

**LAND AT ORMISTON PARK  
ACADEMY, AVERLEY, ESSEX,  
RM15 4RU**

**AN ARCHAEOLOGICAL  
EVALUATION AND MONITORING  
EXERCISE**

**LOCAL PLANNING AUTHORITY:  
BOROUGH OF THURROCK**

**PCA REPORT NO: 11209**

**SITE CODE: EOPA12**

**APRIL 2012**



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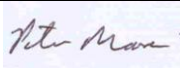
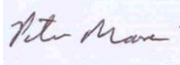
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RM15 4RU

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**Land at Ormiston Park Academy, Aveley, Essex, RM15 4RU**

**An Archaeological Evaluation and Monitoring Exercise**

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**Site Code:** EOPA12

**Local Planning Authority:** Thurrock Council

**Central National Grid Reference:** TQ 56573 80893

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**April 2012**

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## **1 ABSTRACT**

- 1.1.1 Pre-Construct Archaeology was commissioned by Balfour Beatty Construction to undertake an archaeological monitoring exercise and evaluation on land at Ormiston Park Academy, Aveley, Essex RM15 4RU in the Borough of Thurrock. The work was necessitated in advance of a planning application for the redevelopment of the school.
- 1.1.2 The monitoring exercise was conducted between the 15th and 22nd of March 2012 and involved the archaeological supervision of geotechnical investigations. These comprised ten trial pits, five boreholes and five window samples. The evaluation took place between the 2nd and 5th of April 2012 and consisted of seven trial trenches designed to investigate the archaeological potential of the site.
- 1.1.3 These ground works revealed that the naturally lain head deposits, comprised of variable amounts of sand and gravel mixed with substratal London Clay, did not contain any anthropogenic evidence and had undergone a degree of horizontal truncation, probably during the construction of the existing development. A layer of buried topsoil, which is likely to predate the establishment of the current school, was discovered in Trench 7. No other features of archaeological significance were discovered although several modern truncations relating to the extant premises were encountered.

## **2 INTRODUCTION**

- 2.1.1 An archaeological monitoring exercise and evaluation were undertaken by Pre-Construct Archaeology Limited on land at Ormiston Park Academy, Aveley, Essex RM15 4RU in advance of the proposed redevelopment of the school. The site is located within the Borough of Thurrock, a Unitary Authority within the County of Essex, and is centred at National Grid Reference TQ 56573 80893 (Figure 1).
- 2.1.2 Pre-Construct Archaeology Limited was commissioned for the work by Balfour Beatty Construction. Ramboll, the client's heritage consultants, had previously undertaken an archaeological desk-based assessment for the project (Ramboll 2011). A Method Statement for the monitoring exercise (Mayo 2012a) and a Written Scheme of Investigation for the evaluation (Mayo 2012b) have also been prepared by Pre-Construct Archaeology Limited and approved by the Local Planning Authority.
- 2.1.3 The site encompasses a broadly rectangular plot of land; its principal axis aligned east-west. It is presently occupied by the playing fields and buildings of Ormiston Park Academy. The school buildings occupy the westernmost third of the site and consist of a number of structures of post-war date. Tarmac football pitches and basketball courts comprise much of the central third of the site. This area also features a number of mobile classrooms, timber pagodas and a flat grassed area, surrounded on two sides by terracing, which overlooks the playing fields that occupy the easternmost third of the application site. The playing fields are laid out upon a gentle east-facing slope.
- 2.1.4 The monitoring exercise occurred between the 15th and 22nd of March 2012 and involved the archaeological supervision of geotechnical investigations conducted by Chelmer Site Investigations. The groundwork consisted of ten trial pits, five boreholes and five window samples. These were located between the school buildings and on the tarmac sports pitches and grassed areas of the westernmost and central thirds of the premises.
- 2.1.5 The evaluation was conducted between the 2nd and 5th of April 2012. Five trenches each measuring 25m by 1.8m and two trenches each measuring 15m by 1.8m were excavated within the grassed area and between the mobile classrooms that constitute the central third of the study site (Figure 2).
- 2.1.6 The purpose of the investigations was to determine the presence or absence of archaeological remains on the site and to assess the potential impact the planned development would have on such remains. The fieldwork was supervised by the author and project managed by Chris Mayo. Richard Havis, of Essex County Council's Historic Environment Management team, monitored the works on behalf of the Local Planning Authority.
- 2.1.7 The completed archive comprising written, drawn and photographic records will be deposited with the local repository, the Thurrock Museum, under the Site Code EOPA12.

### **3 PLANNING BACKGROUND**

#### **3.1 National Policy: Planning Policy Statement (PPS5) & National Planning Policy Framework (NPPF)**

3.1.1 The proposed development of the site is subject to planning guidance and policies contained within Planning Policy Statement 5 (now superseded by National Planning Policy Framework (NPPF), adopted on March 27 2012), by current Local Development Framework policy and by other material considerations.

#### **3.2 Archaeology in Thurrock, the Local Development Framework and the Thurrock Borough Local Plan 1997**

3.2.1 Thurrock Council is currently preparing the borough Local Development Framework (LDF), which will set out the spatial strategy, policies and proposals to guide the future development and use of land in Thurrock up to the year 2021. It will replace the adopted Thurrock Borough Local Plan (1997) which is the current statutory plan. Development of the site is subject to the following policies of the Local Plan, each of which has been 'saved' in accordance with Schedule 8 to the Planning and Compulsory Purchase Act 2004.

##### Sites of Archaeological Importance

Where important archaeological sites and monuments, whether scheduled or not, and their settings are affected by a proposed development, there will be a presumption in favour of their preservation *in situ*.

If there is evidence that archaeological remains may exist in the Local Plan area whose extent and importance are unknown, the Council may require developers to arrange for an archaeological field evaluation to be carried out before the planning application can be determined, thus enabling an informed and reasonable planning decision to be made. Where preservation is not possible or feasible, then the Council will not allow development to take place until satisfactory provision has been made for a programme of archaeological investigation and recording prior to the commencement of the development.

- The national importance of archaeological sites and the need for their conservation is underlined by the Department of the Environment's PPG16 - "Archaeology and Planning". Thurrock has a rich and diverse archaeological heritage. This reflects the area's favourable topography for settlement from the prehistoric period onwards. Not all remains or "monuments" are visible as structures or features above ground. Many remain intact below ground, and may only show when conditions are favourable e.g. crop marks.

- Only a small number of archaeological sites are protected as scheduled ancient monuments under the Ancient Monuments and Archaeological Areas Act 1979. The existing designated scheduled ancient monuments within the Borough are outlined in Appendix 2 and shown on the Proposals Map. The majority of sites elsewhere have no statutory protection and must rely on the sympathetic application of planning and management policies for their survival and protection. There are several hundred of these unscheduled monuments and sites which have been recorded in the Essex Sites and Monuments Record.
- Archaeological remains should be seen as a finite and non-renewable resource, in many cases highly fragile and vulnerable to damage and destruction. In particular, care must be taken to ensure that archaeological sites and monuments are not needlessly destroyed. The buried and often invisible nature of archaeological remains justifies a policy reinforcing the Council's right to require information from an applicant about the impact of a proposed development. This information, including the results of evaluation by fieldwork, is necessary to assess the potential impact of the development proposals.
- The Council will consult with the County Archaeological Officer on proposals for development likely to affect the site or setting of archaeological remains and will consider refusing planning permission in cases where developers do not seek to protect or accommodate archaeological remains.
- Taking decisions can be easier if any archaeological aspects of a particular site can be considered early on in the planning and development control process. Preliminary impact assessment will often already have been made from the Sites and Monuments Records, but additional information from fieldwork evaluation will often be needed for a fuller assessment which may be sufficient to refuse planning permission at this stage. Developers will be required, at an early stage, to submit a field evaluation, undertaken by a suitably qualified archaeologist. Such an evaluation should indicate the nature, extent and significance of the remains present and the extent to which the proposed development is likely to affect them.
- In all instances, it will be the Council's intention to ensure mitigation of the impact of development proposals on important archaeological remains and their settings. This may be achieved by, amongst other things, encouraging different designs, resiting, alternative foundation methods, or modifying proposals to increase physical preservation. Sometimes development will not be allowed to commence until as a last resort a programme of investigation and recording has been agreed and implemented.



- 3.2.2 Ormiston Park Academy is located in the southwest corner of the former Belhus Park, the centrepiece of an estate built up by the Barrett and Barrett-Lennard families since the late 15th century. Land surrounding Belhus House (c.1520) was emparked in 1619, and the park was remodelled by the landscape designers Lancelot 'Capability' Brown and Richard Woods during the second half of the 18th century on behalf of Thomas Barrett-Lennard, Lord Dacre. Although the estate was broken up following the sale of Belhus by the third baronet in 1923, the park is registered under the historic Buildings and Ancient Monuments Act 1953 within the Register of Historic Parks and Gardens by English Heritage for its special historic interest. The eastern half of the application site falls within the boundaries of the registered historic park (list entry number 1000738), which is listed Grade II.
- 3.2.3 Owing to its special historical interest, Belhus Park has also been designated as a Landscape of Local Importance in accordance with Policy LN3 of the 1997 Thurrock Local Plan.
- 3.2.4 There are no Scheduled Ancient Monuments or Listed Buildings within the boundaries of the application site. The 12th-15th century church of St Michael Aveley represents the sole Grade I Listed Building within the 1km radius of the study area; the late 13th century timber framed house of Kenningtons is Listed Grade II\*. There are a further seven Grade II Listed Buildings in the vicinity; these include Courts Farmhouse, the Crown and Anchor Hotel, 54, 56 and 74 High Street, Aveley, Park Corner House, Aveley Hall and the 18th century stench pipe of the sewerage system of the former Belhus House.

## **4 GEOLOGY AND TOPOGRAPHY**

### **4.1 Geology**

4.1.1 The Geological Survey of Great Britain 1:50 000 scale map of the area (Sheet 257 'Romford') reveals a complex picture of underlying drift geology across the application site. The extreme northwest corner of the site is underlain by an area of Black Park Gravel (a Quaternary Thames River Terrace deposit). Heading east, the main school buildings, tennis courts, all-weather pitches and grassed terrace are underlain by a head deposit of variable pebbly sandy clays. This deposit surrounds an outcrop of London Clay, which underlies much of the playing fields adjoining the northern boundary of the site. Beyond the easternmost extent of the head deposit lies an area of Lynch Hill Gravel (another Quaternary Thames River Terrace deposit) in the southeast corner of the site. These Quaternary deposits overlie Tertiary London Clay, which in turn overlies sandy clays of the Lambeth Group.

### **4.2 Topography**

4.2.1 The site is located on a plot of essentially flat ground with a gradual fall in height from west to east. Spot heights recorded along the length of the Shannon Way footpath, to the north of the site, indicate that there is a fall of approximately 8m from 30.8m OD to 22.9m OD.

4.2.2 A series of shallow terraces has been created to address the eastward-facing slope, presumably in advance of the construction of the schools in the mid-1950s. The westernmost terrace, located along the western edge of the site, can be seen at the entrance to the school. An area of flat ground is enclosed on three sides by terracing immediately to the east of the main school buildings, while a third terrace has been formed on a north-south alignment across the site immediately west of the now demolished Dacre County Primary School.

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## **5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND**

### **5.1 Introduction**

5.1.1 An 'Archaeological Desk Based Assessment' (Ramboll 2011) has been prepared for the site. The document made the following conclusions:

### **5.2 Prehistoric**

5.2.1 In the vicinity of the study area, the extraction of sand and gravel from river terrace deposits has revealed the skeletons of two complete straight-tusked elephants and one mammoth at Sandy Lane Quarry. At Ponds Farm, faunal evidence including several species of lion, giant deer and roe deer have been discovered. A flint handaxe was revealed at Moor Hall Farm during extraction of terrace gravels. While this find is unlikely to have been recovered from its original context, it suggests the presence of hunter-gathers in the area during the Palaeolithic period.

5.2.2 No archaeological evidence of either Mesolithic or Neolithic activity has been recorded in the study area.

5.2.3 Examples of Bronze Age field systems have been found to the southeast of the study area at Mucking. A substantial metalwork hoard has been discovered near Sandy Lane and a settlement site has been revealed at Hall's Pit, Sandy Lane. Numerous cropmarks have been identified within the study area. Residual Bronze Age pottery was found during the investigation of cropmarks in Belhus Park, close to a possible ring ditch that may represent a ploughed-out round barrow. A group of tumuli are shown on the 1959 Ordnance Survey map, although these may represent post-medieval features within the designed landscape of Belhus Park.

5.2.4 At Hall's Pit, Iron Age pottery suggests that the site continued to be used after the end of the Bronze Age. North of the possible ring ditch in Belhus Park two adjoining rectilinear enclosures were established during the Iron Age. Excavation of the westernmost enclosure revealed an Iron Age site, where despite the absence of evidence of buildings, large quantities of pottery and Late Pre-Roman Iron Age 'brick' were discovered. Neither site contained confirmed evidence of late Iron Age habitation, suggesting that there may have been farming settlements elsewhere in the vicinity during the period.

### **5.3 Roman**

5.3.1 Roman pottery was discovered at Hall's Pit, although no confirmed evidence of settlement dating to the period was discovered. Excavation of the western enclosure at Belhus Park revealed several phases of Romano-British ditches which may form part of a rectilinear field system.

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5.3.2 Although no direct evidence of Romano-British habitation has been discovered in the study area, the presence of reused Roman bricks in the walls of the medieval parish church of St Michael indicate that there is likely to have been a relatively high status building in the vicinity. Further indications of possible high status Roman settlement include an early 3rd century coin discovered in Aveley High Street and a Roman glass unguent bottle found near Park Lane, close to the eastern boundary of the application site.

5.3.3 The archaeological data suggests that the site of the proposed development was part of a managed agricultural landscape in the hinterland of an unidentified Romano-British settlement in the vicinity of present-day Aveley.

## **5.4 Medieval**

5.4.1 Archaeological excavations on the Thames gravel terraces in Essex have revealed numerous Saxon settlements. The most notable of these was that at nearby Mucking. It is likely that the easily cultivated geologies of the study area also attracted these early settlers, and fragments of possible Saxon pottery at Hall's Pit along with the discovery of a shield close to the same site suggest that there may have been a Saxon presence in the vicinity.

5.4.2 By the end of the Saxon period, a complex arrangement of spatial divisions had developed in the county. The Domesday Book records that three estates held land in Aveley and four in Kenningtons. The Kenningtons estates, which occupied the northeast and northwest corners of the medieval parish of Aveley, contained a mixture of woodland, pasture and arable land. While these supported substantial numbers of pigs, sheep and cattle, the Aveley estates comprised mainly arable land. Evidence of medieval meadow grazing land has been discovered north of Mar Dyke Farm.

5.4.3 The most significant manor in the district grew from an estate which emerged in the 14th century. The manor of Belhus acquired its name from the Belhus family of Ramsden Bellhouse, who originally settled at Aveley in the 1320s. The manor was subsequently divided between Thomas Belhus' two daughters, one of who married John Barrett, to whom the property descended in the 1390s. In 1458 the manor was reunited by Robert Barrett, who was succeeded by his son John. Between 1495 and his death in 1526, John Barrett acquired a succession of farms in the district and rebuilt Belhus manor house.

## **5.5 Post Medieval**

5.5.1 By the end of the medieval period, Aveley was a relatively prosperous village and continued to expand throughout the 17th century. By the late 18th century a post mill stood a short distance to the south of the site in Mill Field. Although wealthy local villagers continued to build new houses in the 18th century, after 1700 the village appears to have grown at a much slower pace than it had during previous centuries. The principal reason for this appears to have been the Belhus estate, which increasingly formed a physical barrier to the expansion of the village.

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- 5.5.2 The successors of John Barrett continued to enlarge the estate and in 1618, John Barrett's descendant, Sir Edward Barrett, obtained a licence to make a park around Belhus House. An estate plan produced in 1619 shows the extent of the park, at the centre of which stood the house, surrounded by formal walled gardens and an avenue of trees heading south from the gatehouse. Park Lane, which forms the eastern boundary of the application site, intersected Sandy Lane (which formed the southern boundary of both the estate and of the present application site) at a crossroads which formed a distinctive triangle of land that is preserved in the southeastern corner of the application site. A post-medieval boundary ditch was discovered during an excavation conducted on the southern boundary of the sports grounds to the west of the application site.
- 5.5.3 In 1725, Lord Dacre inherited the family estates and set about making alterations to the house in the 1740s. Dacre then turned his attention to the formal gardens that surrounded his property, demolishing the surrounding wall before ploughing the gardens to extend the park's grassland up to the sides of the house. Lancelot 'Capability' Brown was engaged as a consultant, providing advice for the landscaping of the park and corresponding with Dacre until the mid-1770s.
- 5.5.4 Chapman and André's map of Essex, surveyed in 1773-4 shows that the formally planted trees which had stood in the application site had been removed and a new carriageway had been constructed, heading southwest from Belhus House. The carriageway joined what is now the pedestrian extension of Shannon Way, which forms the north boundary of the application site, before passing through the northwest corner of the site, now occupied by school buildings. The drive is shown as being lined with a double avenue of trees on an untitled map of the area published in 1780.
- 5.5.5 The tithe apportionment of 1842 indicates that the application site was part of a plot named 'Long Field', described as arable land. The apportionment of 1866 shows that the field had been let to local tenant farmer, Walter Joslin. The southern boundary of Long Field can be seen to be lined with trees in the First Edition Ordnance Survey map of 1869-73. The Second Edition of 1897 and the Third Edition map of 1920 both show isolated trees standing in the field, at least two of which appear to have been surrounded by fences, presumably in order to prevent livestock from grazing from them, suggesting that while still parkland, the field was used as pasture.
- 5.5.6 In 1919, the estate passed to Sir Thomas, who put the contents of Belhus House up for auction in 1923, following which the estate was broken up. In 1937 Essex County Council purchased 600 acres of the estate for use as part of the metropolitan Green Belt, while the house was requisitioned by the War Office for use as a military hospital during the Second World War. The house was apparently bomb-damaged during the war and abandoned thereafter. It was subsequently acquired by the London County Council and demolished in 1957. The application site appears substantially unchanged on the Provisional Edition Ordnance Survey map of 1939.

5.5.7 The LCC had acquired the remainder of Belhus Park for development by 1948, when construction began of more than 5,000 new homes for residents relocated from north and northeast London. In 1955 the Local Education Authority announced its intention to build two new schools on the estate; a County Technical School for secondary school age children and a County Primary School. Both schools were built in the western half of the application site, with access to the secondary school gained via an entrance in Nethan Drive and to the primary school via an entrance on Shannon Way. The schools opened in 1957. Less than five years after the opening of the Dacre Primary School, the LEA announced that it was to be closed in 1962. The school buildings were subsequently used to teach children with special educational needs until the redundant buildings were pulled down in 1975. Aveley County Technical High School has continued to teach local secondary school age children under a variety of names over the last four decades, and has held academy status since 2009.

## 6 ARCHAEOLOGICAL METHODOLOGY

6.1.1 As outlined in the Written Scheme of Investigation (Mayo 2012b), the evaluation trenches were designed in order to assess the following research objectives:

- To determine the palaeotopography of the site.
- To determine the presence or absence of prehistoric activity.
- To determine the presence or absence of Roman activity.
- To determine the presence or absence of medieval activity.
- To determine the presence or absence of post-medieval activity.
- To establish the extent of past post-depositional impacts on the archaeological resource.

6.1.2 The evaluation consisted of seven spatially dispersed trenches, spread as evenly as possible across the logistically accessible areas of the site. The trench dimensions were as follows:

<i>Trench</i>	<i>Length</i>	<i>Width</i>	<i>Max Depth</i>	<i>Orientation</i>	<i>Upper surface level of Trench</i>
<i>1</i>	<i>15.00m</i>	<i>1.80m</i>	<i>0.69m</i>	<i>E-W</i>	<i>27.15m OD</i>
<i>2</i>	<i>25.00m</i>	<i>1.80m</i>	<i>0.36m</i>	<i>NE-SW</i>	<i>28.82m OD</i>
<i>3</i>	<i>25.00m</i>	<i>1.80m</i>	<i>0.22m</i>	<i>NNE-SSW</i>	<i>28.70m OD</i>
<i>4</i>	<i>25.00m</i>	<i>1.80m</i>	<i>0.32m</i>	<i>NNE-SSW</i>	<i>27.74m OD</i>
<i>5</i>	<i>25.00m</i>	<i>1.80m</i>	<i>0.36m</i>	<i>N-S</i>	<i>27.06m OD</i>
<i>6</i>	<i>25.00m</i>	<i>1.80m</i>	<i>0.27m</i>	<i>E-W</i>	<i>26.50m OD</i>
<i>7</i>	<i>15.00m</i>	<i>1.80m</i>	<i>0.77m</i>	<i>E-W</i>	<i>27.14m OD</i>

6.1.3 Prior to excavation the position of each trench was located with a Global Positioning System (GPS). The trench perimeter was then marked using survey spray paint and the area scanned using a cable avoidance tool (CAT).

6.1.4 The trenches were opened with a 180° wheeled mechanical excavator, fitted with a flat-bladed ditching bucket, under archaeological supervision. Excavation by machine was undertaken in spits until significant archaeological horizons or natural geology was reached.

6.1.5 The sides and bases of the trenches were hand cleaned prior to recording.

6.1.6 In Trenches 02, 03, 05 and 06, small test pits were machine excavated into the natural geology, under the supervision of an attendant geoarchaeologist, with the purpose of assessing the sub-surface stratigraphy and to highlight deposits of potential palaeoenvironmental and Palaeolithic significance. These test pits were examined and then immediately backfilled, due to health and safety concerns.

- 6.1.7 All recording systems adopted during the investigations were fully compatible with those developed out of the Department of Urban Archaeology Site Manual, now published by Museum of London Archaeology (1994). Individual descriptions of all archaeological and geological strata and features encountered were entered onto pro-forma recording sheets.
- 6.1.8 The location and extent of all archaeological and geological deposits were recorded with the GPS. Sections were drawn at a scale of 1:20 on polyester based drawing film. The OD heights of all principle strata were calculated using GPS and indicated on the appropriate paperwork. A digital photographic record was compiled. The trenches were located using GPS and tied into the Ordnance Survey grid.



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## 7 ARCHAEOLOGICAL PHASE DISCUSSION

### 7.1 Phase 1: Natural

7.1.1 The earliest deposit encountered on site was London Clay [01], a firm to very stiff, mid orange brown to dark grey, silty clay. This was observed in the boreholes and window samples during the monitoring exercise and in the geoarchaeological test pits during the evaluation. The geotechnical trial pits and archaeological trenches did not penetrate to a sufficient depth to expose the layer. The upper interface of this layer was extremely irregular and varied in height from a maximum of 27.01m OD in Trench 03, to a minimum of 23.35m OD in Window Sample 05. The deposit's maximum thickness was recorded as being greater than 18.10m in Borehole 04. The sandy clays of the Lambeth Group were not encountered and it can be expected that the London Clay is considerably thicker than observed.

7.1.2 Overlying the London Clay [01], was a layer of Head deposit [02], composed of loose to stiff, mid orange brown, variable gravelly sandy clays. Its consistency varied from slightly clayey, sands and gravels, to slightly sandy, silty clays depending on the degree to which it had mixed with the underlying London Clay [01]. The thickness of the layer ranged from a maximum of 3.65m in Window Sample 04, to 0.50m in Borehole 01. The height of the Head deposit was recorded at a maximum 30.86m OD in the geotechnical Trial Pit 06, and a minimum of 25.70m OD in Borehole 03. Across the majority of the site, the upper surface of this layer appears to have been artificially reduced. The original, untruncated surface height seems to have been preserved in Trench 07, where it is recorded as 26.23m OD to 26.37m OD and is overlain by a buried topsoil [03]. This is likely to reflect an unrepresentatively low area, which did not require truncation during terracing.

### 7.2 Phase 2: Post-Medieval

7.2.1 The buried topsoil [03] encountered in Trench 07 was a firmly compacted, mid to dark, grey brown sandy silt, which contained small fragments of peg tile and is likely to date from the 19<sup>th</sup> or early 20<sup>th</sup> century. It was overlain by a layer of redeposited natural, presumably removed from a higher area of site during the terracing of the property.

7.2.2 Substantial truncations relating to the construction of the two schools in the 1950s were discovered in several of the trenches. In Trench 01, concrete pile foundations of the demolished Dacre County Primary School and a layer of made ground 0.69m thick, presumably filling a truncation, were encountered. Vertical sided linear features, which contained modern brick manufactured by the London Brick Company, were recorded in Trench 04 and Trench 05. These appear likely to have formed the construction cuts of demolished walls. In Borehole 01 and geotechnical Trial Pit 04 foundations of crushed brick and gravel up to 1.70m thick were identified underlying the tarmac sports pitches.

7.2.3 A modern, gravel-filled service trench was discovered in Trench 03, along with a small posthole, which contained modern refuse. In Trench 03 and Trench 06, four square tree planting pits, several of which still contained roots and supporting stakes, were found. These were aligned with the surviving trees situated to the north of the mobile classrooms, and appear to have extended the existing row of trees to a contiguous line around the northern, western and southern edges of the terraced grass area. In Trench 06, the planting pits were associated with small, gravel-filled cuts, which can be assumed to have provided drainage for the trees.

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## 8 INTERPRETATIONS AND CONCLUSIONS

8.1.1 The principal objectives of the archaeological evaluation were to establish whether there were any significant archaeological deposits at the site that may be affected by the proposed development. It sought:

- **To determine the palaeotopography of the site.**
- **To determine the presence or absence of prehistoric activity.**
- **To determine the presence or absence of Roman activity.**
- **To determine the presence or absence of medieval activity.**
- **To determine the presence or absence of post-medieval activity.**
- **To establish the extent of past post-depositional impacts on the archaeological resource.**

8.1.2 The Palaeolithic period in Britain was characterised by alternating glaciations and temperate interglacial periods. The advancing ice sheet diverted the River Thames southward. During subsequent interglacial periods meltwaters deposited spreads of gravel along the course of the new alignment of the river, creating a sequence of gravel terraces. These deposits have proved to be a particularly rich source of artefactual and palaeoenvironmental evidence of the Palaeolithic period.

8.1.3 The site is located on a plot of ground with a gradual fall in height from west to east. This formed a bluff between a terrace of Black Park Gravel in the northwest corner of the site and a terrace of Lynch Hill Gravel in the southeast corner of the site. The bluff, scoured by the migrating river, has exposed the underlying bedrock of Ypresian London Clay. This sequence has been overlain by sand and gravel, derived from Orsett Heath Gravel to the west of the site, redeposited by mass movement downslope over time. With this geomorphic process, the sand and gravel has become mixed with the substratal London Clay to varying degrees, forming head deposits which have involuted upon the bedrock to rest in shallow basins.

8.1.4 Although Palaeolithic artefacts are known locally from the Thames River Terrace Gravels, as no *in-situ* terrace gravels were encountered, any artefacts recovered would be so far removed from their primary depositional context that they would likely be of little value. Similarly, no deposits with palaeoenvironmental potential were recorded.

8.1.5 No anthropogenic activity prior to the late post-medieval period was found during either the geotechnical monitoring exercise or evaluation.

- 
- 8.1.6 The west of the site has been artificially landscaped, presumably in advance of the erection of the schools during the 1950s. A series of shallow terraces has been created to address the eastward-facing slope and provide a level platform on which to construct the educational facilities and associated sports amenities. A layer of buried topsoil, likely to date to the 19<sup>th</sup> or early 20<sup>th</sup> century, discovered to the south of the site, between the mobile classrooms, indicates that it was not necessary to horizontally truncate the site in its entirety. Lower lying areas appear to have been left *in-situ* and levelled by the addition of a layer of material which had been removed from elsewhere.
- 8.1.7 In addition to this terracing, large truncations relating to the construction of the schools were discovered. The location of the former Dacre County Primary School buildings appears to have been substantially truncated, and several of the concrete piles which formed its foundation were encountered. It can be assumed that a comparable degree of truncation and piling is likely to extend across the entirety of the demolished building's footprint.
- 8.1.8 Another large truncation was revealed to exist beneath the tarmac sports pitches. This had been filled with layers gravel and brick rubble in order to provide a suitably consolidated foundation. The truncation's basal silty clays contained fragments of modern building materials and appeared to have been disturbed to an even greater depth.
- 8.1.9 Two vertical sided linear features containing modern brick were discovered. These appear to be orientated on the same alignment as the Dacre Primary School and are likely to represent the position of external walls relating to the premises.
- 8.1.10 Smaller scale, discrete truncations were also identified. These included a gravel filled service trench, a posthole, field drains and four tree planting pits aligned in a row contiguous with the trees situated to the north of the mobile classrooms. All appeared to be of recent origin and are presumably associated with the current academy.
- 8.1.11 Terracing of the natural gradient and the construction of the schools are likely to have had a severely detrimental post-depositional impact on any archaeology. All except the deepest archaeological features would be obliterated by horizontal truncation on such a scale. The discovery of a topsoil layer which predates the schools' establishment, suggests that the survival of archaeological features and deposits in isolated low-lying pockets cannot be definitely ruled out. However, given the area's usage as parkland and pasture for the majority of the historical period, the probability appears remote. The geology of the site is also likely to restrict Palaeolithic artefacts and palaeoenvironmental evidence to desultory, unstratified examples.

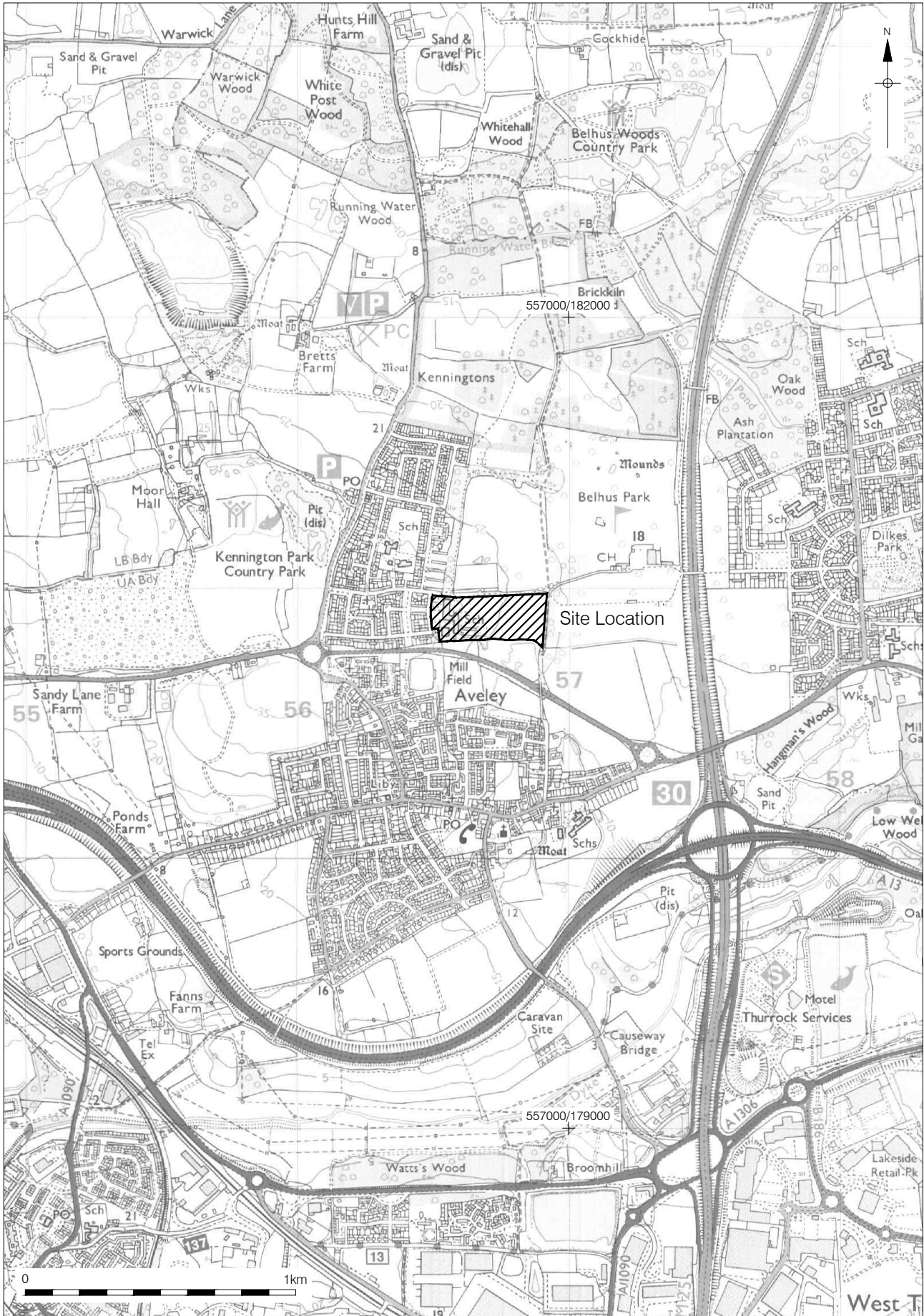
## **9 ACKNOWLEDGEMENTS**

Pre-Construct Archaeology would like to thank Clive Hancock of Balfour Beatty Construction for commissioning the work, Phil Emery of Ramboll for consultancy and Richard Havis of Essex County Council's Historic Environment Management team, for monitoring the work on behalf of the Local Planning Authority.

The author would like to thank the team from Chelmer Site Investigations, Chris Mayo for his project management and editing, Peter Allen of Quaternary Scientific for his geoarchaeological assistance, Guy Seddon for his field work, Jennifer Simonson for the illustrations, and Chris Cooper for logistical support.

## **10 BIBLIOGRAPHY**

- British Geological Society, 1996. Geological Survey of England and Wales Sheet 257, "Romford"
- Mayo, C 2012a. 'Ormiston Park Academy, Nethan Drive, Aveley, Essex RM15 4RU: Outline Method Statement & Recording Systems for Monitoring Geotechnical Investigations.' Pre-Construct Archaeology Limited, Unpublished Report.
- Mayo, C 2012b. 'Ormiston Park Academy, Nethan Drive, Aveley, Essex RM15 4RU: Written Scheme of Investigation for an Archaeological Evaluation.' Pre-Construct Archaeology Limited, Unpublished Report.
- Ramboll 2011. 'Archaeological Desk Based Assessment and Historic Landscape Assessment of Land at Ormiston Park Academy.' Ramboll, Unpublished Report.



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 20/04/12 JS

Figure 1  
 Site Location  
 1:20,000 at A4



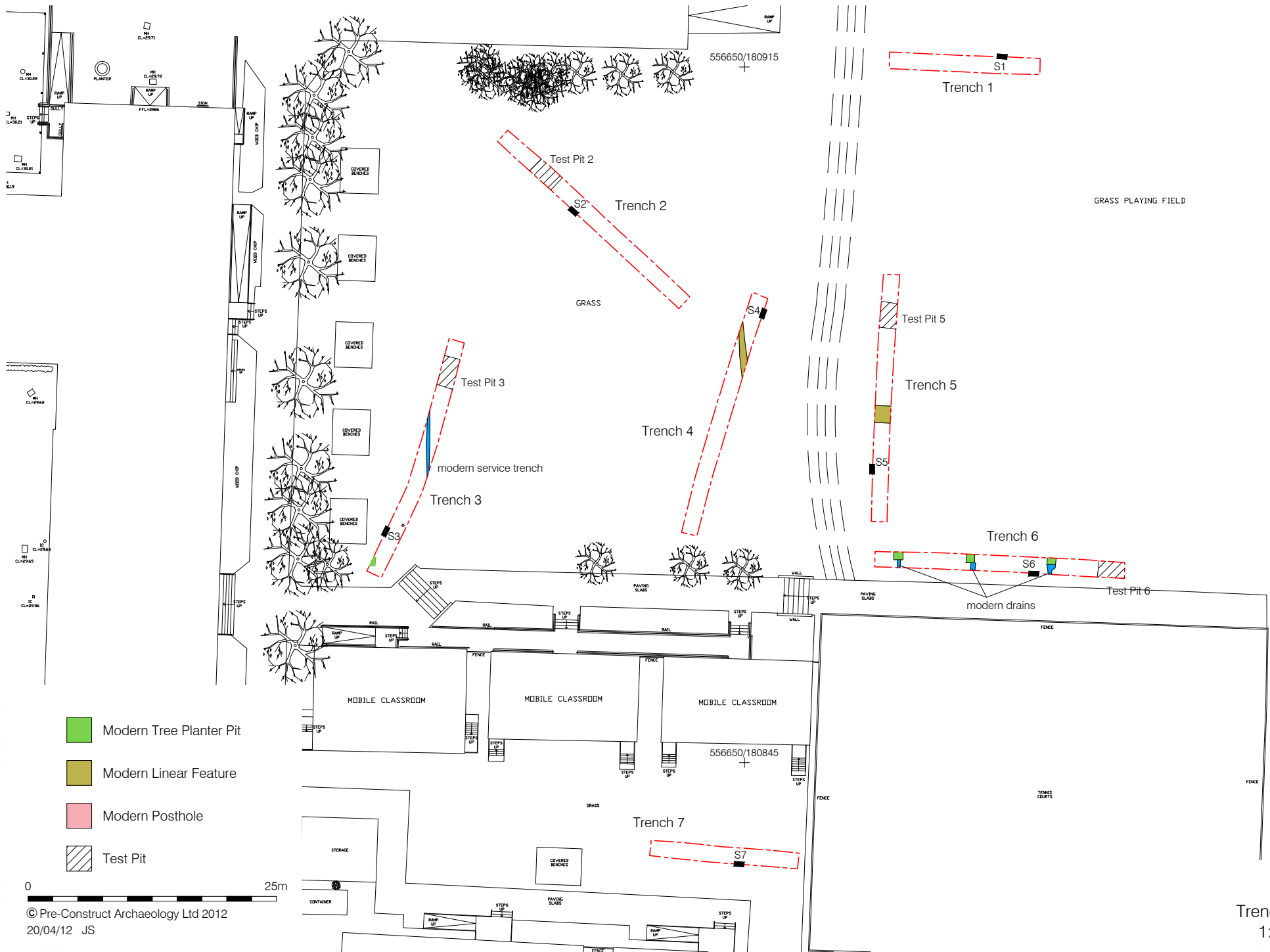
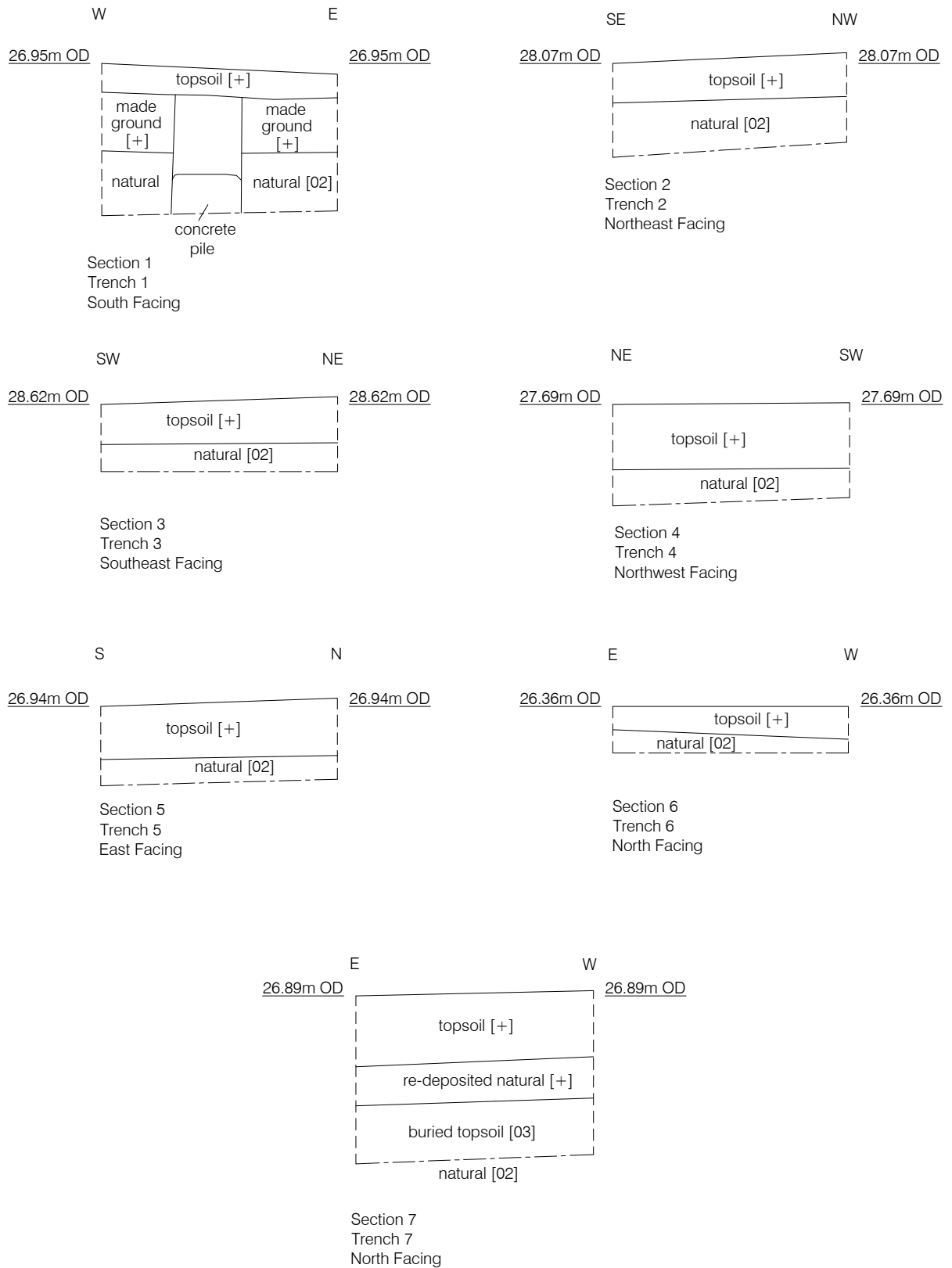


Figure 3  
Trenches 1 - 7  
1:500 at A4





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## **APPENDIX 1: GEOARCHAEOLOGICAL FIELDWORK REPORT**

P. Allen

Quaternary Scientific (QUEST), School of Human and Environmental Sciences, University of Reading, Whiteknights, PO Box 227, Reading, RG6 6AB, UK

### **INTRODUCTION**

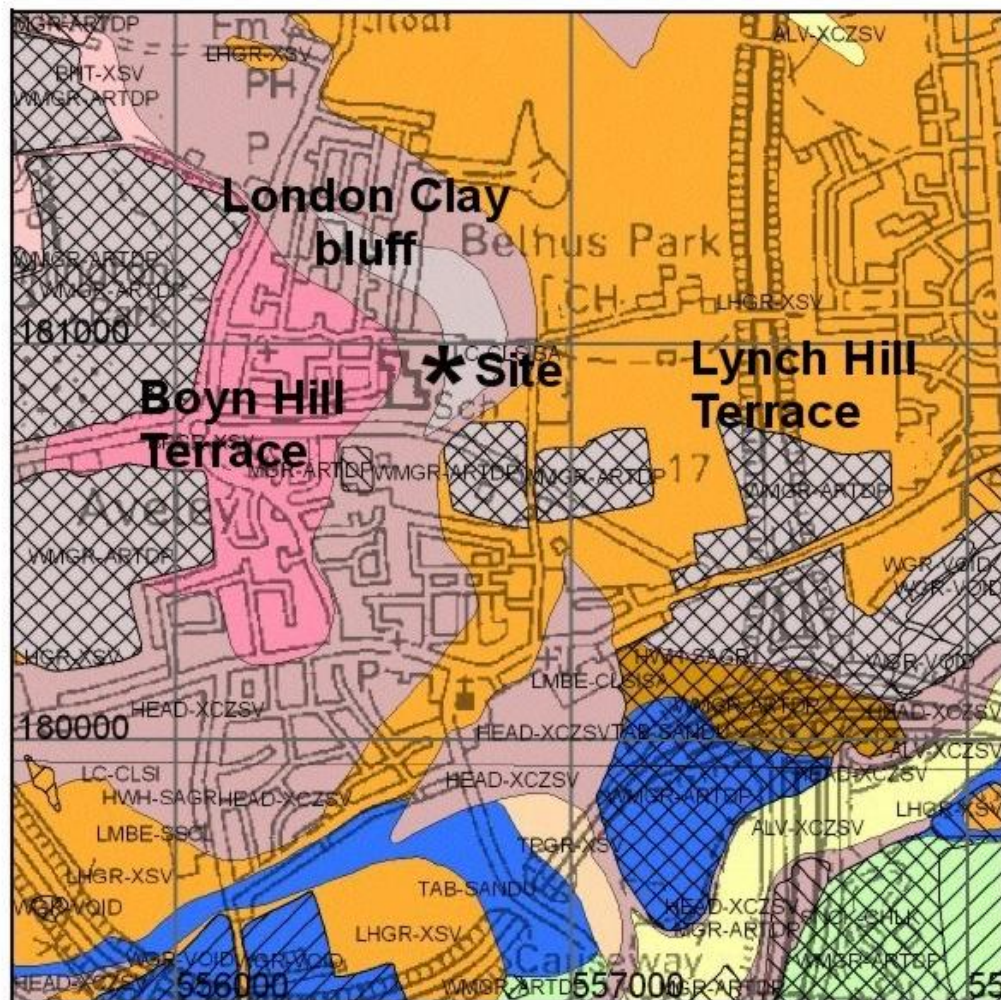
This report summarises the findings arising out of the geoarchaeological investigations undertaken by Quaternary Scientific (University of Reading) in connection with the proposed development at Ormiston Academy, Aveley, Essex following archaeological excavations on the site by Pre-Construct Archaeology. The main aim of the geoarchaeological investigations was to observe and interpret the sub-surface stratigraphy across the site and to highlight sediments of potential palaeoenvironmental and Palaeolithic significance.

### **GEOLOGICAL BACKGROUND**

The site lies on ground sloping down to the east which forms a bluff between the Orsett Heath Gravels of the Boyn Hill Terrace at ca. 30m OD and the Corbets Tey Gravel of the Lynch Hill Terrace at ca. 15m OD (Figures 1 and 2). There is an extensive geological literature on the area, summarised in some detail in Bridgland (1994) and Bridgland et al. (1995).

The bluff exposes the local bedrock, Eocene London Clay, overlain by Quaternary slope deposits (Head) which comprise varying amounts of sand and of gravel, derived from the Orsett Heath Gravel, mixed with London Clay.

The slope has been artificially landscaped so none of the ground surface heights is original. The highest point surveyed was at 28.93m OD at the western end of the site on top of an artificial slope cut into the original hillside. The bottom of the artificial slope was at 28.10m OD, from which there was a gentle slope to 27.73m OD at the eastern end of the site.



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Figure 1: Geology of Ormiston Academy locale (British Geological Survey)

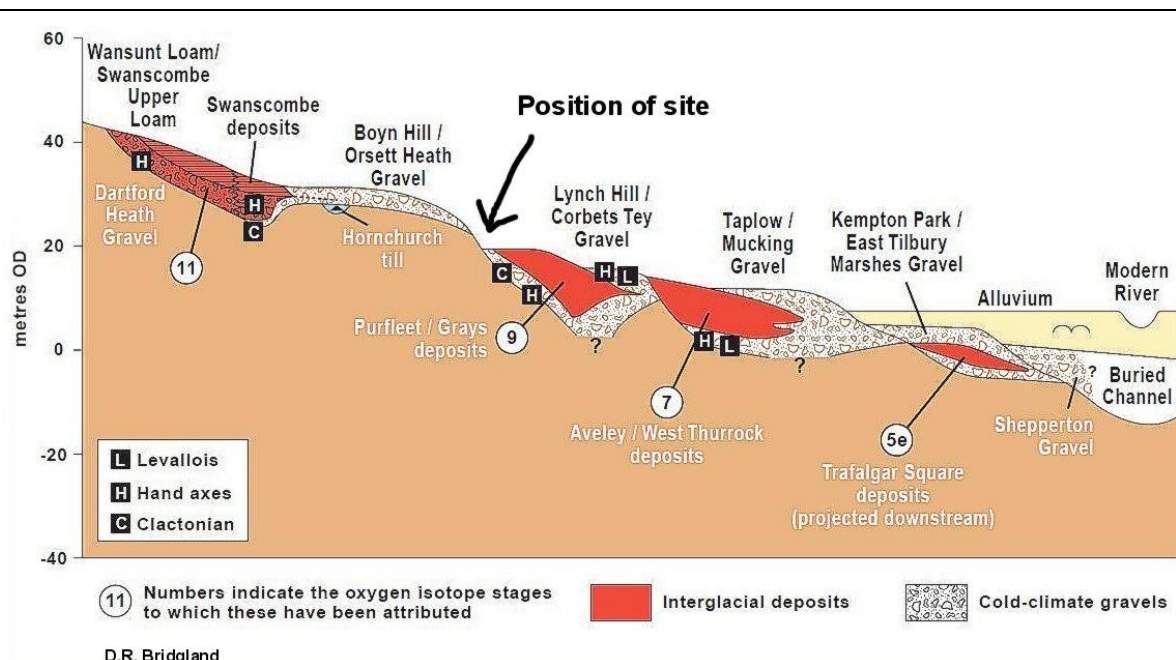


Figure 2: Location of Ormiston Academy site within Thames terrace sequence

## RESULTS AND INTERPRETATION OF THE FIELDWORK

Seven shallow archaeological trenches were inspected (Figure 3). Trenches 01, 04 and 07 showed only sandy clay and no significant amounts of gravel and so were not considered suitable for further investigation. Test pits were sunk in Trench 02 (north-west end), Trench 03 (north-east end), Trench 05 (north end) and Trench 06 (east end). Descriptions and photographs of these are presented in Tables 1 to 4 and Figures 4 to 7.

From these, the sub-surface material is shown to be head, varying from being a clayey sandy gravel or clayey gravelly sand (Trench 02, Trench 03, Trench 05) to clayey sand (Trench 06). In no case was terrace gravel, locally coarse sandy gravel with little or no clay, seen. Similar sedimentologies were in on-site records for 10 trial pits, 5 boreholes and 5 window samples supplied by Chelmer Site Investigations.

Whilst the head overlay the London Clay in a horizontal fashion in Trench 06, in the other trial pits, the sandy gravel rested in shallow basins in the London Clay. Sandy gravel, if resting on saturated London Clay, would sink into the Clay. This situation would be most likely in cold, periglacial conditions, forming structures described as involutions. In one instance, in Trench 03, part of the basal infill was less clayey possibly indicating a minor degree of water flow washing out the clayey component. Growth patterns of the vegetation in adjacent fields, determined from aerial photography on Google Earth, suggest such disturbance of the ground is common locally.

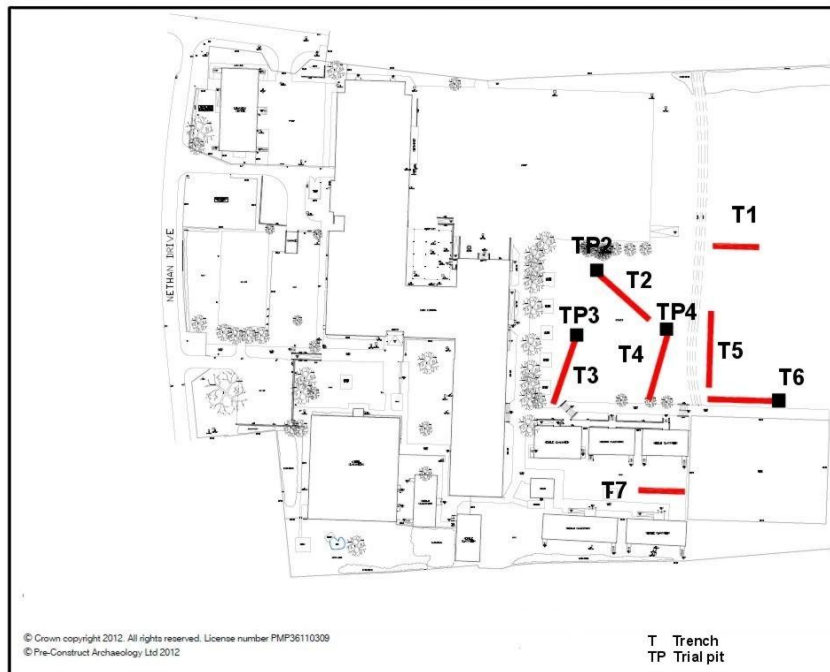


Figure 3: Locations of archaeological trenches and test pits, Ormiston Academy, Aveley, Essex

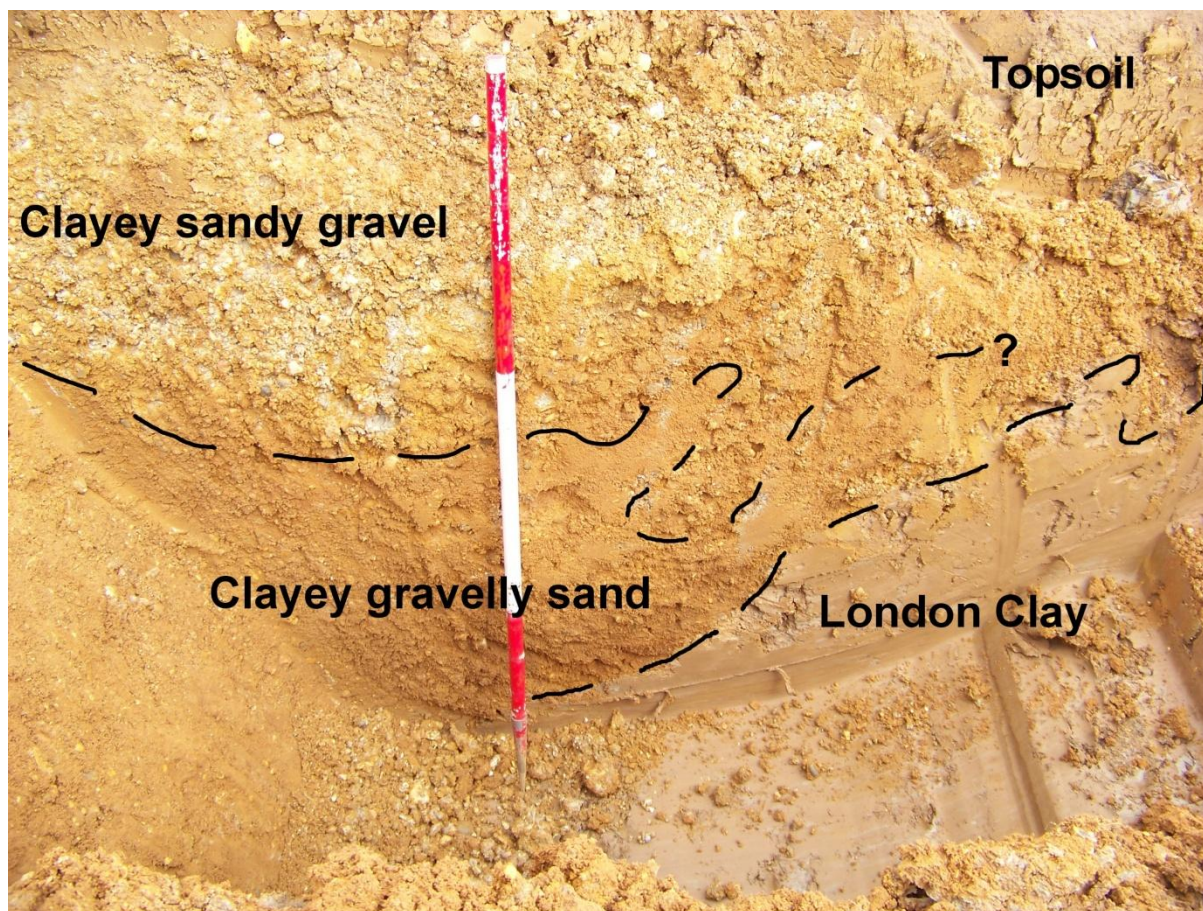


Figure 4: Test Pit 2, Ormiston Academy, Aveley, Essex

Table 1: Test Pit 2, Ormiston Academy, Aveley, Essex

Depth (m OD)	Depth (m BGS)	Thickness (m)	Lithology
28.58	0.0		Ground surface
28.58 to 28.28	0.0 to 0.3	0.3	Topsoil
28.28 to 27.68	0.3 to 0.9	0.6	Clayey sandy gravel, clasts closely packed 2.5Y6/2 (light yellowish brown) + 7.5YR5/8 (strong brown). Irregular interface with bed below
27.68 to 26.83	0.9 to 1.75	0.85	Gravelly sand, clasts dispersed (floating fabric) Basinal interface with London Clay below
26.83 +	1.75 +		London Clay, 2.5Y6/6 (olive yellow), with grey mottling and coating of blocks.

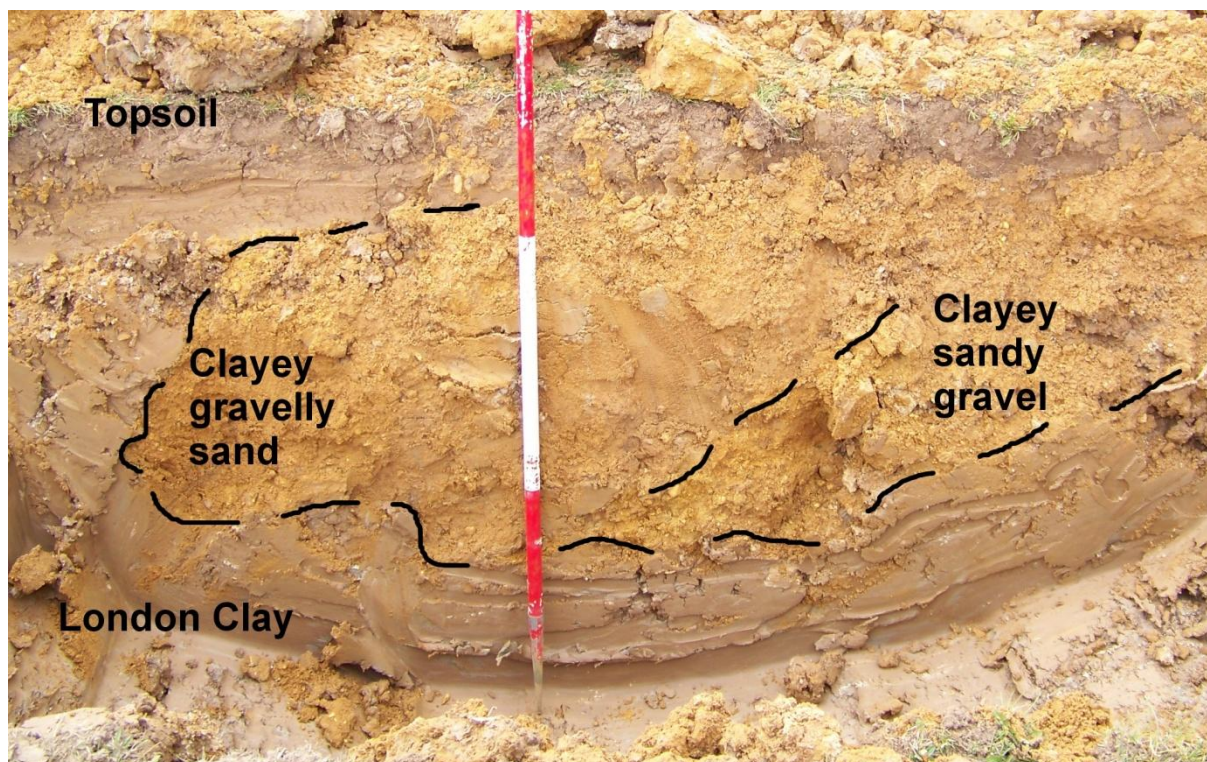


Figure 5: Test Pit 3, Ormiston Academy, Aveley, Essex

Table 2: Test Pit 3, Ormiston Academy, Aveley, Essex

Depth (m OD)	Depth (m BGS)	Thickness (m)	Lithology
27.96	0.0		Ground surface
27.96 to 27.71	0.0 to 0.25	0.25	Topsoil
27.71 to 27.01	0.25 to 0.95	0.7 (max)	Clayey gravelly sand Laterally changes to :
27.71 to 27.01	0.25 to 0.95	0.7 (max)	Clayey sandy gravel, less clayey in lower part, possibly due to deposition by water
27.01 +	0.95 +		London Clay, rich in precipitated CaCO <sub>3</sub> (race) in poorly formed nodules. 2.5Y6/6 (olive yellow Above two units rest on London Clay within a basinal structure. London Clay overfolds onto clayey gravelly sand

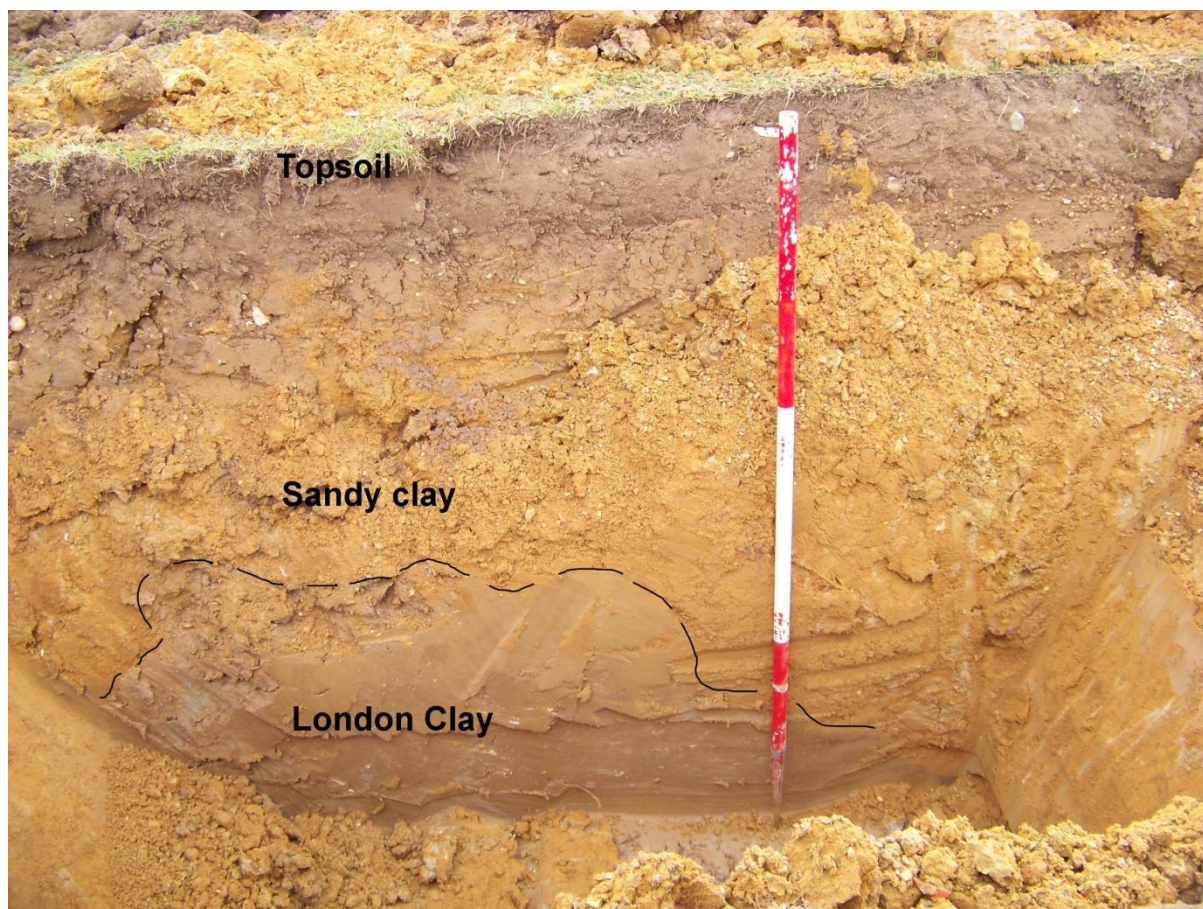


Figure 6: Test Pit 5, Ormiston Academy, Aveley, Essex

Table 3: Test Pit 5, Ormiston Academy, Aveley, Essex

Depth (m OD)	Depth (m BGS)	Thickness (m)	Lithology
26.99	0.0		Ground surface
26.99 to 26.49	0.0 to 0.5	0.5	Topsoil
26.49 to 25.49	0.5 to 1.5	1.0	Sandy clay. Irregular interface with London Clay below
25.49 +	1.5 +		London Clay, 2.5Y6/6 (olive yellow), with grey mottling 5Y6/2 (light olive grey)



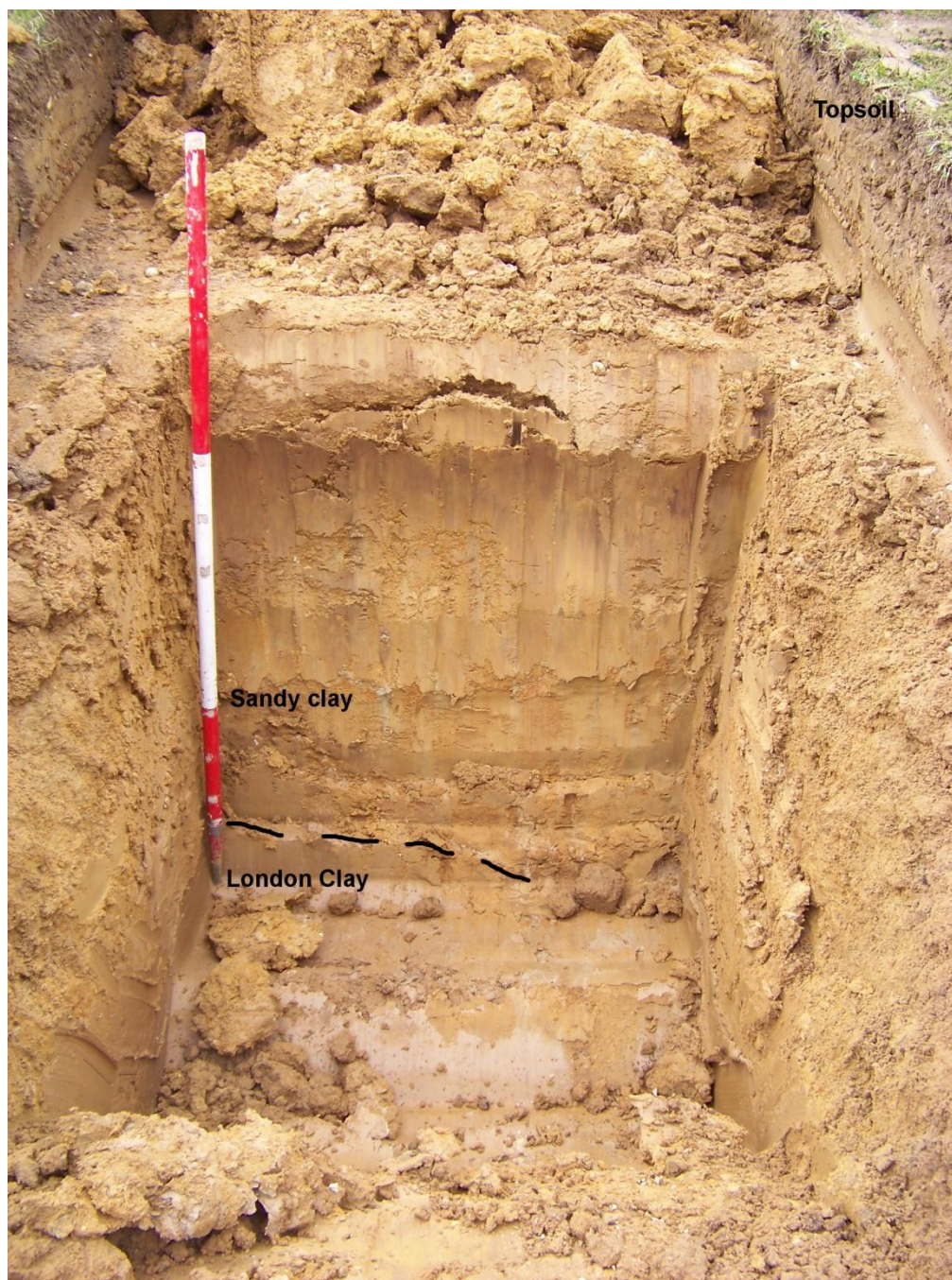


Figure 7: Test Pit 6, Ormiston Academy, Aveley, Essex

Table 4: Test Pit 6, Ormiston Academy, Aveley, Essex

Depth (m OD)	Depth (m BGS)	Thickness (m)	Lithology
26.32	0.0		Ground surface
26.32 to 26.02	0.0 to 0.3	0.3	Topsoil
26.02 to 24.82	0.3 to 1.5	1.2	Sandy clay, 7.5YR 5/8 (strong brown)
24.82 +	1.5 +		London Clay
			End

## RECOMMENDATIONS

Although artefacts are known locally from the Oresett Heath Gravels and Corbets Tey Gravels, as no terrace gravel was seen, no palaeolithic archaeological material is likely to be found. Any artefacts found would be so far out of original context that they would be of low value. Similarly, no sediments with palaeoenvironmental potential were recorded.

## REFERENCES

Bridgland, D.R. (1994). Quaternary of the Thames, Geological Conservation Review Series No. 7, Chapman and Hall, London.

Bridgland, D.R., Allen, P. and Haggart, B.A. (eds) (1995) The Quaternary of the Lower Reaches of the Thames: Field Guide. Quaternary Research Association, Durham.

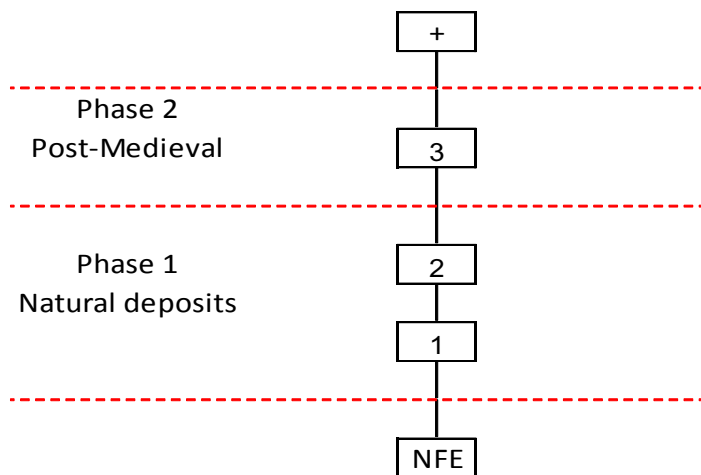
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## APPENDIX 2: CONTEXT INDEX

Context No.	Plan No.	Section No.	Type	Description	Interpretation	Date	Phase
1	-	-	Layer	Firm to Very Stiff, Mid Orange Brown to Dark Grey, Silty Clay.	London Clay	Ypresian	1
2	Tr.01 - Tr.07	S.01 - S.07	Layer	Loose to Stiff, Mid Orange Brown, Variable Gravelly Sandy Clays.	Head Deposit	Pleistocene	1
3	-	S.07	Layer	Firm, Mid to Dark Grey Brown Sandy Silt.	Buried Topsoil	Post-Medieval	2

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### APPENDIX 3: MATRIX



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## APPENDIX 4: OASIS DATA COLLECTION FORM

### Project details

Project name	Land at Ormiston Park Academy, Aveley
Short description of the project	Pre-Construct Archaeology was commissioned by Balfour Beatty Construction to undertake an archaeological monitoring exercise and evaluation, on land at Ormiston Park Academy, Aveley, Essex RM15 4RU in the Borough of Thurrock. The work was necessitated in advance of a planning application for the redevelopment of the school. The monitoring exercise was conducted between the 15th and 22nd of March 2012 and involved the archaeological supervision of geotechnical investigations. These comprised ten trial pits, five boreholes and five window samples. The evaluation took place between the 2nd and 5th of April 2012 and consisted of seven trial trenches designed to investigate the archaeological potential of the site. These ground works revealed that the naturally lain head deposits, composed of variable amounts of sand and gravel mixed with substratal London Clay, did not contain any anthropogenic evidence and had undergone a degree of horizontal truncation, probably during the construction of the existing development. A layer of buried topsoil, which is likely to predate the establishment of the current school, was discovered in Trench 7. No other features of archaeological significance were discovered although several modern truncations relating to the extant premises were encountered.
Project dates	Start: 15-03-2012 End: 05-04-2012
Previous/future work	No / Not known
Any associated project reference codes	EOPA12 - Sitecode
Type of project	Field evaluation
Site status	None
Current Land use	Community Service 1 - Community Buildings
Monument type	LAYER Post Medieval

---

### Project location

Country	England
Site location	ESSEX THURROCK SOUTH OCKENDON Ormiston Park Academy
Postcode	RM15 4RU
Study area	68132.00 Square metres
Site coordinates	TQ 56573 80893 51.5047359914 0.256264678110 51 30 17 N 000 15 22 E Point
Height OD / Depth	Min: 22.90m Max: 30.80m

---

### Project creators

Name of Organisation	Pre-Construct Archaeology Ltd
Project brief originator	Pre-Construct Archaeology Ltd
Project design originator	Pre-Construct Archaeology Ltd
Project director/manager	Chris Mayo
Project supervisor	Richard Archer
Type of sponsor/funding body	Building contractor
Name of sponsor/funding body	Balfour Beatty Construction

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### Project archives

Paper Archive recipient	Thurrock Museum
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### Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Land at Ormiston Park Academy, Aveley, Essex, RM15 4RU
Author(s)/Editor(s)	Archer, R.
Date	2012
Issuer or publisher	Pre-Construct Archaeology Ltd
Place of issue or publication	Brockley
Description	A4, ring bound report with a blue cover

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Entered by	Tim Bradley (tbradley@pre-construct.com)
Entered on	26 April 2012

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