Archaeology South-East

ASE

An Archaeological and Geoarchaeological Evaluation at Temple Hill School, Dartford, Kent

NGR: 555159 174985

Planning Ref: KCC/DA/16/1372

ASE Project No: 170051
Site Code: THS17

ASE Report No: 2017329
OASIS id: 292545

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Abstract

Archaeology South-East (ASE) was commissioned by Kier Group Developments on behalf of Kent County Council (KCC) to undertake an archaeological evaluation in advance of a proposed extension to a school block at temple Hill School, Dartford, Kent.

Four trenches were excavated to reveal archaeological features in 3 of the 4 trenches. The remaining trench encountered residual artefacts. The features dated from the late-prehistoric period, Roman period and possibly the Anglo-Saxon period. In addition four geoarchaeological test pits were undertaken which identified the Boyn Hill Gravel sequence. This yielded worked flint of Palaeolithic date.

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1.0 INTRODUCTION

1.1 Site Background

1.1.1 Archaeology South-East (ASE) was commissioned by Kier Group Developments on behalf of Kent County Council (KCC) to undertake an archaeological and geoarchaeological evaluation in advance of the extension of school buildings at Temple Hill School, Dartford, Kent. The site is centred on National Grid Reference TQ 555159 174985 and its location is shown in Figure 1.

1.2 Geology and Topography

1.2.1 The site is located within the parish of Dartford in the area of Temple Hill. It is within the northern part of the Temple Hill Community Primary and Nursery School. Within the evaluated area, the ground remains fairly level from c. 31.10m Above Ordnance Datum (AOD) in the east of site to c. 31.41 AOD in the west of site.

1.2.2 The solid geology of the site is Chalk overlain by Boyn Hill Gravels, as shown by the British Geological Survey (BGS 2017).

1.3 Planning Background

1.3.1 There are proposals for a northerly extension to the eastern block of the Temple Hill School for 3 classrooms. Further details are set out in planning application KCC/DA/16/1372. On the basis of present archaeological information, the Archaeological Officer for Education LPA recommended that the site was subject to a programme of archaeological work in order to clarify the historical and archaeological elements within the site.

1.3.2 The WSI was prepared in accordance with all relevant guidelines set out by CIfA, Historic England and KCC.

1.4 Scope of Report

1.4.1 The current report provides the results of the archaeological and geoarchaeological evaluation of the site, carried out between the 17th and 21st July 2017. The fieldwork work was supervised by John Hirst (Archaeologist) with assistance from Pippa Postgate (Assistant Archaeologist). The geoarchaeological work was undertaken by Alice Dowsett (Geoarchaeologist) The fieldwork was managed by Jon Sygrave and post-excavation by Jim Stevenson and Andy Margetts.

2.0 ARCHAEOLOGICAL AND GEOLOGICAL BACKGROUND

2.1 Introduction

2.1.1 The following background information has been drawn from the Site Specific Requirements with due acknowledgement (HCGKCC 2017).

2.2 Prehistoric

2.2.1 Boyn Hill Gravels, dating to Marine Isotope Stages 12-10 (ca 425-375 thousand years ago) have demonstrable potential to contain Palaeolithic archaeology, including stone artefacts and faunal remains. Additionally, certain deposits within the Boyn Hill Gravel Member have the potential to preserve palaeoenvironmental evidence.

2.2.2 An archaeological and geoarchaeological evaluation carried out in August 2015, confirmed the presence of the Boyn Hill gravels to a depth of c.2.5m below ground level. This was represented by a sequence of coarse gravels and finer sand deposits. Through sieving of the test pit material, two Palaeolithic flakes were retrieved, though one was from a contaminated sample. The other flake came from later sands overlying the Boyn Hill gravels.

2.2.3 A subsequent watching brief was carried out between August and October 2015, when 40 foundation pads measuring up to 1m square were monitored. Excavation of a soakaway trench was also undertaken under geological conditions. Some residual worked flint was recovered from the subsoil. A single possible palaeolithic flake was recovered. The Boyn Hill gravels were recovered up to 1.10m.

2.3 Iron Age and Roman

2.3.1 There is also high potential for Roman remains suggested by the number of recorded Roman finds from the site itself and from the surrounding area. There is a Romano-British settlement recorded to the east (HER NO: TQ 57 SE 134); Roman artefacts were found during works on the school buildings themselves in 1955 (HER No: TQ 57 SE 18); and some Roman burials have been found to the south (HER No: TQ 57 SE 19).

2.4 Project Aims and Objectives

2.4.1 The general aims of the project, as defined by the Kent Archaeology General Standards for Fieldwork Projects were to:

- determine the existence or absence of any archaeological remains.
- determine or confirm the approximate date or date range of the remains by means of artefactual or other evidence.
- determine or confirm the approximate extent of the remains.
- determine the condition and state of preservation of the remains.
- determine the degree of complexity of the horizontal and/or vertical stratigraphy present.
- assess the associations and implications of any remains encountered with

reference to the historic landscape.
- determine, as far as is possible, the implications of the remains with reference to economy, status, utility and social activity.
- determine or confirm the likely range, quality and quantity of the artefactual evidence present.

2.4.2 The geoarchaeological aims of the project were to:

- establish where Quaternary deposits survive at the Site.
- characterise and interpret any surviving Quaternary deposits at the Site.
- assess Quaternary deposits surviving at the site for the presence and significance of artefacts, ecofacts and palaeoenvironmental indicators.
- establish the impact of the development

2.4.3 In order the meet these aims the associated objectives were to:

- make a lithological record of deposits revealed by geoarchaeological test pits.
- interpret any Quaternary geology encountered at the site.
- sieve suitable sediments for the recovery of artefacts and ecofacts.
- sample suitable sediments for the recovery of palaeoenvironmental evidence
- interpret the record in light of previous investigations and synthesis of the Lower Thames Quaternary.

3.0 ARCHAEOLOGICAL AND GEOARCHAEOLOGICAL METHODOLOGY

3.1 Fieldwork Methodology

3.1.1 The archaeological methodology was initially set out in the Site Specific Requirements (HCGKCC 2017). All work was carried out in accordance with this document and in line with the relevant professional standards and guidelines of the Charted Institute for Archaeologists (CIfA 2014a; 2014b).

3.1.2 All four trenches were excavated in their intended locations as shown in Figure 2. The locations of trenches were scanned prior to excavation using a Cable Avoidance Tool (CAT scanner) in order to check for services.

3.1.3 The location of the trenches was accurately established using a Leica Viva CS15 RTK GPS instrument.

3.1.4 Four geoarchaeological test pits measuring 2m x 2m were excavated at one end of each archaeological evaluation trench (Figure 2). Each test pit was dug to a maximum possible depth (either the maximum reach of the excavator or to collapse of the test pit)..

3.1.5 The spoil from initial removal of sediment was deposited into two distinct piles, separating the grey brown topsoil from the orange brown natural gravels. Some of this orangey brown sediment was sieved from the spoil heap, to see if any flint artefacts existed within the layer (i.e. the top of the Boyn Hill Gravels).

3.1.6 Excavation of the Boyn Hill Gravels was then undertaken with the same machine under geoarchaeological conditions, in the form of a test pit dug at one end of each evaluation trench. Spits of no more than 250mm were removed at a time and geoarchaeological units were excavated separately.

3.1.7 One hundred litres of each 250mm spit was sieved and sifted through, in order to check for the presence of Palaeolithic artefacts.

3.2 Fieldwork constraints

3.2.1 The maximum depth reached for each test pit was dependant on the reach of the machine and the possibility of trench collapse.

3.2.2 Due to the presence of Palaeolithic artefacts, and the possibility for more to be found, as much sieving as possible was carried out. Due to time constraints caused by the fact that the deep trenches could not be left open for long before being backfilled, sieving time was limited.

3.2.3 Due to the nature of geoarchaeological test pits, it was not possible to obtain precise depths when artefacts were encountered. During test pitting, large amounts of sediment comes out with each scoop, and the machine bucket will occasionally hit the sides of the trench on its way in and out, which can spill the sediment. The highest accuracy that can be obtained is 250mm intervals.

3.2.4 It was not possible to access any of the test pits, due to health and safety concerns, therefore no palaeoenvironmental samples were obtained on site.

3.3 Archive

3.2.1 The site archive is currently held at Archaeology South-East offices in Portslade, and will be offered to a suitable museum in due course. The contents of the archive are tabulated below (Table 1).

Context sheets	31
Section sheets	2
Plans sheets	0
Colour photographs	0
B&W photos	0
Digital photos	77
Context register	0
Drawing register	1
Watching brief forms	0
Trench Record forms	4

Table 1: Quantification of site paper archive

Bulk finds (quantity e.g. 1 bag, 1 box, 0.5 box 0.5 of a box)	1 bag
Registered finds (number of)	21
Flots and environmental remains from bulk samples	3
Palaeoenvironmental specialists sample samples (e.g. columns, prepared slides)	0
Waterlogged wood	0
Wet sieved environmental remains from bulk samples	0

Table 2: Quantification of artefact and environmental samples

4.0 RESULTS

4.1 Geology and Overburden

4.1.1 The trenches were situated on flat level ground at c.31m Above Ordnance Datum (AOD).

4.1.2 All trenches revealed a similar sequence of natural compacted brownish-yellow coarse sand with frequent natural gravel inclusions overlain by a soft/friable mid brown, medium coarse, sandy subsoil measuring between 0.14m and 1.00m thick. The only exception to this was in Trench 1 where made ground was present. The made ground comprised a loose, modern builder's rubble and was likely related to the school's construction.

4.1.3 A topsoil deposit overlay the subsoil in all trenches and comprised a friable dark brown, fine sandy clay which measured between 0.33m and 0.52m thick.

4.1.4 Of the 4 trenches excavated, three contained archaeological features. Trench 4 contained features of a later prehistoric date, whilst Trenches 1 and 3 contained one undated gully and one undated pit respectively (Figure 2).

4.2 Trench 1 (Figure 3)

Context	Type	Interpretation	Length m	Width m	Depth m	Height m AOD
1/001	layer	topsoil	trench	trench	0.43-0.47	31.41
1/002	layer	subsoil	trench	trench	0.19-1.00	
1/003	deposit	made ground	7.00	1.50	0.72-0.72	
1/004	layer	natural	trench	trench		30.59
1/005	cut	gully	1.5	0.59	0.26	30.61
1/006	fill	Fill, single	1.5	0.59	0.26	

Table 3: Trench 1 list of recorded contexts

4.2.1 Trench 1 was located in the west of the site. The trench measured 10.00m in length, 1.50m wide and was orientated on a northeast to southwest alignment.

4.2.2 One archaeological feature was identified within the trench, comprising a gully.

4.2.3 Gully [1/005] was located towards the centre of the trench was linear in plan and ran on a north – south alignment. The gully fill [1/006] comprised a friable dark brown/grey silty sand with frequent gravel inclusions Late Iron Age/early Roman pottery, slag, burnt bone and hammerscale was retrieved through environmental sampling.

4.3 Trench 2 (Figure 4)

Context	Type	Interpretation	Length m	Width m	Depth m	Height m AOD
2/001	Layer	Topsoil	trench	trench	0.40-0.52	31.28
2/002	Layer	Subsoil	trench	trench	0.26-0.34	
2/003	Layer	Natural	trench	trench		30.31

Table 4: Trench 2 list of recorded contexts

4.3.1 Trench 2 was devoid of archaeology. The trench was located east of Trench 1. No pre-modern archaeological deposits were revealed and the sequence of overburden deposits was consistent with that identified across the site.

4.3.2 One piece of copper alloy metal was recovered from context [2/003], representing a fragment of anti-aircraft artillery shell, Given the location of the site, near the Thames, the area would have been surrounded by heavy anti-aircraft sites in the Second World War and the fragment dates from this period, 1940 to 1945. Finds of pottery and struck flint were also encountered pressed into the surface of the natural (probably redeposited through ploughing). One of the three pottery sherds dated to the Roman period whereas the other two were of Middle Iron Age or the Early/Middle Anglo-Saxon date. A possible indeterminate cereal (Cerealia) was recovered from environmental sampling.

4.4 Trench 3 (Figure 5)

Context	Type	Interpretation	Length m	Width m	Depth m	Height m AOD
3/001	Layer	Topsoil	trench	trench	0.36-0.45	31.28
3/002	Layer	Subsoil	trench	trench	0.35-0.50	
3/003	Layer	Natural	trench	trench		30.31
3/004	Cut	Pit	0.91	0.81	0.64	30.11
3/005	Fill	Fill, single	0.91	0.81	0.64	

Table 5: Trench 3 list of recorded contexts

4.4.1 Trench 3 was located towards the centre of the site, east of Trench 2. The trench measured 20.00m in length, 1.50m wide and was orientated on a northeast to southwest alignment.

4.4.2 One archaeological feature was identified within the trench. It comprised a pit.

4.4.3 Pit [3/004] was located towards the centre of the trench, the pit fill [3/005] comprised a soft greyish brown fine silty sand with occasional gravel inclusions. Finds of Middle Iron Age or Early/Middle Anglo-Saxon date were recovered through environmental sampling (sample <1>). This sample also produced hammerscale indicative of smiting activity.

4.4.4 No finds were retrieved from the overlying deposits.

4.5 Trench 4 (Figures 6 and 7)

Context	Type	Interpretation	Length m	Width m	Depth m	Height m AOD
4/001	Layer	Topsoil	trench	trench	0.33-0.50	31.21
4/002	Layer	Subsoil	trench	trench	0.14-1.00	
4/003	Layer	Natural	trench	trench		30.29
4/004	Deposit	Lense	0.59	trench	0.14	
4/005	Cut	Pit	0.7	0.67	0.54	30.26
4/006	Fill	Fill, single	0.7	0.67	0.54	
4/007	Cut	Posthole	0.5	0.42	0.12	30.41
4/008	Fill	Fill, single	0.5	0.42	0.12	
4/009	Cut	Posthole	0.52	0.5	0.17	30.41

4/010	Fill	Fill, single	0.52	0.5	0.17	
4/011	Cut	Posthole	0.44	0.37	0.06	30.37
4/012	Fill	Fill, single	0.44	0.37	0.06	
4/013	Cut	Posthole	0.6	0.37	0.17	30.35
4/014	Fill	Fill, single	0.6	0.37	0.17	
4/015	Cut	Pit	1.03	0.98	0.72	30.30
4/016	Fill	Fill, single	1.03	0.98	0.72	
4/019	Cut	Pit	1.2	0.95	0.88	30.53
4/020	Fill	Fill, single	1.2	0.95	0.88	

Table 6: Trench 4 list of recorded contexts

4.5.1 Trench 4 was located in the east of the site. The trench measured 20.00m in length, 1.50m wide and was orientated on a northwest to southeast alignment.

4.5.2 Seven archaeological features were identified within the trench, comprising four postholes and three pits.

4.5.3 Postholes [4/007], [4/009], [4/011] and [4/013] were located towards the middle of the trench, and appeared to be in a northeast to southwest alignment. The single fills ([4/008], [4/010], [4/012] and [4/014]) of each posthole comprised a friable, dark brown/grey silty sand with frequent gravel inclusions.

4.5.4 Large fresh potsherds with fabrics in keeping with a Late Bronze Age/Early Iron Age date were retrieved from posthole [4/009].

4.5.5 Pit [4/015] was located at the far northwest of the trench, the single fill [4/016] comprised a compacted, reddish brown, medium coarse sand with gravel inclusions. No finds were recovered. Pits [4/005] and [4/019] were located towards the southeast of the trench. Fill [4/006] of pit [4/005] comprised a friable, dark brown grey silty sand with frequent gravel and occasional charcoal inclusions and finds struck flint. Fill [4/020] of pit [4/019] comprised a loose, mid grey, medium coarse sand with frequent gravel inclusions. It contained pottery of earliest/Early Iron Age (c.800-400BC) date as well as pieces of struck and fire-cracked flint.

4.4.6 A charcoal rich, sandy deposit or ‘lense’ [4/004] was revealed within subsoil [4/002] close to the western end of Trench 4. It lay close to the interface with the natural substrate and was only observed in section, it’s formation process is unknown.

5.0 GEOARCHAEOLOGICAL RESULTS

5.1 Lithology

5.1.1 Four geoarchaeological test pits (GTPs) were undertaken to identify significant archaeological deposits (GTP 1, 2, 3 and 4) (Figures 2-7). The Boyn Hill Gravel sequence was the main interest, and some units of this sequence yielded worked flint.

5.1.2 There was variation in the distribution and thickness of deposits across the site and overall a complex depositional sequence was encountered.

5.2 GTP 1 Pleistocene Geoarchaeology

Unit	Sediment description	Depth (m)	Interpretation
1	Mid grey brown dry gravelly silty sand with rooting 10% SR-SA flint gravel, loose, CBM, FCF	0.00-0.50	Topsoil
Diffuse			
2	Darker orangey brown sandy gravel, 50% R-SR flint, medium sand, somewhat mixed with the topsoil at the top of this unit- FCF, pottery	0.50-1.00	Boyn Hill Gravels
Sharp			
3	Light yellow fine sand with 5% rounded gravel, laminations of orangey medium sand also with 5% gravel, slightly loose, rooted	1.00-1.90	Boyn Hill Gravels
Sharp			
4	Large flint nodules (~20cm 20%) in medium orange sand, 40% SR-R flint gravel	1.90-2.30	Boyn Hill Gravels

Table 7: Sediment log for GTP 1

5.2.1 Table 7 shows observations made during the excavation of GTP 1 (Figure 3). At the base of the test pit was an orangey brown sandy gravel, containing large nodular flint gravel [Unit 4], which was not bottomed. The presence of this large flint gravel could indicate a high energy fluvial event which would have cut through the landscape, creating the bottom of a river bed sequence. This was overlain by a yellowy fine sand [Unit 3] with occasional rounded gravel. This is interpreted as being a much lower energy deposit of fluvial sands, laid down gradually through time.

5.2.2 The gravel sequence then finished with a darker orangey brown sandy gravel [Unit 2] [1/004], which was a ubiquitous unit found across the site. This is interpreted as being a fluvial gravel. This unit had been cut into, and archaeological features and finds lay within the top of the unit.

5.2.3 The stratigraphic interpretation of this fluvial sand and gravel sequence [Units 2, 3 and 4] is that it belongs to the Boyn Hill Gravel Formation, known locally at the same altitude.

5.2.4 This formation was then capped with a dry, loose, gravelly silty sand [Unit 1], interpreted as being a topsoil. This topsoil is thought to have been subject to ploughing, as there was some mixing between the top of Unit 2 and the bottom of Unit 1.

5.3 GTP 2 Pleistocene Geoarchaeology

Unit	Sediment description	Depth (m)	Interpretation
1	Mid grey brown dry gravelly silty sand with rooting 10% SR-SA flint gravel, loose, CBM, FCF	0.00-0.50	Topsoil
Diffuse			
2	Darker orangey brown silty sandy gravel, 40% R-SR flint, medium sand, loose, dry, somewhat mixed with the topsoil at the top of this unit-FCF, pottery	0.50-0.80	Boyn Hill Gravels
Diffuse			
3	Yellow orange medium sand with 5% rounded gravel, occasional darker sand laminations with more rooting, clayey in places	0.80-1.45	Boyn Hill Gravels
Diffuse			
5	As above but richer orange colour and with no laminations, occasional rooting	1.45-1.55m	Boyn Hill Gravels
Sharp			
6	A band of lighter greenish grey slightly clayey medium sand, some rooting	1.55-2.00m	Boyn Hill Gravels
Sharp			
7	Coarse orangey sand with 70% flint gravel inclusions, banding of lighter yellow silty sand	2.00-3.00m	Boyn Hill Gravels
Sharp			
4	Orangey brown sandy gravel with coarse sand and large flint nodules, 10% nodules, 60% SR-R gravel	3.00-3.05	Boyn Hill Gravels

Table 8: Sediment log for GTP 2

5.3.1 Table 8 shows observations made during the excavation of GTP 2 (Figure 4). At the base of the test pit was a coarse sandy gravel with large flint nodules [Unit 4], which was not bottomed. This is interpreted as being the same lowest Unit, as in GTP 1. The presence of this large flint gravel could again indicate the same high energy fluvial event which would have cut through the landscape as in GTP 1, creating the bottom of a river bed sequence.

5.3.2 This was overlain by a coarse sand and gravel [Unit 7], without flint nodules, and with occasional banding of yellowy silty sand. This is interpreted as reflecting a higher energy fluvial process that created [Unit 7] in GTP 3, but in this case is occasionally interrupted with some slower fluvial activity. This was

in turn overlain by a series of almost pure sands [Units 6, 5, and 3]. These units indicate a gradual slowing of a fluvial environment, but had been disturbed somewhat by rooting.

5.3.3 The gravel sequence then finished with a darker orangey brown sandy gravel [Unit 2] [2/003], which was a ubiquitous unit, found across the site. This was interpreted as being a fluvial gravel. No archaeological features lay within this upper gravel unit.

5.3.4 The stratigraphic interpretation of this fluvial sand and gravel sequence [Units 2, 3, 5, 6, 7 and 4] is that it belongs to the Boyn Hill Gravel Formation, known locally at the same altitude.

5.3.5 This formation was then capped with a dry, loose, gravelly silty sand [Unit 1], interpreted as being a topsoil. This topsoil is thought to have been subject to ploughing, as there was some mixing between the top of Unit [2] and the bottom of Unit [1].

5.4 GTP 3 Pleistocene Geoarchaeology

Unit	Sediment description	Depth (m)	Interpretation
1	Mid grey brown dry gravelly silty sand with rooting, 20% SR-SA flint gravel, loose, CBM, FCF	0.00-0.40	Topsoil
Diffuse			
2	Darker orangey brown silty sandy gravel, 40% R-SR flint, medium sand, rooting, loose and dry, somewhat mixed with the topsoil at the top of this unit- FCF, pottery	0.40-1.10	Boyn Hill Gravels
Sharp			
7	Yellowy brown very gravelly sandy gravel with 80% flint pebbles R-SR and occasional balls of compact reddish clay, faint banding of slightly darker orange colour	1.10-1.40	Boyn Hill Gravels
Diffuse			
8	As above but a darker orangey brown colour throughout	1.40-2.30	Boyn Hill Gravels
Sharp			
4	Orangey brown coarse sand with large gravel inclusions, 10% 10-20cm flint nodules and 70% rounded flint pebbles	2.30-3.10	Boyn Hill Gravels

Table 9: Sediment log for GTP 3

5.4.1 Table 9 shows observations made during the excavation of GTP 3 (Figure 5). At the base of the test pit was a coarse sandy gravel with large flint nodules, which was not bottomed [Unit 4]. This is interpreted as being the same lowest Unit, as in GTP 1 and 2. The presence of this large flint gravel could again indicate the same high energy fluvial event which would have cut through the landscape as in GTP 1 and 2, creating the bottom of a river bed sequence.

5.4.2 This was then overlain by a yellowy brown and orange concentrated gravel sequence [Units 7 and 8], which is in contrast to that of GTP 1 and 2. This is interpreted as a fluvially derived gravel of relatively high energy, and quite constant for some time.

5.4.3 The gravel sequence then finished with a darker orangey brown sandy gravel [Unit 2] [3/003], which is a ubiquitous unit found across the site. This is interpreted as being a fluvial gravel. This unit had been cut into, and archaeological features and finds lay within the top of the unit.

5.4.4 The stratigraphic interpretation of this fluvial sand and gravel sequence [Units 2, 7, 8 and 4] is that it belongs to the Boyn Hill Gravel Formation, known locally at the same altitude. This test pit held no evidence of lower energy fluvial sand units, found in GTP 1 and 2.

5.4.5 This formation was then capped with a dry, loose, gravelly silty sand [Unit 1], interpreted as being a topsoil. This topsoil is thought to have been subject to ploughing, as there is some mixing between the top of Unit [2] and the bottom of Unit [1].

5.5 GTP 4 Pleistocene Geoarchaeology

Unit	Sediment description	Depth (m)	Interpretation
1	Mid grey brown dry gravelly silty sand with rooting 20% SR-SA flint gravel, loose, CBM, FCF	0.00-0.50	Topsoil
Diffuse			
2	Darker orangey brown silty sandy gravel, 40% R-SR flint, medium sand, loose, dry, somewhat mixed with the topsoil at the top of this unit-FCF, pottery	0.50-0.70	Boyn Hill Gravels
Sharp			
8	Mid orangey brown sandy gravel, 80% R-SR flint gravel 10-30mm, loose, damp	0.70-0.90	Boyn Hill Gravels
Diffuse			
9	Yellowy orange sandy gravel, 10% larger flint nodules 10-30cm, 40% smaller flint pebbles R-SR. One large foreign stone (possible sarsen stone) found at 1.2-1.4m measuring 30cm in length	0.90-1.40m	Boyn Hill Gravels
Sharp			
10	Darker grey brown very gravelly sand, 80% R-SR flint gravel, 20% medium sand, damp	1.40-1.85m	Boyn Hill Gravels
Sharp			
11	Light orangey brown medium sand with 10% flint gravel R-SR	1.85-2.00m	Boyn Hill Gravels
Sharp			

Unit	Sediment description	Depth (m)	Interpretation
4	Orangey brown sandy gravel with large flint nodules, 10% nodules, 40% smaller SR-R flint pebbles 10-30mm, 50% coarse sand	2.00-2.20	Boyn Hill Gravels

Table 10: Sediment log for GTP 4

5.5.1 Table 10 shows observations made during the excavation of GTP 4 (Figures 6 and 7). At the base of the test pit was a coarse sandy gravel with large flint nodules, which was not bottomed [Unit 4]. This is interpreted as being the same lowest Unit, as in GTP 1, 2 and 3. The presence of this large flint gravel again could indicate the same high energy fluvial event which would have cut through the landscape as in GTP 1, 2 and 3, creating the bottom of a river bed sequence.

5.5.2 This unit was overlain by a band of lighter orangey brown slightly gravelly sand [Unit 11]. This was interpreted as being the result of a slowing of fluvial processes after the initial cut of the river, creating fluvial sands. This was followed by a sequence of concentrated rounded gravels [Unit 10]. This was interpreted as being of a similar relatively higher energy fluvial process, as in Unit 7 and 8 from GTP 3.

5.5.3 Unlike any other test pit on site, an upper unit of sand and larger nodular gravel was observed [Unit 9]. This unit was interpreted as being of a much higher energy fluvial process. Within this nodular unit, a foreign stone of a larger clast size was found. This stone is of a sandstone quality and is thought to be a sarsen stone, which looks like it has been worked by the river. This stone may have been transported onto the site from upstream through riverine processes. This nodular unit was overlain by an orangey brown concentrated gravel [Unit 8], interpreted as there being a slight slowing of fluvial energy.

5.5.4 The gravel sequence then finished with a darker orangey brown sandy gravel, which is a ubiquitous unit found across the site [Unit 2] [4/003]. This is interpreted as being a fluvial gravel. This unit had been cut into, and archaeological features and finds lay within the top of the unit.

5.5.5 The stratigraphic interpretation of this fluvial sand and gravel sequence [Units 2, 8, 9, 10, 11 and 4] is that it belongs to the Boyn Hill Gravel Formation, known locally at the same altitude.

5.5.6 This formation was then capped with a dry, loose, gravelly silty sand [Unit 1], interpreted as being a topsoil. This topsoil is thought to have been subject to ploughing, as there was some mixing between the top of Unit [2] and the bottom of Unit [1].

6.0 THE FINDS

6.1 Summary

6.1.1 A small assemblage of finds was recovered during the evaluation at Temple Hill Community Primary School, Dartford. All finds were washed and dried or air dried as appropriate. They were subsequently quantified by count and weight and were bagged by material and context. Hand-collected bulk finds are quantified in Table 11. All finds have been packed and stored following CIfA guidelines (2014c).

Context	Depth	Pottery	Wt (g)	Flint	Wt (g)	Copper	Wt (g)
GTP1	2m			1	224		
GTP3	2-2.3m			3	24		
GTP3	2.6-3.1m			2	9		
GTP4	0.9-1.2m			4	4		
GTP4	2-2.2m			10	221		
2/003	0.5-0.8m	3	15	11	99	1	23
4/002		3	2				
4/006				3	24		
4/010		7	227				
4/020		8	151	2	9		
Total		21	395	33	590	1	23

Table 11: Quantification of hand-collected bulk finds

6.2 **The Flintwork** by Karine Le Hégarat

6.2.1 The evaluation and geoarchaeological intervention at Temple Hill Community Primary School produced a small amount of flints. The assemblage comprised a small quantity of naturally shattered pieces. All the finds not recognised as humanly struck were discarded, and a total of 33 pieces of worked flint, weighing 612g, were retained. A small amount of unworked burnt flint fragments weighing 2410g were also recovered. The flintwork came from archaeological features and from natural deposits. The material was quantified by piece count and weight and was catalogued directly into an Excel spreadsheet. Table 12 summarises the assemblages of worked flint by context (or test pit) and by category type, and Table 13 summarises the assemblage of unworked burnt flint by context (or test pit).

6.2.2 A large proportion of the assemblage consists of knapping débitage. This group is largely represented by flakes (Table 12). The majority of the flakes display plain or cortical platform with no platform abrasion. A small quantity (less than five pieces) displays minimal preparation. The high quantity of flakes suggests a late prehistoric flake-based industry (Ford 1987). The majority are rather crudely made, and they are likely contemporary with the Late Bronze Age / Early Iron Age pottery found from Trench 4. Other flakes could be earlier, but it is difficult to date them precisely because they are often small, and they could represent late prehistoric material that filtered down the soil profile rather

than Palaeolithic material. Saying that two flakes (141g and 64g) from Geoarchaeological Test Pit 4 (2m-2.20m in depth) and a large retouched flake (224g) from Geoarchaeological Test Pit 1 (1.90m-2.10m) display different surface condition from the other flints. The majority of the pieces from the site display minimum sign of weathering; they are free from surface recortication and mid to dark grey in colour. Instead the three artefacts display surface rolling and edge damage associated with successive redepositions. One of the flake from GTP4 displays incipient traces of a milky blue surface colouration. One of the flake from GTP4 and the retouched flake from GTP1 are stained to a honey colour. In addition the retouched flake. The tool is made on a cortical flake. It exhibits minimal direct retouch on the distal end. It fits nicely in the hand, and is likely to have been used as a cutting tool. Based on their condition and their stratigraphical position those three pieces could be earlier than the remaining pieces. A possible Palaeolithic flake was recovered during recent work at the site.

GTP	Depth	Context	Flakes	Bladelet, blade-like flake	Irregular waste	Retouched form	Total
-	0.50m-0.80m	2/003	9	-	1	-	10
-	-	4/006	2	-	1	-	3
-	-	4/020	2	-	-	-	2
1	1.90m-2.10m	-	-	-	-	1	1
3	2m-2.30m	-	1	1	-	-	2
3	2.60m-3.10m	-	3	-	-	-	3
4	0.90m-1.20m	-	4	-	-	-	4
4	2m-2.20m	-	6	2	-	-	8
Total			27	3	2	1	33

Table 12: Summary of worked flint

6.2.3 A small quantity (2033g) of burnt unworked flint were recovered (Table 13). With the exception of a small fragment found in GTP3, the pieces came from subsoil or natural deposits and from archaeological features in Trench 4. The fragments are mainly calcined to a light to mid grey colour with occasional pieces displaying only a reddish tinge. Unworked burnt flint fragments are frequently associated with late prehistoric activities.

GTP	Depth	Context	Weight (g)
-	-	1/002	75
-	-	1/006	<1
-	-	2/002	104
-	0.50m-0.80m	2/003	969
-	-	3/003	287

-	-	3/005	90
-	-	4/006	360
-	-	4/010	38
-	-	4/016	63
-	-	4/020	418
3	1.10m-1.40m	-	6
Total			2410

Table 13: The burnt unworked flint

6.3 **The Pottery** by Anna Doherty

6.3.1 A small assemblage of pottery was recovered during the evaluation, totalling 28 sherds, weighing 417g (including material from environmental samples). The pottery has been examined with a x20 binocular microscope for the purposes of spot-dating and characterisation. At this stage it has not been fully recorded according to a fabric and form type-series. It is recommended that the assemblage should be retained for possible further recording in the event of future archaeological work at the site, leading to an assessment or analysis process.

6.3.2 The material recovered from Trench 4 is all of Late Bronze Age/Early Iron Age character. Seven large unabraded flint-tempered body sherds, with an average sherd weight of 32g, were noted in fill [4/010] of post-hole [4/009]. All were in similar fabric types with moderate, moderately-sorted flint inclusions predominantly in the size range 0.5-2mm with some rare examples up to 4mm, set in within non-sandy background matrix. These fabrics appear broadly typical of the Late Bronze Age (c.1150-800BC), though an earlier Iron Age date range cannot be ruled out.

6.3.3 In fill [4/020] of pit [4/019], a group of similar flint-tempered wares was noted; however these contained slightly finer and better-sorted flint inclusions. The group also contained a partial rimsherd from a jar with a flaring, flat-topped rim profile, characteristic of the earliest/Early Iron Age (c.800-400BC). In addition to the well-stratified material, subsoil [4/002] also produced some small bodysherds of similar flint-tempered pottery.

6.3.4 Deposit [2/003] contained cultural material of very mixed date. The pottery comprised a single bodysherd in a coarse Roman grey ware fabric, probably of North Kent/Thameside origin, and two sherds in hand-made sandy wares containing sparse linear organic matter of up to 2mm in length. The latter fabrics could belong to one of two periods, the Middle Iron Age or the Early/Middle Saxon period. Hand-made sandy wares of these two periods are difficult to distinguish in the absence of any diagnostic features, although fabrics rich in organic material are probably more typical of Saxon assemblages.

6.3.5 Material of similar date was also recovered from the residues of environmental samples in two other contexts. Sample <2> taken from fill [1/006] of gully [1/005] produced two small sherds, one in a Late Iron Age/early Roman grog-tempered ware and another in a well-fired Late Iron Age/early Roman fabric

containing sparse shell. Sample <1> taken from fill [3/005], of pit [3/004], contained five sherds from the same vessel, in a hand-made sandy fabric, containing relatively fine quartz and featuring very well burnished surfaces. Again it is difficult to determine whether these sherds are of Middle Iron Age or Early/Middle Saxon date.

6.4 Bulk Metalwork by Justin Russell

6.4.1 One piece of copper alloy metal was recovered from context [2/003], representing a fragment of anti-aircraft artillery shell. Measuring 48mm in height, the fragment shows impressions of the 'lands' and 'grooves' imparted by the rifling of the gun barrel on the face. On the rear are five horizontal keying grooves, indicating this came from a 4.5 inch shell. Given the location of the site, near the Thames, the area would have been surrounded by heavy anti-aircraft sites in the Second World War and the fragment will date from this period, 1940 to 1945.

6.5 The Metallurgical Remains by Elena Baldi

6.5.1 A small assemblage of magnetic material was recovered from the evaluation at Dartford: Temple Hill Community Primary School. They were collected with the use of a magnet, from the flotation of environmental samples <1>, <2> and <3>, respectively from contexts [3/005], [1/006] and [3/003], two fills and one natural layer. The magnetic material was recovered from <2> and 2-4 mm sieves. The total weight recorded was ca. 22 g and it represents 100% of the collected residue.

6.5.2 The analysis of the small fragments was carried out using a binocular microscope (x40) and the results show that the majority of the samples were composed of ironstone and magnetised stone and flint that had undergone the burning process. These are not diagnostic. However, spheroidal hammerscale was recovered from sample <1> (1 piece) and sample <3> (two pieces). Also flake hammerscale was recovered from sample <1> and <2> (one from the former and 5-10 from the latter) and slag material from the 4-8 sieve, from sample <2>.

6.5.3 Hammescale is a shiny, black and magnetic product, which forms during the smithing process, in which the iron object is repeatedly heated and hammered to remove impurities. Experimental investigation has instead proven that spheroidal hammescale is produced during fire welding of wrought iron (Dungworth and Wilkes 2007).

6.5.4 The presence of hammerscale, could be taken as an indication of smithing activities carried out on site or in close vicinity. Although hammerscale cannot be used as a dating tool, it can be considered contemporary with the finds recovered from the same contexts as the samples.

6.6 The Burnt Bone by Dr Paola Ponce

6.6.1 A very small quantity of burnt bone was recovered from the environmental sample of one context, fill [1/006], gully [1/005], which also contained Late Iron Age/early Roman pottery.

6.6.2 The total amount of bone recovered from context [1/006] was 0.02 grams, quantified by fragment size in Table 14 below. None of the fragments were positively identifiable as human or animal bone. No demographic data or pathology was observed. The small burnt bone fragments were fully oxidised to a white colour, suggesting an efficient burning process at temperatures above *c.* 600˚ C.

Context	Weight (grams)			
	2-4mm	4-8mm	>8mm	Total
[1/006] <2>	0.01	0.01	-	0.02

Table 14: total amount of bone according to size

7.0 The Environmental Samples by Mariangela Vitolo

7.1 Introduction

7.1.1 During evaluation work at the site, three bulk soil samples were taken to recover environmental material such as charred plant macrofossils, wood charcoal, fauna and mollusca as well as to assist finds recovery. The samples were taken from a pit, a linear ditch and a gravel layer. The following report summarises the contents of these samples and the contribution that they can make to discussions of diet, agrarian economy and environment at the site.

7.2 Methodology

7.2.1 Samples all measured 40L in volume and were processed by flotation in their entirety; the flots and residues were captured on 250µm and 500µm meshes respectively and were air dried. The dried residues were passed through graded sieves of 8, 4 and 2mm and each fraction sorted for environmental and artefactual remains (Table 15). Artefacts recovered from the samples were distributed to specialists, and are incorporated in the relevant sections of this volume where they add further information to the existing finds assemblage. The flots were scanned under a stereozoom microscope at 7-45x magnifications and their contents recorded (Table 15). Identifications of macrobotanical remains have been made through comparison with published reference atlases (Cappers *et al*. 2006, NIAB 2004), and nomenclature used follows Stace (1997).

7.3 Results

7.3.1 The flot matrix was generally dominated by sediment and uncharred material, including rootlets and seeds of bramble (*Rubus* sp.), elder (*Sambucus* sp.) and ivy-leaved speedwell (*Veronica hederifolia*). As all the contexts were dry, preservation in anoxic conditions is unlikely, therefore this material represents modern contaminants that infiltrated the deposits through root action. A single charred, amorphous ‘blob’, recovered in pit [3/004] is a possible indeterminate cereal (Cerealia). No other charred plant macrofossils were recovered. Charcoal occurred in very small amounts both in the residues and the flots and no identification work was warranted.

7.3.2 Finds from the residues included pottery, coal, fire cracked flint, glass and magnetic material. A small amount of burnt bone was recorded from gravel layer [3/003].

7.4 Discussion

7.4.1 The environmental samples from Temple Hill School have yielded scarce charred plant remains and charcoal. This paucity could be due to circumstances of deposition. If any future work is carried out at the site, sampling should still be carried out, targeting well sealed primary deposits.

Sample Number	Context	Weight (g)	Flot volume (ml)	Volume Scanned	Uncharred (%)	Sediment (%)	Seeds Uncharred	Charcoal <2mm	Crop Seeds Charred	Identifications	Preservation
1	3/005	33	75	75	40	50	* *Veronica hederifolia, Sambucus* sp.	**	*	cf Cerealia (1)	+
2	1/006	10	50	50	70	20	*Rubus* sp., *Veronica hederifolia*	**			
3	3/003	2.5	30	30	70	20		**			

Table 15: Flot Quantification

8.0 DISCUSSION AND CONCLUSIONS

8.1 Overview of stratigraphic sequence

8.1.1 All trenches revealed a similar sequence of natural, compacted, brownish-yellow coarse sand with frequent natural gravel inclusions overlain by a soft/friable mid brown, medium coarse, sandy subsoil measuring between 0.14m and 1.00m thick. The only exception to this was in Trench 1 where made ground was present. The made ground comprised a loose, modern builder's rubble and was likely related to the school's construction.

8.1.2 The natural geology was encountered at a maximum elevation of 30.59 m AOD in the west of the site area (Trench 1) to 30.20 m AOD in the east of the site (Trench 4).

8.1.3 The depth of overburden varied between 0.70m and 1.05m across the site.

8.1.4 Of the four trenches excavated all but one contained archaeological features. These ranged in date from the Late Bronze Age/Early Iron Age period, the earliest/Early Iron Age (c.800-400BC), the Late Iron Age/early Roman period and an uncertainly dated pit of Middle Iron Age or Early to Middle Anglo-Saxon origin. Residual redeposited finds were recorded in Trench 2.

8.1.5 The methodology, as set out in the specification (HCGKCC 2017), was successfully employed during the evaluation. The conditions on site were conducive to confident and efficient identification and recording of archaeological remains.

8.2 Overview of lithological sequence

8.2.1 Four geoarchaeological test pits were excavated at Temple Hill School. The sequence of deposits found was variable across the site, and comprised 11 separate lithological units.

8.2.2 The highest lithological unit of the site, was interpreted as being a Holocene sediment. The sedimentary sequence which followed this, has been interpreted as being part of a Quaternary derived, fluvial sand and gravel member; namely the Boyn Hill Formation.

8.2.3 This Quaternary sequence represents a river terrace gravel, deriving from Marine Isotope Stages 12-10 (ca 425-375 thousand years ago). This is part of the wider Thames Valley fluvial sequence.

8.3 Deposit survival and existing impacts

8.3.1 Intact subsoil deposits were identified in all trenches.

8.3.2 There is evidence for ploughing having occurred on the site. This has mixed Units 1 and 2 slightly, which means that artefacts from the Holocene have become mixed into the upper Quaternary sediments. This can be observed in the mixture of later finds that were extracted via sieving, from the top of Unit [2]. The upper unit of the Boyn Hill sequence was also cut into during the

Holocene, producing archaeological features within the unit. Observations from the geoarchaeological test pits indicate that all units below Unit [2] are intact and undisturbed.

8.4 Discussion of archaeological remains by period

Prehistoric

8.4.1 The evaluation revealed a small assemblage of struck flint. It produced very few diagnostic pieces, suggesting a late prehistoric flake-based industry (Ford 1987). A small quantity of lithics displayed minimal preparation, the majority were rather crudely made, and they are likely contemporary with the Late Bronze Age / Early Iron Age pottery found within Trench 4. Other flakes could be earlier, but it is difficult to date them precisely because they are often small, and they could represent late prehistoric material that filtered down the soil profile rather than Palaeolithic material.

8.4.2 The material recovered from Trench 4 is all of Late Bronze Age/Early Iron Age character. Seven large unabraded flint-tempered body sherds were recovered from post-hole [4/009]. All were in similar fabric types with moderate, moderately-sorted flint inclusions predominantly in the size range 0.5-2mm with some rare examples up to 4mm, set in within non-sandy background matrix. These fabrics appear broadly typical of the Late Bronze Age (c.1150-800BC), though an earlier Iron Age date range cannot be ruled out.

8.4.3 A group of similar flint-tempered wares was recovered from pit [4/019]; however these contained slightly finer and better-sorted flint inclusions. The group also contained a partial rimsherd from a jar with a flaring, flat-topped rim profile, characteristic of the earliest/Early Iron Age (c.800-400BC). In addition to the well-stratified material, subsoil [4/002] also produced some small bodysherds of similar flint-tempered pottery.

Iron Age and Roman

8.4.4 Gully [1/005] produced two small sherds, one in a Late Iron Age/early Roman grog-tempered ware and another in a well-fired Late Iron Age/early Roman fabric containing sparse shell.

8.4.5 A residual Roman grey-ware sherd was recovered from Trench 2.

Anglo-Saxon

8.4.6 Pit [3/004], contained five sherds from the same vessel, in a hand-made sandy fabric, containing relatively fine quartz and featuring very well burnished surfaces. It is difficult to determine whether these sherds are of Middle Iron Age or Early/Middle Saxon date. Similar material was encountered in Trench 2.

8.5 Discussion of geoarchaeological deposits

8.5.1 Deposits encountered during the evaluation were a little different to what was expected from those exposed during previous investigations. The fluvial sand and gravel sequence varied across the site; on the western side of the site,

sand units were more predominant, whereas on the eastern side of the site, gravel units prevailed.

The deepest unit encountered for each test pit was Unit [4], which was a unit of sand and large nodular flint. This could indicate the horizon for the bottom of the Boyn Hill river sequence. It is interpreted that the entire orange and/or yellow sand and gravel sequence encountered on the site, can be assigned to the Boyn Hill Formation. The top of the gravel sequence lies at ~30.31m AOD, which corresponds with other recorded sites of the Boyn Hill Gravels (Wenban-Smith and Bridgland, 2001). It was not possible to see what lay below the Boyn Hill gravel, but it is interpreted that the Thanet Sands were not located on site, and at no point was chalk bedrock reached. This is in contrast to a recent assessment carried out (ASE 2016), where both Thanet sand and chalk bedrock was reached by ~2.00m, and the sands and gravels were reached a much shallower depth. At other sites, a loam and occasionally a shell bed was encountered (Smith and Dewey 1914; Wenban-Smith and Brigland 2001), which were not found at Temple Hill.

8.5.2 No alluvium or peat was located on site, which would have had the potential to preserve good palaeoenvironmental evidence. The fluvial sands may have the potential to hold micropalaeontological evidence, though due to the nature of test pits, and the fact that it was unsafe to enter any of them, it was not possible to obtain stratigraphically reliable samples for such palaeoenvironental evidence. No evidence for molluscs was found in any of the sediments.

8.6 Consideration of research aims

8.6.1 The general aims of the archaeological field evaluation were to:

- determine the existence or absence of any archaeological remains.
- determine or confirm the approximate date or date range of the remains by means of artefactual or other evidence.
- determine or confirm the approximate extent of the remains.
- determine the condition and state of preservation of the remains.
- determine the degree of complexity of the horizontal and/or vertical stratigraphy present.
- assess the associations and implications of any remains encountered with reference to the historic landscape.
- determine, as far as is possible, the implications of the remains with reference to economy, status, utility and social activity.
- determine or confirm the likely range, quality and quantity of the artefactual evidence present.

8.6.2 The field evaluation has established that there are archaeological remains, probably of a Late Iron Age/Early Roman date located in the west of the site with generally higher concentrations of Late Bronze Age/Early Iron Age activity identified in the east. A pit of Middle Iron age or Early/Middle Anglo-Saxon date was also encountered. There was some evidence of smithing of Late Iron Age/early Roman and Middle Iron age or Anglo-Saxon date encountered on site.

8.6.3 Apart from truncation caused by ploughing and occasional rooting the

archaeological remains appeared to be reasonably well preserved. A straightforward stratigraphic sequence was encountered with archaeological features cutting the natural horizon and sealed by subsoil deposits.

8.6.4 The encountered gully likely comprises an extension of the Romano-British settlement activity known from the surrounding area. Additional remains comprised a posthole(s) of Late Bronze Age/Early Iron Age date and pits of Early Iron Age and Middle Iron Age or Early/Middle Anglo-Saxon date. It is currently unclear whether these represent isolated remains or are part of more widespread activity. The posthole [4/009] may be part of a larger structure and could be contemporary with pit [4/019] close by.

8.7 Consideration of geoarchaeological research aims

8.7.1 The presence of Quaternary deposits was established across the entire site. These deposits lay between 0.40-3.10m and were not bottomed. The top of the sequence was slightly disturbed by ploughing, but otherwise remains as an intact sequence.

8.7.2 Below the topsoil, the Quaternary sequence comprised a dark orangey-brown gravel, which was slightly disturbed at the top, followed by a series of sand and gravel units, which was then underlain by a coarse gravel comprising sand (occasionally laminated) and large nodules of flint. The sand units were more predominant in the western end of the site, whilst the gravel units were more predominant in the east of the site. This sand and gravel sequence has been interpreted as being of fluvial origin and belonging to the Boyn Hill Gravel Formation, the 30.31m AOD height of which, corresponds to other Boyn Hill Gravel Formations in the local area (Gibbard, 1994). This formation, also referred to as the Orsett Heath Gravel, is the highest terrace aggradation in the Lower Thames Valley (Gibbard, 1994). This formation is thought to be deposited from Marine Isotope Stage (MIS) 12 to early MIS 10 (430,00-350,000 BP). The sands in particular could indicate a substantial period of temperate climate, which could be attributed to the MIS 11 interglacial.

8.7.3 An assessment of the Quaternary deposits has been made for palaeoenvironmental indicators; the gravels hold little to no potential for palaeoenvironmental remains, whilst the sands may have some potential. It may be possible that the sands hold palaeoenvironmental evidence such as foraminifera, ostracods, though no molluscs were visually observed on site. One sample <3> was taken to demonstrate the absence of molluscs in the sediment. No further palaeoenvironmental samples were taken at this stage, due to the fact that entrance into the test pits was not possible, and any samples taken from the spoil would be stratigraphically unreliable for such small proxies.

8.7.4 The Boyn Hill Gravel Formation has a long history of yielding significant Palaeolithic archaeology, including the early hominid (*Homo* cf *heildelbergensis*) Swanscombe Skull (Ovey 1964), discovered nearby in Swanscombe Village. There have been a large number of archaeological investigations regarding the Boyn Hill Gravels in the local area, many of which demonstrated deep sequences of fluvial sediments which produced a large array of both lithic and biological (birds, molluscs, fish, mammalian) artefacts

(e.g. Wenban-Smith and Bridgland, 2001).

8.7.5 The Quaternary sediments were sieved at Temple Hill for the recovery of artefacts and resulted in a small array of flint artefacts being discovered (Section 6.2), three of which are likely to be Palaeolithic. No biological artefacts were discovered during this evaluation. This sieving technique ensured that all sediments were systematically looked through, and as a result, an unbiased assemblage of artefacts was retrieved. The most significant artefacts recovered during this current evaluation, was a retouched flake cutting tool, which was retrieved from the lower gravels [Unit 4] of GTP1, and two flakes from the same lower gravels [Unit 4] of GTP4. This lower fluvial gravel is a disturbed/transported sediment, due to the fact that a high energy event deposited this unit. These lithic artefacts therefore do not have stratigraphic or chronological integrity, however it can be inferred that they are at least as old as the gravels they lie within. In this sense, these artefacts are of low significance, due to them not representing a short-lived episode of activity, however, such lithic evidence is complementary to undisturbed sites (Wenban-Smith and Bridgland, 2001). Artefacts were absent from the fluvial sands, which corresponds with other sites in the area (e.g. Wenban-Smith and Bridgland, 2001).

8.7.6 The future building works will involve an overall reduced level excavation and removal of topsoil, which is unlikely to impact on any Palaeolithic deposits. If the foundations of the new building go ahead as planned, to 1.25m in depth from existing ground level, this will impact on the top of the sequence of the Boyn Hill Gravels; namely Units 2, 3, 7, 8 and 9. No significant Palaeolithic artefacts were discovered in this part of the sequence, though there is potential for artefacts to be discovered in these units. However, there are two locations where soakaways are planned to be excavated down to c. 4m below the existing ground surface, which will have a great impact on the entire Boyn Hill Gravel Formation at these locations, and have the potential to uncover Palaeolithic artefacts and palaeoenvironmental material.

·8.7.7 The findings at Temple Hill School add further information about the nature of the Boyn Hill Gravels in the Lower Thames Quaternary, with particular interest in the reasonable depth and scope of sediments. More work is needed to fully establish the exact correlation of these sediments with the main Boyn Hill Formation of local sites. The small assemblage of artefacts recovered will not add a great deal to the current record of lithic artefacts within this formation, but are complimentary to other studies in the area.

8.8 Conclusions

8.8.1 The investigation has succeeded in identifying archaeological features in 3 of the 4 excavated trenches. Trench 2 which was devoid of features nevertheless produced residual finds dating to the prehistoric period, WW2 and possibly the Early/Middle Anglo-Saxon period.

8.8.2 Securely dated later prehistoric activity was encountered in Trench 4. The features' characters were hard to ascertain given the confines of the trenches but may be related to low density settlement activity comprising a structure and pitting.

8.8.3 A small gully of Late Iron Age/Early Roman date was identified in Trench 1 and may have formed part of a larger field system or boundary. It likely relates to Roman period activity known from the area.

8.8.4 The excavation of four geoarchaeological test pits was successful in characterising the Quaternary sediments of the site, and the sieving of these sediments successfully yielded a small assemblage of Palaeolithic artefacts within the fluvial gravel.

8.8.5 Groundworks associated with the school extension will have a negative impact on the archaeological remains. Remains of geoarchaeological significance will be impacted by deeper groundworks at the site comprising foundation trenches and soakaways. Foundation trenches have the potential to encounter disturbed Palaeolithic artefacts whereas the location of soakaways have potential to encounter Palaeolithic artefacts and palaeoenvironmental material.

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HER Summary

Site code	THS17					
Project code	170051					
Planning reference	KCC/DA/16/1372					
Site address	Temple Hill School, St. Edmund's Road, Dartford, Kent					
District/Borough	Dartford					
NGR (12 figures)	555159 174985					
Geology	Chalk overlain by Boyn Hill Gravels					
Fieldwork type	Eval					
Date of fieldwork	17/07/17 to 21/07/17					
Sponsor/client	Kier Group Developments					
Project manager	Jon Sygrave					
Project supervisor	John Hirst					
Period summary	Palaeolithic			Bronze Age	Iron Age	
	Roman	Anglo-Saxon				
Project summary **(100 word max)**	*Archaeology South-East (ASE) was commissioned by Kier Group Developments on behalf of Kent County Council (KCC) to undertake an archaeological evaluation in advance of a proposed extension to a school block at temple Hill School, Dartford, Kent.* *Four trenches were excavated to reveal archaeological features in 3 of the 4 trenches. The remaining trench encountered residual artefacts. The features dated from the late-prehistoric period, Roman period and possibly the Anglo-Saxon period. In addition four geoarchaeological test pits were undertaken which identified the Boyn Hill Gravel sequence. This yielded worked flint of Palaeolithic date.*					

Oasis Form

OASIS ID: archaeol6-292545

Project details

Project name	An Archaeological Evaluation at Temple Hill School, Dartford, Kent
Short description of the project	Archaeology South-East (ASE) was commissioned by KCC to undertake an archaeological evaluation in advance of a proposed extension to a school block at temple Hill School, Dartford, Kent. Four trenches were excavated to reveal archaeological features in 3 of the 4 trenches. Securely dated Late Bronze Age/Early Iron Age features were revealed in trench 4 to the east of site and a small gully of Late Iron Age/Early Roman date was identified in trench 1 to the west of site. A single pit in trench 3 contained five sherds from the same vessel although It is difficult to determine whether these sherds are of Middle Iron Age or Early/Middle Saxon date. Four geoarchaeological test pits were undertaken to identify significant archaeological deposits. The Boyn Hill Gravel sequence was of main interest and some units of this sequence yielded worked flint. There was variation in the distribution and thickness of deposits across the site and overall is a complex depositional sequence.
Project dates	Start: 17-07-2017 End: 21-07-2017
Previous/future work	No / Not known
Type of project	Field evaluation
Site status	None
Current Land use	Other 14 - Recreational usage

Project location

Country	England
Site location	KENT DARTFORD DARTFORD Templ Hill School
Postcode	DA1 5ND
Study area	0 Square metres
Site coordinates	TQ 5574 1096 50.87653889429 0.213936464816 50 52 35 N 000 12 50 E Point

Project creators

Name of Organisation	Archaeology South-East
Project design originator	Kent County Council
Project director/manager	JON SYGRAVE
Project supervisor	John Hirst

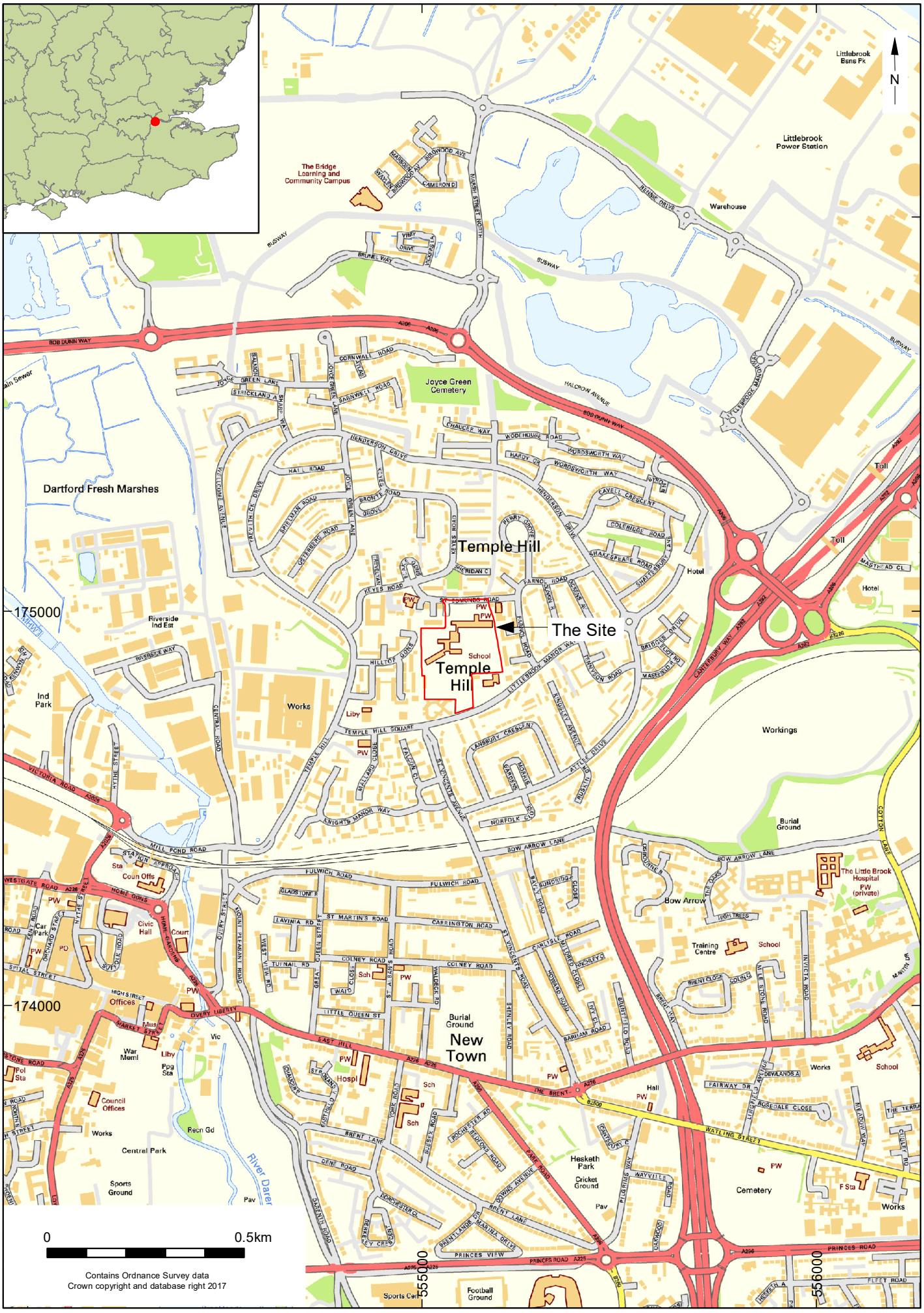
Project archives

Physical Contents	"Ceramics","Metal","Worked stone/lithics"
Digital Media available	"Geophysics","Images raster / digital photography","Survey"
Paper Media available	"Context sheet","Drawing","Photograph","Report","Section","Survey "

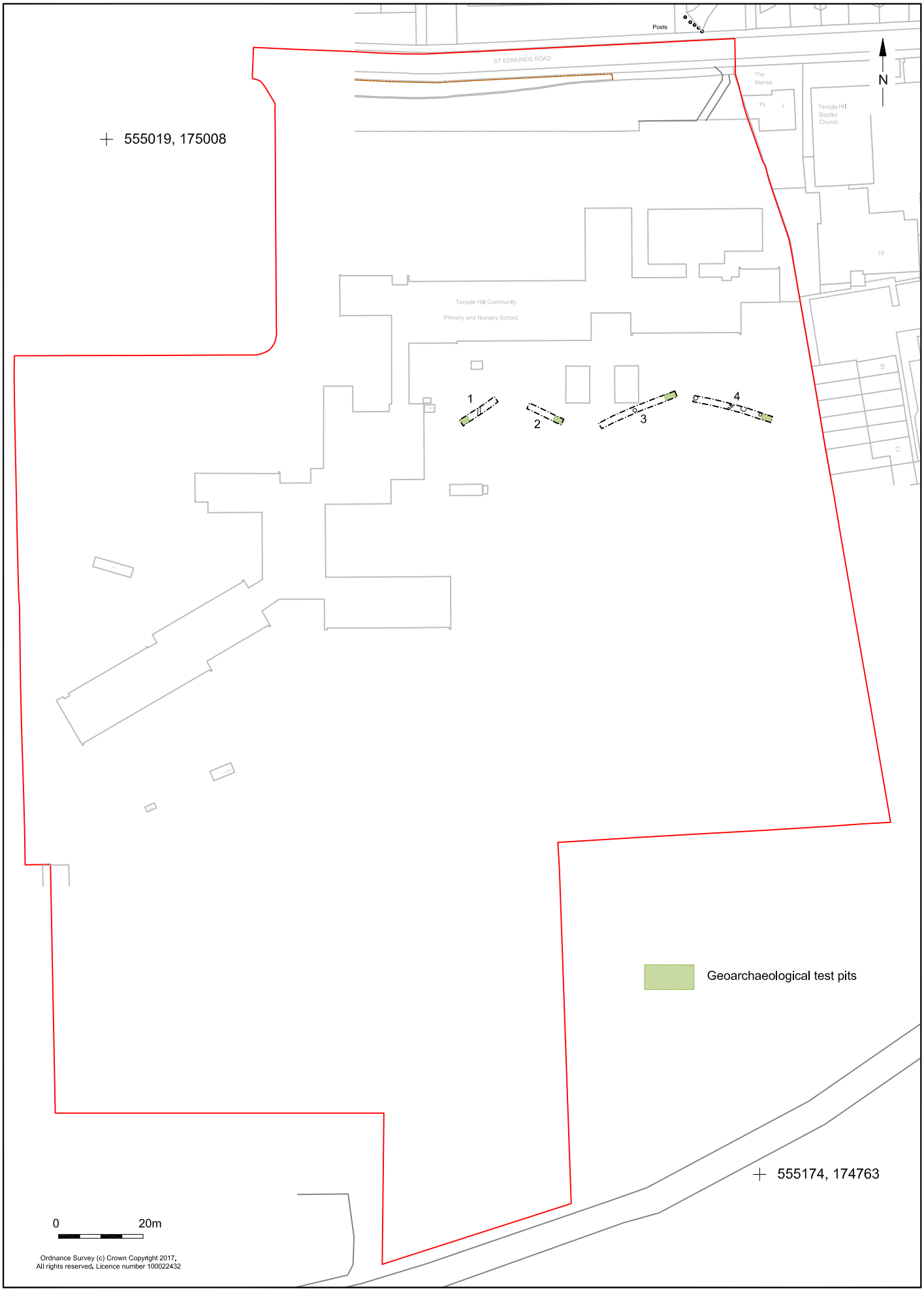
Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	An Archaeological Evaluation at Temple Hill School, Dartford, Kent
Author(s)/Editor(s)	Hirst, J.
Other bibliographic details	2017329

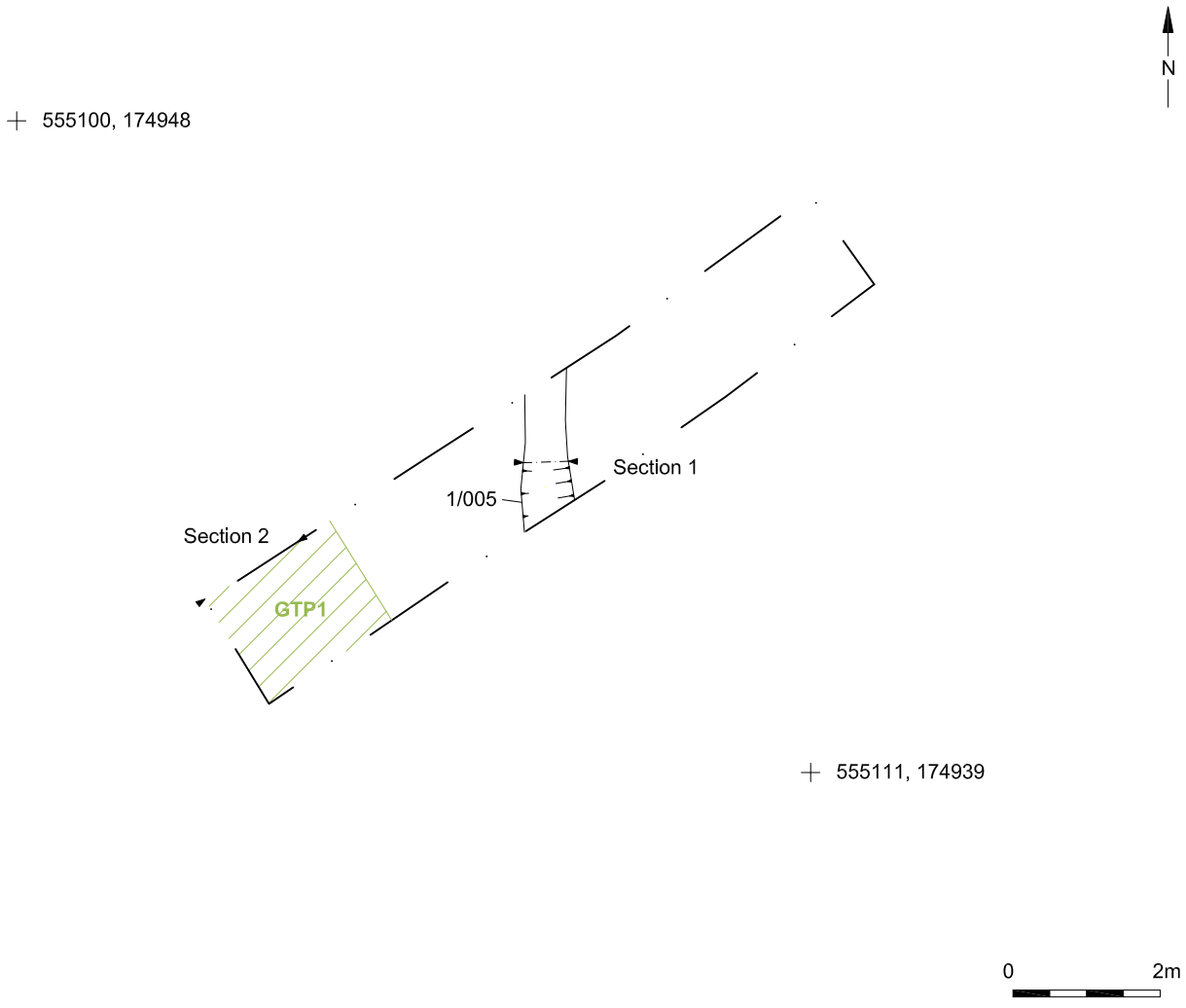
Entered by	John Hirst (j.hirst@ucl.ac.uk)
Entered on	10 August 2017



© Archaeology South-East		Temple Hill School, Dartford	Fig. 1
Project Ref: 170051	August 2017	Site location	
Report Ref: 2017329	Drawn by: LG		

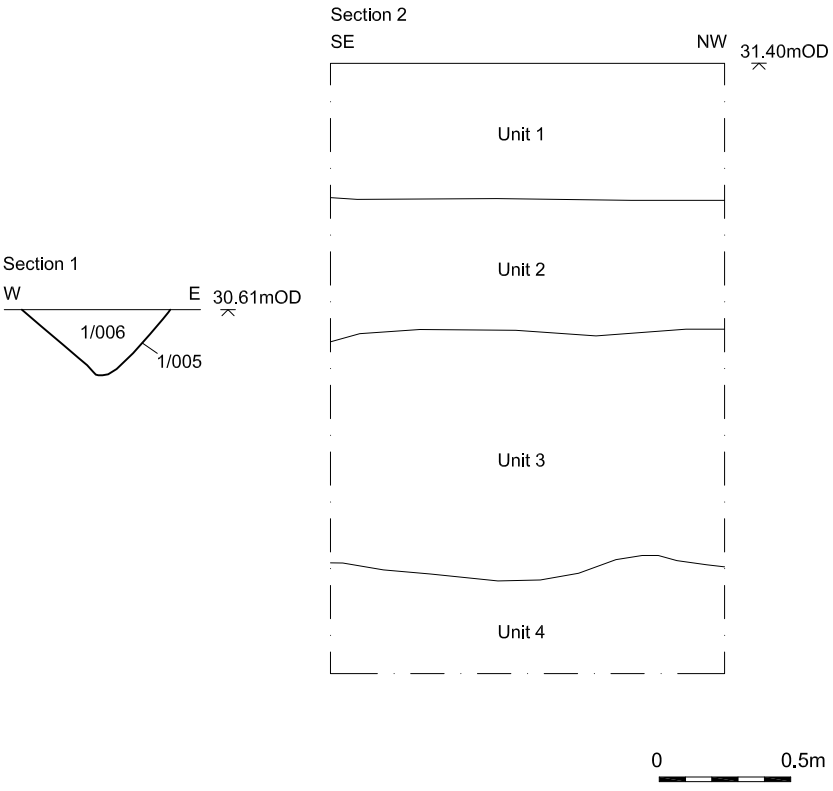


© Archaeology South-East		Temple Hill School, Dartford	Fig. 2
Project Ref: 170051	August 2017	Trench location	
Report Ref: 2017329	Drawn by: LG		



1/005 looking north

GTP1 looking north-west



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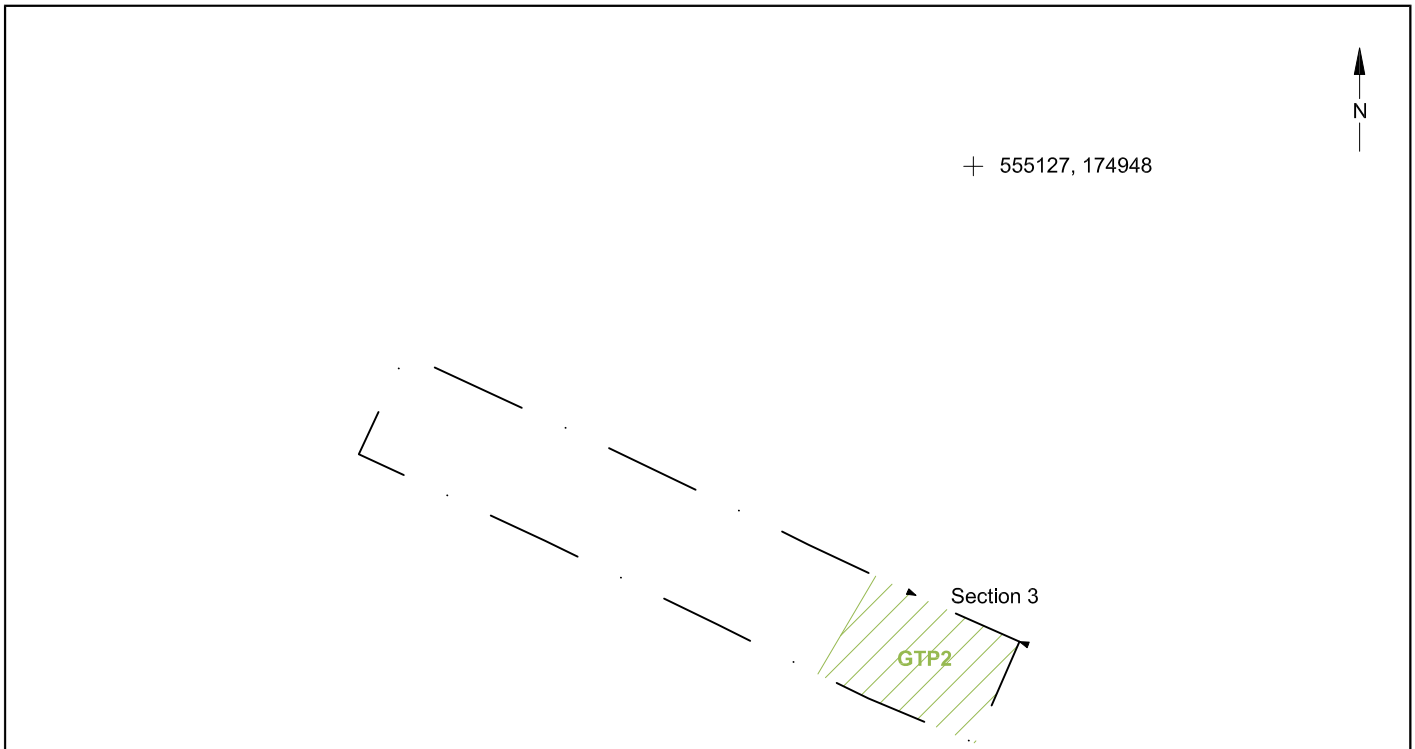
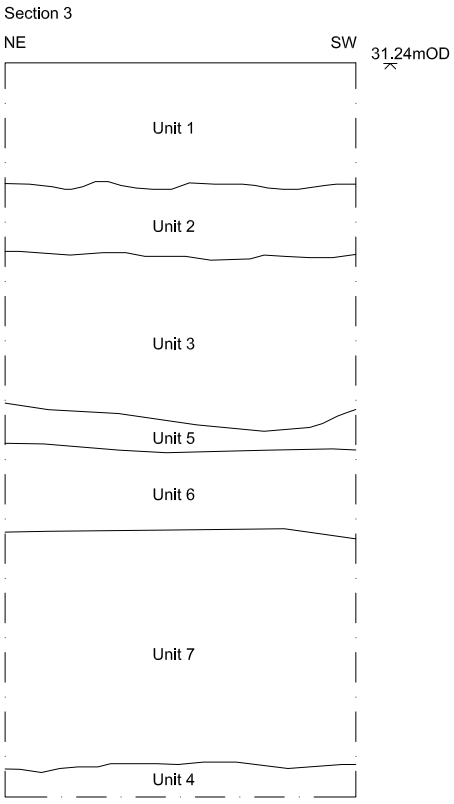
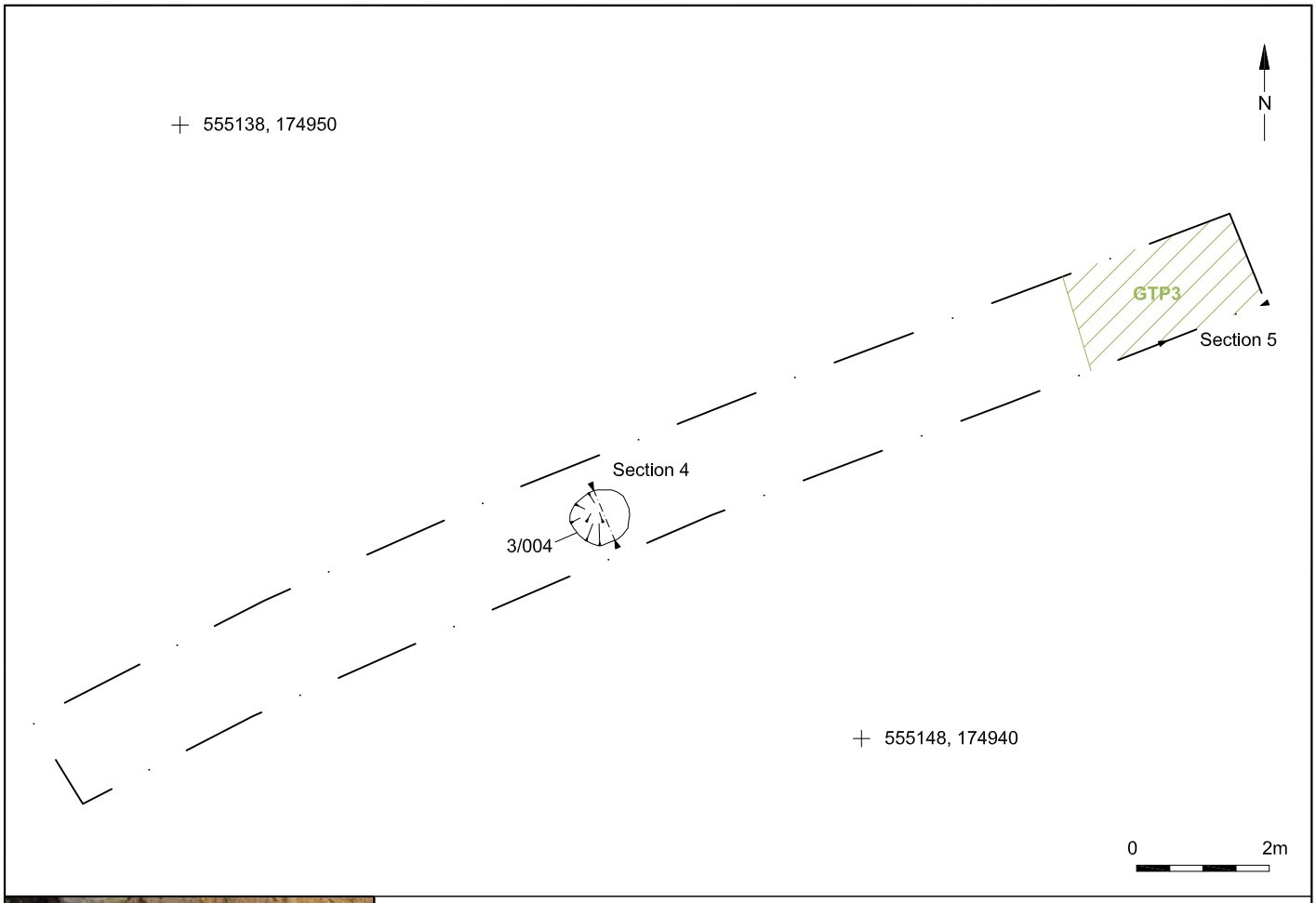
Project Ref: 170051	August 2017	Trench 1 plan, sections and photographs	
Report Ref: 2017329	Drawn by: LG		





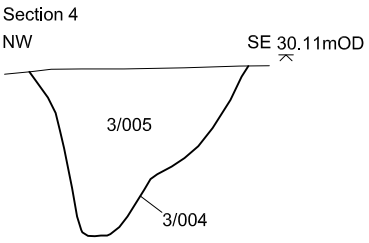
GTP2 looking north-east

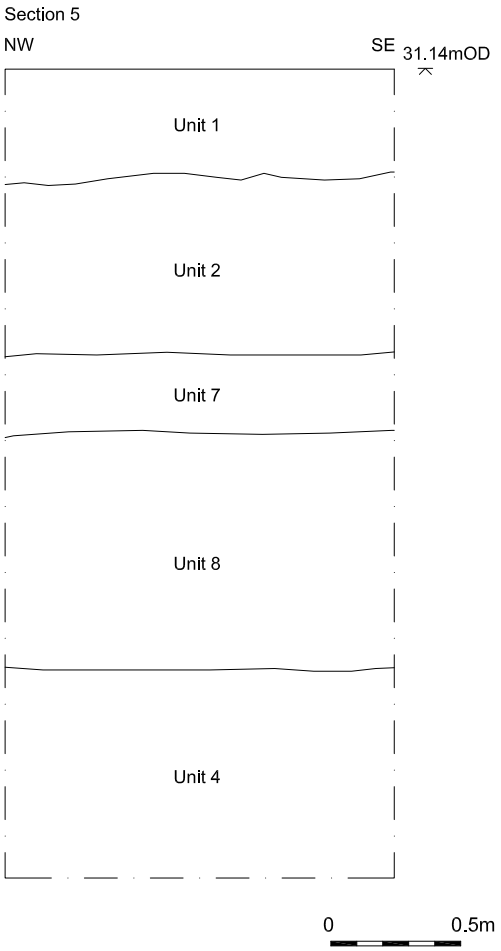
© Archaeology South-East		Temple Hill School, Dartford	Fig. 4
Project Ref: 170051	August 2017	Trench 2 plan, section and photograph	
Report Ref: 2017329	Drawn by: LG		



GTP3 looking south-east

3/004 looking north-east





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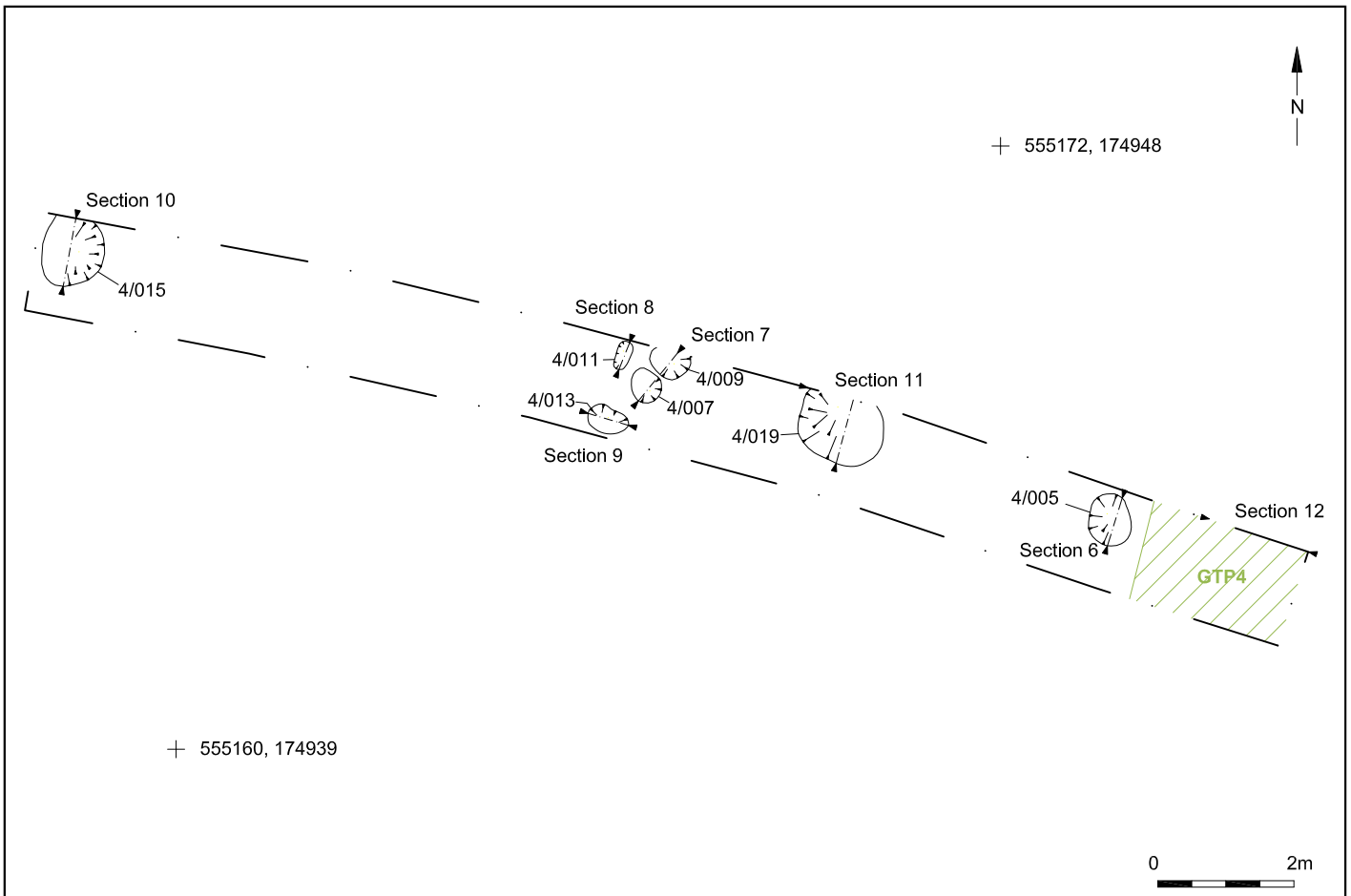
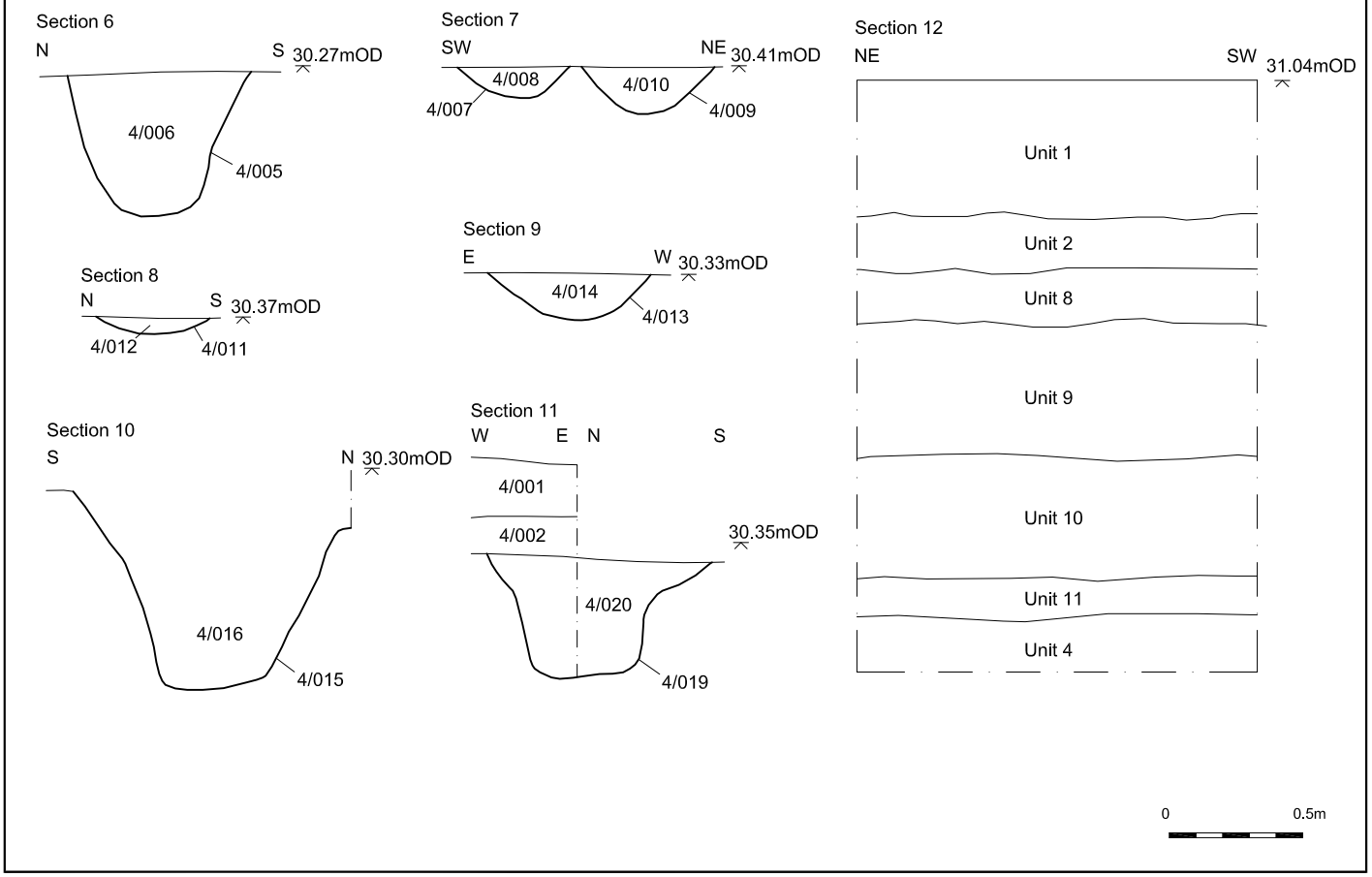
Project Ref: 170051	August 2017	Trench 3 plan, sections and photographs	
Report Ref: 2017329	Drawn by: LG		





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Project Ref: 170051	August 2017	Trench 4 plan and sections	
Report Ref: 2017329	Drawn by: LG		

4/005 looking south-east

4/007 and 4/009 looking north-west

4/011 looking south-east

4/013 looking south

4/015 looking west

4/019 looking north-east

GTP4 looking north-east

© Archaeology South-East		Temple Hill School, Dartford	Fig. 7
Project Ref: 170051	August 2017	Trench 4 photographs	
Report Ref: 2017329	Drawn by: LG		

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