TENTERCROFT STREET, LINCOLN.

ARCHAEOLOGICAL EVALUATION
BY BOREHOLES AND TEST-PITTING
OSA REPORT No.: OSA17EV10

April 2017

OSA

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Report Summary.

REPORT NO:	OSA17EV10
SITE NAME:	Tentercroft Street, Lincoln
COUNTY:	Lincolnshire
NATIONAL GRID REFERENCE:	SK 97617 70574
ON BEHALF OF:	S Harrison Developments Ltd & Travelodge Hotels Ltd
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TIMING:	Fieldwork: March 2017 Report preparation: April 2017
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1.0 Abstract.

On-Site Archaeology carried out a programme of archaeological evaluation for S Harrison Developments Ltd and Travelodge Hotels Ltd to assess the archaeological potential of the site of a proposed development at Tentercroft Street, Lincoln. The evaluation consisted of a borehole survey to establish the nature of buried deposits and a test-pitting exercise to establish the presence or absence of lithic material in the possible buried land surface revealed by the borehole survey.

Desk-based assessment had established that the site lies in an area of uncertain archaeological potential, equidistant between an area of high potential for Roman and medieval archaeology fronting High Street and an area that previous investigations have shown to be waterlogged until the post medieval period, with some evidence for potential ground reclamation in the late medieval period. Evidence from written records, maps and previous boreholes in the area suggests that any archaeological remains on the site have been damaged by the insertion of Victorian basements, ranging from 1.8 to 3.5m deep across the part of the site that fronts Tentercroft Street, although the physical extent of the basements is uncertain, and there may be 'islands' of undisturbed ground.

The borehole survey established that a potential buried land surface was present above undisturbed natural at a depth of 3-4m below ground level. The deposits above this consisted of degraded peat and silty garden soil, with no artefacts to suggest the presence of significant archaeological remains. The recent nearby discovery of a Mesolithic site - identified by the presence of a dense scatter of worked flint - within/on a similar buried land surface prompted extra investigation to establish the presence or absence of similar artefacts on the present site. A total of six test-pits were excavated using a JCB back actor to recover samples of material from the target deposits. Material from the buried land surface was sieved on site and sorted through by hand. No artefacts were found to be present.

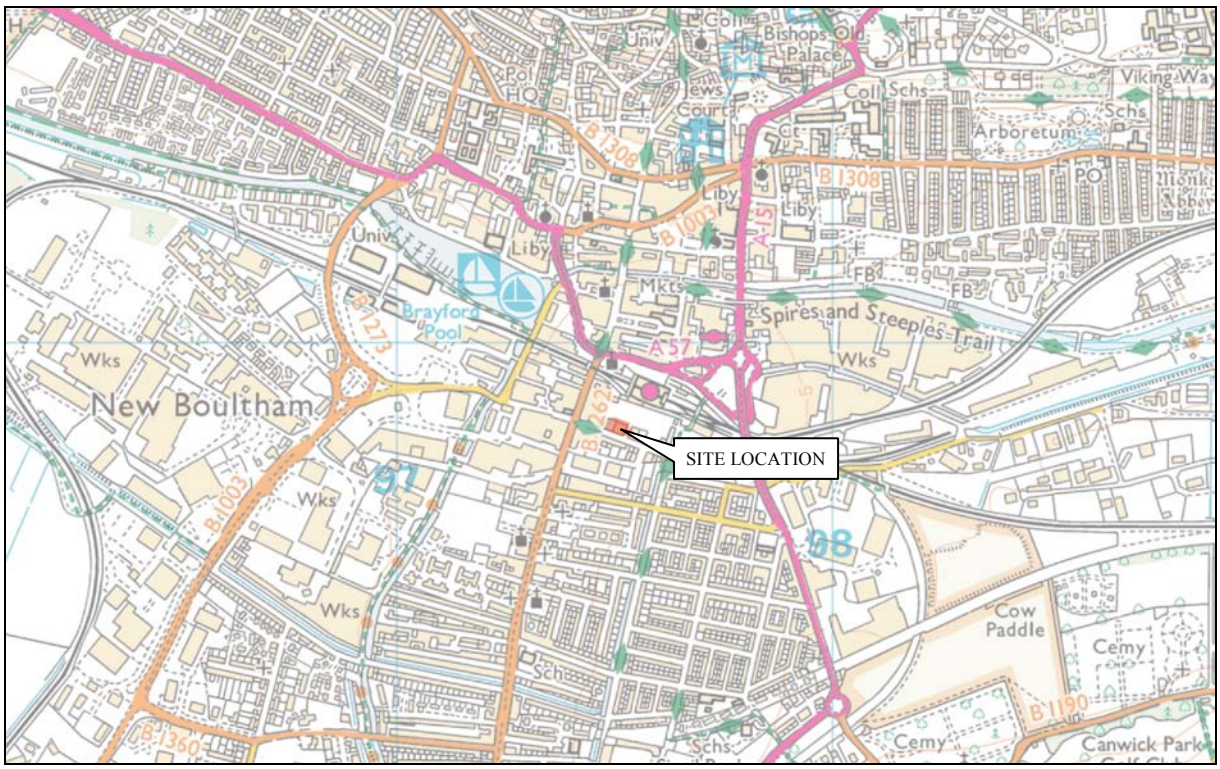

Figure 1. Site location

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2.0 Introduction.

This archaeological evaluation was undertaken in March 2017 by *On Site Archaeology* at the site of a proposed hotel development at Tentercroft Street, Lincoln. The site is centred at SK 97617 70574 (**Figure 1**).

The evaluation was undertaken on behalf of S Harrison Development Ltd and Travelodge Hotels Ltd assess the archaeological potential of the site before submission of a planning application for hotel accommodation at the street frontage with car parking to the rear.

The methodology for the evaluation was discussed extensively and agreed with the City of Lincoln Archaeologist, Alastair MacIntosh.

3.0 Site Location, Land-use and Geology.

The site is located in the southern part of Lincoln. It is roughly rectangular in shape, orientated east-west, and is sited in a derelict area on the south side of the former Tentercroft Street car park owned by the City of Lincoln Council. As part of the works in the area, the former buildings within the site boundary that had fronted the north side of Tentercroft Street had been recently demolished, leaving two fenced areas of levelled demolition rubble with self-seeded vegetation/former concrete internal floors. Part of the area was also tarmac-covered.

The topography of the area is level, forming a part of the Witham valley floor which would have been largely made up of wetland subject to periodic flooding roughly until the late

medieval period (850-1350 AD), with the exception of the corridor of High Street, the former Roman Ermine Street. The area appears to have been infilled and drained during the late medieval era, notably with the construction of the Sincil Dyke in (probably) the late medieval period, the course of which was altered in the late 18th or early 19th century. As will be noted below, the dating and extent of previous land reclamation in the area from the Roman period onwards is uncertain and variable. The site is centred at approximately SK 97617 70574 (**Figure 1**).

The solid geology is mudstone of the Scunthorpe Mudstone Formation and Charmouth Mudstone Formation (undifferentiated), with superficial deposits of clay, silt, and gravel alluvium (http://mapapps.bgs.ac.uk).

4.0. Methodology.

4.1 Previous investigation

Desk-based assessment (On-Site Archaeology Ltd 2016) had established that the site lies in an area of uncertain archaeological potential, equidistant between an area of high potential for Roman and medieval archaeology fronting High Street and an area that previous investigations have show to be waterlogged until the post medieval period, with some evidence for potential ground reclamation in the late medieval period. Evidence from written records, maps and previous boreholes in the area suggests that any archaeological remains on the site have been damaged by the insertion of Victorian basements, ranging from 1.8 to 3.5m deep across the part of the site that fronts Tentercroft Street, although the physical extent of the basements is uncertain and there may be 'islands' of undisturbed ground. The locations of the probable cellars are shown on **Figure 2**.

After the desk-based assessment was carried out discussions took place with Alastair MacIntosh, City of Lincoln Archaeologist, which concluded that the next step in assessing the archaeological potential of the site was to carry out an archaeological borehole survey.

4.2 Borehole survey

The borehole survey was undertaken using a windowless track-mounted dynamic sampling rig, to provide 4 inch diameter, windowless tubed samples. Ten boreholes were planned but this was reduced to a total of 7 with the agreement of the City Archaeologist, including an east-west line of four boreholes to provide a detailed deposit model of the site (**Figures 2 and 3**). (Boreholes 2, 5, 10 were not sunk.)

The boreholes were recorded by an archaeologist experienced in recording urban deposits recovered through borehole sampling. The tubed samples were opened on site to enable archaeological deposit descriptions to be carried out (and potentially to recover any datable artefacts, although this did not prove to be necessary as no artefacts were recovered). On-Site Archaeology have carried out numerous similar borehole evaluations over the past fifteen years in the historic cities of York (e.g. deposit modelling the periphery of the medieval Kings

Fishpool and associated reclamation deposits) and Lichfield (e.g. deposit modelling to trace the medieval city ditch and associated wetland areas on the southwest of the medieval city).

Following the identification in the course of the borehole survey of a possible buried land surface at a depth of approximately 3-4m below ground level, further evaluation was needed. This is because recent investigation c. 1km to the northwest has led to the discovery of a Mesolithic site consisting of a dense scatter of flint artefacts in similar buried soil deposits (Alastair MacIntosh *pers. com*.).

4.3 Test pit evaluation

A methodology for a test pitting exercise was agreed with Alastair MacIntosh, City of Lincoln Archaeologist. The City Archaeologist confirmed that the overburden - consisting of modern deposits above medieval to early modern garden soil - was of low archaeological significance. Each test pit measured c.2.5m x 600mm and the six were excavated to give a wide sample of the site (**Figures 2 and 3**). The overburden was excavated by a JCB back-actor fitted with a toothless digging bucket to reach the buried soil deposits. These were excavated in controlled conditions by machine and stockpiled separately. At a depth of 3m in a narrow trench it was difficult to be visually certain that the required deposit had been reached, so separate excavation commenced at a depth of 2.8m (the highest recorded depth of the top of the buried land surface in the borehole results), and ceased when undisturbed natural sand was reached. A certain amount of contamination of the target deposits was noted during the process, resulting from the fact that during machine excavation material from the surface and from the deposits above the buried soil horizon inevitable collapsed into the hole, thus becoming mixed with the buried soil deposits. The amount of contamination was not judged to be excessive and was not sufficient to affect the results.

A sample of 100 litres of the target deposit in each of the six test pits was examined using a combination of dry-sieving and manual disaggregation. A total of 600 litres of target deposit was examined across the site. Because of the consolidated nature of the deposits (particularly the buried soil A-horizon, which was extremely dense degraded peat with a highly coherent structure) a relatively coarse 9mm mesh was used. As it was possible that the smallest flint artefacts would pass through the mesh, the sieved residue was also sorted through by hand to search for small artefacts (**Figure 4**).

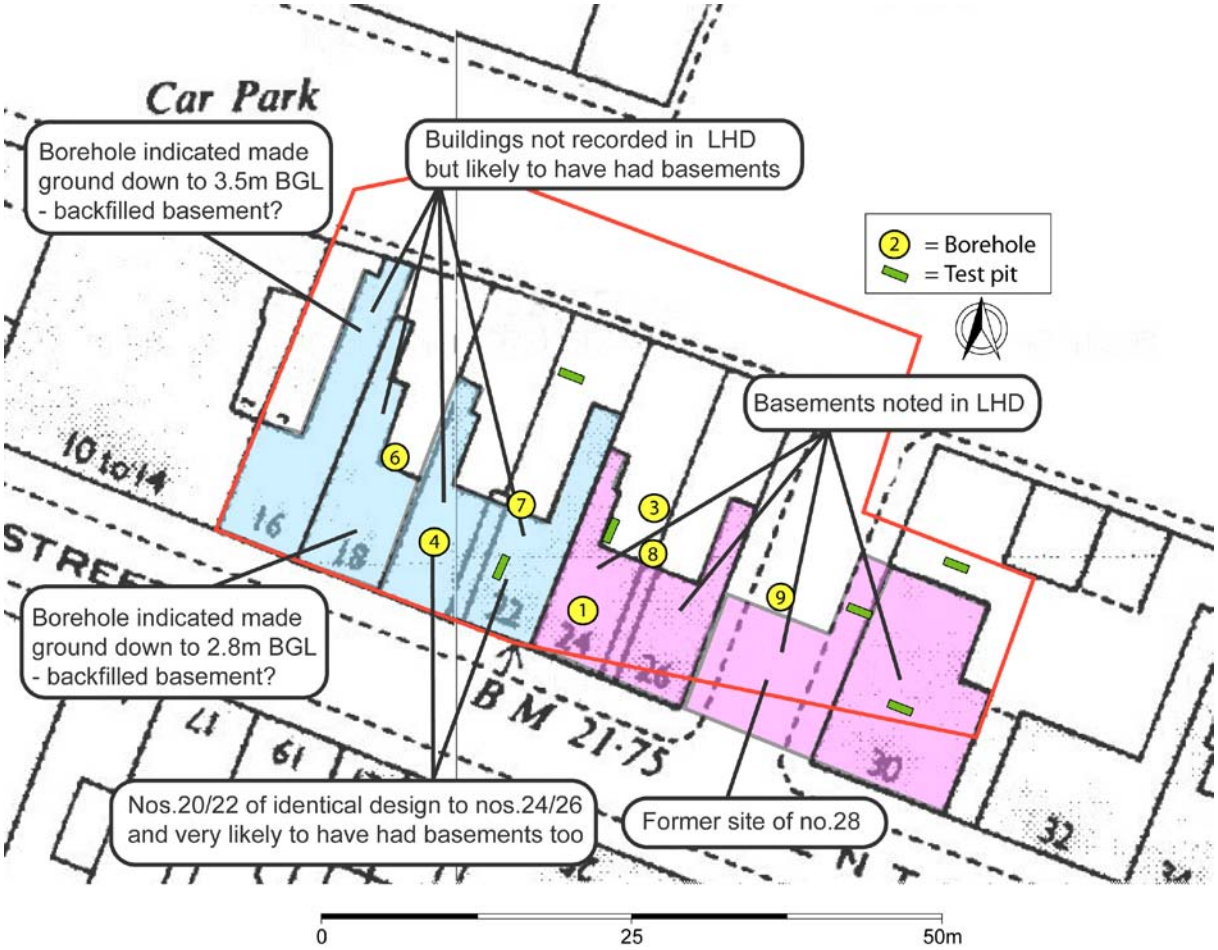

Figure 2. Boreholes and test pits overlain on 1967 OS map, with known and putative cellars shown

Figure 3. Boreholes and test pits overlain on modern site layout and foundation design

Figure 4. Sieving and hand sorting the sieved residue

5.0 Results.

5.1 Boreholes

Seven boreholes were sunk, four of which were in an east-west line to provide a random sample of the deposits across the site and three of which were designed to test for the presence of backfilled cellars/basements in the street frontage and the land to the rear of the former Victorian buildings.

A full record of the boreholes is given in Appendix 1, but the main findings are as follows. The borehole locations and a deposit model are shown in **Figure 5**.

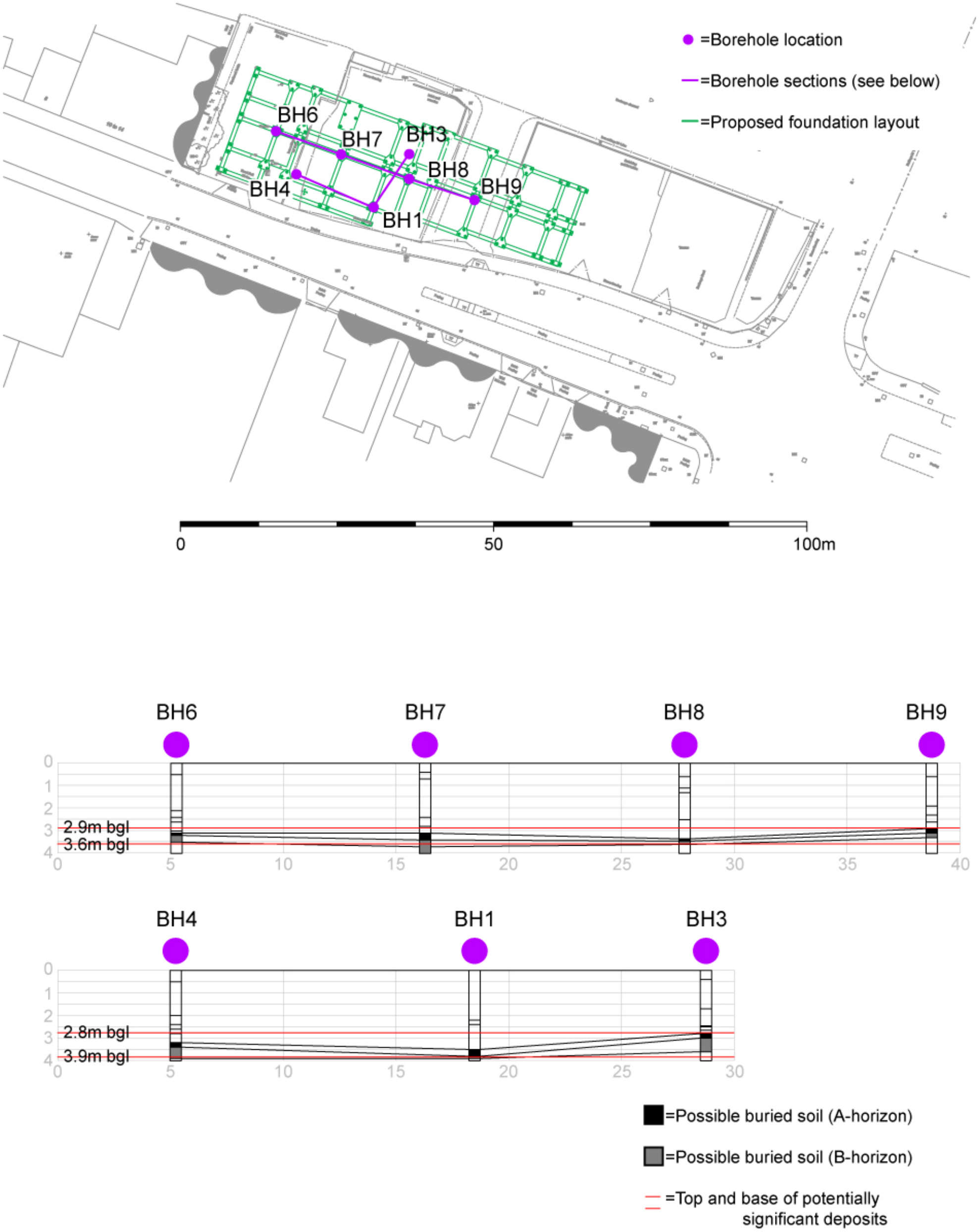

Figure 5. Borehole locations, results and deposit model

Buried soil horizon

Undisturbed natural geology, consisting of firm orange-brown sand, was found at a consistent level of between 3.5m (BH6) and 3.9m (BH1). Above this was a probable buried soil deposit consisting of a B-horizon of grey sand and a former A-horizon of consolidated black silt.

The former A-horizon was between 100mm and 300mm thick and varied in density. At its most consolidated it was difficult to break apart by hand. The most likely interpretation of this material is that it was formerly peat that had been degraded over time, leaving no intact preserved organic matter but retaining its structure. The former B-horizon was grey sand with a diffuse boundary to the undisturbed geology of orange-brown sand below. It was between 150mm and 500mm thick (**Figure 6**).

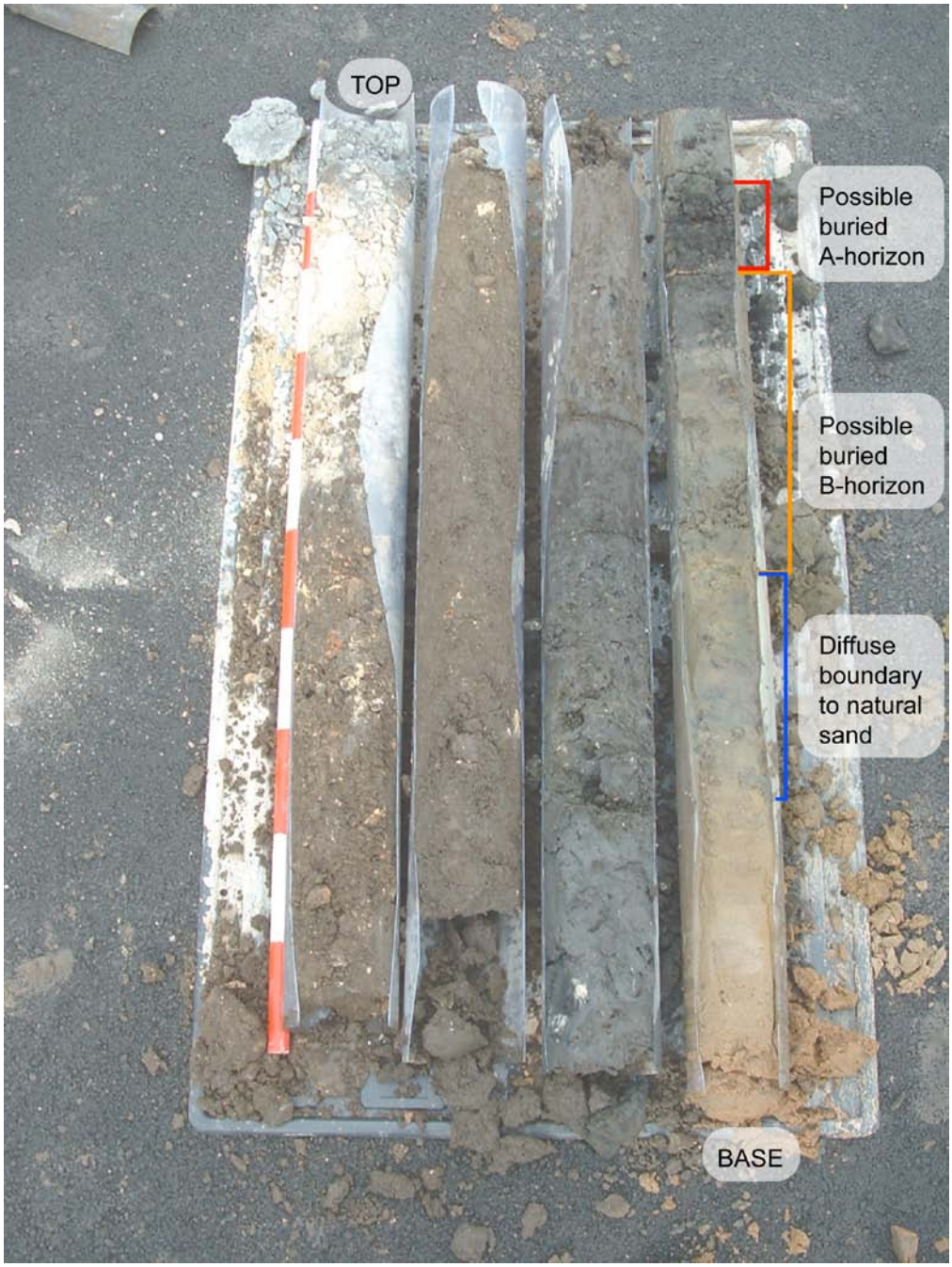

Figure 6. Buried soil horizon as shown in BH6

The height of the upper surface of the buried soil horizon was variable throughout the site, ranging from 2.8m below ground level (BGL) in BH3 to 3.5m BGL.

The buried soil horizon was undated and no artefacts were retrieved during the borehole survey. However, the City Archaeologist identified it as *potentially* similar to a buried soil horizon discovered during recent archaeological investigation c.1km to the northwest that occupied the same stratigraphic position and was found to contain a dense scatter of Mesolithic flint artefacts.

Backfilled cellars

Boreholes 1, 4, and 3 were sunk to attempt to identify the presence of backfilled Victorian cellars. BH1 was located within the footprint of the former no.24 Tentercroft Street, which was identified as having had a cellar in the Lincoln Heritage Database (LHD). BH4 was in the footprint of the former no.20 Tentercroft Street, which was not recorded in the LHD but which was assumed to also have a cellar. BH3 was in the rear garden of the Victorian buildings and was intended to test that cellars were absent.

BH1 encountered grey sand mixed with lime mortar containing frequent flecks of ceramic building material (CBM) at a depth of 2.2-2.4m BGL. It was likely that this was the remains of the floor of the former cellar. Above was crushed concrete rubble that appeared to fill the former cellar. The borehole punched through at least five bricks bonded with lime mortar which are likely to have been the *in situ* remains of an internal division within the former cellar. Contrary to expectations, there was no evidence for a cellar in BH4 and it may be that either the former building on this site lacked a cellar (unlikely considering the evidence from elsewhere on Tentercroft Street) or the borehole was placed just north of a cellar that occupied only the very street frontage. BH3, as anticipated, did not reveal a cellar.

Garden soil/degraded peat

With the exception of BH1 (which contained a former cellar), all the boreholes contained a similar sequence of deposits above the buried soil horizon and below the present day surface of crushed concrete and demolition rubble. Below the crushed concrete surface was a layer of grey brown silty sand containing frequent CBM fragments (becoming less frequent with depth), and occasional shell and animal bone. This was between 2m (BH7) and 1.3m thick (BH3) and appears to have been a garden soil or agricultural soil. There were no datable artefacts but, based on the frequent CBM fragments, this is likely to have been used in the post medieval period.

It lay above a slightly variable sequence of deposits, of which the main component - common to all the boreholes - was a degraded peat horizon consisting of dense organic rich black silt, with rare preserved organic matter such as pieces of wood and also occasional animal bone. Although similar to the buried A-horizon described above, this deposit was less dense and was separated from the underlying buried soils in most boreholes by lenses of sand and in some cases thin laminated sand deposits, both indicative of seasonal flooding or other inundations. There were no datable artefacts in the deposits.

5.2 Test pits

Six test pits were excavated and the target deposits - the buried soil horizon identified during the borehole survey - was sieved and examined by hand. In total 600 litres of the buried soil horizon was sieved and the resulting residues examined manually. No artefacts were found.

6.0 Conclusion.

The evaluation at the proposed development site on Tentercroft Street revealed relatively little of archaeological interest. The buried soil horizon at a depth of c.3m below ground level is undated and contained no artefacts. The buried land surface may potentially be contemporary with the Mesolithic land surface found at the recent excavation 1km to the northwest, but this has not been demonstrated by the present evaluation and no dating evidence has been recovered.

The buried land surface at the base of the recovered sequence is overlain by what appears to be a garden soil or agricultural soil of some considerable depth. Although fragments of brick or tile were found in its upper parts, no datable artefacts were recovered. The lower parts of the horizon had the appearance of degraded peat and some of the boreholes recorded lenses of sand or silt, some with possible laminations, which indicated periods of inundation/flooding/waterlogging. The lack of artefacts found may indicate that the ground level here was not artificially raised in the Roman or medieval periods (which would typically have involved the deposition of artefacts rich rubbish or rubble), although the sample of the site investigated was relatively small.

The anticipated Victorian cellar of the former no.20 Tentercroft Street was not found during the course of the borehole survey, but rather than indicate an absence of cellar, this probably only indicates that the cellar was smaller than anticipated and BH4 was outside the footprint.

7.0 Recommendations.

As no artefacts were present in the buried soil deposits investigated by the test pitting exercise, no further archaeological investigation is recommended. This recommendation is in line with previous discussions with Alastair MacIntosh, City of Lincoln Archaeologist.

8.0 Bibliography.

8.1 Published/unpublished sources

On-Site Archaeology Ltd 2016 Tentercroft Street, Lincoln: Desk-Based Assessment OSA16DT29.

8.2 Digital resources

British Geological Survey (http://mapapps.bgs.ac.uk)

9.0 Appendix 1 - Borehole Logs.

Depth (M bgl)	Depth (M aod)	Description	Interpretation
BH1			
0-2.2	6.17-3.97	Crushed concrete rubble. Includes five vertically aligned brick fragments from a wall	Backfilled cellar

2.2-2.4	3.97-3.77	Grey sand and lime mortar	Cellar floor
2.4-3.5	3.77-2.67	Black silt	Degraded peat
3.5-3.8	2.67-2.37	Black silt, more consolidated than layer above	Buried A-horizon
3.8-3.9	2.37-2.27	Grey sand	Buried B-horizon
3.9-4+	2.27-2.17	Reddish brown sand	Undisturbed natural geology
BH3			
0-0.4	6.21-5.81	Crushed concrete	
0.4-1.7	5.81-4.51	Grey brown silty sand with rare animal bone and occasional CBM (more frequent towards top of deposit)	Garden soil
1.7-2.45	4.51-3.76	Dark grey brown silty clay	
2.45-2.50	3.76-3.71	Lens of soft reddish brown sand	
2.50-2.65	3.71-3.56	Dark brown/black dense organic rich silt with occasional lenses of light greenish brown sand	Degraded peat
2.65-2.8	3.56-3.41	Grey sand lens	
2.8-3.0	3.41-3.21	Black organic rich silt. Rare preserved wood fragments	Buried A-horizon
3.0-3.6	3.21-2.61	Grey black silty sand	Buried B-horizon
3.6-4.0	2.61-2.21	Reddish brown sand	Undisturbed natural geology
BH4			
0-0.5	6.18-5.68	Crushed concrete	
0.5-2.00	5.68-4.18	Grey brown sandy silt with rare CBM fragments and rare charcoal flecks	Garden soil
2.00-2.4	4.18-3.78	Grey brown sandy clay	Garden soil
2.4-2.6	3.78-3.58-	Black silt. Occasional snail shell, occasional preserve wood fragments	Degraded peat
2.6-2.8	3.58-3.38	Grey silt	
2.8-3.2	3.38-2.98	Series of sand lenses and silt lenses. A laminated deposit	
3.2-3.4	2.98-2.78	Dense black silt with no preserved organic material	Buried A-horizon
3.4-3.9	2.78-2.28	Grey silty sand	Buried B-horizon
3.9-4.0	2.28-2.18	Orange brown sand	Undisturbed natural geology
BH6			
0-0.5	6.14-5.64	Tarmac over crushed stone base	Modern surface
0.5-2.1	5.64-4.04	Grey brown silty sand. Frequent CBM flecks and lime mortar fragments in top half of deposit	Garden soil
2.1-2.4	4.04-3.74	Brown grey silty, sandy clay with occasional charcoal fleck	
2.4-2.6	3.74-3.54	Firm black silt with no preserved organic material	Degraded peat or possible buried A-horizon?
2.6-3	3.54-3.14	Dark grey sandy silt. Occasional animal bone	
3-3.1	3.14-3.04	Grey silt lens	
3.1-3.2	3.04-2.94	Firm black silt with no preserved organic material	Buried A-horizon
3.2-3.5	2.94-2.64	Grey silty sand	Buried B-horizon
3.5-4	2.64-2.14	Reddish brown sand	Undisturbed natural geology
BH7			
0-0.4	6.26-5.86	Crushed concrete	
0.4-2.4	5.86-3.86	Dark brown silty sand becoming grey to base. Occasional CBM fragments in upper half, no artefacts from lower half	Garden soil
2.4-2.8	3.86-3.46	Black silt with no preserved organic fragments but occasional snail shell	Degraded peat?
2.8-3.1	3.46-3.16	Grey silty sand lens	
3.1-3.4	3.16-2.86	Dense black silt or silty clay no preserved organic material	Buried A-horizon
3.4-3.6	2.86-2.66	Grey sand. Rare preserved rootlets	Buried B-horizon
3.6-4+	2.66-2.26	Reddish brown sand	Undisturbed natural geology
BH8			
0.-0.3	6.20-5.90	Crushed concrete	
0.3-0.6	5.90-5.60	In situ concrete slab	
0.6-1.1	5.60-5.10	Dark brown sandy silt with occasional modern pottery and salt-glaze sewer pipe	Fill of former service trench? Sewer?
1.1-1.3	5.10-4.90	Crushed concrete	

1.3-2.5	4.90-3.70	Grey brown sandy silt. No artefacts	Garden soil
2.5-3.35	3.70-2.85	Black silt with occasional bone, rare fragments of preserved timber and shell	Degraded peat/wetland deposit
3.35-3.45	2.85-2.75	Very dense black clay silt with very rare timber fragments	Buried A-horizon
3.45-3.60	2.75-2.60	Grey brown silty sand	Buried B-horizon
3.6-5m	2.60-2.20	Reddish brown sand	Undisturbed natural geology
BH9			
0-0.6	6.04-5.44	Crushed concrete	
0.6-1.9	5.44-4.14	Brown sandy silt with frequent CBM fragments in upper part	Garden soil
1.9-2.3	4.14-3.74	Grey brown sandy silt with frequent shell fragments	Garden soil
2.3-2.6	3.74-3.44	Dense brownish black silt	Degraded peat/wetland deposit
2.6-2.9	3.44-3.14	Grey laminated silty sand lens	
2.9-3.1	3.14-2.94	Black silt. Single degraded timber fragment	Buried A-horizon
3.1-3.3	2.94-2.74	Grey sand	Buried B-horizon
3.3-4+	2.74-2.04	[no recovery]	Presumed to be waterlogged reddish brown sand = natural geology

10.0 Appendix 2 - Borehole Photographs.

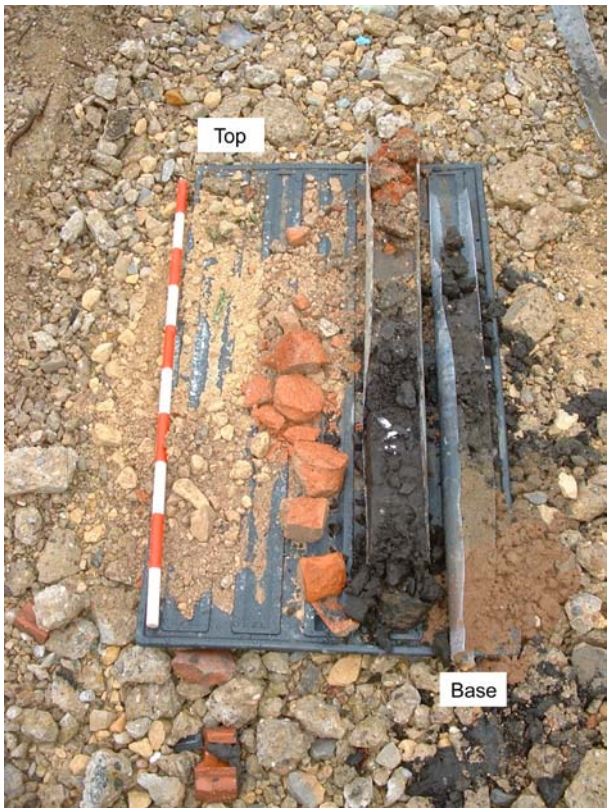

Figure 7. BH1

Figure 8. BH3

Figure 9. BH4

Figure 10. BH6

Figure 11. BH7

Figure 12. BH8

Figure 13. BH9