

Worcester College Oxford: New Sub Main



Archaeological Watching Brief Report

oxfordarchaeology

southsouthsouth
January 2017

**Client: Carter Jonas LLP
on behalf of Worcester College**

Issue No: 1
OA Job No: 6531
NGR: SP 50965 06611



Client Name: Carter Jonas LLP on behalf of Worcester College
Document Title: Worcester College, Oxford: New Sub Main
Document Type: Archaeological Watching Brief Report
Issue/Version Number: 1
Grid Reference: SP 50965 06611
Planning Reference: 16/02207/FUL
Invoice Code: OXWOSMWB
OA Job Number: 6531
Site Code: OXWOSM16
Receiving Museum: Oxfordshire Museum Service
Museum Accession No.: OXCMS:2016.168

| Issue | Prepared by | Checked by | Edited by | Approved for issue by | Signature |
|-------|---|---|--|-------------------------------------|---|
| 1 | Robert McIntosh Field Supervisor, Rebecca Peacock, Project Officer | Gerry Thacker, Senior Project Manager | Leo Webley, Head of Post- excavation | David Score Head of Feildwork |  |

Document File Location: \\samba\Projects\o\Oxford Worcester College new sub
main\Report\OXWOSM16_Worcester College WB_291116
Graphics File Location: \\samba\Projects\o\Oxford Worcester College new sub
main\010Geomatics\01 PDFs\2016-11-11 report figures
Illustrated by: Matt Bradley and Sophie Lamb

Disclaimer:

This document has been prepared for the titled project or named part thereof and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authority of Oxford Archaeology being obtained. Oxford Archaeology accepts no responsibility or liability for the consequences of this document being used for a purpose other than the purposes for which it was commissioned. Any person/party using or relying on the document for such other purposes agrees, and will by such use or reliance be taken to confirm their agreement to indemnify Oxford Archaeology for all loss or damage resulting therefrom. Oxford Archaeology accepts no responsibility or liability for this document to any party other than the person/party by whom it was commissioned.

© Oxford Archaeology Ltd 2017

Janus House

Osney Mead

Oxford OX2 0ES

t: +44 (0) 1865 263800

e: info@oxfordarch.co.uk

f: +44 (0) 1865 793496

w: oxfordarchaeology.com

Oxford Archaeology Limited is a Registered Charity No: 285627



Worcester College, Oxford: New Sub Main

Archaeological Watching Brief Report

Written by Robert McIntosh and Rebecca Peacock

*with contributions from Lee Broderick, John Cotter Ian Scott and Ruth Shaffrey and
illustrated by Matt Bradley and Sophie Lamb*

Table of Contents

| | |
|--|-----------|
| Summary..... | 3 |
| 1 Introduction..... | 3 |
| 1.1 Scope of work..... | 3 |
| 1.2 Location, geology and topography..... | 3 |
| 1.3 Archaeological and historical background..... | 3 |
| 2 Project aims and methodology..... | 6 |
| 2.1 General..... | 6 |
| 2.2 Specific aims and objectives..... | 7 |
| 2.3 Methodology..... | 7 |
| 3 Results..... | 7 |
| 3.1 Pump Quad..... | 7 |
| 3.2 Main Quad..... | 8 |
| 3.3 The Main Quad bank..... | 8 |
| 3.4 Finds summary..... | 9 |
| 4 Discussion and conclusions..... | 9 |
| Appendix A. Finds..... | 11 |
| A.1 Pottery..... | 11 |
| A.2 Clay tobacco pipe..... | 12 |
| A.3 Ceramic building material (CBM)..... | 12 |
| A.4 Worked stone..... | 12 |
| A.5 Metal..... | 12 |
| A.6 Glass..... | 13 |
| A.7 Animal bone..... | 13 |
| Appendix B. Archaeological Context Inventory..... | 16 |
| Appendix C. Bibliography and References..... | 19 |
| Appendix D. Summary of Site Details..... | 20 |



List of Figures

| | |
|----------|---------------------------------------|
| Figure 1 | Site location |
| Figure 2 | Monitored works and section locations |
| Figure 3 | Section drawings 1, 2, 3 and 4 |
| Figure 4 | Section drawings 5, 6, 7, 8 and 9 |

List of Plates

| | |
|---------|---|
| Plate 1 | Section 1, Layers through Pump Quad, looking west |
| Plate 2 | Layers through Pump Quad, looking south-west |
| Plate 3 | Layers beneath concrete path, Pump Quad, looking south |
| Plate 4 | Section 4, Footings of south range of buildings, Main Quad, looking south |
| Plate 5 | Section 3, south of Main Quad, looking south |
| Plate 6 | Layers to the western end of the south side of Main Quad, looking south |
| Plate 7 | Section 6, Base of bank in north Main Quad, looking north |
| Plate 8 | Shot of works through Main Quad, looking south |
| Plate 9 | A model of a coffin plate with cherub's head decoration |



Summary

Oxford Archaeology (OA) was commissioned by Carter Jonas LLP on behalf of the Provost and Fellows of Worcester College to undertake an archaeological watching brief on the site of the renewal of electrical sub main cables and ducting for data cables through Pump Quad and around Main Quad.

The trenching revealed a series of layers dating from the 18th century overlain by modern material. Excavation through the large bank on the north side of Main Quad indicated that it was constructed up against the current buildings as opposed to pre-dating them.

1 INTRODUCTION

1.1 Scope of work

- 1.1.1 Oxford Archaeology (OA) was commissioned by Carter Jonas LLP on behalf of the Provost and Fellows of Worcester College to undertake an archaeological watching brief on the site of the renewal of electrical sub main cables and ducting for data cables through Pump Quad and around the Main Quad.
- 1.1.2 The work was undertaken as a condition of Planning Permission (planning ref: 16/02207/FUL). A planning consultation response (OCC 2016), outlining the work required was issued by David Radford, the Oxford City Archaeologist and used in the production of a Written Scheme of Investigation (OA 2016) on which this fieldwork was based.
- 1.1.3 All work was undertaken in accordance with local and national planning policies.

1.2 Location, geology and topography

- 1.2.1 The college lies to the western side of the centre of Oxford and is bounded by Worcester Street to the east, and the grounds and gardens of the College to the west, north and south (Fig. 1). The site lies at c 60m OD.
- 1.2.2 The area of development consisted of the Main Quad, the bank, surrounding paving steps and paths and Pump Quad (Fig. 2), situated to the south-east.
- 1.2.3 The geology of the area is the Northmoor Sand and Gravel Member overlying the Oxford Clay Formation (BGS website).

1.3 Archaeological and historical background

- 1.3.1 The archaeological and historical background were summarised in the Written Scheme of Investigation (OA 2016) and further information has been added from a previous desk based assessment (OA 2011). Detailed references are found in these documents, and are not repeated here.

Previous archaeological work

- 1.3.2 Four archaeological evaluations have been carried out within the grounds of Worcester College, two to the north of the site and two to the south (OA 2016). The two evaluations at the northern end of the College grounds exposed a former channel of the River Thames 240m from Main Quad, and landfill that included a rubbish pit dating from the Victorian period c 160 metres from the Quad. The two evaluations at the southern end of the grounds both found deposits of undated peat associated with former channels c 100m from the Main Quad.



- 1.3.3 Excavations along Walton Street c 250m north of the site recorded a number of pits containing stone implements. A watching brief at St Cross College c 250m north east of the site recorded ploughsoil from a medieval strip property. Excavations and a watching brief were undertaken at the Ashmolean Museum 210m north-east of the site in 1994 and 2008 and revealed multi-period settlement evidence. Watching briefs were also carried out at Walton Street and at Beaumont Buildings c 120m to the north-east of the site. The work at Walton Street recorded a well while sherds of medieval pottery were recovered at Beaumont Street.

Prehistoric Period

- 1.3.4 The site is located on a gravel spur between the rivers Thames and Cherwell. Archaeological investigations have shown that this spur was used extensively in the prehistoric period for ritual and burial purposes.
- 1.3.5 Three ring ditches dating from the Bronze Age were recorded at the former site of Radcliffe Hospital 500m to the north-east of the site. These features varied in diameter between 45m and 60m, making them very similar in size to other ring ditches recorded from the air and by geophysical surveys at University Parks. These ring ditches along with those at the Radcliffe site appear to be part of an extensive prehistoric landscape that stretches across this part of Oxford on the first gravel terrace (Lambrick 2013).
- 1.3.6 A Neolithic henge monument was also uncovered during excavations at Keble College c 300m to the north-east of the site. This reinforces the view that this part of Oxford, between The Parks and the Thames, was once a prehistoric funerary landscape. Further evidence for this landscape was found in the form of a Bronze Age ring ditch during excavations at 24a St. Michael Street, c 250m to the south-east of the site (OA 2011).

Roman Period

- 1.3.7 In the Roman period the area appears to have been open agricultural ground with little or no recorded settlement, and away from the main thoroughfares.

Early Medieval Period

- 1.3.8 In the post-Roman period the gravel spur appears to have been resettled. The site itself was located north-west of the late Saxon burh of Oxenaford that was established in the 10th century by Alfred the Great (OA 2011).
- 1.3.9 A rampart and ditch apparently dating from the creation of the burh in the 10th century were recorded during excavations at 24a St. Michael Street in the mid-1980s. A number of late Saxon pits were recorded under the motte of Oxford Castle to the south in the early 1950s. Saxon artefacts, but no features, were recorded during investigations at the Sackler Library 145m to the east of the site in the late 1990s. A large number of late Saxon pits were found during excavation at the Ashmolean Museum c 220m to the north-east in the late 1990s. These pits appeared to be located within yards to the rear of properties that were thought to have fronted onto St. Giles, the main northern thoroughfare out of the burh (OA 2011).

Later Medieval Period

- 1.3.10 The site is located c 250m to the north-west of the medieval walled City of Oxford and c 250m to the north of the site of Oxford Castle (first built in 1071). A series of excavations over the years have established the route of the city wall, while further excavations have established the location of the moat of Oxford Castle and the various construction phases of the motte. Other medieval settlement evidence within the area



includes a medieval strip property that was investigated at St Cross College in the 1990s. This was located outside the medieval walled town. Pits dating from the 13th century were recorded at Pusey Lane in the late 1950s. Rubble cottage wall footings dating from the 13th century were found at 6 Fisher Row in the early 1960s.

- 1.3.11 A figurine of St. Michael and the dragon was found during work to build new rooms at Worcester College in 1824. This figurine is presumed to have come from an earlier phase of Gloucester College.
- 1.3.12 A medieval paved way was found below 3m of overburden at the southern end of Worcester Street, to the south east of the site. Burials were found during excavations at the Oxford Playhouse on Beaumont Street to the east. These were probably part of the cemetery connected with Whitefriars Priory. Settlement evidence was also uncovered c 20m to the south-east of these burials. The foundations of mid to late medieval properties were also excavated at Friar's Entry to the east of the site (OA 2011).

Gloucester College

- 1.3.13 In 1265 Sir Nicholas de Meules granted a house on the west side of Walton Street to the Carmelite Friars. This is the first evidence for development within the Worcester College precinct and the Carmelites were granted further lands by Osney Abbey to enlarge their grounds as far as the River Thames where they also had a landing stage near Hythe Bridge. The gateway to the Carmelite land still stands on Walton Street, immediately to the north of the current Worcester College entrance.
- 1.3.14 Gloucester College was founded in 1283 for the Benedictine monks of the province of Canterbury. The Benedictines had been attempting to find premises in Oxford since 1277 and in 1283, Sir Nicholas Gifford bought a house on the east side of Walton Street for St. Peter's Abbey, Gloucester. Gloucester College took its name from this establishment. In 1315 the monks acquired the palace of Beaumont from King Edward II and extended it into part of Gloucester Green with the main approach through Friar's Entry. The old Carmelite Monastery was then sold to the Benedictine Order. In 1321 the Benedictines purchased the site of the former Carmelite house. The oldest extant buildings in Worcester College are the ranges of Camerae, or chambers, on the south range of the quad, which date from the 15th century (OA 2011).

Gloucester Hall

- 1.3.15 Following the dissolution of the monasteries in 1542, Gloucester College was expropriated to the Crown and then granted to the Bishop of Oxford in 1542. The Bishop sold the site on to Sir Thomas Whyte, the founder of St. John's College, who used it as a storage annexe (renamed Gloucester Hall) for his own college (OA 2011).

Post-Medieval Period

- 1.3.16 Archaeological investigations throughout the 20th century have exposed evidence of post-medieval settlement to the north, east and south-east of the site. These include burials to the rear of the former Quaker Meeting House, 210m to the north-east of the site and at Mount 130 metres to the south. The latter are believed to be associated with an outbreak of plague in 1644-5.

Gloucester Hall

- 1.3.17 During the Civil War Gloucester Hall was used as a barracks and then occupied by squatters. Many of the buildings then fell into disrepair until 1662 when Benjamin Woodroffe, the principal of Gloucester Hall, commissioned many of them to be restored, including the former royal Beaumont Palace (OA 2011).



1.3.18 Gloucester Hall was sketched by Loggan in the late 17th century and this illustration was published, along with other drawings in his *Oxonia Illustrata* in 1675. This plan shows the main buildings of the former college intact, apart from one former chapel and the cloister which appear to be ruinous. The lower stories of the buildings that are shown surrounding the Pump Quad survive today along the east and south of the quad (OA 2011) and the south range of Gloucester Hall. From the trees visible in the sketch it appears that this area was also an open space in this era. This is confirmed by Loggan's general map of Oxford which shows open fields immediately to the south of Gloucester Hall (OA 2011).

Worcester College

1.3.19 Worcester College was founded in 1714 after a Worcestershire Baronet, Sir Thomas Cookes, donated funds to establish a new Oxford college (OA 2011). As a result of this, the central portion of the former Gloucester Hall buildings were rebuilt following designs commissioned from Sir Nicholas Hawksmoor, the architect responsible for much of the 18th-century college design across Oxford. The North range, the Library, Hall and Chapel were completed over the period between 1720 and 1786. The college also purchased gardens and meadows to the south in 1741 and to the north and west in 1744-5. A lake was dug in front of the Provost's House in the early 19th century in an attempt to combat frequent flooding and to store any overflow water from the new Oxford Canal which had been constructed following the sale of land by the College to the canal company in 1788. Beaumont Street was opened in 1820, linking the Hawksmoor designed college frontage to the city centre. The college buildings were expanded and developed throughout the mid 19th century. In 1824-5 the old buildings on the quadrangle were heightened to create additional space for student residences, with the kitchen converted into further rooms, and a new kitchen constructed in the 1840s.

Modern Period

1.3.20 By the 1850s the railway had arrived connecting Oxford to London with the station located to the west of the college. Together with the construction of the canal, this saw a rapid expansion of settlement in West Oxford leading to the creation of the suburb of Jericho. This was characterised by closely constructed housing for the workers serving the new industries which had grown up along the canal and the railway, while the College and its grounds retained the rural character of pre-industrial west Oxford.

1.3.21 The first edition OS map of Oxford in 1878 shows Worcester college in great detail. The Pump Quad is clearly labelled, although the building attached to the south side of the College's Hall is much smaller than the current version that was constructed in the mid 20th century. The area to the south of the mid 19th century extension to the college, is labelled as 'College Rooms'. The northern half of this area is shown as open courtyard, as it is today. The southern half is occupied by a triangular building divided into many small rooms, its function unclear. To the south of this is a Fives Court.

2 PROJECT AIMS AND METHODOLOGY

2.1 General

2.1.1 The aims of the project were:

- To identify and record any significant archaeological remains revealed during the ground works, with particular regard to remains of medieval and post-medieval date. Any remains will be interpreted with regard to the known archaeology of the College and grounds and current resource assessments and agendas.



2.2 Specific aims and objectives

2.2.1 The specific aims and objectives of the watching brief were:

- to mitigate the impact of the intrusive works through preservation by record.

2.3 Methodology

2.3.1 A summary of OA's general approach to excavation and recording can be found in Appendix C of the Written Scheme of Investigation (WSI). Standard methodologies for Geomatics and Survey, Environmental evidence, Artefactual evidence and Burials can also be found in the WSI (Appendices D, E, F and G respectively).

2.3.2 Site specific methodologies were as follows:

- (i) A detailed watching brief was undertaken during all significant ground works, with the OA Supervisor liaising with the ground works contractor regarding the works programme and timing of visits.
- (ii) Where archaeological remains were uncovered then construction work ceased until a suitable record had been made.
- (iii) The monitored trench ran north from a doorway in the southern edge of Pump Quad to a manhole excavated in the middle of the quad. From this manhole trenches were excavated north to a doorway in the quad's northern wall and north-west through the intersection between Pump Quad and Main Quad (Fig. 2).
- (iv) Within Main Quad the trench extended from the Pump Quad to a manhole in the south-east corner on the Main Quad. The majority of the excavations in Main Quad were limited to following the existing pathways. A trench ran west from the manhole for almost the entire length of Main Quad with three small trenches extending south from it to the southern range of buildings. A trench also ran north from the manhole until reaching the base of the bank where it turned west to link to a further manhole. From this second manhole the trench ran north through the grass bank into a third manhole on top of the bank. A short trench extended north from this into a large vertical shaft against the wall of the northern range of buildings. A trench also ran from the manhole at the bottom of the bank west along the path (Fig. 2).

3 RESULTS

3.1 Pump Quad

3.1.1 The earliest deposit in the northern extension of the trench in Pump Quad was 102, a loose yellow sand 0.3m thick which was sealed by a thin layer of loose purplish red crushed rubble. This was sealed by layer 100, which formed the surface of the majority of Pump Quad. Layer 100 consisted of loose medium grey-brown sandy gravel and contained pot, bone, glass, metal, ceramic building material and oyster shell. This layer was extensively cut and disturbed by services, multiple electricity cables, water pipes and drainage pipes crossing the Quad (Fig. 3, Sections 2 and 4). Despite these truncations, layer 100 was clearly visible in every excavation within Pump Quad.

3.1.2 In the western extension of the service run, between the Pump Quad and the Main Quad, a red brick drain (103) constructed from unfrogged bricks was sealed by the make up layer 100. It was cut by a footing 107, filled by concrete to retain a wooden post which was sealed by a loose yellowish grey coarse sand infill, 106. This was in turn truncated by a service trench filled with red unfrogged bricks, 108. The upper level of the trench comprised two concrete surface layers, 105 and 104 (Fig. 3, Section 2) which were present around the north and western edges of Pump Quad.



- 3.1.3 At the intersection of Pump Quad and Main Quad part of the footing of the upstanding buildings (112) bordering the south side of Main Quad was revealed (Plate 4), and extended over 0.8m beneath the ground surface (Section 4, Fig. 3). Footing 112 was constructed from roughly hewn limestone blocks. The footings followed the line of the walls, however the direct relationship with the upstanding wall could not be seen as a service duct was present between the two.
- 3.1.4 Layer 100 butted against the footings and extant walls. Previous cuts for services had considerably disturbed this deposit as seen in Section 4 (Fig. 3). A copper alloy model of a coffin plate was found in this layer (see Appendix A.5; Plate 9).

3.2 Main Quad

- 3.2.1 The section of trench running along the southern edge of the Main Quad followed the existing pathway. The earliest deposit encountered was layer 111, which was not excavated beyond impact depth, and was only revealed to 0.05m thickness. It consisted of a loose, light creamy-yellow, chalky sand and was sealed by layer 110, averaging 0.2m in depth, and similar to layer 100, but darker in colour and with a greater concentration of kitchen waste and oyster shells (Section 3, Fig. 3; Plate 5). This was in turn sealed by 109, a layer of chalky sand, 0.1m in depth. The uppermost deposit was again layer 100, which was 0.3m thick in this area.
- 3.2.2 The trench running along the north side of Main Quad at the base of the bank revealed a make up layer, 125, of moderately compact, yellowish-brown silty sand, with rectangular stone inclusions. This was sealed by an identical sequence of layers 111, 110, 109 and 100, (Sections 3 and 9; Plate 6), identical to that noted on the south side of Main Quad.
- 3.2.3 The earliest deposit in the trench running along the east side of the Main Quad was layer 115. It consisted of loose, light creamy-yellow chalky sand and was similar to layers 109 and 111. The top of the deposit was revealed at the base of the trench. Above this was layer 114, 0.3m thick and consisted of a loose, blueish-grey silty sand, with frequent kitchen waste and oyster shells (Fig. 3 Section 5; Plate 7). Layer 114 was very similar to layer 110 found along the northern and southern sides of the quad, but had been partially removed to the south. Three modern brick-built silt traps were located along this section of trench. The whole trench was sealed by layer 100 which was 0.3m thick.

3.3 The Main Quad bank

- 3.3.1 The southern section of the trench that went through the bank deposits showed a continuation of layer 114, which was again sealed by layer 100. This was in turn sealed by 117, which consisted of a firm, greyish-brown sandy silt with small pebble and sand inclusions. Layer 117 was up to 0.1m thick (Fig. 4, Section 6). The area of the upper pathway consisted of a very compact light grey crushed masonry and mortar layer, 119, which was sealed by 118, a loose dark, greyish brown sandy silt with small pebbles and was topped by garden soil and turf, a total thickness of 0.3m (Fig. 4, Section 7).
- 3.3.2 The base of the bank at the top of the slope consisted of layer 123, a very compact light grey crushed masonry and mortar deposit 0.2m thick. This extended below the level of impact from the service trench and was sealed by 1.05m of loose, light grey crushed masonry and mortar (122), very similar to layer 123 beneath it but not as compacted. Sealing this was layer 121, which was 1.1m thick, a loose greyish- brown sandy gravel, heavily truncated by services. Deposit 121 was in turn sealed by layers 124 and 120, both modern path material, and was very similar to layer 100 (Fig. 4, Section 8).



3.4 Finds summary

- 3.4.1 Probably the most notable find was the model coffin plate (Plate 9) recovered from context 100. The finds assemblage consisted of pottery, clay pipe, ceramic building material (CBM), stone, glass, animal bones and mollusc shells. The full reports are included in the appendices to this report and are summarised below.
- 3.4.2 A total of 21 sherds of pottery weighing 879g were recovered from three contexts, of mixed medieval and post-medieval date. The condition of the material is generally good. The earliest piece is a sherd of East Wiltshire/Kennet Valley B ware (OXAQ, c 1150-1350). A moderate quantity of 17th century pottery was recovered, but this all appears to be residual in 19th century contexts. Domestic pottery typical of Oxford sites is represented.
- 3.4.3 A total of 7 pieces of clay pipe weighing 40g were recovered from three contexts, 100, 110 and 119. The condition of the material is fairly poor. One of the five fragments from context 100 produced a late 18th-19th century date, the rest probably dated from the 17th century and late 17th century to early 18th century.
- 3.4.4 A single piece of CBM was recovered. A fragment from the rim/collar area of a brown salt-glazed stoneware drainpipe of large diameter was dated to the 19th century rather than later.
- 3.4.5 A single piece of stone was retained from 110. This is a very thin piece of shelly limestone, probably Forest Marble, with a large circular perforation. It was probably used as stone roofing and may be a thin sliver that has sheared off a much thicker roofstone, but possibly from another object altogether.
- 3.4.6 The small decorative plate recovered from context 100 appears to be a model of a coffin plate with a non-functional drop handle. The decoration at the centre of the plate of a cherub's head and wings was a common motif on 19th century coffin fittings. It was found in the trench section (Section 4) between the Pump Quad and Main Quad.
- 3.4.7 There just three pieces of glass comprising two pieces of vessel and a single thin piece of flat colourless window glass. All three sherds are from context 100.
- 3.4.8 A total of 48 animal bones and 3 mollusc shells were recovered from the site. The most common species represented were caprines (sheep – *Ovis aries* and goats – *Capra hircus*), followed by domestic cattle (Table 1, Appendix A.7). With one exception, all of the post-cranial elements recovered from all species were fused epiphysially, providing limited opportunity for ascertaining age at death. The exception was a rabbit (*Oryctolagus cuniculus*) femur, which was unfused at both ends. The young rabbit bones might be indicative of intrusive burrowing activity, or alternatively they may originate from table waste. The domestic cattle specimens consist mainly of metapodials, which are not generally associated with food waste, just one specimen (a scapula) is associated with any amount of meat and that is not a prime cut. The caprines follow a similar, but less severe pattern. Domestic fowl (*Gallus gallus*) are widespread at this time, due to the ease with which they can be kept in cities as well as farmyards, and oysters (*Ostrea edulis*) are a food associated with poverty in the Early Modern period, before over-harvesting and resultant scarcity led to an association with higher status food in the 20th century.

4 DISCUSSION AND CONCLUSIONS

- 4.1.1 The earliest deposit identified from the available dating evidence was 114, the lowest deposit present within the lower area of bank to the north of the Main Quad, and containing a single sherd of pottery dating from 1550-1700. The remainder of the dated



deposits contained finds of Victorian date, in addition to occasional residual material. The areas investigated had mostly been disturbed by the existing cable trenches, and evidence for earlier services was often present.

- 4.1.2 The core of the bank running around the north and eastern edges of the Main Quad was constructed of two layers of crushed building rubble, possibly originating from the buildings that pre-dated those of 18th century date currently standing. Finds from the lower of these two layers, 119, indicate that the bank was constructed in the 19th century.



APPENDIX A. FINDS

A.1 Pottery

By John Cotter

- A.1.1 A total of 21 sherds of pottery weighing 879g were recovered from three contexts. This of mixed medieval and post-medieval date. The condition of the material is generally good. The earliest piece is a sherd of East Wiltshire/Kennet Valley B ware (OXAQ, c 1150-1350). There is quite a lot of 17th century pottery, but this all appears to be residual in 19th century contexts. Domestic pottery typical of Oxford sites is represented.
- A.1.2 Given the small size of the assemblage a separate catalogue has not been constructed and instead the pottery is simply described and spot-dated below. Fabric codes referred to for the medieval wares are those of the Oxfordshire type series (Mellor 1994) whereas post-medieval pottery fabric codes are those of the Museum of London (MoLA 2014).

Context (100) Spot-date: c 1850-1900

- A.1.3 Description: 13 sherds (340g). 1x scrap possibly from ?teacup in transfer-printed whiteware (TPW) with 'flow blue' decoration ext (Mid 19C+). 1x rim from bone china saucer (BONE, c 1796+) with gilded border lines. 1x frag Staffs-type whiteware figurine - possibly a human leg or an arm - with red painted lines and dots (REFW PNTD, c 1840+). 1x small handle frag Staffs white stoneware (SWSG, 1720-1780). 3x sherds (2 body, 1 handle) from jugs in Frechen stoneware (FREC, c 1550-1700). 2x joining flat base sherds from vertical sided bowl in post-medieval red earthenware (PMR) with dark brown glaze all over int and ext (probably 18C). 3x sherds Brill/Boarstall ware (OXAM) incl rod handle from late medieval drinking jug with stabbed dec down the back and patchy green glaze ext, and body sherd (bo) from jug/jar with int green glaze (possibly 15/16C), and including one sherd (43g) from an unusual late medieval (15C?) green-glazed form - possibly a condiment dish (lacking rim) attached to a larger dish (possibly square or rectangular) with a short flaring plain rim and flat base (knife-cut/trimmed). 1x large fairly fresh sagging base from a cooking pot in East Wiltshire/Kennet Valley B ware (OXAQ, c 1150-1350).

Context (110) Spot-date: c 1820-1900

- A.1.4 Description: 7 sherds (508g). 1x flat base sherd from plain dish in refined white earthenware (REFW, c 1806-1900). 2x joining wall sherds from moulded dish possibly in Wedgwood-type creamware with green glaze (CREA GRN, c 1760-1830), quite thick-walled with moulded radial foliage and buds internally in the style of Wedgwood cabbage leaf bowls, green-glazed int and with a thinner very decayed green glaze all over ext. 2x large fresh joining sherds from the pad base and lower wall of large jug/flagon with unusually flaring walls in grey salt-glazed English stoneware (ENGS), probably first half of 19C. 1x FREC Bellarmine mask c 1640-1660 with hourglass mouth, on neck sherd. 1x sherd from damaged frilled base of globular drinking mug in Raeren stoneware (RAER, c 1480-1550).

Context (114) Spot-date: c 1550-1700

- A.1.5 Description: 1 sherd (31g). 1x yellow-glazed Border ware (BORDY), body sherd from dish wall. Fairly fresh.



A.2 Clay tobacco pipe

by John Cotter

- A.2.1 A total of 7 pieces of clay pipe weighing 40g were recovered from three contexts. The condition of the material is fairly poor. Given the small size of the assemblage a separate catalogue has not been constructed and instead the pipes are simply described and spot-dated below.

Context (100) Spot-date: Late 18th to 19th century.

- A.2.2 Description: 5 pieces (29g): 5x stem fragments probably from separate pipes. 1 with stem bore diameter of c 2mm (burnt), L18-19C. The rest probably 17C and late 17C to early 18C.

Context (110) Spot-date: c 1650-1690.

- A.2.3 Description: 1 piece (10g): Damaged bowl base with stubby spur. Probably Oxford Type B c 1650-1690.

Context (119) Spot-date: Late 18th to 19th century.

- A.2.4 Description: 1 piece (1g): Stem fragment. Slender with narrow bore diameter of c 2mm.

A.3 Ceramic building material (CBM)

by John Cotter

- A.3.1 A single piece of CBM was recovered. This has not been separately catalogued but is described below. No further work is recommended.

Context (100) Spot-date: c 1820-1925.

- A.3.2 Description: 1 piece (163g). Fragment from the rim/collar area of a brown salt-glazed stoneware drainpipe of large diameter. 19th century rather than later.

A.4 Worked stone

By Ruth Shaffrey

- A.4.1 A single piece of stone was retained (110). This is a very thin piece of shelly limestone, probably Forest Marble, with a large circular perforation. It was probably used as stone roofing and may be a thin sliver that has sheared off a much thicker roofstone, but is possibly from another object altogether.

A.5 Metal

by Ian M Scott

- A.5.1 The only metal find is a small decorative Cu alloy plate from context 100.

**Context (100); Plate 9**

- A.5.2 Decorative plate. The plate has embossed decoration, and comprises a central panel with a projecting fleur de lis at each end. The central panel appears to be decorated with a cherub's head and wings, or 'winged soul.' Below the central panel is a semi-circular loop. The plate is painted black and was fixed by two small iron tacks. L: 47mm; W: 32mm.
- A.5.3 This small decorative plate appears to be a model of a coffin plate with a non-functional drop handle. The decoration at the centre of the plate of a cherub's head and wings was a common motif on 19th-century coffin fittings.

A.6 Glass

by Ian M Scott

- A.6.1 There just three pieces of glass comprising two pieces of vessel and a single thin piece of flat colourless window glass. All three sherds are from context 100.

Context 100

- A.6.2 (1) Bottle. Sherd from the base of a moulded square section bottle. The base is moulded with a pronounced hemispherical pushup with a lettering. Probably made in a three-piece Ricketts type mould. The base is incomplete, and only a single letter 'R' with part of a second set within pattern of lines can be identified. Mid to late 19th century. Pale green glass. 53mm x 36mm.
- A.6.3 (2) Wine or beer bottle. Small body sherd in dark olive green glass. Some bubbles in the glass. Not closely datable, but probably late 18th-century to later 19th-century. 26mm x 17mm.
- A.6.4 (3) Window glass. Thin colourless glass with quite regular surfaces. Has one short straight cut edge. Not closely datable, post medieval or later. 27mm x 17mm, Th: 1mm.
- A.6.5 Only the bottle base (No.1) is datable. The wine (or beer) bottle sherd (No. 2) is small with no diagnostic features. The window glass (No. 3) is similarly small. Window glass particularly is difficult to date.

A.7 Animal bone

by Lee Broderick

- A.7.1 A total of 48 animal bones and 3 mollusc shells were recovered from the site, mostly associated with contexts dated to the nineteenth/twentieth century AD and all Post-Medieval (Table 1). All of the material was hand-collected.
- A.7.2 The specimens were generally in moderate condition, with the most recent deposits containing specimens in both the best and worst categories of condition, possibly indicative of some redistribution or residuality. The most common species represented were caprines (sheep – *Ovis aries* and goats – *Capra hircus*) (40.5% of NISP), followed by domestic cattle (*Bos taurus taurus*) (9.5% of NISP). It was possible to identify two of the caprine specimens (a mandibular tooth and a horncore), both from the 18th Century component, as being specifically sheep. With one exception, all of the post-cranial elements recovered from all species were fused epiphysially, providing limited opportunity for ascertaining age at death. The exception was a rabbit (*Oryctolagus cuniculus*) femur, which was unfused at both ends.



- A.7.3 The young rabbit bones might be indicative of intrusive burrowing activity, or alternatively they may originate from table waste. The other animal remains are equally equivocal in this regard – the domestic cattle specimens consist mainly of metapodials, which are not generally associated with food waste, just one specimen (a scapula) is associated with any amount of meat and that is not a prime cut. The caprines follow a similar, but less severe pattern, with two femurs and a pelvis being the only three of the seventeen specimens not to be either lower limb or (in the case only of the two sheep specimens already mentioned) cranial elements. Domestic fowl (*Gallus gallus*) are widespread at this time, due to the ease with which they can be kept in cities as well as farmyards, and Oysters (*Ostrea edulis*) are a food associated with poverty in the Early Modern period, before over-harvesting and resultant scarcity led to an association with higher status food in the 20th century – are pattern more or less opposing that of rabbits, which became more widely available as they naturalised in Britain during this time (Williamson 2006).
- A.7.4 Although no further information can be gained from such a small sample of bones it is recommended that if further excavations take place on the site, the bones should be included in the full excavation report. Studies of Post-Medieval animal bones are poorly published at present (Broderick 2014) despite the fact that significant changes in livestock, human –animal relations and husbandry practices all occurred at this time. The rabbit bones and oyster shells identified here are useful indicators of at least one of those changes.

Table 1: Total Number of identified Specimens (NISP) and Number of Specimens(NSP) figures per period for tetrapods from the site.

| | | | | Post- Medieval | 18th Century AD | 19 th -20 th Century AD |
|---------------------|-----------------------|--------------------|--------------------------------|----------------|-----------------|---|
| <i>Aves</i> | <i>Galliformes</i> | <i>Phasianidae</i> | <i>Gallus gallus</i> | | | 2 |
| Total Bird | | | | 0 | 0 | 2 |
| | | | small mammals* | 1 | | |
| <i>Mammalia</i> | | | medium mammals* | | | 3 |
| <i>Mammalia</i> | | | large mammals* | 4 | | 8 |
| <i>Mammalia</i> | <i>Lagomorpha</i> | <i>Leporidae</i> | <i>Oryctolagus cuniculus</i> | | | 2 |
| <i>Mammalia</i> | <i>Perissodactyla</i> | <i>Equidae</i> | <i>Equus caballus</i> | | 1 | |
| <i>Mammalia</i> | <i>Artiodactyla</i> | <i>Bovidae</i> | <i>Bos taurus taurus</i> | 2 | 1 | 1 |
| <i>Mammalia</i> | <i>Artiodactyla</i> | <i>Bovidae</i> | <i>Ovis aries/Capra hircus</i> | 5 | | 10 |
| <i>Mammalia</i> | <i>Artiodactyla</i> | <i>Bovidae</i> | <i>Ovis aries</i> | | 2 | |
| Total Mammal | | | | 12 | 4 | 24 |
| Total NISP | | | | 12 | 4 | 26 |
| Total NSP | | | | 12 | 4 | 32 |



Table 2: Total NISP and NSP figures per period for molluscs from the site.

| | | | | Post-Medieval | 18th Century AD | 19th-20th Century AD |
|-------------------|------------------|------------------|----------------------|---------------|-----------------|----------------------|
| <i>Bivalvia</i> | <i>Ostreoida</i> | <i>Ostreidae</i> | <i>Ostrea edulis</i> | 3 | | |
| Total NISP | | | | 3 | 0 | 0 |
| Total NSP | | | | 3 | 0 | 0 |



APPENDIX B. ARCHAEOLOGICAL CONTEXT INVENTORY

| Context | Type | Depth (m) | Width (m) | Length (m) | Comments | Finds | Date |
|---------|-----------|-----------|-----------|------------|--|-------------------------------------|---|
| 100 | Layer | 0.6 | - | - | A loose, greyish brown sandy gravel, with small to medium sized pebble inclusions. A make-up layer/ made ground deposit across the site. | Pot, bone, glass, metal, CBM, shell | 1850-1900 (pot); 1700-1800 (clay pipe); 1820-1925 (CBM) |
| 101 | Layer | 0.08 | - | - | A loose, purplish red crush. | - | |
| 102 | Layer | 0.3 | - | - | A loose, yellow construction sand | - | |
| 103 | Structure | 0.34 | 0.4 | - | A soak-away/ down drain made of unfrogged red bricks, (0.23m x 0.09m x 0.12m). | - | |
| 104 | Layer | 0.1 | - | - | Concrete floor. | - | |
| 105 | Layer | 0.1 | - | - | Concrete floor. | - | |
| 106 | Layer | 0.16 | - | - | A loose, yellowish grey coarse sand. | - | |
| 107 | Layer | 0.2 | - | - | Concrete. Footing of wooden post. | - | |
| 108 | Structure | 0.24 | 0.26 | - | Red unfrogged bricks used to fill in service trench. | - | |
| 109 | Layer | 0.1 | - | - | A loose, light creamy yellow, chalky sand. Possible path surface. | - | - |
| 110 | Layer | 0.2 | - | - | Moderately compact, yellowish brown silty sand, with mid sized rectangular stone inclusions. | Pottery, bone, stone, oyster shells | 1820-1900 (pot); 1650-1690 (clay pipe); |
| 111 | Layer | 0.05 | - | - | A loose, light creamy yellow, chalky sand. Possible path surface. | - | - |
| 112 | Structure | 0.32 | 1.1 | - | Footing of the standing building. Masonry, very worn. | - | |
| 113 | Structure | - | - | - | Red unfrogged brick drain, with | - | Modern |



| | | | | | | | |
|-----|-----------|------|-----|---|--|-----------------|----------------|
| | | | | | cement mortar, running SE-NW. | | |
| 114 | Layer | 0.3 | - | - | A loose, blueish grey, silty sand. Levelling deposit. | Pottery | 1550-1700 |
| 115 | Layer | 0.05 | - | - | A compacted, milky white sandy mortar material, with small stone inclusions, possibly the same as (109). | | - |
| 116 | Structure | 0.5 | 1.2 | - | A silt-trap constructed of red, unfrogged, bricks and capped by stone slabs. (Bricks 0.22 x 0.06 x 0.11m) Bonded with a grey coarse lime mortar. | - | |
| 117 | Layer | 0.1 | - | - | A firm, greyish brown sandy silt. With small pebbles and sand inclusions. Material of bank. | - | |
| 118 | Topsoil | 0.3 | - | - | A loose, dark greyish brown sandy silt, with small pebble inclusions. Garden soil, topped with turf. | - | - |
| 119 | Layer | 0.3 | - | - | A very compact, creamy light grey crushed masonry and mortar. Possibly the same as 117. | Clay pipe, bone | Late 1700-1800 |
| 120 | Layer | 0.2 | - | - | A very compact, creamy yellow make-up deposit. | - | - |
| 121 | Layer | 1.2 | - | - | A loose, greyish brown sandy gravel, with pebbles, stones and occasional kitchen waste inclusions. | - | - |
| 122 | Layer | 1.05 | - | - | A loose, light creamy grey crushed masonry and mortar. Possibly same as | - | |



| | | | | | | | |
|-----|-------|-----|---|---|--|---|---|
| | | | | | (119). | | |
| 123 | Layer | 0.2 | - | - | A very compact, light creamy grey crushed masonry and mortar. Similar to (122) but more compacted. | - | |
| 124 | Layer | 0.1 | - | - | A compact, medium brownish yellow make-up layer. | - | - |
| 125 | Layer | - | - | - | Moderately compact, yellowish brown silty sand, with mid sized rectangular stone inclusions. | - | - |



APPENDIX C. BIBLIOGRAPHY AND REFERENCES

5

BGS Geology of Britain Viewer website. <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

Broderick, L G, 2014 Commercial Zooarchaeology of the 'Modern' Era: A Survey of Attitudes and Practices. *Anthropozoologica* **49**, 19–32.

Lambrick 2013. Prehistoric Oxford (The Tom Hassall Lecture 2012) *Oxoniensia* **78**

Mellor, M, 1994 'Oxfordshire Pottery: A Synthesis of middle and late Saxon, medieval and early post-medieval pottery in the Oxford Region' *Oxoniensia* **59**, 17-217.

MoLA 2014 Medieval and post-medieval pottery codes

(<http://www.mola.org.uk/resources/medieval-and-post-medieval-pottery-codes>)

OA 2011, Worcester College, Worcester Street, Oxford: Desk-based assessment

OA 2016, Written Scheme of Investigation for an Archaeological Watching Brief, Worcester College, Oxford Electrical Submain Renewal

Radford D, 2016 Worcester College, Worcester Street Oxford. Application Advice for Replacement of electrical sub mains cables and ducting for data cabling to the front Quad. Planning Consultation Response

Silver, I.A., 1969. The Ageing of Domestic Animals. *Science in Archaeology* **2**, 283–302.

Williamson T., 2006. The Archaeology of Rabbit Warrens. *Shire Archaeology*, Bucks.



APPENDIX D. SUMMARY OF SITE DETAILS

| | |
|-------------------------------|--|
| Site name: | Worcester College, Oxford: New Sub Main |
| Site code: | OXWOSM16 |
| Grid reference: | Centred at NGR SP 50965 06611 |
| Type of watching brief: | Constant |
| Date and duration of project: | 18/10/16 – 9/11/16 |
| Area of site: | 2588m ² |
| Summary of results: | <p>Oxford Archaeology (OA) was commissioned by Carter Jonas LLP on behalf of the Provost and Fellows of Worcester College to undertake an archaeological watching brief on the site of the renewal of electrical sub main cables and ducting for data cables through Pump Quad and around Main Quad.</p> <p>The trenching revealed a series of layers dating from the 18th century overlain by modern material. Excavation through the large bank on the north side of Main Quad indicated that it was built up against the current buildings.</p> |
| Location of archive: | The Archive is currently held at Janus House, Osney Mead, Oxford, OX2 0ES by Oxford Archaeology but will be deposited with Oxfordshire Museums Service in due course. |

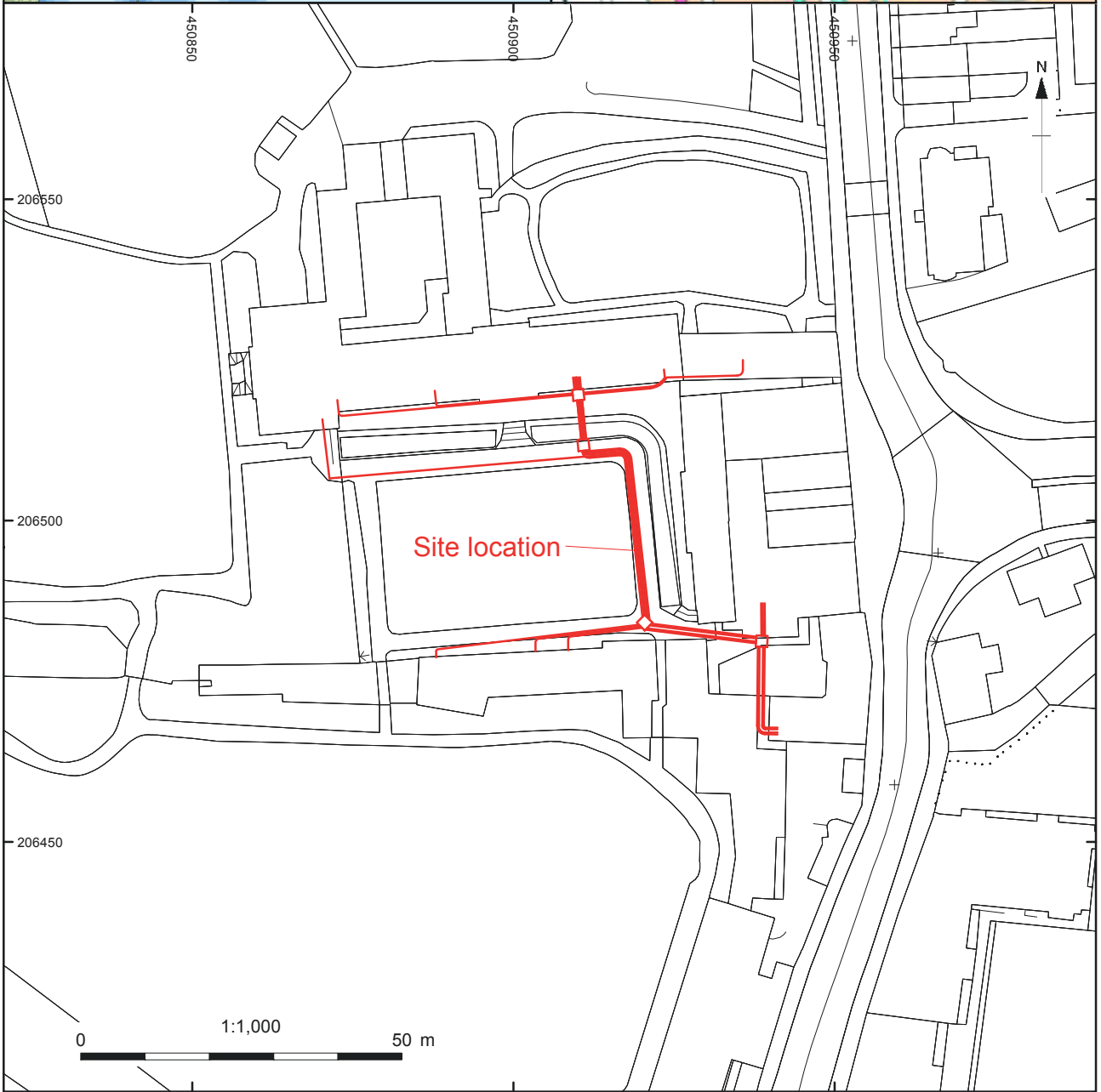
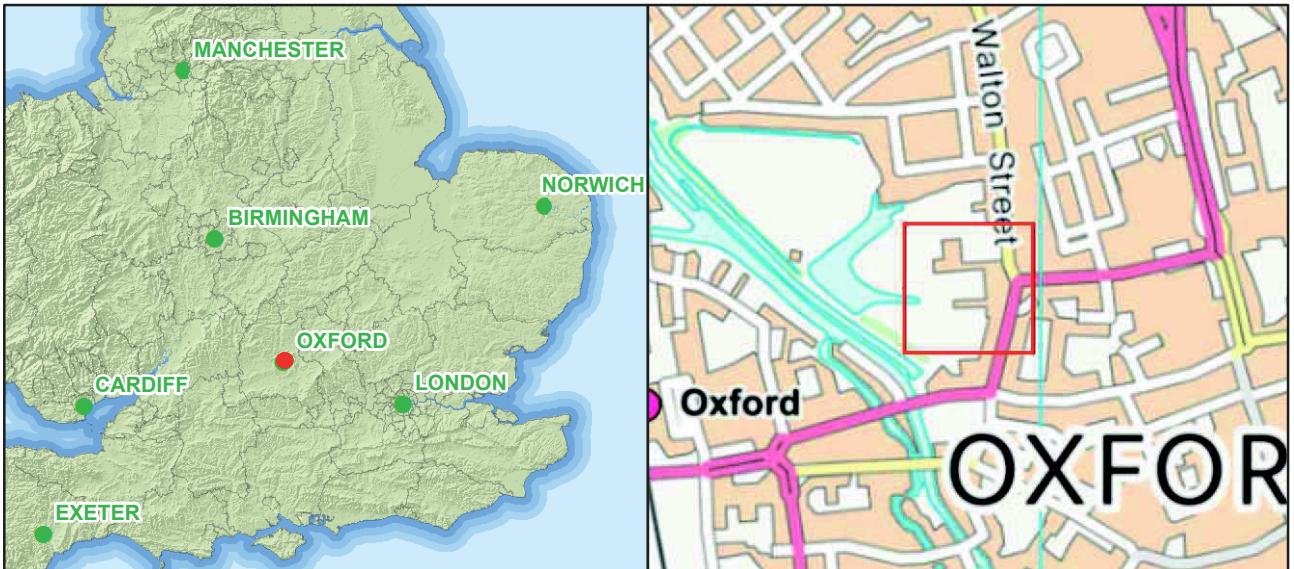


Figure 1: Site location

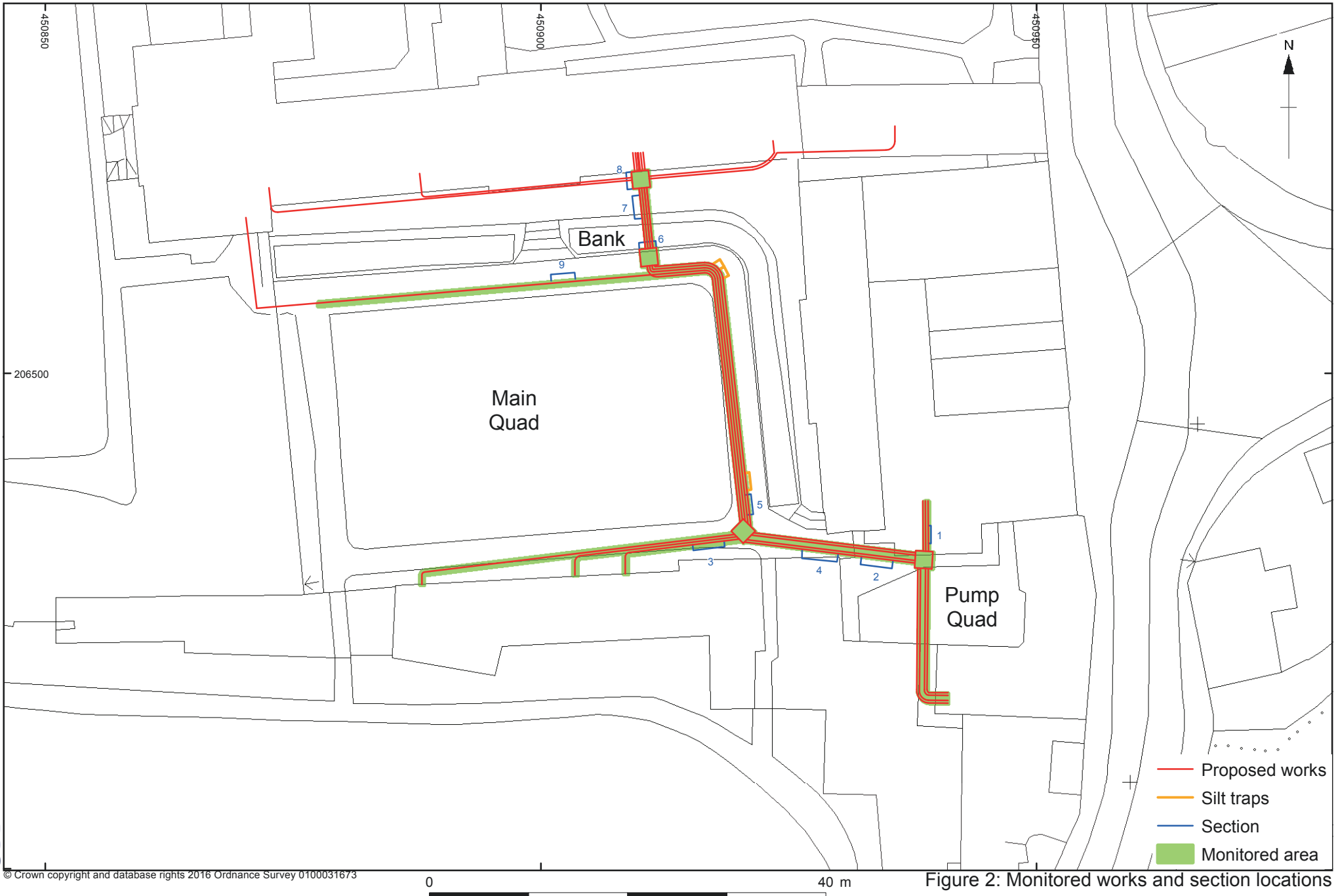


Figure 2: Monitored works and section locations

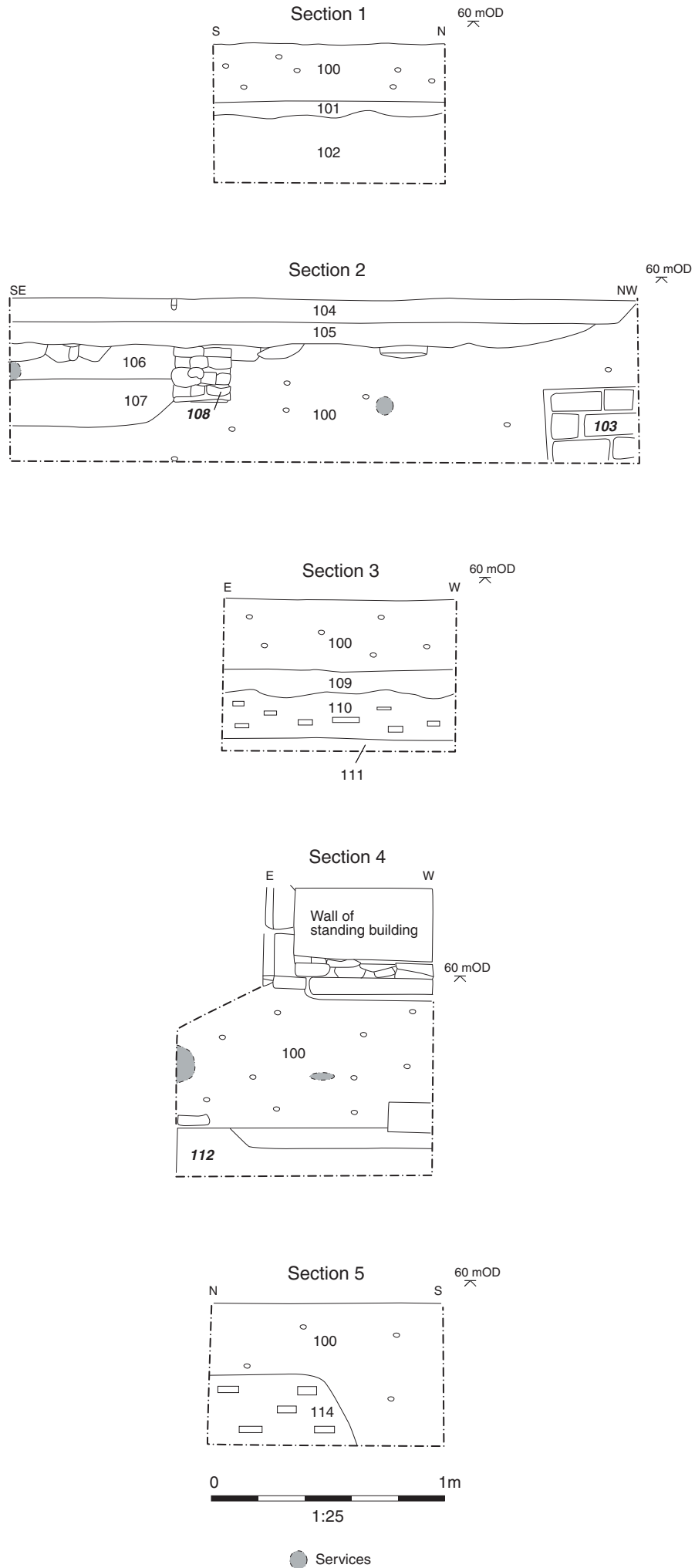
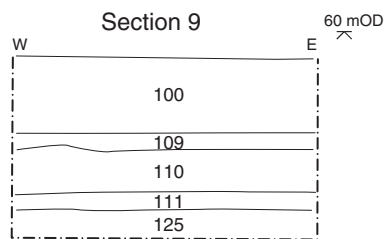
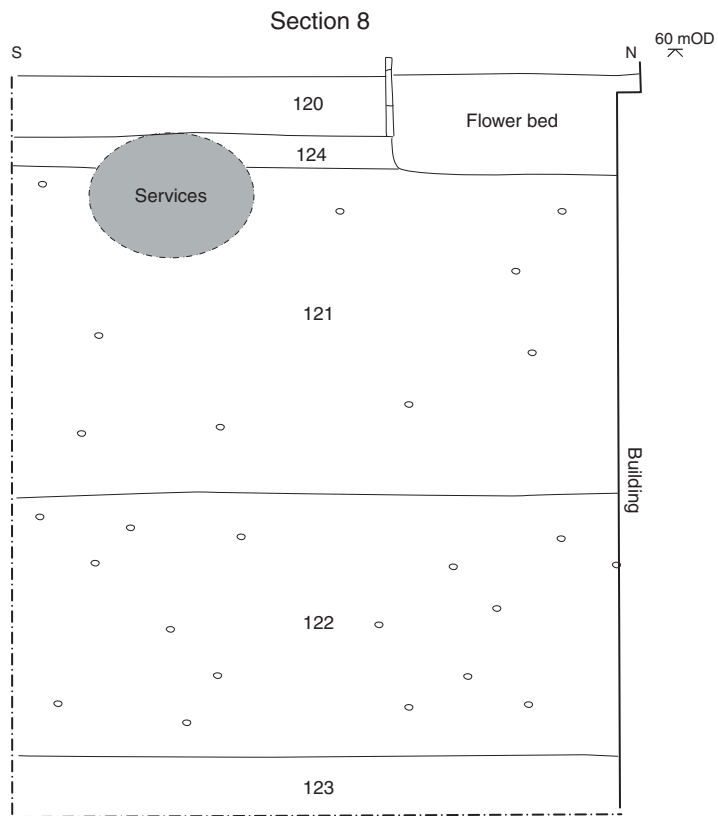
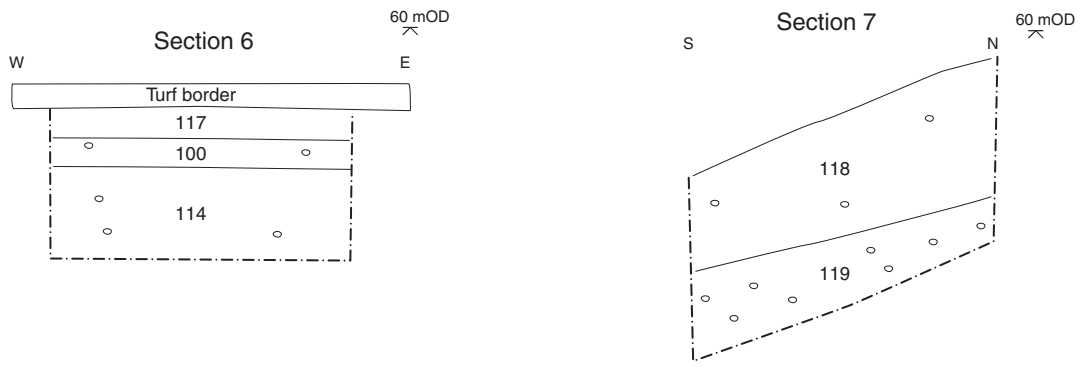


Figure 3: Sections 1-5



Services

Figure 4: Sections 6-9



Plate 1: Section 1 Layers through Pump Quad, looking west

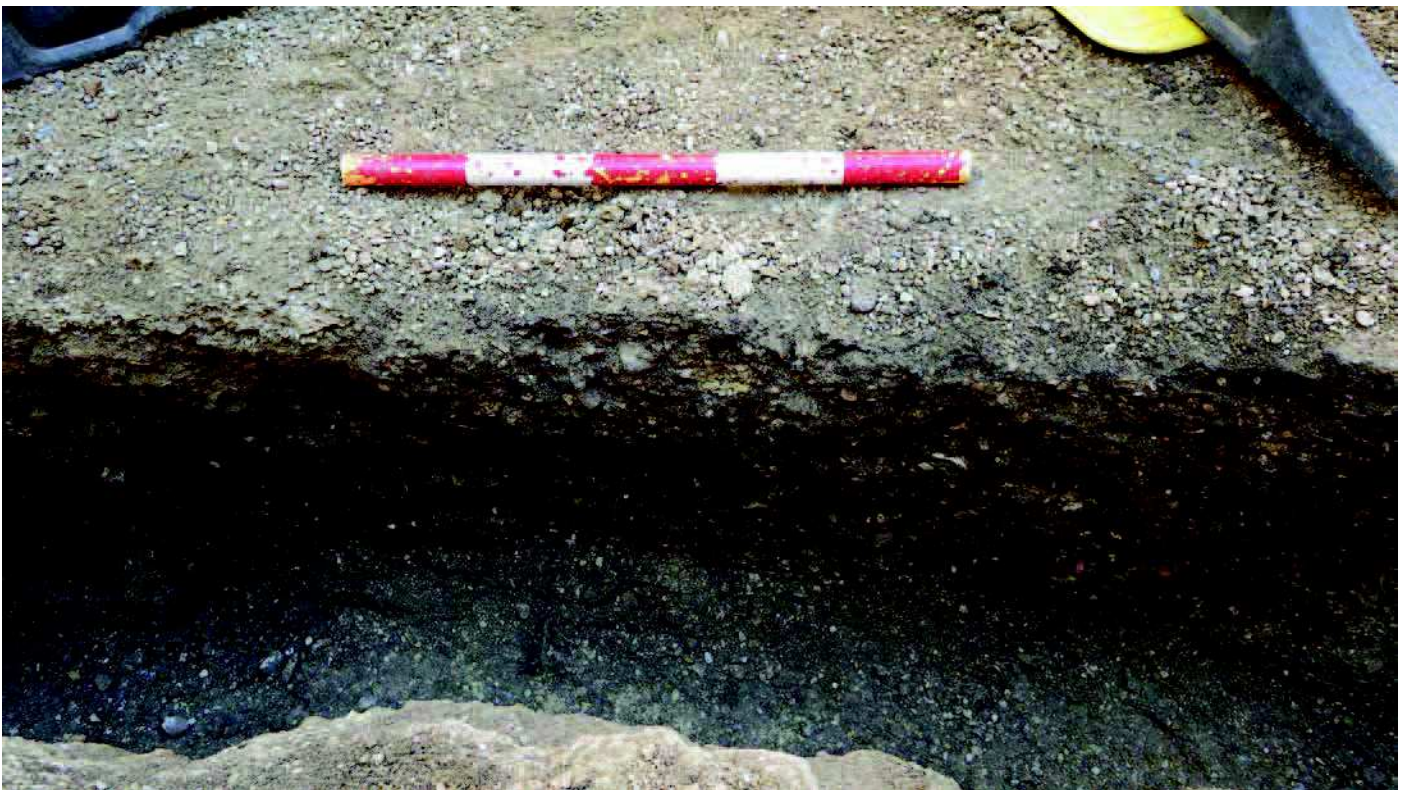


Plate 2: Layers through Pump Quad, looking south-west



Plate 3: Layers beneath concrete path, Pump Quad, looking south



Plate 4: Section 4, Footings of south range of buildings, Main Quad, looking south



Plate 5: Section 3, South of Main Quad, looking south



Plate 6: Layers to the western end of the south side of Main Quad, looking south



Plate 7: Section 6, Base of bank in north Main Quad, looking north



Plate 8: Shot of works through Main Quad, looking south



Plate 9: A model of a coffin plate with cherub's head decoration



Head Office/Registered Office/ OA South

Janus House
Osney Mead
Oxford OX2 0ES

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 FSAM CIFA
*Oxford Archaeology Ltd is a
Private Limited Company, N^o: 1618597
and a Registered Charity, N^o: 285627*