



## Unwins Dartford, Kent

Archaeological Watching Brief on Geotechnical Works





**Unwins, Dartford, Kent**

**Archaeological Watching Brief on Geotechnical Investigations**

NGR: 554020,174720

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# **Unwins, Dartford, Kent**

## **Archaeological Watching Brief on Geotechnical Investigations**

### **Summary**

Wessex Archaeology was commissioned by Campbell Reith Hill LLP (hereafter “the Client”) to undertake an archaeological watching brief of geotechnical investigations prior to the demolition of a former Unwins depot at Victoria Industrial Park, Dartford (hereafter ‘the Site’), centred on National Grid Reference (NGR) 554020 174720.

Seven geo-technical test pits were excavated using a mechanical excavator and five borehole samples were taken across the Site and within the footprint of the former Unwins building. The test pits were excavated down to between 1.2 and 2.5m below ground level, under constant archaeological supervision. Peat and alluvial clay deposits were encountered immediately below the made ground. No archaeological features or finds were identified within the trial pits.

The geo-technical pits were undertaken for engineering purposes to identify ground conditions and areas of contamination across the Site. Archaeological monitoring of the test pits was undertaken in order identify the occurrence and depth of potential archaeological deposits that may be impacted by future development of the Site.

The watching brief took place on the 27<sup>th</sup> and 30<sup>th</sup> of November 2009.

## **Unwins, Dartford, Kent**

### **Archaeological Watching Brief on Geotechnical Works**

#### **Acknowledgments**

Wessex Archaeology would like to thank Campbell Reith Hill LLP for commissioning this watching brief. The project was managed on behalf of Wessex Archaeology by Katharine Barber. The fieldwork was conducted by Katharine Barber, Mark Williams and Piotr Orczewski and the preparations of the report were carried out by Sarah Mounce and Katharine Barber. The illustrations were prepared by Ken Lymer.

## Unwins, Dartford, Kent

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**Figure 1:** Site plan with test pit and borehole locations

**Figure 2:** Test pit 1: section and photograph

**Figure 3:** Test pits 6 and 7: photographs

## Unwins, Dartford, Kent

### Archaeological Watching Brief on Geotechnical Works

#### 1 INTRODUCTION

##### 1.1 Project background

1.1.1 Wessex Archaeology were commissioned by Campbell Reith Hill LLP (hereafter “the Client”) to undertake an archaeological watching brief on geotechnical works prior to the demolition of the former Unwins building at Victoria Industrial Park, Dartford (hereafter ‘The Site’), centred on National Grid Reference (NGR) 554020 174720 (**Figure 1**).

1.1.2 Development of the Site is likely to comprise the removal of the existing ground slab and the use of piled foundations. It is likely that there will also be significant build up of the Site (up to 1.5m in depth) prior to construction due to shallow ground water.

1.1.3 The watching brief was undertaken following a request from the County Archaeologist to investigate the archaeological potential of the peat, alluvium and river terrace gravel deposits within at the Site with particular regard to the footprint of the proposed Basepoint building.

##### 1.2 Site description

1.2.1 The Site is roughly triangular in shape and is located within the western section of the Victoria Industrial Park, Dartford (**Figure 1**). The Site is currently under concrete with several disused industrial buildings.

1.2.2 The British Geological Survey 1:50,000 Sheet 271 indicates that the Site comprises made ground and demolition material overlying silt and clay alluvium with local peat deposited over Upper Chalk. Published regional geology indicates that the alluvium is mainly of Pleistocene and recent date. Alluvium is a river deposit and generally comprises silt or clay with seams of gravel or fresh water shells. Peat is locally associated with it and may pass laterally within it, particularly where the alluvium occupies low-lying marshy ground.

1.2.3 This phase of geotechnical investigation comprised 7 test pits and 3 boreholes situated across the Site. This phase of geotechnical works was conducted in order to investigate areas of potential below ground contamination.

- 1.2.4 A previous phase of geotechnical investigation comprising 12 boreholes and twenty trial pits was undertaken in 2006. The results of which are not reviewed in this report.

### **1.3 Archaeological and Historical Background**

- 1.3.1 A full desk-based assessment has not been undertaken for the Site. However an overview of the Kent Historic Environment Record and other readily available documentary and cartographic sources has been taken in order provide a context for the current investigative works.

- 1.3.2 The Kent Sites and Monuments Record does not record any archaeological sites or findspots within the Site boundary.

- 1.3.3 The underlying geology of the Site in itself holds a certain archaeological potential. Peats deposits known to exist within the Site footprint hold a palaeoenvironmental significance as they have the potential to contain carbon datable pollen sequences and other environmental indicators. The preservative qualities of peat also mean that there is an increased archaeological potential for the survival of artefactual material. For example, a wooden trackway of Neolithic date is recorded in the wider locality close to the River Thames at Silvertown, Greater London to the west of the Site.

- 1.3.4 The location of the Site in proximity to the River Darent (Dartford Creek) and on alluvium and River Terraces Gravels in holds an increased archaeological potential. Evidence for prehistoric activity is commonly found in association with these geological deposits. The alluvial flood plain environment holds a high archaeological potential for the recovery of a range of prehistoric and later sites including evidence for hunting, transportation, river crossings, transient settlement, industrial sites, hunting activity, stray finds and votive offerings. This type of depositional sequence of alluvium, incorporating peats has, in other areas, preserved significant archaeological and environmental evidence. Within the study area, a handaxe of Palaeolithic date has been recovered from alluvium at St Saviours Avenue (KHER no. MKE 19986) to the south-west of the Site in proximity to the River Darent. Archaeological investigations at an address on the same street revealed a portion of Roman metalled road surface which may originally have formed part of a subsidiary Roman trackway.

- 1.3.5 The Site lies immediately north of the site of Dartford Priory; a Dominican nunnery founded in 1349 and dissolved in 1539. The house was for Dominican nuns or Sisters of the Order of St Augustine and was the only one of its kind in England. Following the dissolution, the priory was turned into a manor house for Henry VIII which was operated as a manor farm.

- 1.3.6 Part of the priory wall along the south side of Victoria Road placing the Site immediately outside the northern precinct wall. The remains of the priory wall are afforded Grade II Listed Building status. The post 1539 manor

house survives within the former priory precinct and is afforded Grade II\* Listed Building status.

- 1.3.7 The Historic Environment Record also notes a focus of archaeological sites along the waterfront north of the Site. Sites relating to the exploitation and management of the river including wharfs, locks and fording points are represented. The majority of wharfs eg. Philcox Wharf, date from the Post-medieval or modern periods. However exploitation of the river pre-dates these periods, for example, the Domesday Book records two medieval hythes or harbours (KHER no. 18899) at Lower Wharf on the east bank of The Ruck (an inlet of Darent Creek) immediately east of the Site. While no evidence of river associated activity has previously been recorded within the Site boundary, its location adjacent to the river holds a certain potential for the presence of similar sites across a number of archaeological periods.

## **2 AIMS**

### **2.1 Watching Brief**

- 2.1.1 The aims of the archaeological watching brief were to establish the presence or absence, location, extent, date, character, condition, significance and quality of any surviving archaeological and environmental remains within the Site.

- 2.1.2 More specifically the aim of the watching brief was to investigate the geomorphological sequence revealed in the test pits and investigate the potential for any archaeological and environmental remains which may be preserved.

## **3 HEALTH AND SAFETY**

- 3.1.1 All work was carried out in accordance with the Health and Safety at Work Act 1974 and the Management of Health and Safety regulations 1992. A Health and Safety Risk Assessment was produced by Wessex Archaeology.

## **4 METHOD**

### **4.1 Monitoring of Development**

- 4.1.1 Seven geo-technical test pits were excavated using a mechanical excavator with an untoothed bucket, to an average depth of 2m. All excavations were carried out under constant archaeological supervision and soil samples of peat and alluvial clay were taken from test pits which appeared to be uncontaminated.



4.1.2 All recording was undertaken using Wessex Archaeology's *pro forma* recording system, supported by a photographic record including high resolution digital images.

4.1.3 Due to shallow ground water, the depths of the excavations were significantly impeded by unstable and collapsing sides and by difficulties in backfilling once a certain amount of water had collected in the pits.

## 5 RESULTS

### 5.1 Archaeological Features

5.1.1 No archaeological features or deposits were identified during the watching brief.

### 5.2 Stratigraphic Sequence

5.2.1 The sequence broadly followed that predicted by the British Geological Survey with made ground identified to a depth of between 1m and 1.7m onto alluvial (clay) deposits containing bands of peat. The alluvium overlays River Terrace Deposits (Gravels). Made ground comprised mainly rubble from previously demolished buildings and flood defences.

5.2.2 The test pits were relatively shallow which did not allow significant depths of pre modern stratigraphy to be investigated. Peat was encountered in **Test pits 3 and 4** immediately below the made ground and may be relatively late in date, however without artefactual evidence or analysis, it is not possible to apply a specific date period to the peat.

5.2.3 The five boreholes from the current phase of investigation recorded evidence of peat deposits within the alluvium layer at depths of between 0.2m and 1.60m below present ground level. (**Appendix 2**). The peats and alluvium overlay gravels at depths of between 2.2m and 3m below ground level, gravels were recorded between 2.8-9m below ground level. Borehole arisings were not observed by an archaeologist.

## 6 FINDS

6.1.1 No artefactual evidence was noted during stripping and none was recovered from the excavated spoil.

## 7 ENVIRONMENTAL

- 7.1.1 Five samples were taken from the peat deposits taken from the trial pits (**appendix 2**). Due to the level of contamination within these deposits it is not recommended that further work be undertaken on the samples. It is not viable to analyse bulk samples taken by the Site Investigation engineers for geoarchaeological/environmental information.
- 7.1.2 A preliminary overview of available borehole data collated in October 2006 and November 2009. shows that across the site peat deposits have generally been identified at depths of between -1.5m to 2-3m below ground level with alluvium deposits occurring up to 1m below the peat. Gravels are recorded at various depths between 1.9 and 9m below ground level.

## 8 CONCLUSIONS

- 8.1.1 The test pits were primarily excavated in order to test for contaminated ground and therefore did not encounter deeply stratified deposits. Depth of excavation was also impeded by incoming groundwater occurring at shallow depths. However, peat and alluvium deposits were encountered within excavated depths. While the shallow depth of these deposits suggests that they may be of recent deposition (Post-medieval-medieval or modern), in the absence of datable artefactual evidence or analysis, a deposition date for these deposits cannot be attributed.
- 8.1.2 The pre-existing ground slab may have removed archaeological and geological deposits (Depth of ground slab noted during on site investigations to be approximately 1m). Remediation of the site prior to construction incorporating ground build up to a depth of approximately 1.5m is proposed. This build up would act as a buffer between ground intrusive construction and potential archaeological and geo archaeological deposits.
- 8.1.3 Any foundation piling undertaken on Site may impact upon any potential archaeological or geological deposits that survive in situ beyond depths impacted by construction of the existing ground slab. Piling is likely to comprise a localised impact on more deeply stratified River Terrace Gravels.
- 8.1.4 The key impact to consider is the localised impact of pile foundations on more deeply stratified geology. It should be noted that the localised impact of these piles would impact upon a very small percentage of the overall Site footprint.
- 8.1.5 Any further archaeological requirements for the Site would be recommended by the Archaeological Officer for Kent County Council. In similar circumstances within Kent, the geoarchaeological sequence across the Site has been better understood by the taking of sleeved cores to the impact

depth of the proposed piles which could be subject to environmental analysis.

## **9 ARCHIVE**

### **9.1 Preparation and Deposition**

- 9.1.1 The project archive was prepared in accordance with the guidelines outlined in Appendix 3 of *Management of Archaeological Projects* (English Heritage 1991) and in accordance with the *Guidelines for the preparation of excavation archives for long term storage* (UKIC 1990). It comprises a ring-bound file containing a watching brief attendance form, site 'day book' and photographic register. It is currently held at Wessex Archaeology's office building under the site code 69490, but will ultimately be deposited for permanent storage with an appropriate museum.

9.1.2

## 10 APPENDIX 1: CONTEXT SUMMARY TABLE

<b>Trench No. 1</b>		<b>Dimensions: 1.75x0.9m Max. depth: 2m</b>
<b>Context</b>	<b>Description</b>	<b>Depth (m)</b>
101	Topsoil – Concrete.	0.00 – 0.2
102	Made ground – Light lime green grey sandy rubble.	0.2 – 0.4
103	Made ground – Dark grey sandy rubble.	0.4 – 0.55
104	Layer – Dark grey loose silty clay. (Made Ground)	0.55 – 0.7
105	Layer – Dark grey clay silt (sample no. 1). (Made Ground)	0.7 – 1.6
106	Layer – Dark blue grey clay (sample no. 2).	1.6 – 2.00
107	Layer – Light grey blue sandy silty gravel (sample no. 3).	2.00 +

<b>Trench No. 2</b>		<b>Dimensions: 2x1m Max. depth: 1.2m</b>
<b>Context</b>	<b>Description</b>	<b>Depth (m)</b>
201	Topsoil – Concrete.	0.00 – 0.2
202	Made ground – Dark grey silty clay (water table at 1.2m).	0.2 – 1.2

<b>Trench No. 3</b>		<b>Dimensions: 1.75x0.9m Max. depth: 2.2m</b>
<b>Context</b>	<b>Description</b>	<b>Depth (m)</b>
301	Made ground - Dark grey sandy rubble.	0.00 – 0.9

302	Layer – Peat (sample no. 4).	0.9 – 2.1
303	Layer – Green blue organic rich clay (sample no. 5).	2.1 – 2.2

<b>Trench No. 4</b>		<b>Dimensions: 1.75x0.9m Max. depth: 2m</b>
<b>Context</b>	<b>Description</b>	<b>Depth (m)</b>
401	Made ground – Sandy rubble	0.00 – 1.7
402	Layer – Peat (water table at 1.9m).	1.7 – 1.9

<b>Trench No. 5</b>		<b>Dimensions: Max. depth:</b>
<b>Context</b>	<b>Description</b>	<b>Depth (m)</b>
	Not observed	

<b>Trench No. 6</b>		<b>Dimensions: 1x1.8m Max. depth: 1.4m</b>
<b>Context</b>	<b>Description</b>	<b>Depth (m)</b>
601	Made ground – Concrete slab.	0.00 – 0.25
602	Made ground – Chalk/red brick, pebbles and scrap metal.	0.25 – 0.45
603	Layer – Dark brown black sandy silty loam with occasional light grey (plastic?) flecks with glass fragment inclusions. Highly disturbed.	0.45 – 0.7
604	Layer – Chalk flecks and red brick fragments (water table at 1.05 – 1.40m).	0.7 – 1.05

<b>Trench No. 7</b>		<b>Dimensions: 1x1.8m Max. depth: 2.2m</b>
<b>Context</b>	<b>Description</b>	<b>Depth (m)</b>
701	Made ground - Concrete slab.	0.00 – 0.25

702	Made ground – Mid brown sandy silt with red brick, steel rods and concrete conclusions.	0.25 – 0.8
703	Made ground – Concrete with high pebble content.	0.25 – 0.8
704	Made ground – Dark brown silty loam with red brick/chalk fragments and pebble inclusions.	0.8 – 1.8
705	Made ground – Concrete, high pebble inclusions.	1.3 – 2.2
706	Layer – Grey clay with frequent large angular flint inclusions.	1.8 – 2.2

**11 APPENDIX 2: BOREHOLE DEPTH DATA**

<b>Borehole</b>	<b>Depth (m) of Peat</b>	<b>Depth (m) of Alluvial Clay</b>
1	1.00 – 2.5	n/a
2	1.5 – 3.1	3.1 – 3.7
3	n/a	1.4 – 1.9
4	1.5 – 2.8	n/a
5	1.4 – 1.6	1.6 – 2.2

**12 APPENDIX 3 CORRESPONDENCE WITH KCC**



**From:** Wendy.Rogers@kent.gov.uk

**Sent:** 26 November 2009 10:07

**To:** Katharine Barber

**Subject:** RE: Unwins-Dartford

**Attachments:** geoarchaeological evaluation test pits.doc

Dear Catherine

Thanks for this information.

I would not like to suggest what detailed analysis would be required I am afraid. It very much depends on what is observed. No point doing extensive work on modern peat but anything which may be pre-post medieval should be sampled for analysis back in the lab. Some sieving on site should be tried but as we are probably looking at wet deposits I suggest it is going to be wet sieving of samples retrieved. It would need to be the standard processing of environmental samples looking for environmental indicators such as seeds, molluscs, organic remains etc. Done through wet flotation I presume with close examination of the flots. Hopefully some pottery and bone could turn up too. I recommend following English Heritage's guidance. Trying to find dating material is crucial and this will hopefully be achieved on site to guide the sampling programme.

Some of this Alluvium could be recent but the idea is to try and get some assessment of the date of the deposits and assess their potential. This is an area which may have potential for early prehistoric remains but this particular site seems to be within the more recent channel of the Darent. Information on the Darent's course over time is crucial to understanding the prehistoric and Roman environment. So it would be of interest to determine periods of dry land or periods of river. Any gravels could have potential for palaeolithic remains.

I know the main task is to monitor geotechnical test pits but for guidance I attach a generic specification for test pitting. This should certainly provide guidance on the work required for specific archaeological test pits if done. The principles are relevant to the watching brief over geotechnical work by other contractor but you may not be able to do such small archaeological spits and you may not be able to determine the depth of the test pits. Sampling of deposits at depth is the key task as the scheme includes piling. Not sure if any boreholes have been done but could some one from Wessex request all previous geotechnical work?

I am hoping that a report on this work will provide me with guidance on the need for a full palaeoenvironmental or even archaeological evaluation programme.

Hope this is helpful.

best wishes

Wendy

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**From:** Katharine Barber [mailto:k.barber@wessexarch.co.uk]  
**Sent:** 25 November 2009 14:56  
**To:** Rogers, Wendy - E&R EW  
**Cc:** TristanTucker@campbellreith.com; Richard Greatorex; MarianCameron@campbellreith.com  
**Subject:** Unwins-Dartford

Dear Wendy,

We are undertaking a watching brief on 6 geotechnical test pits at the Unwins site in Dartford on Friday. We will be taking 40 litre samples from significant deposits as advised. If there are any health and safety issues, samples will be taken from the uprisings.

We intend to propose a strategy and costing for processing of the samples taken. Would you mind giving some detail of the type of analysis you feel is appropriate for the site? We believe at this point that the test pits will reveal both peat and alluvium deposits.

Kind regards,

Katharine

-----  
**KATHARINE BARBER** BA Hons AIFA  
**Senior Heritage Consultant**

## **Wessex Archaeology**

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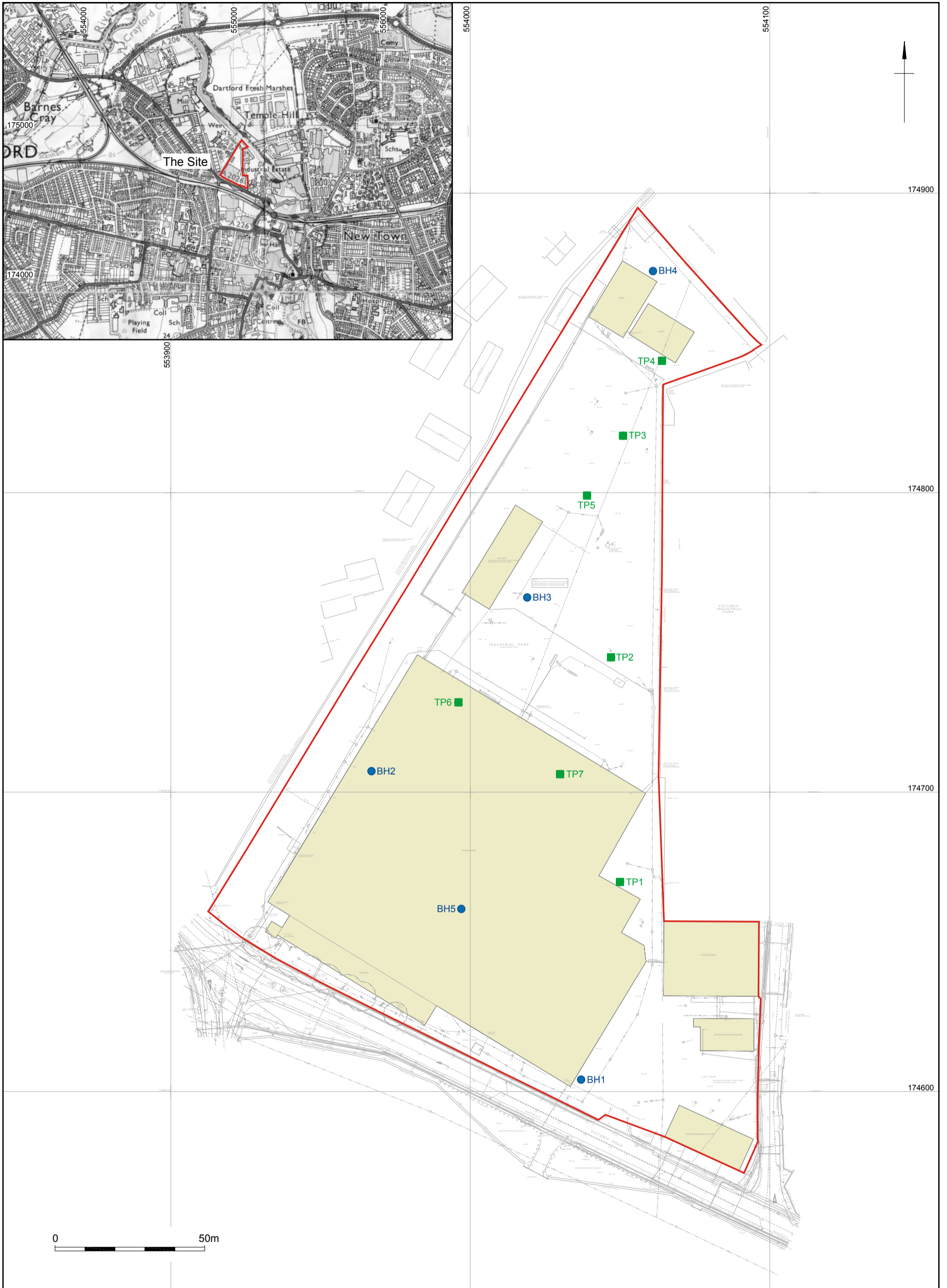
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**13 APPENDIX 4-SITE INVESTIGATION BOREHOLE LOGS,  
NOVEMBER 2009**

**14 APPENDIX 5-SITE INVESTIGATION BOREHOLE LOGS,  
OCTOBER 2006**



	The Site Test pit Borehole Demolished building	Reproduced from the 1998 Ordnance Survey 1:25000 Explorer® map with the permission of the controller of Her Majesty's Stationery Office © Crown copyright, Wessex Archaeology, Portway House, Old Sarum Park, Salisbury, Wiltshire. SP4 6EB. Licence Number: 100028190. Digital survey data provided by the Client. This material is for client report only © Wessex Archaeology. No unauthorised reproduction.		
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Site plan with test pit and borehole locations

Figure 1

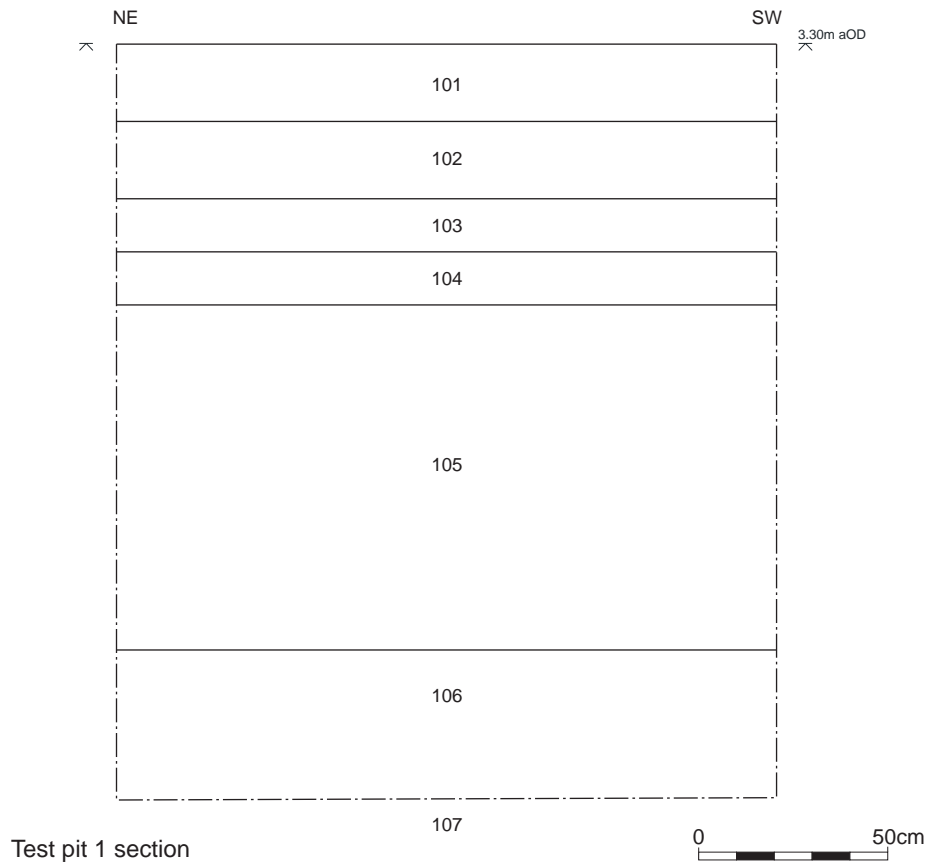


Plate 1: Test pit 1

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Plate 2: Test pit 6



Plate 3: Test pit 7

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