Archaeological Evaluation on Land at Walnut Tree Farm, north of Britannia Road, High Halstow, Kent

Site Code: HIG -EV-18

NGR Site Centre 578503 175801

Planning Application Number: MC/17/4408

Updated 15th May 2019

SWAT ARCHAEOLOGY

Swale and Thames Archaeological Survey Company

The Office, School Farm Oast, Graveney Road

Faversham, Kent ME13 8UP

Tel; 01795 532548 or 07885 700 112

info@swatarchaeology.co.uk www.swatarchaeology.co.uk

Contents

Figures

Summary

Swale & Thames Survey Company (SWAT Archaeology) was commissioned to undertake an archaeological evaluation on land at Walnut Tree Farm, north of Britannia Road, High Halstow in Kent. The archaeological works were monitored by Ben Found Kent County Council Senior Archaeological Officer.

The fieldwork was carried out in November 2018 in accordance with an archaeological specification (SWAT Archaeology 2018) submitted to the Local Planning Authority prior to commencement of works.

The Archaeological Evaluation consisted of 25 trenches, which encountered a relatively common stratigraphic sequence comprising topsoil and subsoil overlying natural geology. The 25 trenches revealed no archaeological features.
In addition two more trenches 26, 27 were excavated on the postulated route of a WW1 trench but no evidence was found.

1 INTRODUCTION

1.1 Project Background

1.1.1 Swale & Thames Survey Company (SWAT Archaeology) were commissioned to undertake an archaeological evaluation of land at Walnut Tree Farm, High Halstow in Kent (**Figure 1**).The land has planning permission (MC/17/4408) for the erection of 66 dwellings comprising 1 x one bed flat. 11 x two bed flats. 4 x two bed houses, 36 x three bed houses, 8 x four bed houses and 6 x five bed houses together with associated new accessing arrangements, car parking, landscaping and open space.

1.1.2 In mitigation of the potential impact that the development may have on the buried archaeological resource Kent County Council Heritage & Conservation (KKCHC), who provide an advisory service to Medway Council (MC), requested that the programme of works comprising initially an archaeological evaluation.

1.1.3 The archaeological evaluation was carried out in November 2018 in accordance with an archaeological specification prepared by SWAT Archaeology (2018), prior to commencement of works, and in discussion with Ben Found Senior Archaeological Officer at KCCHC.

1.1 4 Site Description and Topography

The site is situated on the on the north eastern outskirts of the village of High Halstow. The village lies on the junction of the ancient roads from Hoo and Cliffe to the Isle of Grain, now a crossroads to the north of the A228 road.

The Geological Survey of Great Britain (1:50,000) shows that the local geology consists of Thames Group - Clay, Silt, Sand and Gravel. Sedimentary Bedrock formed approximately 34 to 56 million years ago in the Palaeogene Period. Local environment previously dominated by shallow seas. Immediately to the east of the site there are superficial deposits recorded in this area of River Terrace Deposits, 4 - Sand and Gravel. These were superficial deposits formed up to 3 million years ago in the Quaternary Period. Local environment previously dominated by rivers. In addition, south east of the site are superficial deposits of Head - Clay, Silt, Sand and Gravel. Superficial Deposits formed up to 3 million years ago in the Quaternary Period. Local environment previously dominated by subaerial slopes. Dr Robert Batchelor of Quaternary Scientific (QUEST) carried out a programme of test pits to an agreed specification and the report is attached (Appendix 3).

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 Introduction

2.1.1 Details of previous discoveries and investigations within the immediate and wider area may be found in the Kent County Council Historic Environment Record and have been summarised in the DBA and Archaeological Specification produced by SWAT Archaeology (2018).

3 AIMS AND OBJECTIVES

3.1 Specific Aims (SWAT 2018)

3.1.1 The specific aims of the archaeological fieldwork are set out in the Specification (SWAT 2018) were to:

3.1.2 *'The primary objective of the archaeological evaluation is to establish or otherwise the presence of any potential archaeological features which may be impacted by the proposed development. The aims of this investigation are to determine the potential for archaeological activity and in particular the adjacent Roman remains and later archaeological activity.*

3.1.3 *The programme of archaeological work should be carried out in a phased approach and will commence with a geophysical survey and evaluation through trial trenching. This initial phase should determine whether any significant archaeological remains would be affected by the development and if so what mitigation measures are appropriate. Such measures may include further detailed archaeological excavation, or an archaeological watching brief during construction work or an engineering solution to any preservation in situ requirements'.*

3.1.4 *The British Geological Survey mapping notes the presence of River Terrace Gravels close to the PDA on the north-west and east of the site. If gravels or other superficial geological deposits are observed in the trenches then advice from Dr Robert Batchelor of Quaternary Scientific (QUEST) will be sought and a programme of test pits to an agreed specification undertaken.*

(SWAT Archaeology 2018: 4-6)

3.2 General Aims

3.2.1 The general aims of the archaeological fieldwork were to;

- establish the presence or absence of any elements of the archaeological resource, both artefacts and ecofacts of archaeological interest across the area of the development;
- ascertain the extent, depth below ground surface, depth of deposit if possible, character, date and quality of any such archaeological remains by limited sample excavation;

- determine the state of preservation and importance of the archaeological resource, if present, and to assess the past impacts on the site and pay particular attention to the character, height/depth below ground level, condition, date and significance of any archaeological deposits.

4 METHODOLOGY

4.1 Introduction

4.1.1 All fieldwork was conducted in accordance with the methodology set out in the Specification (SWAT 2018 and KCC Manual of Specifications 'B') and carried out in compliance with the standards outlined in the Chartered Institute for Archaeologists' Standards Guidance for Archaeological Evaluations (CIfA 2017).

4.2 Fieldwork

4.2.1 A total of 25 evaluation trenches were excavated across the Site but with unrecorded high voltage overhead cables some amendment to the proposed layout of trenches was required. Later two more trenches were excavated on the postulated route of a WW1 trench but no trench was found (Figure 2).

4.2.2 Each trench was initially scanned for surface finds prior to excavation. Excavation was carried out using a 360º mechanical excavator fitted with a toothless ditching bucket, removing the overburden to the top of the first recognisable archaeological horizon, under the constant supervision of an experienced archaeologist.

4.2.3 Where appropriate, trenches, or specific areas of trenches, were subsequently hand-cleaned to reveal features in plan and carefully selected cross-sections through the features were excavated to enable sufficient information about form, development date and stratigraphic relationships to be recorded without prejudice to more extensive investigations, should these prove to be necessary. All archaeological work was carried out in accordance with KCC and CIfA standards and guidance. A complete photographic record was maintained on site that included working shots; during mechanical excavation, following archaeological investigations and during back filling.

4.2.4 In addition a programme of test pits were excavated by Dr Robert Batchelor of Quaternary Scientific (QUEST) and the results attached to this report (Appendix 3).

4.3 Recording

4.3.1 A complete drawn record of the evaluation trenches comprising both plans and sections, drawn to appropriate scales (1:20 for plans, 1:10 for sections) was undertaken. The plans and sections were annotated with coordinates and aOD heights.

4.3.2 Photographs were taken as appropriate providing a record of excavated features and deposits, along with images of the overall trench to illustrate their location and context. The record also includes images of the Site overall. The photographic record comprises digital photography. A photographic register of all photographs taken is contained within the project archive.

4.3.3 A single context recording system was used to record the deposits. A full list is presented in Appendix 1. Layers and fills are identified in this report thus (100), whilst the cut of the feature is shown [100]. Context numbers were assigned to all deposits for recording purposes. Each number has been attributed to a specific trench with the primary number(s) relating to specific trenches (*i.e*. Trench 1, 101+, Trench 2, 201+, Trench 3, 301+ etc.).

5 RESULTS

5.1 Introduction

5.1.1 Initially a total of 25 evaluation trenches were mechanically excavated under archaeological supervision.

5.2 Stratigraphic Deposit Sequence

5.2.1 A relatively consistent stratigraphic sequence was recorded across the majority of the Site comprising a mix of topsoil sealing an intact subsoil of Clay (see Appendix 3 for the geological sequence by Dr Robert Batchelor of Quaternary Scientific (QUEST)).

5.2.2 Appendix 1 provides the stratigraphic sequence for all trenches. Figures 1-4 provide a site plan and trench location plan while Plates 1-15 include selected site photographs.

5.3 Overview

5.3.1 The 25 trenches were located across the site to ensure full coverage of potential archaeological remains. In addition two further trenches were excavated with negative results.

6 FINDS

6.1 No finds of any archaeological merit were recovered from the archaeological evaluation

7 Discussion

7.1 Archaeological Narrative

7.1.1 No archaeological features were recorded in any of the trenches.

7.2 Conclusions

7.2.1 The archaeological evaluation has been successful in fulfilling the primary aims and objectives of the Specification. Development proposals are not likely to impact on archaeological remains.

7.2.2 This evaluation has, therefore, assessed the archaeological potential of land intended for development. The results from this work show that the proposed development is not likely to impact on any archaeological remains.

8 ARCHIVE

8.1 General

8.1.1 The Site archive, which will include; paper records, photographic records, graphics and digital data, will be prepared following nationally recommended guidelines (SMA 1995; CIfA 2009; Brown 2011; ADS 2013).

8.1.2 All archive elements will be marked with the site/accession code, and a full index will be prepared. The physical archive comprises 1 file/document case of paper records & A4 graphics

9 ACKNOWLEDGMENTS

9.1.1 SWAT would like to thank the developer for commissioning the project. Thanks are also extended to Ben Found Senior Archaeological Officer, Kent County Council, for his advice and assistance.

9.1.2 Paul Wilkinson supervised the archaeological evaluation and survey and illustrations were produced by Bartek Cichy. Dr Paul Wilkinson MCIfA produced the draft text for the archaeological report.

10 REFERENCES

ADS 2013. Caring for Digital Data in Archaeology: a guide to good practice, Archaeology Data Service & Digital Antiquity Guides to Good Practice

Brown, D.H., 2011. Archaeological archives; a guide to best practice in creation, compilation, transfer and curation, Archaeological Archives Forum (revised edition)

Chartered Institute for Archaeologists, 2017, *Standard and guidance: for field evaluation.*

Compiled by: SWAT Archaeology (PW). The Office, School Farm Oast, Faversham, Kent

Date: 04/12/2018

Appendix 1: Trench Table

Trench 1	Dimensions: 23.4m x 1.8m Depth: 0.25m Trench alignment: NNW-SSE NNW-end Ground Level: 47.42m SSE-end Ground Level: 47.34m		
Context	Interpretation	Description	Depth (m)
101	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.25
102	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.25+

Trench 2	Unexcavated – it would block site access

Trench 3	Dimensions: 27.8m x 1.8m Depth: 0.35m Trench alignment: NNW-SSE NNW-end Ground Level: 47.42m SSE-end Ground Level: 47.3m Test pit has been excavated at NNW end of the trench – see geoarchaeological report		
Context	Interpretation	Description	Depth (m)
301	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.25
302	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.25+
[303]	Modern trench	NE-SW aligned, 0.2 m wide trench back filled with chalk nodules	0-0.3+

Trench 4	Dimensions: 25.8m x 1.8m Depth: 0.4m Trench alignment: NE-SW NE-end Ground Level: 47.65m SW-end Ground Level: 47.52m		
Context	Interpretation	Description	Depth (m)
401	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.3
402	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.3+
402a	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with freq. manganese staining, occ. sub angular flints and bioturbations (small and medium roots)	0.3+
[403]	Modern drain	N-S aligned, 0.2m wide trench with orange, ceramic pipe.	0-0.45
[404]	Modern drain	NW-SE aligned, 0.2m wide trench backfilled with flint gravel	0-0.45+
[405]	Modern drain	NW-SE aligned 0.2m wide trench backfilled with flint gravel. Feature also exposed in Trench 6, 8, 14, and 21	0-0.45+

[406]	Modern trench	NW-SE aligned 0.5m wide trench backfilled with clay. Vertically positioned plastic pipe has been exposed.	0-0.45+
[407]	Modern drain	N-S aligned 0.2m wide trench with orange, ceramic pipe. Feature also exposed in Trench 14, 15, and 20	0-0.45+

Trench 5	Dimensions: 25.3m x 1.8m Depth: 0.35m Trench alignment: NNW-SSE NNW-end Ground Level: 47.69m SSE-end Ground Level: 47.63m		
Context	Interpretation	Description	Depth (m)
501	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.3
502	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.3+

Trench 6	Dimensions: 27.1m x 1.8m Depth: 0.4m Trench alignment: NE-SW NE-end Ground Level: 47.73m SW-end Ground Level: 47.66m		
Context	Interpretation	Description	Depth (m)
601	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.3
602	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.3+
[603]	Modern drain	NW-SE aligned, 0.2m wide trench backfilled with flint gravel. Feature also exposed in Trench 10	0-0.45
[604]	Modern drain	NW-SE aligned, 0.2m wide trench backfilled with flint gravel	0-0.45+
[605]	Modern drain	N-S aligned 0.2m wide trench backfilled with flint gravel. Feature also exposed in Trench 4, 8, 14, and 21	0-0.45+

Trench 7	Dimensions: 22.7m x 1.8m Depth: 0.4m Trench alignment: NNW-SSE NNW-end Ground Level: 48.03m SSE-end Ground Level: 47.8m Test pit has been excavated at SSE end of the trench – see geoarchaeological report		
Context	Interpretation	Description	Depth (m)
701	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.3
702	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.3+

Trench 8	Dimensions: 26.3m x 1.8m Depth: 0.35m Trench alignment: NE-SW NE-end Ground Level: 48.13m SW-end Ground Level: 47.98m		
Context	Interpretation	Description	Depth (m)
801	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.3
802	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.3+
[803]	Modern drain	N-S aligned 0.2m wide trench backfilled with flint gravel. Feature also exposed in Trench 4, 6, 14, and 21	0-0.35+

Trench 9	Dimensions: 28.05m x 1.8m Depth: 0.35m Trench alignment: NW-SE NW-end Ground Level: 47.75m SE-end Ground Level: 47.8m		
Context	Interpretation	Description	Depth (m)

901	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.3
902	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.3+
[903]	Modern drain	N-S aligned 0.2m wide trench backfilled with flint gravel. Feature also exposed in Trench 19 and 24.	0-0.35+

Trench 10	Dimensions: 26.3m x 1.8m Depth: 0.35m Trench alignment: NE-SW NE-end Ground Level: 47.80m SW-end Ground Level: 47.89m Test pit has been excavated at SW end of the trench – see geoarchaeological report		
Context	Interpretation	Description	Depth (m)
1001	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.3
1002	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.3+
[1003]	Modern drain	N-S aligned 0.2m wide trench with orange ceramic pipe. Feature also exposed in Trench 16 and 22	0-0.35+
[1004]	Modern drain	NW-SE aligned 0.2m wide trench backfilled with flint gravel. Feature also exposed in Trench 6	0-0.35+

Trench 11	Dimensions: 27.10m x 1.8m Depth: 0.35m Trench alignment: NE-SW NE-end Ground Level: 47.9m SW-end Ground Level: 47.8m		
Context	Interpretation	Description	Depth (m)
1101	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.3
1102	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.3+

Trench 12	Dimensions: 17.38m x 1.8m Depth: 0.35m Trench alignment: NW-SE NW-end Ground Level: 48.28m SE-end Ground Level: 48.15m Test pit has been excavated at NW end of the trench – see geoarchaeological report		
Context	Interpretation	Description	Depth (m)
1201	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.25
1202	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.25+

Trench 13	Unexcavated – due to overhead cables

Trench 14	Dimensions: 21.8m x 1.8m Depth: 0.35m Trench alignment: NE-SW NE-end Ground Level: 48.8m SW-end Ground Level: 48.2m Test pit has been excavated at SW end of the trench – see geoarchaeological report		
Context	Interpretation	Description	Depth (m)
1401	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.2
1402	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and	0.2+

		bioturbations (small and medium roots)	
[1403]	Modern drain	N-S aligned 0.2m wide trench with orange ceramic pipe. Feature also exposed in Trench 4, 6, 8, and 21	0-0.35+
[1404]	Modern drain	N-S aligned 0.2m wide trench with orange ceramic pipe. Feature also exposed in Trench 4, 15, and 20	0-0.35+

Trench 15	Dimensions: 20.7m x 1.8m Depth: 0.35m Trench alignment: E-W E-end Ground Level: 47.85m W-end Ground Level: 47.84m		
Context	Interpretation	Description	Depth (m)
1501	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.25
1502	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.25+
[1503]	Modern drain	N-S aligned 0.2m wide trench with orange ceramic pipe. Feature also exposed in Trench 4, 14 and 20	0-0.35+

Trench 16	Dimensions: 26m x 1.8m Depth: 0.35m Trench alignment: NE-SW NE-end Ground Level: 48.35m SW-end Ground Level: 48.17m		
Context	Interpretation	Description	Depth (m)
1601	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.25
1602	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.25+
[1603]	Modern drain	N-S aligned 0.2m wide trench backfilled with flint gravel. Feature also exposed in Trench 10 and 22	0-0.35+

Trench 17	Dimensions: 15.5m x 1.8m Depth: 0.35m Trench alignment: E-W E-end Ground Level: 48.5m W-end Ground Level: 48.56m		
Context	Interpretation	Description	Depth (m)
1701	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.25
1702	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.25+

Trench 18	Dimensions: 25m x 1.8m Depth: 0.35m Trench alignment: NW-SE NW-end Ground Level: 48.8m SE-end Ground Level: 48.42m		
Context	Interpretation	Description	Depth (m)
1801	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.25
1802	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.25+

Trench 19	Dimensions: 26.3m x 1.8m Depth: 0.35m Trench alignment: NW-SE NW-end Ground Level: 48.3m SE-end Ground Level: 48.2m		
Context	Interpretation	Description	Depth (m)
1901	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.25
1902	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and	0.25+

		bioturbations (small and medium roots)	
[1903]	Modern drain	N-S aligned 0.2m wide trench with orange ceramic pipe. Feature also exposed in Trench 9 and 24	0-0.35+

Trench 20	Dimensions: 25.6m x 1.8m Depth: 0.35m Trench alignment: NW-SE NW-end Ground Level: 48.22m SE-end Ground Level: 48.13m		
Context	Interpretation	Description	Depth (m)
2001	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.25
2002	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.25+
[2003]	Modern drain	N-S aligned 0.2m wide trench with orange ceramic pipe.	0-0.35+
[2004]	Modern drain	N-S aligned 0.2m wide trench with orange ceramic pipe. Feature also exposed in Trench 4, 15 and 20	0-0.35+

Trench 21	Dimensions: 25.6m x 1.8m Depth: 0.35m Trench alignment: NE-SW NE-end Ground Level: 48.43m SW-end Ground Level: 48.4m		
Context	Interpretation	Description	Depth (m)
2101	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.25
2102	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.25+
[2103]	Modern drain	N-S aligned 0.2m wide trench backfilled with flint gravel. Feature also exposed in Trench 4, 6, 8, and 14	0-0.35+

Trench 22	Dimensions: 26m x 1.8m Depth: 0.35m Trench alignment: NE-SW NE-end Ground Level: 48.63m SW-end Ground Level: 48.6m		
Context	Interpretation	Description	Depth (m)
2201	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.25
2202	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.25+
[2203]	Modern drain	N-S aligned 0.2m wide trench backfilled with flint gravel. Feature also exposed in Trench 10 and 16.	0-0.35+

Trench 23	Dimensions: 25.6m x 1.8m Depth: 0.35m Trench alignment: NW-SE NW-end Ground Level: 49.54m SE-end Ground Level: 48.9m Test pit has been excavated at NW end of the trench – see geoarchaeological report		
Context	Interpretation	Description	Depth (m)
2301	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.25
2302	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.25+

Trench 24	Dimensions: 25.2m x 1.8m Depth: 0.35m Trench alignment: NW-SE NW-end Ground Level: 48.95m SE-end Ground Level: 48.7m		
Context	Interpretation	Description	Depth (m)
2401	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick	0.00-0.25

		fragments, freq small roots and occ. medium roots.	
2402	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.25+
[2403]	Modern drain	N-S aligned 0.2m wide trench with orange ceramic pipe. Feature also exposed in Trench 9 and 19.	0-0.35+

Trench 25	Dimensions: 48.8m x 1.8m Depth: 0.35m Trench alignment: NW-SE NW-end Ground Level: 49.54m SE-end Ground Level: 48.45m Test pit has been excavated at NW end of the trench – see geoarchaeological report		
Context	Interpretation	Description	Depth (m)
2501	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq small roots and occ. medium roots.	0.00-0.25
2502	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.25+

Trench 26	Dimensions: 25m x 1.8m Depth: 0.85m Trench alignment: SW-NE NE-end Ground Level: 47.9m SW-end Ground Level: 47.8m		
Context	Interpretation	Description	Depth (m)
2601	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq tree roots and stamps.	0.00-0.1
2602	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (small and medium roots)	0.1+
2603	Modern Drain ditch Circa 1940	To the north rounded zigzag shape in plan with moderate sides and concave base. Feature was 4.5m wide and 0.8m deep although filled up with top soil (2601) to the half of its depth. To the south ditch was linear and wide to the south. The ground to the east was 1 m higher than ground level to the west of the ditch. The ditch was 1.95m deep here if measured to the east edge of the ditch.	0-0.8
2604	Modern Drain ditch Circa 1940	Curvilinear ditch with shallow sides and concave base. Feature was 4.5m wide. Filled up with top soil (2601) to the half of its depth. Top of the ditch backfilled with (2606) up cast from evaluation trench excavation. Feature contemporary and connected to [2603]	0-0.8
2605	Modern field drain	Narrow N-S aligned trench with ceramic pipe at the bottom	0-0.6
2606	Backfill of ditch [2604]	Up cast from evaluation trench excavation used for leveling	0-0.3

Trench 27	Dimensions: 9.5m x 1.8m Depth: 0.8m Trench alignment: E-W E-end Ground Level: 48.2m W-end Ground Level: 48.3m		
Context	Interpretation	Description	Depth (m)
2701	Topsoil	Mid compaction, dark brownish grey (Munsell value: 10YR 4/1) silty clay with occ. sub angular flints, brick fragments, freq tree roots and tree stamps.	0.00-0.1
2702	Natural – Head	Firm compaction, mid yellowish brown (Munsell value: 10YR 3/3) clay with occ. sub angular flints and bioturbations (large roots)	0.1+
No number assigned		Shallow wide (as trench length) linear depression running perpendicularly to the trench has been noted.	0-0.27m

Appendix 2: Kent County Council HER Summary Form

Site Name: Land at Walnut Tree Farm, north of Britannia Road, High Halstow, Kent

SWAT Site Code: HIG/EV/18

Site Address: As above

Summary:

Swale and Thames Survey Company (SWAT) carried out Archaeological Evaluation on the development site above. The site has planning permission for the erection of residential development whereby Medway Council requested that Archaeological works be undertaken to determine the possible impact of the development on any archaeological remains.

The Archaeological Monitoring consisted of an Archaeological Evaluation which revealed no archaeology.

District/Unitary: Medway Council

Period(s):

NGR (centre of site to eight figures) 578503 175801

Type of Archaeological work: Archaeological Evaluation

Date of recording: November 2018

Unit undertaking recording: Swale and Thames Survey Company (SWAT. Archaeology)

Geology: Underlying geology is Bedrock Geology of Thames Group (see Appendix 3)

Title and author of accompanying report: Wilkinson P. (2018) Archaeological Evaluation of Land at Walnut Tree Farm, north of Britannia Road, High Halstow, Kent

Summary of fieldwork results (begin with earliest period first, add NGRs where appropriate)

No archaeology found

Location of archive/finds: SWAT. Archaeology. Graveney Rd, Faversham, Kent. ME13 8UP

Contact at Unit: Paul Wilkinson

Plate 1. Trench 20 (looking SSE)

Plate 2. Trench 25 (looking NW)

Plate 3. Trench 25 (section)

Plate 4. Trench 15

Plate 5. Trench 24 (looking NW)

Plate 6. Trench 23 (looking NNW)

Plate 7. Trench 19 (looking SSE)

Plate 8. Trench 1 (looking SSE)

Plate 9. Trench 7 (looking SSE)

Plate 10. Trench 15 (looking W)

Plate 10. Trench 27 (looking N)

Plate 10. Trench 27 (looking N)

Plate 10. Trench 26 (looking NE)

Plate 10. Trench 26 (looking E)

Plate 10. Trench 26 (looking NE)

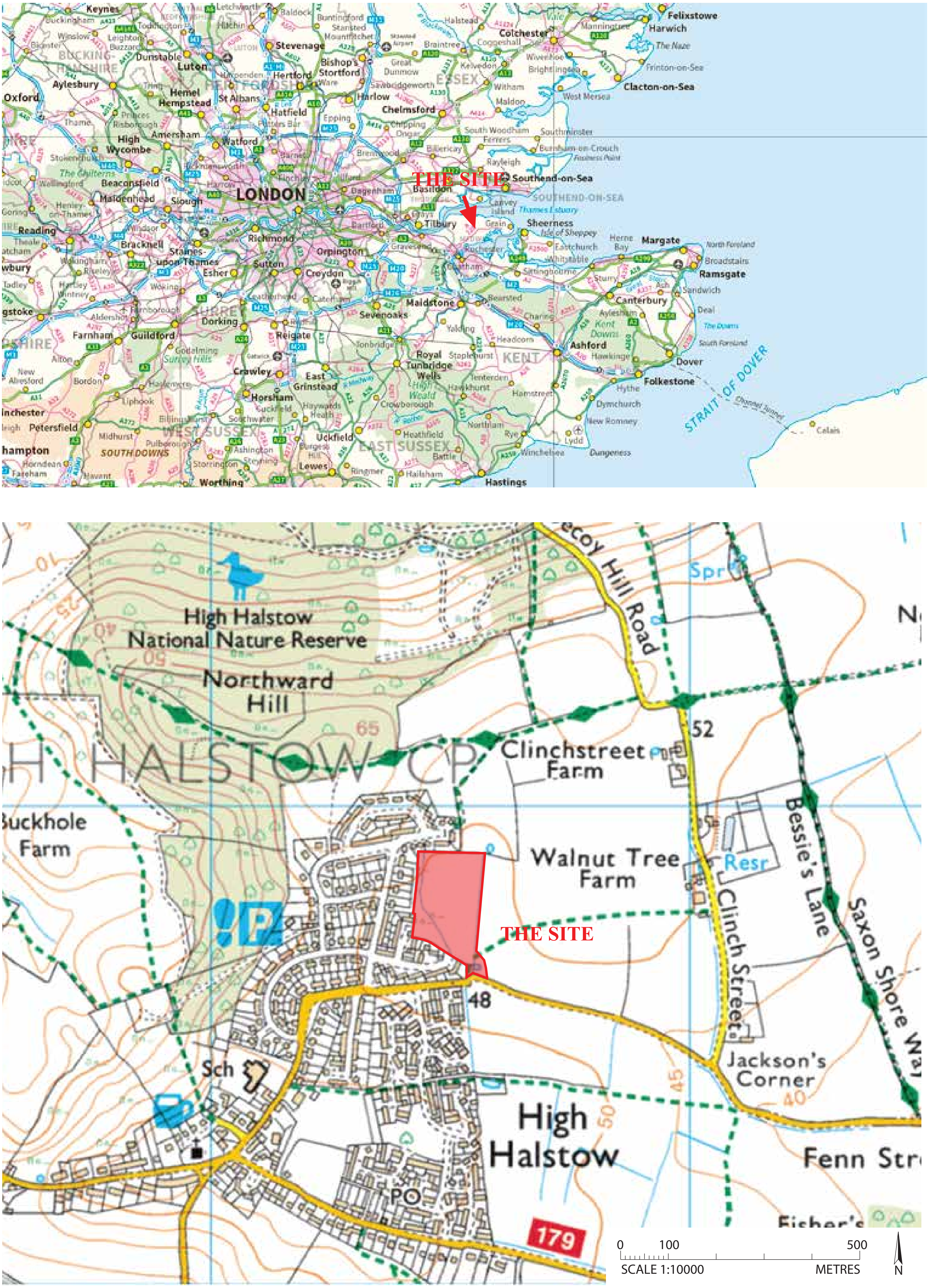


Figure 1: Site location map, scale 1:10000.

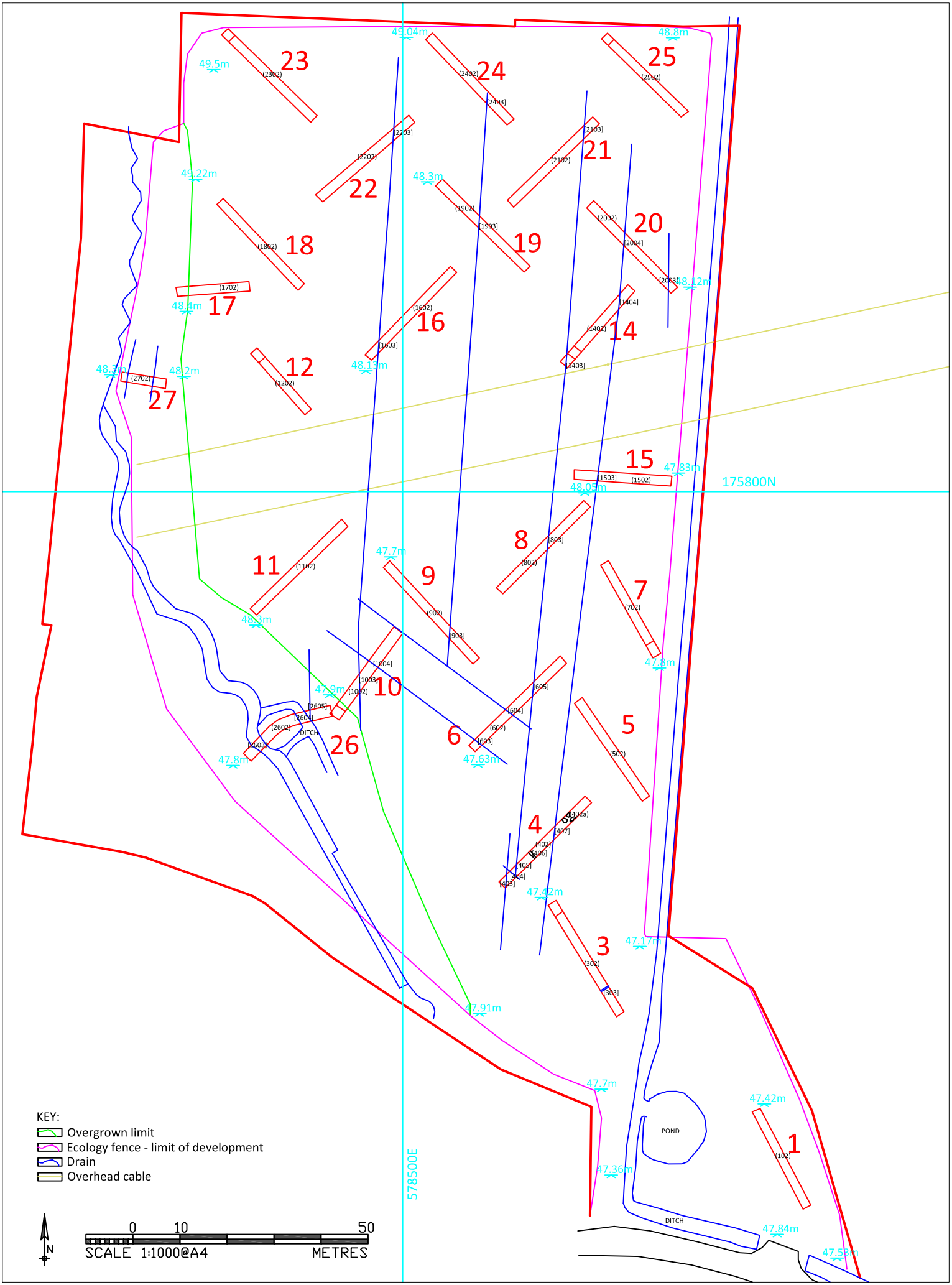


Figure 2: Trench location

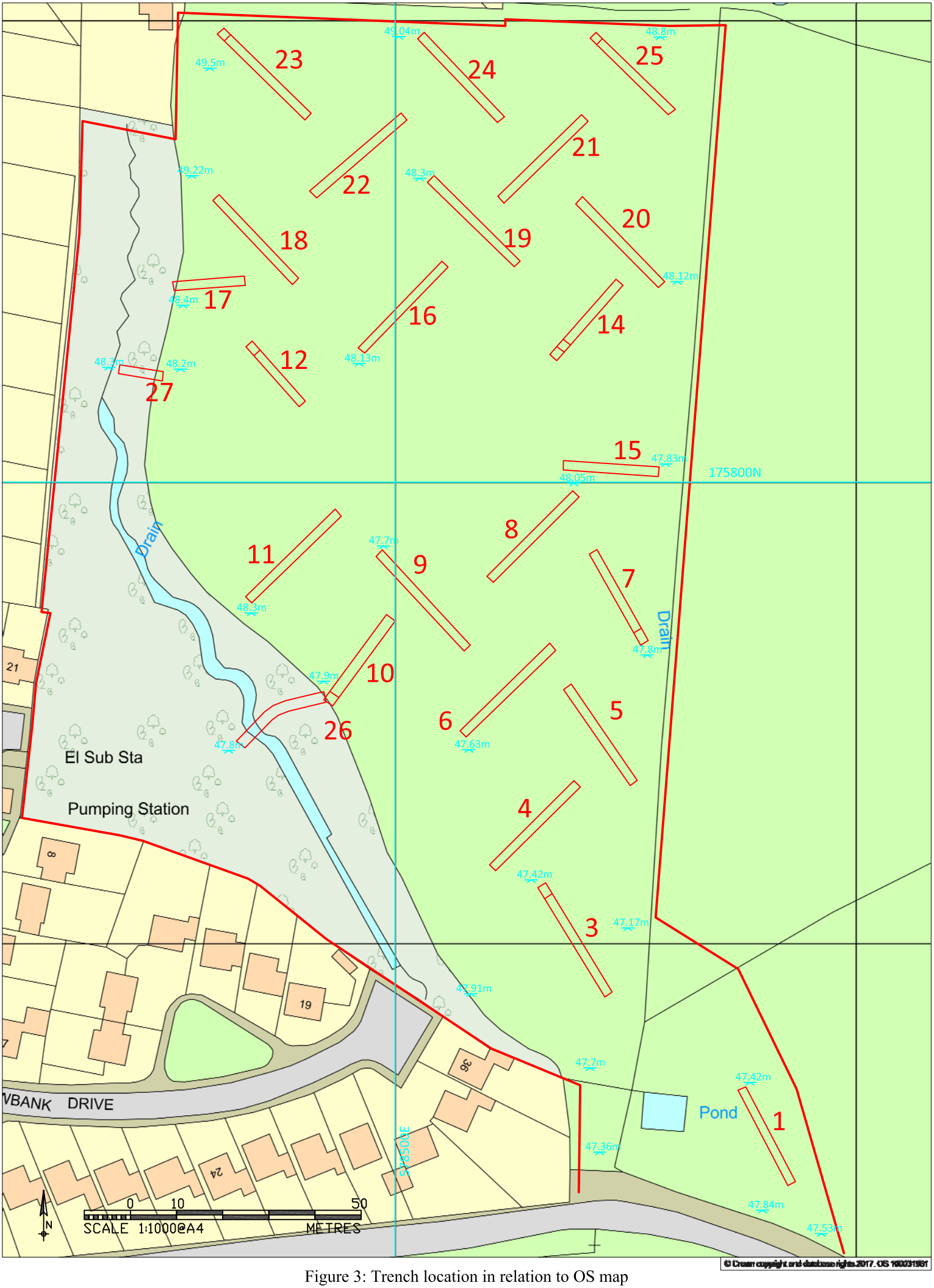
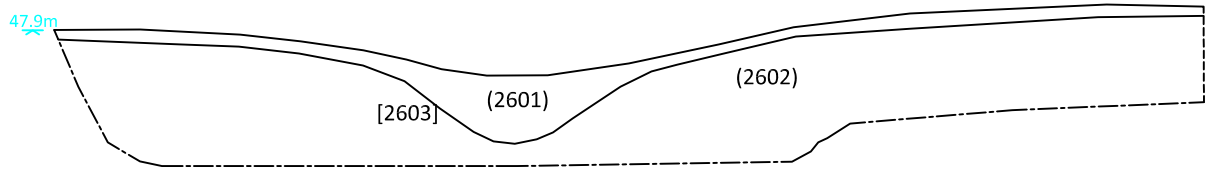


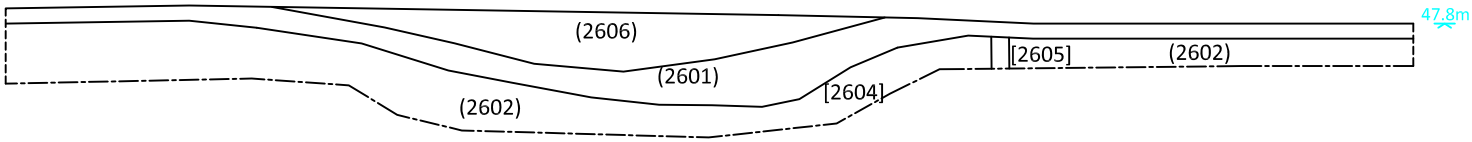
Figure 3: Trench location in relation to OS map

Figure 4: Trench location in relation to development

Section 1
South east facing section through drain ditch exposed in Trench 26



Section 2
South facing section through drain ditch [2604] exposed in Trench 26



Section 3
South facing section of Trench 27

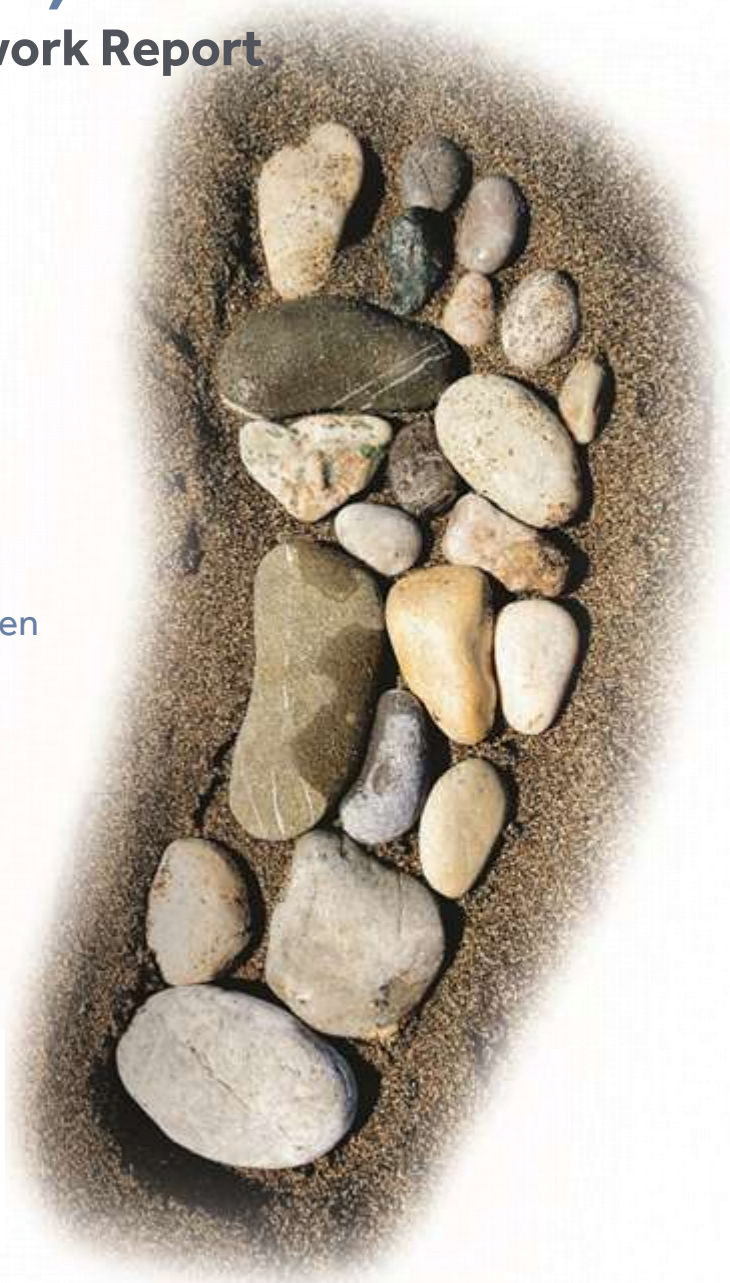
Figure 4: Sections

QUEST
QUATERNARY SCIENTIFIC

University of Reading

WALNUT TREE FARM
HIGH HALSTOW
ISLE OF GRAIN, KENT

Geoarchaeological Fieldwork Report



NGR: TQ 78500 75800

Site code: HHWTF-EV-18

Date: 29th November 2018

Written by: C.R. Batchelor & C.P. Green

QUEST, School of Archaeology, Geography and Environmental Science, Whiteknights, University of Reading, RG6 6AB

Tel: 0118 378 7978 / 8941
Email: c.r.batchelor@reading.ac.uk
http://www.reading.ac.uk/quest

DOCUMENT HISTORY

REVISION	DATE	PREPARED BY	SIGNED	APPROVED BY	SIGNED	REASON FOR ISSUE
v1	29/11/18	C.R. Batchelor		C.R. Batchelor		First edition

CONTENTS

1. NON-TECHNICAL SUMMARY

A program of geoarchaeological fieldwork was carried out by Quaternary Scientific (University of Reading) in connection with the proposed development of land at Walnut Tree Farm, High Halstow, Isle of Grain, Kent. The work was commissioned by SWAT Archaeology. The main aims of the investigation were to: (1) observe and record the sediments excavated; (2) interpret the sub-surface stratigraphy across the site and (3) to highlight sediments of potential Pleistocene and Palaeolithic archaeological or palaeoenviromental significance.

The results of the investigation revealed a sequence of Top Soil resting on Head and Gravelly Head Deposits over London Clay. The potential for palaeoenvironmental or Palaeolithic remains is considered negligible and no further work is recommend.

2. INTRODUCTION

2.1 Site context

This report summarises the findings arising out of the geoarchaeological investigations undertaken by Quaternary Scientific (University of Reading) in connection with the proposed development at Walnut Tree Farm, High Halstow, Isle of Grain, Kent (NGR: TQ 78500 75800; Figure 1). The work was commissioned and carried out in collaboration with SWAT Archaeology.

The site is located on the highest part of the Hoo peninsula; the highest parts of which rise to just over 50.0m OD. A nearby spot height to the south is at 48.0m OD. The British Geological Survey

(BGS) maps the site as London Clay but summit areas approximately 300m to the east and south of the site are occupied by gravel spreads mapped as 4th terrace. Bridgland in his work on the Medway terraces refers the BGS 4th Terrace to his Clinch Street Gravel which he regards as pre-Anglian (Bridgland, 1983; Bridgland and Harding, 1984). The 4th Terrace gravel spreads are largely surrounded by what the BGS map as Head, but this is not mapped beneath the proposed development site. Since the BGS traditionally do not map superficial deposits <3 feet thick, it is possible that thin deposits of this nature overlie the London Clay.

2.2 Pleistocene and Palaeolithic significance and potential

The site has the potential to contain both Pleistocene and Palaeolithic remains. Pleistocene remains are the geological and biological deposits laid down by various agents – water, wind and ice between 2.6 million and 11,500 years ago. In some places, artefacts, plant and animal remains are contained within Pleistocene deposits.

Palaeolithic remains therefore form part of the Pleistocene record and can include stone tools and the flakes produced when making them, and, much more rarely, tools of wood and bone, bones bearing marks of butchery, rudimentary structures and the remains of early humans (hominins). Such remains are important as they are the evidence that enables us to understand our earliest prehistory – how the landscape of Britain was shaped and where and how our earliest ancestors fit into it.

Even in the absence of artefact remains, the Pleistocene sediments and their contained biological remains can be significant as they enable the reconstruction of landforms, climatic conditions and environments occupied by Palaeolithic communities. In many cases we already have, in museum collections, artefacts from geological units equivalent to those being investigated (often river terrace gravels), but because of the way in which Palaeolithic artefacts were collected in the 19th and early 20th centuries, we often lack the environmental record that modern investigations of the deposits can supply. In addition, it is important to build up an understanding of the way in which the character and preservation of Pleistocene remains varies from place to place, even in the same geological unit. Recent advances in direct dating techniques, including OSL (optically stimulated luminescence), ESR (electron spin resonance), and AAR (amino acid racemization), have added further significance to Pleistocene remains, enabling us to achieve more reliable dating, relevant both to artefacts and to an understanding of landscape evolution.

2.3 Aims and objectives

During recent investigations on the site, seven test-pits were excavated for geoarchaeological purposes. The main aims of the investigation were to: (1) observe and record the sediments excavated; (2) interpret the sub-surface stratigraphy across the site and (3) highlight sediments of potential Geoarchaeological, Pleistocene or Palaeolithic significance.

Figure 1: Location of the geoarchaeological test-pits at Walnut Tree Farm (modified from SWAT Archaeology).

3. METHODS

Seven test-pits were cut within the archaeological trenches to depths of up to 1.5m. The deposits in the pits were recorded and photographed. Changes in the sediment type were noted as the machine cut the pit. No samples were sieved due to the clayey nature of the sequence, but gravel material excavated from the pits was inspected for lithic artefacts.

4. RESULTS AND INTERPRETATION OF THE GEOARCHAEOLOGICAL INVESTIGATIONS

The results of the fieldwork are displayed in Tables 1-7 and Figures 2 to 8. All the trial pits showed a common stratigraphy of:

1. Top soil
2. Head
3. Gravelly Clay Head
4. London Clay

The lowermost unit recorded consisted of very stiff brown clay, interpreted as bedrock London Clay. The material was barren of inclusions with the exception of a white friable sand like material, most likely representing 'race' an occasional component of the London Clay.

Diffusely overlying the London Clay in three of the seven test pits was a thin but definable layer of stiff clay with sub-rounded to sub-angular flint gravel and is referred to here as Gravelly Head. The Gravel component of this layer most likely derives from vertical or lateral migration of the 4th terrace Clinch Street Gravel which is mapped by the BGS to the east and south of the site. The stiff clay component also most likely derives from reworking of the London Clay. It was not possible to sieve this material, but close inspection did not reveal any Palaeolithic artefacts.

The deposits beneath the top-soil are dominated by stiff clay with traces of rooting, gravel, iron and manganese staining, and is present across the site. These are interpreted as head deposits, but in places are clearly disturbed by soil-forming processes and anthropogenic activity (e.g. ploughing). Similarly to the lower Gravelly Head deposits, much of the stiff clay material most likely derives from reworking of the London Clay bedrock.

5. RECOMMENDATIONS

On the basis of the geoarchaeological investigations presented here, the potential for palaeoenvironmental or Palaeolithic remains is considered negligible and no further work is recommend.

6. REFERENCES

Bridgland, D.R. (1983) The Quaternary fluvial deposits of north Kent and eastern Essex. *Unpublished PhD thesis*, City of London Polytechnic.

Bridgland, D.R. & Harding, P. (1984) Palaeolithic artefacts from the gravels of the Hoo peninsula. *Archaeologia Cantiana*, 101, 41-55.

Table 1: Lithostratigraphic description of TP1 (Trench 25), Walnut Tree Farm, High Halstow

Depth (m bgl)	Depth (m OD)	Description	Interpretation
0 to 0.25	48.75 to 48.50	10YR 4/1; As3, Ag1; Dark grey silty clay with traces of roots and fine gravel; diffuse contact into:	TOP-SOIL
0.25 to 0.75	48.50 to 48.00	10YR 3/3; As3, Ag1; Brown stiff and blocky silty clay with traces of gravel, rooting and iron staining; diffuse contact into:	HEAD
0.75 to 0.90	48.00 to 47.85	10YR 3/3; As3, Gg1; Brown stiff gravelly clay; gravel up to 10cm in diameter and sub-rounded to sub-angular; diffuse contact into:	GRAVELLY HEAD
0.90 to 1.35	47.85 to 47.40	10YR 3/3; As4; brown, very stiff clay.	LONDON CLAY

Table 2: Lithostratigraphic description of TP2 (Trench 14), Walnut Tree Farm, High Halstow

Depth (m bgl)	Depth (m OD)	Description	Interpretation
0 to 0.20	48.10 to 47.90	10YR 4/1; As3, Ag1; Dark grey silty clay with traces of roots and fine gravel; diffuse contact into:	TOP-SOIL
0.20 to 0.90	47.90 to 47.20	10YR 3/3; As3, Ag1; Brown stiff and blocky silty clay with traces of gravel, iron staining and manganese; diffuse contact into:	HEAD
0.90 to 1.10	47.20 to 47.00	10YR 3/3; As4; brown, very stiff clay with friable white concretions of a sand like material (race).	LONDON CLAY

Table 3: Lithostratigraphic description of TP3 (Trench 23), Walnut Tree Farm, High Halstow

Depth (m bgl)	Depth (m OD)	Description	Interpretation
0 to 0.25	49.50 to 49.25	10YR 4/1; As3, Ag1; Dark grey silty clay with traces of roots and fine gravel; sharp contact into:	TOP-SOIL
0.25 to 0.55	49.25 to 48.95	10YR 3/3; As3, Ag1; Brown stiff silty clay with roots and sporadic traces of fine gravel; diffuse into:	HEAD
0.55 to 1.25	48.95 to 48.25	10YR 3/3; As4; brown, very stiff clay with friable white concretions of a sand like material (race).	LONDON CLAY

Table 4: Lithostratigraphic description of TP4 (Trench 12), Walnut Tree Farm, High Halstow

Depth (m bgl)	Depth (m OD)	Description	Interpretation
0 to 0.25	48.24 to 47.99	10YR 4/1; As3, Ag1; Dark grey silty clay with traces of roots and fine gravel; diffuse contact into:	TOP-SOIL
0.25 to 0.55	47.99 to 47.69	10YR 3/3; As3, Ag1; Brown stiff and blocky silty clay with traces of gravel, rooting and iron staining; diffuse contact into:	HEAD
0.55 to 0.75	47.69 to 47.49	10YR 3/3; As3, Gg1; Brown stiff gravelly clay; gravel up to 10cm in diameter and sub-rounded to sub-angular; diffuse contact into:	GRAVELLY HEAD
0.75 to 1.30	47.49 to 46.94	10YR 3/3; As4; brown, very stiff clay with friable white concretions of a sand like material (race).	LONDON CLAY

Table 5: Lithostratigraphic description of TP5 (Trench 10), Walnut Tree Farm, High Halstow

Depth (m bgl)	Depth (m OD)	Description	Interpretation
0 to 0.35	47.89 to 47.54	10YR 4/1; As2, Ag2; Dark grey organic-rich silty clay with a large number of roots	TOP SOIL
0.35 to 0.85	47.54 to 47.04	10YR 3/3; As3, Ag1; Brown stiff and blocky silty clay with traces of gravel, rooting and iron and manganese staining; Land drain at 0.65-0.75m; roots stop beyond 0.65m; diffuse contact into:	(DISTURBED) HEAD
0.85 to 1.10	47.04 to 46.79	10YR 3/3; As3, Gg1; Brown stiff gravelly clay; gravel up to 10cm in diameter and sub-rounded to sub-angular; diffuse contact into:	GRAVELLY HEAD
1.10 to 1.40	46.79 to 46.49	10YR 3/3; As4; brown, very stiff clay with friable white concretions of a sand like material (race).	LONDON CLAY

Table 6: Lithostratigraphic description of TP6 (Trench 7), Walnut Tree Farm, High Halstow

Depth (m bgl)	Depth (m OD)	Description	Interpretation
0 to 0.35	47.80 to 47.45	10YR 4/1; As3, Ag1; Dark grey silty clay with traces of roots and fine gravel; diffuse contact into:	TOP-SOIL
0.35 to 0.70	47.45 to 47.10	10YR 3/3; As3, Ag1; Brown stiff and blocky silty clay, rooting and manganese staining; diffuse contact into:	HEAD
0.70 to 1.40	47.10 to 46.40	10YR 3/3; As4; brown, very stiff clay with friable white concretions of a sand like material (race).	LONDON CLAY

Table 7: Lithostratigraphic description of TP7 (Trench 3), Walnut Tree Farm, High Halstow

Depth (m bgl)	Depth (m OD)	Description	Interpretation
0 to 0.20	47.40 to 47.20	10YR 4/1; As3, Ag1; Dark grey silty clay with traces of roots and fine gravel; diffuse contact into:	TOP-SOIL
0.20 to 0.90	47.20 to 46.50	10YR 5/2; As3, Ag1, Greyish brown stiff and blocky silty clay with some iron staining; diffuse contact into:	HEAD
0.90 to 1.20	46.50 to 46.20	10YR 3/3; As4; brown, very stiff clay with friable white concretions of a sand like material (race).	LONDON CLAY

Figure 2: Photograph of TP1 (Trench 25), Walnut Tree Farm, High Halstow

Figure 3: Photograph of TP2 (Trench 14), Walnut Tree Farm, High Halstow

Figure 4: Photograph of TP3 (Trench 23), Walnut Tree Farm, High Halstow

Figure 5: Photograph of TP4 (Trench 12), Walnut Tree Farm, High Halstow

Figure 6: Photograph of TP5 (Trench 10), Walnut Tree Farm, High Halstow

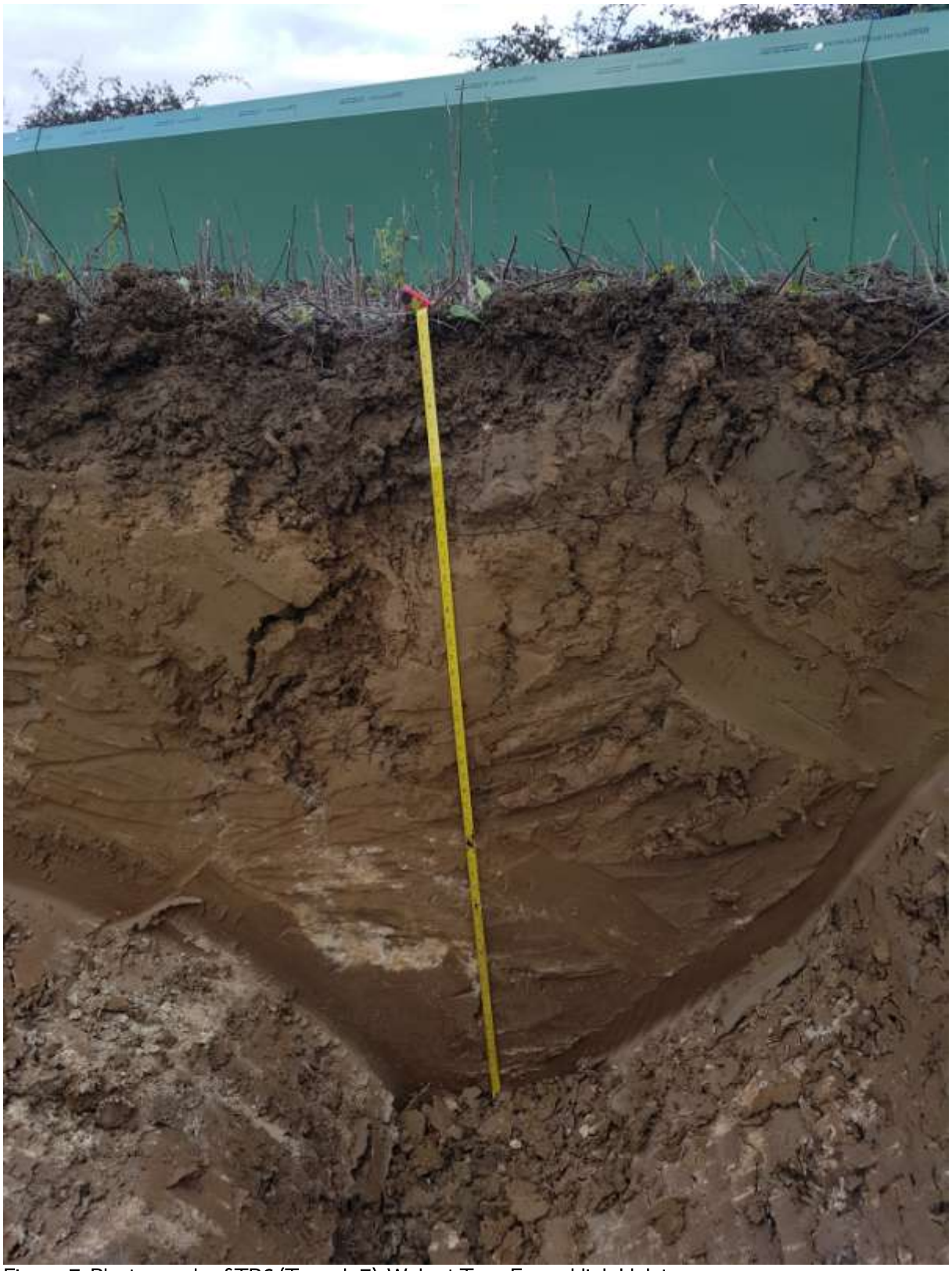


Figure 7: Photograph of TP6 (Trench 7), Walnut Tree Farm, High Halstow

Figure 8: Photograph of TP7 (Trench 3), Walnut Tree Farm, High Halstow