plot that was a close called Collyers in 1526 (Baines 1997, fig 1, p11).

4.1.5 Eighteenth century

Chicheley Hall was constructed during the early eighteenth century and the remainder of the site, including the gardens developed to much as it appears today by the late eighteenth century.

Archaeological features from this period include foundations, construction layers and culverts identified in the test pits and service trenches. Two rectangular pits lined with masonry located in Area 2, inside the north end of the Coach House, were infilled during this period. The easternmost of the two had been infilled to allow the remodelling of the front of the Coach House, with the foundation of one its piers constructed in the infill.

4.1.6 Nineteenth and Twentieth centuries

Modern features and deposits identified include makeup deposits and modern floor layers. Inside the south wing of the Coach House a number of post holes, many with traces of decayed wood, and drains indicated the layout of loose boxes and stalls for horses.

5. PUBLICATION PROPOSAL

A report will be submitted to the MKAO that is suitable for inclusion in Records of Buckinghamshire. The chronological phased development of the site will provide the basic structure for the site narrative. Within each Period, text will be organised by Landscape and Group, with artefactual and ecofactual information integrated into the text as appropriate. Evidence from documentary, cartographic and photographic sources will be integrated into this chronological framework. The discussion will concentrate on the evidence for the medieval settlement and cemetery and the development of the site in the post medieval period. Remains from the subsequent periods will form a smaller part of the discussion.

The suggested format is set out below (table 1) with indicative page and Figure counts. The contextual evidence for each phase of activity will be presented, followed by an illustrated discussion of the assemblage of artefacts and ecofacts dating to this period. The outline of the publication should be considered a guideline which will be subject to the approval of the journals editor. It may be subject to amendments arising out of the analysis and pre-publication stages if the results warrant it.

	<i>Contents</i>	<i>pgs</i>	<i>figs</i>	<i>tbls</i>	<i>photo</i>
	<i>List of contributors</i>	¼			
	<i>Summary</i>	½			
1	Introduction				
	Site location and description	0.5	1		
	Archaeological background	1			
	The archaeological investigations	0.5	1		
	Structure and terminology in the report	0.5			
2	Results of the investigations				
	Medieval				
	Contextual evidence	4	4		
	Pottery and CBM	1.5	1	1	
	Other finds	2	1	2	
	textile	0.5			
	Human Remains	3			
	Animal bones and Environmental	8		5	
	Post medieval				
	Contextual evidence	2	1		
	Pottery and CBM	0.5		1	
3	Discussions & Synthesis	3	1		
4	Appendices				
	Pottery type series	0.5		1	
	<i>Acknowledgements</i>	¼			
	<i>Bibliography</i>	2			
	TOTAL	30	10	10	

Table 1: Provisional outline of the publication

5.1 *Publication Timetable*

Following acceptance of this document by RPS, the client and the MKAO, Albion would like to proceed rapidly with the last pieces of analysis, artefact conservation and publication of the results. This would ensure that project momentum is maintained.

Table 2 sets out the five key stages within the analysis and publication programme. An indication of the time required to reach the first three key stages is indicated, and these could serve as appropriate monitoring points, if required.

Task	Anticipated date of completion
Structural Analysis	Completed
Quantification and recording by specialists	Completed
Completion of KEY STAGE 1	
Compilation of specialist reports	June 2010
Completion of KEY STAGE 2	
Compilation of 1st draft	July 2010
Completion of KEY STAGE 3	
Refereeing	August 2010
Completion of KEY STAGE 4	
Publication of report within <i>Records of Buckinghamshire</i>	2011
Deposition of archive	Late-2011
Completion of KEY STAGE 5	

Table 2: Provisional timetable to complete the project

5.2 *Project Archive*

On publication of the final report the archive of materials (subject to the landowner's permission) and accompanying records will be deposited with Buckinghamshire County Museum (Accession Number AYBCM:2009.258).

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7. APPENDICES

7.1 Appendix 1 - Pottery

7.1.1 Introduction and methodology

For each context, pottery was recorded by fabric type and quantified by minimum sherd count and weight. This information was entered onto the Context Assemblage Table in the project database. Pottery was also spot dated by individual fabric type, and the date of the latest sherd used in the provision of an overall context spot date. A total of 183 sherds, weighing 2.1kg was recovered, the majority deriving from early medieval features in the Coach House Area.

7.1.2 Pottery type series

Fabrics are listed below (Table 1) in chronological order, using common names and type codes in accordance with the Bedfordshire Ceramic Type Series, currently maintained by Albion Archaeology. Fabrics have been correlated, where possible, with the Roman (Marney 1989) and medieval/post-medieval (Mynard 1992) pottery type series for Milton Keynes.

Fabric type	Common name	Sherd No.
<i>Late Iron Age</i>		
F06B (Fabric group 46)	Medium grog	1
<i>Saxon</i>		
A23 (Fabric group A7)	Sandstone	1
<i>Saxo-Norman</i>		
B01 (SNC1)	St Neots-type	22
B01A (SNC1)	St Neots-type (orange)	17
B01B (SNC1)	St Neots-type (fine)	2
B01C (SNC1)	St Neots-type (mixed)	4
<i>Medieval</i>		
B07 (MC1)	Shell	78
C01	Sand	10
C03	Fine sand	7
C10 (MS6)	Potterspury ware	13
C59A	Coarse sand	6
C59B	Harsh sand	9
E01 (TLMS3)	Late medieval reduced	1
E02	Late medieval oxidised	1
<i>Post-medieval</i>		
P07 (PM5)	Coarse slip-decorated earthenware	3
<i>Modern</i>		
P35 (PM27)	English porcelain	2
P45	Transfer-printed ware	1
P50	Stoneware	2
P55 (PM25)	White earthenware	2
MOD	Miscellaneous mass-produced ware	1

Table 1: Pottery type series

7.1.3 Provenance, phasing and date range

Approximately 68% of the assemblage (by sherd count) is datable to the 12th-13th centuries, and derives from features assigned to L2 (Table 2). Sherds survive in fair condition, although are small, with an average weight of only 11g. Few vessels are represented by more than one sherd. Of the thirty-eight features containing pottery, only six (15%) yielded over 100g.

L	G	Description	Sherd No.	Wt (g)
		COACH HOUSE AREA		

2	7	Pits	60	906
	8	Ditches	45	282
	9	Graves	19	213
	17	Post pit	4	6
3	2	Pit	31	286
	20	Post holes	3	11
	22	Pit	1	4
5	11	Post hole alignment	2	9
	12	Stone-built structure	2	5
	29	Yard	2	3
6	6	Post holes and drains	2	6
	13	Pit/disturbance	6	175
	26	Soil layers	2	166
9		<i>SERVICE TRENCH</i>		
	35	Pit	3	81
12	45	Ditch and furrow	1	1
			183	2,154

Table 2: Pottery quantification by landscape and group

The earliest material comprises a late Iron Age grog tempered sherd (1g) recovered from ditch G45 (L12). An undiagnostic sherd (1g) datable to the Saxon period derived from pits G7 (L2). Both are highly abraded and occur as residual finds in more recent features.

The Saxo-Norman assemblage comprises 45 shell tempered sherds weighing 427g. Vessels are wheel-thrown, in the St Neots-type tradition (fabric SNC1) and its variants. Most appear to fall at the later end of the St Neots range and are datable to the 11th-12th centuries. Forms are mainly bowls with inturned or simple upright rims, ranging in diameter between 260-360mm. The exterior surfaces of a number of vessels are sooted, indicating their use as cooking pots. The majority derived from pits G7 and ditches G8 (L2), with the remainder occurring as residual finds in later features.

One hundred and twenty-three sherds weighing 1.3kg are datable to the medieval period. Sixty-two percent (by sherd count) are shell tempered vessels of 12th-13th century date (fabric MC1), likely to derive from production centres on the Beds./Bucks./Northants. borders. Vessel forms are wheel thrown jars with simple everted or hooked rims, ranging in diameter between 140-240mm; bowls, and a single jug. The medieval phases are also characterised by locally manufactured fine and coarse sand tempered fabric types (C01, C03, C59A / C59B), occurring in a similar range of forms to the shell tempered vessels. Sooting on both shell and sand tempered sherds confirm that a proportion of these types represent kitchen wares. High medieval fine wares comprise thirteen sherds of Potterspury ware (MS6), a regional import from Northamptonshire. Forms include a slashed strap handle from a jug, the latter deriving from pit G2 (L3).

The largest early medieval assemblage derived from G7 pit [1304] (L2), which contained 386g. Nineteen early medieval sherds (213g) were associated with the infilling of G9 graves [1415], [1418], [1514], [1528] and [1531]. The pottery is likely to derive from either pits G7 or ditches G8, or the topsoil through which the graves were cut.

Late medieval pottery comprises two undiagnostic reduced and oxidised sand tempered sherds (10g) datable to the 14th-early 16th centuries, recovered from post holes G20 (L3). The reduced sherd is consistent with the broad south to east Midlands reduced ware tradition.

Three sherds (118g) from a post-medieval slip-decorated earthenware bowl derived from pit/disturbance G13 (L5). Seven sherds (224g) dating from the eighteenth century onwards were recovered from L5 stone-built structure G12, and from L6 cut features G6, G13 and layers G26. Fabrics represented are earthenware, stoneware, transfer-printed ware, English porcelain and miscellaneous mass-produced wares. Vessel forms include a decorated earthenware plate rim and two stoneware beer bottles.

7.2 Appendix 2 – Brick and Tile

7.2.1 Introduction and methodology

For each context, brick and tile was recorded by fabric type and quantified by minimum fragment count and weight. This information was entered onto the Context Assemblage Table in the project database. Ten sand tempered fragments, weighing 1.2kg were recovered from features assigned to L5.

7.2.2 Provenance, phasing and date range

Internal post holes G5 in the coach house yielded four pieces of late medieval/post-medieval peg tile (292g) and two fragments (92g) with worn surfaces, possibly deriving from an unglazed pavioir or hearth tile of similar date. An abraded piece of post-medieval brick (205g) and three fragments of peg tile (628g) derived from G11 post hole alignment (L5). The peg tiles have round fixing holes and range in thickness between 12-15mm; one has a width of 140mm. All are likely to be locally produced.

7.3 Appendix 4 - Other Artefacts

7.3.1 Introduction and methodology

Each object has been assigned a preliminary identification and functional category and quantified by number and/or weight. This data has been entered into the project database. All ironwork will be x-rayed by Lincolnshire County Council Heritage Service's Conservation Department, as part of the analysis stage of the project. An assessment of the condition of the metalwork will be carried out at the same time and any required stabilisation and repackaging undertaken.

7.3.2 Quantification and range

A small assemblage of fourteen objects, and 122.7g of plaster/mortar, was recovered from the investigations. The material composition of the assemblage and the range of object types present are presented in Table 3.

Function	Object type	Material					Plaster	Total
		Antler	Glass	Iron	Stone	Wood		
Building Material	Wall plaster						122.7	122.7g
	Flooring				1			1
Fasteners and fittings	Nail			3				3
Household	Bottle		1					1
Crafts	Off-cut	1						1
Multipurpose bladed tools	Knife			2				2
Written Communication	Pencil					1		1
Transportation/ Horse related	Spur			1				1
	Shoeing nail			1				1
Uncertain	Moulded glass from ?cabinet		1					1
	Fragment (sheet iron)			2				2
	Total	1	2	9	1	1	122.7g	

Table 3 Other Artefacts by material and object type

7.3.3 Typological date and provenance

The provenance of the other artefact assemblage is presented in Table 4 by land-use area and group. Half of the assemblage is not closely datable either due to fragmentary survival or to the fact that basic forms did not change over time. The datable artefacts indicate activity during the later medieval period and the 19th to 20th centuries.

L no	G no	Narrow Term	No.	Wgt
2.00	7.00	Iron rowel spur?	1	
2.00	7.00	White washed wall plaster fragment		72
2.00	7.00	Wall plaster or mortar?		50.7
2.00	7.00	Iron knife fragments	1	
2.00	9.00	Iron nail	1	
2.00	17.00	Iron shoeing nail shank	1	

9.00	35.00	White metal plated sheet iron fragment	1
5.00	5.00	Iron nail	1
5.00	5.00	Sawn antler off cut	1
5.00	15.00	Bone handle and iron knife	1
14.00	49.00	Iron nail	1
6.00	6.00	Wooden carpenter's pencil	1
6.00	26.00	Stone floor tile	1
6.00	26.00	Glass bottle (egg-shaped Hamilton)	1
10.00	37.00	Perforated iron sheet fragment - binding?	1
15.00	38.00	Machine moulded decorative clear glass	1

Table 4 Provenance of the 'other artefacts' assemblage

A spur fragment was found in an early medieval pit in L2 G7. Soil and corrosion products obscure the neck and terminal area on the spur making identification of form problematic prior to x-ray. The spur has been tentatively identified as a rowel, as opposed to prick, spur. The earliest rowel spurs appeared during the 13th century (Ellis 1995, 127). The one surviving terminal appears to be of ring form, the form starting in use in the late 13th century, but can still be seen on spurs of 14th and early 15th century date (Ellis 1995, fig.104 nos. 350 and 353). The side of the spur has a flat cross-section and is of serpentine form; the side of spur almost horizontal round the back of wearer's heel but the front part deeply curved under the ankle. The serpentine curve can be paralleled on spurs from London dating to 1400-1450 (Ellis 1995, fig. 103 nos. 346 and 347). Unlike some of the 15th century spurs however, this example lacks a crest and appears to have a short neck. The associated pottery found from the same pit dates to the early medieval period, therefore suggesting, if the provisional identification is correct, that the spur is intrusive. X-radiography will greatly assist in establishing the form of the spur and whether it is contemporary with the pottery or intrusive.

Little can be said of the single nail associated with grave fills in G9 L2, beyond that it could have originated from a coffin.

Too little of the knife from early medieval deposit L2 G7 survived to allow determination of form or date, beyond that it had a whittle tang handle. The knife from deposits assigned to the 18th to early 19th century (L5 G15) however retained a decorated bone handle of narrow rectangular cross-section. The terminal of the handle forms a flat rounded disc with an iron 'knop' protruding from the end. A deep notch has been formed on either side of the disc, creating a waist. The handle then widens into a tapering rectangular field. The disc terminal is decorated with a border of small dots enclosing a field with a larger central dot and four dots placed north, south, east and west, with two smaller dots forming a diagonal between each of the 'compass' points. The rectangular field below the notched waist has a double line border and a row of dots down the centre of the handle. Two dots occur either side of each alternate dot. This decorative pattern is repeated on the reverse face of the handle.

Rectangular sectioned knife handles begin to occur in the 14th century in London (Cowgill et al 1987, 25). The shape of the Chicheley handle is very similar in outline to composite strap-ends with forked spacer plates, which were in vogue in 14th century, perhaps continuing into the early 15th century (c.f. Egan and Pritchard 1991, fig 92 for examples). During the 14th century a fashion for decorating handles with a series of inlaid metal pins occurs (MacGregor, Mainman and Rogers, 1999,

1973). Although the decorative dots on this example never held pins, it is possible that the handle decoration was imitating the 14th century fashion.

Modern features in the coach house and yard (L6) produced an egg-shaped Hamilton mineral water bottle. Hamilton bottles were introduced in 1814, and came into general use about 1840. Although a flat bottomed version was designed in 1870, the egg-shaped bottle continued in use for quite a while (Hedges 2002, 13-14). The pencil, also from L6, has an octagonal-sectioned wooden casing with a narrow rectangular sectioned 'graphite' rod in situ. The wooden casing is formed of two pieces, called 'slats', which have a machine cut groove down their centres. The 'graphite' rod was slotted into the groove of one slat, and the two slats glued together. This form of pencil is still in use today.

7.4 Appendix 5 – Textile Remains

Penelope Walton Rogers, The Anglo-Saxon Laboratory

Remains of a linen tabby-weave textile were found in soil sample <4>, taken from the area of the hands and feet. The fragments, of which the largest are only 6 x 5 mm and 5 x 5 mm, are partially calcified, but immersion of some threads in dilute aqueous hydrochloric acid allowed fibres to be released for microscopy. When viewed by transmitted light at x400 magnification, with a microscope fitted with a polarising analyser, they proved to be mostly around 15 microns diameter (range 7-22 microns), each with a fine lumen and well-spaced cross-markings (Fig.01a-b). These features indicate flax, from the plant *Linum usitatissimum* L. (Catling and Grayson 1982, 12-17, 73) The textile itself is a medium-coarse fabric, rather unevenly spun and woven, with 12-14/Z x 8-12/Z threads per cm.

This is likely to represent the material of the shroud. The two shrouds used to wrap a man in a 13th/14th-century burial at St Bees Priory, Cumbria, were of this quality (information provided by the conservator, Jean Glover, Whitehaven Museum, Cumbria) as were textile fragments found in a medieval burial in St Peter's churchyard, Barton-on-Humber, Lincolnshire (Walton Rogers in Rodwell in prep), and there are somewhat finer examples from 12th/13th-century St Mary's Abbey, Winchester (Grave F125, unpublished report provided by Frances Pritchard) and 13th-century graves at the hospital of St Mary Spital, London (Gilchrist and Sloane 2005, 106). Linen shrouds were in use from the Anglo-Norman period until the later 17th century, when parliamentary acts designed to support the wool textile industry made them illegal (Gilchrist and Sloane 2005, 106-7; Litten 1991, 71-4).

7.5 Appendix 6 – Human Remains

Harriet Jacklin, University of Leicester Archaeology Service

7.5.1 Introduction

The following report details the results of the skeletal analysis of six articulated medieval inhumations recovered during building work at Chicheley Hall, Newport Pagnell.

7.5.2 Methodology

The analysis of the inhumations included the assessment of age, sex, dentition and dental health. Cranial and post-cranial metrics, non-metric traits and stature were also recorded where possible. Pathological analysis was also undertaken. The results were recorded using a standardised recording form created by Jacklin (2005), in line with Brickley and McKinley (2004). References used during skeletal analysis include Bass (1995), Buikstra and Ubelaker (1994), Brothwell (1981) and McKinley and Roberts (1993). All fusion data within this report are based on Scheuer and Black (2000).

7.5.3 Results

7.5.3.1 SK 1406, Area 2 (fig. A6-1)

SK1406 was found in a supine position. The skeleton was in a very fragmentary condition with only 0 < 25% of the remains available for analysis. The rest of the individual was left in-situ as it was inaccessible (beneath a stable wall). SK1406 was orientated approximately W-E (head to foot). SK1406 has been classed as a ‘child’ aged between 4 and 5 years. Age estimation has been on epiphyseal fusion and overall size of the surviving skeletal material. No pathological signs of ill-health were present on the surviving skeletal material; there was no evidence of pathology or trauma, metabolic or endocrine disorders and no congenital/ developmental variants.



Figure A61: SK1406

7.5.3.2 SK 1417, Area 2 (fig. A6-2)

SK1417 was found in a supine extended position with the left hand by his/her left side. The skeleton was found to be in good condition with 50 < 75% of the remains available for analysis. The rest of the individual was left in-situ as it was inaccessible (beneath a stable wall). SK14017 was orientated approximately W-E (head to foot). SK1417 has been classed as a ‘child’ aged between 9 and 11 years. Age estimation has been based on epiphyseal fusion and long bone length. No pathological signs of ill-health were present on the surviving skeletal material; there was no evidence of pathology or trauma, metabolic or endocrine disorders and no congenital/ developmental variants.

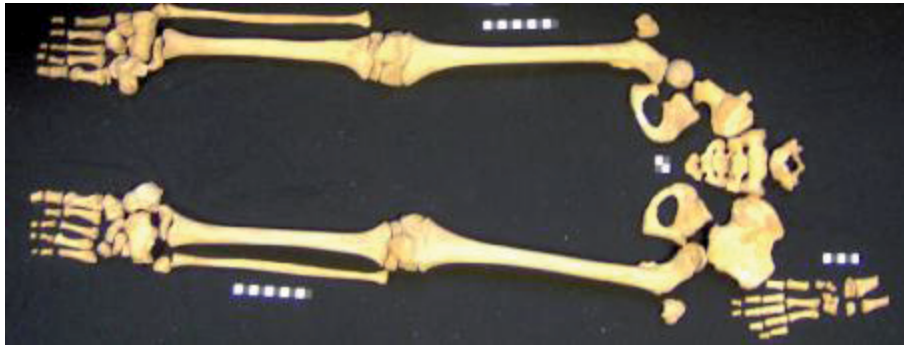


Figure A62: SK1417

7.5.3.3 SK 1419, Area 2 (fig. A6-3)

SK1419 was found in a supine, extended position with his hands originally resting on his thighs. The skeleton was found to be in good condition with 50 < 75% of the remains available for analysis. The rest of the individual was left in-situ as it was inaccessible (beneath a stable wall). SK14019 was orientated approximately W-E (head to foot). SK1419 has been classed as a 'young adult' male aged between 25 and 34 years. Sex estimation was based on assessment of the left and right os coxae (left and right sciatic notch, ventral arch, sub-pubic concavity and ischiopubic ramus ridge) and measurements of the left and right femoral heads. Age estimation was based on epiphyseal fusion and the assessment of the left and right os coxae (left and right pubic symphysis). The young appearance of the bones was also noted, with no age-related changes visible.

Post-cranial metrics and non-metric traits were able to be recorded including the *platymeric*, *platycnemic* and robusticity index for his left and right leg. Full details can be found in the archive. Metric analysis indicates that the male was between 1.67m and 1.73m (5' 5.7" to 5' 8.1") in height.

During pathological analysis two separate pathological conditions were recorded. SK1419 showed a healed, localised area of periostitis, affecting his right tibia (mid-lateral diaphysis). Periostitis is a term used to describe an inflammation of the bone membrane (periosteum). The condition can form part of a localised event (for example as a result of trauma) or as a secondary condition indicative of an underlying condition (such as an infectious disease). SK1419 also showed evidence of early stage destructive lesions affecting his lower (lumbar) vertebrae. See fig. 4. The lesions were located on the superior surfaces of L4 and L5. Unfortunately the extent of condition is unable to be established due to a lack of other vertebrae available for analysis. It is possible that these lesions may represent an early stage of spinal tuberculosis (Pott's disease) but due to the lack of severity of the lesions, and the lack of the other lumbar and thoracic vertebrae, and of the ribs, any such diagnosis, is mere speculation and should be regarded with caution. No other pathological signs of ill-health were present on the surviving skeletal material.



Figure A6-3: SK1419



Figure A6-4: SK1419: L4 and L5, Lesions

7.5.3.4 SK 1446, Area 2 (fig. A6-5)

SK1446 was found in a supine, extended position with her right hand by her side. The left hand was not present due to truncation by a post hole. The skeleton was found to be in very poor condition, with the vertebrae very damaged by previous disturbance. SK1446 was orientated approximately W-E (head to foot) and 75 < 100% of the skeleton was available for analysis. SK1446 has been classed as a 'middle to older' female aged from 42.5+ years. Sex estimation was based on assessment of the right os coxae (right sciatic notch), the cranium (left and right supra-orbital ridge, left and right mastoid process, the supra-orbital margin and the nuchal crest) and the mandible (mental eminence). Measurements of the right femoral head and the right humeral head were also used. Age estimation was based on dental eruption, dental attrition, *ante-mortem* tooth loss and epiphyseal fusion. Age-related changes were also present and taken into account.

A full list of cranial metrics and cranial non-metric traits was able to be recorded including the cranial index. Post-cranial metrics and non-metric traits were able to be recorded including the *platymeric*, *platynemic* and robusticity index for her right leg. Full details of all metrics and non-metric traits can be found in the archive. Metric analysis indicates that the SK1446 was between 1.49m and 1.56m (4' 10.7" and 5' 1.4") in height.

During pathological analysis it was discovered that SK1446 had suffered a trauma to her lower left leg. Two healed spiral fractures were found affecting the left tibia (distal diaphysis) and the left fibula (distal diaphysis). Both fractures occurred at the same time, possibly as a result of a severe fall. See fig. 7. Although not pathological, SK1446 also had a remarkably severe under-bite. See fig. 6. The surviving dentition was found to be in fair condition with no caries and mild dental calculus. Hypoplasia lines (hypoplastic defects in the dental enamel) are an

indicator of biological stress. Hypoplasia lines were found to be present on the majority of the surviving teeth. Measurements were taken of two teeth (9 and 10) believed to be representative of the others. The results indicate periods of ill-health (nutritional deficiency, childhood illness or both) between 2 to 3 years, 3.5 to 4 years and again, between 5.5 to 6 years of age (Rose, Condon and Goodman 1985). No other pathological signs of ill-health were present on the surviving skeletal material; there was no evidence of any other pathology or trauma, metabolic or endocrine disorders and no congenital/ developmental variants (with the exception of the severe under bite).

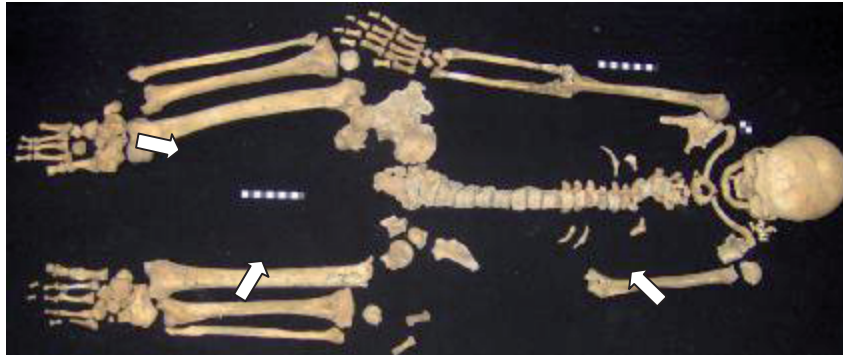


Figure A6-5: SK1446



Figure A6-6: SK1446: Severe Under-bite



Figure A6-7: SK1446: Left Tibia and Fibula, Fractures

7.5.3.5 SK 1530, Area 2 (fig. A6-8)

SK1530 was found in a supine, extended position and was orientated approximately SW-NE (head to foot). The skeleton was found to be in good condition although only 0 < 25% of the skeleton was available for analysis. The rest of the individual was truncated by previous disturbance. SK1530 has been classed as an 'infant' aged between 1 and 2 years. Age estimation was based on epiphyseal fusion and long bone length. No pathological signs of ill-health were present on the surviving

skeletal material; there was no evidence of pathology or trauma, metabolic or endocrine disorders and no congenital/ developmental variants.

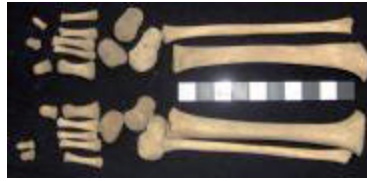


Figure A6-8: SK1530

7.5.3.6 *SK 1615, Area 2 (fig. A6-9)*

SK1615 was found in a supine position. The skeleton was found to be in fair condition although only 25 < 50% of the skeleton was available for analysis. SK1615 has been classed as an ‘infant’ aged between 2 and 4 months. Age estimation was based on epiphyseal fusion and long bone length. No pathological signs of ill-health were present on the surviving skeletal material; there was no evidence of pathology or trauma, metabolic or endocrine disorders and no congenital/ developmental variants. See Appendix for further details.



Figure A6-9: SK1615

7.5.4 Conclusion

The Chicheley Hall skeletons represent two adults, two children and two infants. One of the infants passed away shortly after birth. Pathological conditions common to the late medieval period are recorded by the male and female adults in the two adult skeletons.

7.6 Appendix 7 – Animal Bone

Jennifer Browning, University of Leicester Archaeology Service

7.6.1 Introduction and Methodology

A small faunal assemblage was recovered during excavations at Chicheley Hall. Bones were collected from medieval, 18th/19th century and late 19th/20th century features.

Bones were identified with reference to the skeletal collection housed at the School of Archaeology and Ancient History, University of Leicester. Information on element, completeness, species, state of fusion and condition was recorded for each specimen, while butchery, burning, pathologies and tooth eruption and wear were noted where present. A zoning method (Serjeantson 1996) was employed to assess the parts of bones present: as a general principle, each element is divided into eight diagnostic zones, the presence or absence of which can quickly be determined. Joining fragments were counted as a single specimen. Measurements were taken when bone completeness permitted, following von den Driesch (1976) and Payne and Bull (1988). Recording of tooth eruption and wear for cattle, sheep and pig followed Grant (1982), but assignment of age categories followed O'Connor (2003). Data were recorded into a pro forma Microsoft Excel spreadsheet. Where fragments were not sufficiently diagnostic to identify to species, they were assigned to one of the following categories, based on characteristics such as size and thickness of the cortical surface. 'Large mammal' represents indeterminate fragments, likely to derive from animals such as cattle, horse or possibly red deer, while 'medium mammal' bones belonged to sheep, goat, pig or possibly roe deer or dog. The remainder were classed as indeterminate mammal or bird.

7.6.2 Condition and taphonomy

The assemblage was fragmented, whole bones were rare and both old and modern breaks were present. The condition of the bone surfaces was generally good enabling examination for butchery and other modifications. Gnawing occurred rarely in the assemblage suggesting that bones were rapidly buried.

7.6.3 Results

Bones were recovered both by hand-collection and sorting of sieved residues. Medieval features produced the largest quantity of bone.

The largest group of material was recovered from Landscape 2 (early medieval features in the Coach House area). Bone was both hand-collected and recovered through sieving in Group 7 (early medieval pits) and Group 8 (early medieval ditches).

7.6.3.1 Phase 2 Medieval

Gp.	Feat.	Cattle	Sheep /Goat	Pig	Equid	Domestic fowl	Goose	Avian	Med mml	Lge mml	Indet.	Total
7	1304	1	2			1	2	8	11	2	5	32
	1424		1	1						1		3
8	1324		1						3			4
	1330								2			2
	1333								1			1
	1506								1			1
	1537	1										1
	1539							1	1			2

	1546						1					1
9	605								1			1
	1415									1		1
	1418		2		1			2	1	2	4	12
	1444		1			1						2
	1514									2	1	3
	1528		2						3	1	1	7
	1531	1		1				1	3		8	14
	1533		1									1
Total		3	11	2	1	4	3	12	27	9	53	130

Table 1: Hand-collected bones from groups and features within Landscape 2 (Key: Gp=Group; Feat=feature; lge mml= large mammal; med mml= medium mammal; Indet= indeterminate)

Gp.	Feat.	Sample No	Sheep /goat	Domestic fowl	Bird	Indet.	Total
7	1304	6	1	2	4	15	22
7	1424	5				4	4
8	1324	7				12	12
8	1326	8				4	4
Total			1	2	4	35	42

Table 2: Sieved bones from groups and features within Landscape 2 (Key as Table 1)

Group 7 produced the largest quantity of bones (n=61). The majority of specimens from 1304, both sieved and hand-recovered, were burnt. The variation in colouration indicated scorching through to partial and complete calcination, therefore suggesting exposure to different temperatures. During heating experiments on bones, it was observed that colour changed through pale yellow/brown to pink/brown before taking on the characteristic black/brown of charred bone (Gilchrist and Mytum 1986, 31). Temperatures within a fire are variable but it has been noted that even a campfire would be capable of becoming hot enough for calcination to occur, characterised by shrinkage and a white ‘porcelain’ appearance (Nicholson 1993, 427). Bird bones were most common in the assemblage and both domestic fowl and goose were identified. The range of elements included posterior phalanges, femora, coracoid and vertebrae, indicative of both preparation and consumption of the carcass. The sheep/goat elements included a metapodial and a mandible fragment, which had evidently been exposed to fire, as well as an un-burnt metapodial. A burnt cattle phalanx was also present. Both the cattle and sheep/goat bones are more suggestive of slaughter waste than consumption.

Of 28 fragments retrieved from Group 8, only a sheep/goat tibia, a cattle phalanx and a goose coracoid were identified. The remainder consisted of medium mammal, indeterminate and indeterminate bird shaft fragments measuring less than 50mm. Forty-one specimens hand-recovered from Group 9 features (graves) included isolated fragmentary elements from sheep/goat, cattle and pig, which have probably been incorporated accidentally during the backfilling of the graves. It was only possible to identify a quarter of the specimens to species. A sheep/goat hyoid had fine cut marks, which probably occurred during decapitation or removal of the tongue. An equid metatarsal recovered almost complete from Feature 1418 had been butchered, bearing an oblique chop halfway up the shaft on the posterior face. This was a fairly small and slender bone, providing an estimated withers height of 1.35m from a greatest length of 253mm (Kiesewalter 1888).

Gp	Feat.	Cattle	Sheep/goat	Pig	Equid	Lge mml	Med mml	Total
2	1621	3		2		1		6
	1625		1				3	4

16	1322					1		1
22	1552				1			1
	Total	3	1	2	1	2	3	12

Table 3: Hand-collected bones from Landscape 3 (Key as Table 1)

Later medieval features in the Coach House area produced a small faunal assemblage, in which cattle sheep/goat, pig and horse were present. A small number of bones were hand-recovered from a high medieval feature (Group 2), a robber trench (Group 16) and a late medieval feature (Group 22). Exostosis was noted on the proximal end of a fragmented horse metatarsal from Group 22. A cattle metatarsal had two shallow chop marks on the posterior face.

Group	Feature	Sample	Lge mml	Med mml	Indet.	Total
35	2103	11	1	1	3	5
	Total		1	1	3	5

Table 4: Sieved bones from Landscape 9 (residues) (Key as Table 1)

No identifiable bones were recovered from Group 35, a pit with medieval pottery, located to the south of the house.

7.6.3.2 Phase 4: 18th/early 19th century

Landscape	Group	Feature	Pig	Goose	Lge mammal	Total
5	5	1411			1	1
		1434		1		1
	15	1501	1			1
Total			1	1	1	3

Table 5: Hand-collected bones from Landscape 5 (Key as Table 1)

A goose phalanx and a large mammal shaft fragment were recovered from post-holes relating to horse stalls (Group 5) and a pig carpal with a weathered appearance was collected from an internal cobbled floor (Group 15).

7.6.3.3 Phase 5: Late 19th or 20th century

Landscape	Group	Feature	Sheep/goat	Rabbit	Med mml	Total
6	6	802	1	1	1	3
15	38	900	1			1
15	42	1001	2			2
Total			4	1	1	6

Table 6: Hand-collected bones from Phase 5 (Key as Table 1)

A small group of material recovered from modern features in the Coach House (Group 6), topsoil (Group 38) and modern external services (Group 42) included sheep/goat and rabbit bones. The sheep bones were notably larger than those normally found among archaeological assemblages.

7.6.4 Discussion

The bones from Chicheley Hall were recovered from features of dating from the medieval to the modern period. Little archaeological value can be attached to the bones from Phases 4 and 5, which not only constitute very small groups but are also from features likely to contain residual material rather than primary deposits. The medieval features, especially those in Landscape 2 (early medieval) produced a more interesting assemblage, in which cattle, sheep/goat, pig, equid, goose and domestic fowl were identified. While the small assemblage size precludes a discussion of the use of animal resources at the site it does confirm the presence of

the main domestic species, typical for the medieval period. Domestic bird bones were relatively common in feature 1304; the consumption of birds was more common at high status sites (Serjeantson 2006, 133). Most of the bones are likely to represent the waste products of processing and consumption associated with domestic refuse. The assemblage provides information of local interest to aid in the interpretation of the site but is unfortunately unlikely to contribute to regional or national research frameworks.

7.7 Appendix 8 – Charred Plant Remains

Angela Monckton, University of Leicester Archaeology Service

7.7.1 Introduction

During excavations by Albion Archaeology sampling was carried out to recover charred plant remains which can provide evidence of agriculture, diet, and activities of the people in the past. The features excavated included medieval pits and ditches and a possible cesspit. Samples from graves of 11th – 12th century date were also investigated. Information from charred plants is now accumulating from rural sites and towns in the region and it was hoped that these remains would add this evidence.

7.7.2 Methods

Samples were processed from 11 contexts with the potential to produce plant remains. The selected samples were processed by wet sieving in a York tank with a 0.5mm mesh and flotation into a 0.3mm mesh sieve. The residues were air dried and the fraction over 4mm sorted for all remains which are included in the relevant sections of the report. The flotation fractions (flots) were air dried and packed in self-seal polythene bags, this work was carried out at Albion Archaeology.

All the flots were examined and the first part of each flot was sorted for plant remains using a x10-30 stereo microscope, for the rich samples a proportion of the flot was sorted. The plant remains were identified by comparison with modern reference material at University of Leicester Archaeological services. The remains were counted and the most productive samples tabulated (table 1): the plant names follow Stace (1991) and are charred seeds in the broad sense unless described otherwise. In order to interpret and compare the charred plant remains in the samples the proportions and ratios of cereal grains, chaff, seeds and other remains were considered: samples rich in grain represent cereal product, those rich in chaff and weed seeds include cereal cleanings. Some of the samples also contained waterlogged plant remains which were also investigated in the possible cesspit and are described in the text below.

7.7.3 Results: the plant remains

The cereals: From the medieval periods the majority of the identified grains were of wheat (*Triticum* sp), mainly of the characteristic short broad shape of free-threshing wheat. Wheat chaff fragments (rachis segments which form the central axis of the cereal ear) were found, some of these could be identified as bread wheat (*Triticum aestivum* s.l.), and some were of a second type of free-threshing wheat which is known as rivet wheat (*Triticum turgidum* type). These were found together in most of the samples particularly abundant in two of the samples from pits. Occasional barley grains (*Hordeum vulgare*) and chaff fragments were present, much less numerous than wheat. Oat grains (*Avena* sp.) were also found in some of the samples, these were probably cultivated oats from the size of the grains but this could not be confirmed in the absence of chaff, some of the grains were small in size possibly of weedy species, some identified as cereal or grasses may have included small oat grains. Rye (*Secale cereale*) was present very sparsely as a possible additional cereal on the site.

Legumes: Other food plants were legumes which were present although not numerous perhaps because legumes do not require parching in their processing.

These included probable beans (*Vicia faba*) of small size, and some fragments were identifiable only as either peas or beans (*Vicia/Pisum*). Cultivated vetch (*Vicia sativa*) was possibly present, although a few fragments may have been small peas, this crop was usually used as fodder. The presence of legumes suggests that crop rotation may have been carried out.

Fruits and nuts: These were represented by an uncharred fig seed (*Ficus carica*) often found in cesspits and so was possibly from sewage in the ditch sample 7. Elder pips were present, and although ubiquitous on such sites because the plant grows in neglected areas near rubbish pits as well as in hedgerows, the fruit is likely to have been consumed. A small plum or sloe stone (*Prunus* sp.) was present in one of the graves, sample 3, with hazel nutshell and a few other charred remains. Nutshell was also present showing that hazel nuts (*Corylus avellana*) were gathered and used as food.

Wild plants: Numerous charred weed seeds were found which were mainly weeds of disturbed ground or arable land included stinking mayweed (*Anthemis cotula*) which was common in medieval times and is a plant of heavy and poorly drained soils. Weeds particularly associated with autumn sown cereals such as wheat included corn cockle (*Agrostemma githago*) and cleavers (*Galium aparine*) were found. Other weeds of disturbed ground such as is found in settlements, garden-type cultivation or of spring sown crops included goosefoots (*Chenopodium* sp), docks (*Rumex* sp) and chickweed type plants (*Stellaria* sp.). Leguminous plants included vetches or vetchling (*Vicia/Lathyrus*) and clover type plants (*Medicago*, *Melilotus* or *Trifolium*) which can occur as arable weeds but also grow on grassland. Others plants of grassy vegetation included hay rattle (*Rhinanthus* sp.) and self-heal (*Prunella vulgaris*). Plant of damp or wet ground were represented by sedges (*Carex* sp) perhaps from poorly drained areas of the fields or from ditch sides. Seeds were of the large grasses (*Poaceae*) including brome grass (*Bromus* sp.) were present which was a common arable weed, and most of the plants here can occur in cultivated fields as arable weeds. Additional plants and waterlogged remains are mentioned below.

7.7.4 Results by phase: Medieval, 11th to 12th century

Two pits were sampled which contained very productive samples with densities of 533 and 59 items per litre of soil from pit sample 6 (1315) and sample 5 (1426) respectively. The remains were mainly of free-threshing wheat with some chaff including identified bread wheat in both and a little rivet wheat in (870) which also contained a smaller amount of barley grains and chaff. In the ear of wheat there are three grains to each rachis segment so in sample 6 there are more grains than chaff and this may represent threshed and partly cleaned grain. Sample 5 contains more chaff than grains so is likely to represent cereal cleaning waste. Weed seeds were relatively numerous in both samples although more grains than weed seeds were present in sample 6, also suggesting that this was may be partly cleaned cereal product. However grains can become mixed with cereal cleaning waste because waste chaff was a favoured fuel for cereal processing and was also used for kindling. Some domestic waste may also be present represented by legumes and nutshell. The relatively high density samples with cereal grain, and cereal waste including both chaff and seeds, suggests production or processing nearby.

Ditches samples 7 and 8 contained a scatter of charred remains at densities of 8.6 and 5.0 items per litre of soil. Charred grains of wheat and chaff of both bread

wheat and rivet wheat were present with weed seeds representing a scatter of the same type of waste as found in the two pits above. Occasional segments of fish scales were found, probably of freshwater fish of the carp family as possible food waste. A single fig seed in the former such as has been found in cesspits elsewhere such as in Leicester (Monckton 1999), although no other mineralized plant remains were found to suggest the presence of sewage here. Uncharred seeds of elder and a few other seeds were found which may have been from plants in the surroundings possibly as the survival of the more robust seeds which can survive in some deposits. The charred plant remains are similar to those from the pits and may represent a scatter of remains from the same activity of cereal processing.

Graves: Four samples from Grave 1419, samples 1-4, were examined and all contained charred cereal remains, samples 4 contained a moderate number of charred plant remains with cereal grains, a few chaff fragments including rivet wheat as well as bread wheat with weed seeds (table 1). Samples 1 and 2 were similar and may be part of the scatter of cereal processing waste as found in the pits mentioned above. Sample 3 contained a plum stone and a nutshell fragment with only a couple of cereal grains which may be part of a scatter of domestic waste. A second Grave 1416 samples 9 and 10 also contained a moderate amount of charred plant remains including cereal grains with chaff of both types of wheat and weed seeds.

Possible Cesspit sample 11: the sample contained a few charred plant remains similar to those above but with only cereal grains and weed seeds in small numbers (table 1). In addition the sample contained a few uncharred seeds probably preserved by waterlogging. The water plants included duckweed (*Lemna* sp.) and water-crowfoot (*Ranunculus* subgen. *Batrachium*) which indicate standing water. Plants of shallow water included celery-leaved buttercup (*Ranunculus sceleratus*), with wetland plants including sedges (*Carex* sp.) and gypsywort (*Lycopus europaeus*). Plants of nutrient rich soils included nettles which grow where rubbish as well as sewage or animal waste is deposited. As well as the duckweed which suggests standing water, a shell of a water snail (*Anisus leucostoma*) and encysted waterfleas (*Daphnia* sp.) suggest that the pit contained water prone to drying. There is nothing from the remains to suggest that this was a cesspit because food remains are absent and no mineralized plant remains were found to suggest the presence of sewage such as those found elsewhere (Monckton 1999). Only remains of natural vegetation were found, however, the pit did contain water in the past.

7.7.5 Discussion

The medieval deposits from the site contained quite abundant cereal remains compared with some sites in the midlands (Monckton 2004a). The type of cereal waste found here is from free-threshing wheat in which the grain is easily separated from the ear by first threshing. After threshing the straw would be raked away and then winnowing is carried out to remove small light weed seeds and the light chaff. The grain could then be coarse sieved to remove the larger chaff fragments and then fine sieved, in a sieve which retains the grains, to remove small weed seeds (Jones 1990). The waste found here in sample 5 could be from this latter process which would be preserved if it was burnt as waste or fuel and preserved by charring. Straw remains are rarely found as it is useful for thatching and bedding, only a few fragments were found here. Although chaff is easily removed it was quite abundant here to suggest the cereal was produced nearby.

Sample 6 contains abundant charred wheat grains and charred grains can be present with waste chaff and weed seeds possibly burnt accidentally during parching, this may have been carried out for a number of reasons for example, to dry it for storage if gathered damp, or to facilitate milling. Oats are also present and it is now known that wheat and oats were used together in brewing in the medieval period and grain was roasted during preparation of malt, here there is very little evidence of germination except for a few of the oats insufficient to suggest malting (Moffett 1994). Also there is no evidence for kilns or ovens on this site (although elsewhere some kiln bases only survive as shallow pits with *in situ* burning, this is not reported here). It is possible that grain was being cleaned grain here for use, storage or milling with the waste burnt for disposal. There is quite a large amount of grain in sample 6 so this may represent accidental burning of grain during drying or storage, this appears to be a partly cleaned crop. The abundant chaff suggests that this represents agricultural activity carried on in the vicinity.

The find of identifiable free threshing wheat chaff (rachis) of not only bread wheat but also rivet wheat is an addition to our knowledge of this crop. Rivet wheat is now known from an increasing number of sites in the midlands from the early medieval period onwards (Moffett 1991), with the earliest find being from Higham Ferrers in Northamptonshire and having a pre Norman Conquest date (L. Moffett pers comm.). The evidence at present suggests that this crop spread in use during the medieval period. It is known from a number of sites in the region such as at Long Causeway, Peterborough from deposits of 13th -14th century AD date (Monckton 1996). It has also been found recently at Castle Quay, Castle Lane, Bedford in deposits possibly of Saxo-Norman date (Hill 2009) and here is possible 11th -12 th century deposits. Rivet wheat is a productive cereal with long straw useful for thatching, it also has long awns which protect the grain from insect attack (Moffett 1991); it is less favoured for bread making than bread wheat but could be used mixed with bread wheat or used in other cereal foods.

The crops include wheat and oats with a little barley and rye. Bread wheat and rivet wheat are present in similar amounts. Other foods are represented by beans, with hazel nutshell present as a gathered food. Fruits are represented by plum and possibly elder berries were consumed. A single fig seed may represent an imported fruit if not intrusive. The most common weed is stinking mayweed, thought to be associated with cultivation using the mould board plough. The weeds suggest that wheat was autumn sown, but weeds of garden and spring sown crops such as oats are also present. All these plants have also been found in medieval samples elsewhere such as at Long Causeway, Peterborough (Monckton 1996). However, there is much less variety of foods found here than in the towns which is in common with other villages sampled in the midlands (Carruthers 1995) where there is a lack of fruits and herbs in comparison with the towns.

The samples from the pits indicate cereal processing activity, possibly cereal cleaning or processing grain by heating somewhere else on the site. The charred cereal remains were also found in the graves perhaps because the grave disturbed a previous pit containing charred cereal remains. Burials including charcoal are recorded elsewhere, charcoal may sometimes have been included because it absorbs odours, but there is no suggestion of this here so the remains are thought to be incidental from the presence of cereal processing remains on the site. Some of the remains in the ditches may represent a low density scatter of domestic waste

from cereals probably from food preparation on the site. A possible cesspit contained no evidence of food remains other than a few charred cereal remains so was thought to be a pit which had contained water and wet ground vegetation with a scatter of cereal remains from domestic waste.

7.7.6 Conclusions

Abundant cereal remains were found in medieval samples from two pits containing cereal cleaning waste of chaff and weed seeds with charred cereal grains of free-threshing wheat including bread wheat and rivet wheat, with barley. The medieval samples were interpreted as containing abundant cereal cleaning waste indicating this was an important activity on the site. The presence of chaff and weed seeds may suggest the local cultivation of the wheat including both bread wheat and rivet wheat, and barley with some oats and a trace of rye. It is possible that cereals, brought to the site from local fields were being cleaned from contaminants for use, milling or storage. Some samples were also thought to contain domestic waste from food preparation. Some waterlogged plant remains from a possible cesspit suggested a pit containing water. Other crop remains over the phases of the site are of charred legumes including possibly beans. Hazel nutshell, small plum or sloe, possible elder were evidence for gathered food consumed on the site, a fig seed may represent an import unless intrusive. The site provides evidence for rivet wheat outside the town of Bedford where it was present in possibly Saxo-Norman deposits. The site compares with other rural sites in the midlands, having more cereal waste and little variety of fruits and other foods such as are found in the towns.

Sample	6	5	7	8	11	9	4	
Context	1315	1426	1325	1327	2104	1445	1416	
Feature	1304	1424	1324	1326	2103	1416	1419	
Feature type	Pit	Pit	Ditch	Ditch	Pit	G	G	
Cereal chaff								
<i>Triticum turgidum/durum</i> rachis	28	21	2	1	-	1	-	Rivet wheat
<i>Triticum aestivum</i> s.l. rachis	25	35	4	1	-	2	3	Bread wheat
<i>Triticum</i> free-threshing rachis	17	37	2	1	-	2	1	Wheat, free-threshing
<i>Secale cereale</i> rachis	-	-	-	-	-	1	-	Rye
<i>Hordeum vulgare</i> L. rachis	1	-	-	-	-	-	-	Barley
Cereal rachis	11	11	-	-	-	-	2	Cereal
Culm nodes, large	11	3	-	-	-	-	1	Straw
Awns	+	+	-	-	-	-	-	Cereal barbs
Cereal grains								
<i>Triticum</i> free-threshing grains	187	68	15	12	6	10	7	Wheat, free-threshing
<i>Triticum</i> sp grains	10	2	-	-	-	-	-	Wheat
<i>Hordeum vulgare</i> L. grains	6	3	2	2	-	2	-	Barley
<i>Secale cereale</i> L. grains	2	2	-	1	-	-	-	Rye
<i>Avena</i> sp. Grains	27	16	12	2	-	2	-	Oat
Cereal grains	179	21	14	11	1	5	4	Cereal
Cereal/Poaceae grains	66	7	7	5	-	2	-	Oat/Grass
Collected/Cultivated								
<i>Corylus avellana</i> L.	8	-	-	-	-	-	-	Hazel nutshell
<i>Ficus carica</i> L. (u)	-	-	1u	-	-	-	-	Fig
<i>Sambucus nigra</i> L.	1	2u	3u	-	-	-	-	Elder
Legumes								
<i>Vicia faba</i> L.	-	1	-	1	-	-	-	Pea
<i>Vicia/Pisum</i>	1	2	2	1	-	-	-	Bean/Pea
<i>Vicia sativa</i> L.	-	1	-	-	-	-	-	?Cultivated Vetch
Wild plants								
<i>Urtica dioica</i> L.	-	-	2u	-	11u	-	-	Nettles
<i>Chenopodium</i> sp.	4	3	1u	1	4u	-	-	Goosefoot
<i>Stellaria media</i> L.	-	1	-	-	1u	-	-	Chickweed
<i>Silene</i> sp.	-	-	1	-	-	-	-	Campion

<i>Agrostemma githago</i> L.	-	1	-	-	-	-	-	Corn-cockle
<i>Rumex</i> sp	2	5	1	-	-	-	-	Docks
<i>Polygonum</i> sp	-	1	-	-	-	-	-	Knotweed
<i>Fallopia convolvulus</i> (L).	-	-	1	-	-	-	-	Black bindweed
<i>Lythospermum arvense</i> L.	1	-	-	-	-	-	-	Field gromwell
<i>Malva</i> sp.	-	-	-	1	1	-	-	Mallow
<i>Vicia</i> sp.	-	8	-	-	-	2	1	Vetch
<i>Vicia/Lathyrus</i>	1	2	-	1	1	-	1	Vetch/tares
<i>Medicago/Melilotus/Trifolium</i>	-	-	1	-	-	-	-	Clover type
Lamiaceae	-	-	3u	3u	1u	-	-	Dead nettles
<i>Prunella vulgaris</i> L.	-	2	-	-	-	-	-	Self-heal
Apiaceacea	-	2	-	-	-	-	-	Carrot family
<i>Rhinanthus</i> sp.	1	-	-	-	-	-	-	Hay-rattle
<i>Galium aparine</i> L.	-	1	-	-	-	-	1	Cleavers
Asteraceae	-	1	-	-	1u	-	-	Daisy family
<i>Anthemis cotula</i> L.	35	12	3	-	-	3	1	Stinking Mayweed
<i>Carex</i> sp.	-	2u	-	3u	2u	-	-	Sedges
<i>Bromus</i> sp	4	2	-	-	-	-	-	Brome grass
Poaceae (large)	7	1	3	1	2	-	1	Grasses large
Poaceae (small)	11	2	1	-	3u	-	-	Grasses
Indeterminate seeds	7	10	6	2	-	1	-	Indeterminate seeds
Uncharred seeds	4	8	2	8	11*	-	-	Uncharred seeds
Fish scale, freshwater	-	(1)	(1)	(1)	-	-	-	Fish scale
Total	667	296	86	50	45	35	23	Total
Volume sample	10	10	10	10	9	5	4	Litres
Flot volume	200	30	7	10	5	5	4	Mls
items per litre of sediment	533	59	8.6	5.0	5.0	7.0	5.8	items per litre

Table 1. Charred plant remains from medieval contexts .

Key to Table 1: Remains are seeds in the broad sense unless stated,
u = uncharred possibly waterlogged, * = water plants see text.

7.8 Appendix 9 – Charcoal

Graham Morgan, University of Leicester Archaeology Service

7.8.1 Results

Charcoal was retrieved from three samples (5, 6 and 7), taken from contexts (1426), (1315) and (1325) respectively, and are identified below in Table 1.

Bag No	Context	Sample	diam	rings	age	species	comment
1	1315	6	30	10	15	oak	
1	1315	6	20	3	10	maple	
1	1315	6	10	8	8	maple	
2	1315	6				oak	fragments
3	1315	6				hazel	nutshell
3	1315	6				plum	fruit stone
4	1325	7				oak	fragments
5	1426	5	15	12	12	maple	

Table 1 Charcoal identified from Chicheley Hall

Although a very small sample, the range of species would be typical of open country at this time and from the size of the fragments and their age probably represents brush wood derived from hedgerows in the vicinity and used as fuel.

Species present:

Oak

Quercus spec.

Field maple

Acer campestre

Hazel

Corylus avellana (also noted in the plant macrofossil report)

Plum

Prunus spec.

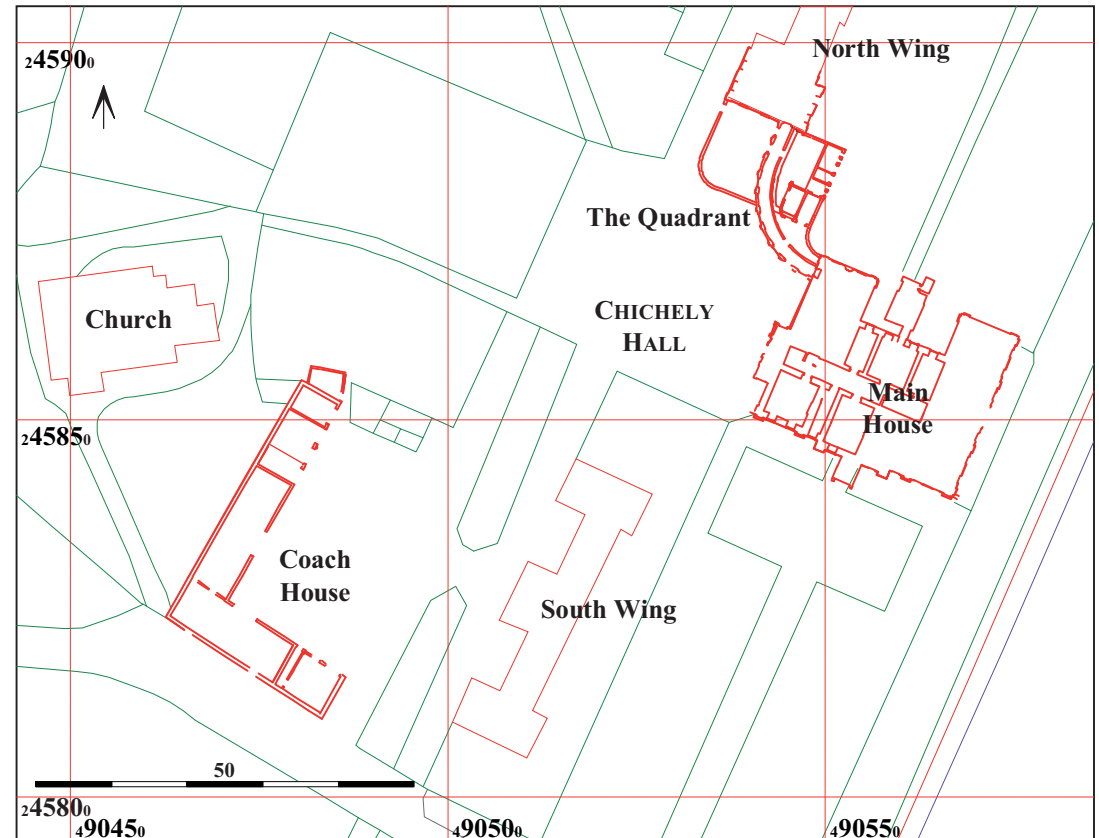
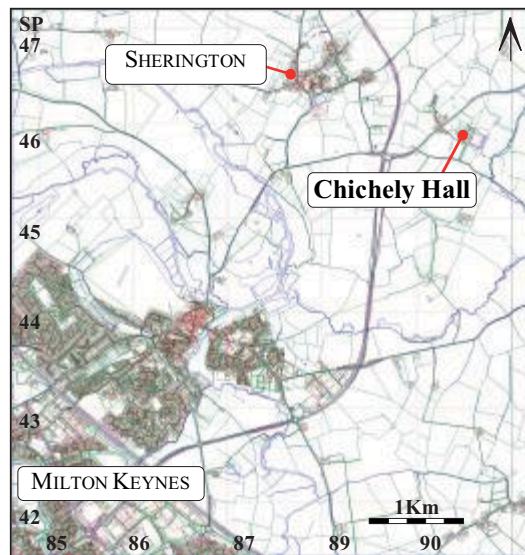


Figure 1: Site location plan

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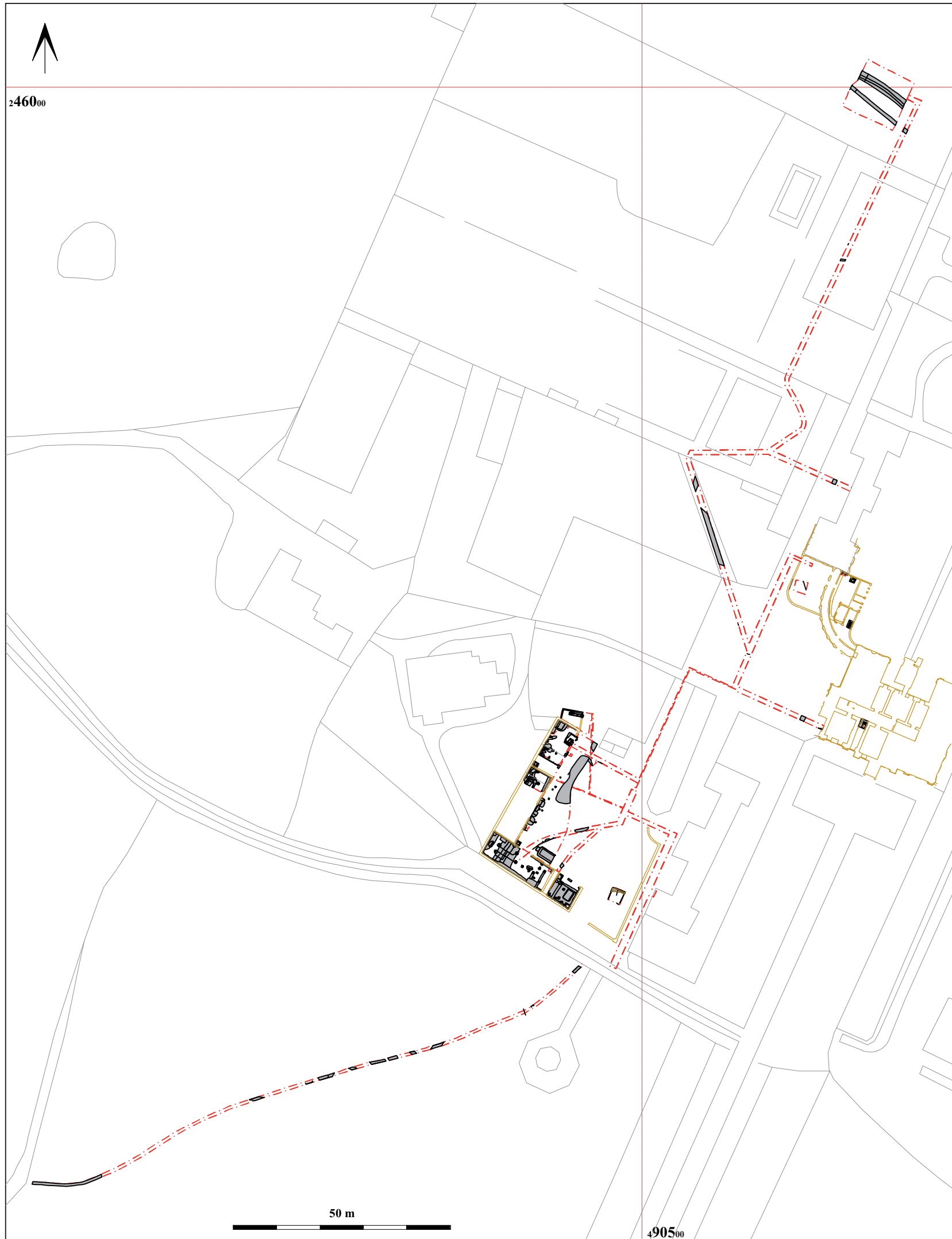


Figure 2: All features plan

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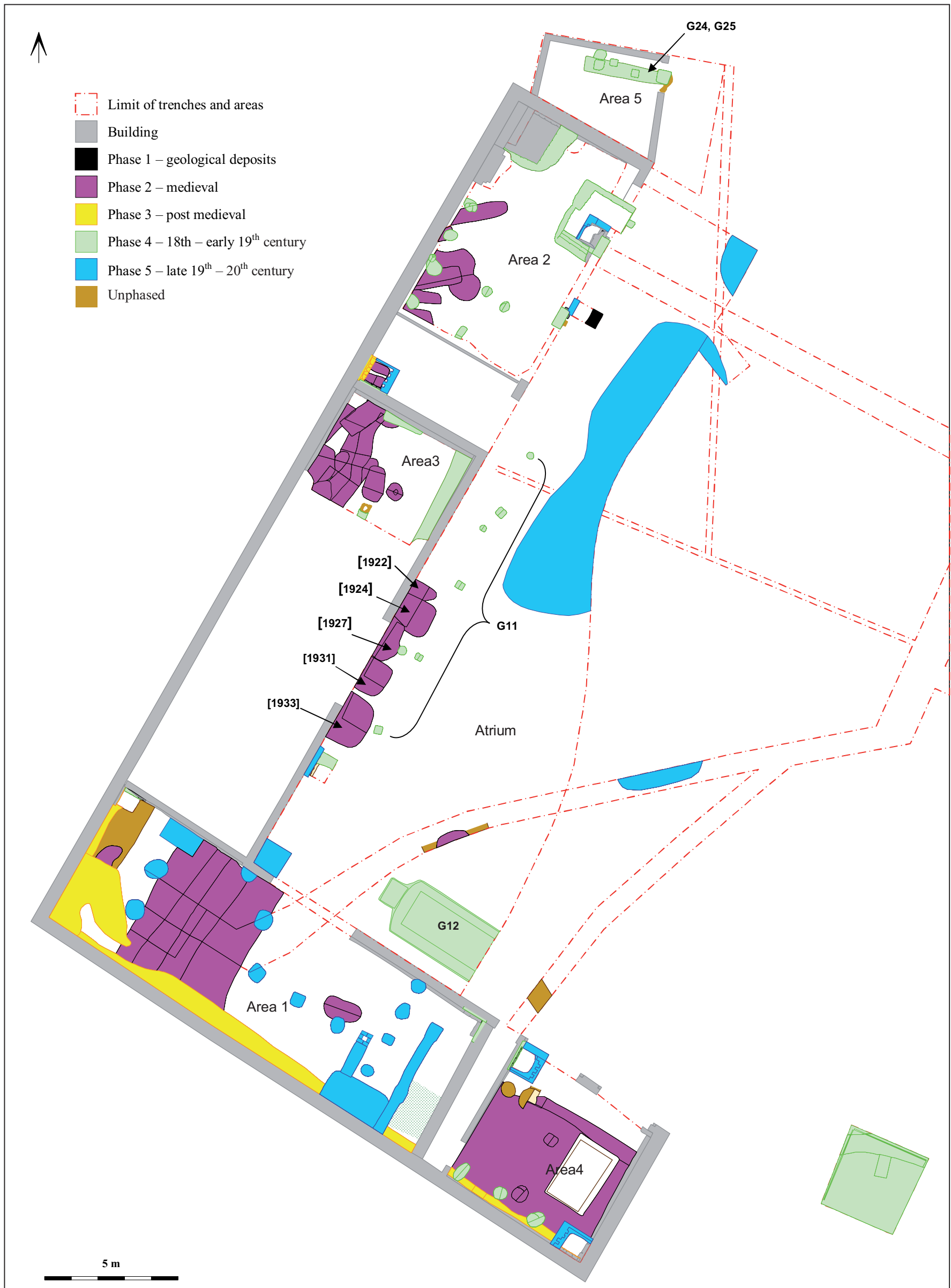
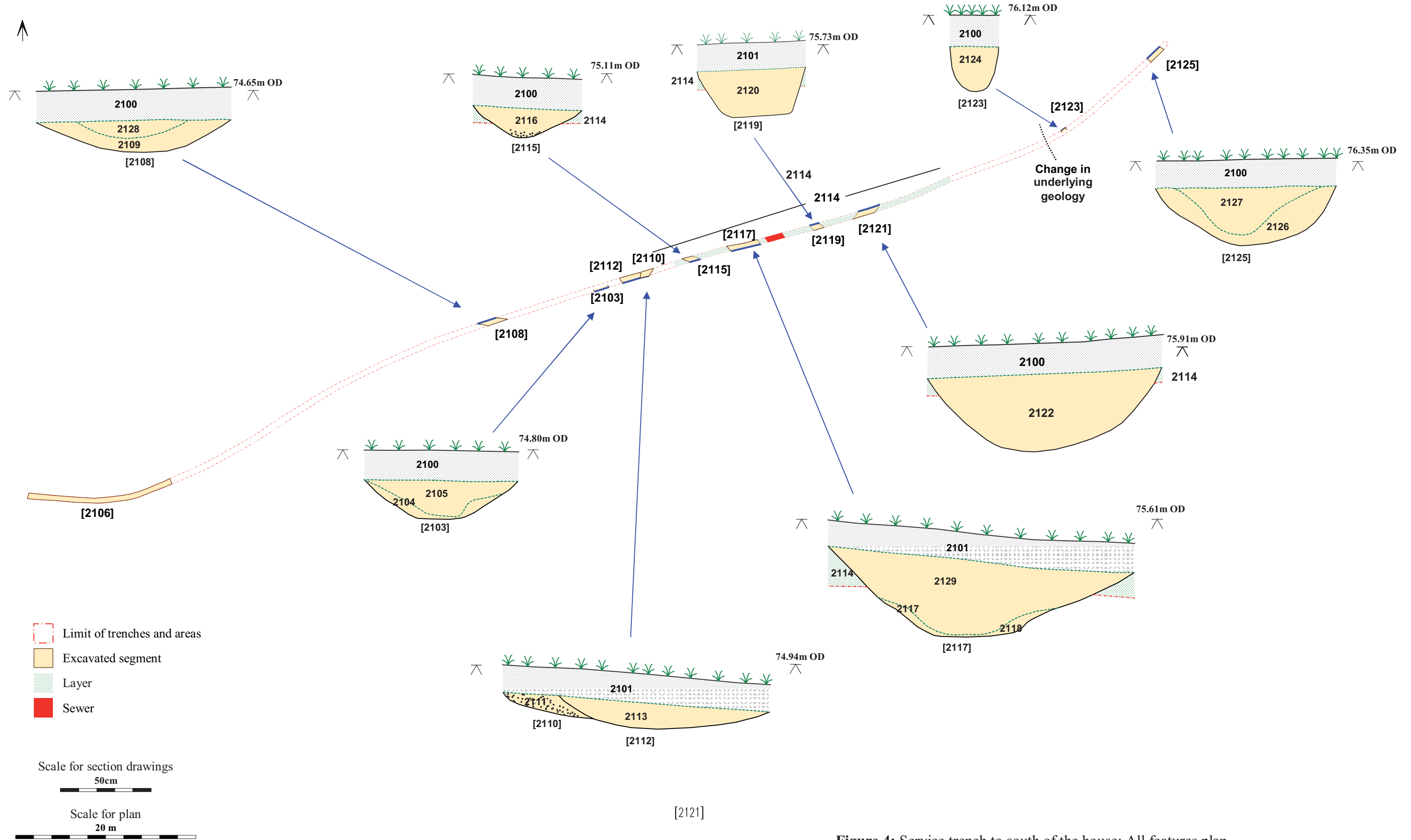
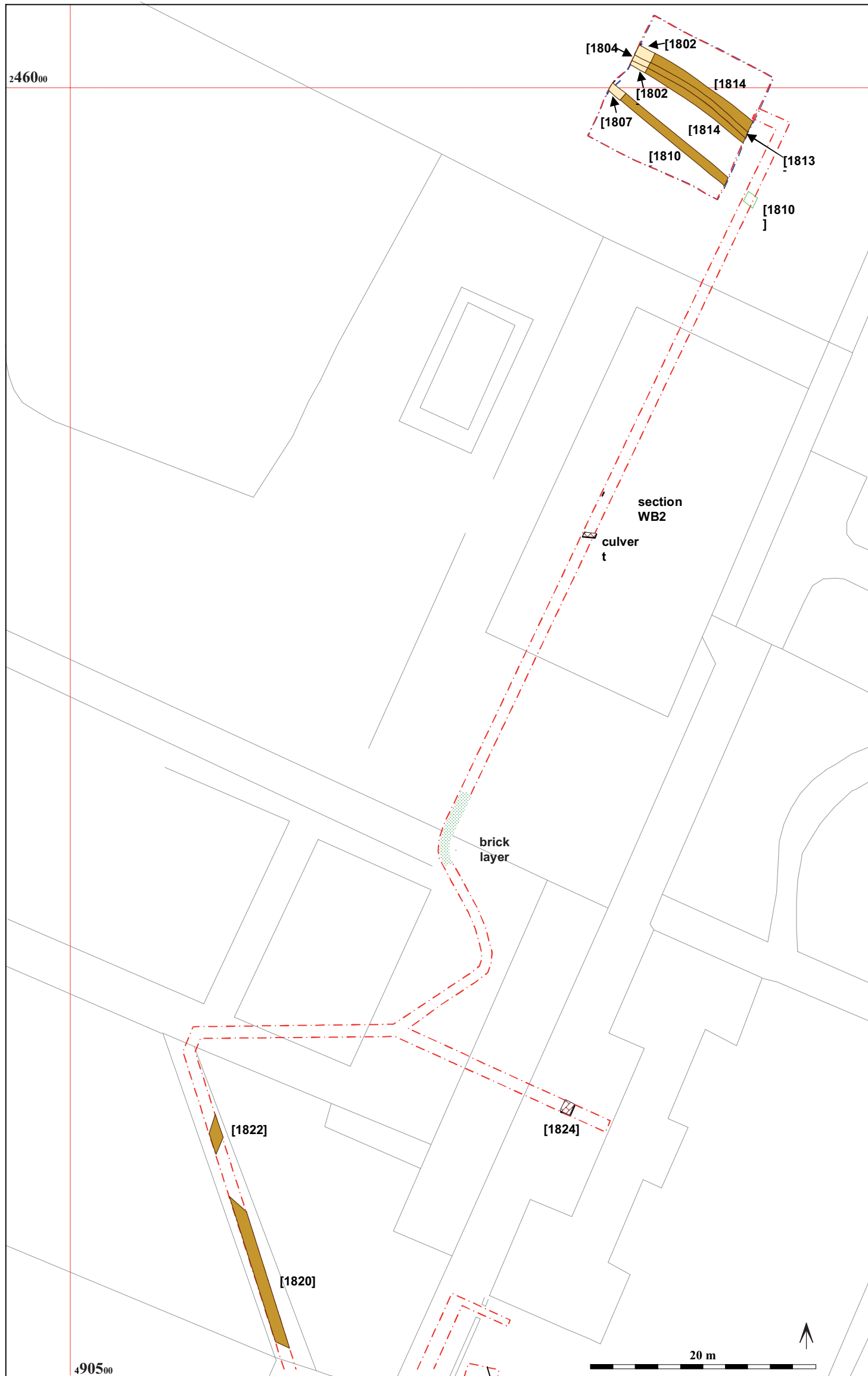


Figure 3: Coach House; Phased all features plan










-  Limit of trenches and areas
-  Unexcavated feature
-  Excavated segment
-  Layer
-  Masonry

Figure 5: Trenches to north of the house; All features plan

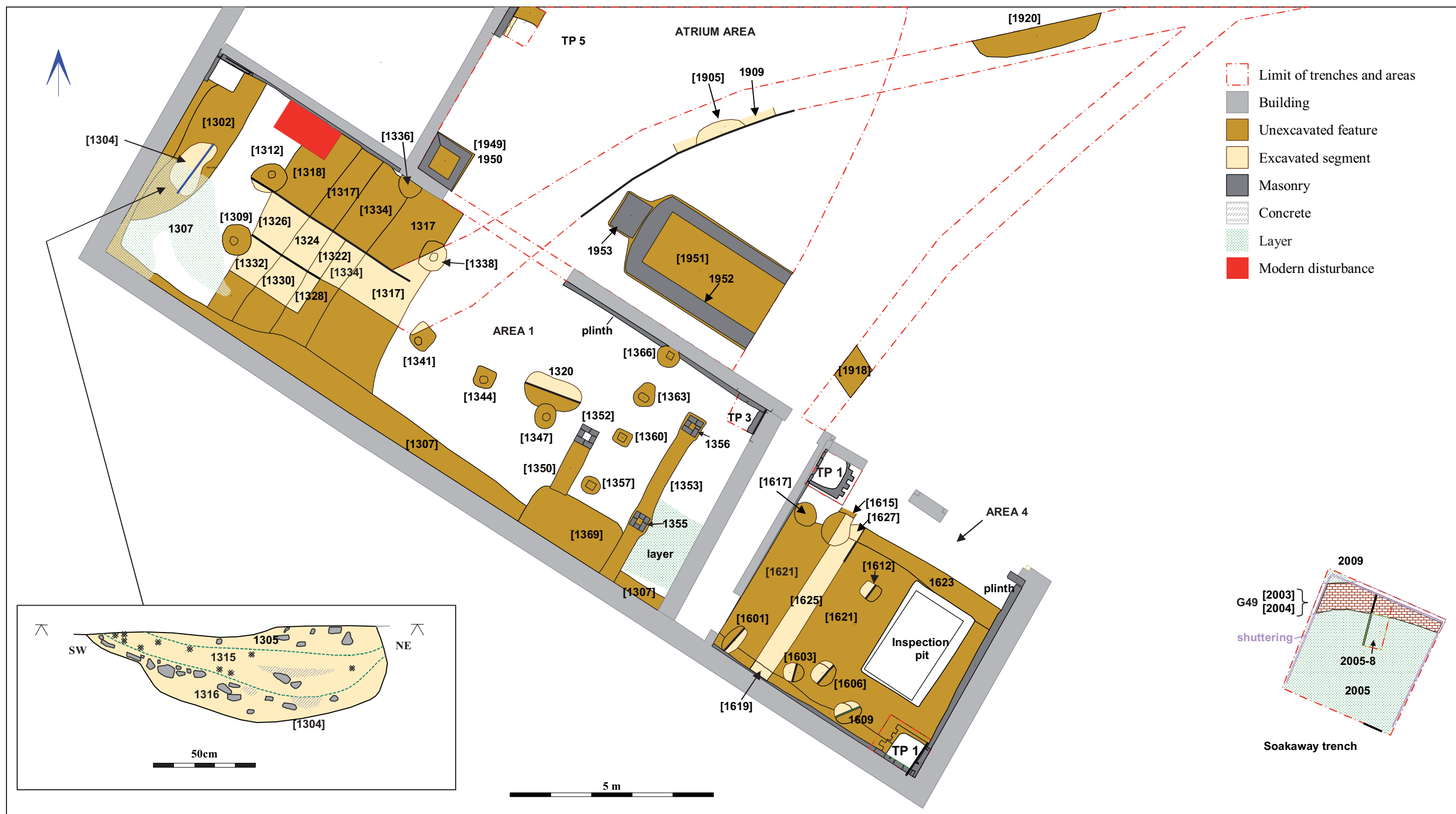
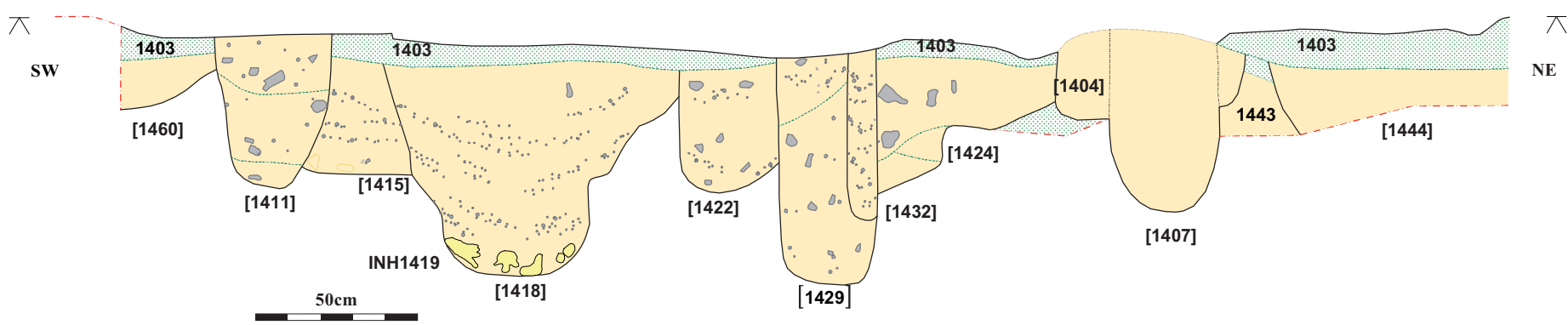
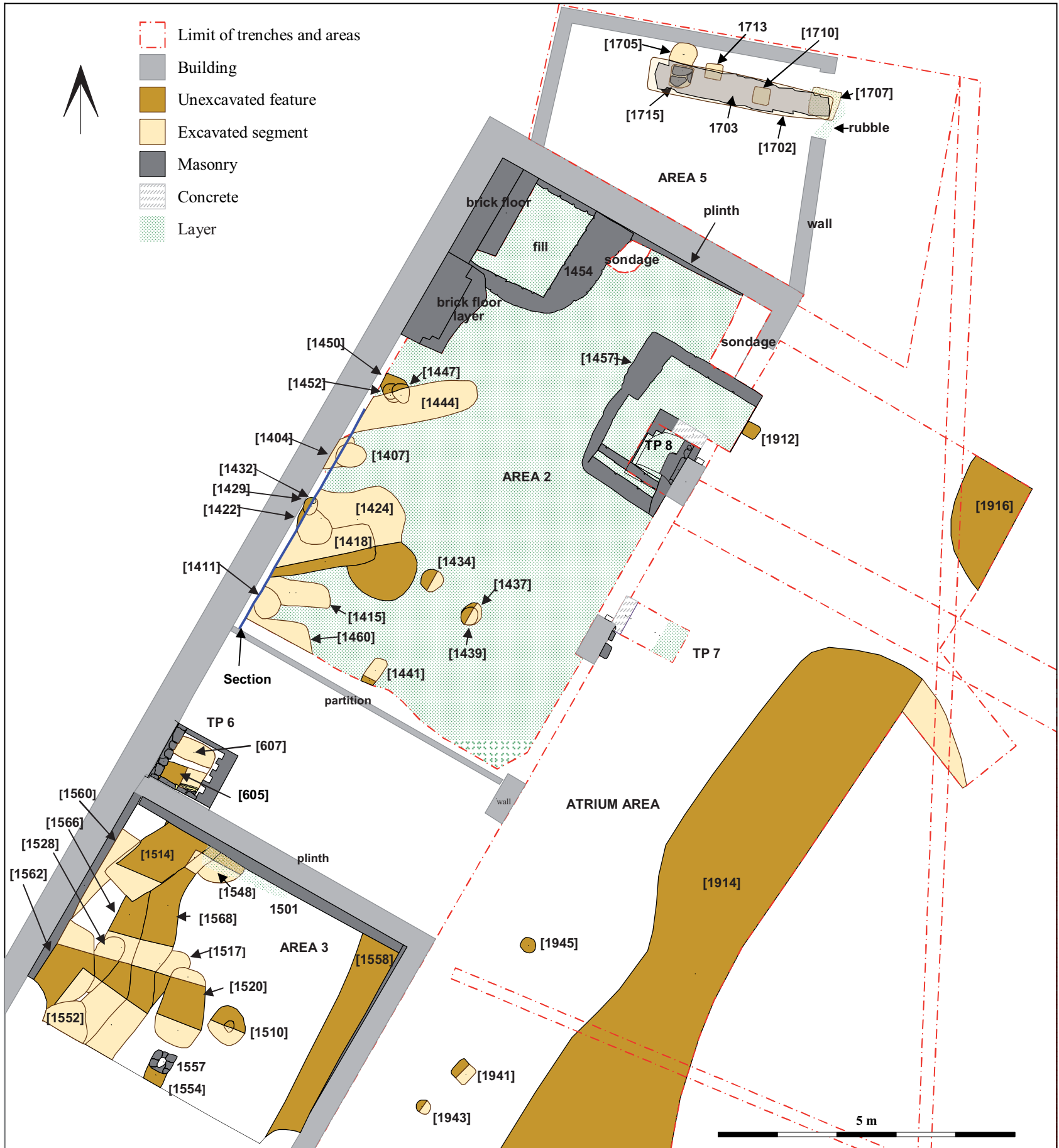


Figure 6: Coach House; South detail



Section across pits and graves

Figure 7: Coach House; north detail