

LINCOLN COLLEGE/NORMAN MACHIN ASSOCIATES

PHASE 3 - THE KITCHEN PROJECT,
LINCOLN COLLEGE, OXFORD.

ARCHAEOLOGICAL EVALUATION REPORT

NGR SP 5150 0630

Planning application No. 98/615/NFH

OXFORD ARCHAEOLOGICAL UNIT

December 1998

LINCOLN COLLEGE/NORMAN MACHIN ASSOCIATES

**PHASE 3 - THE KITCHEN PROJECT
LINCOLN COLLEGE, OXFORD**

ARCHAEOLOGICAL EVALUATION REPORT

NGR SP 5150 0630

Planning Application No. 98/615/NFH

Prepared by: B. Ford Date: 15 December 1998
Checked by: Date:
Approved by: Date:

OXFORD ARCHAEOLOGICAL UNIT

December 1998

PHASE 3 - THE KITCHEN PROJECT
LINCOLN COLLEGE, OXFORD
ARCHAEOLOGICAL EVALUATION

LIST OF CONTENTS

	SUMMARY.....	1
1	INTRODUCTION.....	2
1.1	Location and scope of work.....	2
1.2	Geology and topography.....	2
1.3	Archaeological and historical background.....	2
2	EVALUATION AIMS.....	3
3	EVALUATION METHODOLOGY.....	3
3.1	Sample size and scope of fieldwork.....	3
3.2	Fieldwork methods and recording.....	3
3.3	Finds.....	3
3.4	Environmental data.....	3
4	RESULTS: GENERAL.....	3
4.1	Soil and ground conditions.....	3
5	RESULTS: DESCRIPTIONS.....	4
5.1	Descriptions of deposits.....	4
	5.1.1 Test pit 1.....	4
	5.1.2 Test pit 2.....	4
	5.1.3 Test pit 3.....	5
	5.1.4 Test pit 4.....	5
	5.1.5 Test pits 5 and 6.....	5
5.2	Finds.....	6
	5.2.1 Pottery.....	6
	5.2.2 Animal bone assessment.....	6
	5.2.3 Slag.....	7
	5.2.4 Fired clay.....	7
5.3	Environmental data.....	7
	5.3.1 Carbonized plant remains and charcoal.....	7
6	DISCUSSION AND INTERPRETATION.....	8
6.1	Reliability of field investigation.....	8
6.2	Summary and significance of results.....	8
6.3	Impact of development.....	9
6.4	Mitigation.....	9

Bibliography and references

List of Figures

- Fig 1 Site Location
- Fig 2 Site Plan showing trench locations
- Fig 3 Lincoln College structures applied to Salters Map of medieval Oxford.
- Fig 4 Archaeological structures and proposed basements.
- Fig 5 North facing section of Test Pit 1
- Fig 6 South and west facing sections of Test Pit 2

SUMMARY

During late November and early December 1998 the Oxford Archaeological Unit (OAU) carried out a field evaluation at Lincoln College, Oxford on behalf of Norman Machin and Associates for Lincoln College. During the evaluation archaeological deposits were recorded upto 3 metres below existing ground levels. These deposits included a number of floor surfaces with associated hearths and occupation deposits from the 10th and 11th centuries; a medieval pit and other probable medieval dump deposits; internal and external surfaces, along with substantial limestone foundation deposits relating to the extant medieval Kitchen; and an infilled, but intact post-medieval brick-vaulted cellar. Victorian and later foundations truncated all archaeological horizons where they were encountered. Associated service runs and modern levels were no more than 1 metre deep.

1 INTRODUCTION

1.1 Location and scope of work

During late November and early December 1998 the Oxford Archaeological Unit (OAU) carried out a field evaluation at Lincoln College, Oxford on behalf of Norman Machin and Associates for Lincoln College. The evaluation was carried out in respect of Planning Application No. 98/615/NFH, "Excavation for new wine cellar, new stone stack to listed kitchen, and alterations" hereafter referred to as Phase 3. It was undertaken in accordance with an Advice Note issued by, and a WSI (OAU November 1998) agreed with the Oxford Archaeological Advisory Service

1.2 Geology and topography

The site lies on the second gravel terrace of the Thames, at a height of c.64.70 m OD. Lincoln College is located within the historic urban core of Oxford city.

1.3 Archaeological and historical background

The OAU has been involved in aspects of the refurbishment of Lincoln College since 1997. In May 1997 a watching brief was carried out on trial pits and other associated works in Deep Hall Bar, and the wine cellar. Results from these works are outlined in the Archaeological Watching Brief Report (OAU June 1997), which briefly concluded "it remains clear that the site has seen some fairly intensive activity in the medieval period." In late 1997 to early 1998 a watching brief was carried out in two areas during the cellaring of Grove Quad. Evidence for medieval pitting was revealed, and the ensuing excavation of an access well in Brasenose Lane produced evidence of earlier surfaces of the lane. An earlier watching brief during road-works in Brasenose Lane demonstrated the presence of c. 2.5 m of build-up overlying the original ground surface. The first cobbled surface of the lane appeared to have been laid directly over a heavily burnt, and possibly industrial, horizon.

Historically the site is thought to be within the defences of the primary Saxon settlement, as opposed to the later eastern suburb which was located in an area east of the present day site of the Bodleian Library.

The settlement in this early period would have been divided into relatively large parcels of land. These original plots would have been divided into smaller areas and tenements throughout the medieval period, as pressure for land increased with the increasing urban population. During the early medieval period this area of the settlement would presumably have been very busy with the nearby thriving Parish Church at the centre of life. Deep Hall, documented from 1138 until the Colleges foundation, would have occupied one of these smaller plots and may have stood under what is now the north range which fronts Brasenose Lane. On Salter's Map published in 1937 and compiled from lease documents applied to the First Edition Ordnance Survey, we can see a suggested version of the pre-college topography (Fig 3).

By 1437 the construction of the chapel, library, hall, and kitchen, among other buildings was complete, some ten years after the college had been founded by Richard Fleming Bishop of Lincoln.

2 EVALUATION AIMS

The aims of this phase of archaeological works are outlined in the Written Scheme of Investigations (WSI), (OAU November 1998, section 2). They were in summary:

To provide sufficient information to allow decisions to be made in determining any further archaeological response which may be necessary to satisfy the planing condition, by recording the presence/absence, extent condition, character, quality and date of any archaeological deposits within the trial/test pit locations.

To make available the results of the archaeological works.

3 EVALUATION METHODOLOGY

3.1 Test pits

Six test pits were observed during this part of the fieldwork. Four of these were located principally to answer engineering questions about the nature of sub-surface elements of the existing buildings. An additional Test Pit (TP 3) was requested specifically to answer archaeological questions, and a final trench (TP 6), was a service duct.

3.2 Fieldwork methods and recording

All test pits were dug by hand, either by or under supervision from the attending archaeologist. Significant archaeological horizons were recorded in plan where possible, and all relevant sections were drawn. These drawn records were made at a scale of 1:20. All test pits were located on a pre-site survey at a scale of 1:50. A photographic record was made using colour slide and black and white print film. Recording followed procedures laid down in the *OAU Fieldwork Manual* (ed D Wilkinson, 1992).

3.3 Finds

Finds were retrieved and retained whenever they were encountered. Spoil generated by the excavations were also monitored for finds.

3.4 Environmental data

A total of four environmental samples, each consisting of a c. 10 litres of material were taken from four separate occupation deposits overlying floor surfaces at the base of a well understood archaeological sequence in test pit 1. Occupation deposits containing charred organic remains can inform us, about elements of past diets, as well as other topics of past human activity. These deposits showed high potential in the field as not only were they rich in visible charred remains but they had also yielded dating evidence, in the form of pottery sherds.

4 RESULTS: GENERAL

4.1 Soils and ground conditions

The general soil type was a neutral silty loam with a varying gravel content, with good preservation of bone. The evaluation was carried out within existing buildings and ground conditions were therefore dry. No waterlogged deposits were encountered.

5 RESULTS: DESCRIPTIONS

5.1 Description of deposits

5.1.1 Test Pit 1 (Figs 4 and 5)

This test pit measured c. 2 m x 3 m and was located to the west of the medieval kitchen outside the north-west doorway and was excavated to a maximum depth of 2.6 m. Natural silts and gravels were reached at a depth of 2.4 m below existing floor levels (62.30 m OD). The top of the natural reddish silts were scorched in places, by *in-situ* burning and this represented the earliest archaeological activity. Initial occupation evidence was represented by a sequence of clay, rammed silt and gravel floors (22, 21=66, 18=58, and 37), layed alternately with the charred remains of *in-situ* rake-out material from fires and decomposed occupation debris, (20/19=59, 17=57, 16, 36, 38). Gravel floor 18 was the most substantial and possibly abutted structure 41 a north-south aligned limestone wall. There was a suggestion of an east-west feature where the floor surfaces were absent, and this possibly represents a structural divide. Cut 67 a shallow pit, truncated these levels in the north-east quadrant of the test pit. The fill of this pit is sealed by additional gravel floors (56, 52, 50 and 48) and their respective occupation deposits (55, 51 and 49). These levels are limited to the north half of the test pit, possibly respecting the earlier east-west aligned structural divide. The end of this earliest phase of activity occurs when (14), a very substantial and homogenous deposit of gravelly loam up to 0.8 m thick, covers the latest floor levels, and may represent deliberate dumping.

Layer 14 is sealed by another series of surfaces (23, 25, 27 and 29) and truncated by two pits (12 and 10). It is also removed by the north-south foundations (39) for the west wall of the medieval kitchen, and another east-west aligned foundation 43. Foundation 43 truncated the fills of pit (10). These foundations formed the edge of the test pit on its northern and eastern sides, were made of very large rough hewn limestone pieces, with some evidence of a sandy lime mortar bond, and are probably contemporary. Surface 7, at a height of 64.20m OD comprised flat, irregularly shaped limestone pieces and is possibly a contemporary external surface to the medieval kitchen. It was cut for the insertion of foundation 35, which ran east-west and formed the southern limit of the test pit. Unlike the earlier kitchen foundations (35) is made using notably smaller roughly hewn limestone pieces, bonded by reddish sandy clay. Surface 7 and the backfills to the construction cut for 35 were truncated by a service trench, and overlain by the formation of a relatively recent quarry tile flooring.

5.1.2 Test Pit 2 (Figs. 4 and 6)

This test pit measured c. 1.3 m x 1.8 m. and was located outside the kitchen, to the south of the current access in its eastern wall. It was excavated to a maximum depth of 2.75 m. Natural silts and gravels were reached at a depth of 2.6 m below existing floor levels (62.10 m OD). They were only encountered in a limited area due to truncation, probably by pits, and later sub-ground structures. The earliest archaeological deposits (82, 81, 94, 93 and 92) represented substantial dumps of probable medieval waste and were possibly the fills of these pits. They were truncated on the western side by the construction of a substantial foundation (71), which ran north-south, and formed the western edge of the test pit. Foundation 71 was over 1.70 m deep, and constructed of very large roughly hewn limestone pieces, bonded by a sandy limestone mortar. The top of 71 at 63.70 m OD was flat to receive wall structure 70. Made from well-dressed limestone block-work, or ashlar, 70 forms the eastern wall to the medieval kitchen, and would probably, have been an above ground feature. Layer 78 appeared to seal the backfill of the construction cut for foundation 71, it comprised flat limestone pieces, and was possibly an external surface, contemporary with the initial use of the kitchen. On the eastern side of the test

pit was a linear structure, (70), which ran north-south. It was constructed with reused worked limestone pieces and half-bricks bonded by a sandy lime mortar and sealed the earlier dumps. The function of this structure, which was only partially revealed, is not known. Sealing structure 70 and the possible surface 78, was a thick layer of dumped material (77=88), which was truncated by a vertical cut (99) within which was dumped a large amount of reused limestone building material (95). This was the south-west corner of a cellar which was more fully revealed in test pit 3. Extensive foundations formed the southern boundary to test pit 3, these were associated with the modern brick single story structure and formed the back to a retaining wall of a stair well accessed from the kitchen. Modern service trenches and make-up layers were recorded up to one metre deep.

5.1.3 Test Pit 3 (Fig. 4)

This test pit measured c. 1.5 m x 2.5 m and was located to the west of the medieval kitchen and 3 m to the north-east of test pit 2. It was excavated to a maximum depth of 1.1 m (63.58 m OD). Structures 107 and 108 formed the earliest deposits and both were constructed of medium sized flat limestone pieces bonded by reddish sandy clay. 107 formed an east-west structure possibly a wall. The bond continued uninterrupted into structure 108 to the south of 107, where the limestone pieces became a surface. A short sequence of gravel surfaces and occupation levels (118,119,116, and115) overlay 108 and abutted 107.

These early structures and the occupation sequence were severely truncated by the construction of a new limestone wall aligned east-west. This two storey high wall abutted the north east corner of the kitchen, where a doorway was located. A contemporary cellar with limestone walls and a brick barrel vaulted ceiling was constructed to the east of this new access, and abutted the northern boundary wall. The dressed limestone block-work below ground, forming the cellars northern wall, was designed to be viewed from inside the cellar.

The wall still stands and provides the boundary between the College and Brasenose Lane, south of the Kitchen. The cellar was filled in, and the brick barrel vaulting was used to receive footings for the later additions of a single storey structure, probably at the turn of the 19 th century. It may have been at this time that the doorway was blocked and turned into a window, with new access provided elsewhere.

Modern service trenches and the make-up for the existing floor completes the sequence.

5.1.4 Test Pit 4 (Fig. 4)

This test pit measured c. 1.4 m x 1.2 m and was located within the medieval kitchen towards its centre. It was excavated to a maximum depth of 0.3 m (63.38 m OD). Natural silts and gravels were not reached. Many pieces of broken flagstones with one very well worn side immediately underlay the modern floor levels at 63.48 m OD. This deposit represents the latest (possibly the original) flagstone floor which has been smashed, probably *in-situ*, to provide a key for the overlying concrete slab.

5.1.5 Test Pits 5 and 6

These test pits were located to the east of the current access to the College from Brasenose Lane. Test pit 5 measured 1 m x 2 m and was located in the toilet block adjoining the kitchen staff room. It was excavated to a maximum depth of c. 3 m (61.32 m OD). Stepped concrete foundations were observed forming the western and northern limits of the test pit. The bottom of these foundations were not reached and their construction disturbed any archaeological

deposits that may have existed in this location. Test pit 6 was a service duct which ran adjacent to test pit 6 southwards into Grove Quad. It was not excavated to a depth that required recording.

5.2 Finds

5.2.1 Pottery

A total of 14 sherds were recovered from the evaluation. Of these, the most important were 3 sherds of St Neots Ware (10th to 11th century) from the floors and occupation levels in Test Pit 1. Three sherds of fabric OXAC (11th century) were found just above the sequence of floors. The remainder comprised later medieval wares spanning the period from the 12th to the 13th centuries.

5.2.2 Animal bone assessment by Bethan Charles

A total of 59 fragments of bone was hand collected from the site. From this total 42 of the fragments were identified to species. In addition to this a further 36 fragments were retrieved through sieving. However, only fragments of a cattle scapula and a sheep's mandible and lower incisor were identified.

Most of the bone was in good condition with minor attritional damage or cracking. Butchery marks were not evident on the majority of bone identified. The few clear marks were chop and cut marks found mainly on sheep long bones and cattle ribs.

The majority of skeletal elements retrieved from the site were skull, mandible, rib and feet fragments, indicating butchery or kitchen waste.

It can be seen that sheep dominate the collection along with the cattle and a few pig bones. However, it must be borne in mind that due to the larger size of the cattle bones there is often a bias in the retrieval of the bones. Fewer of the smaller bones may have been collected in comparison to the larger bones. In addition to this it must also be considered that pig bones do not survive as well as those from cattle and sheep due to the porosity of the bones.

Table 1. Number of animal bones identified by context

Context	Sheep	Cattle	Pig	Unidentified
8	2	0	0	2
14	0	2	0	1
17	1	5	0	0
19	1	1	1	5
31	5	5	1	1
34	0	1	0	0
47	14	2	1	8
Total	23	16	3	17

Only a small number of bones were able to be used for ageing purposes, and these came mainly from sheep. Using Silvers (1969) tables for epiphyseal fusion and tooth eruption it appears that the majority of the sheep were killed between the ages of 2 to 3 years of age. However, this may not be a very accurate representation of activity on the site due to the small number of bones retrieved. In addition, one pig mandible was aged at between 17 – 22 months at death. The fact that there is no indication of juveniles in the collection may be due to bias in the bones retrieved or poor preservation of the younger more porous bones. One female cattle pelvis was the only fragment in the collection that was identified to sex.

The bones appear to represent either kitchen or butchery waste. Sheep appear to dominate the collection with a few cattle and pig. It is probable that a number of pig were present on the site since the preservation of the bone is often poor. The diet of the site does not appear to have been particularly varied from the bone that has thus far been retrieved.

Bibliography

Silver, I.A. (1969) *The Ageing of Domestic Animals*. Science in Archaeology. Edited by Don Brothwell and Eric Higgs. Thames and Hudson.

5.2.3 Slag by Kayt Smith

A small amount of vitrified material was retrieved from occupation layers 16/17 and 19/20, which was identified as fuel ash slag. This material is an undiagnostic high temperature residue, which can result from any high temperature activity where an alkaline fuel ash and material containing silica (such as a clay lining) are present. This material can, therefore, just as likely result from accidental fires, domestic activity, or industrial processes.

5.2.4 Fired Clay by Kayt Smith

Five fragments (38 g) of fired clay were retrieved from a single context (38) and identified as burnt daub. The fabric consists of a fine sandy clay matrix which contains frequent voids where organic material has been burnt out. Three of the fragments display characteristic wattle impressions on the surfaces.

5.3 Environmental data

5.3.1 Carbonized plant remains and charcoal by Dana Challinor

Methods

Four soil samples from occupation deposits in test pit 1 were taken during the evaluation for the assessment of environmental indicators. Volumes of 6 to 10 litres were processed by mechanical flotation in a modified Siraf machine for the recovery of charred plant remains, with the sample held on a 500µm and the flot collected on a 250µm mesh. The remaining residues were wet-sieved through 10, 4 and 2 mm sieves. The coarser two residues were sorted for bone and artefacts, and the finest scanned for small animal bones. The flots were scanned under a microscope at x10 and x20 magnification and a characterisation of the herbaceous plant remains was made.

Results

The flots were moderate in charred herbaceous plant remains and preservation was very good. Three samples (contexts 16/17, 19/20 and 38) contained identifiable charcoal fragments with at least two tree species present in each flot. A single hazelnut shell fragment was seen in context 19/20. Cereal grains were observed in all flots, most of which exhibited a range of species, including wheat (*Triticum* spp.), rye (*Secale cereale*) and oat (*Avena* sp.). Context 16/17, however, contained more than 50 cereal grains, the majority of which were oat. Other plant remains included chaff and weed seeds, which were present in low quantities. Some light chaff appeared to be preserved, which is unusual given the apparent exposure of the remains to high temperatures. Silicised remains were also present in all flots and there was some evidence of mineralisation.

Animal bones were recovered from some samples and a fish scale was observed in the flot of context 19/20.

Discussion

Preservation of charred remains at this site is very good. Further investigation into the silicised and mineralised content of the flots may provide an insight into the preservation factors influencing these deposits. Moreover, the presence of a fish scale suggests anaerobic conditions which could produce valuable plant and animal remains not usually preserved by charring or in dry soil conditions.

The plant content of these flots is consistent with the raked-out remains of domestic hearth deposits. The exposure to high temperature, evident in the vitreous charring of some of the grains, the presence of silicised remains and the relative paucity of charcoal fragments would be expected in a cooking fire. In addition, the paucity of chaff and weed seeds is in keeping with a domestic setting.

Further work is needed to realise the full potential of these deposits, since the foodstuffs used and the setting in which they were discarded are demonstrably comprehensible. It is especially recommended that, in any further work, in addition to a more generally distributed sampling programme through all the deposit types represented, the occupation spreads are sampled in a way which will allow the spatial distribution of the remains to be assessed both horizontally and vertically.

6 DISCUSSION AND INTERPRETATION

6.1 Reliability of field investigation

Test pit 1 provides a very well stratified sequence, but does not reliably allow us to make a definite statement on the survival of archaeological deposits in the remaining area to be cellared.

Test pits 2 and 3 to the east of the medieval kitchen reliably demonstrate that this area has suffered a great deal of disturbance in the post-medieval period. It was however difficult to access the level of survival of the lowest archaeological horizons in this area.

6.2 Summary and significance of results

The evaluation has shown that west of the medieval kitchen, in the area of the proposed new cellar, c. 2 m of archaeology survives. This archaeology comprises 10th to 11th century floors and occupation deposits, succeeded by medieval pits and dump layers. The floors and occupation surfaces are of particular significance because of their early date, and because the environmental material which they contain has high potential. These deposits have the potential to yield valuable information about the nature of occupation in this part of the late Saxon and medieval town. The presence of recognisable floors means that there is a high chance of recognising remains of the structures to which the floors relate, which may be stone walls, or evidence of timber construction in the form of beam-slots and/or post-holes.

The later medieval evidence west of the kitchen has, on the basis of current evidence less potential, consisting of pits and dump deposits. However, it will be of use in developing a picture of how the use of the area changed in the 12th to 15th centuries, when it was apparently no longer occupied by structures.

The foundations of the important 15 th century kitchen are in themselves an important piece of archaeology, and documentation / interpretation of these will make a valuable addition to the recording of the above ground remains. Evidence may also survive of the organisation of the area immediately surrounding the area of the kitchen in the late medieval and post-medieval periods.

East of the kitchen the significant archaeological deposits survived only in small pockets, which considerably reduces their potential. Probable medieval pit fills were found, and a possible external surface to the kitchen. The remarks made above about the kitchen foundations, and about the area around the kitchen, are also relevant to this area.

6.3 Impact of development

There are two areas of new cellaring, one to the east and the other to the west of the existing medieval kitchen (Fig. 4). Formation levels for the floor slab in each are set at a level of 61.85 m OD with further impact to 61.7 m OD at the edges of this slab, and at column base locations. The interface between the archaeological and the geological horizons were noted at a maximum height of 62.3 m OD with deeper truncation of the geology by negative archaeological features, such as pits in both areas. Current floor height is recorded as 64.68 m OD, and therefore bulk excavation of almost 3 m depth will be needed within the areas of the footprint of the new cellars. Impact of this nature will therefore remove all, except the deepest of archaeological deposits, such as the bases of pits and wells, within the cellar footprints.

6.4 Mitigation

A proposed programme of mitigation is set out in the Written Scheme of Investigation.

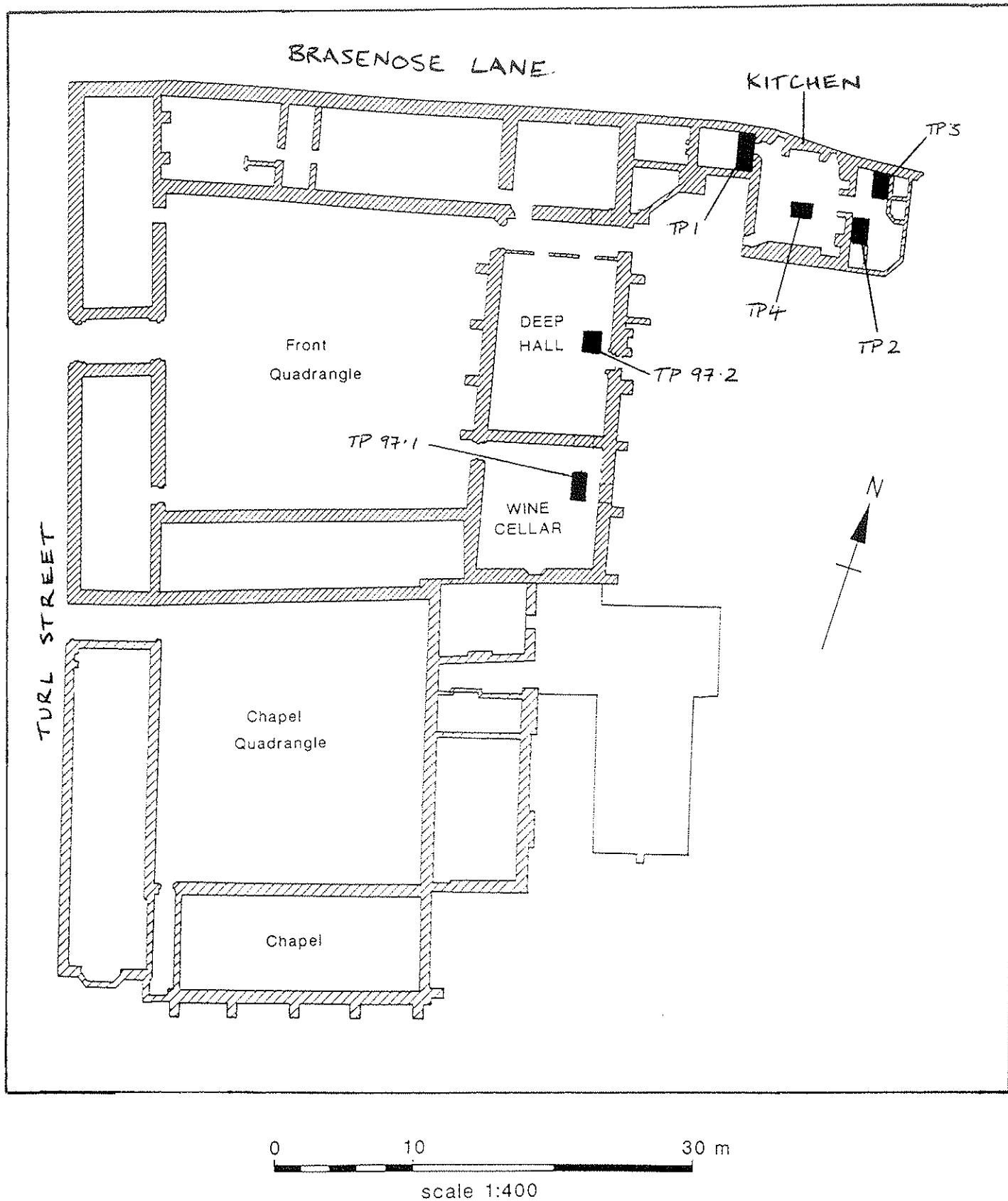


Figure 2. Location of Archaeological Test Pits within Lincoln College

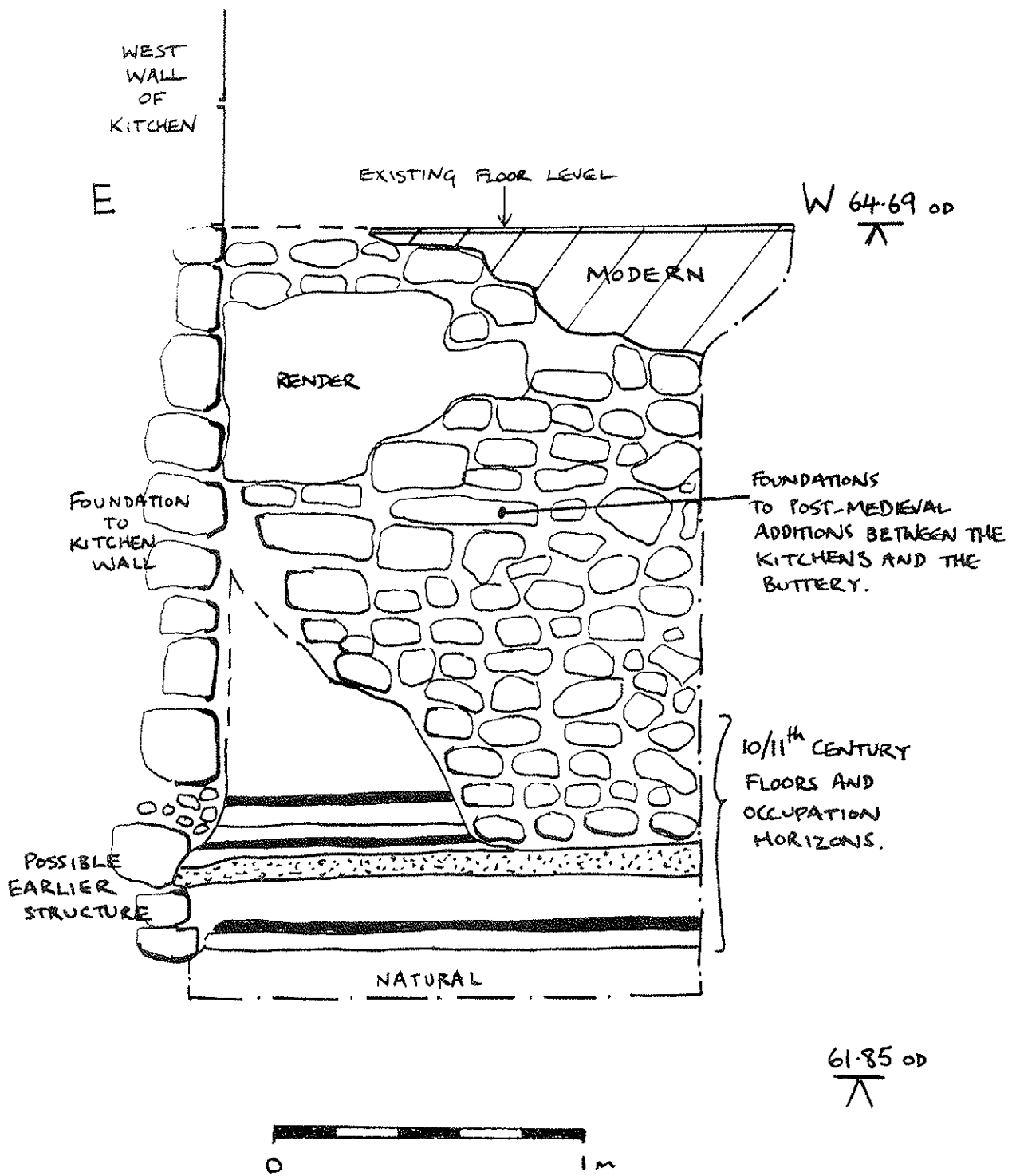


Figure 5. North facing section of Test Pit 1

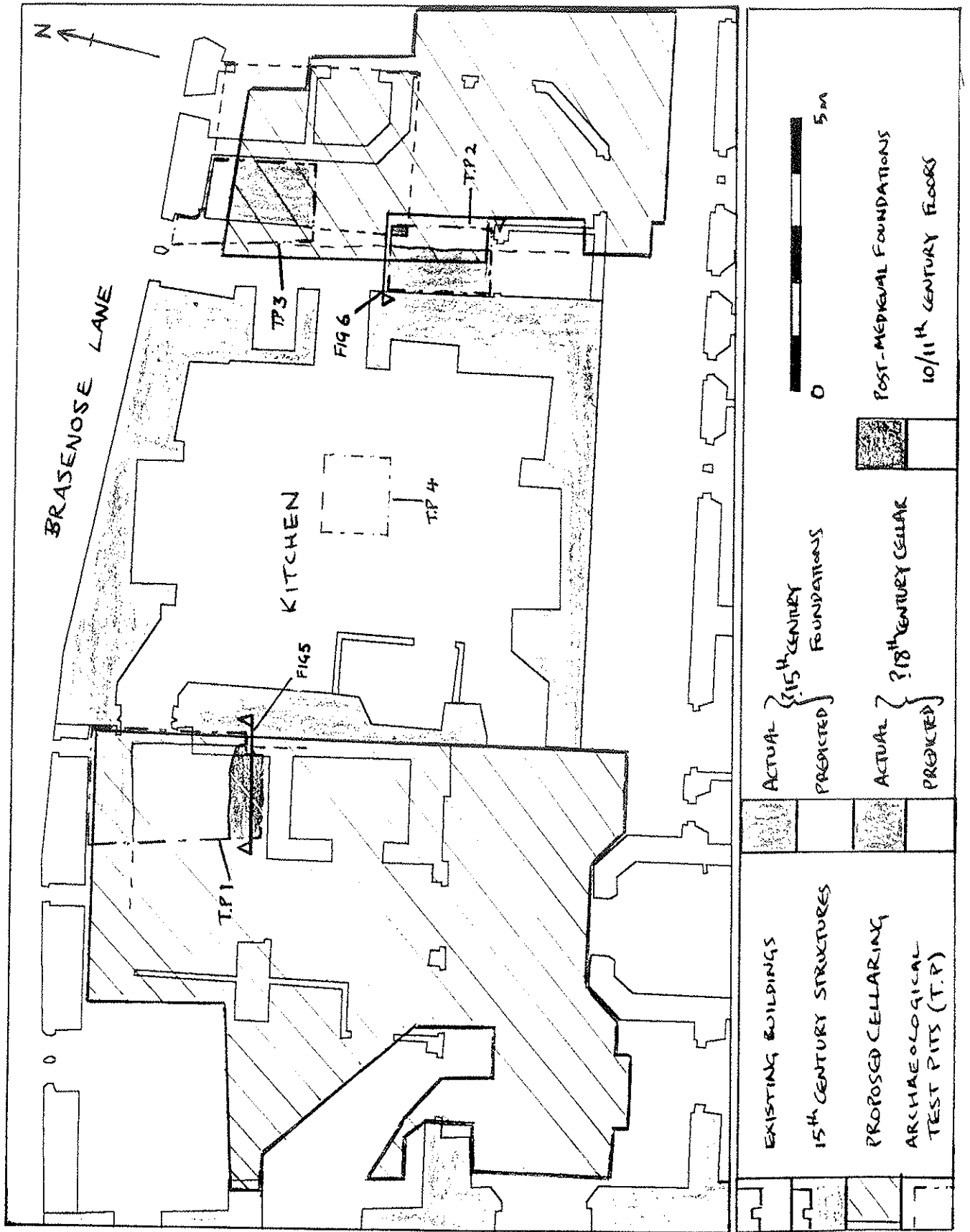


Figure 4. Archaeological structures and proposed basements

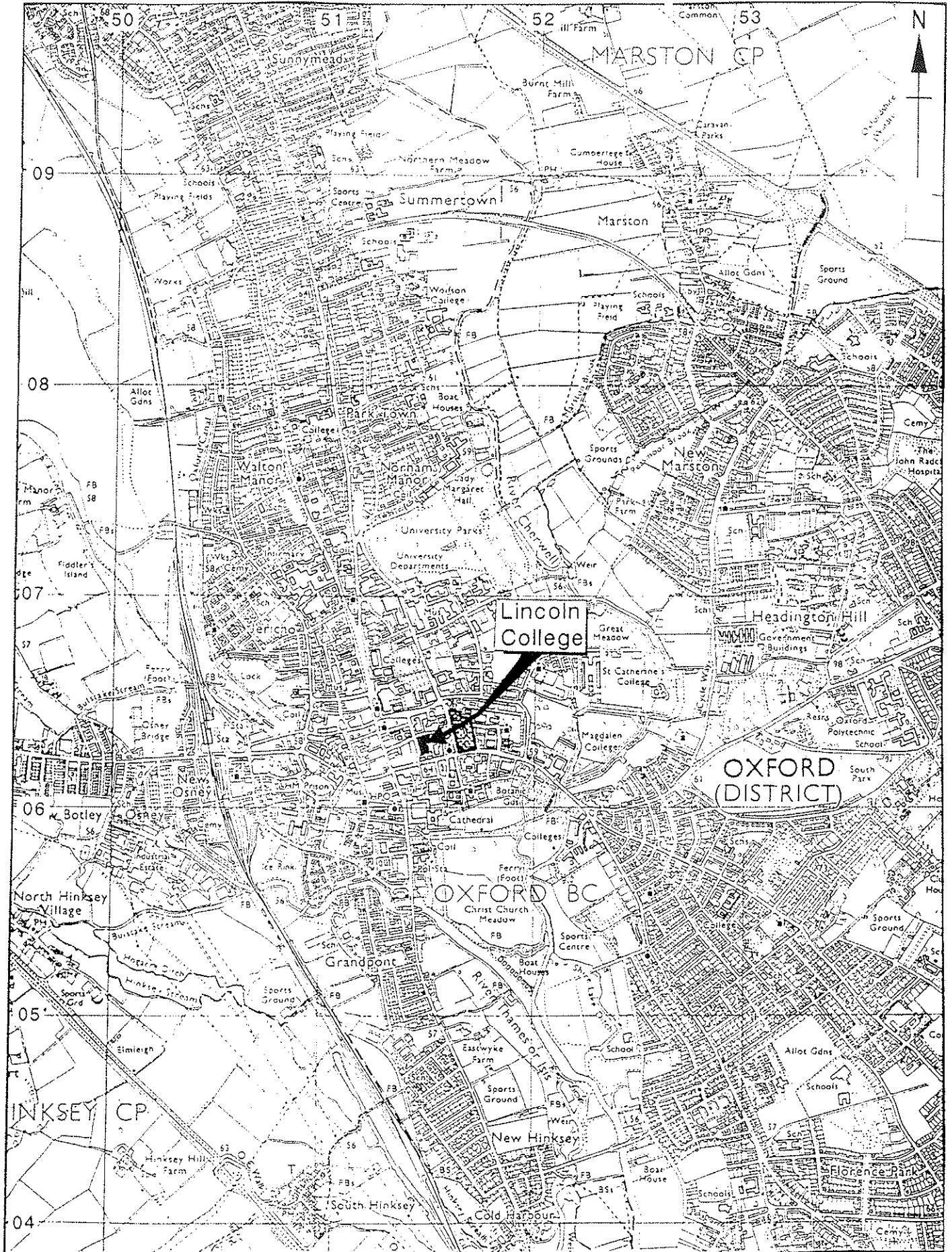


Figure 1. Location of Lincoln College within Oxford

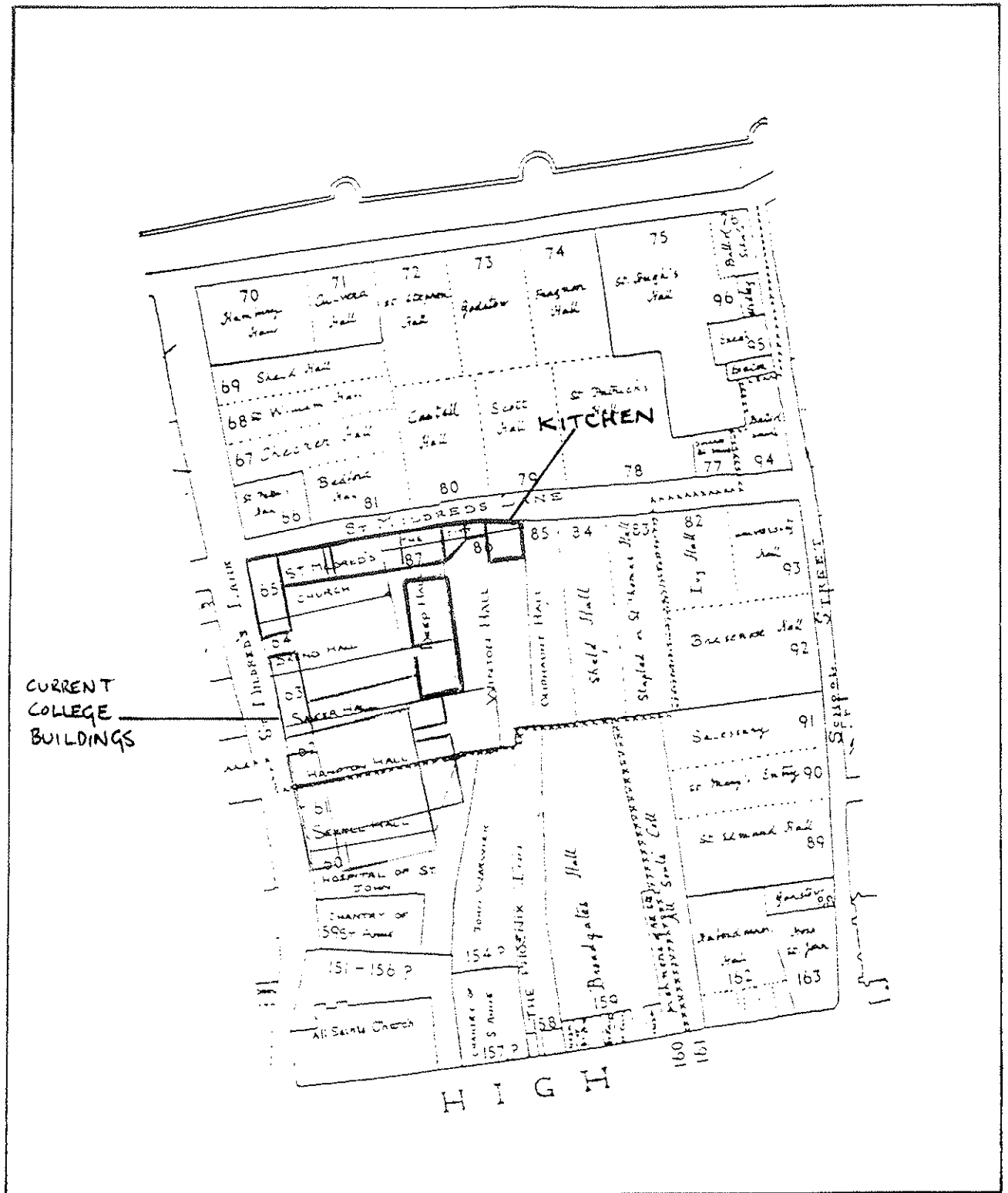


Figure 3. Lincoln College structures applied to Salter's Map of Medieval Oxford

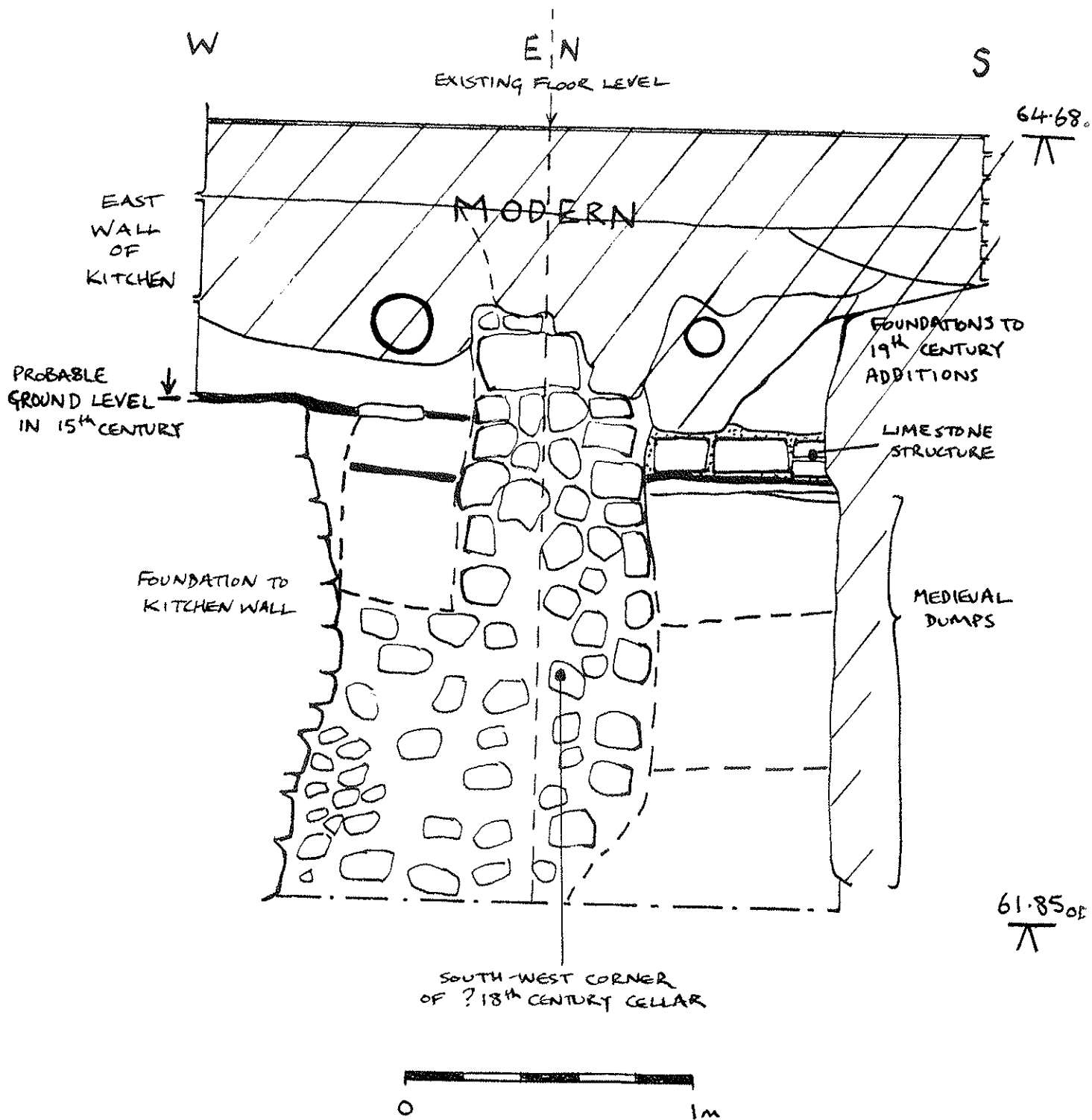


Figure 6. South and west facing sections of Test Pit 2