



The Story Museum, Pembroke Street, Oxford

Archaeological Excavation and Watching Brief Report

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Prepared by: Steve Teague (Project Officer)
Checked by: Ben Ford (Senior Project Manager)
Edited by: Leo Webley (Head of Post-Excavation)
Approved for Issue by: Leo Webley (Head of Post-Excavation)
Signature: 

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OA South

Janus House
Osney Mead
Oxford
OX2 0ES

t. +44 (0)1865 263 800

OA East

15 Trafalgar Way
Bar Hill
Cambridge
CB23 8SQ

t. +44 (0)1223 850 500

OA North

Mill 3
Moor Lane Mills
Moor Lane
Lancaster
LA1 1QD

t. +44 (0)1524 880 250

e. info@oxfordarch.co.uk

w. oxfordarchaeology.com

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Director and Chief Executive
Gill Hey, BA PhD FSA MCIIA
Private Limited Company, No: 1618597
Registered Charity, No: 285627
Registered Office: Oxford Archaeology Ltd
Janus House, Osney Mead, Oxford OX2 0ES

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Archaeological Excavation and Watching Brief Report

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Summary

Refurbishment of the Story Museum, Pembroke Street, Oxford led to a staged programme of archaeological work in 2015 and again during 2018 and early 2019 in mitigation of the development. This comprised an initial watching brief and trench evaluation, followed by a limited excavation on the site of a new lift pit and a watching brief for new drainage. The earliest features comprised several pits dated to the 13th or early 14th century, the earliest of which may have been stone-lined and was perhaps a latrine. Building material from the pits included early examples of glazed ridge tiles that may have derived from a contemporary building of some status. Later during the 14th century, a gravelled surface supported upon thick bedding deposits was laid over the pits, later flanked by a north–south drain. It is suggested that the surface may have formed part of a lane leading to the south door of Dokelinton’s Inn, documented to exist on the north side of the site during the 14th century. The lane appears to have continued in use until at the least the 15th century, after which the site seems to have been transformed into gardens. A possible cultivation bed containing 16th century pottery cut through the putative lane. Brick-built walls of 19th century and later date were recorded. The earliest were probably associated with structures occupying a yard behind Leden Hall Inn, as depicted on the 1876 Ordnance Survey map. Later walls on concrete foundations formed part of demolished buildings associated with the Post Office sorting office and/or telephone exchange, built between 1921–34. Part of a basement within the retained building on the north side of the site was also recorded.

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The project was managed for Oxford Archaeology by Ben Ford. The fieldwork was supervised by Robin Bashford, who was supported by Chris Richardson and Daniel Pond. Survey and digitizing were carried out by Gary Jones, Benjamin Brown and Lucy Gane. Thanks are also extended to the teams of OA staff that cleaned and packaged the finds under the management of Leigh Allen, processed the environmental remains under the management of Rebecca Nicholson, and prepared the archive under the management of Nicola Scott.

1 INTRODUCTION

1.1 Background

- 1.1.1 Proposals by The Story Museum, Oxford for the refurbishment and repairs to their existing buildings, including the construction of a new lift and new drainage, led to a program of archaeological work by Oxford Archaeology (OA) in mitigation of the development.
- 1.1.2 The archaeological work was a requirement for planning consent (Ref: 12/02218/FUL), the scope of which was agreed with David Radford (Archaeologist for Oxford City Council). He advised that in order to mitigate the proposed impacts from the development that there should be a consideration given to preservation *in situ* by 'mitigation through design', followed by mitigation through archaeological investigation for any resultant impacts. Consequently, the archaeological mitigation was undertaken in two stages:
- 1.1.3 In 2015 a watching brief (Stage 1) was conducted during some initial works to divert an existing service route across the western side of the courtyard at the rear of Rochester House, the methodology of which was set out in a written scheme of investigation (WSI; OA 2015).
- 1.1.4 During August 2018, as the first part of Stage 2, OA undertook a trial trench evaluation. Trench 1 was located on the site of the proposed lift pit and part of a manhole on the western side of the existing courtyard. Trench 2 was located on the location of a proposed new manhole, located in the centre of the courtyard. The results of the evaluation and the earlier watching brief were presented in a report (OA 2018b).
- 1.1.5 The results of the evaluation informed the extent and methodology for subsequent mitigation that was required for the other areas of impact upon the potential archaeological resource. Consequently, the second part of the Stage 2 mitigation involved limited excavation to formation level of the remaining part of the lift pit outside the area of the evaluation trench. In addition, a watching brief was maintained on the installation of the new drainage and other groundwork that had less potential for impact on the significant archaeological resource. This part of the fieldwork was undertaken between December 2018 and January 2019.
- 1.1.6 The methodology for both parts of the Stage 2 mitigation was subject to a separate WSI (OA 2018a).

1.2 Scope

- 1.2.1 This report details the results of the second part of the Stage 2 mitigation and incorporates the findings of the earlier archaeological work, thereby fulfilling the planning requirements.

1.3 Location, geology and topography

The site is located at Rochester House, Pembroke Street, Oxford (NGR SP 5172 0671: Fig. 1). It lies at approximately 61.70m OD and is situated on the southern edge of Oxford's historic centre, c 110m within the line of the southern medieval town wall

which defines the northern side of Brewer Street. The site lies near the edge of the second (Summertown-Radley) gravel terrace, overlying Oxford clay and Kellaway beds (BGS sheet 236).

1.4 Archaeological and historical background

- 1.4.1 Oxford is believed to have its origins in the founding of St Frideswide's Minster on the site of what is now Christ Church. Three 12th century accounts of the life of St Frideswide detail the founding of a monastery at Oxford by a Mercian sub-king whose pious daughter Frideswide established a community of nuns there in the early 8th century (Blair 1988).
- 1.4.2 The city was certainly developed as a fortified burh around the time of the reign of King Alfred, or his son Edward the Elder. By the 10th century a network of streets had been established and a defensive circuit constructed. Some evidence for a turf rampart has been found and wherever the early medieval rampart has been observed it has been on or close to the line of the later medieval wall.
- 1.4.3 The site itself is located to the north of Pembroke Street (formerly Pennyfarthing Lane), and to the west of St Aldate's. St Aldate's runs from the Thames crossing at Grandpont in the south, northwards to the Carfax crossroads. These formed part of the original Saxon street grid, with St Aldate's forming part of the primary southern approach into the burh, based on one of the early crossing points over the Thames.
- 1.4.4 Oxford continued to develop as a thriving town into the 12th and 13th centuries although in national terms it declined economically in the 14th century.
- 1.4.5 The area around St Aldate's (which was also known as Great Jewry Street), including the site, was part of the Jewish quarter (or Jewry) of Oxford during the 12th and 13th centuries. The first Jewish immigration probably occurred in the later part of the 11th century after William the Conqueror established a network of credit and trading links between his English and French lands. The earliest documentary reference to the Jewry dates to 1141, when records show that King Stephen and Queen Matilda tried to extort money from the town's Jewish residents (<http://www.jtrails.org.uk/trails/oxford/history>).
- 1.4.6 By the 13th century an increasing number of laws were passed aimed at limiting the activities of the Jewish community in England. Documentary sources indicate that in Oxford there were several riots against the Jews in the mid 13th century and that in 1268 the entire community (some 200 people) was briefly imprisoned (Beckley and Radford 2012). Thereafter the Jews began to leave prior to the expulsion of all Jews from England by Edward I in 1290. It was around this time that two Jewish-owned properties are recorded as being sold to Walter de Merton for the foundation of Merton College (ibid.). During this period, the site of The Story Museum was occupied by a property called Bull Hall, which was granted by Jacob the Jew to Merton College in 1270–1 (Salter 1969, 92). The northern part of the site was occupied by the rear of a property fronting onto St Aldate's called Ducklington's Inn (Fig. 2).
- 1.4.7 Ralph Agas' map of 1578 shows buildings concentrated on the frontages of the principal streets (Fig. 3). The properties on the northern side of Pennyfarthing Lane to the west of Bull Hall are depicted as gardens, perhaps reflecting the economic decline

and associated depopulation which began in the late 13th and 14th centuries. By the later part of the 17th century a considerable amount of development had taken place across Oxford, and Loggan's map of 1675 shows both sides of the street had been built up (Fig. 4).

- 1.4.8 Trade directories and census entries show that the site was occupied by a public house from at least 1846. The name varies as Leden Porch Hall, Leaden Hall and Leden Hall, but is shown on the 1876 OS 1st edition town plan as Leden Hall Inn. Based on evidence from cartographic sources, the existing structure of Rochester House is likely to have been constructed in the early 20th century. The inn was recorded by Henry Hurst in 1879 before it was demolished for the construction of a new Post Office fronting onto St Aldate's and Rochester House (OCC UAD No 1391).
- 1.4.9 In 1921 the site was sold to the Postmaster General for £6400. A sorting office was also built and, later on, a telephone exchange. A further three-storey building was added in 1934, for a larger telephone exchange and postal strong rooms.
- 1.4.10 With the construction and opening of a new telephone exchange in Speedwell Street in 1959, the buildings reverted to staff offices, as well as a staff canteen, sorting and storage areas. Merton College bought back the site in 2003, leasing it for redevelopment to The Carlyle Group. However, the buildings stood empty for several years until The Story Museum acquired a 132-year lease in November 2009.

1.5 Aims and objectives

- 1.5.1 The general aims of the work were to:
 - i. mitigate the negative impacts of the scheme on the potential archaeological resources at the site by means of appropriate levels of archaeological excavation and recording;
 - ii. determine the nature, character, extent and state of preservation of any archaeological remains that are impacted by the proposed scheme;
 - iii. determine the date range of any remains from artefacts or otherwise; determine the potential of the deposits for significant palaeo-ecological information.

1.6 Fieldwork methodology

- 1.6.1 Archaeological recording was undertaken in accordance with the WSIs and with the ClfA standards and guidance documents for archaeological excavation and watching briefs (ClfA 2014).

Evaluation Trenches 1 and 2

- 1.6.2 Both trenches were marked out according to the locations and dimensions shown on Figure 1. The concrete courtyard surface was 'saw-cut' and broken up to the extent of each trench; the overburden was removed by a mechanical excavator under archaeological supervision.
- 1.6.3 Further investigation of the stratigraphic sequence was undertaken by hand within shored areas of Trench 1 down to the level of natural gravel. No further hand excavation was undertaken in Trench 2 as the trench was entirely within modern

deposits apparently associated with a modern basement to the impact depth of the new manhole (60.48m OD). Hand-auguring of deep archaeological features in Trench 1, where hand excavation was impractical, was also undertaken.

Lift pit excavation

- 1.6.4 An area measuring c 3.6m x 3.6, partially incorporating Trench 1, was opened down to the latest archaeological horizon using the methods outlined above. After the insertion of piling to support the foundation of the new lift pit, an area measuring 2.0m x 2.0m within the footprint of the piles was reduced to the formation level (59.40m OD).

Watching brief

- 1.6.5 A watching brief was maintained on a series of new manholes and drainage connections as these had the highest potential to impact on archaeological remains (impacts depths down to 60.54m OD).

2 STRATIGRAPHY

2.1 Introduction

2.1.1 The lift pit excavation (3.6m x 3.6m, Plate 3) and earlier evaluation Trench 1 (Plate 2) revealed similar sequences of archaeological deposits. The watching brief on new drainage/service runs largely did not penetrate post-medieval garden soils. The results of the evaluation and the subsequent excavation and watching brief have been phased. A matrix exists linking contexts of the lift pit with those of evaluation Trench 1.

2.2 Natural (Phase 0)

2.2.1 Natural gravel (142) was encountered in the south-west corner of Trench 1 at 59.88m OD (1.88m below ground level (bgl)). It was overlain by a 0.24m-thick layer of reddish-brown loam (141) which probably represented an *in situ* element of the post-glacial brickearth which overlies the gravel terrace.

2.2.2 Within the lift pit, a small sondage dug against its southern edge recorded a similar sequence (324 and 325) where the *in situ* surface of the gravel (325) survived at 60.08m OD.

2.3 Phase 1 (13th to early 14th century) (Figs 5 and 8)

2.3.1 Stratigraphically, the earliest feature was a heavily truncated limestone wall foundation (146). It consisted of four courses of roughly hewn limestone fragments in an orange-brown, silty sand bond (Plate 1). The base of the wall was at least 1.0m below the contemporary ground surface, suggesting that the structure may have belonged to a cellared building or was part of the lining to a stone-lined pit. The degree of truncation rendered its alignment and configuration difficult to ascertain within the confines of Trench 1. One possibility is that it formed the western side of a stone-lined feature that had been subsequently robbed by pit 143. Pit 143 is tentatively equated with pit 317 within the lift pit, the unexcavated fill of which (323) was recorded as extending beyond the western side of the lift pit excavation and may also have formed part of its southern edge. In all the pit measured at least 1.85m x 1.95m. Hand-auguring of pit 143 revealed natural gravel at a depth of c 1.9m. Its earliest hand-excavated fill (144) comprised redeposited sand and gravel (144), possibly eroded from the pit edges, perhaps during the robbing of its stone lining. Its subsequent fills post-dated the robbing of the postulated lining of the pit. The earliest (140=145) comprised a slightly cassy grey-brown sandy silt that contained fresh sherds from a cooking pot in medieval Oxford ware and jug sherds in Brill/Boarstall ware, the presence of the former fabric suggesting a 13th century date. A glazed ridge tile also from the fill is of late 12th or early 13th century date. The subsequent fill (131=136) was similar but more cassy in nature and contained a similar range of pottery including baluster jug sherds and part of a tripod pitcher together with roofing tile dated to the late 12th to 14th centuries. Subsequent clay fills 134 and 121 were probably deposited to cap or level the pit.

2.3.2 Within Trench 1, pit 143 had been truncated by sub-rectangular pit 139, which is probably the same as pit 316 in the lift pit. Its earliest excavated fills (138 and 137)

also appeared to contain a cassy element to their composition, although this may have derived from the collapsing edges of pit 143, through which it was cut. Indeed, there was evidence for substantial collapse of the edges of pit 139, as they were severely undercut in places, particularly where they truncated the earlier feature (143). Consequently, the overlying deposits (126 and 128) were originally excavated and recorded as the fills of later features (127 and 129), although they almost certainly represented the upper fills of pit 139. Similarly, in the northern part of the trench, 'pit' 133 was originally excavated as a separate feature, but it seems more likely that it represented an irregularity of the shape in plan of pit 139 due to the collapsing edges of the feature, particularly as its fills (130 and 132) appeared to overlie the lower fills of 139 described above (137 and 138). The pit can probably be equated with pit 316 within the lift pit whose upper levels were exposed. Pottery from its fills is predominately Brill/Boarstall ware suggesting a date of c 1225–1400. The presence of fresh sherds of Northamptonshire-type shelly ware and Kennet Valley B ware could indicate a date prior to the mid 14th century. An appreciable quantity of roofing tiles, including glazed ridge tiles, was also recovered from the pit, all of which can be dated to between the late 12th and 14th centuries.

- 2.3.3 Within the lift pit the possible robber pit (323) had been cut by a large, possibly sub-rectangular pit (318) that was partially exposed along the west side of the trench. The pit remained unexcavated apart from a small sondage that was cut through it. The upper fills of pits in the lift pit excavation were apparently sealed by two layers of homogeneous greyish/brown clay silt (313 and 315) that may have either represented a subsequent levelling event or the undistinguishable upper fills of the pits. Pottery from these deposits is dated to c 1250–1350, though a fragment of roofing tile has a 14th century type fabric.

2.4 Phase 2 (early to late 14th century?) (Figs 6 and 8)

- 2.4.1 The area of Trench 1 and the lift pit saw a change of use with the construction of a gravelled surface. Within the lift pit, prior to its construction, a series of compacted dumps of gravel, mortar/limestone rubble and soil that totalled up to 0.22m thick was deposited (328–334). They were presumably dumped to consolidate the area prior to the laying of the gravel surface, but were absent within Trench 1. Within the lift pit, the consolidation dumps were overlain by a 0.04m-thick, compacted gravel surface (309) that was supported on a 0.10m-thick bedding layer of sand and gravel (310). It is likely that that this surface was equivalent to a similar surface found within Trench 1 (113), though this was supported on compact gravel, up to 0.18m thick (119). The surface within the lift pit was encountered at c 60.87m OD but occurred about 0.26m higher within Trench 1. The difference in levels was possibly the result of subsidence into the earlier pits within the lift pit. No useful dating evidence was recovered from either the consolidation layers or from the yard surface, apart from a few abraded sherds of medieval Oxford ware and Kennet Valley B ware, dating to c 1150–1300. Within the lift pit, the surface was overlain by a thin, trampled silt layer (308).
- 2.4.2 Within Trench 1, surface 113 was cut by a shallow feature (125), the primary fill of which (124) contained a high proportion of gravel. The 'pit' may have simply represented consolidation for subsiding fills within the underlying pit (139). Its upper

fill (122) contained two fresh sherds from a jug in Brill/Boarstall ware, probably dating to c 1350–1500, though fresh sherds from its lower fill (124) suggest a date no later than the 14th century. In addition, two cattle horncores were recovered from its lower fill. The pit was truncated by the construction trench (120) for a north–south aligned stone-lined drain (116) composed of roughly hewn limestone blocks that formed its sides and base. On its east side and probably contemporary with its construction was a thin deposit of loose yellowish mortar, possibly construction debris rather than a floor surface. The mortar occurred at the same level as gravel surface 113, suggesting that the latter remained in use.

2.5 Phase 3 (Late 14th to 15th century?) (Fig. 8)

2.5.1 The drain and yard surface in Trench 1 were overlain by a series of dumped deposits totalling up to 0.45m thick (110–112), tipping from west to east. The equivalent deposit (307) in the lift pit excavation had been largely removed by linear feature 304. The earliest of these deposits in Trench 1 comprised loose, whitish, sandy gravel (112), perhaps associated with some construction or demolition event, though no finds were recovered. The second dump (111) was a firm brown silt, again with no finds. The uppermost and most substantial deposit (110) comprised compacted reddish-brown gravel, up to 0.40m thick, and was similar in character to deposit 307 to the east within in the lift pit excavation. It is possible that these dumps formed the base for a further yard surface of which a remnant of a cobbled surface (108) upon a bedding layer of sandy gravel survived in Trench 1 at c 61.61m OD. The only useful dating evidence was recovered from the uppermost gravel dump (110), comprising two small sherds from a Tudor green ware-style cup in Brill/Boarstall ware dated to c 1380–1500.

Watching brief

2.5.2 A gravel/limestone surface was recorded at the base of a drainage trench c 15m to the north-west of Trench 1 (429, Section 404). It was overlain by possible levelling or trampled deposits (428 and 429). Though no dating evidence was recovered the level at which the surface occurred (c 61.53m OD) suggests it may have been contemporary with cobble surface 108 in Trench 1.

2.6 Phase 4 (Post-medieval) (Figs 6 and 8)

2.6.1 The gravel dump (307) in the lift pit was cut by an apparent north–south aligned linear and flat-bottomed feature (304). This was at least 1.1m in width and 3.0m in length, and its western edge lay beyond the limits of excavation. Its basal fill (303) comprised a thin grey-brown silt containing a high concentration of roofing tile fragments, including various types of glazed, crested ridge tiles dating from the late 12th to 14th centuries. Large fragments of freshly deposited pottery were also recovered, including late Brill ware and early post-medieval wares, suggesting a deposition date of c 1525–1600. The main fill of the feature comprised a thick deposit of greyish brown silt (305) containing similar but smaller quantities of pottery and roofing tile fragments together with animal bone. Its upper fill comprised ash/charcoal-rich silt (306). The purpose of this feature is uncertain though the loamy nature of its main fill suggests a plantation bed, its basal tile-rich deposit perhaps serving to aid drainage. It is possible that this

feature was contemporary with a 0.25m-thick accumulation of dark grey-brown garden soil recorded in Trench 1 (107). No finds were recovered from the soil.

Watching brief

- 2.6.2 Similar garden-like soils were the earliest deposits recorded during most of the watching brief (410, 424, 426, 441, 445, 448, 456 and 461), where a depth of up to 0.76m was recorded. The only finds recovered include a large part of a post-medieval redware dish/pan dated to c 1580–1700 (441, Section 406) and a residual sherd of medieval Oxford ware from soil 456. Levels predating the garden soils were only revealed in one section (426, Fig. 8, Section 404).

2.7 Phase 5 (19th/20th century)

- 2.7.1 This phase pertains to brick-built walls likely to belong to either 19th/early 20th century structures or the subsequent sorting office and telephone exchange, constructed by 1934. Most of the walls were revealed during the watching briefs.

Phase 5a (Leden Hall Inn)

- 2.7.2 An east–west aligned wall (450, 460 and 470) was probably one the earliest as it corresponds with a wall depicted on the 1876 Ordnance Survey (OS) map as marking the rear boundary of Leden Hall Inn. It was constructed with frogged red brick bonded in a creamy beige sandy lime mortar. The use of frogged bricks indicated that the wall dates no earlier than the early 19th century. Running parallel near to its south face was a second wall (433) constructed with unfrogged bricks bonded by light greyish sandy mortar. The relationship between the two walls not established, though the use of unfrogged bricks suggests that wall 433 may be earlier.
- 2.7.3 North–south aligned wall 440/469 was constructed with unfrogged bricks bonded with beige sandy mortar, suggesting a date no later than the 19th century. Its coursing of English bond (440) would also support a pre-20th century date. The wall corresponds closely with the west wall of a building located on the east side of a courtyard to the rear of Leden Hall Inn, as depicted on the 1876 map.
- 2.7.4 A brick-built coal chute (1) was recorded at the southern end of the 2015 watching brief trench. Its position corresponds with the east wall of a building located on the west side of the yard at the rear of the Leden Hall Inn.
- 2.7.5 Two parallel east–west aligned walls (474 and 475), both constructed with unfrogged bricks in light creamy mortar, do not correspond to any structure on the 1876 map. Their alignment and lack of concrete footings suggest they predated the Post Office/telephone exchange. They may therefore relate to a small structure of late 19th or early 20th century date built within the yard behind Leden Hall Inn.

Phase 5b (Post Office sorting office and telephone exchange)

- 2.7.6 The 2015 watching brief trench revealed a length of a NW–SE aligned brick wall (3) that ran from the south-west corner of the extant former Post Office building to the north of the courtyard and was also aligned with its western wall. It extended for approximately 7m, before turning to the north-east, forming a right-angled corner with wall 2. The eastwards continuation of wall 2 was revealed in Trench 2 as wall 200,

where it was founded on concrete. The course of this southern wall could be observed in the surface of the existing concrete as indicated by a linear crack in its surface. Further to the east this crack was observed to turn northwards at right-angles to meet the existing building. The east and north sides of walls 3 and 200 respectively were abutted by a reinforced concrete surface. When this was broken out, a rubble deposit was revealed which abutted the face of the walls to a depth of at least 0.8m below the current ground level.

- 2.7.7 A second NE–SW aligned wall (443) ran 3.3m to the south of, and parallel with, the extant south wall of the former Post Office building. It was constructed with brick on concrete foundations and lay directly below the existing slab. It probably represented an internal division within the structure that walls 2 and 3/200 belonged to.
- 2.7.8 Substantial walls 446 and 422 would appear to have formed the northern side of a cellared structure within the existing building on the north side of the site. Wall 446 was 0.52m in width, and constructed with extremely hard red brick, tightly bonded by beige mortar. It extended for a depth of at least 0.88m below the existing slab. It appeared to have cut garden soils on its north side and was infilled with loose redeposited soil and rubble to its south.
- 2.7.9 Located towards the north-east corner of the site was shallow wall foundation 408. It was constructed with machine-made bricks stamped with 'LBC' (London Brick Company) that are 20th century in date (J Cotter pers. comm.).
- 2.7.10 Brick walls 101/300 and 301 within Trench 1/lift pit formed part of a small building, possibly a toilet block that had been recently demolished.

3 ARTEFACTS

3.1 Pottery by John Cotter

Introduction and methodology

- 3.1.1 A total of 207 sherds of pottery, weighing 2761g, were recovered from all areas of the site, and from a total of 25 contexts. The assemblage included 28 rim sherds. An additional 43 sherds (167g) were subsequently recovered from three sieved samples. The sieved material, which is mostly very small, was briefly scanned and spot-dated, but is otherwise excluded from the catalogue of hand-recovered pottery. Apart from two sherds (355g) from the watching brief, all the pottery came from the contiguous Trench 1/lift pit area in the west of the site and mostly from the fills of medieval pits and levelling deposits.
- 3.1.2 Nearly all of this is medieval (up to c 1480), and mainly from the 13th–14th centuries. Remarkably – for an Oxford site – only six sherds (4 vessels) in definite post-medieval fabrics were identified, and nothing later than the 17th century. This is also mirrored by the complete absence of clay tobacco pipe (generally after c 1600). The pottery is in a mixed condition with many fairly large and fresh sherds present, including a half-complete profile of a Norman period cooking pot (Fabric OXY), but no complete vessel profiles. However, there are also many quite small and abraded sherds, particularly amongst the earlier (11th/12th-century) wares, which are probably nearly all residual. As better published examples exist elsewhere (Mellor 1994; 1997) none of the pottery has been illustrated. Apart from a medieval crucible, and a pot reused as a dyepot, ordinary domestic pottery types are represented and all typical of the medieval and post-medieval types commonly found in the Oxford area.
- 3.1.3 An intermediate level catalogue of pottery types was constructed (in Excel), following standard procedure, for the whole assemblage and spot-dates produced for each context. The catalogue includes, per context and per pottery fabric, quantification by sherd count, rim sherd count and weight only. Additional details, including vessel form, part, decoration, condition etc., were recorded in a comments field. Full details remain in archive. Medieval fabric codes used here are those of the Oxfordshire type series (Mellor 1994), whereas post-medieval codes are those of the Museum of London (MOLA 2014). The range of pottery types is summarised in Table 1.

Fabric	Common name	Date	No. Sherds	Weight	Rim Count
CRUC	Medieval crucible	850-1500	1	4	1
OXR	St Neots-type ware (SE Midlands - 1 sherd, 1g, from sieved sample only)	900-1100	0	0	0
OXAC	Cotswold-type ware (from c 875+)	1050-1250	10	159	1
OXY	Medieval Oxford ware	1075-1300	38	476	7
OXBK	Northamptonshire-type shelly ware	1100-1350	3	35	0
OXAQ	Kennet Valley B ware (East Wilts ware)	1150-1350	37	351	7
OXAH	Nuneaton-type ware (Warks)	1175-1250	1	2	0

OXAG	Ashampstead-type ware (Berks) (from c 1050+)	1175-1400	7	50	2
OXAW	Early Brill ware (Bucks)	1175-1400	12	177	2
OXAM	Brill/Boarstall ware (Bucks)	1225-1625	79	854	4
OXBC	Brill Tudor green ware copies (cups)	1375-1550	2	3	0
OXBX	Late med Brill ware (Bucks)	1400-1625	11	279	1
PMRE	Early post-med redwares	1480-1600	1	107	1
CSTN	Cistercian-type ware (mainly Brill)	1480-1700	2	9	0
BORDG	Border ware, green glazed (Surrey/Hants)	1550-1700	2	46	1
PMR	Post-medieval red earthenwares	1550-1900	1	209	1
TOTAL			207	2761	28

Table 1. Breakdown of pottery types in roughly chronological order

3.1.4 A breakdown of pottery quantities by site phase is presented in Table 2. A summary of each phase assemblage then follows.

Phase	Date	No. Sherds	Weight	No. Rims
1	13C to ?early 14C (inter-cutting pits)	148	1559	17
2	Early to late 14C? (gravel surfaces & makeup deposits)	32	261	5
3	Late 14C to 15C? (gravel)	2	3	0
4	Post-medieval	23	892	5
5	19/20C (brick walls)	2	46	1
Total		207	2761	28

Table 2. Breakdown of pottery quantification by site phase

Phase 1 (c 1225–1300/25?)

3.1.5 This is both the earliest phase to produce pottery and, by far, the one that produced the most (71% of all site pottery by sherd count, or 56% by weight). Stratigraphically, the earliest context with pottery was 140, one of the lowest fills of stone-lined pit 143 (= pit 317). The pottery from this fill came from a sieved sample which produced only a small and very scrappy assemblage (12 sherds, 54g). However, this included two small sherds from glazed Brill/Boarstall ware (OXAM) jugs which date the context assemblage – and everything above it – to after c 1225 and (given their condition) perhaps to c 1250 or possibly even later. One of the Brill jug sherds is from a ‘red lattice’ decorated jug, indistinguishable from several similarly decorated jugs in the pit fills above. Brill/Boarstall ware (OXAM) is the commonest medieval ware from the site, and will be considered in slightly more detail a little later. The same sieved sample included a small, abraded and clearly residual body sherd (1g) of St Neots-type ware (Fabric OXR, c 900–1100), which is probably the earliest pottery from the site assemblage. St Neots-type ware is fairly common from late Saxon and Saxo-Norman street frontage

sites along nearby St Aldate's, and it is not unusual for a redeposited sherd or two of the ware to turn up on a site of this size. Other small and scrappy (mostly residual?) sherds from (140) include a yellow-glazed pitcher handle in medieval Oxford ware (OXY, c 1075–1300) and a few body sherds from unglazed cooking pots in the same fabric; also a couple of small abraded body sherds in Cotswold-type ware (OXAC, mainly c 1050–1250).

- 3.1.6 The few other sherds of these early fabrics (OXY and OXAC) are from stratigraphically later contexts on the site, in Phase 1 (and later), and are probably mostly residual. These include a few cooking pot rims, a few more sherds from typical OXY yellow-glazed pitchers and a worn foot from a tripod pitcher. There is also a fairly rare, yellow-glazed OXY cooking bowl rim (315) with clear evidence of external sooting from use (cf. handled bowls in Mellor 1994, fig. 19.3-17). The best-preserved medieval vessel from the site is a large fresh rim sherd (half a vessel profile) from a globular OXY cooking pot of typical globular form with an everted neck and a simple sub-squared rim (*ibid.*, fig. 17.1-8). However, although this was the only pottery from this context, it appears to have been redeposited in a post-medieval garden soil/backfill in one of the watching brief areas (ctx 456, Phase 4).
- 3.1.7 Other notable but probably residual items in early fabrics include a small rim sherd from a crucible (CRUC) showing some evidence of use in the form of external sooting and vitrification (ctx 137, fill of pit 139, Phase 1). The fabric is heat-altered but possibly OXY (otherwise perhaps OXAW). It resembles small medieval metalworking crucibles from other sites in the city (eg Jope 1952-3, fig. 37; Mellor 1997, fig. 26). There is also a small abraded OXY cooking pot sherd which appears to have been reused as a 'dyepot'. This has characteristic internal purplish-brown madder (plant dye) staining used for dyeing small items of cloth or yarns of wool. Though rare, these occasionally turn up on Oxford sites. A reasonably large assemblage of madder-stained sherds was found, for instance, on excavations in 2011, at nearby Brewer Street to the south, and it is reasonably clear that domestic-scale dyeing was taking place there on the banks of the Trill Mill stream (Cotter 2019). The sherd here came from a Phase 2 gravel surface (ctx 113).
- 3.1.8 Of the 79 sherds of Brill/Boarstall ware (OXAM) from the site 60 sherds (76%) came from Phase 1. This is easily the commonest fabric from the site and is usually the commonest glazed ware from medieval sites in Oxford (Mellor 1994, 111–40). Although the assemblage here is fairly fragmentary, the sherds are generally quite fresh and there are often joining sherds from the same jug in the same pit. There are also several possible instances of cross-joining sherds from different pits, which is hardly surprising as several of the pits inter-cut. Most of the Brill/Boarstall ware sherds came from pits 139/316, 133, 143 and 318. As usual, jugs are the predominant form present. These include tall, yellow-glazed baluster jugs with 'red lattice' (or trellis) decoration in thin red slip strokes or smears, probably the commonest type of decoration found on Brill jugs (Mellor 1997, fig. 57), but not, unfortunately, closely datable (c 1225–1450?). There are also sherds from green-glazed strip jugs with narrow applied strips (unusually vertical) in orange body clay or contrasting red clay. These are also long-lived but a few pieces here are from biconical strip jugs which mainly date after c 1250 (*ibid.*, fig. 32; Mellor 1994, Pl. 9). Less common Brill forms

here include a cooking pot (pit 143) with a characteristic collared rim (Mellor 1994, figs 52.4,7 and 36), and a fresh rim sherd from a pedestal oil lamp (*ibid.*, fig. 54.18-22). Oil lamps in this ware probably date to c 1250–1400, and this accords well with the over-all 13th-14th century character of the jugs here. A few cooking pots in Kennet Valley B ware (OXAQ, c 1150–1350) are almost certainly contemporary with the Brill jugs in Phase 1.

Phase 2 (c 1325–1400?)

- 3.1.9 A small assemblage of 32 sherds. Most of this is from pit 125 which includes OXAM red lattice jug sherds probably derived from the Phase 1 pits below. It seems likely, therefore, that most of the pottery from this phase is redeposited/residual (certainly the several sherds of OXY and OXAC). One OXAM jug base from pit 125 has a transitional OXAM/OXBX fabric (see below), suggesting a date after c 1350.

Phase 3 (c 1380/1400–1480?)

- 3.1.10 Represented by two small joining sherds probably from a thin-walled Tudor green ware-style cup in Brill/Boarstall ware (OXBC, c 1380–1550).

Phase 4 (c 1480–1700?)

- 3.1.11 The 23 sherds from this phase were mostly from the fills of linear feature 304 (lift pit) and have a 16th-century character. These included several vessels in the late medieval/early post-medieval Brill/Boarstall fabric (OXBX, c 1400–1625) characterised by sparsely glazed, usually plain, vessel forms. A few smallish drinking jugs and a cup base are represented. Other sherds from these fills include a single brown-glazed Cistercian-type ware cup (CSTN) and a profile from a dripping pan in early post-medieval redware (PMRE). Dripping pans were used for collecting dripping fat from spit-roasts; the vessel here shows scorching from use. A possible garden soil in the watching brief area (441) produced a fresh bowl profile in post-medieval glazed red earthenware (PMR), this example probable datable to c 1580–1700. A redeposited medieval OXY cooking pot came from another garden soil/backfill deposit in the same area (456).

Phase 5 (19th/20th-century brick walls)

- 3.1.12 Two fresh joining sherds from a dish/bowl in green-glazed Border ware (BORDG, c 1550–1700). Clearly redeposited in this phase and accidentally incorporated into the stone foundation for brick wall 101. Along with the PMR bowl profile in Phase 4, these two items are the latest pottery vessels from the site.

3.2 Ceramic building material and fired clay by Cynthia Poole

Introduction and methodology

- 3.2.1 A total of 305 fragments (18,575g) of ceramic building material (CBM) was recovered from evaluation Trench 1 and the lift pit. This included two fragments (66g) from sieved samples. In addition, two fragments of lime mortar (35g) and a piece of fired clay (77g) were recovered from sieved samples. The CBM assemblage consists entirely

of medieval roof and floor tile predominantly dated to the 13th–14th centuries. All the tile was fragmentary, and in most cases the only complete dimension surviving was thickness.

- 3.2.2 The assemblage has been recorded on an Excel spreadsheet in accordance with guidelines set out by the Archaeological Ceramic Building Materials Group (ACBMG 2007). The record includes quantification, fabric type, form, surface finish and notes on significant diagnostic features. Fabrics were characterised with the aid of x20 hand lens and on macroscopic features. The fabrics have been assigned where possible to the Oxford fabric series for medieval tile from the Oxford region, which was originally devised for the Hamel site, Oxford (Robinson 1980) and to the related reference collection housed by Oxford Archaeology. The fabrics have been amply described in previous publications (eg Cotter 2006) and the standard types are not repeated here.

Floor tile (3 fragments, 228g)

- 3.2.3 Two decorated floor tiles of the ‘stabbed Wessex’ tradition were found in a wall foundation (103) of Phase 5 and a Phase 3 demolition deposit (110). Both are incomplete, but wear is light and the inlaid decoration well-preserved allowing them to be paralleled in Lloyd Haberly’s corpus of medieval floor tiles of the Oxfordshire region as types XLVI and LV (Haberly 1937). The design of type XLVI features a lion rampant facing left framed by a quatrefoil with stemmed trefoils attached to a quarter circle in each corner (Fig. 9, no. 1). The design of type LV comprises a square with a fleur de lys springing from each corner and enclosing four square dots in the centre of the tile (Fig. 9, no. 2). These are relatively common designs in Oxford and neighbouring areas, especially the second of the two. Both tiles measured 20mm thick and were coated in an amber/brown glaze showing yellow over the white inlay design, which was up to 4mm thick. Only one had evidence of the typical conical stab marks on the underside, which served to key the tile when laid. Stab marks on the second may have been obscured by mortar.
- 3.2.4 This type of floor tile is generally dated to c 1280–1330. The production area for such tiles is uncertain. They are made in fabric IIIB, which based on its similarity to the pottery fabric OXAG has been assigned to a source at Ashampstead, between Newbury and Reading. However, evidence for floor tile production of similar types has been found at Brill/Boarstall (Farley 2017) to the north-east of Oxford, while floor tile wasters found in Bagley Wood between Oxford and Abingdon (Mellor 1994) point to a further possible source closer to Oxford.

Roof tile (298 fragments, 18,251g)

- 3.2.5 Roof tile formed the vast majority of the assemblage. This comprises peg tile (36 fragments, 3420g), ridge tile (46 fragments, 3855g) and flat roof tile (197 fragments, 9796g), including both glazed and unglazed tiles. The flat roof tile could derive from either rectangular peg tiles or ridge tiles of more angular profile, which have fairly flat sides. Whilst a greater proportion of ridge tile fragments are glazed than peg tile, it is not possible to automatically assign all glazed pieces to ridge as peg tile was only glazed across the lower exposed half and in a collection such as this only the fragments with peg holes from the upper part can be positively identified as peg tile. Only one

peg tile was sufficiently well preserved to establish that it had been glazed. The flat tile ranged in thickness from 11–22mm and was made in all varieties of group VII fabrics, fabrics IIIB and IB. A small number were identified as the IIIB St Giles variant, which is a late medieval variety. One small fragment (ctx 314), glazed dark brown and measuring 17mm thick, was made in very coarse quartz fabric. It had a dark grey core and dark reddish brown surfaces and margins. The clay contains a high density of coarse white quartz grits, angular-subangular and up to 3.5mm in size. A small number of shell grits 1–2mm are also present. The piece may also be slightly overfired as it has a fine vesicular texture in part of the core. The fabric is much coarser than the standard Oxford fabric IIIB. Similar coarse examples have been noted at Abingdon (J. Cotter pers. comm.) and may be a sub-type of the Ashampstead fabric. A second fragment (ctx 306) was also made in a non-standard fabric. This was pinkish brown in colour with diffuse areas of greyish core and contained a very high density of coarse quartz sand and a moderate scatter of red haematite grits 1–5mm.

- 3.2.6 Peg tile was identified by the peg holes piercing the upper end of the tile. In most cases only one hole survived due to the poor preservation of fragments. Peg holes were all circular, often tapering to the base or punched at a diagonal. They measured between 9 and 18mm in diameter, though most were 12–15mm and were centred between 27 and 45mm from the top edge and 47–68mm from the nearest side edge. One exception was centred 28mm from the top and 90mm from the side edge, suggesting the tile had a single peg hole punched centrally, instead of the usual pair. A peg tile with a single peg hole has recently been found at a nearby site at St Aldate's (Poole 2020a) and a less certain partial example at Queen's College (Poole 2020b). One piece had a pair of peg holes set 28mm apart. The peg tile measured 12–18mm thick and a single example over three-quarters complete measured 208mm wide and over 234mm long. This tile had a dark olive-green glaze, matt in places, covering the lower 110mm of the surface, leaving c 130mm of the upper half unglazed. It had a couple of large fingertip depressions on the base from handling and two small peg or nail holes at the top end. These measured 8mm in diameter and were centred about 20mm from the top edge and were set 90mm and 68mm from their nearest side edge. The lower end is very weathered, and it is possible it was never a full-length tile, but deliberately shortened pre- or post- firing to be used as an eaves tile.
- 3.2.7 The peg tile was made predominantly in red sandy fabrics IIIB and VIIB with a small number in the pink sandy fabric with calcareous inclusions, VIIB and the late medieval variant IIIB St Giles.
- 3.2.8 Ridge tile had a rounded or angular profile with a plain apex except for one piece of crested tile. Most of ridge tile made in fabrics IIIB and group VII fabrics tends to be thick, ranging from 12 to 21mm, with the majority concentrated between 14 and 17mm. Most fragments produced some evidence of glaze, though only surviving as a small splash or dribble on some. The glaze was amber/brown or olive green, and was mainly applied along the apex of the tile turning to splashes or thinning and stopping short of the tile edges. Two tiles made in the early limestone gritted fabric IB (ctx 126 and 132) were amongst the thickest ridge tiles at 19 and 22mm. A single example of a crested ridge tile in fabric IIIB was found in demolition deposit 110. The crest was in the form of cut triangular spurs similar to type 7 as illustrated by Jope (1951), and

which he suggests were of late 13th- to 14th-century date. Ridge tile made in fabric IIIA, probably from the Brill/Boarstall production area, is of 14th century date. A total of five fragments were recovered. One from the evaluation was a typically thin fragment only 11mm thick, but apparently unglazed. Another unglazed fragment was recovered from the excavation area from pit 318. This was made in much finer variety of the IIIA fabric: it had a light red-biscuit margin and a light grey core and contained a high density of well sorted, clear-rose, fine-medium quartz sand <0.2mm. The remaining three fragments were made in the standard fabric and were all glazed green-amber, and two were certainly crested ridge with evidence of cut spurs on one.

Brick

- 3.2.9 Two small brick fragments of 18th to 19th century date were found in the upper fill of Phase 4 linear feature 304. Neither had any complete dimensions surviving. One was made in a red fine sandy fabric, typical of post-medieval bricks, and the other in a pink laminated coarse sandy clay with buff streaks, which is a common post-medieval fabric of the Oxford region.

Mortar and fired clay

- 3.2.10 The fragments of mortar (ctx 140 and 148) were amorphous and made in fabrics commonly found in medieval and post-medieval deposits in Oxford. Fabric M4 is typified by an aggregate of small shell and limestone grits and M7, which is more common, by coarse alluvial limestone-derived grits and pebbles up to 10mm size. The mortar retained no shaped surfaces and they probably derive from wall or foundation structures. The fragment of fired clay (ctx 140) was made in a red sandy and shelly fabric and had part of a smooth flat surface surviving. It was 22mm thick and possibly formed part of a thick slab of clay, probably from some sort of oven structure.

Conclusions

- 3.2.11 The assemblage is dominated by roof tile indicating that the buildings standing on the plot were roofed with ceramic peg tile capped by plain ridge tile, much of it glazed in shades of amber/brown or olive-green. The roof tile assemblage is very homogeneous in character in terms of fabric and tile quality. The majority of the tile is made in fabrics IIIB/VIIBB, and date to the 13th to 14th century. A few examples in the early oolitic fabric IB indicate some roof tile was in use from the late 12th to early 13th century. Later medieval fragments are rare and may reflect minor repairs or alterations rather than any major refurbishments or rebuilding during the 14th–15th centuries. All the later fragments derive from contexts with pottery spot dates of c 1350–1500. The only exception is one in an atypical variety of fabric IIIA, which was found in Phase 1 pit 318 and may represent an early stage of production of the Brill/Boarstall industry.
- 3.2.12 The two decorated floor tiles of ‘stabbed Wessex’ type are typically dated to c 1280–1330, consistent with them being contemporary with the roof tile. Decorated floor tiles are more commonly found in ecclesiastical buildings or associated with the colleges. The use of the decorated floor tile may be linked to the acquisition of the property by Merton College in 1270–1. The small quantity of floor tile recovered may indicate it was used in a limited area only of the buildings.

Catalogue of illustrated tile (Fig. 9)

1. Floor tile 'stabbed Wessex' type with stamped design Haberley type XLVI. Fabric IIIB. Ctx 103. Phase 5; date: 1280–1330
2. Floor tile 'stabbed Wessex' type with stamped design Haberley type LV. Fabric IIIB. Ctx 110. Phase 3; date: 1280–1330

3.3 Stone by Ruth Shaffrey and Julian Munby

Description

- 3.3.1 A total of 21 pieces of stone were retained and submitted for analysis (Table 3). These were scanned for signs of use or working and worked stone was recorded with the aid of a x10 magnification hand lens.
- 3.3.2 Seven pieces of stone are unworked.
- 3.3.3 A block of architectural stone from Phase 3 context 110 is part of a surround, possibly a hood mould from a window or part of a fireplace. This is likely to be from a building on the site and stylistically dated between the late medieval period and the 16th century.
- 3.3.4 A total of eleven fragments of stone are pieces of stone roofing or fragments of likely stone roofing each with a perforation and made of sandstone, shelly limestone and oolitic limestone. The stone roofing was recovered from contexts of 13th–16th century date (103, 124, 137, 138, 303 and 305), which is in keeping with our knowledge of the use of stone roofing in Oxford.
- 3.3.5 Two small, rounded pieces of limestone, each with a natural perforation, may have been used as beads (148), although they do not demonstrate any certain signs of use.

Ctx	No	Function	Notes	Size	Wt (g)	Lithology
110	1	Moulded architectural stone	Moulded corner piece			Oolitic limestone
148	2	Possible beads	Two small stones, naturally perforated but possibly worn as beads	Measures 11 x 7 x 3 and 17 x 10 x 7mm	3	limestone
131	2	Possible roofing	Small and undiagnostic		74	limestone
131	1	Possible roofing			18	limestone
103	1	Roofing	Fragment with perforation	Measures 18mm thick	379	shelly limestone
124	1	Roofing	Fragment with perforation	Measures 11mm thick	177	sandstone
137	1	Roofing	Fragment with perforation		353	sandstone
138	1	Roofing	Almost complete roof stone, lacking	Measures 340 x 200 x 25	2500	Oolitic limestone

			perforation but possibly broken across top. Tapered almost triangular stone			
303	1	Roofing	Complete roofstone. Pointed at lower end, square at top	Measures 235 x 160mm	1056	Jurassic limestone
303	2	Roofing	One complete and one fragment. Rectangular	Measures 275 x 135mm	1828	Jurassic limestone
305	1	Roofing	Fragment with neat single drilled perforation		244	sandstone
137	1	Unworked				
148	6	Unworked				

Table 3: Stone

3.4 Copper alloy and iron from environmental sampling by *Ian Scott*

Context	Description
131	Iron <1> 3 small fragments, possibly from nails, 13g
148	Iron <3> 2 small fragments, possibly from nails, 4g
148	Copper alloy <3> 7 fragments of melted or burnt copper alloy, 5g

3.5 Burnt unworked flint from environmental sampling by *Geraldine Crann*

Context	Description
140	<2> 1 small fragment, 2g

4 ENVIRONMENTAL AND OSTEOLOGICAL EVIDENCE

4.1 Animal bone *by Martyn Allen*

Introduction

- 4.1.1 A total of 266 animal bone fragments were recovered from nine contexts. These include remains from the excavation and the previous evaluation. In addition to the hand-collected material, some 190g of animal bones consisting of 226 fragments were recovered from three environmental samples. A total of 87 fish bones were also recovered from the environmental samples though these have been reported on separately (see *Fish bones*).
- 4.1.2 The animal bones derived from six pits, all dated to the 13th and/or 14th centuries. A layer and a surface feature also produced a small amount of material from the same period. A larger quantity of bones was also recovered from a post-medieval linear feature.
- 4.1.3 The assemblage was generally well preserved. Remains of cattle, sheep/goat, pig, horse, dog, cat, chicken and goose were identified in the hand-collected assemblage. The environmental samples produced bones from a small mustelid (possibly a weasel), rodents, frogs and one or two small bird taxa.

Methods

- 4.1.4 The assemblage was analysed at Oxford Archaeology South using the in-house skeletal reference collection to aid identification. Specimens were recorded using the zones system of Serjeantson (1996). Dental wear was recorded on mandibles of sheep/goats and pigs using the system of Grant (1982). Epiphyseal fusion of the long bones was recorded where present and age estimations were made following the timings of Sisson and Grossman (Getty 1975). Butchery marks, burning, carnivore gnawing, and pathologies were recorded at a detailed level where they were observed.

Hand-collected assemblage

- 4.1.5 Of the 266 animal bones recovered by hand, 96 were identified to species (Table 4). Just over 100 specimens were skull, rib or long-bone shaft fragments that could be categorised as small, medium or large mammal. Sheep/goat bones were most common comprising 40 specimens, followed by 30 cattle specimens, 16 from pigs (including one possible pig), one from a horse, two from dogs and one cat bone. Bird bones were represented by five chicken bones and a goose bone.

Sheep/goats

- 4.1.6 Sheep/goat remains were recovered from all the features that contained animal bones, mostly in small numbers. Mandibles were the most common element identified, deriving from at least three different animals. However, these were all from the post-medieval linear, whereas post-cranial bones dominated the medieval pit groups.

- 4.1.7 Five of the post-medieval mandibles could be aged from tooth wear since all included erupted third molars: one was at Grant tooth wear score b, one at c, two at e and one at g. Using Jones' (2006) modern estimation, this indicates that two animals were slaughtered at 20–36 months, two at 2.5–4.5 years and one at 4–e. 9 years. Ageing data for the medieval sheep/goat bones was limited to epiphyseal fusion. The epiphyses of all the distal humeri and most of the radii (both ends) were fused to the shafts, both representing animals over three/four months old, while the calcaneus, a distal femur and one distal radius were unfused, thus deriving from animals less than 36 (calcaneus) and 42 months old.
- 4.1.8 Two sheep/goat bones from the medieval pits exhibited butchery marks. A humerus had a rather haphazard chop mark on the shaft made during meat-filleting and a tibia had a superficial chop mark. Five elements from post-medieval ditch 304 were found butchered. These included a tibia that was chopped horizontally through the distal end, an axis bone that had been chopped through axially, and single metatarsal and femur bones with knife cuts on the shaft. A medium-sized mammal vertebra had also been chopped through axially in the same way as the axis, indicating central splitting of carcasses.

Cattle

- 4.1.9 Cattle bones were found in all the medieval pits, 14th-century layer 335 and post-medieval linear 304. Three largely complete horncores were recovered from pits 125 (x2) and 127, the latter of which also contained an atlas bone, the first vertebra after the skull. Each of the horncores were from the left side of the skull and thus represent three individuals. No butchery marks were observed on the horncores, and sizable parts of the skull remained attached to each. However, this does not preclude the possibility that the horns were removed prior to the skulls being disposed of. Metatarsals were the most common cattle element present, again representing a minimum of three animals, though two metatarsals came from post-medieval ditch 304.
- 4.1.10 The cattle bones from the medieval pits were all skeletally mature, apart from a distal femur (pit 139) which derived from an animal aged less than four years. The cattle bones from post-medieval linear 304 were mostly skeletally mature, except for a proximal humerus, a distal metatarsal and a neonatal humerus. These derived from animals less than 42–48 months and 24–30 months old for the humerus and metatarsal, respectively, and the neonatal humerus was from a new-born calf.
- 4.1.11 All bar two of the cattle bones with butchery marks came from post-medieval linear 304. The medieval elements included a metatarsal that had been chopped through the distal condyle to remove the toes and a tibia that had been axially split to access marrow. Three of the post-medieval elements were long bones that had been axially split, alongside two scapulae that had been chopped through the glenoid and an astragalus with a small horizontal chop on anterior surface.

Pigs

- 4.1.12 Medieval pig bones consisted of a humerus and a radius from pit 125 and a lower incisor from pit 139. The humerus was unfused at the proximal end and the radius was unfused at both ends. Assuming both bones came from the same animal, it probably died before it reached 15–18 months old. A pelvis bone (ilium) from a very juvenile animal was recovered from pit 139. This was tentatively identified as pig.
- 4.1.13 The majority of the 16 pig specimens (10) came from post-medieval linear 304. These included three mandibles, both from infants based on tooth eruption and wear stages, two skull fragments, a loose canine, a radius, an ulna and a 1st phalanx. One of the mandibles came from a sow.

Horses

- 4.1.14 A single horse lower 2nd premolar was recovered from pit 139. It had been worn to within a few millimetres of the root and clearly derived from a particularly elderly animal, perhaps over 20 years old (cf Levine 1982).

Dogs

- 4.1.15 Two dog bones were recovered from post-medieval linear 304. These were both radius bones, one from each side of the body. The left-sided specimen was unfused at the proximal end and the right-sided specimen was fused at the distal end. This means that the bones derived from individual dogs since the proximal radius fuses at 6–8 months and the distal radius fuses at 16–18 months.

Cats

- 4.1.16 A single (possible) cat metapodial was recovered from post-medieval linear 304.

Birds

- 4.1.17 Two chicken bones, a femur and an ulna, were recovered from medieval pit 318 and three, a coracoid, a femur and a tarsometatarsus, were recovered from post-medieval linear 304. These were all skeletally mature elements.
- 4.1.18 The goose bone was recovered from medieval pit 127. This was a tarsometatarsal from a juvenile bird. The bone exhibited signs of rodent gnawing.

Sieved assemblage

- 4.1.19 Environmental samples produced 190g (226 fragments) of animal bone (Table 5). Large numbers were fragmented remains of domestic mammals, with cattle and sheep/goats both present, as well as a distal horse tibia.
- 4.1.20 A small mustelid bone (a metapodial), possibly from a weasel or similar animal was recovered from pit 148.
- 4.1.21 Five bird specimens were recovered from pit 143, including a carpometacarpal and a radius, all from a fairly small species.
- 4.1.22 Twelve rodent bones were recovered from pits 140 and 148, though none were identified to species, and 14 frog bones were recovered from pits 131, 140 and 148.

Summary

4.1.23 The animal bone assemblage is fairly small. The three main domestic livestock species, plus chicken and goose, were identified in the hand-collected remains, while small numbers of horse, dog and cat(?) were also present, probably redeposited with butchery/food waste. The environmental samples produced further mammal remains including what appears to be a bone from a small mustelid, possibly a weasel, plus bird, rodent and amphibian remains. Butchery marks were similar though the medieval and post-medieval phases, suggesting the use of cleavers, particularly to split long bones to access the marrow. No clear evidence for horn or bone working was found.

axon	pit 125	pit 127	pit 133	pit 139	pit 143	pit 318	linear 304	layer 335	surface 113	Total
	14th c.	13th–14th c.	13th–14th c.	13th–14th c.	13th–14th c.	13th–14th c.	16th–19th c.	14th c.	13th–14th c.	
cattle	3	3	1	4	1	4	13	1		30
sheep/goat	2	1	1	4	3	4	22	2	1	40
pig	2			1		1	10	1		15
?pig				1						1
horse				1						1
dog							2			2
?cat							1			1
chicken						2	3			5
goose		1								1
large mammal	2	2		6	2	13	33	3		61
medium mammal	1	2	1	14	6	7	10			41
small mammal							2			2
unidentified						5	58	3		66
total	10	9	3	31	12	36	154	10	1	266

Table 4: Number of specimens per taxon by context

context	feature	spot date	sample	weight/g	NISP	bird	rodent	amphibian	other sp.	notes
131	pit 143	13th–14th c.	1	41	57			8	sheep	sheep molar, amphibian scapula
140	pit 143	13th–14th c.	2	90	95	5	10	5	horse, sheep	sheep pelvis and tooth, horse distal tibia, small bird radius and carpometacarpal, one burnt fragment
148	pit 139	13th–14th c.	3	59	74		2	1	cattle, sheep, ?weasel	cattle incisor, small mustelid phalanx

Table 5: Summary of animal bones from environmental samples (NISP includes fish bones, though these are reported on separately)

4.2 Fish remains by Rebecca Nicholson

- 4.2.1 A small fish assemblage was recovered from the residues of sieved samples. All the remains are in fair or good condition and were recorded to species and skeletal element with the aid of the author's bone comparative collection. Only potentially identifiable fragments were recorded, from a total of 87 fragments of fish. All the fish bone came from 13th to early 14th century pit fills in Trench 1.
- 4.2.2 Table 6 provides the species breakdown by sample. Most of the identifiable bones are vertebrae, but a few cranial and even scale fragments are present, an indication of conditions in the pits that were conducive to bone preservation. A single thornback ray dermal denticle (scute) was also present in pit 139.

Sample	1	2	3	TOTAL
Context	131	140	148	
Feature	Pit 143	Pit 143	Pit 139	
Soil vol	40L	30L	40L	
Phase	1	1	1	
Thornback ray (<i>Raja clavata</i>)			1*	1
Eel (<i>Anguilla anguilla</i>)		1	2	3
Herring (<i>Clupea harengus</i>)	6	6	4	16
Cyprinid (Cyprinidae)		1 (1*)		2
cf. Cyprinid (cf. Cyprinidae)		1*		1
cf. dace (cf. <i>Leuciscus leuciscus</i>)	1			1
Cod fam (Gadidae)			1	1
cf. perch fam (cf. Percidae)		1		1
Unidentified		2		2
TOTAL Identifiable	7	13	8	28

Table 6: Number of identifiable fish remains (*=scute or scale)

- 4.2.3 The fish remains are consistent with those recovered from other medieval sites in Oxford (eg Oxford Castle, Nicholson 2019) and indicate the availability and consumption of both small freshwater fish, which were probably caught locally, and seafish, the latter almost certainly salted or pickled in brine. There is no indication of affluence from the fish assemblage; almost all the remains come from small and even tiny fish. As the stone-lined pit 143 is considered likely to be part of a property in Jewish ownership the eel bone is significant, since as fish without visible scales the Jewish dietary laws forbid the eating of eels (Leviticus 11: 9-12).

4.3 Shell by Geraldine Crann

Context	Description
124	1 oyster (<i>Ostrea edulis</i>) right valve, 6g

4.4 Wood charcoal and charred plant remains *by Sheila Boardman*

Introduction

4.4.1 Following an assessment by Cook (2018), three bulk soil samples (30–40 litres in volume) were analysed for wood charcoal and charred plant remains. All three were from phase 2 (13th- to early 14th-century) pit fills. Samples 1 and 2 came from pit 143, and sample 3 was from pit 139. Of particular interest were the functions of these pits, whether they were used solely for domestic type waste, or whether the plant remains provided any evidence for human cess material or animal stabling waste.

Methods

4.4.2 The samples were processed at Oxford Archaeology using a modified Siraf-type water flotation machine. The flots were collected in a 250µm mesh and heavy residues in a 500µm mesh. All fractions were dried prior to assessment and analysis. The residues were sorted by eye at Oxford Archaeology. The flots were sorted using a Leica GZ6 binocular microscope (with x10–x40 magnifications). Wood charcoal for identification was extracted from the greater than 2mm flots and the presorted residue charcoal. Sample 1 was entirely sorted for all identifiable plant macrofossils including cereal grains (or quantifiable fragments of these), cereal chaff, legume seeds, nutshell remains, and seeds and fruits of wild species. For samples 2 and 3, the greater than 1mm flots were fully sorted, then the 250µm–1mm flots were divided and half of each was sorted. The less than 1mm flots produced limited plant remains (17 items in total), so this saved a considerable amount of time.

4.4.3 Wood charcoal fragments for identification were randomly extracted from the greater than 2mm flot and residue charcoal bags. They were fractured by hand and sorted into groups based on features observed in transverse section, at magnifications of x10–x40. Next these were fractured along their radial and tangential planes and examined at magnifications of up to x400 using a Lomo Biolam-Metam P1 metallurgical microscope. Identifications were made using keys in Hather (2000), Gale and Cutler (2000) and Schweingruber (1990), and by comparison with modern slide reference material. Between 103 and 108 charcoal fragments were examined per sample. Where plant macrofossil remains were not readily identifiable, they were compared to modern seed reference material and various manuals and keys (eg Anderberg 1994; Berggren 1981; Jacomet 2006; Cappers *et al.* 2006). In Table 8, individual cereal grains (or embryo ends of fragments), rachis internodes and seeds and fruits, were each counted as one. Counts of nutshell fragments and other incomplete remains are suffixed by 'F' and they were not used in the sample totals. Nomenclature follows Zohary and Hopf (2000) for the cereals and Stace (2010) for all other plant remains.

Results

Wood charcoal

4.4.4 Anatomical features observed on wood charcoal from the site are consistent with the following taxa. Full results, as fragment counts per taxon, are listed in Table 7.

Rosaceae

Subfamily Prunoideae – *Prunus spinosa/domestica* type, blackthorn/plum type, and *Prunus* sp., blackthorn/ cherry.

Subfamily Pomoideae - includes *Crataegus* spp., hawthorn, *Malus* sp., apple, *Pyrus* sp., pear and *Sorbus* spp., rowan, whitebeam and/service. One or more of these anatomically similar taxa may be represented.

Ulmaceae

Ulmus sp., elm.

Fagaceae

Fagus sylvatica L., beech, and *Quercus* sp., oak (either *Q. robur* L., *Q. petraea*, or their hybrids).

Betulaceae

Alnus glutinosa (L.) Gaertn., and *Corylus avellana* L., hazel.

Salicaceae

Salix/Populus, willow/poplar.

Sapindaceae

Acer campestre L., field maple.

Oleaceae

Fraxinus excelsior L., ash.

Caprifoliaceae

cf. *Sambucus nigra* L., elder.

Charred plant remains (Table 8)

- 4.4.5 The samples produced between 51 and c 400 quantifiable remains each, plus many non-quantifiable fragments. All three samples were dominated by cereal grains. The other remains included rachis internodes, legume seeds, nutshell remains and seeds and fruits of wild species. These are discussed below.

Discussion

Wood charcoal (Table 7)

- 4.4.6 All three samples from pits 143 and 139 produced predominantly oak (*Quercus*) charcoal. This was a mixture of heartwood and sapwood timber, with a couple of roundwood fragments in sample 3. Also well represented in all three samples were hawthorn group (Pomoideae) and hazel (*Corylus avellana*) charcoal. In samples 1 and 2 from pit 143, these remains were almost entirely in the form of narrow roundwood. Unfortunately, as most of the fragments were incomplete it was impossible to reconstruct the ages or sizes of the original material. In sample 1, the hawthorn group roundwood fragments generally had 4–12 surviving growth rings, while the hazel ones

had 4–8 surviving rings. In sample 2, the hawthorn group remains were slightly more variable with 5–15 surviving growth rings, while the hazel ones had 4–9 rings. In sample 3 from pit 139, around half of the hazel fragments were from roundwood (with 3–8 growth rings), while the remainder and the hawthorn group charcoal were mostly from larger elements (branch wood and/or immature timber). In addition to the oak, hawthorn group and hazel charcoal in samples 1 and 2, there were a few fragments of beech (*Fagus sylvatica*), field maple (*Acer campestre*), blackthorn/plum (*Prunus spinosa/domestica* type), elm (*Ulmus*) and ash (*Fraxinus excelsior*). Sample 3 had many of the same taxa but in a slightly different order of frequency: field maple, blackthorn/cherry (*Prunus*) including blackthorn/plum type, alder (*Alnus glutinosa*), willow/poplar (*Salix/Populus*), possible beech, ash and probable elder (cf. *Sambucus nigra*).

- 4.4.7 The range of wood charcoal present in the three samples was almost identical to that from similar age and earlier deposits from nearby excavations at Brewer Street (Boardman 2019). The latter were dominated by oak, hazel and hawthorn group charcoal, and additional taxa included blackthorn/cherry, blackthorn/plum, beech, field maple and ash. Meanwhile, at other local sites such as Lincoln College, beech fuel apparently became much more common by the early to mid 13th-century (Phase 2) (Boardman 2020a). Four of eleven samples from this phase were dominated by beech, while seven had mostly hawthorn group or oak remains. There was limited charcoal evidence from Lincoln College deposits dating to the late 13th- to mid 14th-centuries, but by phase 4 (late 14th- to early 16th-centuries) all nine samples were dominated by beech. The replacement of oak by beech as the main wood fuel, somewhere between the 13th/14th- to the 16th-centuries, can be seen at other sites in Oxford, for example at Queen's College (Challinor 2010; Boardman 2020b). The beech at these sites most likely came from the Chilterns to the south and east of Oxford. The introduction of beech into Oxford may coincide with increased organisation of the woodlands of the region and of wood fuel production and trade.
- 4.4.8 The beech reaching Lincoln College prior to the late 14th-century seems to be mostly in the form of (waste) timber and faggots. The latter are bundles of (similar sized) twiggy wood or roundwood. The lengths and sizes of wood and bundles appear to have become more standardised in later periods. The mixture of ages of roundwood in the earlier phases point to faggots cut from felled timbers, underwood, hedges and the like, rather than from similar aged coppice. By the late 15th/early 16th century at Queen's College, mature roundwood with 15 to 20 growth rings seems to have been used (Challinor 2010). The other charcoal taxa present in the samples from the various college sites (oak, hazel, hawthorn group, blackthorn/plum, blackthorn/cherry, elm, willow/poplar, field maple and ash, with some alder and buckthorn [*Rhamnus cathartica*]) are mirrored by those in the Story Museum samples. These probably represent the trees and shrubs growing in and around the city, in gardens, along rivers and on waste ground. The evidence from these sites suggest they were an important secondary source of fuel wood (and no doubt a range of other resources) over many centuries.

Charred plant remains (Table 8)

- 4.4.9 The samples produced between 51 and 400 plus quantifiable remains and they were dominated by cereal grains. Free threshing wheat grains were the most numerous.

Both hexaploid wheat (*Triticum aestivum/compactum*) and tetraploid wheat (*T. turgidum/durum*) have been identified at various medieval sites in Oxford (eg Boardman 2020c; Hunter 2019). However, a single hexaploid (bread wheat [*T. aestivum*] type) rachis internode was identified in sample 1 from pit 143, so it was impossible to say whether more than one species was present at the Story Museum site. The other cereal species were hulled barley (*Hordeum vulgare*), oats (*Avena* sp.) and rye (*Secale cereale*). The presence of asymmetric (side) grains of barley points to the six-row variety. No definite barley rachis internodes were present to aid the identifications. Oat chaff was also absent although some oat grains were large, suggesting they were from the cultivated species (*A. sativa*). Rye grains were also present in moderate quantities. Rye may have been used primarily for animal fodder, bedding or thatch, in which case fewer grains may have reached domestic fires. Rye straw was highly valued for thatching in the past and it was sometimes used with the spikelets and grain attached (Letts 1999). There was a single rye rachis internode in sample 1, and one to two barley/rye (*Hordeum* sp./*Secale cereale*) rachis fragments in all three samples. If rye or barley were used primarily for animal fodder, brewing, thatching and so on, the cleanliness of the grain would have been of less importance, as compared to wheat for grinding.

- 4.4.10 Since all of the Story Museum samples had mixed cereals, it is possible that some were grown as mixed crops (eg of wheat and rye) or dredge (of oats and barley). The grains also may have been mixed post harvest, for use in brewing, baking and so on. However, since these samples appear to incorporate hearth/oven rake out deposits and other domestic debris (see above), it is probable that the cereal grains also became mixed post depositionally.
- 4.4.11 Other crops may be represented by a few large-seeded legumes and fragments including a probable Celtic bean (cf. *Vicia faba*) in sample 1. These remains were poorly preserved and were assigned to a probable species or group based on gross morphology and size. Wild fruits and nuts are represented by a single sloe (*Prunus spinosa*) stone fragment and moderate quantities of small hazel (*Corylus avellana*) nut shell fragments.
- 4.4.12 Several distinct groups of plants are present among the other wild species. Typical cornfield weeds include cornflower (*Centaurea cyanus*), stinking chamomile (*Anthemis cotula*), corn marigold (*Glebionis segetum*), field madder (*Sherardia arvensis*) and scentless mayweed (*Tripleurospermum inodorum*). Many of these have large seeds or seed heads that are not easily removed by sieving. They must be picked out by hand, which is difficult. Weeds associated with autumn sown crops include stinking chamomile, cornflower and field madder. Scentless mayweed is associated with autumn and spring sown crops. Stinking chamomile is a typical weed of the heavier, calcareous clays, most suited to bread wheat cultivation. Cornflower is found on lighter soils and thrives in neutral to acidic sandy soils where rye is often grown. Field madder grows on all types of dry soils but is most common over chalk and limestone. Corn marigold also grows light, sandy, sometimes acidic soils, but this is mainly associated with spring-sown crops.
- 4.4.13 Another group of wild species are the catholic weeds which grow on disturbed or nitrogen-rich ground around settlements, in garden type cultivation, and with spring

sown crops. These include black bindweed (*Fallopia convolvulus*), docks (*Rumex* spp.), redshank (*Persicaria maculosa*) and goosefoot/orache (*Chenopodium/Atriplex* sp.). Greater celandine (*Chelidonium majas*) is a perennial which also grows near habitations, on banks, walls and in hedgerows, and common mallow (*Malva* cf. *sylvestris*) is another perennial ruderal plant.

- 4.4.14 Plants associated with grasslands may point to animal fodder or bedding material. The remains here included small legumes (*Vicia/Lathyrus* sp., *Trifolium* sp., *Melilotus/Medicago/Trifolium* sp.) and grasses (*Poa/Phleum* sp., *Lolium/Festuca* sp., Poaceae). Many of these can also become established in cultivated fields. Meanwhile, the rushes (*Juncus* sp.), sedges (*Carex* sp.) and spike rush (*Eleocharis palustris*) may have grown in damp grassland or ditches around fields. In contrast, sheep's sorrel (*Rumex acetosella*) is generally found on light, neutral to acidic, sandy soils, in grassland, heaths and cultivated areas.

Although only three samples were investigated, these seems to include many of the main crop species seen at other medieval sites in Oxford, particularly the cereal species. Notable absences included definite rivet wheat, Celtic bean and pea, oil and fibre plants (such as flax and black mustard), a wide variety of fruits (eg grape, apple, apple/pear, plum, cherry, fig, wild strawberry and bramble), other culinary plants (dill, coriander, caraway) and plants associated with particular industries (such as hops and teasel).

Conclusions

- 4.4.15 The wood charcoal and charred plant remains appear to confirm that the two pits were used to dump largely domestic waste, much of which was in the form of fuel debris rich in oak, hazel and hawthorn group remains. While charred macrofossils such as the weeds of crop may have been deliberately destroyed, the grain may have become charred accidentally, during parching prior to grinding or food preparation. There was no evidence for the deliberate destruction of deposits of spoilt or germinated grain. Also, while cess-type material was noted during the excavations, there was no evidence for this here among the types of plant remains present. As well as an absence of mineralised plant remains, there were no mineralised concretions or insect remains such as pupae of the seaweed fly (Webb *et al.* 1998), some of which would be expected. The possible presence of stabling waste is also unconfirmed. Seeds and fruits of grassy taxa were identified but these are common in crop assemblages, and charred stabling waste might reasonably be expected to include some evidence for animal dung or dung related insects, neither of which were present here.

Feature		143	143	139
Feature type		Pit	Pit	Pit
Context		131	140	148
Sample no.		1	2	3
Phase		2	2	2
Period (centuries AD)		13th - early 14th	13th - early 14th	13th - early 14th
Sample volume (litres)		40	30	40
Rosaceae				
<i>Prunus spinosa</i> / <i>domestica</i> type	blackthorn/plum type	3r	-	1r
<i>Prunus</i> L.	blackthorn/cherry	-	-	2
Pomoideae	hawthorn group	13r	28r	7r
Ulmaceae				
<i>Ulmus</i> L.	elm	1	1	-
Fagaceae				
<i>Fagus sylvatica</i> L.	beech	3	2	-
cf. <i>Fagus sylvatica</i> L.	cf. beech	1	-	1
<i>Quercus</i> L.	oak	70hs	49hs	67hsr
Betulaceae				
<i>Alnus glutinosa</i> (L.) Gaertn.	alder	-	-	2
<i>Corylus avellana</i> L.	hazel	10r	16r	16r
Salicaceae				
<i>Salix/Populus</i> L.	willow/poplar	-	-	2
Sapindaceae				
<i>Acer campestre</i> L.	field maple	-	5	4
Oleaceae				
<i>Fraxinus excelsior</i> L.	ash	1	1	1r
Caprifoliaceae				
cf. <i>Sambucus nigra</i> L.	elder	-	-	1
Indeterminate charcoal		3	1	4b
Fragments analysed		103	103	108

KEY: Counts include: h - heartwood; s - sapwood; r - roundwood; b- bark. Pomoideae may include: *Pyrus* (pear), *Malus* (apple), *Crataegus* (hawthorn) & *Sorbus* (rowan, service, whitebeam) species.

Table 7: Wood charcoal

Feature		143	143	139
Feature type		Pit	Pit	Pit
Context		131	140	148
Sample no.		1	2	3
Phase		2	2	2
Sample volume (litres)		40	30	40
Cereal grain				
<i>Hordeum vulgare</i> L.	hulled barley (with no. of asymmetric grains)	1	40 (10)	50 (17)
<i>Secale cereale</i> L.	rye	1.5	10	1
<i>Secale cereale/Triticum</i> sp. L.	rye/wheat	1	9	2
<i>Avena</i> sp. L.	oats	3	40	20
cf. <i>Avena</i> sp. L.	cf. oats	1	2	-
<i>Avena/Bromus</i> sp. L.	oats/brome	-	1	1
<i>Triticum aestivum/turgidum</i> L.	bread wheat/rivet wheat	9	78	77
cf. <i>Triticum</i> sp. L.	cf. wheat	1	5	-
Cerealia	indet. cereal	20	52	53
Cerealia	detached cereal embryo	-	9	7
Cerealia/Poaceae	cereal/large grass	-	3	-
Chaff & straw				
<i>Hordeum vulgare/Secale cereale</i> L.	barley/rye, rachis internode	1F	2F	1F
<i>Secale cereale</i> L.	rye, rachis internode	1	-	-
<i>Avena</i> sp. L.	oat-type awns	-	10F	-
<i>Triticum</i> cf. <i>aestivum</i> L.	cf. bread wheat, rachis internode	1	-	-
<i>Triticum</i> sp. L.	free threshing wheat, rachis internode	2	-	1F
Legumes, fruits, nuts				
cf. <i>Vicia faba</i> L.	cf. celtic/field bean	1	-	-
<i>Vicia/Pisum/Lathyrus</i> sp. L.	bean/pea/vetch/wild pea	1F	1	0.5
<i>Prunus spinosa</i> L.	sloe, stone	-	0.5	-
<i>Corylus avellana</i> L.	hazel nutshell frags. (F)	13F	59F	38F
Wild species				
<i>Papaver</i> sp. L.	poppy	-	2	-
<i>Chelidonium majas</i> L.	greater celandine	-	1	-
<i>Vicia/Lathyrus</i> sp. L. >3 mm	vetch/wild pea	-	2	-
<i>Vicia/Lathyrus</i> sp. L. 2-3 mm	vetch/wild pea	1	7.5	-
<i>Vicia/Lathyrus</i> sp. L. <2 mm	vetch/vetchlings/tares etc	1.5	6.5	1
<i>Trifolium</i> sp. L.	clover	-	1	-
<i>Melilotus/Medicago/Trifolium</i> sp. L.	mellilot/medick/clover	1	2	1
<i>Malva</i> cf. <i>sylvestris</i> L.	cf. common mallow	-	1	-
<i>Malva</i> sp. L.	mallow	-	1	-
<i>Brassica/Sinapis</i>	cabbage/mustard	1	-	-
<i>Persicaria maculosa</i> Gray.	red shank, persicaria	-	1	-
<i>Fallopia convolvulus</i> (L.) A. Love	black bindweed	-	1	-
<i>Rumex acetosella</i> L.	sheep's sorrel	-	4	-
<i>Rumex</i> sp. L.	dock	-	8	3

Polygonaceae	knotweed family	-	-	1
<i>Silene</i> sp. L.	catch fly	-	2	-
<i>Chenopodium album</i> L.	fat hen	-	1	1
<i>Chenopodium</i> sp. L.	goosefoot	-	4	-
<i>Chenopodium/Atriplex</i> sp. L.	goosefoot/orache	-	3	-
<i>Sherardia arvensis</i> L.	field madder	1	7	-
cf. <i>Sherardia arvensis</i> L.	cf. field madder	-	1	1
<i>Solanum</i> sp. L.	bittersweet/black nightshade	1	-	-
Lamiceae indet.	dead-nettle family, small	-	2	-
<i>Centaurea cyanus</i> L.	cornflower	-	1 (F)	-
cf. <i>Centaurea</i> sp. L.	cf. knapweed	1F	-	-
<i>Anthemis cotula</i> L.	stinking chamomile	-	29	-
cf. <i>Anthemis cotula</i> L.	cf. stinking chamomile	-	13	1
<i>Glebionis segetum</i> (L.) Fourr.	corn marigold	-	3	-
<i>Leucanthemum vulgare</i> Lam.	oxeye daisy	-	1	-
<i>Tripleurospermum inodorum</i> Sch. Bip.	scentless mayweed	-	1	-
Asteraceae	daisy family, small	-	7	-
<i>Juncus</i> sp. L.	rush	-	8	1
<i>Eleocharis palustris</i> (L.) Roem. & Schult.	common spike-rush	-	4	2
<i>Carex</i> sp. L. (trigonous)	sedge, 3-faced	-	4	-
<i>Carex</i> sp. L. (biconvex)	sedge, 2-faced	-	1	-
Cyperaceae	sedge family	-	2	-
<i>Lolium/Festuca</i> sp. L.	rye-grass/fescue	-	1	-
<i>Poa/Phleum</i> sp. L. type	meadow grass/cat's tail type	-	5	-
Poaceae	grass, large	-	1	-
Poaceae	grass, medium	Fs	1	1(F)
Poaceae	grass, small	-	1	-
Other				
Indet.	seed/fruit	2	11	2
Indet.	leaf bud	-	-	1
Summary	Cereal grains	37.5	249	211
	Cereal chaff	4	Fs	F
	Weed seeds	8.5	152	15
	Other	1	1.5	1.5
	Quantifiable remains	51	401.5	227.5
	Identified fragments	16+	71	40
Key: F - fragment(s)				

Table 8: Charred plant remains

5 DISCUSSION

5.1 Medieval

- 5.1.1 The earliest medieval deposits, consisting of several intercutting pits, were only reached in Trench 1 and were left largely unexcavated within the lift pit. The pits date to no earlier than the first part of the 13th century given the presence of Brill/Boarstall ware pottery from their fills. Any earlier activity is likely to have been removed by this intensive pit digging. Nonetheless, a small sherd of late Saxon St Neots ware and few worn sherds of Cotswold ware together with some probably residual medieval Oxford ware attest to earlier activity on the site. A sherd from a cooking pot from the latter fabric had been stained with purplish madder dye suggesting that small-scale dyeing occurred on the site. A tenement associated with late 12th century dye pots was recently excavated nearby at Brewer Street (Teague and Ford 2019). By the mid 13th century this cottage industry had been replaced by industrial sized hearths, possibly for heating dyeing vats, that required access to a nearby water supply, absent on this site. In addition, a crucible fragment, also likely to be residual, suggests non-ferrous metalworking occurred on or near the site prior to the 13th century.
- 5.1.2 Salter's survey places Trench 1 and the lift pit against the rear north-west corner of a property known as Bull Hall (Salter 1969, 92; Fig. 2). Its western boundary corresponds with the present boundary of the site, and a 19th century brick wall (460/470) revealed during the watching brief corresponds with its northern boundary. Such rear areas of properties were often set aside for pit digging as they were located well away from houses occupying the street frontages. As the pits were not bottomed it was not possible to ascertain their original function. Nonetheless, they are likely to have served as rubbish or cesspits, the extracted gravel and brickearth being utilised for yards and floor surfaces.
- 5.1.3 The earliest pit (146) seems to have been stone lined and probably dates to no later than the 13th or early 14th century. Heavily robbed, its basal fills were not investigated, though it likely to have served as a latrine, auguring suggesting a depth of c 1.9m. This early use of a stone-lined latrine is somewhat usual in Oxford and suggests occupants of some wealth or status resided on the property. The structure may be contemporary with the documented Jewish occupancy/ownership of the site prior to 1270–1 when Jacob the Jew sold it to Merton College. A stone-lined latrine of late 12th or early 13th century date was recently excavated at the corner of St Aldate's and Queen Street (Teague *et al.* 2020), a site also under Jewish occupancy at this time. The contents of the St Aldate's latrine were found to be consistent with Jewish dietary laws, with an absence of pig, eel or shellfish remains. This was supported by lipid analysis of the pottery from the feature, which suggested an absence of porcine fat, and that dairy and meat were processed in different vessels. Unfortunately, the truncation of pit 146 at the present site means that no assemblages are available from the feature to compare with the evidence from St Aldate's. However, the small faunal assemblage from Phase 1 features that stratigraphically post-dated pit 146 includes pig and eel bone, not consistent with a Kosher diet. This could suggest that these stratigraphically later deposits post-date 1270–1.

- 5.1.4 The charred plant and charcoal remains from Phase 1 features show a typical assemblage associated with domestic waste or hearth/oven rake-outs. The weeds confirm a disturbed backyard area that was also used as garden and cultivation. Phase 1 pits 139 and 318 were notable for containing a quantity of early glazed ridge tiles of late 12th or early 13th century date. Such material adorned the roofs of higher status buildings of this date.
- 5.1.5 The 14th century saw a change of use of the north-west corner the site with the deposition of a thick dump of gravel and limestone in order to support a gravelled yard surface. Its substantial nature and its location within the tenement would imply a surface intended to be regularly used for wheeled traffic rather than as a courtyard. By this time John de Dokelinton owned the west part of Bull Hall (Salter 1969, 149), which is described as being '34 feet wide and 157 long'. The latter measurement implies that it extended into Dokelinton's Inn that fronted St Aldates at this time. In 1404 the inn is said to have had a door on its south side (*ibid.*, 159), so perhaps the surface formed part of a lane leading to it from Pembroke Street. North-south aligned drain 116 would have served this lane and presumably led into Dokelinton's Inn. Further substantial dumping supporting a cobbled surface suggests that the lane was maintained and continued in use up to the later 14th century or later. Building material recovered from dump included a worn decorated stabbed Wessex floor tile (1280–1350?) and a moulded stone block from a window or part of a fireplace. Although it cannot be certain that this dump of material originated from the site, it certainly suggests that the material adorned a building of some substance.

5.2 Post-medieval

- 5.2.1 By the late 16th century a large, shallow pit (304) had been dug through the possible lane suggesting that it had gone out of use by this time. No such lane is apparent on the maps of Agas (1578; Fig. 3) and Loggan (1675; Fig. 4), the latter depicting a boundary between the former Bulls Hall and that of Dokelinton's Inn which continued in use until at least the late 19th century as it is depicted on the OS map of 1876. The pit may have been plantation bed associated with the gardens that are shown on Loggan's map within the rear of both properties. Thick garden soils recorded during the watching brief indicate that the site was open during the post-medieval period.
- 5.2.2 The boundary between the former properties of Bull Hall and Dokelinton's Inn was later marked by a brick wall (eg 450 and 460) as recorded during the watching brief. Other wall fragments correspond to structures that formerly occupied a yard behind Leden Hall Inn as depicted on the 1876 map.
- 5.2.3 The latest walls, which were built upon concrete foundations (eg 3 and 200), were set on a NE–SW angle and were aligned with the south-west corner of the existing building to the north of the site. This suggests that these walls formed part of a building that was once attached to its southern side. The present building is first depicted on the OS map of 1892–1914 which shows it to be to the rear of the Post Office on St Aldate's. It appears to have had a basement within its south side as denoted by two cellar walls that were approximately aligned with the building. Examination of the Post Office archives (Post Museum online) and enquiries regarding building records held the

Oxfordshire County Museum Service and at Oxford City Council (pers. comms.) showed that no details of this building exist in their archives.

- 5.2.4 The 1892–1914 map depicts an open space corresponding to the present yard behind Rochester House. Therefore, it is likely that the walls (2, 3 and 200) revealed in this area belong to a building constructed when the Post Office acquired the site after 1921. The small structure that walls 300 and 302 belonged to was positioned immediately to the west of this building and against the western boundary of the site. It had recently been demolished and was probably a toilet block. The OS map of 1949–68 depicts the area of the site fully built up by these dates.

6 PUBLICATION AND ARCHIVING

6.1 Publication

6.1.1 It is proposed that an edited version of this report be included in a forthcoming Thames Valley Landscapes Monograph that will incorporate a number of urban, Anglo-Saxon to post-medieval sites recently excavated within the walled city of Oxford and in its former western suburb. Publishing the site in this way – rather than as a standalone journal article – will enhance its value by allowing it to be considered in the context of other relevant nearby excavations.

6.2 Archiving, retention and disposal

6.2.1 The site archive will be deposited with Oxfordshire County Museum Service under accession number OXCMS:2015.237.

6.2.2 It is recommended that the unworked stone and burnt flint be discarded. One of each lithological type of the stone roofing (box list annotated) should be retained; the rest can be discarded. Up to 63 fragments of CBM have been marked for non-retention and these are recorded in the catalogue. The other artefacts, faunal remains and sample residues and flots are largely from stratified medieval contexts and are recommended for retention.

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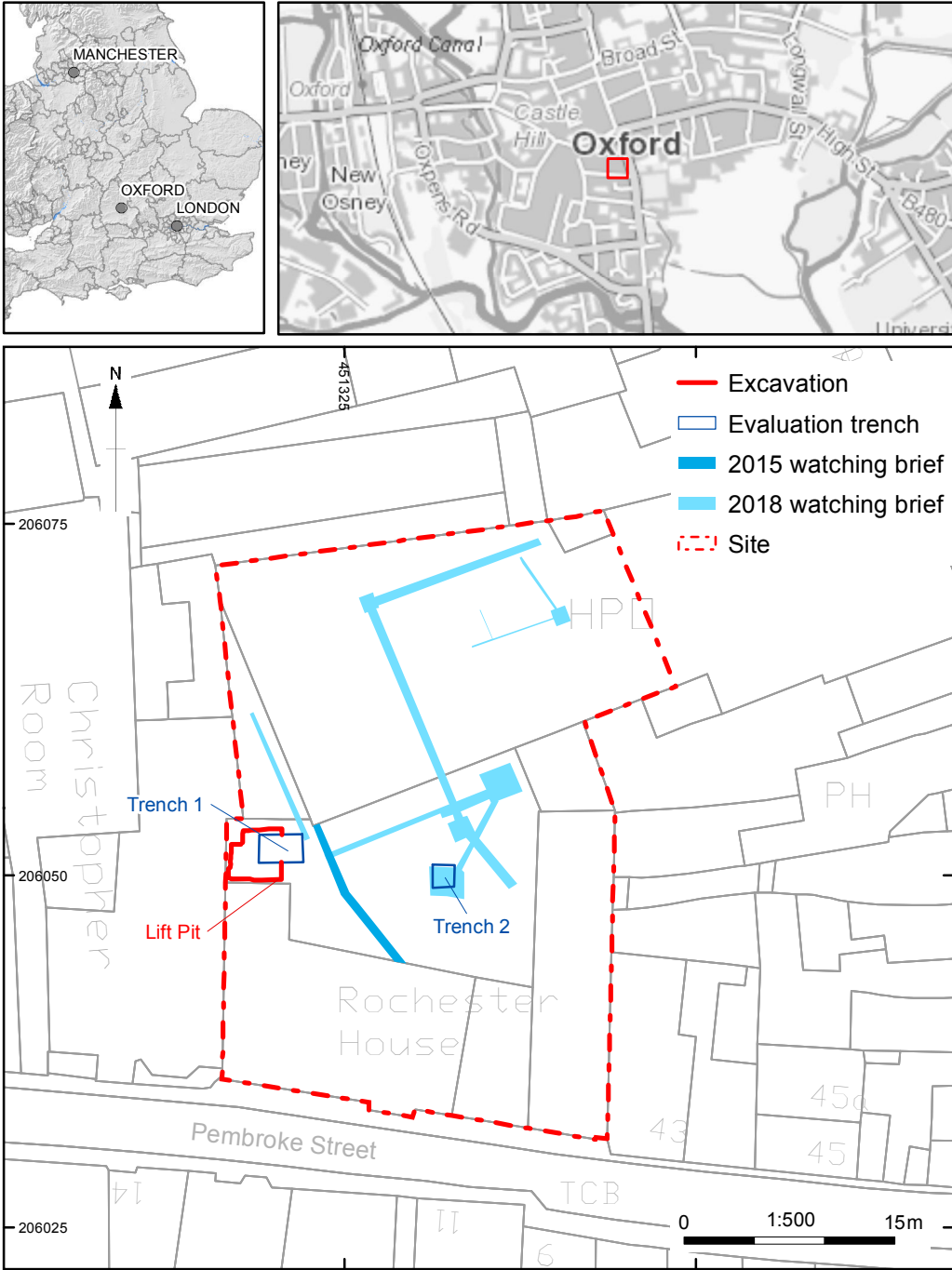
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APPENDIX A SITE SUMMARY DETAILS

Site name:	The Story Museum, Pembroke Street, Oxford
Site code:	OXSTRY18
Grid reference	SP 5133 0604
Type:	Excavation and watching brief report
Date and duration:	2015 and 2018–19 (approx. 3 months)
Area of site	c 0.1ha
Location of archive:	The archive is currently held at OA, Janus House, Osney Mead Oxford, OX2 0ES, and will be deposited with Oxfordshire County Museum Service in due course, under the following accession number: OXCMS:2015.237.
Summary of results:	Refurbishment of the Story Museum, Pembroke Street, Oxford led to a staged programme of archaeological work in 2015 and again during 2018 and early 2019 in mitigation of the development. This comprised an initial watching brief and trench evaluation, followed by a limited excavation on the site of a new lift pit and a watching brief for new drainage. The earliest features comprised several pits dated to the 13th or early 14th century, the earliest of which may have been stone-lined and was perhaps a latrine. Building material from the pits included early examples of glazed ridge tiles that may have derived from a contemporary building of some status. Later during the 14th century, a gravelled surface supported upon thick bedding deposits was laid over the pits, later flanked by a north–south drain. It is suggested that the surface may have formed part of a lane leading to the south door of Dokelinton’s Inn, documented to exist on the north side of the site during the 14th century. The lane appears to have continued in use until at the least the 15th century, after which the site seems to have been transformed into gardens. A possible cultivation bed containing 16th century pottery cut through the putative lane. Brick-built walls of 19th century and later date were recorded. The earliest were probably associated with structures occupying a yard behind Leden Hall Inn, as depicted on the 1876 Ordnance Survey map. Later walls on concrete foundations formed part of demolished buildings associated with the Post Office sorting office and/or telephone exchange, built between 1921–34. Part of a basement within the retained building on the north side of the site was also recorded.



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Figure 1: Site location

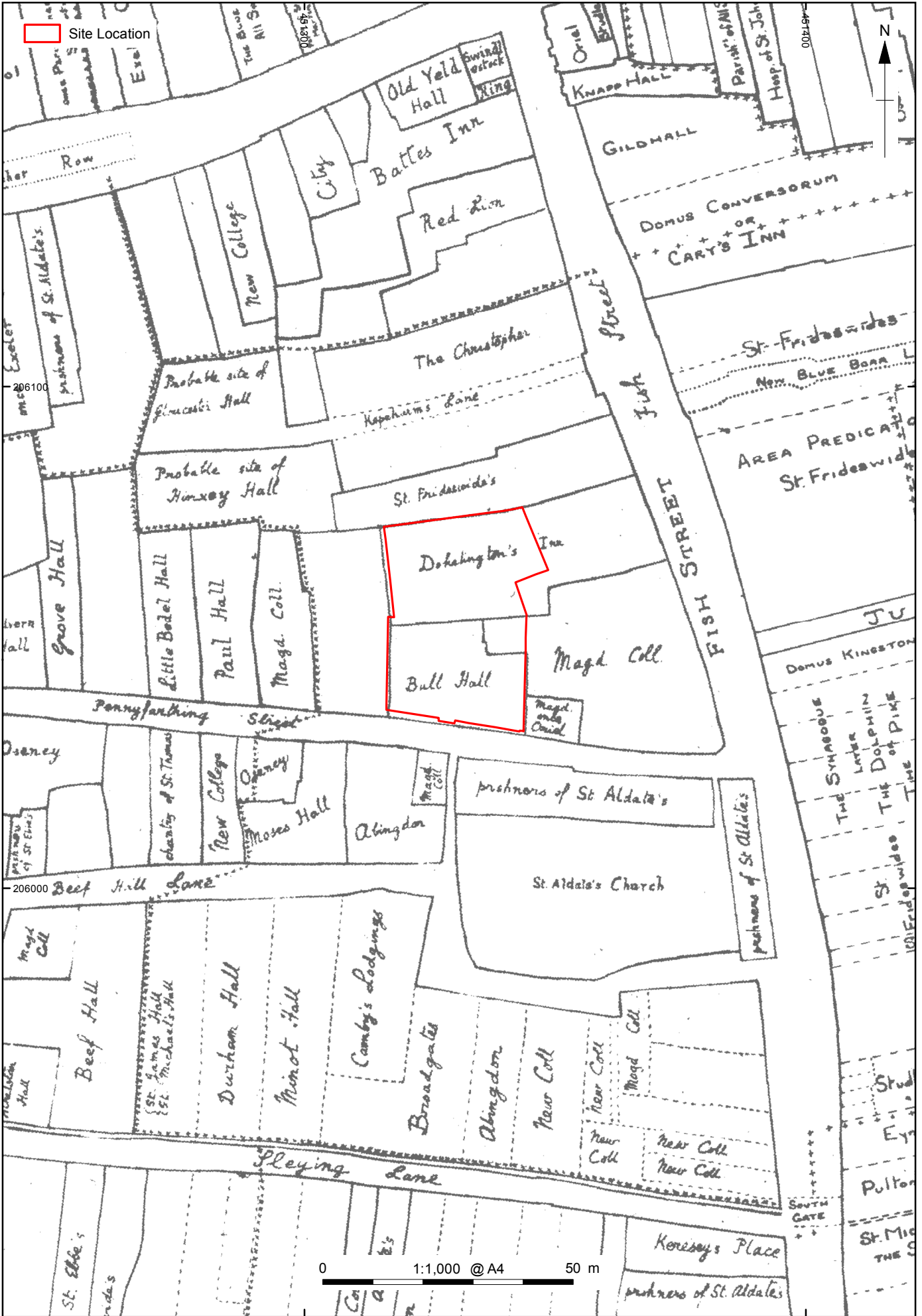


Figure 2: Extract from Salters survey of Oxford

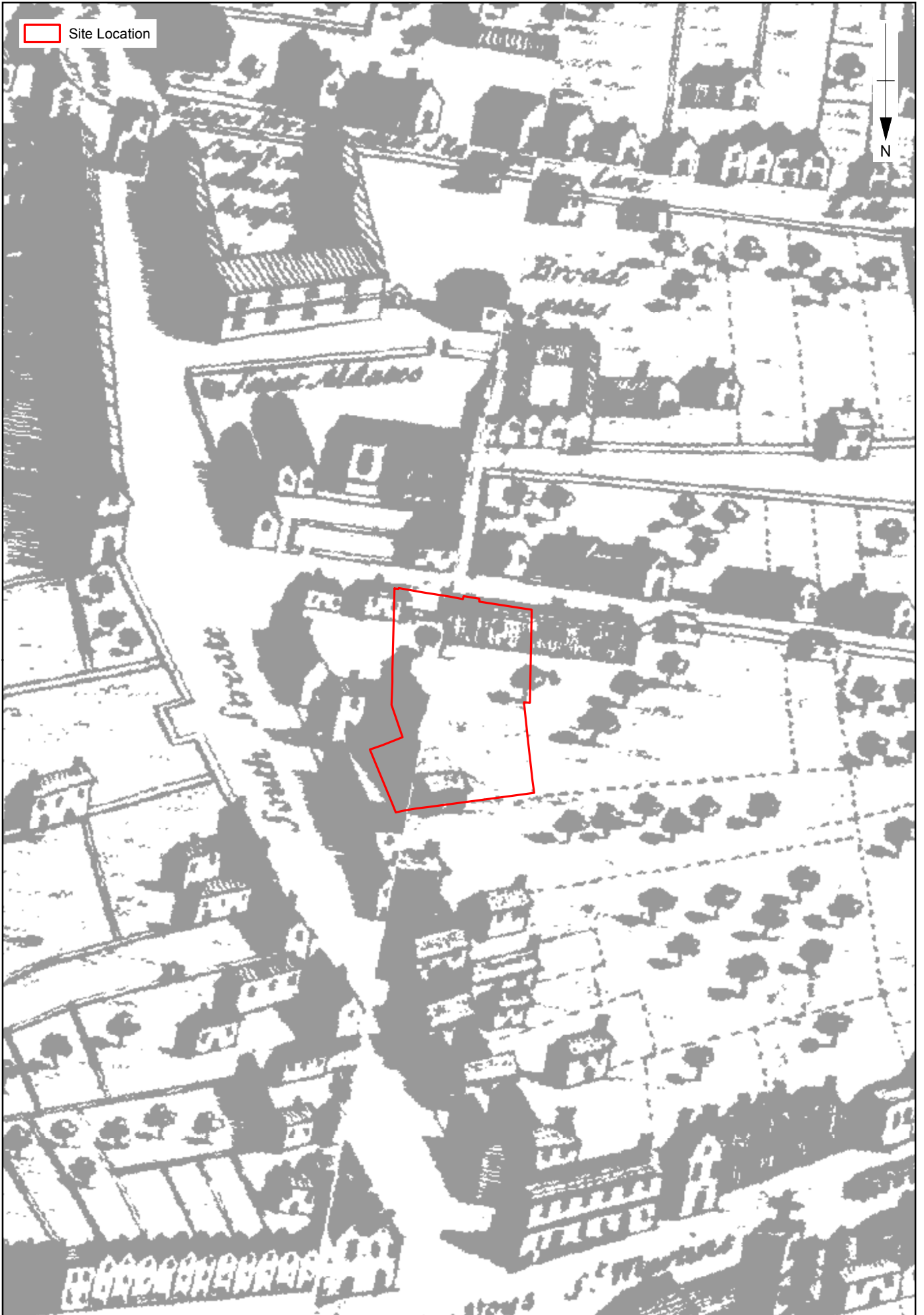


Figure 3: Extract from Agas map of Oxford (1578)

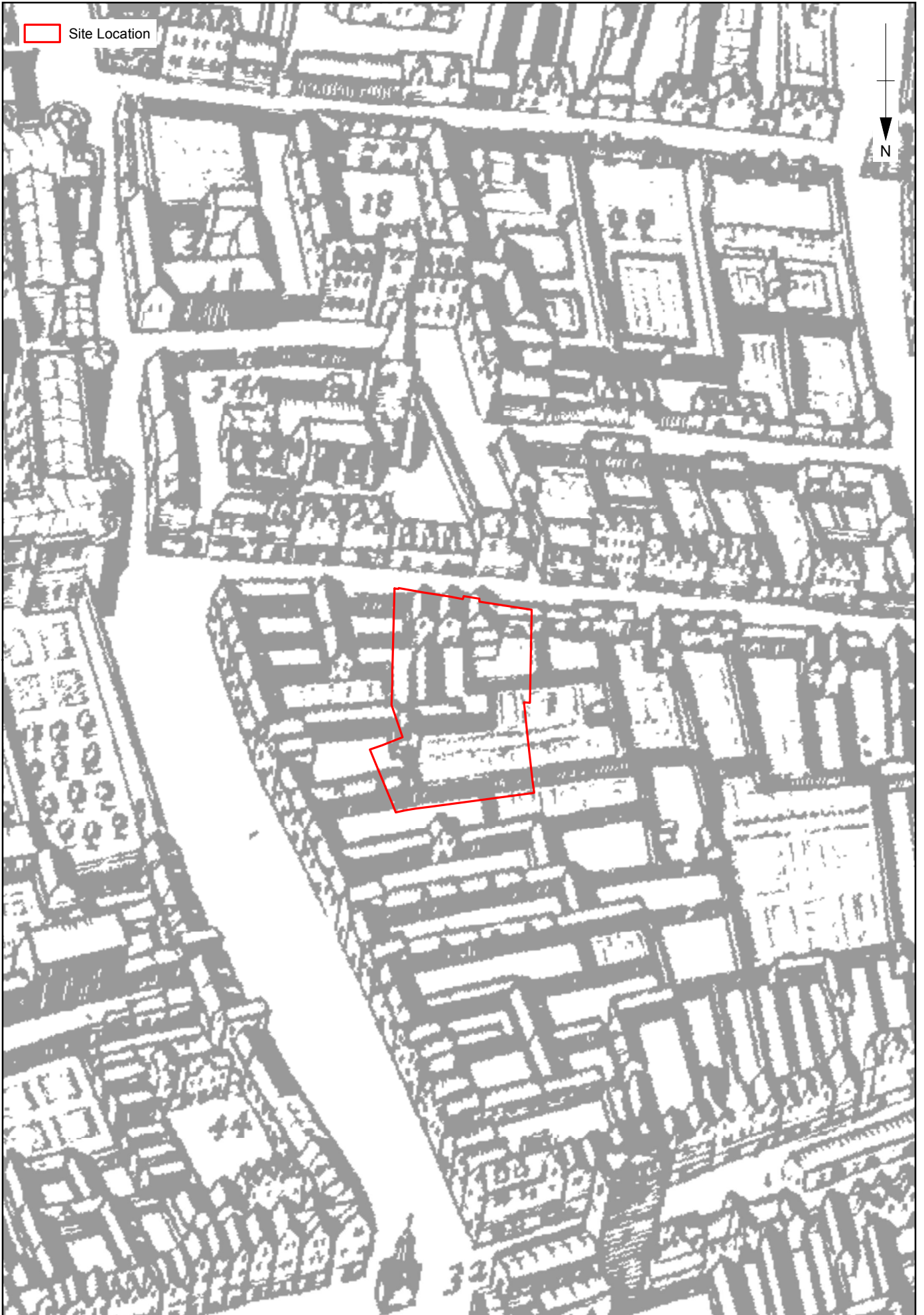


Figure 4: Extract from Loggan's map of Oxford (1675)

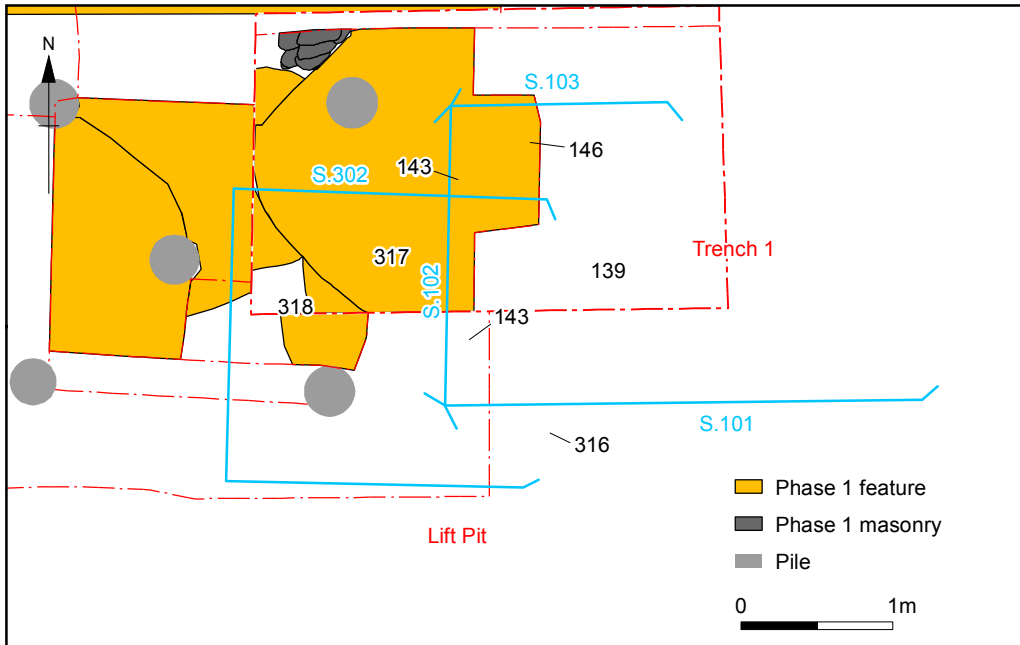


Figure 5: Trench 1 and Lift Pit (Phase 1)

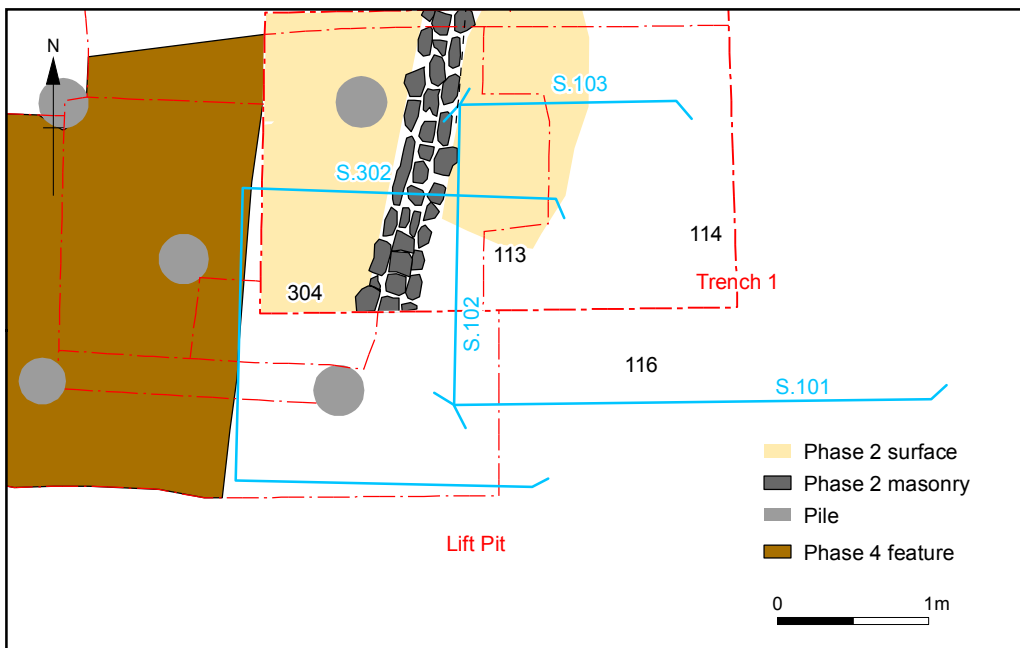


Figure 6: Trench 1 and Lift Pit (Phases 2 and 4)

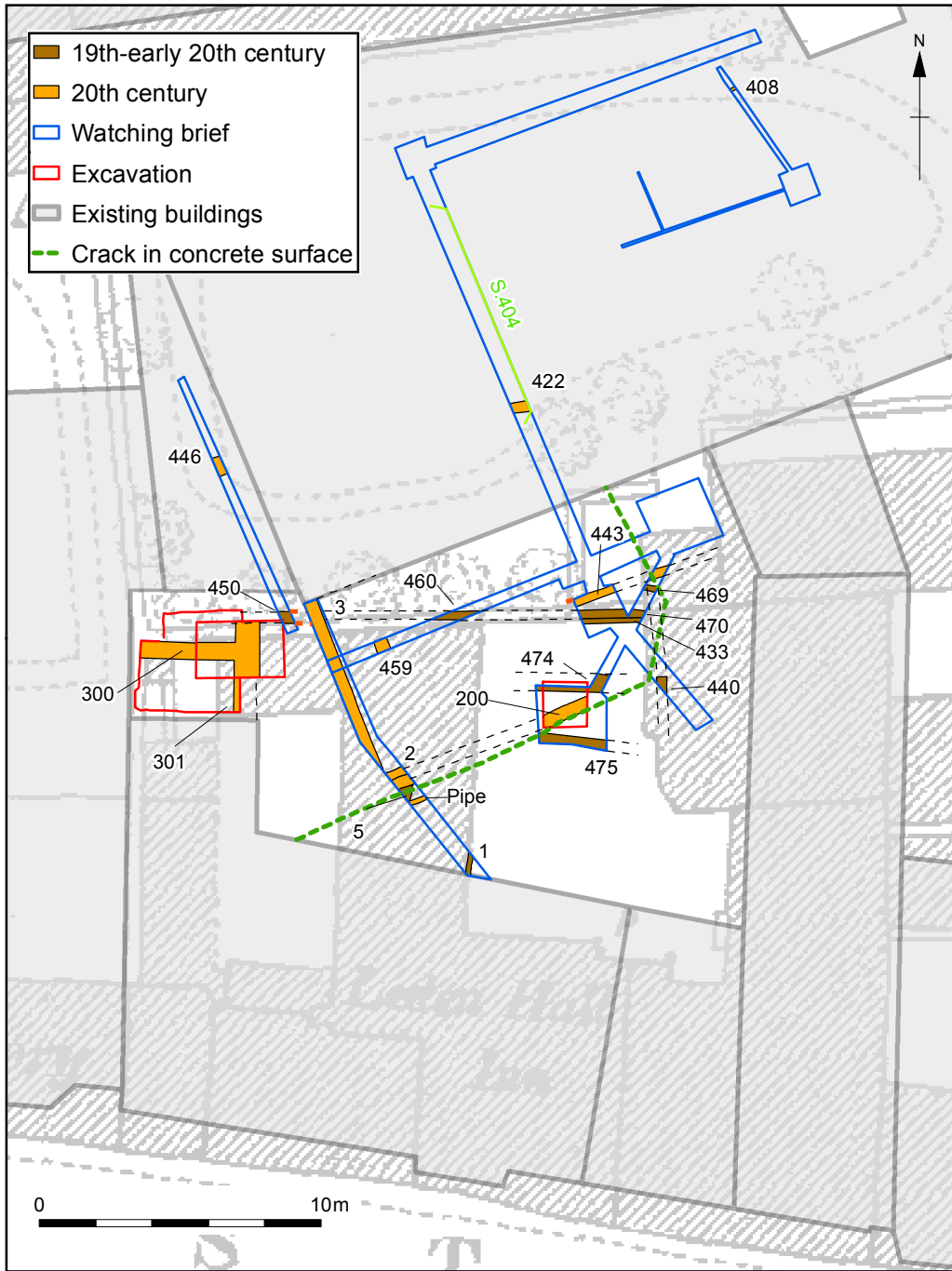


Figure 7: First edition Ordnance Survey map (1876) showing 19th and 20th century walls

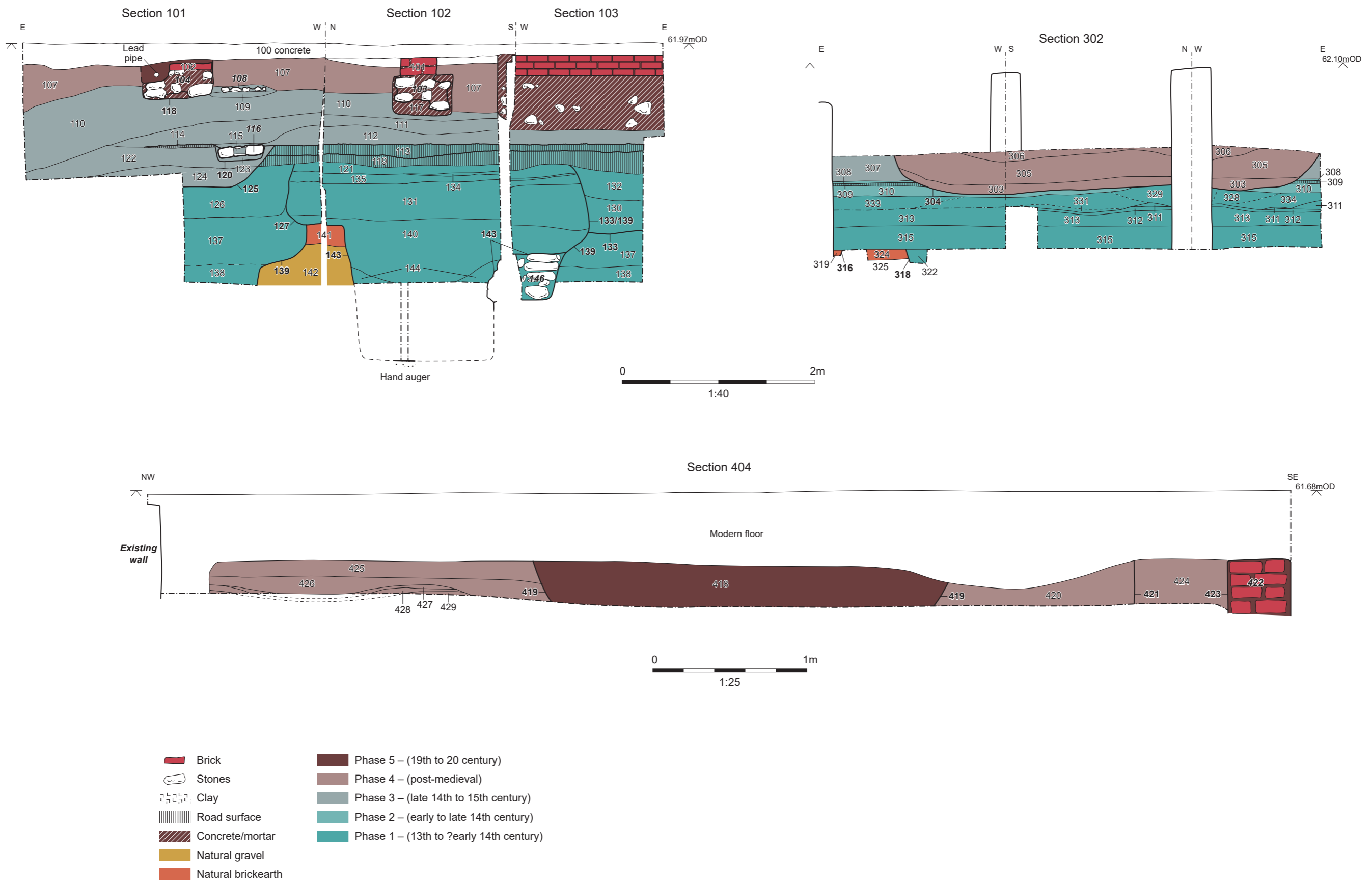


Figure 8: Selected sections



1



2



Figure 9: Decorated floor tiles



Plate 1: Possible pit lining 146 in the north-west corner of Trench 1



Plate 2: Trench 1 at impact depth



Plate 3: Stone-lined drain 116 and surfaces 113 and 114



Plate 4: General view of the lift pit at impact depth showing rubble makeup overlying pit fills, view SW



Plate 5: Victorian boundary wall 460 with an abutting structure on its south side, view N



Plate 6: Junction of Victorian walls 470/433 with 20th century wall 443, view W



Plate 7: 20th century basement wall 446



Plate 8: 20th century wall 3, view NW



**Head Office/Registered Office/
OA South**

Janus House
Osney Mead
Oxford OX20ES

t: +44 (0) 1865 263 800
f: +44 (0) 1865 793 496
e: info@oxfordarchaeology.com
w: <http://oxfordarchaeology.com>

OA North

Mill 3
Moor Lane
Lancaster LA1 1QD

t: +44 (0) 1524 541 000
f: +44 (0) 1524 848 606
e: [oanorth@oxfordarchaeology.com](mailto: oanorth@oxfordarchaeology.com)
w: <http://oxfordarchaeology.com>

OA East

15 Trafalgar Way
Bar Hill
Cambridgeshire
CB23 8SQ

t: +44 (0) 1223 850500
e: [oaeast@oxfordarchaeology.com](mailto: oaeast@oxfordarchaeology.com)
w: <http://oxfordarchaeology.com>



Director: Gill Hey, BA PhD FSA MCifA
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