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Botanic Gardens
High Street
Oxford



**Archaeological
Watching Brief Report**



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University Botanic Gardens, High Street, Oxford

Archaeological Watching Brief Report

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Summary

Between November 2010 and January 2012 Oxford Archaeology carried out an archaeological watching brief at the University Botanic Gardens, High Street, Oxford (centred at SP 5202 0607). During realignment of the pathway within the walled garden the watching brief observed evidence for a sequence of worked soil horizons dating between the 17th and 19th centuries together with the foundations of a 19th century greenhouse. Outside the west wall of the garden, on the site of the new compost bins adjacent to Rose Lane, deep deposits of made ground dating to the 18th and 19th centuries together with demolition debris possibly associated with the boundary walls and house shown on the Loggan map of 1675 were observed.

No deposits or structures pre-dating the 17th century were encountered during the course of the watching brief.

1 INTRODUCTION

1.1 Scope of work

- 1.1.1 Oxford Archaeology (OA) was commissioned by Anthony Meek on behalf of the Oxford University Estates Directorate to undertake an archaeological watching brief during proposed works at the University Botanic Gardens. These works included the erection of a steel garage for use as a gardeners store, erection of seven new 1.5 m high compost bays, erection of a new timber sliding gate, stripping for new surfaces and trenching for a new water main to the west of the walled Botanic Garden (Planning reference 09/02397/FUL) and the re-cutting of paths and other localised groundworks within the walled garden (Planning reference 09/02806/FUL).
- 1.1.2 Due to the potential for disturbance of below-ground archaeological deposits during groundworks a condition was attached to the planning consents requiring that an archaeological watching brief be maintained during the period of groundworks. This was in line with PPS 5 and the local policy plan.
- 1.1.3 A brief was set by the City Archaeologist, David Radford, (OCC 2010) detailing the local authority's requirements for work necessary to discharge the planning condition, and OA produced a Written Scheme of Investigation (WSI) showing how it would meet these requirements (OA 2010).

1.2 Location, geology and topography

- 1.2.1 The Botanic Gardens are located at the eastern end of the High Street, to the south-west of Magdalen Bridge (Fig. 1). The site is bounded to the north by the High Street, to the west by Rose Lane, to the south-west by Merton Field and to the east and south-east by a branch of the River Cherwell, draining to the south.
- 1.2.2 The site lies on level ground at approximately 57 m OD. The underlying geology is 1st Terrace River Gravel (BGS Sheet 236).

1.3 Archaeological and historical background

- 1.3.1 The Botanic Garden is a Grade 1 registered park and garden.
- 1.3.2 The Botanic Garden or 'Physic Garden' is the oldest of its kind in Britain. The garden was established by Henry Danvers, 1st Earl of Danby who in 1621 gave five thousand pounds (equivalent to £3.5 million today) to set up a physic garden for "the glorification



of God and for the furtherance of learning". It was sited in the north-east corner of Christ Church Meadow, on land belonging to Magdalen College, part of which had been the Jewish burial ground until 1293. It is also within the vicinity of the precinct of the Trinitarian Friars.

- 1.3.3 The stone boundary walls enclosing the garden were constructed using a face of local Kidlington limestone around a rubble core. By the time they were finished in 1633 all the money had been spent and there was nothing left to pay for the running of the Garden.
- 1.3.4 It was 1642 before the Garden was able to boast its first Curator. He was Jacob Bobart and for the first seven years the University failed to pay his salary. During this time he helped to make ends meet by selling fruit grown in the Garden. Among these fruits was the medlar (*Mespilus germanica*) that is listed in the Garden's first catalogue of plants that was published in 1648. The basis for the surviving garden layout is a rearrangement undertaken in 1884-88 when long rectangular beds, arranged to display plants according to the taxonomic system created by Bentham and Hooker, were laid out. However the basic rectangular path design has developed in a number of forms from the 17th century.
- 1.3.5 The Urban Archaeological Database records isolated finds of clay pipes from the garden in 1851 (UAD Event No 927) and 1958 (UAD Event No1313). In 1954 a 17th century well was found "close to the intersection of the paths" during "excavations" (UAD Event No 162).
- 1.3.6 Further background information is available in the Register description (GD1433).

Potential

- 1.3.7 The current proposal involved removing a gardener's shed and curvilinear element that was introduced into the south-west corner in the 20th century, and to re-establish the rectangular grid of paths. Whilst only a 200mm re-cut was proposed there was potential for traces of earlier schemes to be encountered. The works to the west of the walled garden also had the potential to encounter the remains of structures shown on Loggan's late 17th century map in this location (or earlier remains).

2 PROJECT AIMS AND METHODOLOGY

2.1 Aims

- 2.1.1 The aims of the watching brief were to:
 - (i) Preserve by record any archaeological deposits, structures or features encountered during the course of ground intrusions;
 - (ii) Seek to establish the extent, nature and date of any archaeological deposits, structures or features encountered within the scope of the ground intrusion;
 - (iii) Secure the analysis, conservation and long-term storage of any artefactual/ecofactual material recovered from the site;
 - (iv) To disseminate results through the production of an unpublished client ('grey literature') report and also to make this available online as part of the OA library.
- 2.1.2 The work will be used to enhance the understanding and development of the site, particularly in regard of the history of the site before 1621, and to relate any later discoveries to Loggan's map of 1675.



2.2 Methodology

- 2.2.1 The watching brief was undertaken as a series of site visits conducted during any groundworks which had the possibility of impinging upon areas of potential archaeology. These works included topsoil stripping, ground reduction, and excavation of foundation trenches and service trenching.
- 2.2.2 All features and deposits were issued with unique context numbers, and context recording was in accordance with established OA practices. Bulk finds were collected by context. Black-and-white negative photographs and colour digital photographs were taken of all recorded sections and features together with a general record of the works.
- 2.2.3 Site plans were drawn at an appropriate scale (normally 1:50 or 1:100) with larger scale plans of features as necessary. Section drawings of features and sample sections were drawn at a scale of 1:20.

3 RESULTS

3.1 Description of deposits

- 3.1.1 The watching brief was undertaken in two distinct phases, the re-alignment of the pathway and the construction of the new compost bins. Each element will be described separately followed by an overall discussion and conclusion.

The realignment of the pathway (Planning reference 09/02806/FUL)

- 3.1.2 This work involved the removal of a recent redirected path in the south-west corner of the garden and the re-establishment of the original rectangular grid pattern of paths (Fig. 2, Site plan A). The removal of the path was undertaken by a small tracked excavator. These excavations were to a maximum depth of 0.2 m. A soakway pit was also dug by at the corner of the path, this measured approximately 1.1 m x 1.3 m and was 1.3 m in depth.
- 3.1.3 The stratigraphy exposed was similar throughout these works. At the base of the soakway pit (Fig. 3, Section 1) a layer of clean brownish grey clay (9) was encountered at a depth of 1.2 m below the current garden level. A test sondage showed this layer to be in excess of 0.15 m deep. It was overlaid by a 0.3 m deep layer of orange-brown silty clay (8). Above this layer was a 0.4 m deep layer of brown silty clay loam (7) which produced animal bone and a single fragment of green glazed border ware dating to the 17th century.
- 3.1.4 Overlying 7 was a layer of pale brown silty loam (6), 0.28 m in depth. Fragments of clay pipe and creamware pottery dating from the 18th and 19th centuries were recovered together with a fragment of red clay roof tile. This deposit was covered by a 0.22 m deep layer of reddish brown sandy clay loam (2). This layer produced modern finds such as plastic.
- 3.1.5 In the south-west corner of the garden layer 2 was cut by a roughly rectangular pit (4). A corner of the feature measuring 1.9 m by 1.1 m was exposed within the footprint of the realigned path. The top of the feature was filled by a light brown silty loam (5). Although the deposit was not excavated fragments of transfer printed creamware, glazed earthenware and brown bottle glass were observed in its surface.
- 3.1.6 Approximately 6 m east of the south-west corner of the garden the brick and concrete foundations (3) of a demolished greenhouse were encountered. This structure measured 3.7 m by 2.8 m. The foundations had been dug into layer 2.



- 3.1.7 Butting up to 3 and overlying 4 and 5 was a 0.12 m deep layer of dark brown clay loam (1), the present day topsoil.

The new compost bins (Planning reference 09/02397/FUL)

- 3.1.8 These works were located outside the wall of the Botanic Garden in an open grassed area between the wall and Rose Lane (Fig. 2, Site plan B). The works included topsoil stripping, ground reduction down to construction level and the excavation of two 1 m square soakaway pits. The area of groundworks measured approximately 17 m by 10 m. Both the soakaways were dug after the ground reduction and laying of the crushed stone hardcore.

The northern soakaway pit (Fig. 3, Section 51)

- 3.1.9 This was dug to a depth of 1.5 m below the original ground level. At the base of the pit a layer of mixed grey-brown and yellow-brown clay loam (54) was encountered. This produced a fragment of 18th century clay pipe stem and could be seen to be in excess of 0.15 m deep within the section. Overlying this was a 0.9 m deep layer of grey-brown silt loam (53). This deposit contained charcoal flecking and produced fragments of 19th century clay pipe stem and transfer printed creamware pottery.
- 3.1.10 Above 53 was a 0.15 m deep layer of dark orange brown silt loam (51) from which fragments of clay pipe and pottery also dating to the 19th century were recovered. The present day topsoil and turf, a 0.2 m deep layer of dark brown silt loam (50) which produced both 19th and 20th century artefacts, completed the section.
- 3.1.11 Layers 50 and 51 were also recorded within Section 50.

The southern soakaway pit (Fig. 3, Section 52)

- 3.1.12 This was also dug to depth of 1.5 m below the original ground level. A layer of mixed grey-brown and yellow-brown clay loam (57) was recorded at the base of the pit. This is similar to, and a probable continuation of, layer 54. Above this was a layer of grey-brown silt loam 0.7 m deep (53). This deposit was very loose and included demolition material such as large stone blocks, brick, clay roof tile, stone roofing tile and mortar flecking. It also produced clay pipe bowls and pottery dating to the late 18th and early 19th century.
- 3.1.13 This layer was overlaid by a 0.12 m deep deposit of dark grey-brown clay loam (55) containing quantities of charcoal and ash. Overlying this was a 0.2 m deep layer of dark grey-brown silt loam (52), very similar to, and a probable continuation of, layer 51.
- 3.1.14 The truncated remains of the topsoil (50) were visible in the top of the section.

3.2 Finds

- 3.2.1 Examples of pottery and ceramic building material were recovered from the majority of the contexts. Fragments of clay pipe including bowls were also recovered from a number of contexts. The pottery ranged from fragments of 17th century bellarmines and green glazed border ware up to transfer printed creamware dating to the 19th/20th centuries. The clay pipes could be dated between the 18th and 19th centuries. No artefacts pre-dating the 17th century were recovered. Examples of both hand and machine made brick were noted within a number of the contexts but these were not retained.



3.3 Environmental remains

- 3.3.1 Due to the date and nature of the deposits encountered it was thought that no significant additional information would be obtained by environmental sampling.

4 DISCUSSION AND CONCLUSIONS

- 4.1.1 The stratigraphy observed during the realignment of the paths within the walled garden is suggestive of a sequence of worked soils. Layer 9 observed at the base of section 1 at a level of c 55.3 m AOD is a probable layer of alluvium or flood deposits. It is unknown if this is the top of the natural deposits or if it seals earlier archaeological deposits. Layer 8 appears to be a buried undisturbed soil horizon, possibly the open flood meadow or lea shown on the Agas map of 1578 (Fig. 4).
- 4.1.2 Layer 7 is a layer of cultivated soil. The single sherd of pottery (green glazed border ware) recovered dates from the 17th century which may indicate that this layer dates from the original construction of the Botanic Garden. Layer 6 is a later phase of worked or cultivated soil. The date range of finds recovered, between the 17th and mid 19th century, possibly indicates that it had been constantly worked or dug over throughout that period.
- 4.1.3 Layer 2 is a much later phase of worked soil, dating between the late 19th and 20th centuries. It is possible that the juncture between layers 2 and 6 marks the re-organization of the garden beds in 1884-88.
- 4.1.4 The green house (3) and pit (4) both date to the late 19th and 20th centuries.
- 4.1.5 The construction of the new compost bins adjacent to Rose Lane showed that the area has been substantially disturbed. The underlying natural was not observed during this work, this may be due to the depth of excavation within the two soakaway pits, both of which bottomed out at c 56 m AOD, being insufficient to encounter natural deposits.
- 4.1.6 Layer 54 and its continuation, 57, appear to be layers of cultivated soil dating to the 18th century. Layer 53 is a probable layer of made ground composed of redeposited garden soil containing 18th and 19th century artefacts.
- 4.1.7 Layer 56 is also composed of redeposited garden soil but it was mixed with a large quantity of building materials such as broken stone blocks, brick, ceramic roof tile and stone roof tile, together with domestic refuse such as animal bone, charcoal, ash, pottery, bottle glass and fragments of clay pipe. These dated between the late 18th and 19th centuries. Layer 56 was overlaid by 55, another layer of redeposited soil and domestic refuse. The combined depth of 55 and 56 (0.85 m) roughly matches that of 53 and it is probable that they all belong to the same phase of activity. It is possible that the area was raised in this period, either for flood prevention or to match the level of Rose Lane and the High Street.
- 4.1.8 It is also possible that the wall running alongside Rose Lane and turning eastwards to butt up to the garden wall together with the house or cottage shown on the Loggan map of 1675 (Fig. 5) were demolished during this episode and any unsalvaged material dumped within layer 56.
- 4.1.9 Layer 51 and its continuation, 52, are layers of cultivated soil dating to the 19th century, while layer 50 represents the present landscaping layer of topsoil and turf.
- 4.1.10 No evidence for activity predating the 17th century was observed during the course of the watching brief.



APPENDIX A. ARCHAEOLOGICAL CONTEXT INVENTORY

Context	Type	Depth	Width	Comments	Finds	Date
Path Realignment						
1	Layer	0.1 m	-	Modern worked soil	Plastic, pottery	C20th
2	Layer	> 0.2 m	-	Modern worked soil	Plastic, pottery	C19th/ C20th
3	Structure	0.08 m	2.7 m	Brick base for greenhouse	Brick	C19th
4	Cut	> 0.1 m	1.1 m	Probable rubbish pit	-	C18th/ C19th
5	Fill	> 0.1 m	1.1 m	Fill of rubbish pit 4	Pottery	C18th/ C19th
6	Layer	0.27 m	-	Worked soil horizon	Pottery, clay roof tile, clay pipe	C17th/ C19th
7	Layer	0.4 m	-	Worked soil horizon	Pottery, animal bone	C17th
8	Layer	0.4 m	-	Buried soil horizon	-	-
9	Layer	> 0.2 m	-	Possible alluvium or flood deposit	-	-
New Compost Bins						
50	Layer	0.3 m	-	Present day topsoil and turf	Pottery, bone, metal, brick, tile, clay pipe	C20th
51	Layer	0.15 m	-	Worked soil horizon	Pottery, brick, tile, clay pipe	C18th/ C19th
52	Layer	0.2 m	-	Worked soil horizon/ made ground, probable continuation of 51	Brick, tile	C18th/ C19th
53	Layer	0.9 m	-	Made ground, redeposited worked soil	Pottery, brick, tile, clay pipe	C18th/ C19th
54	Layer	> 0.15m	-	Buried soil horizon	Pottery, bone, clay pipe	C18th



55	Layer	0.2 m	-	Made ground, redeposited worked soil and domestic refuse	Pottery, brick, tile, bottle glass	C18th/ C19th
56	Layer	0.75 m	-	Made ground, redeposited worked soil, domestic refuse and demolition debris	Pottery, brick, tile, glass, clay pipe	C18th/ C19th
57	Layer	> 0.15 m	-	Buried soil horizon	Clay and stone roof tile	C18th



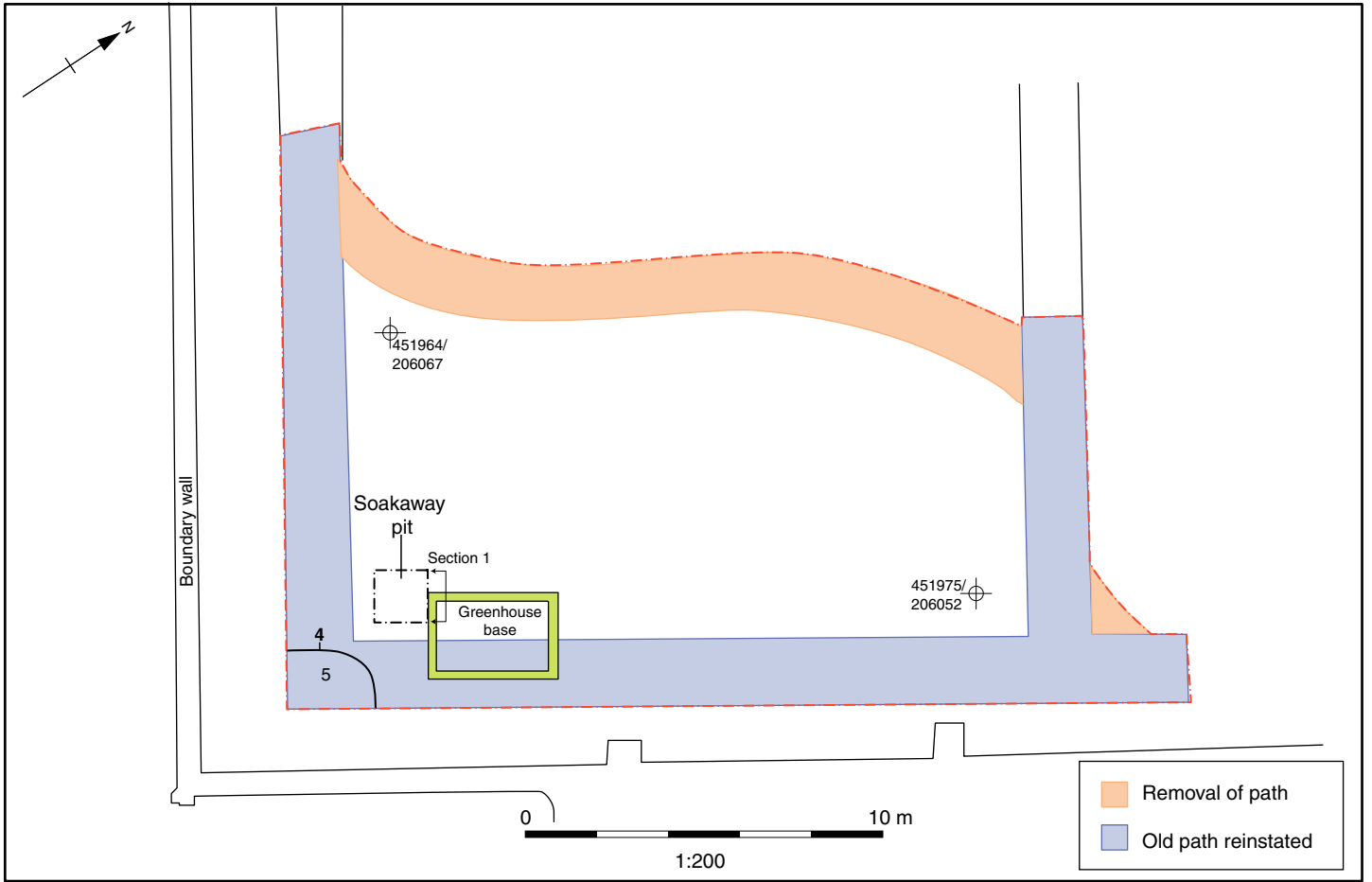
APPENDIX B. BIBLIOGRAPHY AND REFERENCES

- OA 2010 Written Scheme of Investigation for an Archaeological Watching Brief:
University Botanic Gardens, High Street, Oxford
- OCC 2010 Brief for an archaeological watching brief: Botanic Gardens, Oxford

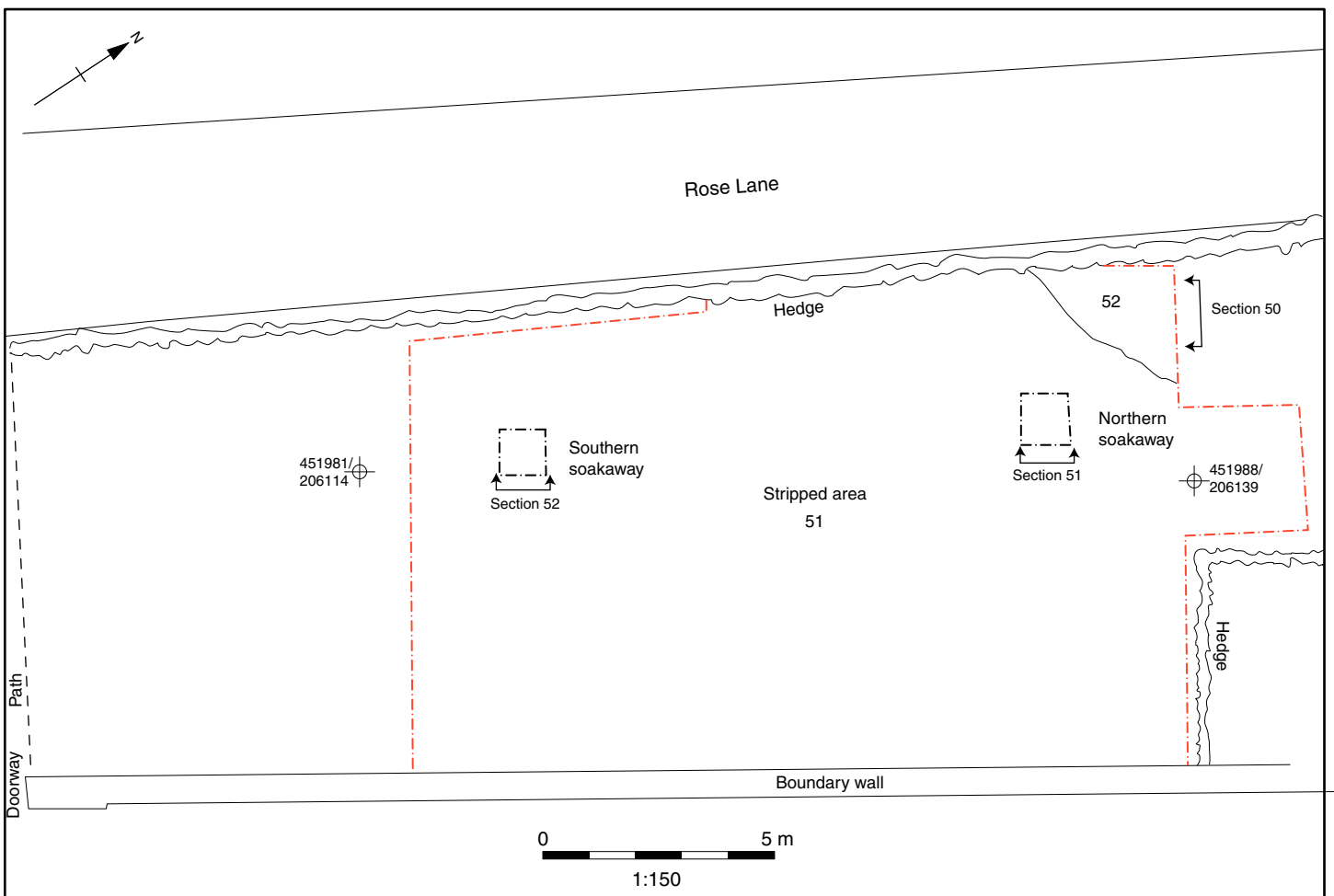


APPENDIX C. SUMMARY OF SITE DETAILS

Site name:	University Botanic Gardens, High Street, Oxford
Site code:	OXBOGD 10
Grid reference:	Centred on SP 5202 0607
Type of watching brief:	Machine and hand excavations involving the realignment of paths within the walled garden and the construction of new compost bins together with a garage and associated works on land adjacent to Rose Lane outside the west wall of the garden.
Date and duration of project:	Between November 2010 and January 2012, 15 months.
Area of site:	Approximately 11,000 m ²
Summary of results:	<p>During realignment of the pathway within the walled garden the watching brief observed evidence for a sequence of worked soil horizons dating between the 17th and 19th centuries together with the foundations of a 19th century greenhouse. Outside the west wall of the garden, on the site of the new compost bins adjacent to Rose Lane, deep deposits of made ground dating to the 18th and 19th centuries together with demolition debris possibly associated with the boundary walls and house shown on the Loggan map of 1675 were observed.</p> <p>No deposits or structures pre-dating the 17th century were encountered during the course of the watching brief.</p>
Location of archive:	The archive is currently located at Janus House and will be deposited with Oxfordshire County Museum Service in due course under the Accession Number OXCMS:2010.21



Site plan A



Site plan B

Figure 2: Site plans

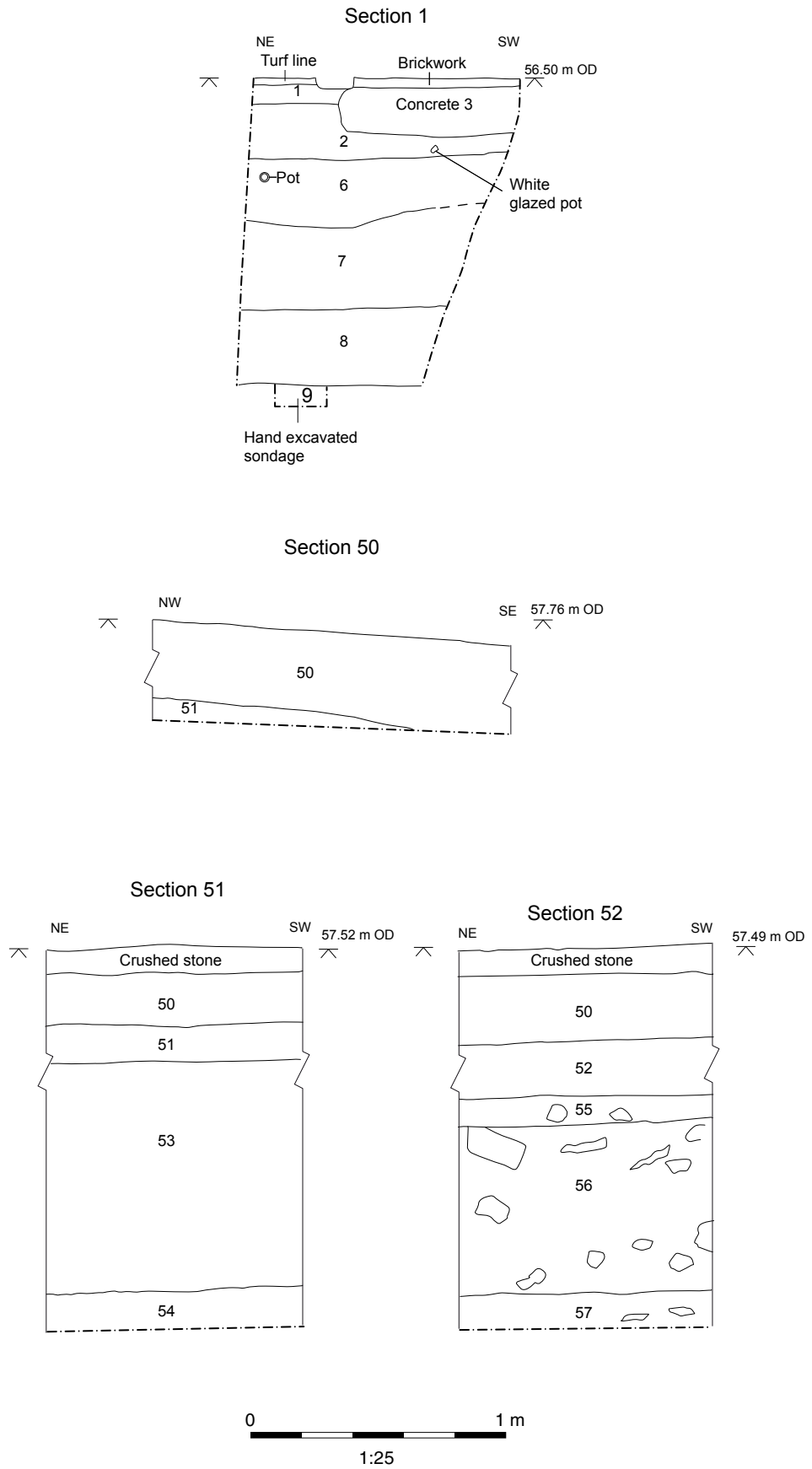


Figure 3: Sections

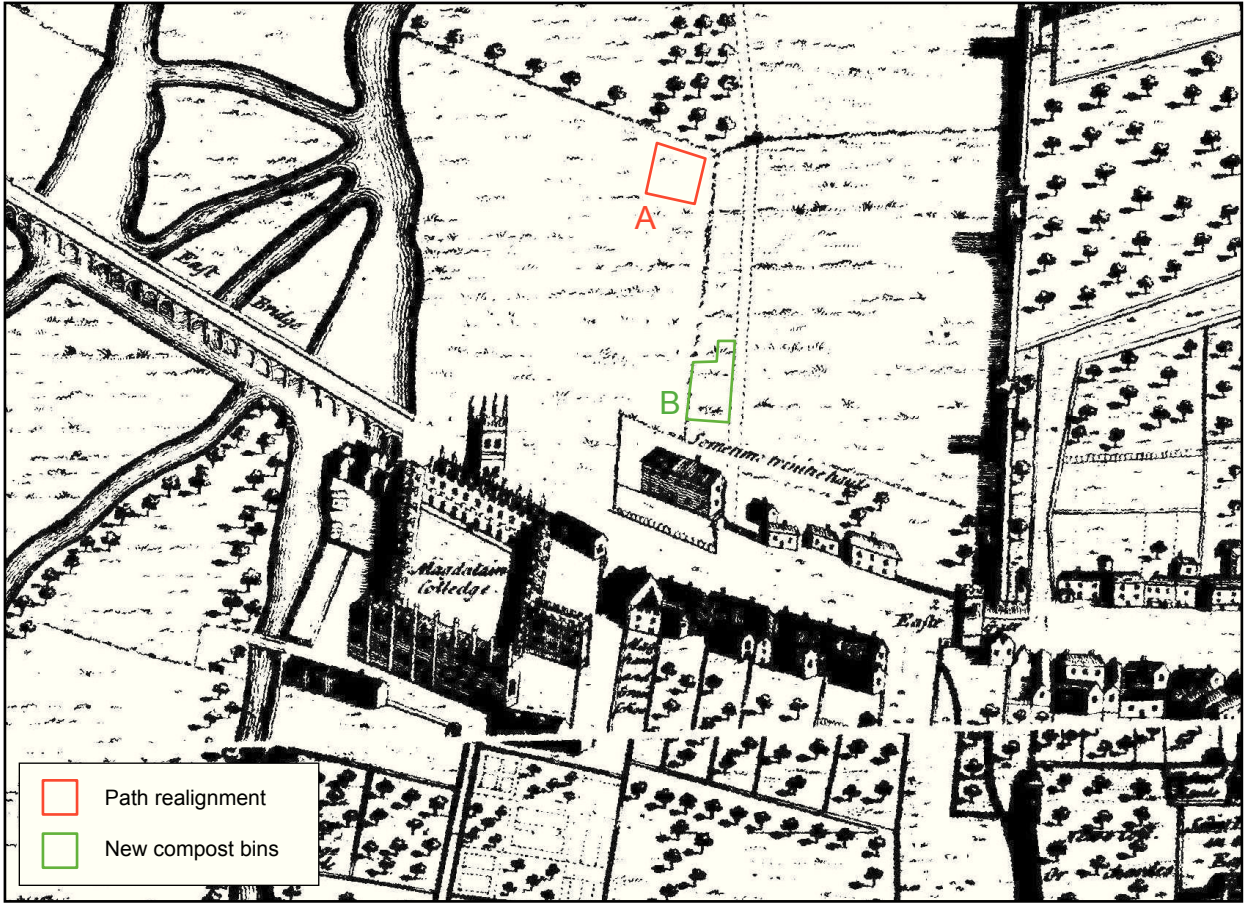


Figure 4: Agas map of 1578

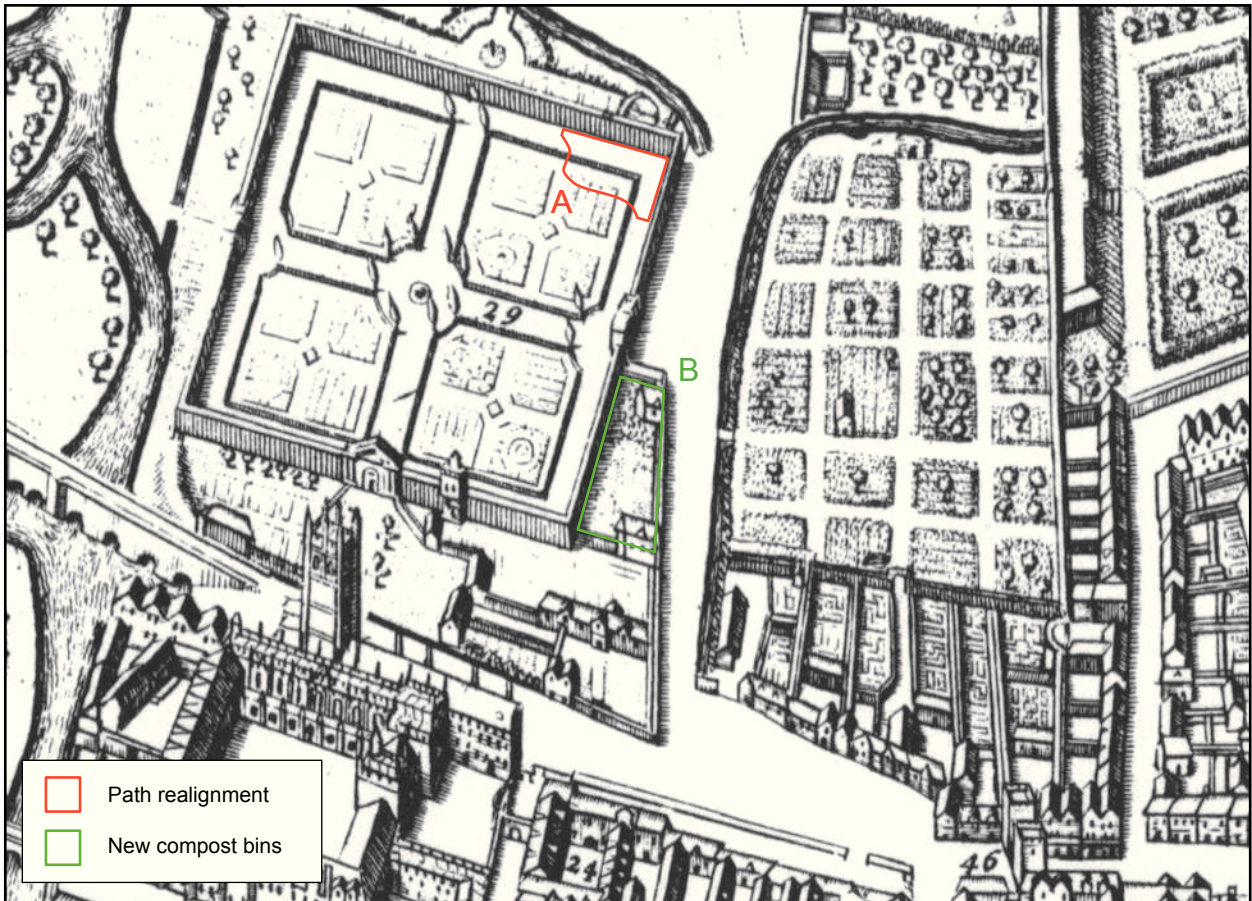


Figure 5: Loggan's map of 1675



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