

**An Archaeological Watching Brief for the Thames Gateway
Water Treatment Plant Distribution Pipeline, London
Boroughs of Redbridge, Newham and Waltham Forest**

Site Code: TWT 08

Central National Grid Reference: TQ 4520 8192 to TQ 3905 9019

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**Pre-Construct Archaeology Limited
August 2008**

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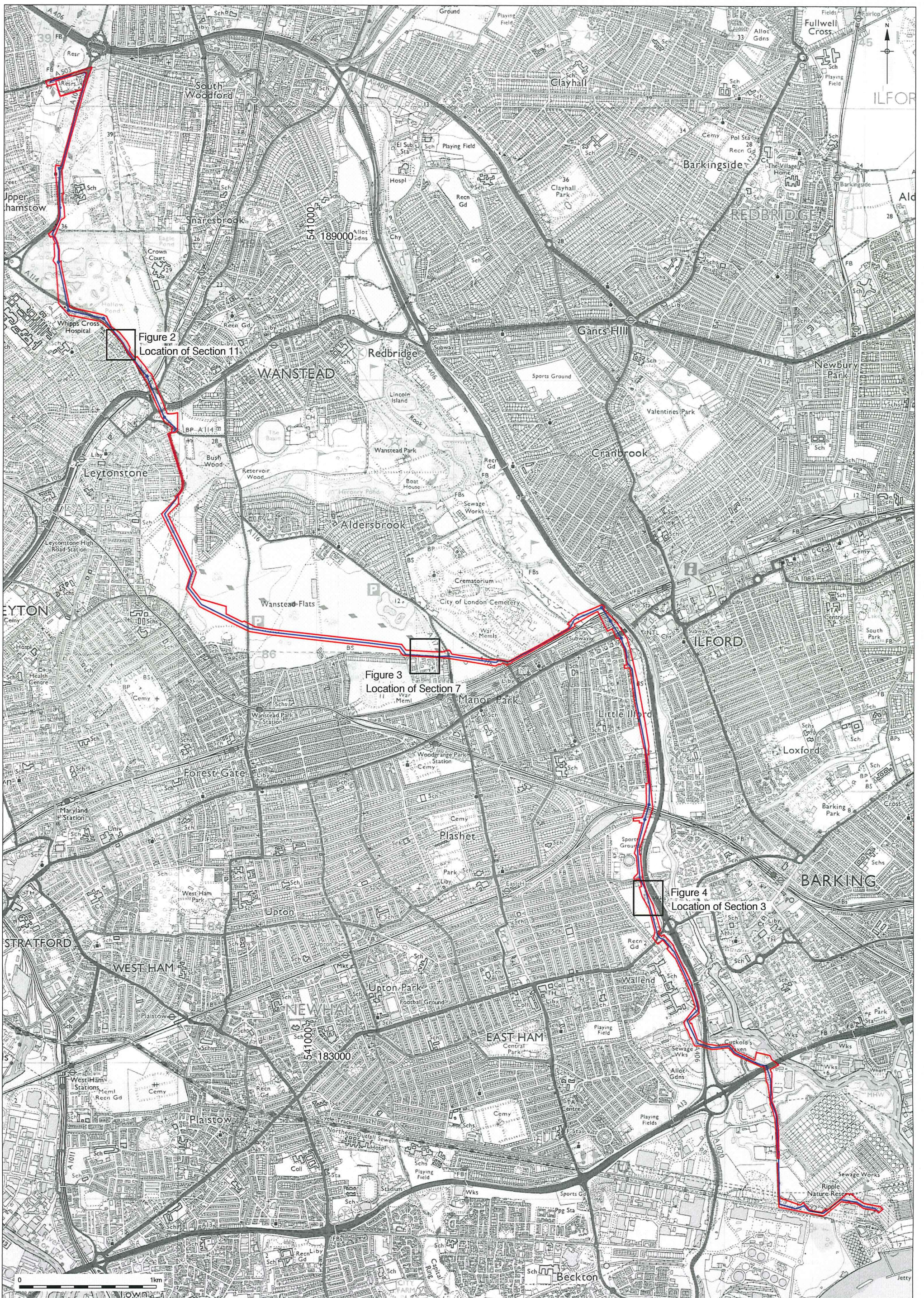
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1 ABSTRACT

- 1.1 This report details the results and working methods of an archaeological watching brief for the Thames Gateway Water Treatment Plant Distribution Pipeline that passes through the London Boroughs of Newham, Waltham Forest and Redbridge. The watching brief was commissioned by Thames Water Plc. The project took place between 9th May and 25th July 2008.
- 1.2 The southern section of the pipeline ran along the River Roding before leaving the alluvial deposits associated with the river valley and crossed Wanstead Flats and Epping Forest (Little Ilford to Woodford Reservoir).
- 1.3 During the watching brief for the pipeline along the River Roding layers of alluvial sand, clay and gravel associated with the river were observed in the pipeline trench. Sometimes these alluvial layers lay beneath made ground but at times they were located directly below very thin topsoil. Once the pipeline turned west away from the river weathered subsoil was revealed sealing Taplow Gravel terraces throughout Wanstead Flats and Boyn Hill gravel terraces at the southern tip of Epping Forest.

2 INTRODUCTION

- 2.1 An archaeological watching brief for a water treatment distribution pipeline passing through the London Boroughs of Newham, Waltham Forest and Redbridge was undertaken between 9th May and 25th July 2008 by Pre-Construct Archaeology Limited (Figure 1).
- 2.2 The pipeline ran along existing services northwards from the treatment plant at Beckton until it crossed the North Circular Road just to the north of the junction between the North Circular and Newham Way/St. Alfred's Way. From this point it ran in a north-south direction to the west of the A406 which in turn ran parallel to, and west of, the River Roding. As the pipeline ran through the river's floodplain, it mainly crossed sports fields and open ground, past a gasholder and gasholder station where it disappeared into a tunnel. Once under the Railway line the pipeline turned west and ran through the south of Redbridge Archaeological Priority Zone. Here the pipeline ran east-west along a road on the south edge of the City of London Cemetery, across Wanstead Flats, then turned northwards through Waltham Park, followed Bushwood Road for a short distance before tunnelling under the Junction where the A12 crosses the A11/A114. It ran alongside Whipps Cross Road and then crossed part of Epping Forest. The majority of the route through Epping Forest was either in tunnel or through existing services along Woodview New Road, where it joins with the reservoir at Woodford. (Fig 1)
- 2.3 The site is located between National Grid References TQ 4520 8192 and TQ 3905 9019.
- 2.4 The pipeline trench was dug 2-4m below current ground level and was recorded as an archaeological watching brief.
- 2.5 The work was commissioned by Thames Water Plc. The project was managed for Pre-Construct Archaeology by Helen Hawkins and supervised by the author and Amelia Fairman. The project was managed for Thames Water Plc. by Mike Hall, Archaeological Consultant and monitored by David Divers of the Greater London Archaeological Advisory Service (GLAAS).
- 2.6 The site was assigned the code TWT 08.

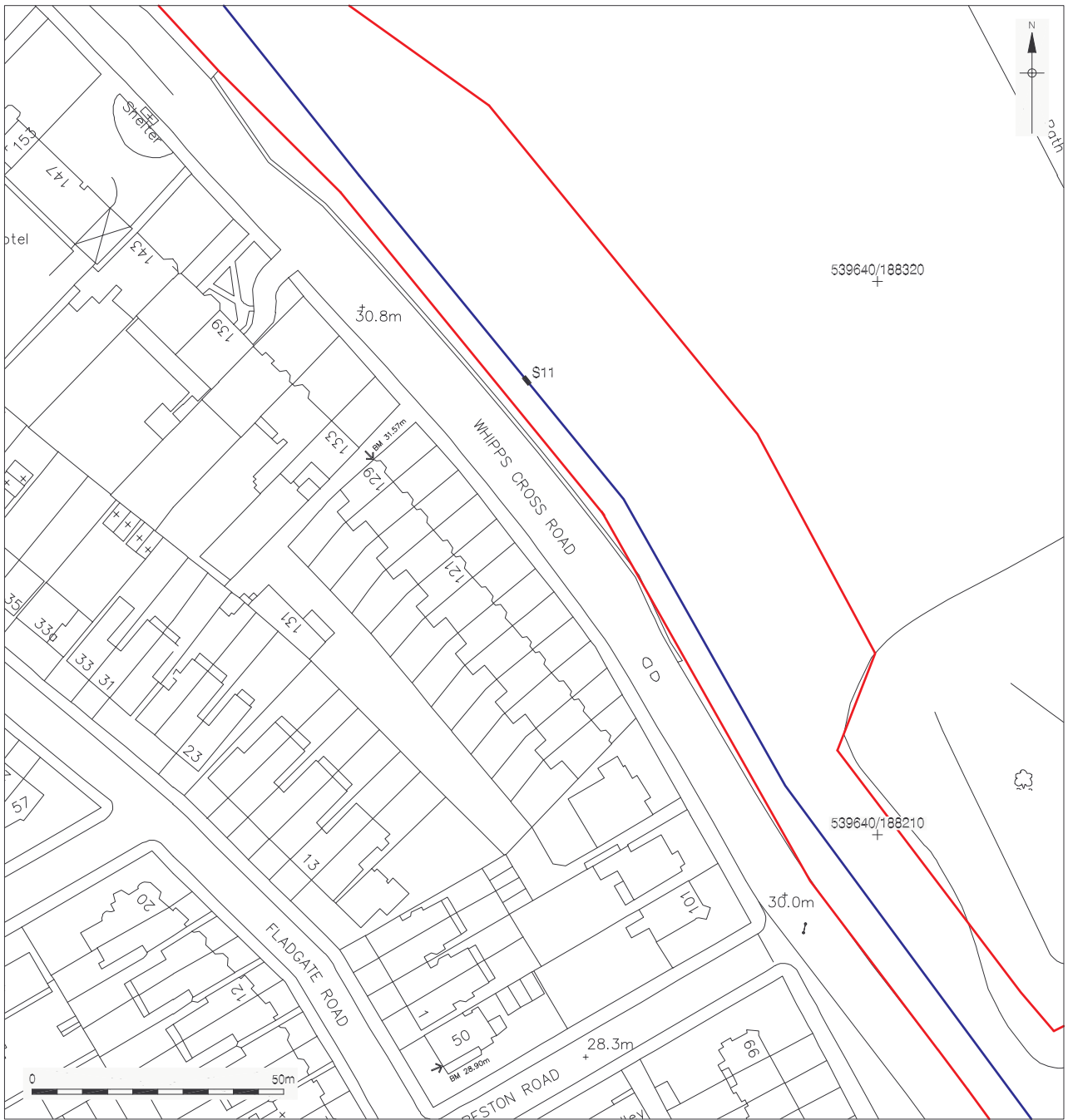


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— Proposed Pipeline
 — Area of landtake for Pipeline

Figure 1
 Location of Pipeline and Sections
 1:25,000 at A3



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— Proposed Pipeline
 — Area of landtake for Pipeline

Figure 2
 Location of Section 11
 1:1,250 at A4



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- Proposed Pipeline
- Area of landtake for Pipeline

Figure 3
 Location of Section 7
 1:1,250 at A4



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- Proposed Pipeline
- Area of landtake for Pipeline

Figure 4
Detailed Location of Section 3
1:1,250 at A4

3 PLANNING BACKGROUND

- 3.1 In November 1990 the Department of the Environment issued Planning Policy Guidance Note 16 (PPG16) "Archaeology and Planning" providing guidance for planning authorities, property owners, developers and others on the preservation and investigation of archaeological remains.
- 3.2 In considering any planning application for development, the local planning authority is bound by the policy framework set by government guidance, in this instance PPG16, by current Structure and Local Plan policy and by other material.
- 3.3 The pipeline runs through three different planning authorities comprising the London boroughs of Redbridge, Newham and Waltham Forest. The archaeological planning framework for these three authorities is listed below.
- 3.4 **Archaeology in Redbridge and the Redbridge Plan**

The London Borough of Redbridge's Development Plan Document (2008), part of the borough's Local Development Framework (LDF), contains clauses that relate to archaeological practice in the Borough.

The pipeline runs along the southern edge of Redbridge Archaeological Priority Zone, and proposed development will be subject to the Council's Archaeology Policies outlined in the Plan:

Section 3.5 Archaeological Remains:

Policy E4- Archaeological Remains

Applications for development involving significant groundwork within the Archaeological Priority Zones (as identified on the Proposals Map) will only be granted if accompanied by an archaeological evaluation that proposes effective mitigation measures that protect the zones from adverse development.

Justification:

To reflect Strategic Policy 2 (Green Environment), guidance contained in PPG16 (Archaeology and Planning) and the London Plan there is a presumption against development that would damage archaeological resources depending on their importance. Where development is allowed and preservation *in situ* is not feasible, the Council will require that adequate arrangements for a full investigation, including excavation and recording, are agreed prior to development taking place.

(http://www.redbridge.gov.uk/cms/environment__planning/planning_and_regeneration/planningpolicy/ldfpage.aspx)

3.5 **Archaeology in Newham and the Newham Plan**

The London Borough of Newham's Unitary Development Plan 2001 (UDP) contains clauses that relate to archaeological practice in the Borough.

The pipeline route lies within the Newham Archaeological Priority Area, and proposed development will be subject to the Council's Archaeology Policies outlined in the Plan:

Archaeology: Investigation, Excavation and Protection

3.114 Archaeological remains often provide the only evidence of the Borough's past. They are a finite and fragile resource very vulnerable to modern development and land use. The archaeology of the Borough is a community asset which should be preserved and the needs of development balanced and assessed against this. Early consideration of and consultation on archaeological issues will maximise preservation in accordance with PPG16. The destruction of such remains should be avoided if possible and either left in situ if the remains are of national or particular local interest, or excavated and recorded prior to development, where remains are of lesser importance. Site layouts designed to retain archaeological features intact will be considered favourably by the Council.

3.115 The Greater London Archaeology Advisory Service (GLAAS - part of English Heritage) provides impartial advice to Newham Council. Sites of potential archaeological importance, to which this policy relates, can be defined as any site within an Archaeological Priority Area (APA). APAs are defined by GLAAS as areas having particular interest or value (Please refer to Map EQ6), or as sites where it can reasonably be shown from existing sources of information (most notably the Greater London Sites and Monuments Record) that remains of archaeological importance may survive. For further information, please refer to SPG Note 'Archaeological Code of Practice'. An archaeological assessment (either a desk study or a preliminary field investigation) will normally be required for any development involving a site more than 0.4 acres within an APA. The Council will also require such an assessment for smaller sites within the APAs, and sites outside the APAs, where this is clearly justified by the archaeological sensitivity of the site. Developers should undertake early consultation with the Council, and recognised archaeological organisations such as GLAAS, to avoid uncertainty and later delays.

POLICY EQ43: THE COUNCIL WILL PROMOTE THE CONSERVATION, PROTECTION AND ENHANCEMENT OF THE ARCHAEOLOGICAL HERITAGE OF THE BOROUGH. DEVELOPERS OF SITES OF POTENTIAL ARCHAEOLOGICAL IMPORTANCE WILL BE REQUIRED TO PRODUCE A WRITTEN REPORT, AS PART OF THE APPLICATION FOR PLANNING PERMISSION, ON THE RESULTS OF AN ARCHAEOLOGICAL ASSESSMENT OR FIELD EVALUATION CARRIED OUT BY A SUITABLY QUALIFIED ARCHAEOLOGICAL CONTRACTOR; AND WHEN REMAINS OF IMPORTANCE ARE IDENTIFIED, THE COUNCIL WILL SEEK PRESERVATION OF THE REMAINS IN SITU. ON OTHER IMPORTANT SITES, WHERE THE BALANCE OF OTHER FACTORS IS IN FAVOUR OF GRANTING PLANNING PERMISSION BY MEANS OF THE IMPOSITION OF CONDITIONS ON THE GRANT OF PLANNING PERMISSION, AND POSSIBLY BY LEGAL AGREEMENTS, THE COUNCIL WILL ENSURE THAT ADEQUATE PROVISION IS MADE FOR THE PROTECTION, EXCAVATION AND RECORDING OF REMAINS, AND THE SUBSEQUENT PUBLICATION OF THE RECORDS OF EXCAVATION, PROVIDING A WRITTEN ACCOUNT OF THE ARCHAEOLOGICAL EXPLORATION, INCLUDING RECORDS OF FINDS.

3.116 The Council will promote co-operation between landowners, developers and archaeological organisations in accordance with the British Archaeologists' and Developers' Liaison Group Code.

(<http://www.newham.gov.uk/Services/UnitaryDevelopmentPlan/AboutUs/UnitaryDevPlan.htm>)

3.6 Archaeology in Waltham Forest and the Waltham Forest Plan

The London Borough of Waltham Forest's Unitary Development Plan 2006 (UDP) contains clauses that relate to archaeological practice in the Borough.

Proposed development in Waltham Forest will be subject to the Council's Archaeology Policies outlined in the Plan:

BHE17

The Council will ensure the preservation, protection and where possible the enhancement of the archaeological heritage of the borough.

8.86 The history of Waltham Forest dates from the time of the earliest settlements in the Forest. Archaeology is an important way in which greater knowledge about the history of the borough can be discovered. However, the opportunity to carry out archaeological investigations usually only arises during the course of new development when foundations are exposed.

8.87 The Greater London Archaeological Advisory Service has defined a number of Archaeological Priority Zones (APZs) which have been identified as having particular archaeological interest. Some of the APZs are extensive and include the whole of the Lee Valley, the valleys of The Ching and The Fillebrook River and areas around former Saxon and Mediaeval settlements such as Chingford, Walthamstow, Leyton, Highams Park and Leytonstone.

8.88 The Council will seek to encourage the conservation, protection and enhancement of the archaeological heritage of the borough. When any development involving a site of 0.16 hectares or more is proposed within the archaeological priority zones (as shown on the Proposals Map and Schedule 36), or for any site identified by a recognised archaeological authority, the archaeological significance of the site will be considered. The Council may require a preliminary archaeological site evaluation before development proposals are considered.

8.89 The Council will seek to ensure that the most important archaeological remains and their settings are permanently preserved in situ, and if necessary, are made available for public viewing.

8.90 Sites of archaeological significance or potential not requiring preservation in situ shall have provision made for preservation by record through an appropriate level of archaeological investigation and excavation to be undertaken by a professionally qualified archaeological consultant or specialist archaeological organisation before and during the process of development. Such provision shall also include the subsequent analysis, interpretation and in appropriate cases, presentation to the public of the archaeological results and finds.

8.91 There are also a number of less extensive APZs. For proposed developments involving a site of 0.16 hectares or more within the APZs, the Council will liaise with the Greater London Archaeology Advisory Service in order to assess the archaeological significance of the site. Where appropriate, a preliminary archaeological site evaluation or desk-based assessment may be required by the Council before such proposals are considered.

8.92 The most important archaeological remains and their setting should be permanently preserved. Developers can help to achieve this by, for example, preparing sympathetic designs and using foundations which avoid disturbing remains altogether. If the physical preservation of remains is not feasible, an archaeological excavation for the purposes of "preservation by record" may be an acceptable alternative.

8.93 The Council will promote co-operation between landowners, developers, and archaeological organisations in accordance with the British Archaeologists and Developers Liaison Group Code of Practice which it recognises and endorses.

(<http://www.walthamforest.gov.uk/index/environment/envpl-page1/planning-policy/envpl-page3a.htm>)

4 GEOLOGY AND TOPOGRAPHY

- 4.1 The southern part of the pipeline lies entirely on alluvium associated with the River Roding, over Claygate Beds. The pipeline then crosses a small area of Flood Plain Gravel separating the alluvium in the east and the Taplow Gravel to the west. The pipeline then runs through the Taplow Gravel, coinciding with Wanstead Flats, until it reaches Bushwood Road, where it crosses a narrow band of London clay, before continuing northwards through an area of Boyn Hill Gravel. The pipeline then crosses a large area of London Clay through Epping Forest to the north of St. Peter's Bath. Both the Taplow and Boyn Hill Gravels date to the Anglian and Devensian periods and make up the Post-diversionary Thames River Terrace Deposits. The northernmost extent of the pipeline, where it deviates from Woodford New Road, crosses an isolated island of Woodford Gravel (pre-Anglian to Anglian in date) (Scott Wilson 2007).
- 4.2 Topographically the north-south pipeline appears to run between the 5 and 10m contour lines, on ground sloping down to the south.
- 4.3 Much of the southern part of the pipeline is currently in use as playing fields or parkland, some of these have been levelled with made ground. As the pipeline turns west away from the River Roding it proceeds through Ilford Golf Course and then along the South Boundary Road running east to west through the City of London Cemetery before reaching Wanstead Flats where it has been partially levelled for football pitches. The pipeline route ends at the very southern tip of Epping Forest. The ground here is largely undisturbed.

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 The archaeological and historical background is taken from the Written Scheme of Investigation for the pipeline route, produced by Scott Wilson (2007).

5.2 Prehistoric

5.2.1 A number of Palaeolithic flint implements have been found in the Taplow and Boyn Hill Gravels in the pipeline area, deposited there as the terraces were formed by the River Thames.

5.2.2 In the later prehistoric period, the terrace gravels would have been attractive to settlement on account of their free-draining nature. Those located at the boundary between the alluvium and the gravel would have been particularly attractive due to their proximity to the rich natural resources of the floodplain.

5.2.3 Single artefacts dated from the Neolithic to the Bronze Age have been found in the vicinity of the pipeline. A possible Bronze Age ring ditch was also unearthed in the location of Ilford golf course.

5.2.4 Approximately 300m to the southeast of the southern end of the pipeline an evaluation revealed an alluvial deposit of possible Bronze Age date containing a discarded piece of timber thought to be waste from a possible timber trackway. Further deposits of this nature could be possible along the flood plain of the River Roding.

5.2.5 Excavations on the site of Uphall Camp lying on the Taplow/Mucking Gravel Terrace have produced finds from the Mesolithic and Neolithic periods probably indicating hunting taking place along the River Roding. A middle Bronze Age settlement was also discovered during these excavations. This suggests a potential for other sites of this nature in the Roding Valley. A major Iron Age hillfort was also present at this location featuring an extensive, defended settlement with evidence for various industrial activities (Scott Wilson 2007).

5.3 Roman

5.3.1 There is evidence of sparse Roman occupation at the site of the Bronze Age settlement and Iron Age hillfort at Uphall Camp, perhaps associated with ritual function.

5.3.2 At Wanstead Park numerous Roman structures have been found, including building foundations, building material, a cemetery, and at least one mosaic. Activity seems to have concentrated around the cross roads of two Roman Roads overlooking the Roding Valley outside of the pipeline route. However a Roman Road is also thought to run to the southwest, crossing the pipeline at Wanstead Flats near Bushwood where a previous evaluation has taken place as part of the archaeological mitigation works on the pipeline (Pre-Construct Archaeology Ltd, 2008). No evidence for a Roman road was identified in the evaluation.

5.4 Medieval

5.4.1 During the medieval period, the area appears to have consisted of a mix of open farmland and woodland that may have been used for hunting.

5.4.2 The scheduled monument of Barking Abbey lies on higher ground on the east side of the river approximately 450m from the route of the pipeline. This was in use from 666

to 1541 AD, with several rebuilding phases and there are still remains on the site. Features found on the east side of the river associated with the Abbey include watermills, man made water channels to power mills, a fishpond, waterfront dumps, conduits and a bridge.

5.4.3 Documentary sources suggest a moated manor house was once situated in the current location of the City of London Cemetery of which the pipeline runs through the south edge.

5.4.4 Wanstead House, located to the middle of the study area, replaced the earlier Royal Hunting Lodge of Wanstead Hall, constructed in 1499 AD.

5.5 **Post-Medieval**

5.5.1 Chapman and Andre's map of 1777 suggests that the majority of the pipeline route lay in the grounds of large houses during the 18th century, including Alderbrook House, Wanstead House Park, Wanstead House and the grounds of Woodford Hall.

5.5.2 At the northern end of the pipeline, where it runs through London Clay, there may have been areas used for clay extraction for the brick and tile industry.

5.5.3 The site of Wellington Windmill, built in 1815 and demolished in 1926, is close to the route of the pipeline in the south.

5.5.4 During the Second World War parts of Wanstead Flats were used to defend East London's industries from bombing raids with anti-aircraft trenches and barrage balloon stations present (Scott Wilson 2007).

6 ARCHAEOLOGICAL METHODOLOGY

- 6.1 The area of the new distribution pipeline was laid out by the contractors Murphy's in accordance with the proposed development plan. The topsoil, averaging at around 0.10m in thickness, was then stripped using a toothless ditching bucket with an archaeologist in attendance. The topsoil strip was c. 4m in width.
- 6.2 The trench for the pipeline was excavated using a toothed digging bucket; the trench depth ranged from 2-4m deep and all ground reduction was monitored by an archaeologist.
- 6.3 Due to the depth of the trench all recording was carried out from the top of the trench. All recording systems employed were fully compatible with those used elsewhere in London; that is those developed out of the Department of Urban Archaeology Site Manual, now published by the Museum of London Archaeology Service (MoLAS 1994). Eleven 'sample sections' were drawn along the length of the pipeline on polyester based drawing film at a scale of 1:20. Detailed descriptions of all archaeological strata excavated and exposed were recorded on pro-forma recording sheets.
- 6.4 OD levels for each section were measured from temporary benchmarks (TBMs) laid out by Murphy's alongside the route of the pipeline.
- 6.5 Excavated spoil was inspected for finds and indications of archaeologically significant deposits where safe to do so.
- 6.6 Monolith environmental samples could not be taken due to the depth of the trench and the lack of shoring. It would not have been safe for an archaeologist to be at the bottom of the trench for any length of time.
- 6.7 Once the pipes had been inserted and welded the trenches were backfilled using the excavated spoil.
- 6.8 As no archaeological deposits other than alluvial deposits in the south of the pipeline route were identified, it was agreed with the archaeological consultant Mike Hall and David Divers of the Greater London Archaeological Advisory Service (GLAAS) that the watching brief would end. A small portion of the northern part of the route was therefore not archaeologically monitored.

7 SUMMARY OF THE ARCHAEOLOGICAL SEQUENCE

7.1 Phase 1: Natural

- 7.1.1 The oldest natural layers observed along the route of the pipeline were sandy gravels of a light reddish-brown [19]. These represent part of the Post-diversionary Thames River Gravel Deposits.
- 7.1.2 Throughout Wanstead Flats these gravels [19] belonged to the Taplow Gravel sequence and were sealed by a weathered silty sandy gravel layer [18] (Section 7, Fig. 3)
- 7.1.3 Once the pipeline reached Epping Forest the very similar gravel deposits were more likely to be of the Boyn Hill sequence [26] (Section 11, Fig. 5)
- 7.1.4 Section 3 (Fig. 5) found a layer of blue-grey sandy gravel [9] beneath a 0.40-0.60m layer of yellow gravel [8], this was separated by a thin 0.20m layer of yellow sand [7], which petered out further to the south, from another 0.30m-0.40m layer of yellow-grey gravel [6]. Above this layer was a thin 0.30m deposit of peat [5] sealed by a 0.80-1.00m layer of blue-grey clay [4]. The layers were fairly even throughout this section of the pipeline, maintaining a similar thickness.
- 7.1.5 As the southern half of the pipeline route ran alongside the River Roding it was presumed that these were layers of alluvium deposited on the river's floodplain. The layers were heavily sorted with gravel. They were usually found beneath layers of clay, sometimes separated by lenses of sand and were more recently deposited than the Thames River Gravel Deposits. Alluvium layers were found along the route of the pipeline from Barking Road in the south to Little Ilford Park in the north.

7.2 Phase 2: Modern

- 7.2.1 Dark brown sandy silt Made Ground [+] was found below the topsoil at various points along the route of the pipeline. This was usually used to level areas of parkland and playing fields and was probably Victorian/early 20th Century in date, containing recognisable glass vessels such as jars of Bovril.

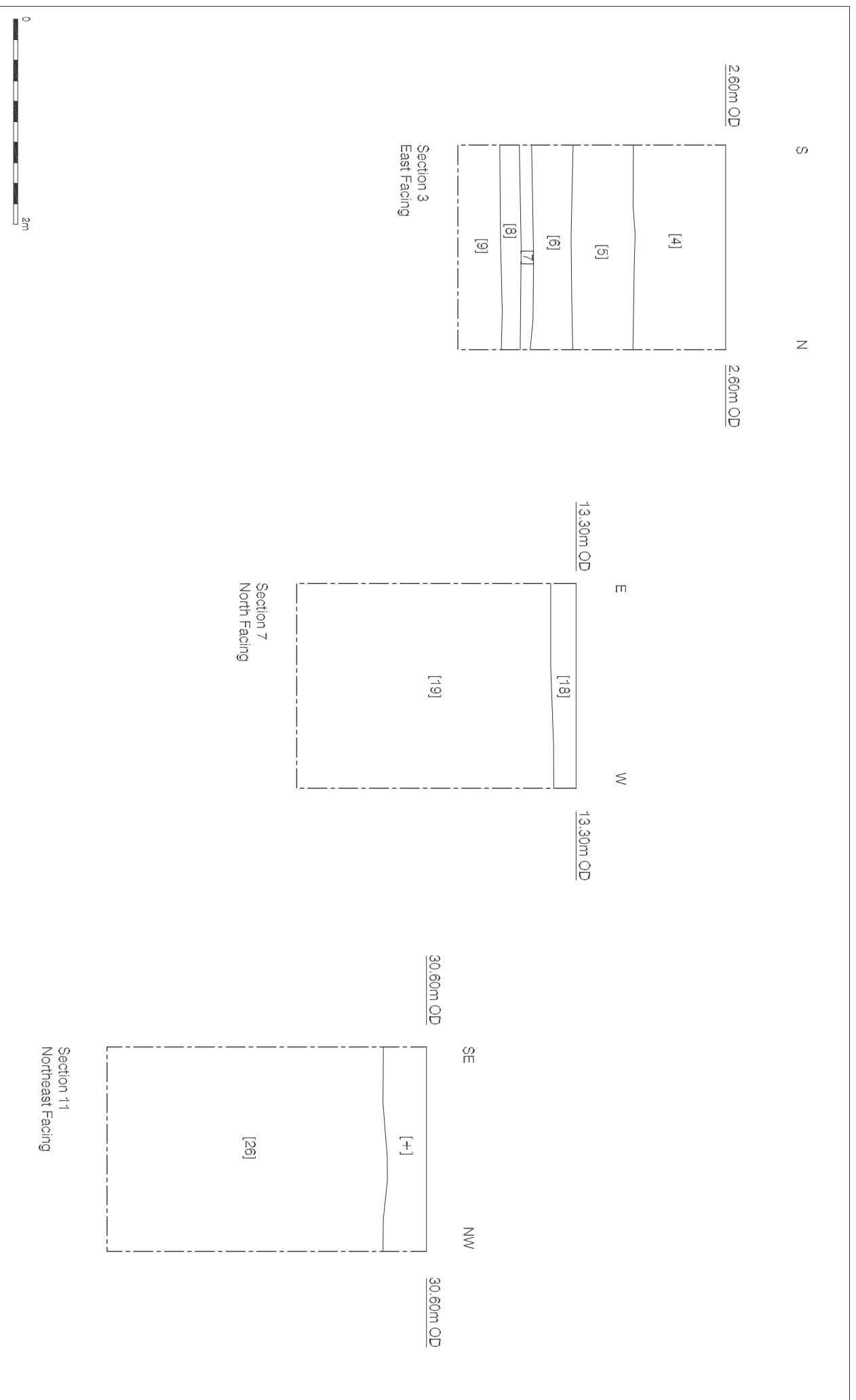


Figure 5
Sections
1:50 at A4

8 INTERPRETATION AND CONCLUSIONS:

- 8.1 The main objectives of the archaeological watching brief were 'to evaluate and mitigate the impact of the scheme on the archaeological and ecofactual resource and to preserve by record any archaeological and ecofactual remains that are uncovered during construction works' (Scott Wilson 2007). These objectives were achieved and the results are summarised below.
- 8.2 Where the pipeline ran through the floodplain of the River Roding, deposits of clay and sand overlying gravel were observed. These were interpreted as alluvial deposits associated with the river valley and were typical of deposition in a fluvial environment.
- 8.3 As the pipeline ran west over Wanstead Flats a deposit of gravel and sand was seen throughout. This is part of the Taplow Terrace sequence, which dates to the Anglian and Devensian periods and is part of the Post-diversionary Thames River Terrace Deposits. This was sealed by a weathered sub-soil and occasional areas of made ground.
- 8.4 After Wanstead Flats the pipeline turned north again into Epping Forest. In this area a very similar deposit of gravel and sand was observed. However this deposit is probably part of the Boyn Hill Terrace sequence, which also dates to the Anglian and Devensian periods and is also part of the Post-diversionary Thames River Terrace Deposits (Scott Wilson 2007).
- 8.5 No deposits or features of archaeological significance were observed during the watching brief.

9 ACKNOWLEDGEMENTS

- 9.1 Pre-Construct Archaeology Limited would like to thank Mike Hall, archaeological consultant for Thames Water for commissioning the project and Murphy's who carried out the work.
- 9.2 The author would like to thank Amelia Fairman for carrying out the first phase of the site work, Helen Hawkins for her project management and the construction crew for their on-site co-operation. Illustrations were produced by Hayley Baxter.

10 BIBLIOGRAPHY

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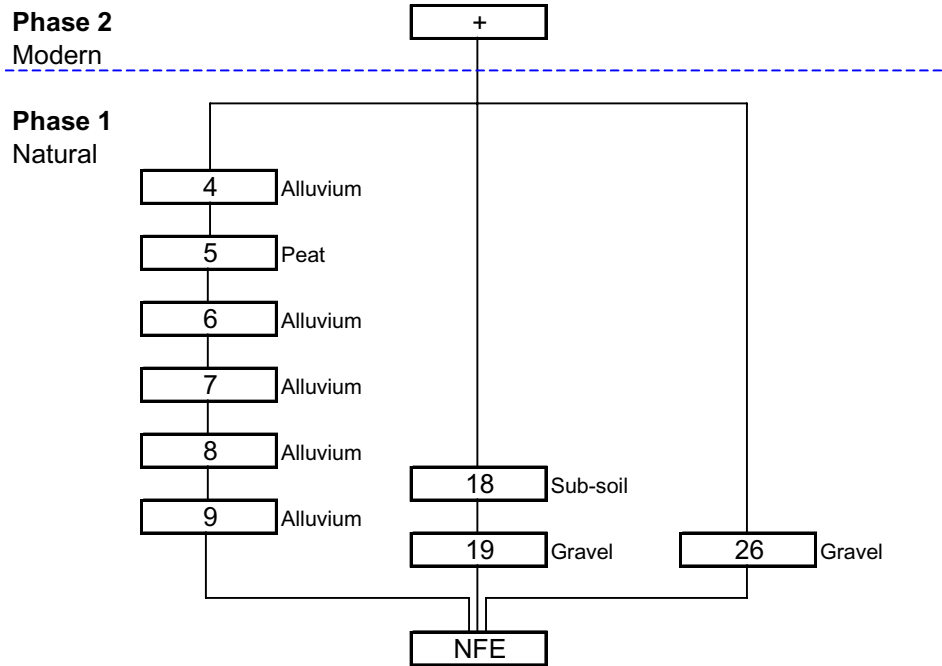
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Appendix 1 Context Register

Context Number	Trench	Plan Number	Section Number	Phase	Type	Description
1	N/A	N/A	1	I	Layer	Alluvial clay.
2	N/A	N/A	2	I	Layer	Alluvial clay.
3	N/A	N/A	2	I	Layer	Alluvial clay.
4	N/A	N/A	3	I	Layer	Alluvial clay.
5	N/A	N/A	3	I	Layer	'Peaty' deposit.
6	N/A	N/A	3	I	Layer	Natural gravel.
7	N/A	N/A	3	I	Layer	Natural sand.
8	N/A	N/A	3	I	Layer	Natural gravel.
9	N/A	N/A	3	I	Layer	Natural gravel.
10	N/A	N/A	4	I	Layer	Alluvial clay.
11	N/A	N/A	4	I	Layer	Natural sand.
12	N/A	N/A	4	I	Layer	Natural gravel.
13	N/A	N/A	5	I	Layer	Alluvial clay.
14	N/A	N/A	5	I	Layer	Natural sand.
15	N/A	N/A	5	I	Layer	Natural gravel.
16	N/A	N/A	6	I	Layer	Alluvial clay.
17	N/A	N/A	6	I	Layer	Natural gravel.
18	N/A	N/A	7	I	Layer	Weathered sub-soil.
19	N/A	N/A	7	I	Layer	Natural gravel.
20	N/A	N/A	8	I	Layer	Weathered sub-soil.
21	N/A	N/A	8	I	Layer	Natural gravel.
22	N/A	N/A	9	I	Layer	Natural sand.
23	N/A	N/A	9	I	Layer	Natural gravel.
24	N/A	N/A	10	I	Layer	Natural gravel.
25	N/A	N/A	10	I	Layer	Natural sand.
26	N/A	N/A	11	I	Layer	Natural gravel.

Appendix 2 Site Matrix



Appendix 3 OASIS form

OASIS ID: preconst1-47267

Project details

Project name Thames Gateway Water Treatment Plant Distribution Pipeline Watching Brief

Short description of the project An archaeological watching brief for the Thames Gateway Water Treatment Plant Distribution Pipeline that passes through the London Boroughs of Newham, Waltham Forest and Redbridge was undertaken between 9th May and 25th July 2008 by Pre-Construct Archaeology Limited.

Project dates Start: 09-05-2008 End: 25-07-2008

Previous/future work Yes / No

Any associated project reference codes TWT08 - Sitecode

Type of project Recording project

Site status None

Current Land use Woodland 6 - Parkland

Monument type NONE None

Monument type NONE None

Significant Finds NONE None

Significant Finds NONE None

Project location

Country England

Site location GREATER LONDON NEWHAM NEWHAM Thames Gateway Water Treatment Plant Distribution Pipeline

Postcode E11

Study area 14.00 Kilometres

Site coordinates TQ 4520 8192 51.5170101557 0.09292138022160 51
31 01 N 000 05 34 E Line

Site coordinates TQ 3905 9019 51.5928829318 0.00760513257531 51
35 34 N 000 00 27 E Line

Height OD / Depth Min: 2.10m Max: 18.40m

Project creators

Name of Pre-Construct Archaeology Ltd
Organisation

Project brief Greater London Archaeological Advisory Service
originator

Project design Scott Wilson Ltd
originator

Project Helen Hawkins
director/manager

Project supervisor Graeme McArthur

Type of Developer
sponsor/funding
body

Name of Thames Water
sponsor/funding
body

Project archives

Digital Archive Yes
Exists?

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	An Archaeological Watching Brief of the Thames Gateway Water Treatment Plant Distribution Pipeline, London Boroughs of Redbridge, Newham and Waltham Forest
Author(s)/Editor(s)	McArthur, G
Date	2008
Issuer or publisher	Pre-Construct Archaeology
Place of issue or publication	Brockley, London
Description	A4 ring-bound document with a red cover
<hr/>	
Entered by	Graeme McArthur (g.mcarthur@dunelm.ac.uk)
Entered on	22 August 2008