

Archaeological Evaluation at Land adjacent to 94 -104 Littlebrook Manor Way, Dartford, Kent



Planning Application DA/12/01487/FUL
Date: 23/05/2013

SWAT. ARCHAEOLOGY

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Contents

List of Figures.....	3
List of Plates.....	3
Summary.....	4
Introduction.....	4
Site Description and Topography.....	4
Planning Background.....	5
Archaeological and Historical Background.....	5
Aims and Objectives.....	5
Methodology.....	6
Monitoring.....	6
Results.....	6
Finds.....	7
Discussion.....	7
Conclusion.....	7
Acknowledgements.....	7
References.....	8
Appendix 1 - KCC HER Summary Form.....	9
Appendix 2- Field Evaluation (Palaeolithic) test pits	

List of Figures

- Fig. 1 Location of site
- Fig. 2 Location of archaeological trenches
- Fig. 3 Plan of trenches 1 & 2
- Fig. 4 Sections
- Fig. 5 Location of previous buildings on site

List of Plates

- Plate 1. Aerial view of the site
- Plate 2. View of the site
- Plate 3. View of Trench 1
- Plate 4. View of Trench 2
- Plate 5. Trench 1 representative section
- Plate 6. Trench 2 representative section



Plate 1. Aerial view of the site Google Earth 2006

Archaeological Evaluation at Land adjacent to 94 - 104 Littlebrook Manor Way, Dartford, Kent

NGR 623727 152003
Site Code: DART-EV-12

SUMMARY

Swale & Thames Survey Company (SWAT Archaeology) carried out an archaeological evaluation on land at Littlebrook Manor Way, Dartford (Fig. 2). The site has planning permission for the erection of a two storey block comprising two houses, 3 two bedroomed flats and 1 one bedroomed flat, construction of vehicular access with associated car parking. The Local Planning Authority planning reference for the scheme is DA/12/01487. Plans were submitted to Dartford Borough Council whereby the Council requested that an Archaeological Evaluation be undertaken in order to determine the possible impact of the development on any archaeological remains. The work was carried out in accordance with the requirements set out within an Archaeological Specification (SWAT 2013) and in discussion with the Archaeological Heritage Officer, Kent County Council. The evaluation was focused on the impact the development may have on known archaeological remains associated with Boyne Hill Gravels which had been identified in the soil investigations.

The Archaeological Evaluation consisted of two trenches which encountered no archaeological features. In addition, three test pits to investigate the potential for Palaeolithic remains were dug on 14th May 2013 to evaluate for the survival of Boyn Hill terrace deposits and Palaeolithic remains at the site. It was found that Boyn Hill terrace deposits were not present, and the only Quaternary sediments were reworked remnants of these deposits, filling small pockets and fissures in the surface of Thanet Sand bedrock and incorporated in a layer of slope wash that was intermittently present between the base of modern made ground and the Thanet Sand bedrock. The site can confidently be regarded as of very low Palaeolithic potential. The Archaeological Evaluation has therefore been successful in fulfilling the primary aims and objectives of the Specification.

INTRODUCTION

Swale & Thames Survey Company (SWAT Archaeology) was commissioned by Jenner (Contractors) Ltd to carry out an archaeological evaluation at the above site. The work was carried out in accordance with the requirements set out within an Archaeological Specification (SWAT 2013) and in discussion with the Archaeological Heritage Officer, Kent County Council. The evaluation was carried out on 14th May 2013.

SITE DESCRIPTION AND TOPOGRAPHY

The subject site is located on the southern side of Littlebrook Manor Way, within 15 metres of its junction with Henderson Drive and Attlee Drive. The 0.09 hectare site currently comprises entirely of hard standing in light of its lawful use as a car park. As such, the site is classified as previously

developed land within the definition provided in the National Planning Policy Framework. Overgrown shrub planting exists to the rear of the site, which is some 1.5 metres lower than the front. The car park is no longer in use.

A row of 6 terraced dwellings exist immediately to the west of the site, whilst to the east rows of 4 terraced dwellings exist on either side of Littlebrook Manor Way. The main surrounding land use is residential.

PLANNING BACKGROUND

Planning consent (DA/12/01487/FUL) for the erection of two houses, 3 two-storey flats, and construction of vehicular access with associated car parking and landscaping was approved by Dartford Borough Council (DBC). The Council requested that an archaeological evaluation be undertaken in order to determine the possible impact of development on any archaeological remains.

The Local Planning Authority (DBC) placed the following condition on the planning consent:

'No development shall take place until the applicant(s), or their agents or successors in title, has or have secured the implementation of a programme of archaeological work in accordance with a written specification and timetable which has been submitted to and approved by the Local Planning Authority.(South East Plan Policy BE6).

Reason: To ensure that features of archaeological interest are properly examined and recorded.

Requirements for the archaeological evaluation comprised trial trenching targeting a representative 4% sample of the impact area with two trenches and three test pits (Fig. 2) designed to establish whether there were any archaeological deposits at the site that may be affected by the proposed development. The results from this evaluation will be used to inform KCC of any further archaeological mitigation measures that may be necessary in connection with the development proposals.

ARCHAEOLOGICAL and HISTORICAL BACKGROUND

The proposed site lies within an area of archaeological potential. The site of the application lies within c.120 metres of an Anglo Saxon burial site found in 1883. The site may also lie on Boyn Hill Gravels. These deposits have the potential to contain important and rare Palaeolithic remains. Palaeolithic or Anglo-Saxon remains may therefore be located on this development site.

AIMS AND OBJECTIVES

The purpose of the evaluation, as set out within the Archaeological Specification (2013) was:

- Assessing the extent of any archaeological deposits
- Assessing the depth below ground surface of any archaeological deposits
- Establishing the depth, character, significance and condition of any archaeological deposits

METHODOLOGY

Trial trenching was carried out on 14th May 2013 with the excavation of two trenches and three test pits. Trench location for the trenches was agreed prior to the excavation between KCC and SWAT. Excavation was carried out using a tracked 360° mechanical excavator fitted with a toothless ditching bucket, removing the overburden to the top of the first recognisable archaeological horizon, or natural, under the constant supervision of an experienced archaeologist. All trenches measured about 10m in length and 1.8m wide. The trenches were subsequently hand-cleaned, and a number of features were exposed. All of which are modern foundations associated with the recently demolished block of terraced houses (Fig. 5). All archaeological work was carried out in accordance with the specification issued by SWAT. A single context recording system was used to record the deposits, and context recording numbers were assigned to all deposits for recording purposes. All archaeological work was carried out in accordance with KCC and IFA standards and guidance.

MONITORING

Due to the lack of extensive archaeological remains, curatorial monitoring was not carried out during the course of the evaluation.

RESULTS

The natural geology of Thanet Sand was revealed in Trench 1 and Trench 2 at depths between 0.40m-0.85m. In both trenches modern remains of terraced housing was exposed and an overburden of Type 2 hardcore lay on a 'blinding' strata of tar. No archaeological features were exposed in any of the trenches.

Trench 1

(18m x 1.70m x <0.85m)

Trench 1 was placed along the west edge of the site, and was positioned almost north-west/south-east and was machined to a depth of 0.30m where the natural geology of Thanet Sand was encountered. Modern features were exposed but no archaeological features were observed (Plate 3).

Trench 2

(17m x 1.70m x <0.72m)

Trench 2 ran east-west and was cut across the centre of the site. It was machined to a depth of 0.72m where the natural geology Thanet Sand was encountered. The natural was sealed by a deposit of tarmac stained Type 2 overburden. No archaeological features were observed (Plate 4).

TEST PITS 1-3

See attached Appendix 2 for full details of this work

FINDS

No finds were retrieved.

DISCUSSION

The evaluation of land at 94-104 Littlebrook Manor Way, Dartford revealed no archaeology. The archaeological evaluation has been successful in fulfilling the primary aims and objectives of the Specification. A common stratigraphic sequence was recognised across the site of the local geology of Thanet Sand covered by a layer of Type 2 hardcore which in turn is sealed by a thin layer of tarmac.

CONCLUSIONS

The evaluation has, therefore, assessed the archaeological potential of land intended for development.

ACKNOWLEDGEMENTS

SWAT Archaeology would like to thank Jenner (Contractors) for commissioning this project. Thanks are also extended to Wendy Rogers, Senior Heritage Officer, Kent County Council for her advice and assistance, and to Francis Wenban-Smith for supervising the three test pits (Appendix 2).

Paul Wilkinson supervised the fieldwork, assisted in the field by Jonny Madden. Illustrations were produced by James Madden for *Digitise This*. The project was managed by Paul Wilkinson.

Dr Paul Wilkinson MifA

May 2013

REFERENCES

Bibliography

Institute for Field Archaeologists (IfA), Rev (2008) *Standard and Guidance for archaeological field evaluation*.

Francis Wenban-Smith. *Field Evaluation (Palaeolithic) at Littlebrook Manor Way*

SWAT Archaeology (SWAT) (2013) *Specification for an archaeological evaluation at land adjacent to 94-104 Littlebrook Manor Way, Dartford, Kent*

Maps

Ordnance Survey 1st Edition (1871-1890)

Ordnance Survey 2nd Edition (1897-1900)

Ordnance Survey 3rd Edition (1907-1923)

Ordnance Survey 4th Edition (1929-1952)

Websites

Exploring Kent's Past <http://www.extranet7.krnt.gov.uk/ExploringKentsPast/>

Kent Landscape Information System <http://extranet7.kent.gov.uk/klis/home.htm>

Old Maps Online <http://www.oldmapsonline.org/>

APPENDIX 1 – Kent County Council HER Summary Form

Site Name: <i>94-104 Littlebrook Manor Way, Dartford, Kent</i>	
SWAT Site Code: <i>DART-EV-13</i>	
Site Address: <i>above</i>	
<p>Summary: <i>Swale & Thames Survey Company (SWAT) carried out an archaeological evaluation at land adjacent to 94-104 Littlebrook Manor Way, Dartford, Kent A planning application (DA/12/01487) for the erection of dwellings and construction of vehicular access was lodged with Dartford Borough Council (DBC) whereby Kent County Council Heritage and Conservation (KCCHC), on behalf of DBC requested that an Archaeological Evaluation be undertaken in order to determine the possible impact of development on any archaeological remains. The work was carried out in accordance with the requirements set out within an Archaeological Specification (SWAT 2013) and in discussion with the Archaeological Officer, Kent County Council.</i></p> <p><i>The Archaeological Evaluation consisted of two trenches and three Palaeolithic test pits which encountered no archaeological features.</i></p>	
District/Unitary: <i>Dartford</i>	Parish:
Period(s): Tentative:	
NGR (centre of site : 8 figures): (NB if large or linear site give multiple NGRs): <i>NGR 555580 174945</i>	
Type of archaeological work (delete) <i>Evaluation</i>	
Date of Recording: <i>May 2013</i>	
Unit undertaking recording: <i>Swale & Thames Survey Company (SWAT)</i>	
Geology: <i>Thanet Sand</i>	
<p>Title and author of accompanying report: <i>Wilkinson P. An Archaeological Evaluation at land adjacent to 94-104 Littlebrook Manor Way, Dartford, Kent</i></p>	
<p>Summary of fieldwork results (begin with earliest period first, add NGRs where appropriate)</p> <p><i>As above</i></p> <p style="text-align: right;">(cont. on attached sheet)</p>	
Location of archive/finds: <i>SWAT</i>	
Contact at Unit: <i>Paul Wilkinson</i>	Date: <i>23rd May 2013</i>



Plate 2. View of site looking north-east



Plate 3. Trench 1 looking north, and showing remains of demolished modern housing



Plate 4. Trench 2 looking north-east 1m scale



Plate 5. Trench 1 representative section, facing west



Plate 6. Trench 2 representative section

Littlebrook Manor Way, Dartford:

**Field Evaluation
(Palaeolithic)**

17th May 2013

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07771-623 096

ref: BLUE: CC-083-A

CONTENTS

SUMMARY	ii
1 INTRODUCTION	
1.1 Project circumstances and scope of work	1
1.2 Site location and topography	1
1.3 Background	
1.3.1 Geology	1
1.3.2 Palaeolithic finds	1
1.3.3 Geotechnical site investigations	2
1.3.4 Overview of Palaeolithic potential	2
2 AIMS AND OBJECTIVES	
2.1 General aims	2
2.2 Specific objectives	3
3 METHODS	3
4 RESULTS	
4.1 Stratigraphy, distribution of sediments and inferred depositional environments	4
4.2 Sieve-sampling and Palaeolithic finds	6
4.3 Biological/palaeo-environmental remains	6
4.4 Clast lithological analysis	6
4.5 Dating and optically stimulated luminescence (OSL) sampling	6
5 DISCUSSION AND CONCLUSIONS	
5.1 Site formation, correlation and dating	6
5.2 Lithic artefacts: recovery and depositional history	7
5.3 Biological/palaeo-environmental remains	7
5.4 Presence of/potential for undisturbed Palaeolithic remains	7
5.5 Significance, potential and priorities for further investigation	7
REFERENCES	7
TABLES	
Table 1. Major sediment groups (stratigraphic order from base)	4-5
FIGURES	
Figure 1. Site layout and location of Palaeolithic evaluation test pits TP1, TP2 and TP3	
APPENDICES	
Appendix 1. Test pit summaries: sediment sequences and full-depth photographs	

SUMMARY

Three test pits were dug on 14th May 2013 to evaluate for the survival of Boyn Hill terrace deposits and Palaeolithic remains at the site. It was found that Boyn Hill terrace deposits were not present, and the only Quaternary sediments were reworked remnants of these deposits, filling small pockets and fissures in the surface of Thanet Sand bedrock and incorporated in a layer of slopewash that was intermittently present between the base of modern made ground and the Thanet Sand bedrock. The site can confidently be regarded as of very low Palaeolithic potential.

1 INTRODUCTION

1.1 Project circumstances and scope of work

Francis Wenban-Smith (Department of Archaeology, University of Southampton) was commissioned by Swale and Thames Survey Company to participate as Palaeolithic and Pleistocene geoarchaeological specialist in the excavation of three test pits for the purpose of evaluating the Palaeolithic potential of the site. This report provides information on the deposits seen in these three test pits, integrates them with previous sub-surface deposit records from geotechnical investigations and provides an overall assessment of the Palaeolithic potential of the site.

Fieldwork took place on Tuesday 14th May, and was carried out in conjunction with Paul Wilkinson of Swale and Thames Survey Company.

1.2 Site location and topography

The site is located at Littlebrook Manor Way towards the northeast outskirts of Dartford, Kent at NGR 555580 174980 (**Fig. 1**). The site is situated within a built-up area of suburban housing. It is situated on the east side of a plateau of ground bounded by the Thames to the north, the Darent to the west and a shallow dry valley to the east, which heads north towards the south bank of the Thames.

The site was formed of a plot of ground previously occupied by domestic housing, but now demolished with the plot vacant and covered in crushed gravel hard-standing. The ground surface sloped shallowly down to the southeast from 26 to 25 m OD within the site plot.

Beyond the site plot, the ground surface slopes down eastward towards the axis of the dry valley that is present *c.* 250m to the east, which runs broadly SSW-NNE towards the south bank of the main Thames valley. This dry valley is occupied by the road approach to the Dartford crossing and a rail line.

1.3 Background

1.3.1 *Geology*

According to current geological mapping (British Geological Survey 1998), the site occurs at the eastern edge of an outcrop of Boyn Hill Gravel — properly known as the Orsett Heath Formation, following the Lower Thames synthesis of Bridgland (1994) — overlying a thin layer of Thanet Sand that in turn overlies Upper Chalk. The Boyn Hill Gravel/Orsett Heath Formation and Thanet Sand appear to have been truncated by formation of the dry valley that passes to the east of the site, and these deposits re-appear on the east side of the valley.

1.3.2 *Palaeolithic finds*

The Boyn Hill Gravel/Orsett Heath Formation is known to be a rich source of important Palaeolithic remains in the Dartford area (Wymer 1968 & 1999; Wessex Archaeology 1993).

Nationally important remains including an early hominin skull, prolific artefacts, undisturbed palaeo-landsurfaces and an extensive array of faunal and other palaeo-environmental remains have been recovered from sites (notably Barnfield Pit) from the outcrop at Swanscombe, c. 4 km to the east. Several handaxes have also been found from the same northeast Dartford outcrop as mapped under the site, from a cluster of locations c. 1500 m to the south in the vicinity of East Hill, namely from: York Road, the Romano-British cemetery at East Hill, 138 East Hill and the old gravel pit at The Brent roundabout (Kent County Council HER; Wessex Archaeology 1993: 94). A range of mammalian and molluscan fauna were also recorded at The Brent, including mammoth, rhino, horse, deer and the interglacial mollusc *Corbicula fluminalis*.

1.3.3 Geotechnical site investigations

Numerous geotechnical investigations were carried out at the site. These included twelve window samples WS1-WS12 and two deep boreholes BH1 and BH2 (Ashdown Site Investigation Ltd 2011). These investigations suggested that the sub-surface sequence across the majority of the site consisted of modern made ground directly overlying Thanet Sand. However three window samples in the west corner of the site (WS5, WS11 and WS12) identified between 20cm and 1m thickness of sandy/gravelly clay underneath 80-90cm of modern made ground. This sandy/gravelly clay bed was interpreted as Head and part of the Boyn Hill Gravel Member.

1.3.4 Overview of Palaeolithic potential

The likely presence of the Boyn Hill Gravel/Orsett Heath Formation made the site of high Palaeolithic potential, leading to a requirement to carry out a deep test pit field evaluation to investigate for the presence of Pleistocene deposits and to evaluate their Palaeolithic potential. This was carried out following the specification issued by Kent County Council, included as Appendix 1 in the Swale & Thames Survey Company archaeological specification for the site (February 2013).

2 AIMS AND OBJECTIVES

2.1 General aims

The primary aims of the field evaluation were:

- To investigate for the presence of any Pleistocene deposits and Palaeolithic remains
- To establish the nature, distribution, sequence and depth of Pleistocene deposits across the Site, where present
- To assess the Palaeolithic potential and significance of any Pleistocene deposits and Palaeolithic remains, if present

2.2 Specific objectives

More specifically, the work aimed to:

- Develop an understanding of the distribution, sequence, sedimentological character and 3-dimensional geometry of any Pleistocene deposits
- Interpret the mode of formation of any Pleistocene deposits
- Determine the presence/absence and potential of any lithic artefact and vertebrate remains
- Determine the presence/absence and potential of any other biological/palaeo-environmental remains
- Determine the presence/absence of, or potential for, undisturbed primary context *in situ* Palaeolithic occupation surfaces
- Interpret the depositional and post-depositional history of any artefactual or biological remains found
- Establish chrono-stratigraphic correlations of any Pleistocene deposits with regional sequences and national frameworks, and in particular to establish whether deposits forming part of the Boyn Hill Gravel/Orsett Heath Formation are present
- Assess in local, regional and national terms, the significance of any Pleistocene deposits and Palaeolithic remains encountered, and their potential to fulfil current research objectives, including their potential for dating

3 METHODS

Three deep test pits TPs 1-3 were excavated across the site (**Fig. 1**). One test pit (TP 1) was positioned in the west corner of the site, where geotechnical investigations had suggested the presence of Boyn Hill/Orsett Heath deposits. Another (TP 2) was positioned in the south corner of the site. And the third (TP 3) was positioned in the east corner of the site.

Each test pit was dug by tracked mini-excavator with a 3ft 6" toothless ditching bucket. Each test pit was one bucket-width wide, *c.* 2.5m long. TP 1 was dug to a depth of 1.90m, when the Bullhead flint bed and Chalk bedrock were encountered, securely established that the base of the test pit was below the base of any Quaternary sediments. TPs 2 and 3 ceased at shallower depths — 1.30m and 0.70m respectively — as it was clear that pre-Quaternary deposits had been reached.

Each test pit was taken down in horizontal spits of up to 250mm, respecting the interface between sedimentary units when unit changes were encountered. The work was directed by the recognised Palaeolithic and geoarchaeological specialist (Francis Wenban-Smith), who recorded the sequence of sedimentary units following standard descriptive practices and determined sampling requirements as excavation progressed. Test pits were entered at the maximum safe depth to record the upper stratigraphy. After excavation progressed beyond

this depth, recording took place without entering the trench. One representative section from each test pit was drawn at a scale of 1:20 and photographed once excavation reached its full depth, and at appropriate stages in the course of excavation if features of interest were revealed. A series of working shots was also maintained during the course of the fieldwork

No Pleistocene sediments suitable for on-site sieving were encountered. When the sediment was too clayey for sieving, excavation proceeded more slowly and in shallower spits, looking carefully for the presence of any archaeological evidence. No sediments suitable for environmental, dating or clast lithological sampling were encountered

Fieldwork took place on Tuesday 14th May 2013, and was carried out by Swale & Thames Survey Company with Francis Wenban-Smith as the Palaeolithic and Pleistocene geoarchaeological specialist.

4 RESULTS

4.1 Stratigraphy, distribution of sediments and inferred depositional environments

Two Quaternary deposits were found (I and II), as well as Modern Made Ground (M): (**Table 1**). The Quaternary/Modern sequence was underlain in all test pits by Thanet Sand bedrock. TP 1 was excavated more deeply, which revealed the Bullhead flint bed 1.75m below the ground surface at 24.10 m OD, in turn underlain by solid Chalk. The other test pits TP 2 and TP 3 were not excavated below the base of the Thanet Sand. Detailed descriptions of the sequence in each test pit and the phasing of individual beds to these deposit groups are given as an appendix (**Appendix 1**), which also shows the record photograph of the full sequence of deposits in each test pit. More detailed comments on the distribution, nature and interpretation of each sediment group are given further below.

<i>Sediment Group</i>	<i>Period</i>	<i>Deposit</i>	<i>Description</i>	<i>Interpretive notes</i>	<i>Test pits</i>
M	Recent	MODERN MADE GROUND	Moderately soft and loose greyish pink gravel, with a dark grey clay/silt/sand layer at the base, this basal layer containing pieces of brick and common flint and chalk pebbles	Demolition layer from previous housing on site	TPs 1, 2 and 3
II	Late Pleistocene to Early Holocene?	GRAVELLY/CLAYEY SAND/SILT	Dark yellowish-brown sandy clay-silt with flint and chalk pebbles	Colluvium, possibly incorporating base of Holocene soil or plough-zone	TP 2

I	Middle-Late Pleistocene?	SANDY GRAVEL	Variably silty/sandy flint gravel, filling fissures and contorted pockets in upper part of Thanet Sand	Slope wash deposits, reworked remnants of Boyn Hill terrace gravel	TP 1
-	Palaeocene	THANET SAND	Pale yellowish-brown clayey/silty very fine sand	-	Tps 1, 2 and 3
-	Palaeocene	BULLHEAD FLINT BED	Flint nodules of varying size, with dark green outer cortex underlain by a thin layer of orange-brown stained flint	-	TP 1
-	Cretaceous	CHALK	Solid dry, white Chalk	-	TP 1

Table 1. Major sediment groups (stratigraphic order from base)

Chalk bedrock — Solid white Chalk was encountered 1.85m below the ground surface at 24 m OD in TP 1. Excavation ceased at shallower depths in the other test pits, so Chalk was not reached.

Bullhead flint bed — This distinctive bed of green-coated flint nodules that typically occurs at the junction between Chalk bedrock and Thanet Sand was encountered overlying Chalk bedrock between 1.75 and 1.85 m below the ground surface in TP 1, between 24.10 and 24 m OD.

Thanet Sand — This Palaeocene deposit was present in all three test pits. In TPs 1 and 2, it was present from c. 70-80cm below the ground surface. In TP 3 it was present from only 40cm below the ground surface. In TPs 1 and 2, the deposit recognised as Thanet Sand was much more clay-silty than usual, and was recorded as Boyn Hill terrace Head deposits when encountered in the geotechnical window samples. However the lack of a stratigraphic discontinuity between this deposit and the underlying Bullhead Bed and Chalk sequence confirms the deposit as Thanet Sand. The unusually high levels of clay/silt probably result from downward translocation of these fine-grained sediments through cracks and fissures in the top of the Thanet Sand as it has undergone erosion and weathering through the course of the later Pleistocene. The manifestation of Thanet Sand in TP 3 was much more typical, being a pure and uncohesive very fine sand.

I — This Quaternary deposit (context 103) was only present in TP 1. It consisted of variably silty/sandy flint gravel, occurring within contorted pockets and narrow fissures in the top 50cm of the Thanet Sand, between 70cm and 1.20m below the ground surface (ie. between c. 24.60 and 25.10 m OD). It is probably formed of remnants of Boyn Hill terrace deposits that were once present in the vicinity of the site.

II — This Quaternary deposit (context 203) was only present in TP 2. It occurred as a layer 40cm thick between 0.55 and 1.00 m below the ground surface, ie. between c. 24 and 24.4 m

OD. It consisted of dark yellowish-brown sandy clay-silt, with flint pebbles and nodules (sometimes concentrated in patches), and occasional small chalk pebbles. This deposit is probably broadly similar to deposit I in type and formational history, and represents the degraded and reworked upper part of the Thanet Sand, incorporating clasts from Boyn Hill terrace deposits that were previously present in the vicinity of the site. It is possible that this deposit is slightly younger than deposit I, and it may represent Holocene colluvium and include the remnant base of a subsoil or plough zone that was present before the initial construction of buildings on the site.

M, Modern Made Ground — This recent deposit was present across the site, and seen to varying depths from the present ground surface in all three test pits, ranging from 40cm thick in TP 3 to 80cm in TP 1. The majority of the deposit consisted of pale greyish pink gravel. The basal 10-15cm of the deposit consisted of dark grey mixed sand/silt/clay with a peaty/sulphurous smell and incorporating various flint and chalk clasts as well as pieces of brick. The main upper part of the deposit was (according to information provided by the operative on site) spread out and compacted in the last few years to allow the site to be used as a car park pending development. The lower part of the deposit is probably the remnants of a demolition layer, incorporating the previous topsoil and plant material, leading to its current peaty/sulphurous smell.

4.2 Sieve-sampling and Palaeolithic finds

No sand/gravel deposits requiring sieve-sampling for Palaeolithic remains were encountered. Nor were any Palaeolithic remains found in general course of excavation.

4.3 Biological/palaeo-environmental remains

No faunal or other palaeo-environmental remains were found, nor any sediments with potential for their preservation.

4.4 Clast lithological analysis

No terrace gravel deposits with potential for clast lithological sampling were encountered.

4.5 Dating and optically stimulated luminescence (OSL) sampling

No sand-rich Pleistocene deposits with potential for dating by optically stimulated luminescence (OSL) were encountered.

5 DISCUSSION AND CONCLUSIONS

5.1 Site formation, correlation and dating

The only Quaternary sediments at the site are reworked remnants of Boyn Hill terrace deposits that fill pockets/fissures in the truncated/degraded surface of Thanet Sand bedrock (deposit I, context 103), or which have become incorporated in a general layer of colluvium (deposit II,

context 203) that is intermittently present between the base of modern made ground and the truncated/degraded surface of the Thanet Sand. The former of these deposits probably dates to some part of the later Pleistocene, any time between c. 375,000 and 10,000 BP (years Before Present), and the latter may date to the Late Pleistocene or the early Holocene, between c. 20,000 and 5,000 BP.

5.2 Lithic artefacts: recovery and depositional history

No lithic artefacts were found. It is possible that the Quaternary sediments at the site might contain occasional lithic artefacts, but these would be reworked from Boyn Hill terrace deposits, and so would have very low importance, if present.

5.3 Biological/palaeo-environmental remains

No biological/palaeo-environmental remains were identified, nor any sediments with likely potential for their preservation. It is very unlikely that any faunal or other palaeo-environmental remains are present at the site.

5.4 Presence of/potential for undisturbed Palaeolithic remains

There is no potential for the presence of undisturbed Palaeolithic remains at the site.

5.5 Significance, potential and priorities for further investigation

The remnant Quaternary deposits at the site are of very low potential for Palaeolithic archaeology. The field evaluation has been useful in developing understanding of the site area, in that (a) it has established that Boyn Hill terrace deposits do not survive, and (b) it has demonstrated how Thanet Sand can develop a very clayey/silty upper part when degraded and erosively truncated by Quaternary processes. This will facilitate recognition of Thanet Sand bedrock in future investigations in similar topographic situations.

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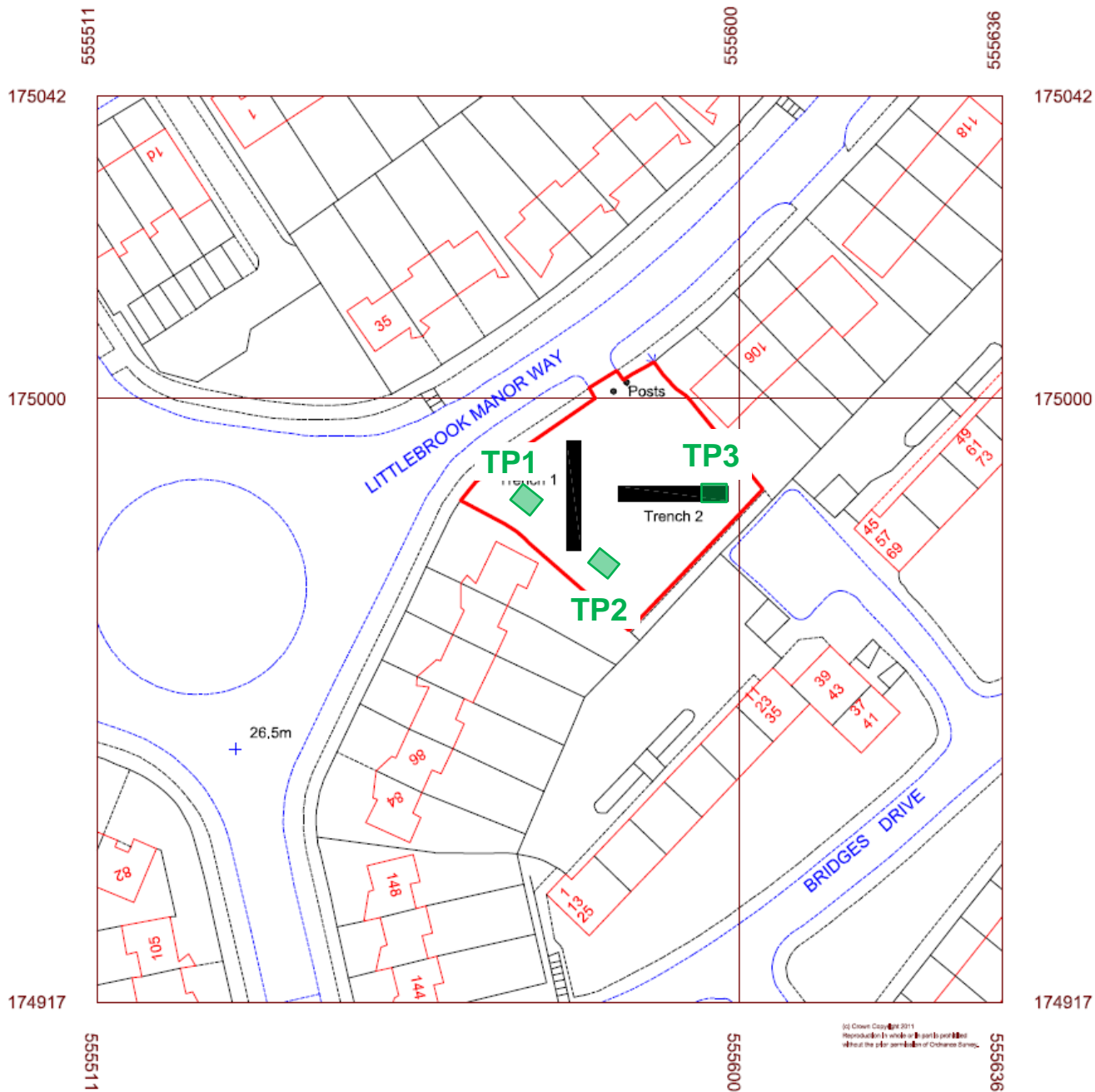


Figure 1. Site layout and location of Palaeolithic evaluation test pits TP1, TP2 and TP3

Appendix 1. Test pit summaries: sediment sequences and full-depth photographs

Site	Littlebrook Manor Way, Dartford			Test-pit	1
Site-code (Client)	LMW/EV/13	CAHOR code	CC-083		
Site sub-div				Date	14 th May 2013
Dimensions	Length (m)	3.40	Co-ords (NGR)	East	555573
	Width (m)	1.15		North	174985
	Depth (m)	1.90			
				Ground level — m OD	25.82

<i>Sed. group</i>	<i>Context</i>	<i>Description</i>	<i>Depth - top</i>	<i>Depth - base</i>	<i>Samples <></i>	<i>Vol. (lit.)</i>	<i>Lithic finds</i>	<i>Enviro remains</i>
M	101	MADE GROUND. Soft and loose pale pink/grey gravel in silt/sand matrix with sub-horizontal beds. [=201, 301] <i>Sharp basal junction, dipping gently SE</i>	0	0.56	-	-	-	-
	102	MADE GROUND. Firm and cohesive very dark brownish-grey (becoming strong brown in places in lower parts) mixed clay/silt/sand with moderately common flint pebbles/cobbles, VF-F chalk pebbles and occasional pieces of brick; smells peaty/sulphurous [rotted organic matter?]. [=202, 302] <i>Diffuse basal junction (with 104), dipping gently SE</i>	0.56	0.78	-	-	-	-
I	103	SANDY GRAVEL. Moderately soft and cohesive silty/sandy flint gravel, filling vertical fissures and uneven pockets in upper part of 104; flint clasts ranging from 1-15cm, mostly moderately to well-abraded, sub-angular to well-rounded. [reworked remnant of Boyn Hill Gravel] <i>Uneven pocket (within upper part of 104)</i>	0.90	1.20	-	-	-	-
-	104	THANET SAND. Moderately firm and cohesive, pale yellowish-brown sandy (VF) and slightly clayey silt; upper part has some narrow north-south fissures [ice-wedge pseudomorphs?] and uneven pockets filled with 103. [=204, 303] <i>Sharp basal junction</i>	0.78	1.75	-	-	-	-
	105	BULLHEAD FLINT BED. Slightly to moderately abraded flint nodules mostly 5-20cm long with dark greenish cortex above thin orange-brown stained outer flint band. <i>Sharp basal junction</i>	1.75	1.85	-	-	-	-
	106	CHALK. Dry white crumbly Chalk. <i>Base not reached</i>	1.85	1.90	-	-	-	-



TP 1, photo looking north-east at full depth

Site Littlebrook Manor Way, Dartford		Test-pit 2	
Site-code (Client) LMW/EV/13	CAHOR code CC-083		
Site sub-div		Date 14 th May 2013	
Dimensions	Length (m) 2.40	Co-ords (NGR)	East 555581
	Width (m) 1.15		North 174975
	Depth (m) 1.30		
			Ground level — m OD 25.04

<i>Sed. group</i>	<i>Context</i>	<i>Description</i>	<i>Depth - top</i>	<i>Depth - base</i>	<i>Samples <></i>	<i>Vol. (lit.)</i>	<i>Lithic finds</i>	<i>Enviro remains</i>
M	201	MADE GROUND. Soft and loose pale pink/grey gravel in silt/sand matrix with sub-horizontal beds. [=101, 301] <i>Sharp basal junction, dipping gently SE</i>	0	0.45	-	-	-	-
	202	MADE GROUND. Firm and cohesive very dark brownish-grey (becoming strong brown in places in lower parts) mixed clay/silt/sand with moderately common flint pebbles/cobbles, VF-F chalk pebbles and occasional pieces of brick; smells peaty/sulphurous [rotted organic matter?]. [=102, 302] <i>Diffuse basal junction, dipping gently SE</i>	0.45	0.55	-	-	-	-
II	203	VARIABLY GRAVELLY/CLAYEY SAND/SILT. Firm, pliable and cohesive dark yellowish-brown (slightly reddish stained in places) sandy clay-silt with moderately common flint pebbles and nodular flint cobbles, patchily concentrated; flint clasts generally sub-angular to well-rounded and well-abraded. [degraded/reworked upper part of Thanet Sand with incorporated remnants of Boyn Hill Gravel] <i>Diffuse basal junction, sub-horizontal</i>	0.55	1.00	-	-	-	-
-	204	THANET SAND. Moderately firm and cohesive, pale yellowish-brown sandy (VF) and slightly clayey silt; upper part has some narrow north-south fissures [ice-wedge pseudomorphs?] and uneven pockets filled with 103. [=104, 303] <i>Base not reached</i>	1.00	1.30	-	-	-	-



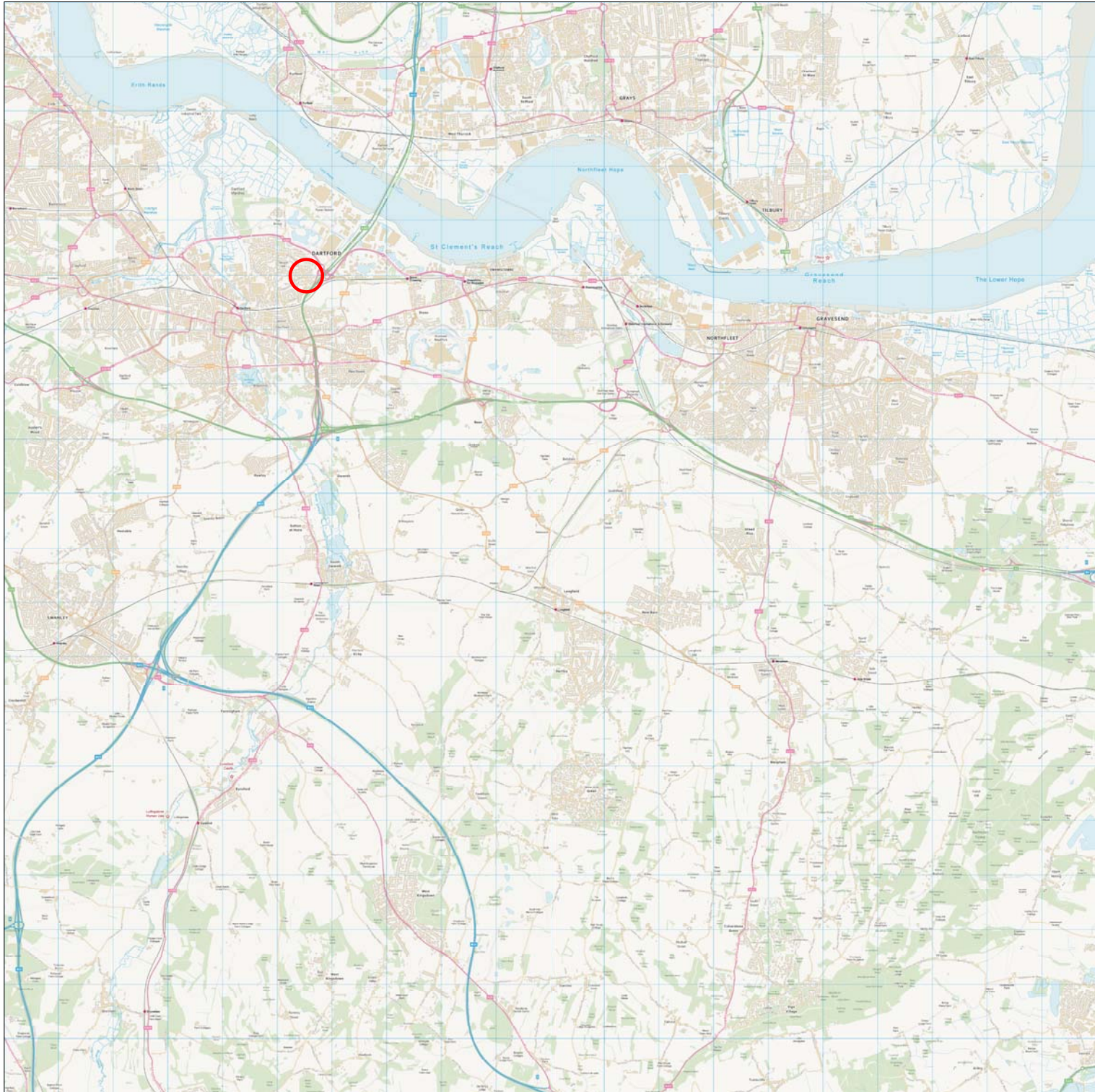
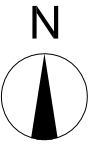
TP 2, photo looking east at full depth

Site Littlebrook Manor Way, Dartford				Test-pit	
Site-code (Client) LMW/EV/13		CAHOR code CC-083		3	
Site sub-div				Date 14 th May 2013	
Dimensions	Length (m)	2.00	Co-ords (NGR)	East	555597
	Width (m)	1.15		North	174989
	Depth (m)	0.60			
				Ground level — m OD 25.06	

<i>Sed. group</i>	<i>Context</i>	<i>Description</i>	<i>Depth - top</i>	<i>Depth - base</i>	<i>Samples <></i>	<i>Vol. (lit.)</i>	<i>Lithic finds</i>	<i>Enviro remains</i>
M	301	MADE GROUND. Soft and loose pale pink/grey gravel in silt/sand matrix with sub-horizontal beds. [=101, 201] <i>Sharp basal junction, sub-horizontal</i>	0	0.25	-	-	-	-
	302	MADE GROUND. Firm and cohesive very dark brownish-grey (becoming strong brown in places in lower parts) mixed clay/silt/sand with moderately common flint pebbles/cobbles, VF-F chalk pebbles and occasional pieces of brick; smells peaty/sulphurous [rotted organic matter?]. [=102, 202] <i>Sharp basal junction, sub-horizontal</i>	0.25	0.38	-	-	-	-
-	303	THANET SAND. Pale brownish/greyish-yellow VF-F sand, slightly clayey/silty in places, with some orange-brown staining. [=104, 204] <i>Base not reached</i>	0.38	0.70	-	-	-	-



TP 3, photo looking south-east at full depth

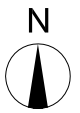


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1:100,000@A3



Figure 1: Location of Site



1:750@A4

Figure 2: Location of archaeological trenches



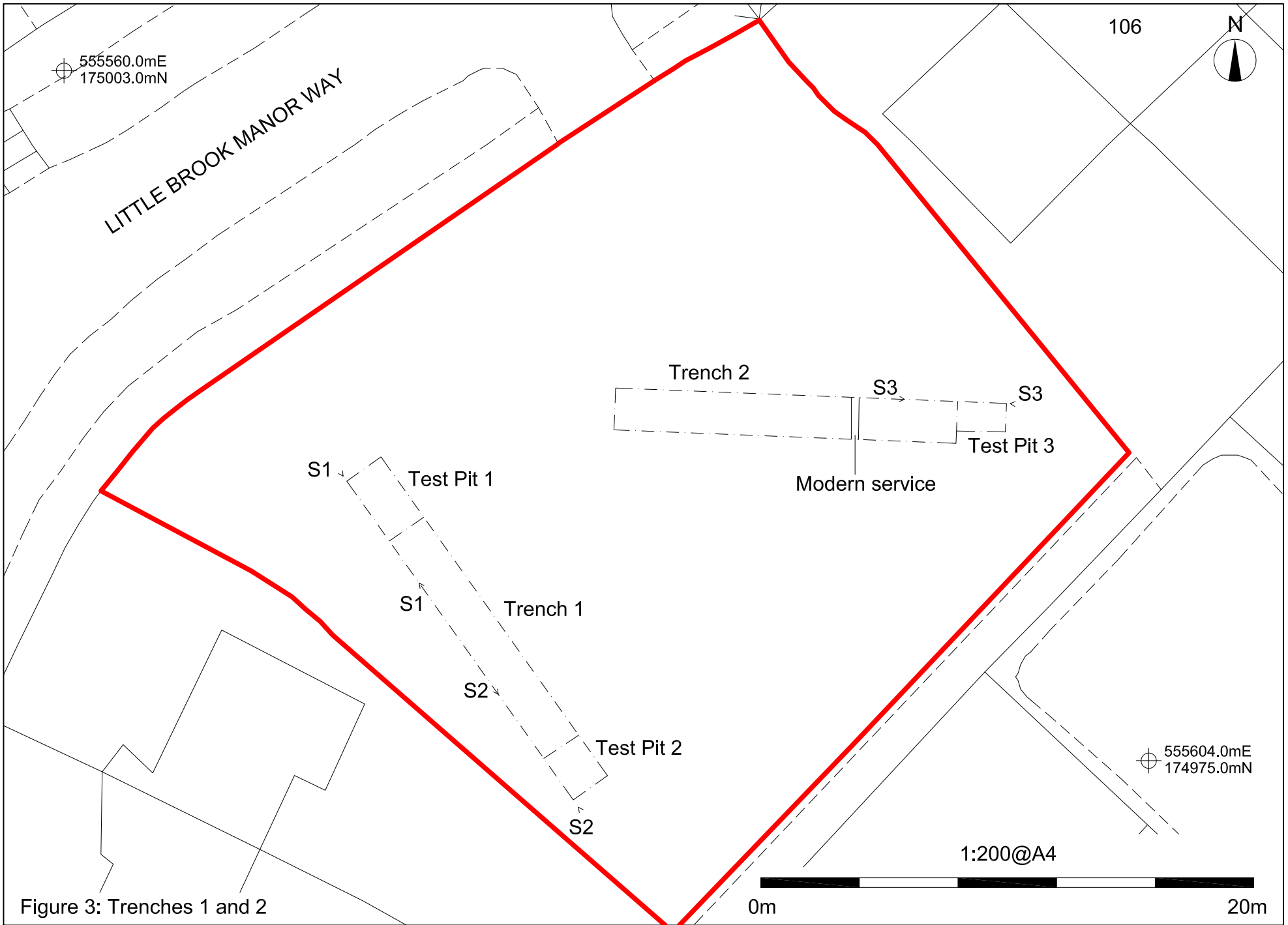
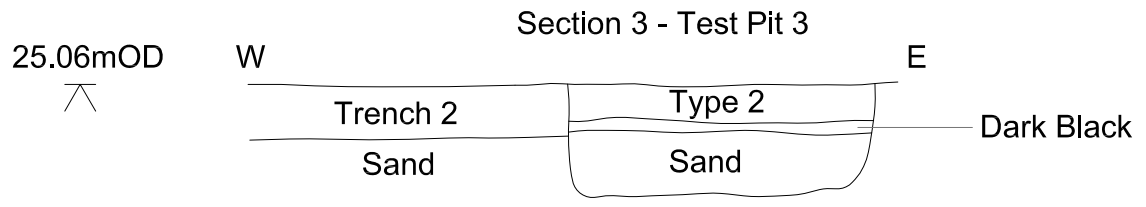
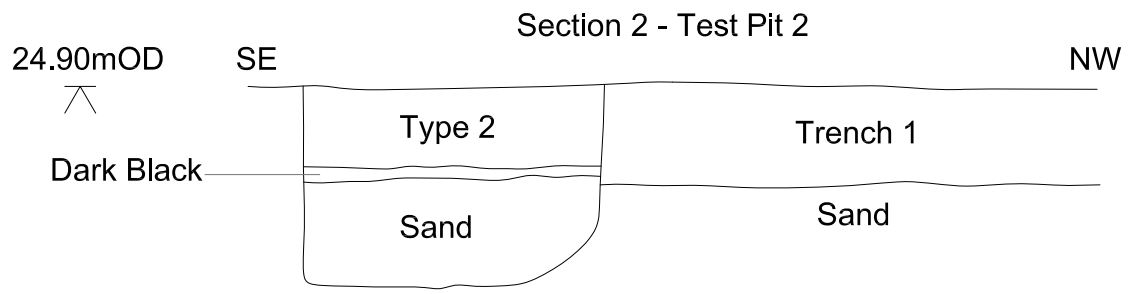
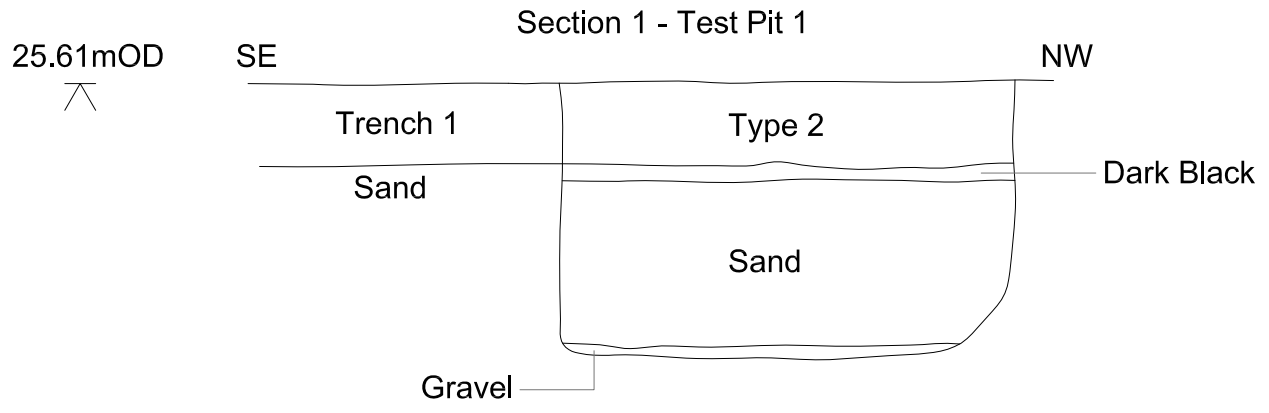


Figure 3: Trenches 1 and 2



1:50@A4



Figure 4: Sections

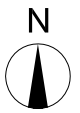


Figure 5: Location of archaeological trenches overlain on plan of previously demolished houses

1:750@A4

