

**An Archaeological Evaluation at Wanstead Flats as part of the Thames Gateway Water Treatment Plant Distribution Pipeline, London Borough of Redbridge**

**Site Code: TWT 08**

**Central National Grid Reference: TQ 3996 8705**

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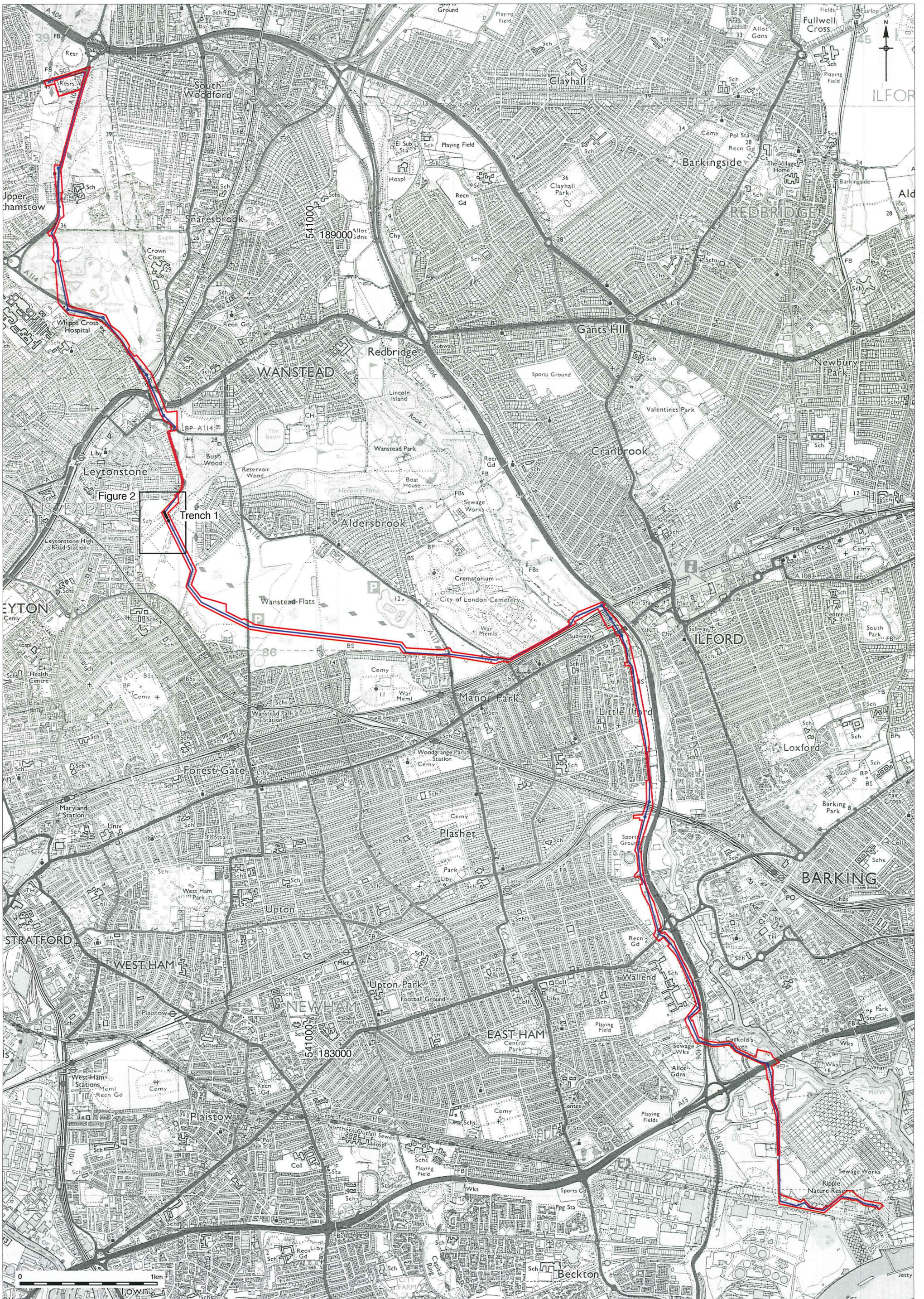
## **1 ABSTRACT**

- 1.1 This report details the results of an archaeological strip, map and investigate exercise at Wanstead Flats in the London Borough of Redbridge, part of the Thames Gateway water treatment plant distribution pipeline. The work was commissioned by Thames Water and undertaken by Pre-Construct Archaeology Ltd. The project was managed by Helen Hawkins and supervised by Will Johnston, both of Pre-Construct Archaeology Ltd., and monitored by David Divers of English Heritage on behalf of the London Borough of Redbridge.
- 1.2 Two areas were opened during the evaluation, located to the north and south of a public footpath.
- 1.3 A weathered subsoil sealing Taplow Terrace Gravel was observed in both trenches. This was truncated by an undated linear feature in Area 1 and two large 19<sup>th</sup> - 20<sup>th</sup> century circular features, possibly representing gravel extraction pits or ponds, in Area 2. The remains of bushes which formerly comprised the Avenue were also identified.

## **2 INTRODUCTION**

- 2.1 An archaeological evaluation was undertaken by Pre-Construct Archaeology Ltd. at Wanstead Flats, London Borough of Redbridge, in advance of the excavation of a new pipeline associated with the Thames Gateway water treatment plant distribution. The evaluation was commissioned by Thames Water and carried out between 13th and 14<sup>th</sup> May 2008.
- 2.2 The site is located in the northwest corner of Wanstead Flats. It is bound by Bushwood to the north, with open land to the east, south and west. A public footpath, known as "The Avenue" runs through the centre of the site on a northeast-southwest alignment.
- 2.2 The National Grid Reference of the site is TQ 3996 8705.
- 2.3 The site was given the code TWT08.
- 2.4 The project was monitored by David Divers of English Heritage and project managed by Helen Hawkins and supervised by Will Johnston, both of Pre-Construct Archaeology Ltd. The project was managed for Thames Water by Mike Hall, Archaeological Consultant.



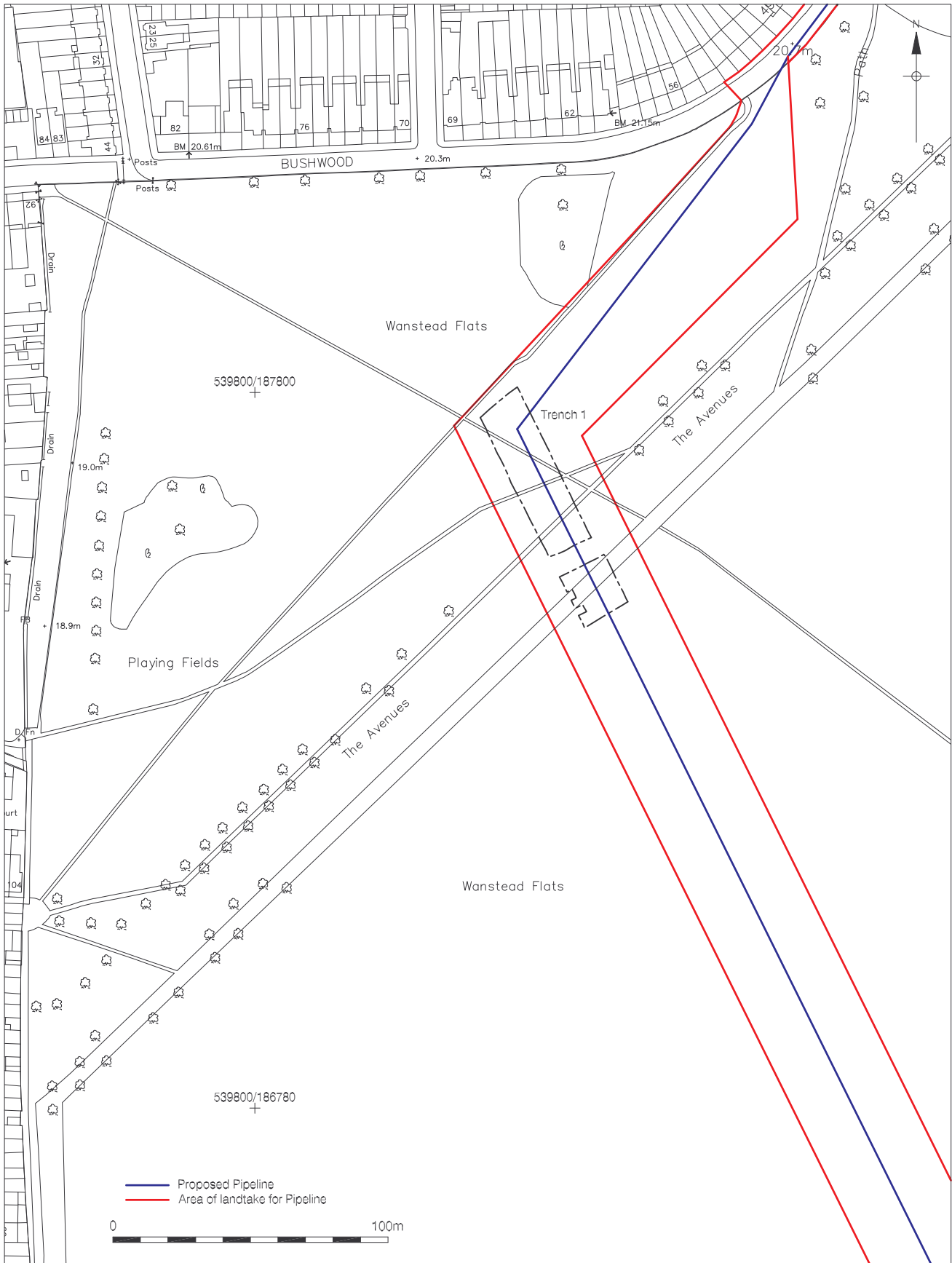


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- Proposed Pipeline
- Area of landtake for Pipeline

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





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Figure 2  
Trench Location  
1:2,000 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 short, government policies provide a framework which:

- Protect Scheduled Ancient Monuments
- Protect the settings of these sites
- Protect nationally important un-scheduled ancient monuments
- Has a presumption in favor of *in situ* preservation
- In appropriate circumstances, requires adequate information (from field evaluation) to enable informed decisions
- Provides for the excavation and investigation of sites not important enough to merit *in situ* preservation.

3.3 In considering any proposal for development, the local planning authority will be mindful of the policy framework set by government guidance, in this instance PPG16, of existing development plan policy and of other material considerations.

3.4 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. This includes the following planning policy statement, found in section 3.5 of the Development Plan Document:

**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](http://www.redbridge.gov.uk/cms/environment_planning/planning_and_regeneration/planningpolicy/ldfpage.aspx)

3.5 Whilst no Scheduled Monuments, Listed Buildings or Conservation Areas lie within the route, the pipeline does enter the southern edge of the Redbridge Archaeological Priority Zone, hence the need for archaeological evaluation.

## **4 GEOLOGY**

- 4.1 According to the British Geological Survey of England and Wales, the site is situated on Taplow Gravel, an Anglian to Devensian Thames River Terrace Deposit.
- 4.2 The site is generally flat. To the south of the site, levelling for use of the area as football pitches has taken place, although there was no indication of the levelling extending into the investigation area. The public footpath 'The Avenue', which runs through the centre of the two areas was delineated by two parallel rows of mature bushes, either side of The Avenue, however there were no visible earthworks associated with this feature.



## **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 gravel, redeposited in secondary contexts 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 close to alluvial facies would have been particularly attractive due to their proximity to the rich natural resources of the floodplain.

5.2.3 Artefacts of Neolithic to Bronze Age date have been found in the vicinity of the site. A Bronze Age ring ditch was also unearthed in the location of Ilford golf course.

5.2.4 No finds or features of Iron Age date are present in the area (Scott Wilson 2007).

### **5.3 Roman**

5.3.1 Roman remains have been discovered in Wanstead Park, including the remnants of a mosaic, building foundations and a cemetery.

5.3.2 Activity seems to have concentrated around the cross roads of two Roman Roads overlooking the Roding Valley. A Roman Road is also thought to run to the southwest, crossing the pipeline at Wanstead Flats in the position of the evaluation area (Scott Wilson 2007).

### **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 Documentary sources suggest a moated manor house was once situated in the current location of London Cemetery to the east of the site.

5.4.3 Wanstead House, located to the south of the site, replaced the earlier Royal Hunting Lodge of Wanstead Hall, constructed in 1499 AD (Scott Wilson 2007).

### **5.5 Post-Medieval**

5.5.1 Cartographic sources suggest that the majority of the pipeline route lay in the grounds of large houses during the 18<sup>th</sup> century, including Alderbrook House, Wanstead

House Park, Wanstead House and the grounds of Woodford Hall (Scott Wilson 2007).



## 6 ARCHAEOLOGICAL METHODOLOGY

- 6.1 In accordance with the original Written Scheme of Investigation (Scott Wilson 2007), topsoil was removed from the evaluation area in order to establish the presence or absence of archaeological features of any period. In particular, a Roman Road was believed to cross the pipeline in this location.
- 6.2 The original evaluation trench was to measure 150m northwest-southeast by 2m northeast-southwest. However, after consultation with Thames Water's archaeological consultant, Mike Hall, a strip and map exercise was deemed more appropriate, given the shallow nature of the underlying geology. Consequently, two larger open areas with a total area of 771.3m<sup>2</sup> were opened.
- 6.3 The strip and map exercise cut across a footpath known as "The Avenue", a public right of way. Access to the site was not impeded by splitting the site into two halves, termed Trench 1 to the north and Trench 2 to the south (Figure 2) which allowed the footpath to remain open. The dimensions of Trench 1 were 45.5m north-south by 11.40m east-west, whilst the dimensions of Trench 2 were 21.32m north-south by 11.85m east-west.
- 6.4 The trenches were excavated until natural deposits were reached, c. 100mm below ground level. Excavation was carried out in spits with a mechanical excavator fitted with a ditching bucket. All machining was conducted under the supervision of the attendant archaeologist.
- 6.5 The bases of the trenches were hand cleaned before recording. 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). Individual descriptions of all archaeological strata and features excavated and exposed were entered onto pro-forma recording sheets. All plans of archaeological deposits were recorded on polyester based drawing film, the plans being drawn at a scale of 1:20 and the sections at a scale of 1:10. The OD heights of principal strata were calculated and indicated on the appropriate plans and sections. A full photographic record of the investigation was prepared, including both black and white prints and colour transparencies on 35mm film.
- 6.6 Levels were taken from a Temporary Bench Mark (TBM) with a value of 20.22m OD, located on top of a fence post in the southwest corner of Trench 1. The TBM was traversed from an Ordnance Survey Bench Mark situated on a house at 38 Bushwood, located on the corner of Bushwood and Leybourne Road, with a value of 22.24m OD. The trenches were located using a total station and tied into the Ordnance Survey grid.

## **7 ARCHAEOLOGICAL PHASE DISCUSSION**

### **7.1 Phase 1: Natural**

7.1.1 A layer of firm silty sandy gravel, context [9], was found in the base of both trenches. It was light greyish yellow to yellowish red in colour and was observed at a maximum level of 18.37m OD in Trench 1 and 18.08m OD in Trench 2. Its coarse, well sorted nature suggests accumulation in a high-energy fluvial environment. It was therefore interpreted as Thames terrace gravel, presumably forming part of the Taplow sequence.

7.1.2 The layer was sealed by a soft, light yellowish brown deposit of sandy clayey silt, termed context [8]. It was observed at a maximum height of 18.54m OD in Trench 1 and 18.28m OD in Trench 2. The layer was interpreted as weathered subsoil.

### **7.2 Phase 2: Undated**

7.2.1 A linear feature of unknown date, context [2], was observed in Trench 1 (Figure 3). It was orientated north-south and was 4m long, 0.5m wide and 0.15m deep. The feature had been filled with [1], a deposit of mid greyish brown silty sand with frequent inclusions of sub-rounded flint gravel. It did not contain any dating evidence.

### **7.3 Phase 3: Late 19<sup>th</sup> to 20<sup>th</sup> Century**

7.3.1 Two sub-circular features were unearthed in Trench 2 (Figure 3). The largest, context [6], was approximately 22m in diameter, continuing beyond the southern limit of excavation, whilst the smaller, context [4], was between 4m and 5m in diameter. Both had been backfilled with dark greyish brown clayey silty sand, respectively termed contexts [5] and [3]. Each contained dating evidence in the form of late 19<sup>th</sup> to 20<sup>th</sup> century pottery, glass and machine pressed yellow stock bricks. Neither was excavated, and as a consequence their depths remain unknown. They were interpreted as possible gravel extraction pits. The larger of the two may also have functioned as a pond.

### **7.4 Phase 4: Modern**

7.4.1 The remains of the two parallel rows of the bushes, which previously formed The Avenue, were also identified (Figure 3). These had been grubbed out prior to the evaluation work taking place. The root bowls of the bushes were recorded only in plan.

7.4.2 A 0.30m to 0.40m thick layer of modern topsoil, context [7], sealed the entire site.



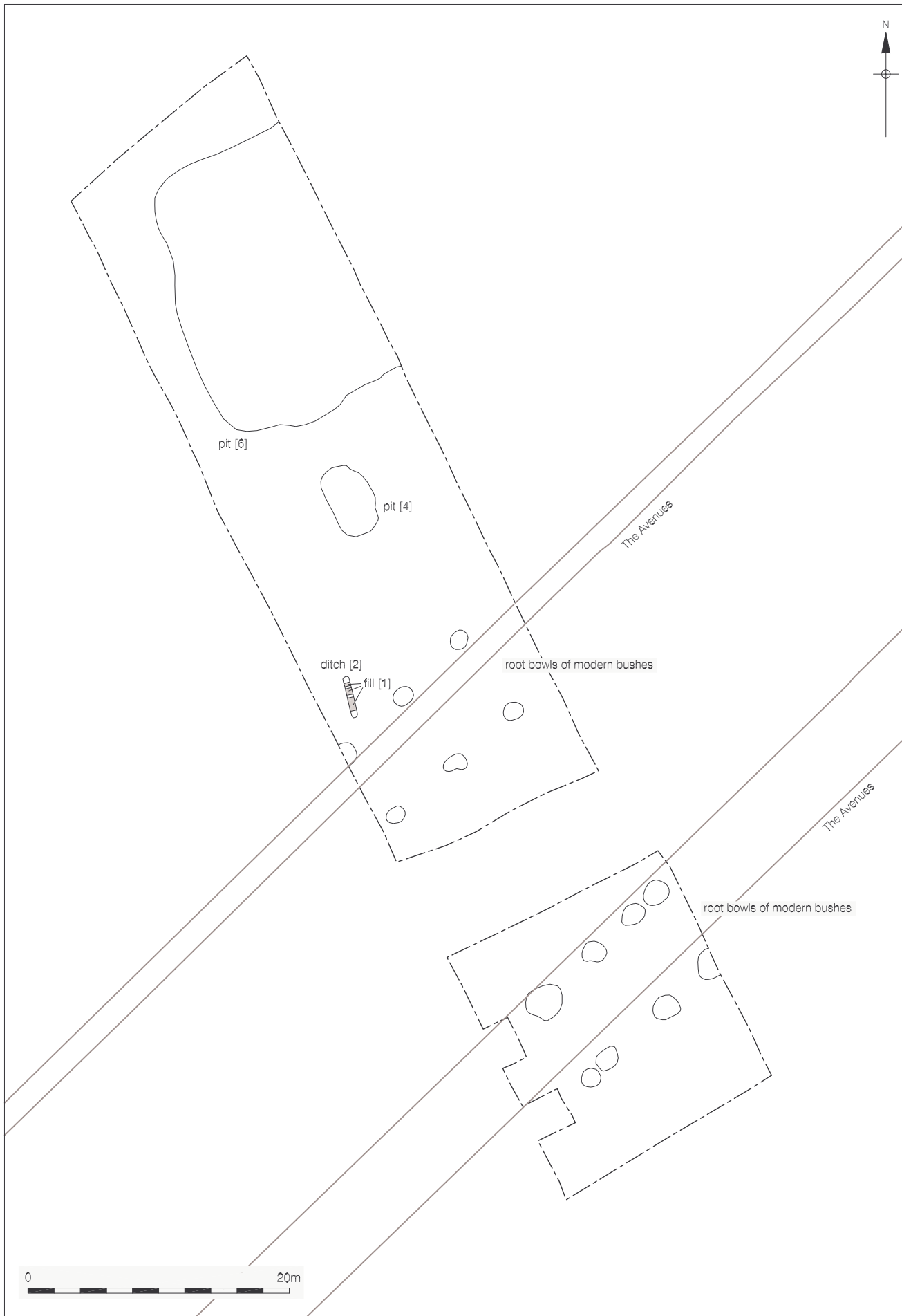


Figure 3  
Trench Plan  
1:400 at A4

## **8 INTERPRETATIONS AND CONCLUSIONS**

- 8.1 The principal objectives of the archaeological evaluation were to assess the nature of the underlying drift geology and to determine the presence or absence of archaeological activity of any period. These objectives were achieved and the results are summarised below.
- 8.2 A deposit of natural sand and gravel, found in both trenches, presumably underlies the entire site. It is part of the Taplow Terrace sequence, deposited by the Thames during the Anglian to Devensian glacial stages. The layer was sealed by a weathered subsoil, which was in turn truncated by one linear feature of unknown date and two sub-circular pits that may be the result of late 19<sup>th</sup> to 20<sup>th</sup> century gravel extraction.
- 8.3 No deposits or features of archaeological significance were unearthed during the evaluation.



## 9 BIBLIOGRAPHY

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Museum of London Archaeology Service, 1994 *Archaeological Site Manual*

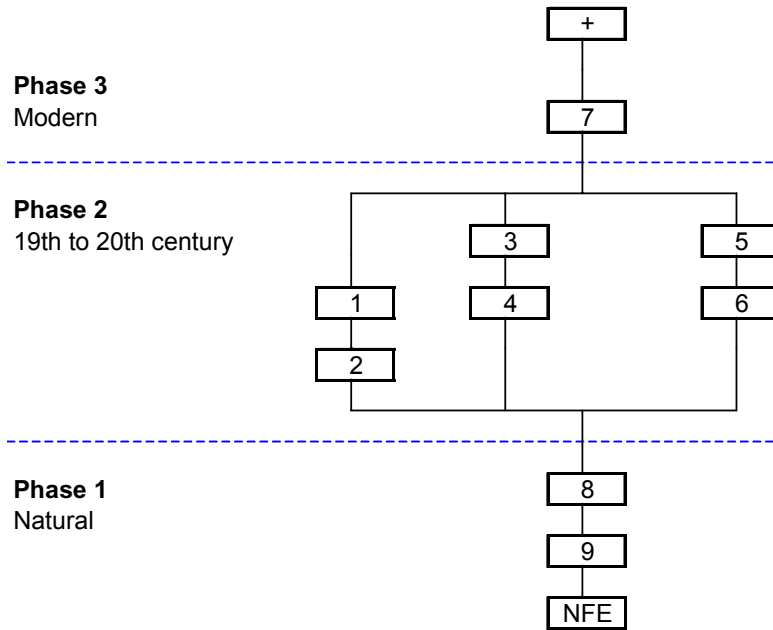
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**Appendix 1: Context Index**

Context No.	Plan	Trench No.	Section / Elevation	Type	Description	Date	M OD Highest	M OD Lowest	Phase
1	1	1	N/A	Fill	Fill of [2]	Undated	18.57	18.52	2
2	1	1	N/A	Cut	Shallow undated linear feature	Undated	18.57	18.49	2
3	3	2	N/A	Fill	Fill of [4]	19th to 20th century	18.08	18.08	3
4	3	2	N/A	Cut	Gravel extraction pit	19th to 20th century	18.08	17.97	3
5	3	2	N/A	Fill	Fill of [6]	19th to 20th century	18.08	17.97	3
6	3	2	N/A	Cut	Pond and / or gravel extraction pit	19th to 20th century	18.08	18.08	3
7	1, 2, 3	1 & 2	N/A	Layer	Modern topsoil	Modern	18.87	18.35	4
8	1, 2, 3	1 & 2	N/A	Layer	Weathered subsoil	Natural	18.57	17.97	1
9	1, 2, 3	1	N/A	Layer	Natural Gravel	Natural	18.37	17.77	1



## Appendix 2: Site Matrix



### Appendix 3: Oasis Form

OASIS ID: preconst1-42572

#### Project details

Project name Thames Gateway Water Treatment Plant Distribution Pipeline

Short description of the project An archaeological strip and map exercise to evaluate the archaeological potential of land at Wanstead Flats, London Borough of Redbridge, forming part of the Thames Gateway Water Treatment Plant Distribution Pipeline.

Project dates Start: 08-05-2008 End: 14-05-2008

Previous/future work No / No

Any associated project reference codes TWT08 - Sitecode

Type of project Field evaluation

Site status Local Authority Designated Archaeological Area

Current Land use Grassland Heathland 5 - Character undetermined

Monument type PIT Post Medieval

Monument type DITCH Uncertain

Methods & techniques 'Sample Trenches'

Development type Pipelines/cables (e.g. gas, electric, telephone, TV cable, water, sewage, drainage etc.)

Prompt Direction from Local Planning Authority - PPG16

Position in the planning process After full determination (eg. As a condition)

#### Project location

Country England

Site location	GREATER LONDON REDBRIDGE WANSTEAD Thames Gateway Water Treatment Plant Distribution Pipeline
Postcode	E11 3XX
Study area	771.30 Square metres
Site coordinates	TQ 3996 8705 51.5644385782 0.01948337633830 51 33 51 N 000 01 10 E Point
Height OD	Min: 17.77m Max: 18.37m

### Project creators

Name of Organisation	Pre-Construct Archaeology Ltd
Project brief originator	Greater London Archaeological Advisory Service
Project design originator	Scott Wilson Ltd
Project director/manager	Helen Hawkins
Project supervisor	William Johnston
Type of sponsor/funding body	Developer
Name of sponsor/funding body	Thames Water

### Project bibliography

1

Publication type	Grey literature (unpublished document/manuscript)
Title	An Archaeological Evaluation on the Thames Gateway Water Treatment Plant Distribution Pipeline
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Date	2008



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