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A1 TEMPSFORD OVERBRIDGE SCHEME

ARCHAEOLOGICAL EVALUATION

AUGUST 1993

Report 93/12

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Eastern Construction Programme Division

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Preface

This report has been prepared by Bedfordshire County Council Archaeology Service (Excavation). The project was directed by Drew Shotliff (Senior Archaeological Field Office) with the assistance of Andy Thomas (Archaeological Supervisor) and Evelyn Baker (Assistant Principal Archaeological Officer Excavation). The historic map and documentary evidence was researched by Steve Coleman (Historic Environment Record Information Officer), who also carried out the earthwork survey. Finds research was by Jackie Wells (Finds Assistant) under the supervision of Holly Duncan and Anna Slowikowski (Finds Officers). The flint assemblage was examined by Martin Oake (Assistant Principal Archaeological Officer Planning). All plans and drawings were produced by Mike Trevarthen (Archaeological Assistant) with the exception of the illustrations of artefacts, which were done by Cecily Marshall (Archaeological Illustrator).

We are indebted to the landowners, in particular to Kier Group plc, of the area covered by the evaluation, for providing access and assistance.

1. INTRODUCTION

1.1. Background to the Project

The Tempsford Overbridge Scheme is designed to allow the closure of a number of gaps on the A1(T), by providing a system of link roads and an overbridge for local traffic. Following the Public Inquiry in 1989 the route of the link between Station Road and Everton Road was re-sited along the western fringes of Tempsford Park.

The revised route affected an archaeological site, a moated enclosure (HER 9726), in the north-west corner of Tempsford Park. An archaeological evaluation of the site was required for inclusion in the Department of Transport's Environmental Impact Statement. Accordingly, between May and June 1993 Bedfordshire County Council Archaeology Service (Excavation) carried out a programme of fieldwork, based on a strategy statement first put forward on 5 December 1991 and revised on 11 May 1993.

The aim of the evaluation was twofold:

- to determine the extent, character, condition and date of any below ground archaeological deposits in the area affected by the link road
- to assess the likely impact of the overbridge scheme on those deposits.

1.2. Structure of the Report

Post-excavation analysis of all the data recovered during the evaluation has allowed the identification of 10 sequential phases of activity across the site. These are summarised and their significance assessed in the Synthesis of Fieldwork Results (Section 3.1). The detailed presentation of the fieldwork and the finds assemblages (Sections 2.2 - 2.5) is based on this phasing structure, which, for convenience is presented here in outline, together with approximate date ranges for each phase.

- Phase 1: undisturbed post-glacial drift deposits, generally referred to in the text by the archaeological shorthand, "natural".
- Phase 2: prehistoric, ca. 3000BC - 50BC
- Phase 3: Roman, ca. 50BC - AD450
- Phase 4: Saxon, ca. AD450 - AD1000
- Phase 5: Saxo-Norman, ca. AD1000 - AD1100
- Phase 6: early medieval, ca. AD1100 - AD1300
- Phase 7: late medieval, ca. AD1300 - AD1500
- Phase 8: post-medieval, ca AD1500 - ca AD1800
- Phase 9: modern, ca AD1800 onwards
- Phase 10: present-day

Following examination of the introductory sections, it is recommended that the concluding sections, in particular 3.1 Synthesis of the Fieldwork Results, are read in advance of the more detailed results presented in Section 2.

The following abbreviations are used in the report:

- BCCAS Bedfordshire County Council Archaeology Service
- CA copper alloy
- CRO County Record Office
- Fe iron
- HER Historic Environment Record
- Pb lead
- SF small find (ie non-ceramic artefact)

1.3. Site Location and Description

The site lies immediately to the east of the A1, only 20m from the river Ouse. 70m to the south is the historic core of Tempsford, centred on the junction of the A1 and the Everton - Potton road and the confluence of the rivers Great Ouse and Ivel.

The underlying geology consists of alluvial sand and gravel, with occasional pockets of chalky boulder clay. The land is of low agricultural grade and is at present down to pasture, forming part of the grounds of Tempsford Hall.

1.4. Historical Background to the Site

There are no direct references to the moated site in the CRO but a number of maps and documents exist, which do throw some light on its history.

The earliest known large scale map of the area is an estate map (CRO: X1/41) possibly dating to 1829. This shows the northern and western arms of the moat as water-filled, in addition to the present-day pond at the south-eastern corner. The 1st edition O.S. 6" map (surveyed 1882) similarly shows the northern and western arms as water-filled. However, on the 2nd edition O.S. 25" map (1901) these are portrayed as marshy linear hollows, suggesting that they were probably only water-filled during the wetter, winter months (a situation which still holds today.)

In 1769 Sir Gillies Payne bought a considerable quantity of property in the area, including the Manors of Tempsford, Brayes and Draytons, a single capital messuage (ie the old Tempsford manor house, which used to stand near Tempsford Lock at the confluence of the Ouse and the Ivel) and a "close called Brayes manor, pasture, meadow and arable containing 105 acres 1 rood" (CRO: WY102-3). Tempsford was enclosed in 1778 and, on part of the former common field land allotted to him, Sir Gillies, at some time before his death in 1801, laid out Tempsford Park and built a mansion house to replace the old manor house next to the river.

Unfortunately no maps, pre-dating the creation of Tempsford Park, survive to show the pre-enclosure landscape. However, the 1st edition O.S. 6" map does show properties fronting onto almost the entire length of present-day Station Road (known as Lambcourt or Lampitt End in the medieval period) and the apparent survival of former tree-lined property boundaries in Tempsford Park do suggest that former medieval closes were incorporated into at least part of the new park. Amongst these would have been the close in which the moated site stood. It is possible that this may

have been the "close called Brayes manor" referred to above.

If the identification of the moated site as the capital messuage (ie headquarters) of Brayes Manor is correct, then this adds considerably to our historical knowledge of the site. The existence of Brayes Manor as a separate estate has been traced back to the Domesday Book (VCH 1912, 251) of 1086. At that time the land was held from the king by Richard Poynant and in the pre-Conquest period had been held by three freemen. By contrast, Draytons was only split from the main Manor of Tempsford in the late 13th century and the two were re-united in 1565-6.

2. THE EVALUATION

2.1. Methodology

The evaluation was structured around a sequence of investigative techniques, each of which informed and partly determined the next stage of the operation.

The first step was to undertake a detailed survey of the earthworks making up the moated site and its immediate surroundings. This not only provided a detailed record of the site in advance of any ground disturbance but also helped to identify the location of modern services crossing the area. Extensive geophysical survey was carried out to try to locate sub-surface archaeological features and buildings. The results of this work helped to define the most fruitful areas for trial trenching. In addition to the nine trial trenches, three boreholes were drilled in the moat ditch. These were to confirm that the base of the ditch had been reached in trial trench 3 and to examine the depth and nature of the surviving deposits elsewhere in the ditch.

Expert advice and assistance was sought from the following external archaeological specialists:

- Rowena Gale (wood identification)
- Dr Richard Macphail (soil micromorphology).
- Dr Tony Roberts (animal bone)
- Dr Mark Robinson (plant and invertebrate remains)
- Adrian Tribe (artefact conservation).

Their technical reports form part of the site archive but have not been presented in full in this document. Extracts have been incorporated into the text as necessary.

2.2 Earthwork Survey

The moated enclosure and immediately surrounding earthworks were surveyed according to the techniques outlined in Taylor (1974). The results of the survey are presented in Figure 3.

The northern, southern and western arms of the moat were clearly defined, although the southern arm had been partially infilled during the laying of a water main across the site. Initially it was believed that the eastern arm, which (assuming the moat were square in shape) might have been expected to run northwards from the north-east corner of the existing pond, had been similarly backfilled during the construction of a gas pipeline. However, the historic map evidence suggests that the eastern arm was no longer visible by the early nineteenth century.

An earthen bank and possible holloway, which extended into the cricket ground, formed an integral part of the earthwork. So too did a bank and a level platform leading away from the north-east corner of the moat, site of a possible entrance causeway. To the south of the moat an external bank may have help to retain water within the ditch.

Some further insubstantial earthworks may survive to the east of the moat but these were not surveyed for the evaluation.

2.3 Geophysical Survey

All geophysical survey work was carried out by the specialist contractors, Geophysical Surveys of Bradford and a copy of their report is appended to this document.

Figures 4, 5 and 6 show the areas of geophysical survey and indicate the results obtained by magnetometry and resistivity.

Some survey work was carried out to the north of Station Road (Area A). Probable archaeological features were identified but interference from the oil pipeline and iron railings made interpretation difficult. Due to difficulties over access, no trial trenching was undertaken in this area. Without the such work, the nature of these anomalies remains uncertain.

The magnetometry survey identified a large number of features on the moat platform. However, it was less successful to the north and south of the moat where subsequent trial trenching did locate archaeological features. The considerable build-up of soil in these areas, seemingly the result of post-medieval landscaping, may have masked the magnetic responses of the archaeological features.

The resistivity survey was largely confined to the moat platform where it was hoped evidence for buildings would be recovered. Some traces of wall lines were detected but the survey was most successful in defining an extensive metalled surface on the eastern half of the platform. This has helped to establish the position of the eastern arm of the moat (see Figure 17), which is no longer visible at ground level. The resistivity survey also helped to confirm the presence of an entrance-way at the north-east corner of the moat, possible linked to external gravel surfaces.

2.4 Trial Trenches and Boreholes

The locations of the trial trenches and boreholes are shown on Figure 7.

Trench 1. (30m. in length, aligned north east - south west).

This trench was excavated to test for the presence of archaeological deposits to the north of the moated enclosure. The trench was machine excavated in spits under archaeological supervision, to a depth of approximately 0.70m. All other deposits were excavated by hand. The depth of archaeological deposit (excluding topsoil) was generally around 0.45m. with features cut to a maximum depth of 1.15m. below the modern ground surface.

Phase 1.

Natural river gravels were encountered at 16.65m. O.D., sealed by approximately 0.30m of orange brown, slightly silty alluvial sand.

Phase 6.

The earliest activity in this trench was represented by three features cut into the natural layers. A linear feature [005], aligned east - west with a width of 2.00m. and depth of 0.60m, with a slightly irregular, but broadly rounded profile. This was filled by a soft, mid grey brown, slightly sandy silt containing very occasional small flecks of charcoal. Approximately 50% of this fill was sieved on site to increase finds recovery. A linear feature [007], running parallel to feature [005] at a distance of 0.80m. to the south, of width 0.80m. and a depth 0.30m., with evenly sloping sides and a flat base. This was filled by a soft, mid grey brown, slightly sandy silt. All of this fill was sieved to increase finds recovery. These two features appeared to represent drainage ditches.

Cut feature [010] lay between the two larger ditches. It was 0.60m. wide and 0.20m. deep with a slightly rounded profile. Its fill consisted of a soft, mid grey brown sandy silt. The latter was sieved in its entirety to increase finds recovery. The nature of this feature was uncertain, but it may have been a gully terminal.

Phase 8.

A phase of ground levelling or landscaping, possibly associated with the reclamation of the land for agricultural use was represented by two deposits:

- (68) a layer of medium to dark grey brown, slightly sandy silt, containing very occasional small flecks of charcoal, 0.35m. to 0.40m. thick. This deposit appeared to be an imported agricultural soil.
- (67) a layer of medium orange brown sandy silt, 0.20m. to 0.25m thick.

Phase 10.

The trench was sealed by modern topsoil, varying in depth from 0.20m. to 0.25m.

Trench 2. (39m. in length, aligned north west - south east).

This trench was excavated to test for the presence of archaeological deposits to the immediate north of the moated enclosure. The westernmost 22m. was machine excavated in spits under archaeological supervision to the top of the natural deposits. Over the easternmost 17m., topsoil was removed by machine to reveal a gravel surface (phase 7). This was excavated by hand across half the width of the trench to permit the examination of underlying, earlier deposits. The depth of archaeological deposit (excluding topsoil) was generally around 0.45m. with features cut to a maximum depth of 1.15m. below the modern ground surface.

Phase 1.

A layer of light yellow brown silty alluvium was encountered at 16.75m. O.D. On the surface of this deposit was a natural hollow, 0.25m. deep, in which a fine humic silt had accumulated.

Phase 2.

A layer of medium grey brown sandy silt with yellow brown mottles, 0.20m. to 0.30m. in depth, and a layer of medium brown silty clay with dark grey mottles, 0.20m. deep may represent the remains of successive former ground surfaces.

Phase 5.

Three features were recorded towards the south eastern end of the trench. A small pit [064], only partially exposed in the trench but probably circular in plan with a diameter of 0.90m. and 0.20m. deep. This feature was filled by a dark grey brown silty clay containing occasional small flecks of charcoal and frequent fragments of burnt clay up to 0.10m. in size. A small pit [070], roughly circular in plan with a diameter of 0.30m. and a depth of 0.15m. with steep sides and a rounded profile. This feature was filled by a dark brown silty clay with grey silty mottles, containing occasional small flecks of charcoal and occasional fragments of burnt clay. A probable pit [062], only partially exposed in the trench with a width of 2.75m. and a depth of 0.35m. with gradually sloping sides and a flat base. This feature was filled by a dark brown silty clay containing frequent small flecks of charcoal and occasional small fragments of fired and unfired clay. Around 400 charred grains, predominantly wheat with smaller quantities of hulled barley, rye and oats, were recovered from this deposit.

The charcoal, charred grain and clay fragments from these deposits are indicative of occupational and demolition debris, the latter probably derived from clay and timber or turf structures. These features were sealed by a layer (60) of dark grey brown silty clay containing occasional small flecks of charcoal, which may also represent the redeposited remains of demolished structures.

Phase 6.

A layer of compact yellow brown clay containing up to 40% flint and chert gravel with some larger fragments of chalk and very occasional small flecks of charcoal, sealed by a compact layer of grey brown silty clay containing up to 30% flint gravel, formed a bank approximately 12m. wide immediately to the north of the moated enclosure. This bank survives as an earthwork, visible on the present-day ground surface and appears to be associated with a possible entrance to the moated

enclosure.

Phase 7.

A compact layer, consisting of approximately 80% flint and chert gravel, in a dark grey brown sandy silt matrix, with a maximum depth of 0.12m, represents the well preserved remains of a cobbled track. This appears to extend along the northern edge of the moated enclosure from its north eastern corner.

Phase 8.

A layer of medium to dark grey brown sandy silt, varying in depth from 0.25m. to 0.35m., represents the remains of an imported cultivation soil. This was sealed by a layer of medium brown clay silt, up to 0.10m. in thickness. These deposits appear to represent a phase of ground levelling or landscaping, possibly associated with re-use of the land for agricultural purposes.

Phase 9.

A late recut of the moat ditch was observed in the south western corner of the trench, filled by a grey brown silty clay containing a large amount of modern debris (brick, tile etc.). This was not excavated.

Phase 10.

The trench was sealed by modern topsoil with a depth of 0.15m. to 0.35m.

Trench 3. (20m. in length, aligned north - south) (Figures 8, 9, 10).

This trench was positioned to provide a section through the northern arm of the moat and to test for the presence of archaeological deposits or structures on the edge of the platform.

The moat ditch was initially excavated by machine to a depth of 0.80m. After recording, the trench was machined to a depth of 1.80m., with the sides stepped out for safety reasons. To the south of the moat ditch, the topsoil was removed by machine, the archaeological features were recorded and a box section was then machine excavated to reveal the full depth of archaeological deposit. The box section was then backfilled and the machine was used to locate the southern edge of the moat ditch. All other excavation was carried out by hand. The depth of archaeological deposit (excluding topsoil) was 1.05m. within the moated enclosure, and 1.95m. within the ditch.

Phase 1.

The undisturbed geological strata comprised compact pale grey, chalky boulder clay (encountered at the bottom of the moat ditch at 15.05m. O.D.) sealed by river gravels and medium orange brown, slightly silty sandy alluvium at 17.00m. O.D.

Phase 6.

As a result of later re-cutting only the northern edge of the original moat ditch survived. This had an irregular, but gradual slope. In so far as it could be observed the base of the moat appeared to be flat. Three primary deposits, representing the earliest silting of the moat ditch were identified:

- (127) a fairly compact, very dark grey brown sandy silt of maximum depth 0.10m. The waterlogged conditions at the base of the moat had ensured the survival of numerous well preserved seeds of three aquatic plants (water crowfoot, water dropwort and duckweed). Abundant shells of aquatic molluscs were also present, including species which most often occur in running water. However, the duckweed, a small floating-leaved plant which carpets the surface of stagnant water, suggests that there was little flowing water in the moat. Woody plant debris (including sloe/hawthorn-type thorny twigs and blackberry prickles) and seeds of stinging nettle suggest that some scrub was established around the edge of the moat.
- (116) a loose, medium grey brown, slightly silty sand of maximum depth 0.15m.
- (124) a loose, medium brown, silty sand of maximum depth 0.10m.

On the moat platform itself a fairly compact, relatively clean layer of medium yellow brown clay silt (147) appeared to represent upcast from the excavation of the ditch. This was sealed by a series of dark predominantly silty clay layers (146), (145), containing variable amounts of charcoal, interpreted as demolition debris from an early sequence of clay buildings. Sealing the last of these was a layer of medium yellow brown clay silt, levelling for a possible clay wall footing (144).

Phase 7.

A later structural sequence on the moat platform (Figure 9) was represented by a fairly compact, mixed layer (134) of dark brown clay silt and yellow clay containing occasional flecks of mortar and charcoal. Set into this possible floor surface or make-up layer were two stone features. [135] consisted of angled limestone slabs, varying in size from 150x150x40mm. to 300x250x60mm, forming packing for a

timber upright of approximately 150mm. diameter. At least two possible limestone post pads also survived on the surface of (134). [139] consisted of a roughly laid wall footing of undressed flint, chalk and hard, crystalline pebbles, varying in size from 10mm. to 250mm. Although only a short length was observed, this feature appeared to be aligned east - west, and may represent part of a wall built parallel to the edge of the moat.

Some recutting of the ditch followed by renewed silting (114) and (115) may be considered broadly contemporary with the later structural sequence on the moat platform.

Phase 8.

(120) and (123) formed an unusual, well preserved timber structure (Figures 8 and 10), surviving to a height of 0.75m which may represent a revetment, designed to consolidate the northern edge of the moat ditch. A series of deliberately placed timbers up to 200mm. in diameter, were covered by a 0.25m thick, apparently structureless layer of brushwood. Waterlogged conditions towards the base of the moat had helped to keep the larger timbers in particular in a reasonably good condition.

Four of the larger timbers were identified to species: elm, two elder, and a member of the Pomoideae (subfamily of the Rosaceae) which includes hawthorn, apple, pear, rowan, whitebeam and wild service tree. (The structure of these closely related genera is very similar.) The brushwood contained both Pomoideae and oak. This variety in species suggests that availability of material was the deciding factor in the selection of timbers for this structure. Elm is a strong wood, extremely durable when submerged, and well suited to this use. By contrast elder and members of the Pomoideae are not renowned for their durability under water.

A layer of dark grey brown silting (126) above the brushwood indicated that the moat remained water-filled after the insertion of this structure.

Broadly contemporary activity on the platform was represented by the disuse of the stone structures described in the previous phase. Possible wall collapse (139) and deliberate backfilling (138) of the post setting [135] were both sealed by a thin layer of dark yellow brown, slightly sandy clay silt (129).

Phase 9.

The upper fills of the moat revealed a complicated sequence of later silting and backfilling. For example, a compact, 0.75m thick mixed layer of blue and yellow-grey clay (119) clearly represented an episode of deliberate and extensive backfilling. In general, these upper fills appeared to comprise dumped modern debris, presumably intended to level the ditch.

Phase 10.

The trench was sealed by modern topsoil varying in depth from 0.15m. to the north and south, and 0.05m. over the centre of the ditch.

Trench 4. (21m. in length, aligned east - west) (Figure 11).

This trench was excavated to test for the presence of structures in the north eastern corner of the moat platform and to investigate an area of high resistance revealed by the geophysical survey. The westernmost 4m. of the trench were machine excavated to a depth of 0.40m. to 0.50m. The topsoil only was removed by machine in the rest of the trench, to the level of a gravel surface (phase 7). All other excavation was carried out by hand. The depth of archaeological deposit (excluding topsoil) varied from 0.60m. to 0.85m.

Phase 1.

Natural deposits of river gravel in a mixed sand and clay matrix sealed by a layer of silty sand alluvium were recorded at 17.60m. O.D.

Phase 3.

A 50mm. thick layer of flint gravel in a matrix of medium to dark grey brown, slightly silty sand (153) may represent the remains of an early metalled surface.

Phase 5.

Subsequent activity on the site was represented by a layer (160) of dark brown sandy silt, containing 15 to 20% flint gravel and occasional small flecks of charcoal. This deposit was probably contemporary with a linear feature [186], with regularly sloping sides and a narrow, rounded base. This ditch was filled by a medium brown sandy silt containing occasional small flecks of charcoal. Approximately 25% of the fill was sieved on site to increase finds recovery.

Phase 6.

A 0.35m thick deposit of orange brown sandy silt (163) and (184) was interpreted as upcast from the original excavation of the moat ditch. This was sealed by a layer (162) of medium to dark brown silt, containing frequent small flecks of plaster. Around 100 carbonised cereal grains (mostly wheat with a very few examples of hulled barley, rye and oats) together with fragments of oak and beech charcoal were recovered. This deposit represents occupational debris, associated with an early phase of activity within the moated enclosure.

The remains of a post-built structure were cut into this deposit. Feature [155] was a posthole, roughly circular in plan with a diameter of 0.70m. and a depth of 0.65m; it had steep sides and a gently rounded base. 1.50m. to the west, feature [157] was partially obscured by the side of the trench, but appeared to be oval in plan with a length of 0.70m. (east-west), a projected width of 0.60m. (north-south) and a depth of 0.45m. It had steep to vertical sides and a flat base. The primary fill (185) contained several substantial limestone blocks, up to 0.25m. across, which were interpreted as packing for a substantial timber upright.

Phase 7.

Following its demise, this structure was dismantled and its postholes deliberately backfilled (156) and (158). Both features were then sealed by a 50mm thick layer (159) of yellow grey silty clay with plaster and mortar inclusions. This may represent demolition debris from the post-built structure.

Further occupation debris (161) and (182), between 0.15m. and 0.25m. thick was

then deposited across the area. To the west this material contained frequent fragments of decayed plaster and limestone fragments up to 0.15m. in size, possibly derived from the destruction of a stone-built structure.

An extensive layer of compacted flint gravel in a dark brown sand matrix was recorded across the easternmost 16m. of the trench. This was interpreted as a deliberately laid surface associated with late occupation of the moat platform.

Phase 8.

A number of small, shallow features were cut into the gravel surface. Of these, features [174], [166], [172], [176] and [178] have a fairly regular spacing of 2.00m. to 2.50m. on an east-west alignment. The shape and dimensions of these features is also fairly regular with a circular shape in plan, diameters of 0.35m. to 0.45m., a gently rounded profile and depths of 50mm. to 0.10m. These relatively insubstantial postholes appear to represent the remains of a fence line, possibly associated with later use of the unoccupied moated enclosure for stock control.

Phase 9.

The above features were all filled with a dark brown sandy humic soil, closely resembling the topsoil and presumably relating to the dismantling of the fence.

Phase 10.

The trench was sealed by modern topsoil (151), varying in depth from 0.15m. to 0.25m.

Trench 5. (21m. in length, aligned north-east to south-west.) (Figure 12)

This trench was excavated to test for the presence of features towards the centre of the moated enclosure, specifically a number of magnetic anomalies and a line of high resistance revealed by the geophysical survey.

With the exception of a 2.70m. box excavated at the western limit of the trench to check the depth of deposit, only the topsoil was removed by machine. All other excavation was carried out by hand. The depth of archaeological deposit (excluding topsoil) was generally around 0.35m., with features cut to a maximum depth of 1.00m. below the modern ground surface.

Phase 1.

Natural deposits of river gravel in a sandy clay matrix were recorded at 17.65m. O.D.

Phase 5.

The earliest activity in this area was represented by a possible pit [212], which was filled by occupational debris, comprising a dark grey brown silty clay with frequent flecks of charcoal.

Phase 6.

Subsequent occupation was represented by a layer (211) of medium brown clay silt containing fairly frequent small flecks of charcoal and mortar and occasional limestone fragments, with a uniform (observed) depth of 0.30m. Several large blocks of limestone occurred towards the upper horizon of this layer, up to 0.40m. in size. These may be derived from a demolished building. A single possible post hole [208] was cut into this deposit.

Phase 7.

A late phase of occupation (Figure 12) of the moat platform was represented by 0.80m wide wall footings [203] and [204], consisting of closely packed, undressed flint and limestone fragments, with occasional hard, crystalline pebbles and some rounded chalk fragments, up to 0.20m. in size and set in a grey brown clay silt matrix. These appeared to form the south-east corner of a building. A depression outside the building, 0.15m. deep, 1.60m. wide and filled by a light yellow brown silty clay may have been an associated structural element.

Gravel surfaces were present both inside (207) and outside (205) (206) the building, although the former contained a number of flat, dressed limestone fragments, up to 0.10m. in size, which may have been stone floor tiles. The external surface extended beyond the north-eastern limit of the trench, where its extent was defined as an area of high resistance identified by the geophysical survey.

Phase 10.

The trench was sealed by modern topsoil (201), which varied in depth from 0.20m. to 0.30m.

Trench 6. (30m. in length, aligned east-west.)

This trench was excavated to assess the archaeological deposits towards the centre of the moated enclosure, specifically a number of magnetic anomalies revealed by the geophysical survey.

Initial machining to a depth of 0.20m. to 0.65m. revealed a gravel surface (phase 7) and a sequence of inter-cutting features (phase 6). The gravel and underlying occupation deposits were subsequently machine excavated from the easternmost 4.00m of the trench to reveal the full stratigraphic sequence. All other excavation was carried out by hand. The depth of archaeological deposit (excluding topsoil) was generally around 0.50m., with features cut to a maximum depth of 1.50m. below the modern ground surface.

Phase 1.

Natural deposits of river gravel in a yellow sand matrix, sealed by cleaner gravel in a yellow silty sand matrix, were recorded at 17.80m O.D.

Phase 5.

The earliest activity in this trench was represented by two features cut into the natural deposits. [254], a pit on the eastern limit of the trench, had gradual sides sloping to a slightly concave base with a maximum depth of 0.30m. This was filled by a grey brown silt with orange sand mottles. [282], a linear feature situated towards the east end of the trench, had gradual sides sloping to a slightly concave base with a maximum depth of 0.20m. and a width of 1.90m. This was filled by a dark grey brown silty sand containing frequent small flecks of charcoal. This feature relates to a linear anomaly revealed by both the magnetometer and resistivity survey.

Phase 6.

These features were sealed by a build-up of occupational debris (262), containing traces of both charcoal and burnt clay. This material may be contemporary with a number of cut features observed further to the west. [256] was a backfilled gravel quarry pit. [258] may originally have served a similar function but had later been backfilled with occupational debris following slippage from the sides. Two later features, a possible ditch [263] and a further gravel quarry pit [278], again re-used as a rubbish pit.

Phase 7.

A renewed phase of gravel extraction was represented by quarry pits [269] and [271]. These were backfilled with relatively sterile yellow brown sand, terrace deposits from which the coarser gravel fraction had been extracted. The latter may have been used in the construction of a metallised surface (253), located towards the eastern side of the moat platform.

Two further cut features, a ditch [267] and a possible large flat bottomed pit [260] complete the sequence of inter-cutting features in this area. Again, the final use of both of these features was the disposal of occupational debris.

Phase 8.

A 0.10m. - 0.20m. thick layer (252) of dark grey brown sandy silt, recorded in section throughout the entire trench, appears to represent an episode of landscaping.

Phase 10.

The trench was sealed by modern topsoil (251), varying in depth from 50mm. to 0.25m.

Trench 7. (14m. in length, aligned north-east to south-west.) (Figure 13)

This trench was excavated to provide a section through an internal bank and to examine a number of strong magnetic anomalies in the south-west corner of the moated enclosure.

The south-western end of the trench was machine excavated under archaeological supervision to a depth of 0.95m. This depth was decreased to 0.35m. over the centre point of the trench where specific archaeological features (hearths associated with phase 7) were observed and increased to 0.70m. in the less sensitive north-western limit of the trench. A 3.00m x 1.80m x 0.40m. box was also excavated by machine on the north-western edge of the trench to reveal the full plan of hearth [323]. All other excavation was carried out by hand. The depth of archaeological deposit (excluding topsoil) was generally between 0.55m. and 1.30m. with cut features reaching a maximum depth of 1.80m below the modern ground surface.

Phase 1.

Natural deposits of yellow brown chalky boulder clay mixed with orange brown sandy gravel were recorded at 17.95m. O.D.

Phase 2.

The earliest activity in this area was represented by a probable pit [329], largely obscured by the edge of the trench. This contained a dark, silty occupation deposit.

Phase 5.

A relatively sterile, 0.60m. thick horizon of medium to dark grey sandy silt (314) and (340) seemed to form a level platform to the south-west of the trench. This may have functioned as make-up for a post-built structure, represented by a possible surface (308) and three post holes [302], [304], [306]. A cut feature [309] and a deposit of feature fill (316) at the north-eastern end of the trench may be associated with this early phase of occupation.

Phase 6.

The excavation of the southern arm of the moat was represented by redeposited sandy alluvial deposits (315), (320), (321). Further levelling (319) of the moat platform seems to have followed, presumably as a precursor to an initial phase of occupation, for which no clear evidence was recovered.

Phase 7.

The creation of the bank in the south-western corner of the moat was represented by a series of sterile layers, presumably derived from geological deposits. The bank probably originally stood to a height of at least 0.65m, considerably greater than its present-day surviving height.

Two hearths [311] and [323] appear to be associated with the creation of this bank. [323] occupied a saucer-shaped depression, 1.40m. x 0.70m. x 0.15m. and consisted of a series of fire scorched silts and clays. [311] was not excavated; it was similar in form, though possibly smaller than [323]. The hearths appeared to be associated with a possible clay floor surface (317) and the remains of a possible stone wall footing (326), which was recorded in the north-western extension of this trench.

Phase 8.

Two features [336] and [338] and a horizon of levelling/landscaping (318) and (341), containing demolition debris, appear to be associated with post-occupational activity (possibly the removal of building materials) on the moat platform.

Phase 10.

Modern topsoil (301) with a fairly uniform thickness of 0.20m. sealed the trench.

Trench 8. (19m. in length, aligned north - south.)

This trench was excavated to provide a section through a bank and to test for the presence of archaeological features to the south of the moated enclosure. 0.75m. was removed by machine at the south end of the trench, revealing a number of cut features. The north end of the trench was machine excavated to a depth of 0.85m. Excavation of the cut features was carried out by hand. The depth of archaeological deposit (excluding topsoil) was generally around 0.40m. to 0.50m. to the south, with features cut to a maximum depth of 1.00m. below the modern ground surface.

Phase 1.

Natural deposits of river gravel in a mixed matrix of orange and yellow brown sand and clay silt were recorded at 18.30m. O.D., sealed by a 0.35m thick layer of orange brown silty sand, probably alluvial in origin.

Phase 2.

A possible former ground surface (367), made up of medium brown sandy silt with very occasional flecks of charcoal survived over the layer of alluvium.

Phase 4.

The earliest activity in this area was represented by a series of intercutting linear features [353], [351], [355] and [360]. The function of these possible ditches remains uncertain. A small pit or post hole [362] may also be assigned to this phase.

Phase 5.

A layer of dark grey brown clay silt (359) appeared to represent the re-establishment of a "natural" ground surface, indicating a hiatus in the occupation of this part of the site.

Phase 6.

Two earthen banks (365) and (366), 0.35m. - 0.45m. high, recorded in section in the northern end of the trench, may be associated with the creation of the moated enclosure.

Phase 8.

The position of the banks has been largely obscured on the present-day ground surface by the deposition of a thick horizon of levelling (358) and (364), presumably associated with landscaping of the site.

Phase 10.

Modern topsoil (357) sealed the entire trench to a depth of 0.10m. - 0.25m.

Trench 9. (28m. in length, aligned north-west to south-east.)

This trench was excavated to test for the presence of archaeological deposits to the south of the moated enclosure in what appeared to be a relatively "quiet" area on the geophysical survey.

Machine excavation was carried out in spits, under archaeological supervision, to a depth of 0.60m. to the north-west and 0.85m. to the south-east to reveal a number of cut features. Excavation of these features was carried out by hand. The depth of archaeological deposit (excluding topsoil) was generally around 0.40m. to 0.65m. with features cut to a maximum depth of 0.95m. below the modern ground surface.

Phase 1.

Natural deposits of river gravel in a matrix of orange yellow sandy silt, with areas of silty clay were recorded at 18.20m. O.D.

Phase 2.

A layer of medium to dark brown sandy silt (425) varying in depth from 0.10m. to 0.25m., may represent a former ground surface, cut through by a number of small ditches or gullies [408], [406] and [402] of uncertain function.

Phase 5.

A number of later cut features attested to continuing activity in this part of the site. These included postholes [404] and [412], gullies [414], [420] and [418], ditch [410] and a possible pit [422]. These features had similar, relatively sterile sand silt backfill. It was not possible to determine the exact nature of the activity that they represent.

Phase 8.

A 0.20m. - 0.40m thick horizon of medium yellow brown, slightly sandy silt (424) was recorded in section throughout the trench. This appeared to represent either a natural build up of soil, or possibly deliberate landscaping of the site.

Phase 10.

Modern topsoil (401), 0.15m. to 0.25m. thick, sealed the trench.

Borehole 1. (Figure 14)

Borehole 1 was located in the northern arm of the moat, 7.00m. to the west of trench 3. It was drilled to a depth of 4.60m. The overall depth of archaeological deposit (excluding topsoil) was around 2.15m.

Natural boulder clay, representing the base of the moat ditch, was recorded at 14.67m. O.D. A soil sample from the primary silting of the moat (phase 6) was recovered. It contained very similar specimens of molluscs and plant remains to those recovered during excavation of trench 3 itself. Later episodes of backfilling (phases 8, 9 and 10) were also recorded in the borehole log.

Borehole 2. (Figure 14)

Borehole 2 was located in the northern arm of the moat, 8.50m. to the east of trench 3. It was drilled to a depth of 2.60m. The overall depth of archaeological deposit (excluding topsoil) was around 1.85m.

Natural boulder clay, representing the base of the moat ditch, was recorded at 15.18m. O.D. Primary silting of the moat was not identified in this borehole but deposits of later backfilling were present (phases 8, 9, 10).

Borehole 3. (Figure 14)

Borehole 3 was located in the southern arm of the moat. It was excavated to a depth of 1.50m. The overall depth of archaeological deposit (excluding topsoil) was around 1.10m.

Natural gravel in a yellow silty clay matrix occurred at 17.91m. O.D. The basal fill (phase 6) of the moat ditch consisted of dark grey brown clay silt. A sample from this deposit contained no remains of aquatic plants or molluscs. There were numerous seeds of creeping buttercup and the annual weed, red-shank. Either the southern arm of the moat was not water-filled or, and perhaps more likely, the material in the base of the ditch represents an early stage in the ecological succession of the moat when the banks were still unstable and before aquatic species had colonised. Later backfilling (phases 7, 9 and 10) were also recorded in the borehole log.

2.5 Finds Assemblages

2.5.1. Ceramic

Introduction.

The site produced 293 sherds of pottery, representing 246 individual vessels. The total weight of material recovered was 3,063 g. Of the vessels identified 229 were hand-collected during excavation, the remainder were sieved from soil samples.

The pottery was examined by context and sorted into 44 fabrics, according to the Bedfordshire type series (Baker & Hassall 1979). Sherds from the same vessel within a single context were brought together as were sherds from separate contexts belonging to the same vessel (only one such cross-context was noted.) Quantification was carried out using minimum vessel and sherd count, estimated vessel equivalent (EVE) and weight. Examination of attributes including extent of abrasion, presence /absence of residues, sooting or wear marks was undertaken to provide an indication of the function of the pottery.

Standard drawing conventions have been used, with vessels shown at one quarter size, external view on the right and a section and internal view on the left. Wheel-thrown vessels are shown with solid sections, and hand-made vessels with hatched sections. The pie diagram at the base of each illustration indicates the proportion of the vessel recovered.

Type Series.

Fabrics are arranged chronologically, using common names and type codes in accordance with the Bedfordshire type series which is held by BCCAS. As all are previously recognised and are fully described elsewhere, only brief fabric descriptions are noted below. Miscellaneous, undiagnostic pieces, (4 sherds in total) each have their own description in the quantification records and are not described in the type series

PREHISTORIC:

Type F19 Organic and sand

Hard, dark grey, fairly smooth fabric with frequent quartz inclusions and elongated voids left by burnt out organic matter.

Forms: Hand-made, but otherwise indistinguishable

Date range: Early Iron Age

Parallel and full fabric description: Salford (BCCAS in prep).

Type F23 Grog and sand

Fairly smooth, grey-brown fabric with buff-orange surfaces. Frequent black grog, quartz and sparse calcareous inclusions.

Forms: Hand-made, but otherwise indistinguishable

Date range: Early Iron Age

Parallel and full fabric description: Salford (BCCAS in prep).

Type F06C Coarse grog tempered

Orange-brown fabric with a grey core. Frequent brown-black grog inclusions, partially pitted surfaces, where grog particles have fallen out.

Forms: Hand-made: a single undiagnostic body sherd was decorated with ?horizontal combing. (Figure 15, no. 10)

Date range: Late Iron Age

Parallel and full fabric description: Ursula Taylor Lower School, Clapham (Dawson et al 1988, 11).

Type F26 Fine carinated and burnished

Fairly hard fired, grey-black fabric with very smooth surfaces. Grog, quartz and calcareous inclusions. Surfaces are often pitted where inclusions have leached out.

Forms: Hand-made, otherwise indistinguishable

Date: Late Iron Age

Parallel and full fabric description: Salford (BCCAS in prep).

ROMAN:

Type R01 Samian

Fine, hard fired orange-red fabric, with no visible inclusions.

Forms: Wheel-made, single, tiny undiagnostic body sherd:

Type R13 Roman shelly

Fairly hard orange-brown fabric with abundant flakes of evenly distributed shell.

Forms: Cooking pots and storage jars

Date: late 4th century

Parallels & full fabric description: Milton Keynes type 1a (Marney 1989, 174).

SAXON:

Type A01 Organic

Fairly hard fabric with grey-black surfaces and core. Characterised by elongated voids in the surface where organic temper (chaff/grass) has burnt out during firing.

Forms: Hand-made, undiagnostic body sherd

Date: Early-mid Saxon

Parallels and full fabric description: Bedford (Baker and Hassall 1979, 152), Grove Priory (BCCAS in prep)

Type A06 Sandy

Coarse, hard dark grey fabric with abundant quartz inclusions. Burnished, undecorated exterior surfaces

Forms: Hand-made; three undiagnostic body sherds

Date: Early-mid Saxon

Parallel & full fabric description: Bedford (Baker and Hassall 1979, 152).

Type A16 Mixed coarse quartz

Coarse, hard dark grey-black fabric with abundant quartz, sparse flint inclusions and often with organic impressions on the surfaces.

Forms: Hand-made; single undiagnostic body sherd

Date: Early-mid Saxon

Parallel & full fabric description: Grove Priory (BCCAS in prep).

Type A23 Sandstone

Fine, hard dark grey-brown fabric, similar to type A16, but characterised by large clusters of quartz crystals of 1.0 mm+ in size.

Forms: Hand-made- single undiagnostic body sherd

Date: Early-mid Saxon

Parallel & full fabric description: Grove Priory (BCCAS in prep).

Type A24 Oolitic

Fairly rough dark grey-black fabric with light brown exterior surface. Characterised by the presence of (calcareous) oolites, or frequent round voids where oolites have leached out.

Forms: Hand-made, but otherwise indistinguishable

Date: Early-mid Saxon

Parallel & full fabric description: Stratton Village (BCCAS in prep).

Type A11 Maxey type

A coarse fabric with predominantly grey core and variable buff-grey/orange surfaces. Shell-tempered with grog and organic inclusions.

Forms: Hand-made, flat bottomed bucket or barrel shaped jars with pierced lugs. Represented at Tempsford by fragments of a flat-rimmed jar.

Date: Late Saxon: 9th-10th century.

Parallel: Stratton Village (BCCAS in prep); fully discussed by Addeyman (1964).

MEDIEVAL:

Type C12 Stamford ware

A hard fired, glazed, smooth fabric varying in colour from off-white to buff and light grey, often with a pinkish tinge.

Forms: Wheel-made, single undiagnostic body sherd Fabric B (Kilmurry 1980,8), with a thin light yellow-green glaze.

Date: 10th-12th century.

Parallels: Bedford (Baker and Hassall 1979), Grove Priory (BCCAS in prep); fully classified and discussed by Kilmurry (1980).

Type B01 St. Neots ware

Rough, fairly soft and occasionally friable fabric, tempered with abundant well-crushed shell, distributed evenly throughout the matrix. Reduced grey-black core and variable brown-black surfaces.

Forms: Wheel-made bowls with inturned and hammer-headed rims, and everted-rimmed jars: both forms are represented at Tempsford. (Figure 15, nos. 6, 8, 9)

Date: 10-11th century

Parallels: Bedford (Baker and Hassall 1979), Stratton Village (BCCAS in prep); fully classified by Hurst (1956) and discussed more recently by Hunter (1979)..

Type B01A St Neots type orange

As St Neots, but characterised by orange interior surfaces and a black exterior

Forms: As St Neots type B01: represented by six undiagnostic body sherds.

Date: 10th-11th century

Parallels and full fabric description: Stratton Village (BCCAS in prep).

Type B01B St Neots type mauve

As St Neots type B01, but with finer shell inclusions, smooth to soapy surface finish and buff-mauve surface colour. Similar to fabric T1(1) recognised from excavations in Northampton (Denham 1985, 54).

Forms: Wheel-thrown: represented by a single undiagnostic body sherd.

Date: 10th-11th century

Parallels: Stratton Village (BCCAS in prep).

Type B01C St Neots type mixed

Fairly smooth, patchy buff-grey-brown fabric with inclusions of sparse quartz and red and black iron ore in addition to abundant shell

Forms: Wheel-thrown jars: everted rimmed jar and four unassociated body sherds found at Tempsford.

Date: 11th-12th century

Parallels: Stratton Village (BCCAS in prep).

Type B04 St Neots coarse

Rough, often brittle fabric with a grey core and variable pink-orange-brown-grey surfaces.

Tempered with coarsely mixed shell and shelly limestone, with sparse grog and quartz inclusions. Similar to fabric T1(3) found at Northampton (Denham 1985, 54).

Forms: Large wheel-thrown jars, shallow bowls (Figure 15, no. 1) in the St Neots tradition and lamps. (Figure 15, no. 4)

Date: 10th-12th century

Parallels: Bedford (Baker and Hassall 1979, 167), Stratton Village (BCCAS in prep)

Type C61 Calcareous inclusions

Fairly smooth, grey-brown fabric with buff-grey core. Characterised by the presence of frequent chalky inclusions, also quartz and iron ore.

Forms: Hand-made vessels: only undiagnostic body sherds occurred at Tempsford.

Date: ?11th-12th century

Parallels and full fabric description: Stratton Village (BCCAS in prep).

Type C67 Mixed inclusions

Fairly hard fabric with variable buff-grey-orange patchy surfaces. Badly mixed quartz, organic matter, calcareous inclusions, iron ore and abundant mica characterise the fabric and are found together or in a combination of any of the above.

Forms: Hand-made vessels: three undiagnostic body sherds were found at Tempsford.

Date: ?11th-12th century

Parallels and full fabric description: Stratton Village (BCCAS in prep).

Type C01 Sandy

Harsh fabric with a light blue-grey core and variable buff-orange-brown surfaces. Contains well-mixed quartz and sparse iron ore and grog.

Forms: Wheel-made: two undiagnostic body sherds were found at Tempsford.

Date: 11th-13th century

Parallels and full fabric description: Bedford (Baker and Hassall 1979, 171) and Stratton Village (BCCAS in prep).

Type C02 Red Quartz

Rough fabric with dark grey-black surfaces and dark grey core. Characterised by distinctive, abundant, well sorted red quartz inclusions. Also contains occasional red and black iron ore.

Forms: Wheel-made, represented by a single undiagnostic body sherd.

Date: 11th-13th century

Parallels and full fabric description: Bedford (Baker and Hassall 1979, 171) and Stratton Village (BCCAS in prep).

Type C59B Sandy harsh

Rough, sandy fabric with a grey core and patchy orange-grey surfaces. Characterised by an abundance of rounded quartz inclusions which give the fabric a harsh texture. Also contains sparse, coarse, blackened organic voids and occasional grog.

Forms: Predominantly wheel-made, only a single body sherd was found at Tempsford

Date: 11th-13th century

Parallels and full fabric description: Chalgrave (Brine 1988, 43), Grove priory (BCCAS in prep).

Type C Early medieval hand-made

Hard, sandy fabric with grey-brown surfaces and a grey core. Contains frequent, well sorted quartz, sparse red iron ore and occasional mica.

Forms: four undiagnostic body sherds.

Date: 12th-13th century

Parallels and full fabric description: Stratton Village (BCCAS in prep)

Type C60 Greyware

Hard, light grey fabric which contains poorly sorted frequent quartz and sparse red and black iron ore.

Forms: Mainly wheel-thrown, although some may be hand-made: represented at Tempsford by five undiagnostic body sherds

Date 12th-13th century

Parallels and full fabric description: Chalgrave (Brine 1988, 43), Grove Priory (BCCAS in prep).

Type B07 Medieval shelly

A developed form of St Neots ware: hard, fairly smooth fabric with orange surfaces and distinctive blue-grey core. Predominantly shell tempered, with sparse quartz and iron ore.

Forms: Wheel-made vessels in the St Neots tradition: represented at Tempsford by a single jar (Figure 15, no. 3) and five undiagnostic body sherds.

Date: 12th-13th century

Parallels and full fabric description: Bedford (Baker and Hassall 1979, 167); discussed by Hall (1972).

Type C53 Pasty

Variable smooth to fairly rough fabric, with mid-dark grey surfaces, light grey margins and mid grey core. Characterised by the pimply appearance of its surfaces, due to inclusions of abundant sub-rounded quartz.

Forms: Wheel-made: twelve undiagnostic sherds from a single vessel

Date: 12th-14th century

Parallels and full fabric description: Bedford (Baker and Hassall 1979, 177).

Type C05 Red margins

Distinctive fabric with dark grey-black surfaces, grey core and characteristic red margins. Contains frequent, well sorted quartz, and sparse red iron ore and mica.

Forms: Wheel-made: storage jar with thumbing and stabbed decoration around the rim (Figure 15, no. 2) and eight undiagnostic body sherds.

Date: 12th- 14th century

Parallels and full fabric description: Bedford (Baker and Hassall 1979, 172).

Type B09 Lyveden ware

Oxidised pink-orange surfaces and grey core, containing abundant crushed shell and limestone, which, if burnt out during firing, leaves voids which give the surfaces a "corky" appearance.

Forms: Wheel-made: five undiagnostic body sherds

Date: 13th- 14th century

Parallels: Bedford (Baker and Hassall 1979) and Stratton Village (BCCAS in prep); fully defined by Webster (1975).

Type C70 Gritty ware

Rough, lumpy fabric with orange surfaces where oxidised, a fairly thick external green glaze and a blue-grey core. Contains frequent, well-sorted quartz and sparse black iron ore.

Forms: Wheel-made, but otherwise indistinguishable green-glazed body sherd.

Date: ?13th-14th century

Parallels and full fabric description: Stratton Village (BCCAS in prep)

Type C09 Brill-Boarstall

Well-made, good quality pale orange fabric, with inclusions of quartz, limestone mica and flint in varying amounts.

Forms: Wheel-made: single undiagnostic body sherd with a thin, pale yellow glaze.

Date range: 13th-14th century

Parallels: Bedford (Baker and Hassall 1979, 173), Grove Priory and Stratton Village (BCCAS in prep). First recognised at Brill (Bucks) and discussed fully by Jope (1953) and more recently by Ivens (1981).

Type C10 Potterspurry

Smooth fabric, with pale orange-grey surfaces and a "sooty" black core sandwiched between pink-orange margins. Contains inclusions of well-mixed quartz, grog and mica.

Forms: Wheel-made, but otherwise undiagnostic body sherd.

Date range: 13th-14th century

Parallels: Bedford (Baker and Hassall 1979, 173) and Stratton Village (BCCAS in prep); discussed by Mynard (1970).

Type C71 Buff-grey cored

Distinctive, rough fabric with buff-orange surfaces and a characteristic buff-grey core. Contains frequent, well-sorted quartz and rare red inclusions (? iron ore).

Forms: Wheel-made: jug handle decorated with a central band of X shaped knife slashing (Figure 15, no. 7) and six undiagnostic body sherds.

Date range: ?13th-15th century

Parallels and full fabric description: Stratton Village (BCCAS in prep).

Type E01A Everton-type

Rough, hard and gritty fabric, often with a vesicular appearance caused by the leaching/burning out of calcareous material. Other inclusions consist of variable amounts of quartz, mica and grog.

Examples occur in both oxidised and reduced forms.

Forms: Wheel-made: jug handle decorated with a central band of diagonal knife slashing. (Figure 15, no. 5)

Date range: 14th-15th century

Parallels: Stratton Village (BCCAS in prep); fully discussed by Hassall (1976).

Type E01C Vesicular

Fairly smooth, light-mid grey fabric with an orange-red core and a vesicular appearance similar to the Everton fabric. Inclusions are frequent quartz, fine mica and calcareous material, which leave characteristic rounded voids in the surfaces where they have either fallen or leached out.

Forms: Wheel-made: five indistinguishable body sherds

Date range: provisionally 14th- 15th century

Parallels and full fabric description: Stratton Village (BCCAS in prep).

Type E01D Red margins

Hard fired, thin walled fabric, with black surfaces and a grey core. Characterised by distinctive brick-red margins. Contains frequent quartz and rare iron ore.

Forms: Wheel-made: otherwise undiagnostic body sherd.

Date range: 14th-15th century

Parallels and full fabric description: Stratton Village (BCCAS in prep).

Type E02 Late medieval oxidised

Smooth fabric with variable mid orange-red-brown surfaces and intermittent blue-grey core.

Inclusions are frequent quartz and fine mica, together with rare red iron ore.

Forms: Wheel-made jar with a single ridge directly below the rim. (Figure 15, no. 11)

Date range: 14th-15th century

Parallels and full fabric description: Bedford (Baker and Hassall 1979, 212).

Type E03 Late medieval smooth

Hard fabric, generally orange throughout similar to type E02, but much smoother. Contains frequent quartz and abundant fine mica, especially visible on the surfaces.

Forms: Wheel-made narrow-necked jar

Date range: provisionally 14th-15th century

Parallels and full fabric description: Grove priory (BCCAS in prep).

POST-MEDIEVAL:

P01 Glazed earthenware

Hard, orange-red fabric with no obvious inclusions. Vessels have a clear glaze which ranges in colour from yellow to orange-brown to olive green.

Forms: Wheel-made bowl with a mid-dark brown internal glaze.
Date range: 17th-18th century
Parallels and full fabric description: Bedford (Baker and Hassall 1979, 220).

Type P25 Frechen stoneware

Very hard-fired, vitrified grey-brown fabric with a speckled light-dark brown exterior salt-glaze.
Inclusions are not visible to the naked eye. German import.

Forms: Wheel-made, undiagnostic body sherd.

Date range: 16th-17th century

Parallels: Grove Priory (BCCAS in prep); described by Hurst et al (1986).

Type P30 Staffordshire slipware

Fine pink-buff fabric characterised by internal trailed cream and brown slip beneath a clear lead glaze

Forms: Wheel-made body sherd probably from a press-moulded dish, displaying the distinctive internal glaze.

Date range: 17th-18th century

Parallels: Bedford (Baker and Hassall 1979, 221).

MODERN:

Additional vessels of willow pattern design (2 sherds) and undecorated porcelain (2 sherds), datable to the 18th-20th century were recovered.

Discussion

Excavation at Tempsford has produced a sequence of domestic pottery ranging in date from the early Iron Age to the eighteenth century, spanning a period of some 2500 years. The proportion and types of fabrics within each phase of the site have been tabulated in a seriation diagram. The latter forms part of the site archive and provides the structure for the following discussion.

Phase 1: Natural

No ceramics.

Phase 2: Prehistoric

A small amount (six vessels) of abraded Iron Age pottery was found, mainly deriving from unstratified contexts or mixed with later fabrics, where it was clearly residual. A single, non-residual early Iron Age sherd was found in the backfill (407) of a gully. No ceramic forms were distinguished, although fabrics were identified as containing predominantly grog, sand and organic temper. These are likely to be of local origin and manufacture. Grog tempered wares have been recovered from the late Iron Age site at Ursula Taylor School, Clapham (Dawson et al 1988), while similar sand and organically tempered wares of both early and late Iron Age date have been found at the prehistoric settlement site at Salford Quarry (BCCAS in prep).

Phase 3: Roman

Five vessels of Roman pottery were unstratified with the exception of a single residual vessel from pit fill (255). The pottery is mainly coarseware, consisting of both shell-tempered and sandy wares, both of which are likely to be of local origin. Shell-tempered wares, which are abraded and display a high degree of leaching, are probably derived from kilns at Harrold (Beds) where a major

shelly ware industry flourished throughout the Roman period, exporting its products beyond the locality (Brown forthcoming). Pottery in this tradition is extremely prolific and is well attested from sites of varying status such as Sandy (BCCAS in prep) and Bletsoe Roman villa (Dawson forthcoming).

A single miscellaneous wheel-thrown vessel in sandy fabric was recovered. It is of uncertain date and unknown source but might be dated to the late 4th century by association with the shelly ware. Roman finewares were represented by an unstratified sherd of Samian ware.

Phase 4: Saxon

The site produced eighteen residual Saxon vessels, the majority of which were unstratified or mixed in contexts with pottery of later date. The predominantly quartz and organically tempered wares are likely to be of local origin and manufacture. Although no forms were distinguished, organic and sandy fabrics (A01 and A06 respectively) are closely paralleled by early-mid Saxon pottery from excavations in Bedford, where the results of petrological analysis indicated the use of boulder clay, deposits of which cover much of Bedford and the surrounding area (Baker and Hassall 1979, 152).

Quartz inclusions found in sandy fabric A16 are thought to be derived from the Greensand ridge, which runs SW-NE through the county from Leighton Buzzard to Sandy and on into Cambridgeshire. Oolites in fabric A24 are likely to have derived from outcrops of oolitic limestone found in the river valleys to the NW of Bedford.

The sherds are hand-made and undecorated, although a few have burnished exterior surfaces, and seem likely to represent coarse domestic vessels. None are sooted, although one has an internal black residue, suggesting it may have been used either as a storage vessel or perhaps as a receptacle for contents which were deliberately burnt.

An unabraded vessel of late Saxon Maxey type that was not residual was found in ditch fill (356) and may be indicative of marginal activity during this period. This stratified vessel is of an indistinguishable form. A single flat rim, however, presumably from a storage jar given the absence of sooting, was identified among the topsoil finds.

Maxey type vessels have a core area of distribution in Northamptonshire (Williams et al 1979) and Lincolnshire (Addeyman and Whitwell 1970). The vessels from Tempsford are more closely paralleled by pottery from Bedford (Baker and Hassall 1979) and the deserted medieval village at Stratton, Biggleswade (BCCAS in prep).

Phase 5: Saxo-Norman

10th-11th century shell-tempered wares of characteristic St Neots type (fabric B01) and the broadly contemporary harsh shelly ware (fabric B04) predominate in phase 5. This material was recovered from a sealed layer of occupational

debris (63) and from the fills of ditches [212] and [282], pit [254] and gully [414]. In total, twelve vessels were represented, of which two were of a recognisable form. A single everted rimmed jar and bowl with inturned rim confirm the presence of basic utilitarian types, likely to be kitchen wares. Both have sooting marks and may have been used as cooking pots.

Although no kiln sites are known, St Neots type vessels are widely distributed throughout a core area in the south and east Midlands and have been recovered from numerous excavations on settlement sites in the Ouse Valley. The type site at St Neots is located approximately four miles to the north of Tempsford.

Vessels in this tradition represent the most prolific type recovered on the site, forming 58% of the total ceramic assemblage. They form a continuous 'background' presence through the early and late medieval phases, only becoming less common in the post-medieval and modern phases. Vessels from such post Saxo-Norman phases are generally abraded and are clearly residual.

A large collection of St Neots type ware was dredged from the river Ouse in 1934, at the site of a former ford (Hurst 1956, 57), located approximately 300 metres to the north-west of the moated enclosure. This may indicate the presence of an extensive 10th-11th century settlement in the Tempsford area.

Phase 5 also contains three residual Iron Age vessels and one of Roman shelly ware. A single sherd of 11th-12th century sandy ware (fabric C61) from context (314) may be regarded as intrusive, derived from overlying features of later date.

Phase 6: Early medieval

Occupational deposits and debris accumulated during this period of moat construction and early use produced the bulk of the ceramic assemblage. The comparatively small amount of 19 vessels were recovered from contexts assigned to phase 6.

Phase 6 is characterised by the appearance of local 'sandy' fabrics. Among the 19 sandy ware vessels recovered from all phases, there were no diagnostic forms. Sandy fabrics of the types found at Tempsford (fabrics C01, C02, C05, C53, C59B and C60) are well attested from excavations in Bedford, where a range of utilitarian forms are known (Baker and Hassall 1979, 178). They are assumed to have been locally manufactured; type C60 possibly derives from Hertfordshire, although for the other fabrics, there are no known production sites.

The dating of seven vessels recovered from a layer (211) of early occupation debris on the moat platform suggests a period of moat construction and early use ranging from the 12th-13th centuries. Three vessels of fabrics C61 and C67 were recovered from layers of occupational debris (211) and (162) and also from associated ditch [003]. These fabrics were noted for the first time during the excavation of the deserted medieval village at Stratton, Biggleswade

(BCCAS in prep). Detailed study of the ceramic assemblage there may help to determine sources and independent dating for the fabrics, which does not yet exist. They have, to date, been broadly assigned (by association with other more securely dated fabrics) to the early medieval period.

Phase 6 also saw the emergence of developed St Neots type ware (fabric B07), represented by three vessels which came from layers of occupational debris (211) and (162) and a single vessel from primary silting (127) of the moat. These distinctive shell tempered wares are thought to have derived from production sites at Olney (Bucks) and Harrold (Beds), which produced a range of domestic wares throughout the 12th and 13th centuries (Hall 1971).

The earliest occurrence of Lyveden ware (fabric B09) at the site is confined to two deposits (57) and (185) within phase 6, which can be dated from the pottery to the 13th-14th centuries. The sherds are large, unabraded and undiagnostic; the ware is known to have been produced in Northamptonshire at kiln sites in Lyveden (Webster 1975).

Residual pottery from phase 6 contexts included six abraded early-mid Saxon vessels and 68 Saxo-Norman shell tempered vessels of St Neots ware, sub-types (fabrics B01A, B01B, B01C) and coarse St Neots (fabric B04): these represented the majority of the pottery within the phase. A single residual sherd of late Saxon ware (type C12) derived from primary ditch fill of feature [263]. Although an indistinguishable form, the sherd is one of the only glazed wares present on the site and is of a fabric used predominantly for tableware (Beresford 1987, 166). This sherd provided a marked contrast with the utilitarian kitchenwares of St Neots types, with which the former is often found in association. Produced at kilns in Stamford, Lincs, the ware is distributed throughout the south and east Midlands and into the Fens, and is evidence of a regional import into the locality.

A single sherd of porcelain recovered during the drilling of borehole 1 (455) must be regarded as intrusive.

Phase 7: Late medieval

Pottery within this phase is indicative of domestic activity associated with late medieval stone structures.

A single undiagnostic vessel of Brill-Boarstall type (fabric C09) was recovered from a late occupational gravel surface (253). Produced at kiln sites at Brill (Bucks), from the 13th and 14th centuries (Ivens 1981), the vessel attests the use of regional imports at the site.

Five vessels in fabric C71 were recovered from areas of occupational activity (253), (161) and (261). This rather ambiguous fabric, of uncertain date, was first recorded during the excavation of Stratton deserted medieval village (BCCAS in prep). As with fabrics C61 and C67, further study is required to

ascertain an independent date. The fabric has been broadly dated by association to within a 13th-15th century range.

Within this phase, chronology is extended by the appearance of late medieval reduced fabrics. Gravel surface (206), associated with a possible stone structure (204) and (203), produced a single jug, known to have derived from a production site at Everton (approximately 3 miles to the south-east of Tempsford) situated on the junction of Oxford clays and Greensands which are almost certain to have provided sources of clay and tempering (Hassall 1976, 69). Gravel surface (253) produced a single vessel of 15th century vesicular fabric (E01C), which is likely to be of local manufacture. The ware is of the late medieval reduced ware type (fabric E01), known to have been produced at kilns in Flitwick, located on lower Greensand in the south of the county (Mynard 1983).

Residual pottery, which dominated the group, included 2 abraded early-mid Saxon vessels and 41 Saxo-Norman shell tempered vessels of St Neots ware and associated types (fabrics B01A and B01C) and coarse St Neots (fabric B04). Part of a lamp in coarse B04 fabric, found in occupational debris (161), marked a departure from the usual range of domestic vessels represented, although lamps are not uncommon and are a recognised form produced in the coarse St Neots tradition.

Similarly, ten early medieval shell tempered and sandy vessels from the same fabric group as vessels from phase 6 (types C67, C60, B07 and C05) are likely to be residual.

A single vessel of 18th century Staffordshire Slipware recovered from late occupational surface (206) on the moat platform, must be regarded as intrusive.

Phase 8: Post-medieval

Pottery in this phase derived solely from features associated with post-occupational use of the moat and subsequent activity within the area, which, given the paucity of the ceramic evidence, appears to have been marginal. Two vessels, a 17th/18th century glazed earthenware dish and a vessel of imported German stoneware of the same period, came from the silty fill (126) of the moat re-cut [122].

As in phases 6 and 7, residual pottery forms the majority of the group. This includes a single Maxey type vessel and five shell tempered vessels of St Neots and associated sub-types. Four vessels of local early medieval 'sandy' fabric (types C61 and C05) may also be interpreted as residual, as may a vessel of 13th century developed St Neots ware (fabric B07), recovered from within spread (318).

Phase 8 also produced the only vessel of Potterspury type, also residual. Potterspury (Northants), had become an important centre of manufacture by the middle of the 13th century, producing fine sand tempered utilitarian wares

(Beresford 1977, 251). Context (129) also produced a single residual sherd of 15th century type (E01C).

A single sherd of modern porcelain may be regarded as intrusive.

Phase 9: Modern

A small amount of pottery was recovered from this phase. A modern vessel with willow pattern design was found in the lowest fill (119) of the recut moat. The presence of modern pottery here, suggests that the moat was not levelled immediately following its abandonment, but was allowed to gradually silt up over a period of time, before being partially infilled.

Two abraded, residual St Neots type vessels came from upper moat fill (102).

Summary

Within the constraints imposed by the limited extent of the excavation (around 3% of the moated enclosure) the ceramic assemblage serves as a useful indicator of the chronological development of the site. The range of vessel forms also sheds light on the types of activity represented on the site.

The almost entirely residual late prehistoric, Roman and Saxon fabric types suggest sporadic activity from an early date.

The first indication of intensive settlement of the area is provided by the large assemblage of Saxo-Norman material, which is clearly indicative of occupation of the site prior to the construction of the actual moat.

The ceramic assemblage supports structural evidence for the construction of the moat and platform in the early medieval period. Despite the comparatively small number of vessels, occupational activity of a domestic nature is indicated. The small size of the assemblage recovered from early and late medieval contexts suggests that none of the trial trenches was located in areas of the site used for rubbish disposal. The moated enclosure appears to have been occupied over a period of two to three hundred years prior to its apparent abandonment at the end of the medieval period.

The ceramic assemblage appears to indicate only inter-mittent activity from the post-medieval period to the present.

The limited range of utilitarian vessels recovered from both the Saxo-Norman and medieval phases is indicative of simple traditions, which appear to be typical of a domestic assemblage. At present, little is known about the ceramic sequence of this part of Bedfordshire (Mellor forthcoming). The dearth of glazed or decorated wares reinforces the functional nature of the group; the only 'specialised' form appears to have been the residual coarse St Neots lamp.

In terms of geographic distribution the assemblage contained a standard range of locally produced fabrics originating from production sites within the county such as Harrold, Everton and Flitwick, in addition to regional imports from Lyveden and Potterspury (Northants), Brill (Bucks) and Stamford (Lincs).

2.5.2 Small Finds.

Introduction

A total of 17 small finds were recovered, 12 of which were found in stratified features, while the remainder derived from topsoil deposits. These comprised artefacts made from iron (SFs 1, 3, 5, 7 & 8), copper alloy (SFs 2, 4, 10 & 11), lead (SFs 9 & 15) and from various types of stone (SFs 6, 12, 13, 14, 16 & 17). The iron objects survived in a generally poor state of preservation, while the copper alloy finds were less corroded, with the notable exception of SF 2, a Roman brooch, which displayed extensive signs of decay and was extremely fragile. All iron objects were submitted for X-ray to Adrian Tribe (Institute of Archaeology) to help determine their original form.

Following preliminary identification, the finds were grouped into 7 categories by function (after Crummy 1983), in an attempt to reflect more closely each object's relevance to activities carried out at the site. Within these categories, each find has been briefly described and catalogued below. In all cases measurements give the maximum surviving artefact length unless otherwise stated.

In the discussion which follows the catalogue, artefacts have been grouped by phasing structure outlined in the Introduction (section 1.2). Where relevant, details of form, manufacture, parallels and suggested date have been discussed.

Catalogue

1. Objects of personal adornment

SF 2 CA brooch: two-piece "Colchester B" type. Incomplete. Slightly tapering bow with a raised central rib and decorated flat margins bearing an incised zig-zag design. Triangular catchplate with 3 perforations, 2 circular and 1 roughly square. Short, stubby, undecorated semi-cylindrical wings. Missing pin and chord. Remains of an axis bar and an extensively mineralised spring although the number of coils are unclear. The poor condition of the spring may indicate either a difference in composition from the brooch body, or may be the result of the greater stresses that it would have been subjected to compared with the rest of the artefact. Length: 34.3 mm. Context (153), phase 3

SF 4 CA strap-end or buckle plate: Incomplete. Flat rectangular sheet, perforated at one end by a pair of parallel rivet holes. Decorated around three of the four edges with a border of asymmetrical engraved zig-zags. Length: 25.1 mm. Context (253), phase 7.

2. Household utensils and furniture

SF 12 Lava quern fragments: 3 irregularly shaped fragments which join to form a roughly rectangular piece. Uneven surfaces, showing traces of wear. Weight: 89 gms, Max. thickness: 20.0 mm. Context (261), phase 7.

SF 13 Lava quern fragment: incomplete. Roughly rectangular in shape and section, with faint grooves/wear marks running across one surface. Weight: 161 gms, Max thickness: 27.0 mm. Context (163), phase 6.

SF 16 Lava quern fragments: 5 irregularly shaped fragments, none of which join or retain any trace of an original surface. Weight: 15gms. Context 301, phase 10.

SF 11 CA ?handle: incomplete. Solid, cast, bulbous object, tapering at one end to a rounded terminal, broken across the other. Length 80.5 mm. Phase 10 Unstratified object of uncertain function, deriving from topsoil and likely to be modern in date.

3. Fasteners and fittings

SF 5 Fe door key (Figure 16): Complete. 'D' shaped bow, solid, stepped stem with projecting tip and 3 symmetrical ward cuts, perpendicular to the stem, which run the depth of the bit, dividing it into 4 parts. One side of the bit retains traces of mineralised wood. Type G1 (Goodall 1980, fig 19). Length: 143.0 mm. Context (211), phase 6.

SF 7 Fe door key (Figure 16): Intact apart from missing tip. 'D' shaped bow, solid, stepped stem with symmetrical wards grouped around a central 'T' shaped opening. Type G2 (ibid). Length 131.9 mm. Unstratified, phase 10.

SF 3 Fe slide key (Figure 16): incomplete and in poor condition. Rectangular-sectioned stem with a hooked 'S' shaped terminal (suspension loop) aligned on the opposing plane to a broken bifurcated end. Length: 80.9 mm. Context (253), phase 7.

SF 10 CA ?ferrule: complete. Hollow, folded, cylindrical sheet perforated towards the widest end by 2 circular rivet holes and tapering towards a rounded terminal. The interior appears to retain traces of organic matter which may be either bone or wood. The object is likely to be modern in date. Length: 23.7 mm. Unstratified, phase 10.

4. Transport and animal trappings

SF 1 Fe horseshoe: incomplete branch with slightly lobate edge and three oval nail holes, which have rectangular countersinkings. Clenched nails survive in two of the nail holes, although it is impossible to determine whether they are worn examples of fiddle-key or trapezoidal form. Wear is indicated by the proximity of the nail holes to the edge and by thinning of the shoe towards the toe. Length: 82.1 mm. Context (162), phase 6.

5. Multi-purpose

SF 8 Fe ?knife blade fragment (Figure 16): rectangular strip, broken at both ends. X-ray revealed the presence of a 'corkscrewing' pattern within the metal. Further cleaning is required before the shape of the cross-section can be determined. Length: 60.0 mm. Context (261), phase 7.

SF 4 Whetstone: geological source unknown. Incomplete, roughly pyramidal in shape, broken across one end. Retains 5 surfaces, none of which display evidence of wear. Length: 60.7 mm. Context (319), phase 6.

SF 6 Whetstone: geological source unknown. Incomplete, an elongated oval in shape, one edge broken, the other terminating in a point. Smoothed surfaces indicate signs of wear. Length: 103.4 mm. Context (211), phase 6.

6. Craft and industry

SF 9 Pb ?ingot, roughly oval in shape, with one slightly domed and one flat surface. The domed surface bears 2 circular impressions. Weight: 159 gms. Context (109), phase 9.

SF 15 Pb roll, crude, rectangular strip rolled to form a cylinder. ?Possible fishing net weight or sinker. Weight: 19 gms. Context (314), phase 5.

Discussion

No small finds were recovered from contexts assigned to phases 1 (natural), 4 (Saxon) or 8 (post-medieval). For clarity, the flint scraper, assigned to phase 2 (prehistoric), is discussed elsewhere, in conjunction with the rest of the lithic assemblage. Unstratified artefacts of the same type or function as objects which could be assigned to a distinct phase have been considered together within these phases.

Phase 3: Roman.

A two-piece 'Colchester B' brooch (SF 2) sealed within a gravel surface (153) was the only find attributable to this phase. Artefacts of this type, dated ca AD50-70, are among the most prolific forms of Romano-British brooch recovered (Hattatt 1985, 27). Parallels are readily available from excavations at Colchester (Crummy 1983, 12) and the Roman settlement at Gornhambury, Herts (Neal et al 1990, 118). Two-piece Colchesters are often decorated along the raised mid-rib with distinctive zig-zag designs (Hattatt 1985, fig 12: 252). Due to the rather corroded state of the example from Tempsford, it is impossible to discern, without further cleaning and conservation, whether the artefact bears this central decoration. It is worth noting that the use of the same zig-zag design along the flat margins may represent a variation on the 'standard' decorative scheme. This appears to be slightly unusual as no direct parallels could be found.

Phase 5: Saxo-Norman.

Although activity during this period was well attested by the recovery of large quantities of 10-11th century ceramics, 'small find' evidence was limited to a single roll of lead (SF 15). Despite its presence in a Saxo-Norman layer (314), the artefact remains undatable and rather ambiguous. It is possible that it could have been used as a fishing net weight, in conjunction with a small, hand-held net. Evidence supporting the use of simple weights of this type, comes from

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sites ranging in date from the Iron Age through to the medieval period (Steane and Foreman 1988, 162). Given the proximity of the rivers Ivel and Great Ouse to the site, it seems likely that these fresh water food sources would have been exploited during all phases of activity at Tempsford.

Phase 6: Early Medieval.

Small finds from this phase were the most numerous (5 in total), although only 2 artefacts (an iron horseshoe and key) could be tentatively used to provide dating evidence relating to the period.

The horseshoe (SF 1) is of classic 'Norman' type, which first appear in the archaeological record in mid-late 11th century contexts and continue in use until the mid 12th century, when they begin to be superseded by shoes with rectangular nail holes (Clark 1986). Horseshoes of this type, and their associated nails are well attested from early medieval sites such as Goltho (Lincs), where examples were recovered from contexts dating from c1000-1150 (Beresford 1987). The dating obtained from horseshoes cannot, however, be regarded as definitive. Evidence increasingly indicates the use of horseshoes in the Iron Age and Roman periods and, as yet, there appears to be no way of distinguishing date other than by association with securely dated artefacts within the same context (Taylor 1978). Bearing this in mind, it remains feasible to assign the horseshoe from Tempsford to the 12th century, given the fact it was recovered from an early occupation layer (162), in association with ceramics of indisputable early medieval date.

The stratified iron key (SF 5) was recovered from a layer of occupation debris (211) on the moat platform; a second (SF 7) was found in topsoil. Both are examples of Type G keys as defined by Goodall (1980). Type G keys are the most common single type of medieval key, principally because they were versatile enough to be used from either side of a lock; the step on the stem acted as a stop against the ward of the lock and prevented the key from being pushed too far through (Goodall 1980, 152). Thought to have been introduced in the 12th century, they are found in small numbers in the early medieval period, becoming the most prolific in the late medieval phase and continuing as the principal key type into post-medieval times. Bow shape may be used as an indicator of date, with oval and 'D' shaped examples occurring predominantly during and after the 13th century (Goodall 1980, 152).

The only examples of whetstones found at the site, (SFs 4 and 6), were recovered from early occupation deposits (211) and (319) within this phase. These multi-purpose implements are extremely common on sites of all periods, from which they are recovered in great quantities. For this reason, they are largely undatable. Both appear to be manufactured from a dense, dark grey material, although petrological analysis would be required before a geological source could be determined.

One of the 3 quernstone fragments (SF 13) recovered from the site derived from part of the early medieval platform (163) , the second (SF 12) from the fill

(261) of a late medieval ditch (phase 7), while the third (SF 16) was unstratified. For clarity, and because they cannot be dated with any accuracy, they have all been discussed here. All are manufactured from imported material and are likely to be of Rhenish origin. The majority of lava querns in Britain are generally held to have originated from the Mayen quarries of Germany, although recent petrological analysis indicates the exploitation of alternative sources, such as lava outcrops found near Volvic in the Auvergne region of France (King 1986, 94). However, as petrological analysis would be required to distinguish the differences between lava types, it remains impossible at this stage to determine the origins of the fragments found at Tempsford. The Mayen and presumably the Volvic quarries have a long production history spanning over a thousand years. During the Roman period, there was considerable trade with Britain, which although ceasing in the early Saxon period, was well established by the 9th/10th century and continued throughout the medieval period (Crummy 1983, 75). Consequently, finds of this sort are common on multi-period sites and cannot be dated with any certainty. No lava querns in Britain have been dated earlier than AD 50 and although two distinct date ranges, based on form, have been recognised (King 1986, 95), it has been impossible, due to the fragmentary nature of the Tempsford examples, to determine whether the pieces fall into an early (Roman) or late (medieval) group. Similarly, it cannot be determined whether the pieces derive from upper or lower stones of rotary querns, or from the later pot querns, which date from the 13th century and may have continued in use until the 17th century (ibid).

Phase 7: Late Medieval.

A total of 4 artefacts were recovered from contexts assigned to this phase. These included the remains of a lava quernstone, previously discussed with material from phase 6, an iron slide key (SF 3), a ?knife blade fragment (SF8) and a strap-end/buckle plate of bronze (SF4).

Slide keys are exclusively found in Roman and Saxon contexts in Britain (Ottaway 1992, 674). Small slide keys (those less than 100 mm in length), of which SF 3 is an example, were designed for casket or chest locks. Their presence is well attested in Saxon inhumations at Buckland, Dover, where they have been interpreted as an indicator of status (Evison 1987, 117). The example from Tempsford showed signs of wear and was in a poor state of preservation. Its recovery, from gravel (253) associated with late medieval occupation, in conjunction with a medieval strap-end and possible knife blade fragment of similar date, indicates that the key is residual.

The object which was tentatively identified as a knife blade fragment, was the most unusual and enigmatic artefact recovered from the site. Found in the fill (261) of a ditch, the artefact was fragmentary and in poor condition. The method of manufacture and function was unclear. X-ray revealed the presence of dense areas of criss-crossing lines in 'herring-bone' design, in two bands along the entire object length. From this limited evidence, it proved impossible to determine whether the design was achieved by pattern-welding or inlay.

Pattern welding represents both the earliest type of edge-tool decoration and a manufacturing technique. The technique has been used on sword blades since the late Roman period, although its use on knives appears to be restricted to the 10th-12th centuries (Cowgill et al 1987, 15). A pattern of this sort is achieved by twisting rods of iron and welding them together between either a single bent length or two separate strips of iron (for one of which steel might be substituted if a hard cutting edge is required) (Cowgill et al 1987, 15-16).

Knives with inlaid blades are known to be slightly later in date, ranging between the mid 13th and 15th centuries. To achieve an inlaid motif, grooves would be cut deeply into the blade using either a tracer or graver, which, without requiring further treatment, would subsequently be inlaid with non-ferrous metals (Cowgill et al 1987, 17).

Only with full metallurgical analysis will it be possible to determine the precise method of manufacture and decoration of this artefact.

The only bronze object (SF 4) to be recovered from a context assigned to phase 8 is similarly problematic. As only a small portion survives, it is impossible to accurately determine the method of manufacture, or original form of the object. It may represent a strap-end of the simplest form, consisting of a single strip of sheet metal, folded widthways along the outside edge, with a strap riveted in place between the metal (Egan and Pritchard 1991, fig 83: 583). Alternatively, the artefact could be part of a buckle plate, fashioned from sheet metal in a similar manner and folded around a buckle frame.

Buckle plates provided a means of attaching the frame to a strap, that was arguably more secure than folding the leather or textile around the frame and then sewing the strap together to hold it in place (Egan and Pritchard 1991, 55). Strap-ends and buckle plates take various forms and are usually made of sheet bronze, secured by rivets.

The artefact bears tooled zig-zag decoration, a common feature of bronze strap-ends and buckle plates of the medieval period. The pattern, also known as 'wriggle work', would have been produced using a walked engraver and appears to be quite roughly executed. Examples from excavations in London indicate the use of this technique on items from at least the early 13th to the early 15th century (Egan and Pritchard 1991, 31).

Phase 9: Modern.

Modern moat fill (109) produced the only object which was assigned to this phase. SF 9 has been tentatively identified as forming part of a lead ingot, which could have been melted down during industrial processes and utilised for various purposes.

Summary

Individually, the small finds from Tempsford are not of particularly high quality, and are fairly standard forms, with the possible exception of the ?pattern welded/inlaid knife blade fragment.

Considered collectively, the artefacts, although rather limited in range, hint at a variety of domestic activities, including food preparation and agricultural processing. The two medieval keys, one from a sealed phase 6 context suggest the presence of buildings on the site. The chronological spread of the small finds neatly matches that of the ceramics, showing a peak in the early medieval period (phase 6), representing the construction and initial occupation of the moated enclosure.

2.5.3 Flint

Introduction

A total of 33 flint artefacts were recovered, all are residual, derived from disturbed prehistoric deposits. The flint was obtained from a variety of sources, including local gravel and riverine deposits, boulder clay outcrops and, from further afield, chalk sources. The flint itself is of mixed quality as is the standard of production. No concentrations were apparent in the spatial distribution of the artefacts across the site. Overall the assemblage is not particularly diagnostic, with only a single implement (SF17, context (407)) datable with certainty to the late Neolithic. The assemblage is indicative of early prehistoric activity on the site. However, any prehistoric features appear to have been destroyed by later activity.

The flint is catalogued by phase and context below.

Phase 2

Context (330): one blade fragment, snapped at both ends.

Context (407): one blade fragment and three poor quality waste flakes of brown, riverine flint; one complete late Neolithic end-scraper (SF17), made of toffee-brown flint. Steeply retouched across the end, more gently along one side. Length: 48.2 mm.

Phase 4

Context (419): blade fragment of toffee-brown flint, end snapped. The blade may have been deliberately notched, but was never completed.

Phase 5

Context (160): single fragment of burnt flint.

Context (254): chunky, crudely-made potential scraper(?), with retouch along one edge, cortex remaining. Heavily damaged.

Context (314): small waste flake fragment of toffee-brown flint.

Phase 6

Context (006): crude waste flake, portion of cortex remaining.

Context (008): crude waste flake, small portion of cortex remaining.

Context (163): one crude flake, double bulb of percussion, of patinated flint, possibly palaeolithic in date; two waste flakes, one retaining portion of cortex.

Context (264): waste flake of patinated flint.

Phase 7

Context (253): one bladelet and one crude waste flake with portion of cortex remaining.

Context (261): heavily damaged flake with possible retouch, distinctive black, good quality flint, imported from chalk source.

Phase 10

Context (001): portion of a small waste flake.

Context (051): waste flake with cortex remaining on half of surface.

Context (101): flake of black flint with portion of cortex remaining, Hinge fracture, possibly notched and retouched.

Context (301): one waste flake: one damaged blade; one very crude lump with evidence of retouch along one edge, possibly potential scraper(?).

Context (401): seven flakes, three of white flint from boulder clay outcrops. One chunky flake, retaining cortex, from core preparation;

2.5.4 Animal Bone

The following is a summary report, based on work-in-progress by Tony Roberts of Liverpool University.

Initial examination of the animal bone assemblage indicates that the great majority of the material comes from phases 5, 6 and 7 (Saxo-Norman to late medieval) with a peak in the early medieval period (phase 6). Very little animal bone was recovered from post-medieval or later contexts.

The species represented are typical for a domestic assemblage:

- phase 5: cattle, sheep, pig
- phase 6: cattle, sheep, pig, horse, dog, hare
- phase 7: cattle, sheep, pig, horse, dog, chicken.

There is some evidence in phase 6 for preparation of bone for the manufacture of artefacts.

Some further study of the types of context from which the animal bone was recovered is underway. The final report will form part of the site archive.

3..CONCLUSIONS

3.1 Synthesis of Fieldwork Results

Introduction

The following description of the archaeological sequence recorded at Tempsford is based on an approximate 3% sample of the site. Accordingly, the chronological phases, into which the site's development has been divided, have been assigned broad and approximate date ranges. Given the limited nature of the data, greater precision is not justified.

Phase 1 post-glacial drift deposits.

Typical Ouse valley river gravels and alluvium were recorded in all parts of the site. The top of the surviving terrace appears to be sloping down from south to north, from 18.20m. O.D.(trench 9) to 16.65m O.D. (trench 1). Deposits of chalky boulder clay were also encountered in trenches 3 and 7 and in boreholes 1 and 2. This material appears to be confined to the area later occupied by the moated enclosure, which was no doubt deliberately sited to take advantage of the clay's water retaining properties (see below, phase 6.)

Phase 2 prehistoric: ca. 3000BC - 50BC.

The little evidence of prehistoric activity found during the evaluation appeared to be concentrated to the south. Residual flint and Iron Age pottery were present across the site, suggesting that more extensive prehistoric deposits may once have existed before their destruction by later human activity.

Possible prehistoric ground surfaces were recorded in trenches 2, 8 and 9. In the latter a number of ditches and gullies, one of which produced early Iron Age pottery and a residual late Neolithic scraper, were also assigned to the prehistoric period. No conclusions about the nature of prehistoric activity on the site can be drawn from this limited evidence.

Phase 3: Roman, ca. 50BC - AD450

Although the Ouse valley was heavily settled during the Roman period (Simco 1984), no evidence for extensive or prolonged occupation was recovered during the evaluation.

The only cultural material recovered from a metalled surface, recorded at the bottom of the archaeological sequence in trench 4, was an early Roman brooch (SF 2). This slender evidence may suggest some Roman activity in the area. However, the very small quantity of residual Roman pottery found in later contexts is strongly indicative of only marginal activity during this period.

Phase 4: Saxon, ca. AD450 - AD1000

Four intercutting ditches, one of which produced a sherd of late Saxon pottery, and a small pit or posthole in trench 8 represent the only contexts assigned to this phase. Residual finds from later contexts included a slide key (SF 3) and sherds from 18 vessels of early to mid Saxon date. This represents only limited evidence for activity during this period.

Phase 5: Saxo-Norman, ca. AD1000 - AD1100

In trench 8 there was some evidence for the re-establishment of a "natural" ground surface over infilled late Saxon features. Subsequently the first extensive domestic settlement on the site was established in the Saxo-Norman period. Evidence was recovered from all the trenches with the exception of 1 and 3. The large quantities of residual pottery of this period in later contexts also suggest that subsequent human activity has destroyed what were once more extensive deposits. The construction of the moat, in particular, would have had a very damaging effect on deposits from earlier periods.

Only limited structural evidence for this settlement was recovered. A possible post-built structure on a foundation platform was recorded in trench 7. Extensive demolition debris in trench 2 may have been derived from the destruction of clay and timber buildings. A rich deposit of charred grain (trench 2), the animal bone assemblage and the predominance of kitchen wares (some showing traces of sooting from their use over open hearths) in the ceramic assemblage are all indicative of domestic occupation.

Phase 6: early medieval, ca. AD1100 - AD1300

The excavation of the moat defined an area of approximately 0.36 ha. Upcast from the excavation was used both to raise and level this platform and to construct external banks to the north and south. These earth-moving operations sealed earlier occupation deposits in trenches 2, 4 and 7.

The moat appears to have been deliberately sited on a localised deposit of boulder clay. There was no indication of a stream feeding into the moat and it must be assumed that groundwater conditions kept it full. Plant remains from the bottom of the ditch seem to confirm that there was little water moving through the moat. Interestingly the base of the southern arm was around 1.75m higher than the base of the northern arm. This may suggest that the two parts of the ditch were not contiguous. The historic map evidence and the results of the earthwork and geophysical surveys seem to confirm that causeways, or at least gaps, in the ditch existed in the north-east and south-west corners.

In trench 1, to the north of the site, a series of ditches on the same orientation as the moat itself provide some evidence for the layout of the close in which the moat stood.

The available ceramic dating evidence suggests a 12th-13th century date for the construction and initial use of the moat. There is some evidence for two distinct phases of activity (and possibly building) during this period of initial use but uncertainty over the dating of some of the ceramic fabric types leaves this unclear.

Evidence for buildings on the moat platform came from trenches 3 and 4, where the remains of clay and timber buildings and a post-built structure respectively were recorded. The two medieval keys (SFs 5 and 7) are also indicative of the presence of dwellings. Carbonised grain from trench 4, the animal bone assemblage and the utilitarian nature of the ceramic assemblage again stress the agricultural and domestic nature of the settlement.

Phase 7: late medieval, ca. AD1300 - AD1500

Continued occupation of the moated site into the late medieval period is represented by a stone building phase. Figure 17 attempts to give an indication of the layout of the moat platform at this time. One or more buildings were sited along the northern edge, with a possible kitchen towards the south-west corner. A metalled courtyard covered much of the eastern half of the platform and may have linked up with a possible trackway leading from the north-west corner towards Lambcourt End.

There is some evidence for re-cutting and maintenance of the ditch (trench 3) and a new bank was constructed in the south-west corner of the platform (trench 7).

The ceramic and animal bone assemblages are still typical for a domestic site, with the former now including regional imports as well as local wares. The possible inlaid blade (SF 8) may be indicative of a somewhat higher status site during this period.

Phase 8: post-medieval, ca AD1500 - ca AD1800

The ceramic assemblage suggests that the abandonment of the buildings within the moat probably took place during the fifteenth century. Thereafter, all the finds assemblages suggest a very low level of activity in the post-medieval period.

Considerable evidence was recovered for levelling and landscaping, probably with imported ploughsoil, to the north and south of the moated site. It is possible that this may have been the work of Sir Gillies Payne, who emparked the area in the late eighteenth century.

A substantial but enigmatic timber structure (trench 3) was inserted into the northern arm of the moat at this time. The function of this structure is still uncertain but it again may be associated with the creation of Tempsford Park.

The moat platform itself may have been used as an animal pen (trench 4) and there was also some evidence for the salvaging of building stone.

Phases 9 and 10: ca AD1800 to present-day

Trenches 2 and 3 provided evidence for continued infilling of the moat into the modern period before the establishment of pasture across the whole site.

3.2 Significance of the Moated Site

Moated sites represent one of the most extensively investigated forms of lowland, rural settlement. The techniques of archaeological excavation (Austin 1989), documentary research and earthwork survey (Taylor 1974, Brown and Taylor 1991) have been applied to their study.

In Bedfordshire, as a result of the work of English Heritage's Monuments Protection Programme, the sites of 297 moats (174 of which no longer exist) have been identified (Coleman 1990). However, within the county, virtually no modern, large scale excavation work has taken place. In 1958 the Ministry of Works investigated a series of moated enclosures at Upper East End, Harlington (Dyer 1965). Evidence for a series of buildings dating from the late 13th to the late 15th century was recovered.

More recently half of a moated enclosure at Stratton, Biggleswade (BCCAS in prep) was excavated. This appeared to have been in use from the 14th century but no traces of buildings were found on the platform. Five miles to the north-east of Tempsford in Cambridgeshire, one of the most extensive excavations, in recent times, of a moated site took place at Wintringham (Beresford 1977) (Figures 1, 18). This site was occupied from the late 12th to the mid 14th century with two pre-moat and two post-moat phases.

The recent work at Tempsford has substantially added to our knowledge of Bedfordshire moated sites. It is clear from the evidence recovered during the evaluation that the moat was constructed on the site of a pre-existing Saxo-Norman settlement. This in itself is of considerable interest, as it raises the possibility of the moated homestead being a replacement for an earlier Saxo-Norman establishment. The domestic and agricultural nature of the finds and environmental assemblages from both phases certainly demonstrates some continuity in the types of activity taking place on the site.

The moat is likely to have been occupied for around two hundred years. In its later phases it probably contained an extensive range of buildings similar to those illustrated in Figure 18. The asymmetrical building layout on the platform, common to the comparative examples, has certainly been demonstrated at Tempsford.

The existence of the earlier Saxo-Norman settlement lends weight to the suggestion made above (section 1.4) that the site may represent the headquarters of Brayes Manor, which from documentary evidence is known to have been in existence since at least the first half of the 11th century (ie in the Saxo-Norman period). The contemporary main Tempsford manor house was sited close to the eastern bank of the Ouse and Draytons manor was only created in the late 13th century.

If the identification of the moated site with Brayes manor is correct, then the former fits into a model of medieval landholding in northern Bedfordshire put forward by Brown and Taylor (1991). This has identified a number of moats belonging to small medieval estates, which can be traced back to the smaller holdings of land described in Domesday Book of 1086. These units were held by groups of freemen who were replaced by a new single overlord following the Norman conquest (for Brayes manor, three freemen were replaced by Richard Poynant). However, although the tenorial organisation of the estates was changed, the pattern of small scale, dispersed land holding survived into the medieval period. Rather than planned, nucleated settlements, villages took the form of a series of long rows of houses, known as "ends". Tempsford is one such village and the location of the moated site within Lambcourt End places it quite neatly into this pattern of dispersed settlement.

3.3 Impact of the Overbridge Scheme

The following table gives an indication of the quantity of archaeological deposits, as revealed in the trial trenches and boreholes.

		Thickness of horizontal archaeological strata (excluding topsoil)	Greatest depth (below ground level) of archaeological cut features
Trench	1	0.45m	1.15m
	2	0.45m	1.15m
	3	1.05m	1.95m *
	4	0.60m	1.05m
	5	0.35m	1.00m
	6	0.50m	1.50m
	7	≤ 1.30m	1.80m
	8	≤ 0.50m	1.00m
	9	≤ 0.65m	0.95m
Borehole	1	2.15m *	
	2	1.85m *	
	3	1.10m *	* moat ditch

Modern topsoil sealing these deposits is not extensive (50mm - 0.35m). In many areas the remains of late medieval buildings and surfaces lie immediately below the topsoil (trenches 2, 3, 4, 5, 6). The survival of these deposits would not only be threatened by major earthworks associated with road construction, but also by topsoil stripping, drainage runs, tree planting and even the running of heavy vehicles. Considerable quantities of soft, waterlogged archaeological deposits survive within the moat ditch. These would also be particularly vulnerable during construction and de-watering work.

Both the quantity of the archaeological deposits and the quality of the evidence they provided during the evaluation suggest that the site at Tempsford is of, at least, regional importance. Were the moated site to be re-scored using the criteria adopted for English Heritage's Monuments Protection Programme, it would probably be considered for classification as a scheduled ancient monument. It is clear that a strategy must be developed for mitigating the impact of the overbridge scheme on these extensive and important archaeological deposits.

3.4 Recommendations for the Mitigation of the Impact of the Overbridge Scheme on Archaeological Deposits

The Department of the Environment's *Planning and Policy Guidance 16: Archaeology and Planning (PPG 16)* provides a framework for consideration of archaeological sites affected by development work. Paragraph 8 states "Where nationally important ancient monuments, whether scheduled or not, and their settings, are affected by proposed development there should be a presumption in favour of their preservation. Cases involving archaeological sites and remains of lesser importance will not always be so clear cut and planning authorities will need to weigh the relative importance of archaeology against other factors including the need for the proposed development."

There are two principal strategies for mitigating the impact of development upon archaeological remains:

- physical preservation *in situ*
- preservation by record following archaeological excavation.

The first consideration must be to examine the preservation option and implement it, if this is practicable: "The preservation *in situ* of important archaeological remains is therefore nearly always to be preferred." (*PPG 16*, paragraph 13)

The second option is always seen as second best since it is not only costly but destructive; it depletes the finite, irreplaceable and non renewable resource that archaeological deposits represent.

3.4.1 OPTION 1 - Physical preservation *in situ*

It is assumed that it will not be possible to move the road westwards. Preservation *in situ* could be achieved by three means:

Option 1.1 Do nothing and abandon the road scheme

Advantages:

The entire site would be preserved for the future.
The setting of Tempsford Hall would remain unaffected.
The financial savings at this stage would be considerable in terms of the archaeology alone.

Disadvantages:

The decision of the 1989 Public Inquiry would be reversed.
The scheme would not produce the hoped for road improvements and enhanced public safety.
The use of the site as a positive resource for academic enquiry, education and display would need to rely solely on the results of the evaluation.

Option 1.2 The route of the link road could be moved eastwards so as to avoid the moated site.

Advantages:

The entire moated site would be preserved.

Disadvantages:

The link road would affect other archaeological remains surviving as earthworks. The link road would encroach upon the setting of Tempsford Hall. The decision of the 1989 Public Inquiry would be reversed, arousing local concern about the route of the link road.

Option 1.3 The moated site could be buried beneath an embankment

Advantages:

The moated site and some of its ancillary features would be preserved

Disadvantages:

Raising the carriageway would have a serious effect on the setting of Tempsford Hall. Given the proximity of sensitive archaeological deposits to the present day ground surface the topsoil would have to be left *in situ*, with possible engineering problems. Pressure on underlying archaeological deposits would need to be considered. The problem of removing or finding an alternative engineering solution for dealing with the soft fills of the moat itself would remain.

3.4.2 OPTION 2 Preservation by record

There are a number of factors to be considered within this option. Strictly speaking only those deposits which will be directly affected by the scheme would require excavation. However, if a significant proportion of the moat is to be destroyed, then the case for excavating the entire structure is strengthened. If only a small part survives, it might not be considered a viable sample for future preservation.

Preservation by record of any areas of archaeological deposits threatened by the road construction would necessitate full excavation and recording. Given the proven depth and quality of the remains, any such recording is likely to be expensive. The figures given here are approximate guidelines only, to be compared with the cost of implementing the various engineering strategies that would be needed if the site were to be physically preserved. The figures cover all work to the production of a revised research design, as described in English Heritage's *Management of Archaeological Projects 2*. Should preservation by record be the preferred option, a detailed research proposal and costing would be required.

Option 2.1 Excavation of 100% of the moated site and its context.

Advantages:

The overbridge scheme, including landscaping, would go ahead as planned. There would be no increase in disruption to the setting of Tempsford Hall.

The excavation would greatly enhance our understanding of this important site and there would be substantial benefits in terms of public display and dissemination.

Disadvantages

This would entail a very extensive and probably prohibitively expensive excavation, costing in the order of £580,000.

No archaeological deposits would be preserved for future investigation.

Option 2.2 Excavation of the road footprint, including the belts of proposed tree planting, affecting approximately 64% of the moat platform.

Advantages:

The overbridge scheme, including landscaping, would go ahead as planned.

A certain proportion of the site would be preserved for the future but at the same time excavation would enhance our understanding of the site. There would be substantial benefits in terms of public display and dissemination.

Disadvantages:

The cost is likely to be very substantial, in the order of £390,000.

Option 2.3 Excavation of the road footprint only, with repositioning of the tree planting; this would affect approximately 38% of the moat platform.

Advantages;

The overbridge scheme would go ahead with only minor changes to the landscaping proposals.

A substantial proportion of the site would be preserved for the future but nevertheless an excavation would produce considerable benefits in terms of academic understanding, education and display.

The cost of excavation would be much smaller, in the order of £250,000.

Disadvantages:

The screening tree belts would have to be repositioned. The archaeological implications of such compensatory planting would have to be assessed.

The cost of excavation would still be substantial.

Option 2.4 Excavation of the soft fills of the moat itself with no excavation of the platform.

Advantages:

The overbridge scheme would go ahead with only minor changes to the landscaping proposals.

This would be the least expensive excavation option, in the order of £75,000.

Disadvantages:

As with burial of the entire site beneath an embankment, solutions would be required to a number of engineering problems.

The excavation of moat deposits alone might be considered deleterious to the

archaeological resource as a whole, since it will sever them from the surrounding archaeological contexts.

The screening tree belts would have to be repositioned. The archaeological implications of such compensatory planting would have to be assessed.

The opportunity of using the archaeological remains as a positive resource for public display, education and academic knowledge would be greatly reduced.

3.4.3 Conclusions

A number of factors need to be weighed against one another in considering the available mitigation options. These include depletion of the archaeological resource, engineering and excavation costs, public safety, the decision reached by the 1989 Public Inquiry, local feeling about the overbridge scheme and the timing of the main A1(M) improvements.

Assuming the overbridge scheme goes ahead, then (in line with *PPG 16*) the first preferred option must be preservation *in situ*. If this is not feasible for any of the reasons listed above, then preservation by record must be considered. In such circumstances Option 2.3 would appear to be the most desirable. This option creates no new major engineering problems. It preserves the majority of the moated site. At the same time it allows the investigation of a sufficiently large sample (38%) to add substantially to our knowledge of an under-examined class of important Bedfordshire monuments. It would also thereby provide benefits in terms of contributions to Museum Collections, public interest and education.

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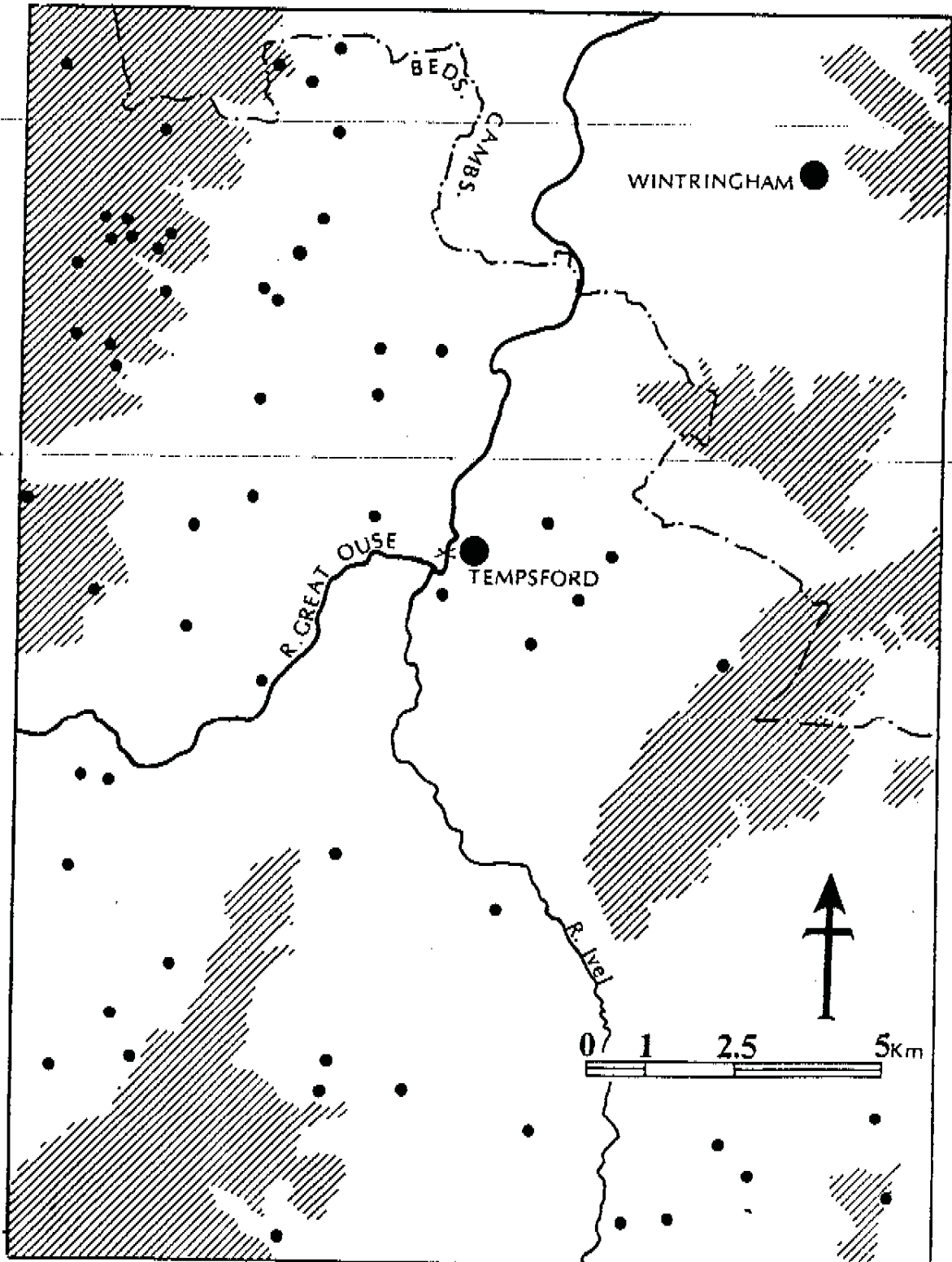


Figure 1: Site location showing distribution of moated sites in north-east Bedfordshire (after Coleman, 1990), the moated site at Wintringham (Beresford, 1977) and land over 50 metres O.D.

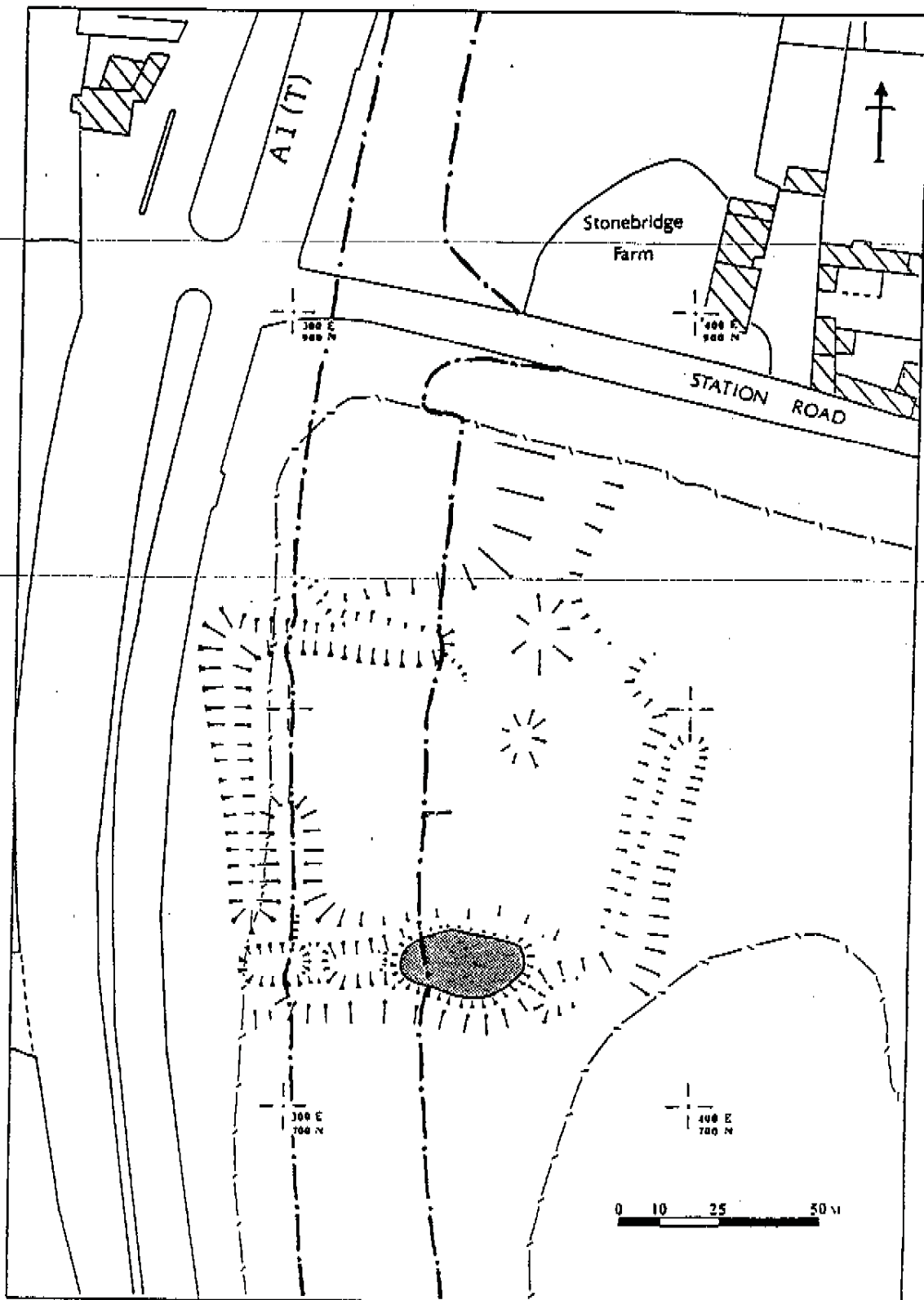


Figure 2: The moated site and the footprint of the link road.

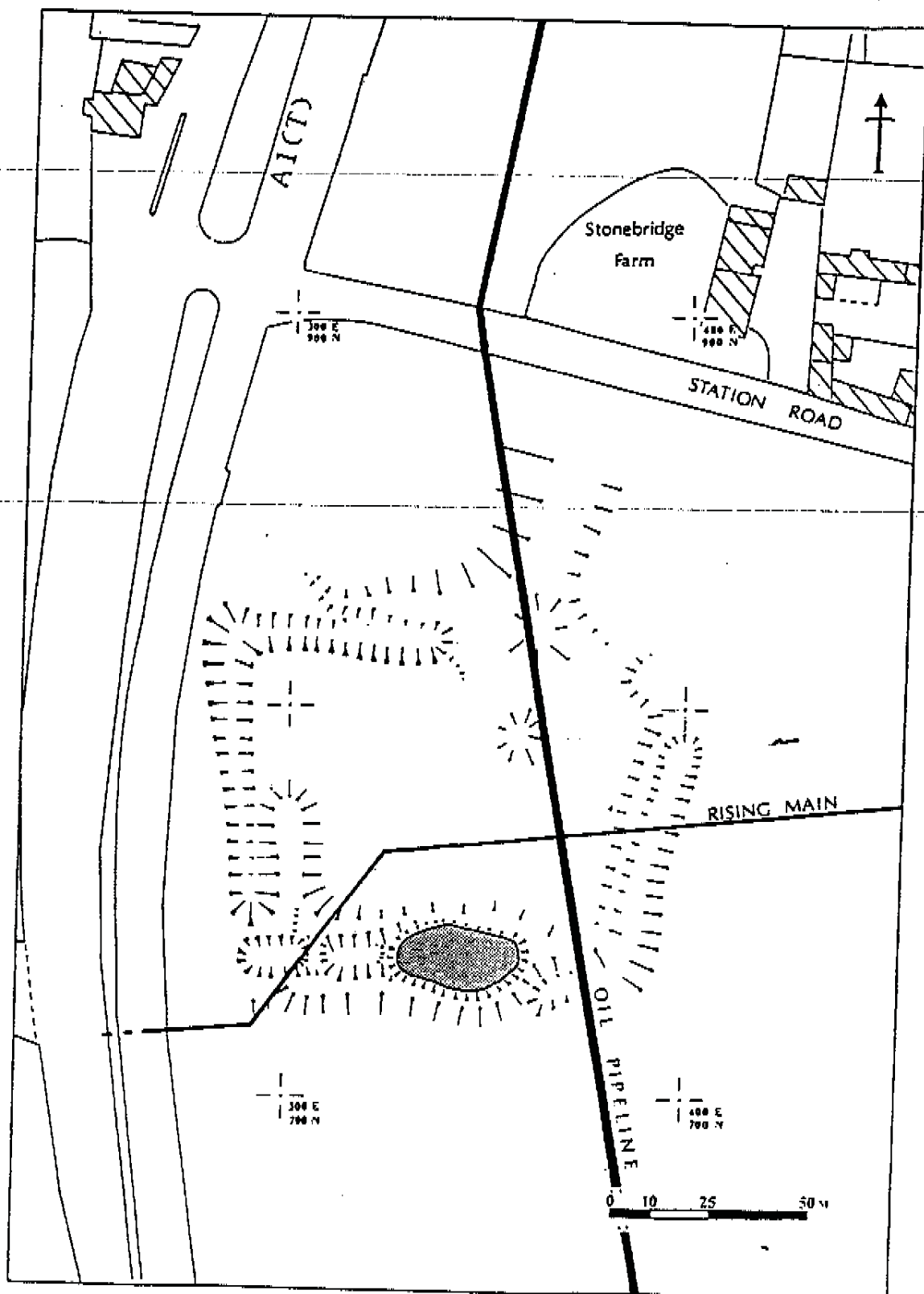


Figure 3: Earthwork survey and known modern disturbance.

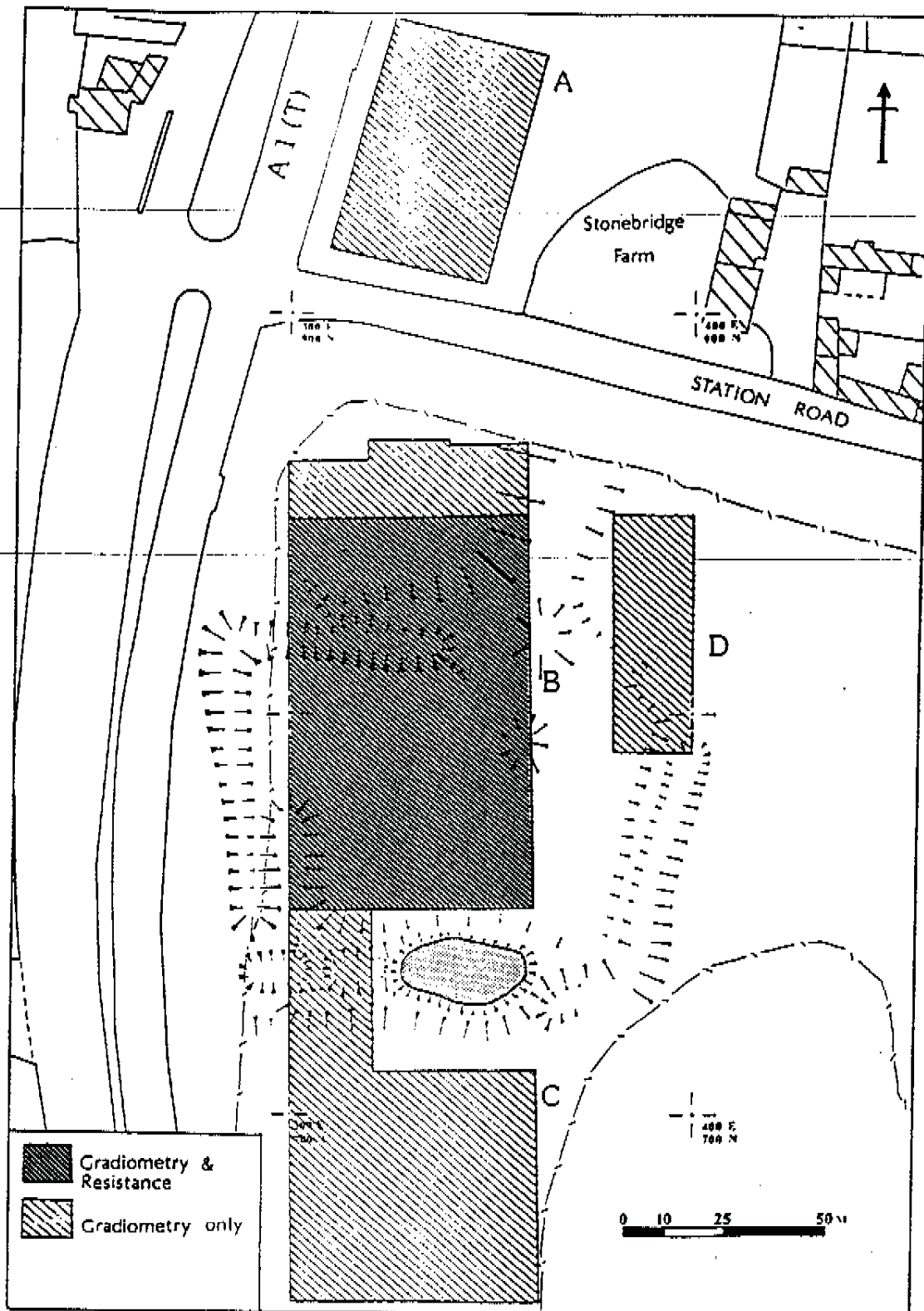


Figure 4: Geophysical survey areas (A-D refer to geophysical report).

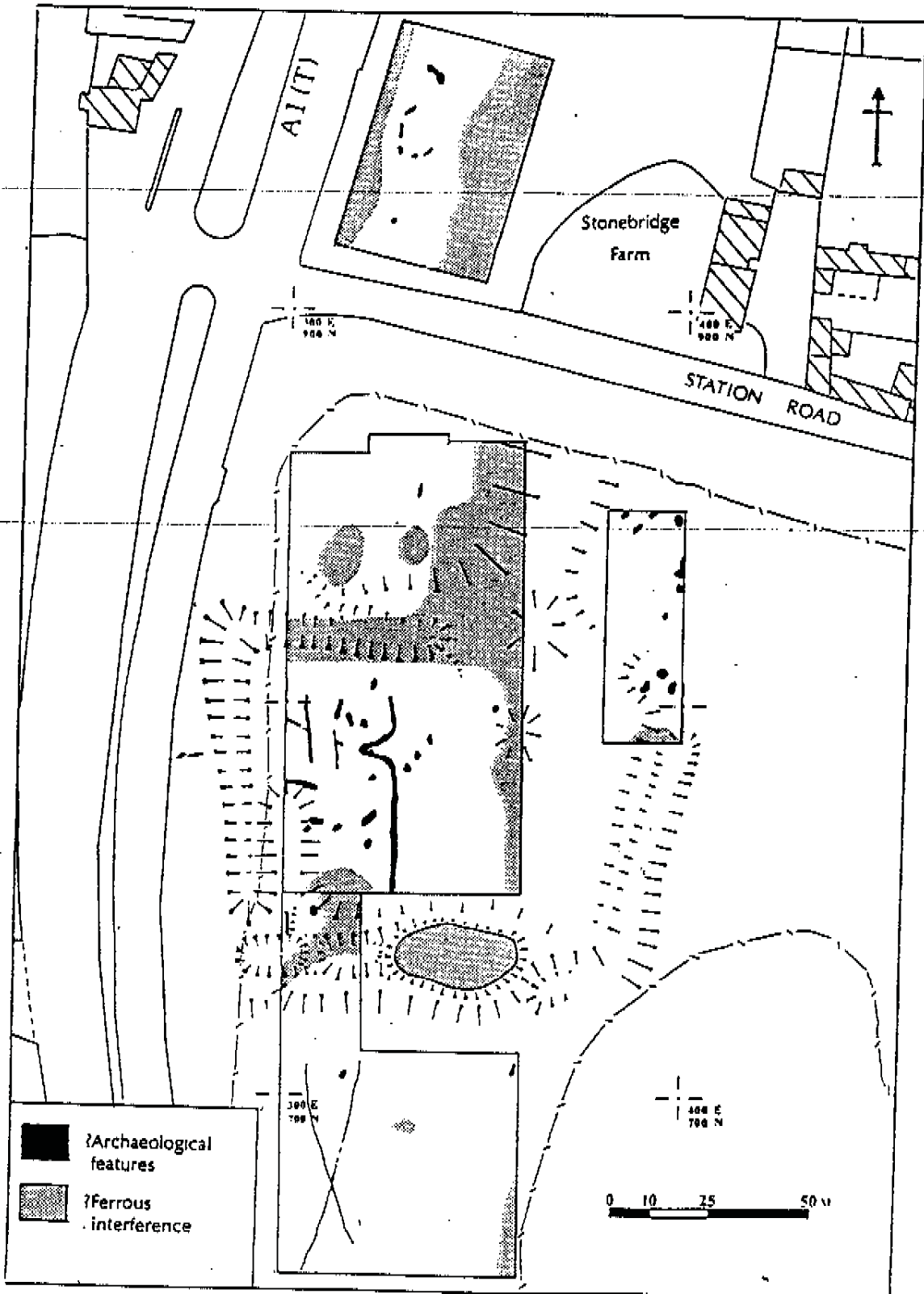


Figure 5: Results of magnetometry survey.

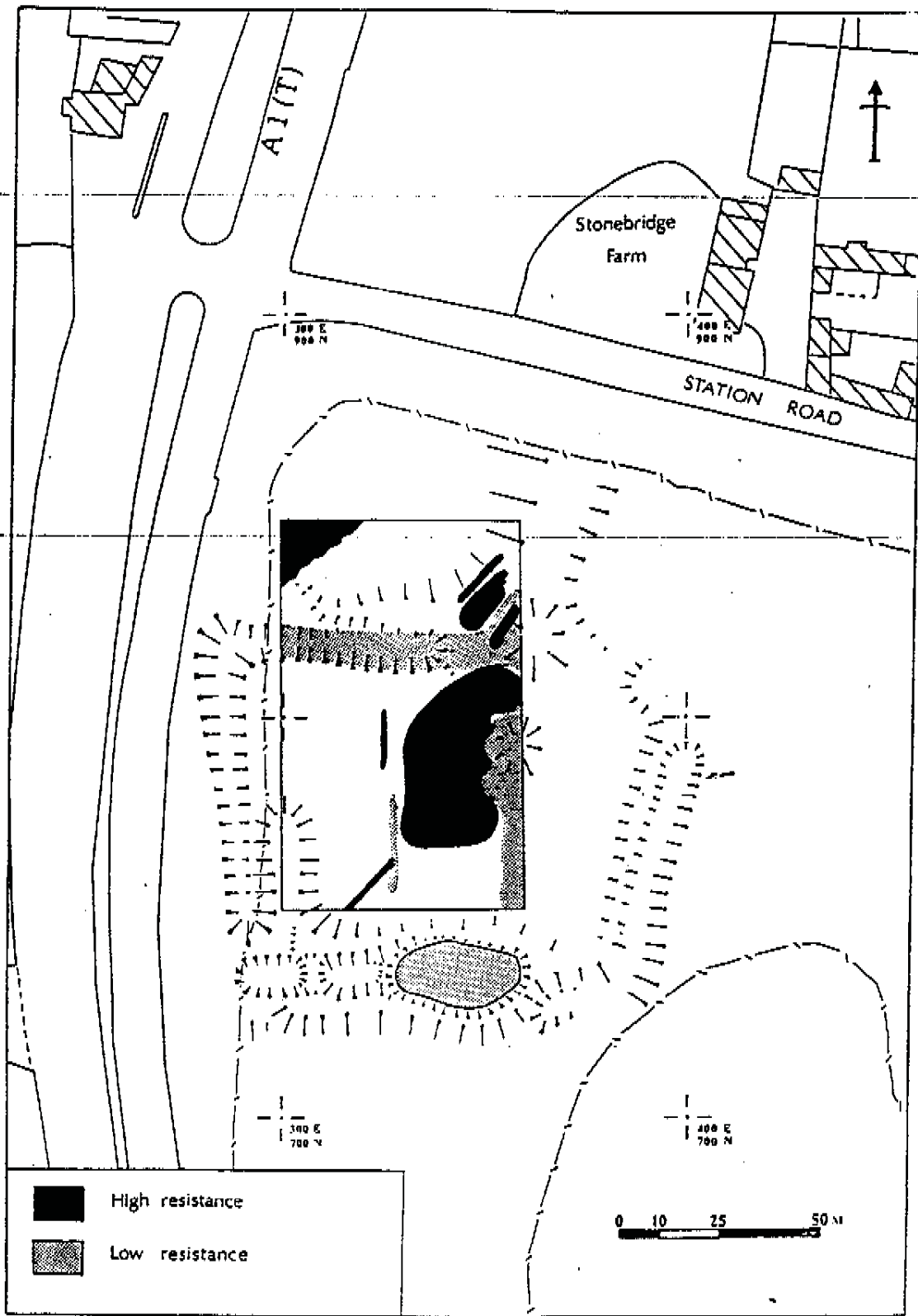


Figure 6: Results of resistivity survey.

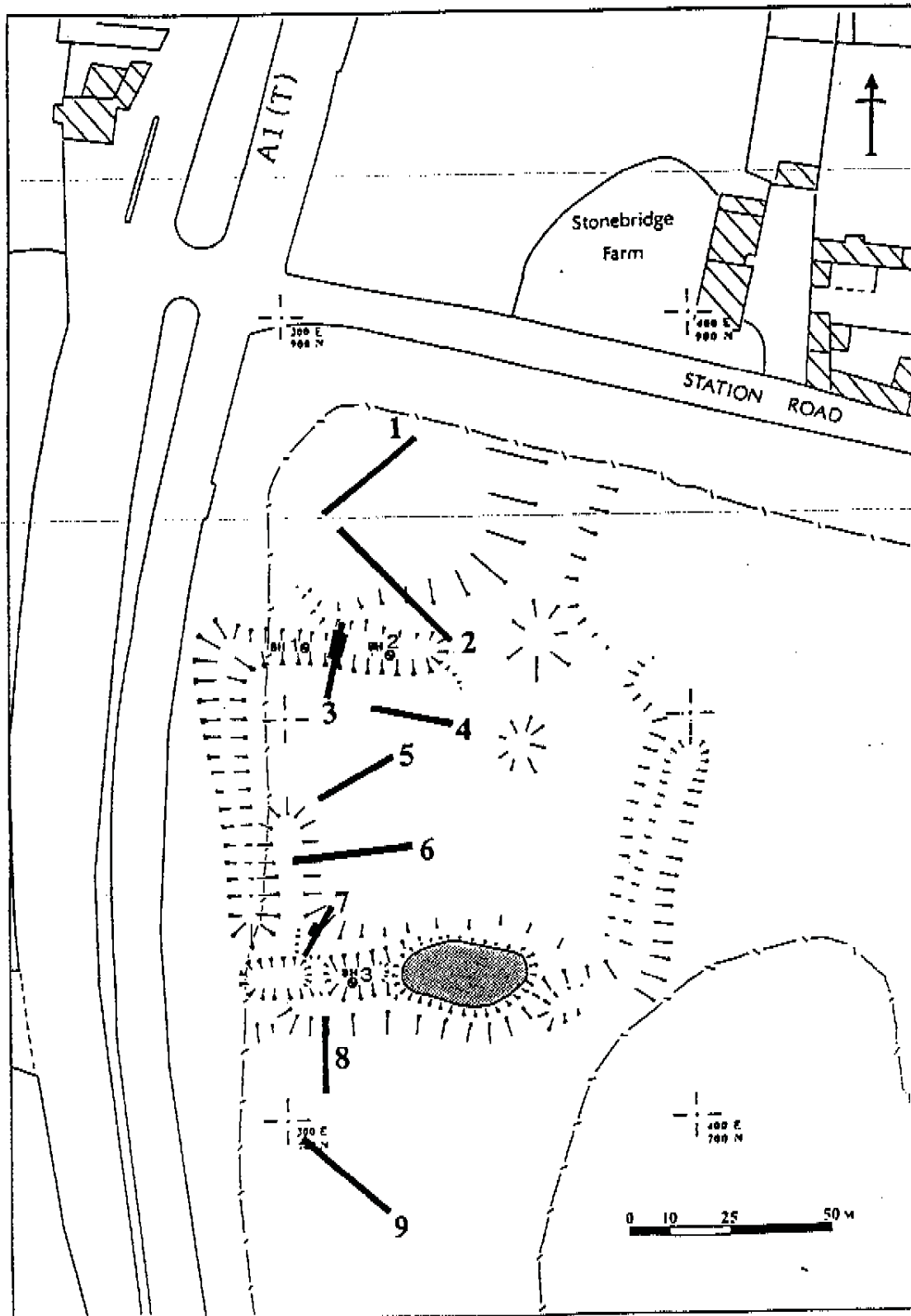


Figure 7: Trial trench and borehole locations.

OD 18.00 m

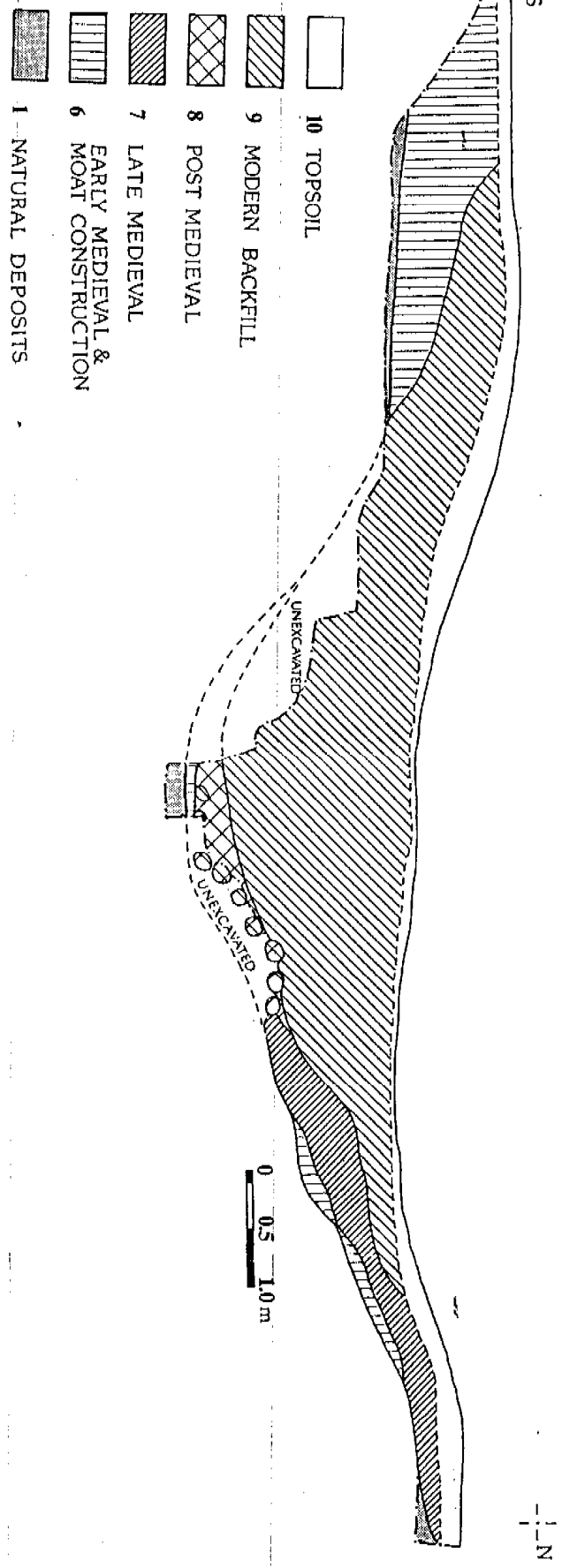
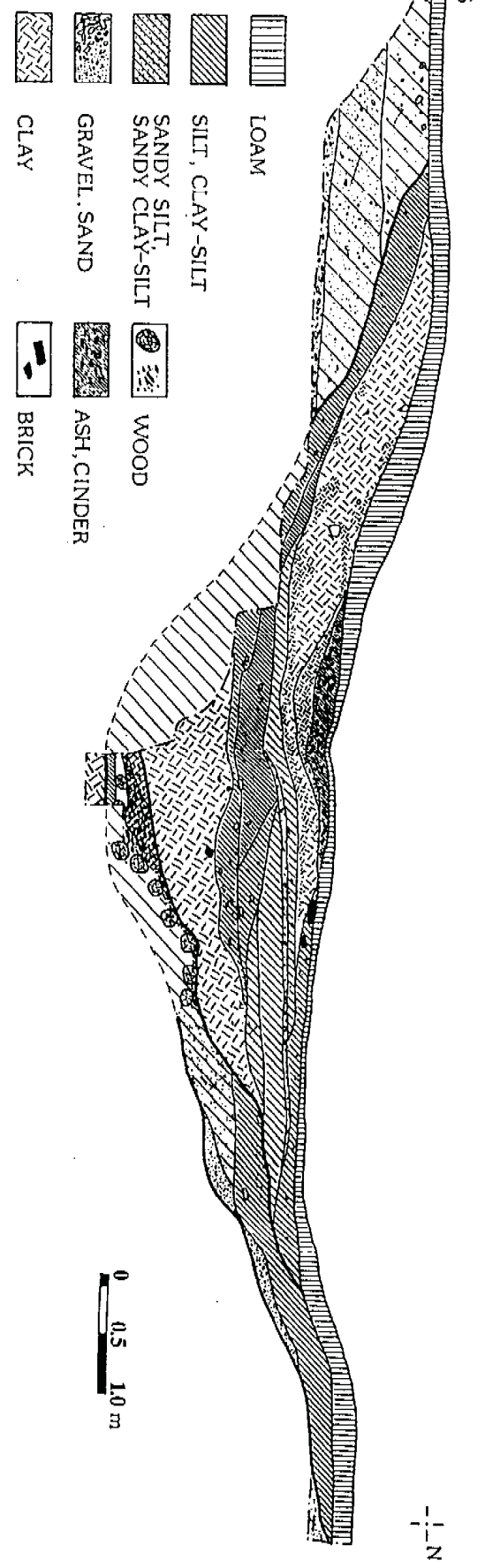


Figure 8: Trial trench 3: East facing section with interpretation.

Check site drawing 1 up S end of section.

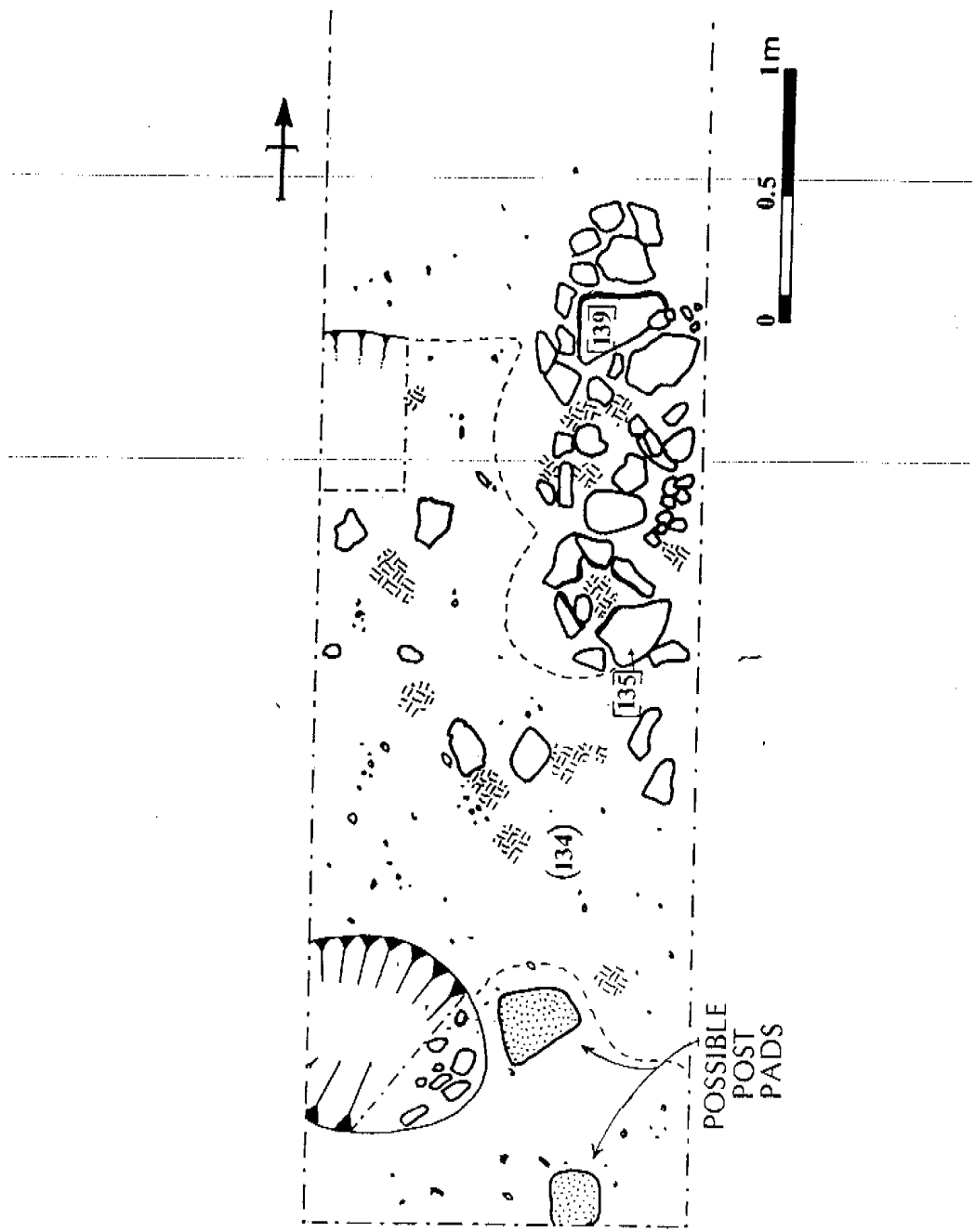


Figure 9: Trial trench 3: Late medieval stone-founded structure.

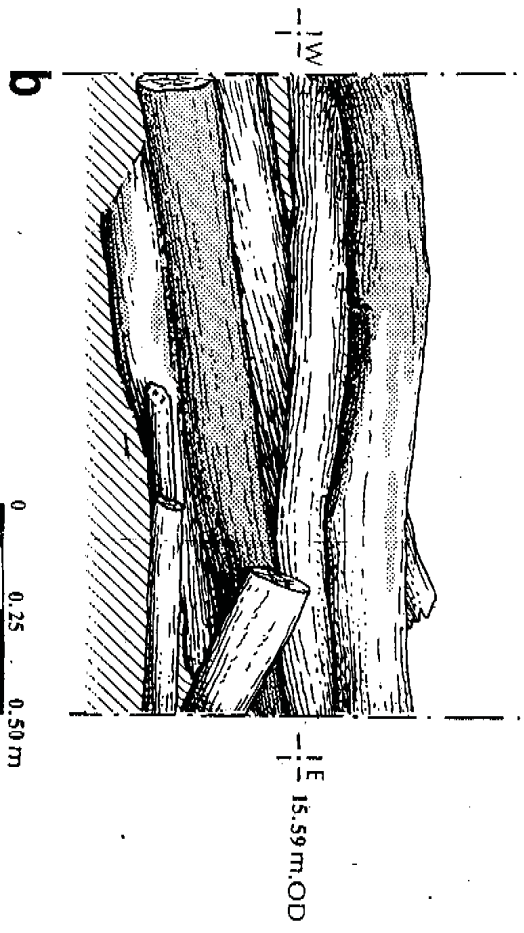
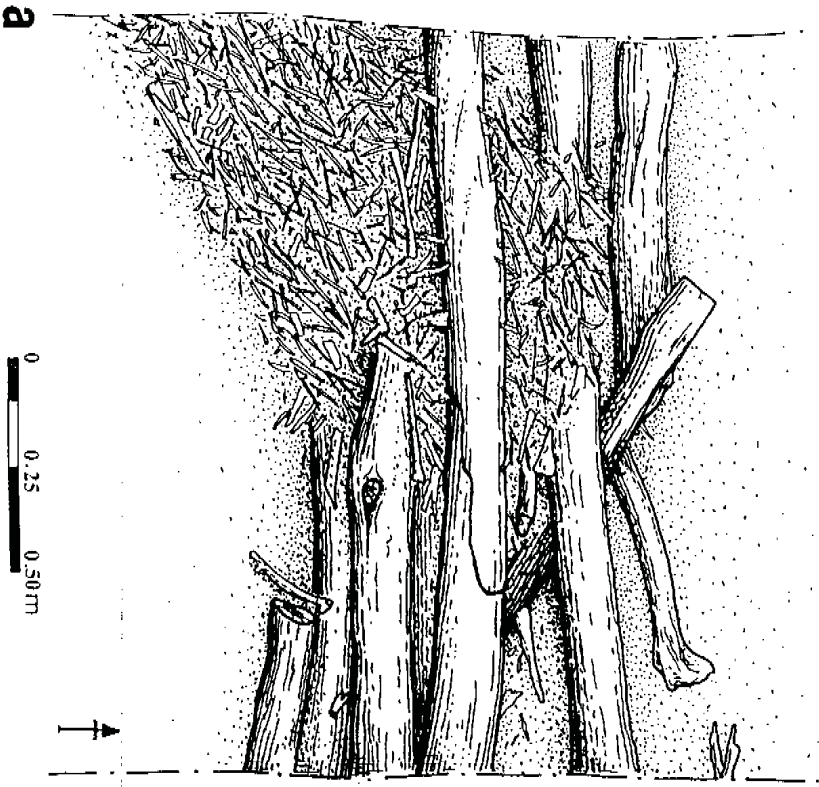
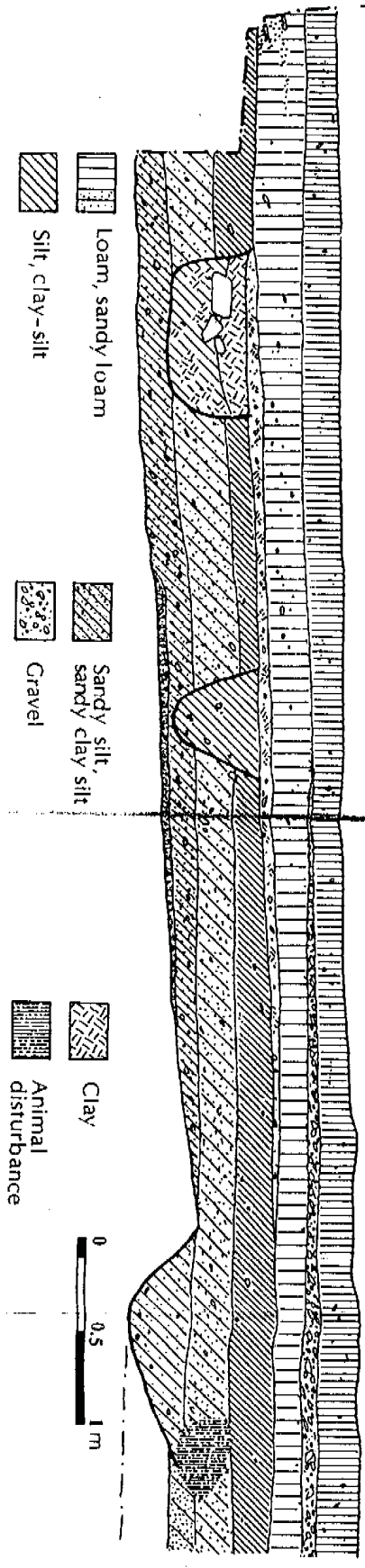


Figure 10: Trial trench 3: timber structure (120) and brushwood (123).
 (a - plan. b - front elevation.)

OD 18.47m - 1 W



Loam, sandy loam
Silt, clay-silt

Sandy silt, sandy clay silt
Gravel

Clay
Animal disturbance

0 0.5 1m

W

E

- 10 Topsoil
- 7 Late medieval
- 6 Early medieval & moat construction
- 5 Saxo-Norman (pre-moat)
- 3 Roman ?
- 1 Natural deposits

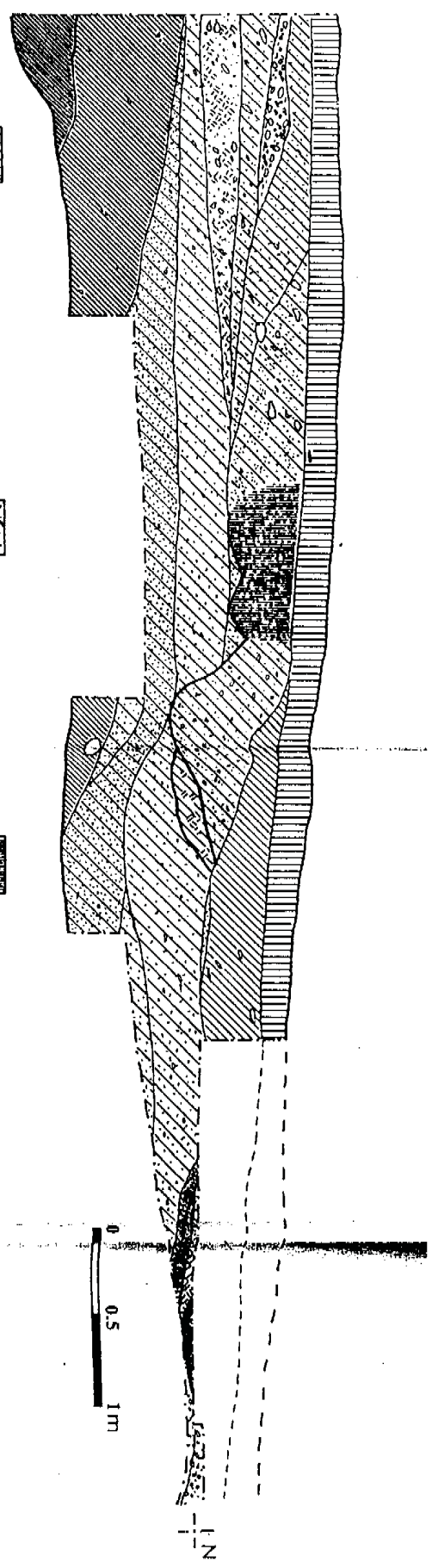
0 0.5 1m








Figure 11: Trial trench 4: South facing section and interpretation.



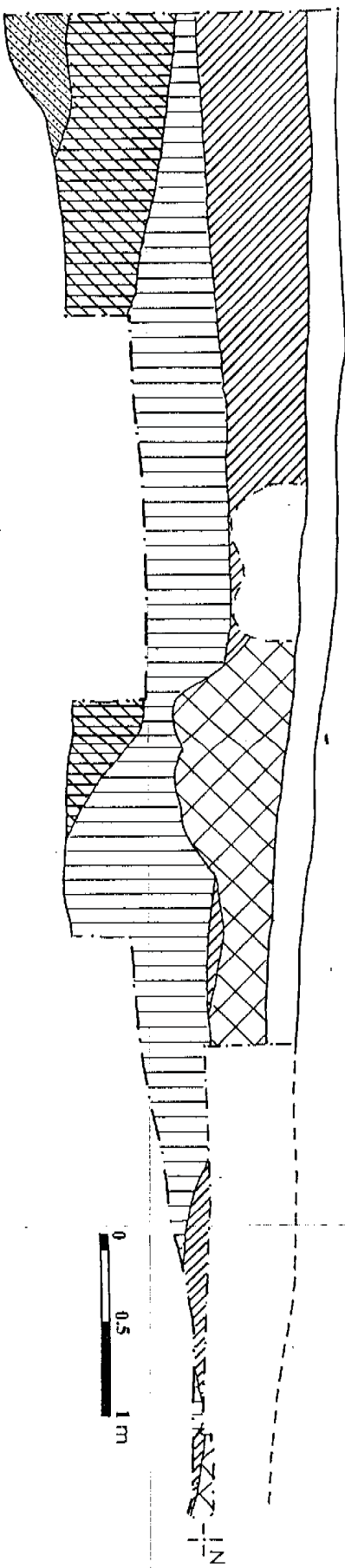
Figure 12: Trial trench 5: Late medieval stone wall foundations.

OD 18.63 m



-  Loam, sandy loam
-  Silt, clay-silt
-  Sandy silt
-  Gravel
-  Clay
-  Hearth deposits ?
-  Animal disturbance

15









-  10 Topsoil
-  5 Saxo-Norman (pre-moat)
-  2 Prehistoric
-  8 Post medieval
-  7 Late medieval
-  6 Early medieval & moat construction

Figure 13: Trial trench 7: South-east facing section and interpretation.

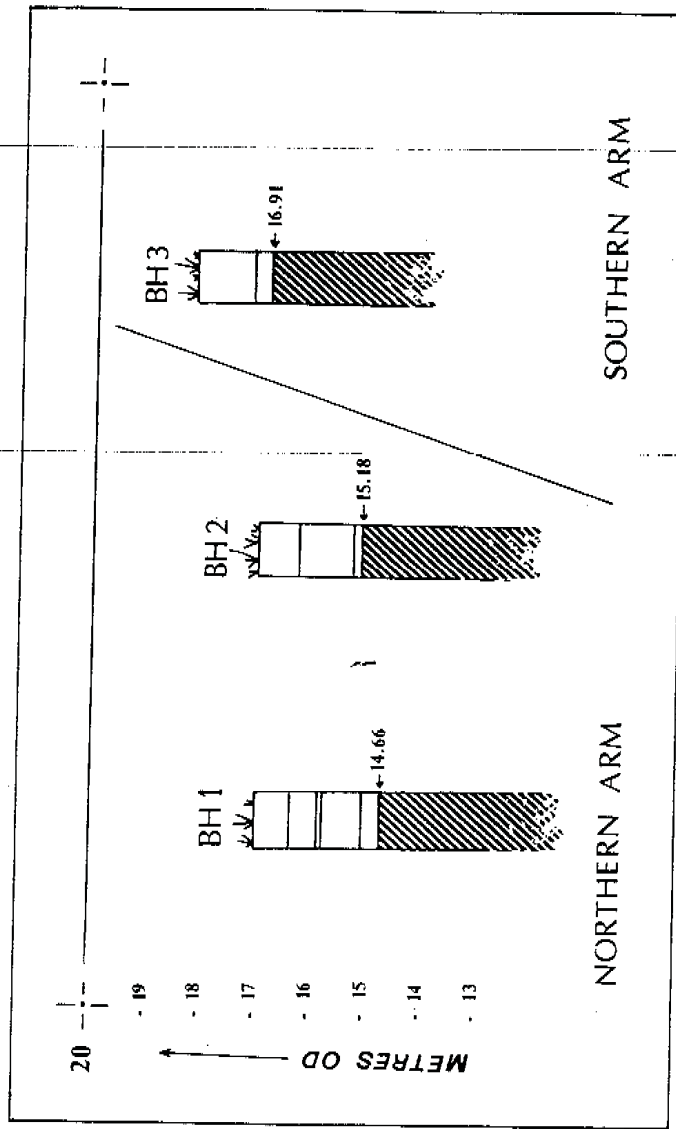
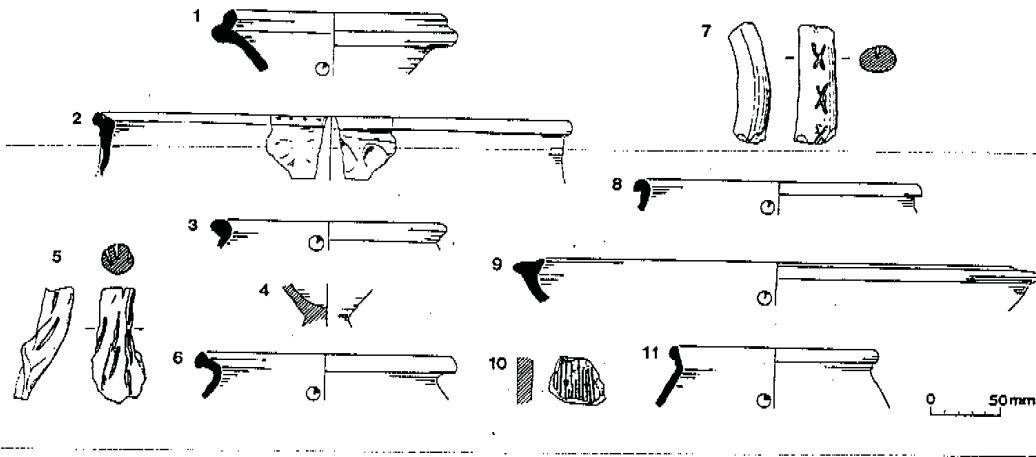


Figure 14: Schematic borehole data showing O.D. heights of bottom of moat.



- 1 Type B04 St Neots coarse (10th-11th century) bowl.
- 2 Type C05 Red margins (12th-14th century) storage jar with thumbing and stabbed decoration.
- 3 Type B07 Medieval shelly (12th-13th century) jar.
- 4 Type B04 St Neots coarse (10th-12th century) lamp.
- 5 Type E04A Everton-type (14th-15th) jug handle decorated with a central band of diagonal knife slashing.
- 6, 8 Type B01 St Neots ware (10th-11th century) jar.
- 7 Type C71 Buff-grey cored (?13th-15th century) jug handle decorated with a central band of X-shaped knife slashing.
- 9 Type B01 St Neots ware (10th-11th century) bowl
- 10 Type F06C Coarse grog tempered (Late Iron Age) body sherd decorated with horizontal combing.
- 11 Type E02 Late medieval oxidised (14th-15th century) jar with a single ridge directly below rim.

Figure 15: Selected ceramic vessels.

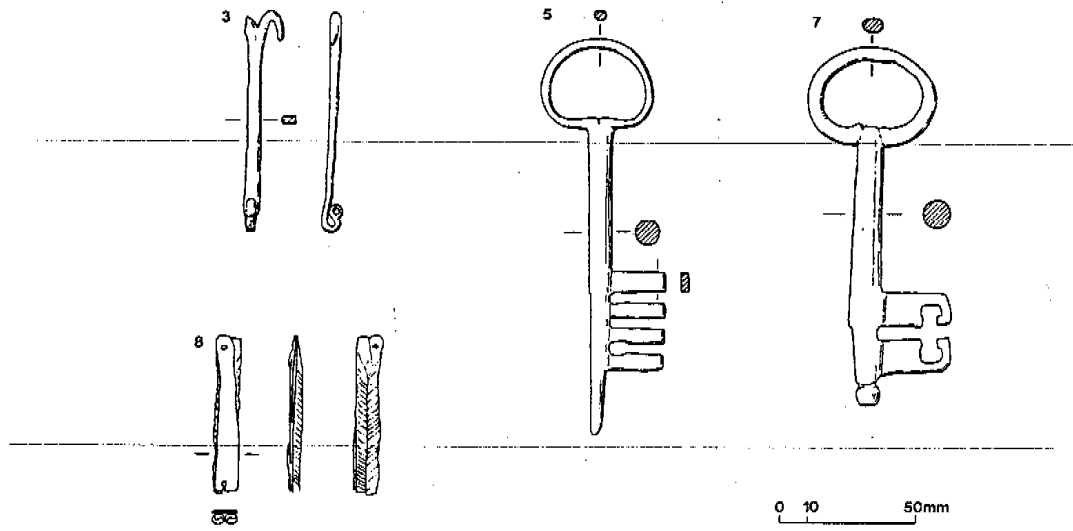


Figure 16: Selected small finds.

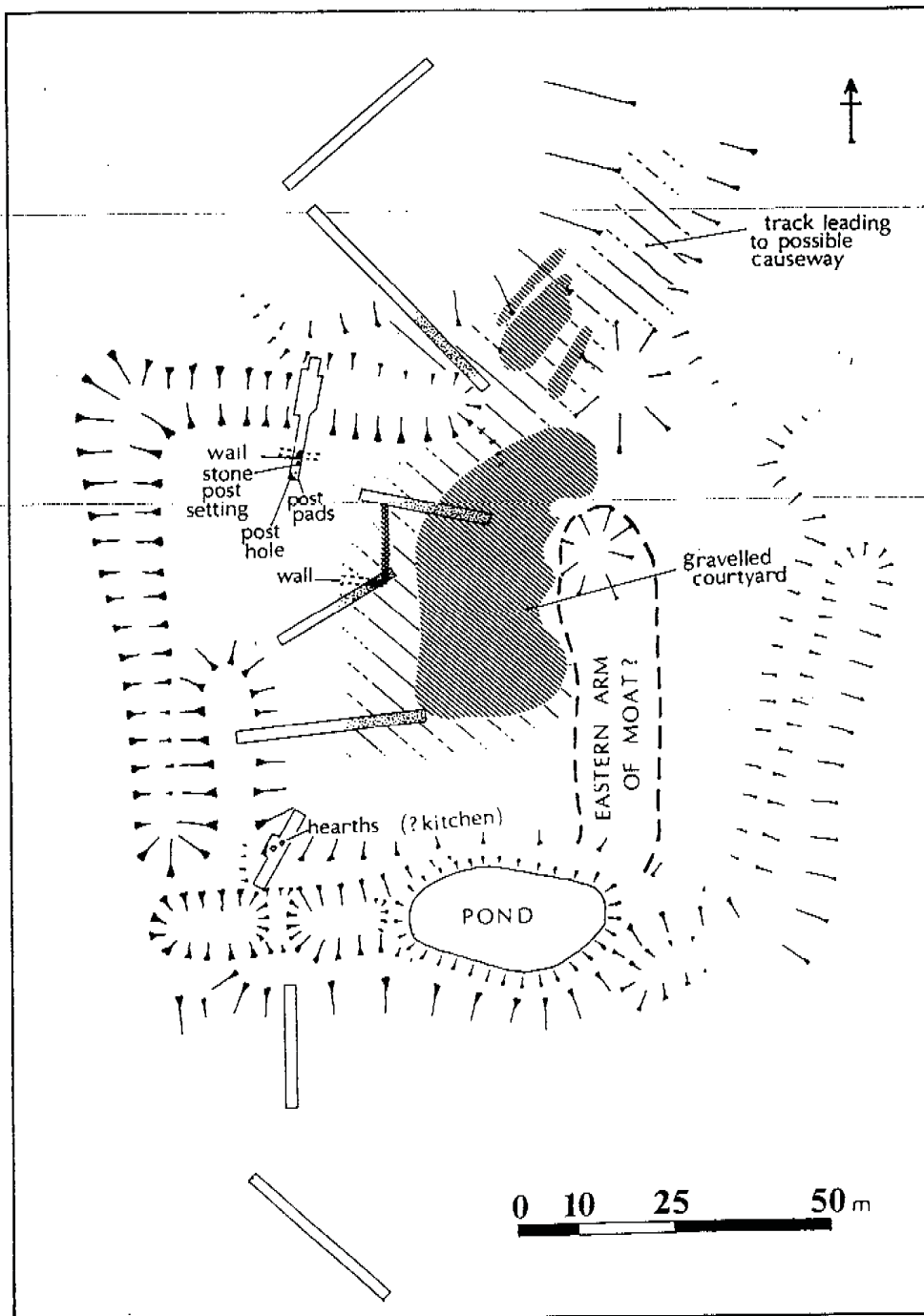


Figure 17: Interpretive plan of moated site, late medieval phase (to same scale as figure 18).

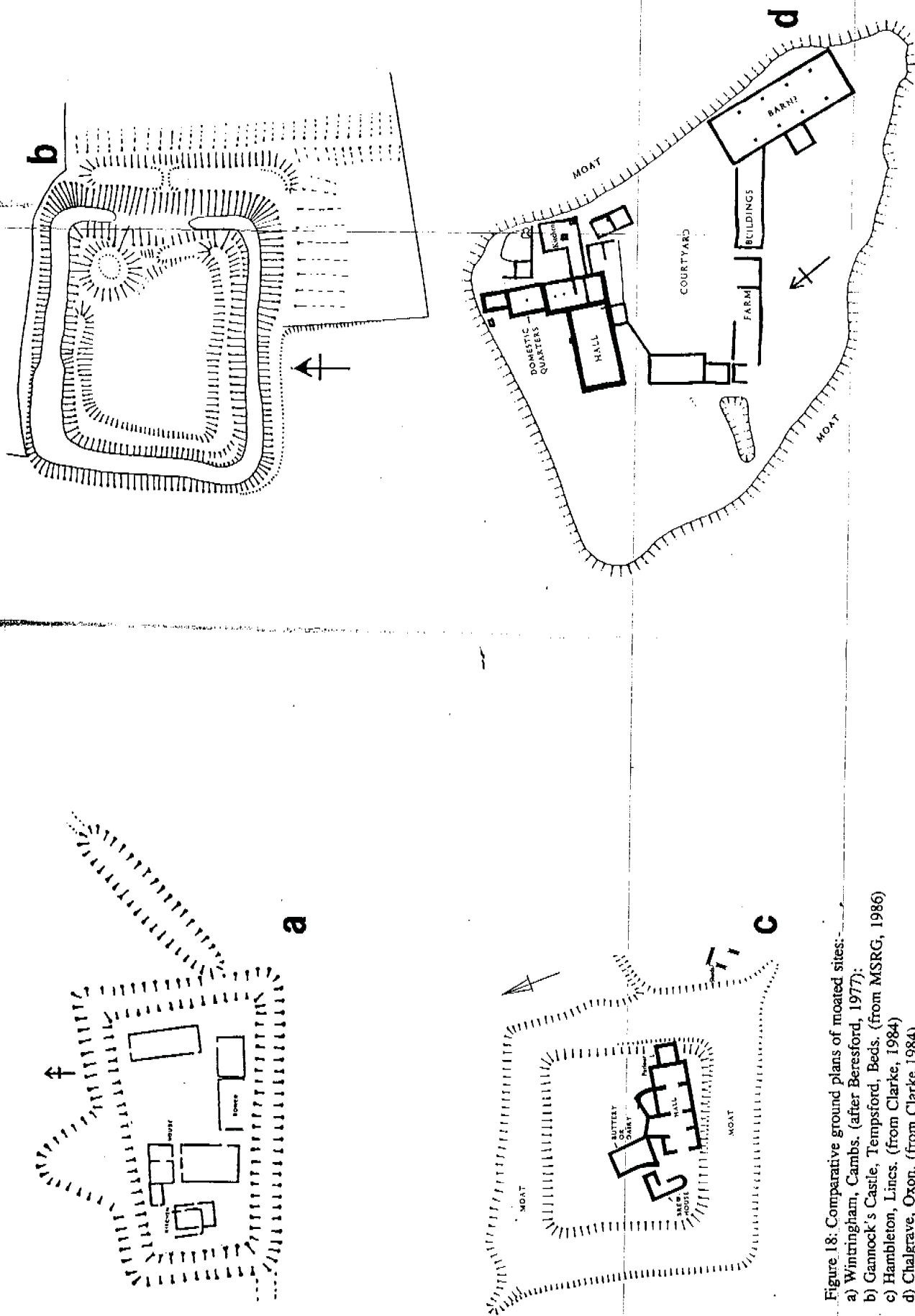


Figure 18: Comparative ground plans of moated sites:
 a) Winttingham, Cambs. (after Beresford, 1977);
 b) Gannock's Castle, Tempsford, Beds. (from MSRG, 1986)
 c) Hambleton, Lincs. (from Clarke, 1984)
 d) Chalgrave, Oxon. (from Clarke, 1984)
 (to same scale as Figure 17)