

Stockley Airport Junction Greater London

Archaeological Watching Brief Report



Ref: 100310 July 2013





Archaeological Watching Brief Report

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100310.01



Quality Assurance

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Archaeological Watching Brief Report

Summary

Wessex Archaeology was commissioned by Thomson Habitats, on behalf of Carillion plc, to carry out an Archaeological Watching Brief during construction works at Stockley Airport Junction. The scheme is part of the ongoing programme of works associated with the Crossrail Scheme. The proposed junction is located between West Drayton and Hayes and Harlington train stations, in the London Bough of Hillingdon.

As stated in the WSI (Crossrail, 2011c) the project is being undertaken to provide a grade separated junction to facilitate Crossrail and Heathrow Express service movements from the Main and Relief lines to Heathrow and London Paddington without disruption to Main Line services. This would be achieved by providing new structures to support the new tracks crossing over the railway and running alongside the existing lines.

The watching brief monitored the works at the Western Flyover, Central Pier, and between the Main and Relief railway lines. This involved the pre-drilling of 18 new pile locations, and the machine excavation of ground surrounding 24 existing piles in order to reduce the ground level enough to enable the piles to be capped. These investigations were all carried out under the supervision of a fully trained and suitably experienced archaeologist.

No significant archaeological features or deposits were encountered during the investigations. The stratigraphic model across the Site has revealed several layers of made ground down to c. 1.40m below ground level, primarily comprising build up for the railway and working platform, overlying clean *in situ* terrace gravel. The sharp contact between the overlying made ground and the gravel deposits suggests the upper profile of the terrace gravel has been truncated in the past; most likely for the construction of the railway lines.



Archaeological Watching Brief Report

Acknowledgements

The archaeological watching brief was commissioned by Thomson Habitats, on behalf of Carillion plc, and the assistance of Daniel Thomas (Business Manager) and Mike Rennie (Director) of Thomson Habitats and Elwen Tasker (Environment Manager) of Carillion is gratefully acknowledged. Wessex Archaeology would also like to thank Andy Buckley, the Network Rail (Crossrail Surface Works) Programme Archaeologist, for his assistance and advice throughout the project.

The fieldwork was conducted by Lisa McCaig and Andy Crockett between the 8th and 26th June. This report and figure was compiled by Adela Murray-Brown, and edited by Andy Crockett, who also managed the project on behalf of Wessex Archaeology.



Archaeological Watching Brief Report

1 Introduction

1.1 Project background

- 1.1.1 Wessex Archaeology was commissioned by Thomson Habitats, on behalf of Carillion plc, to undertake an archaeological watching brief during ground works associated with the Crossrail Scheme developments at Stockley Airport Junction (hereafter referred to as 'the Site') and centred on National Grid Reference (NGR) 507617 179850 (Figure 1).
- 1.1.2 The archaeological work was undertaken in accordance with a Written Scheme of Investigation (WSI) (Crossrail 2011a; 2011b). All works were carried out in accordance with the relevant guidance given in the Institute for Archaeologist's *Standard and Guidance for an Archaeological Watching Brief* (IfA 2008).
- 1.1.3 The archaeological watching brief was carried out between the 8th and the 26th of June 2013.

1.2 Planning background

1.2.1 As stated in the WSI (Crossrail 2011b) the project is being undertaken to provide a grade separated junction to facilitate Crossrail and Heathrow Express service movements from the Main and Relief lines to Heathrow and London Paddington without disruption to Main Line services. This would be achieved by providing new structures to support the new tracks crossing over the railway and running alongside the existing lines.

2 The Site

2.1 Location, geology and topography

- 2.1.1 The Site is located between West Drayton and Hayes and Harlington train stations in the London Borough of Hillingdon, and wholly within the rail network corridor between the above stations.
- 2.1.2 The geology of this area is Lynch Hill Thames gravels, overlain by the Langley Silt Complex (brickearth). Brickearth is mapped by the British Geological Survey (BGS) along the main line of the route, but north of the railway records indicate the brickearth has been extensively removed, primarily quarried for the brick industry during the 19th and early 20th centuries.
- 2.1.3 Topographically, the ground around the site is relatively level, at *c.* 31-33m m above Ordnance Datum (aOD).



3 Archaeological background

3.1 Previous investigations

- 3.1.1 A Detailed Desk Based Assessments (DDBA) was produced for the Stockley Airport Junction (Crossrail 2011c) which identified likely truncation within the Site due to the extraction of brick earth but with some potential for prehistoric activity.
- 3.1.2 Ground Investigation works were undertaken as part of the single option selection design phase. Although, due to the nature of the works, no archaeological watching brief was undertaken, the logs were examined to establish the ground model for the potential presence of archaeological remains.
- 3.1.3 As part of earlier works historic building recording was undertaken on the Old Stockley Road Bridge just to the west of the Site prior to its demolition (Wessex Archaeology 2013a). An archaeological watching brief on works in this area did not identify any archaeological finds or features with the exception of a remnant of the former bridge (Wessex Archaeology 2013b).

3.2 Archaeological and historical background

- 3.2.1 The archaeological background and potential for the site is considered at length in the site-specific WSI, and will not be repeated here. In summary the archaeological potential (as defined in the project desk-based assessment), comprises two known cultural heritage sites in the proposed development area:
 - A spur of the Grand Union Canal (which forms the western boundary of the Site; NGR 507917, 179763); and
 - The site of a post-medieval farmhouse (at the eastern edge of the Site; NGR 508995, 179537)
- 3.2.2 There is potential for *in situ* Palaeolithic remains within the Lynch Hill gravels, or at the interface with the overlying brickearth; however, much of the existing evidence for Palaeolithic activity was found during extensive quarrying in this area.
- 3.2.3 Otherwise, the site is considered to have low potential for other unknown remains, and it is likely that much of the site (on the basis of historic mapping) has been quarried for brickearth in the 19th and early 20th centuries, and/ or impacted as a result of the development of the rail network.

4 Methodology

4.1 Aims and objectives

- 4.1.1 With due regard to standards and protocols, the aim of the watching brief was to identify the presence of any unknown buried archaeological remains within the scheme footprint.
- 4.1.2 General aims identified in the Research Framework for London Archaeology (MoLAS 2002) that are relevant to the Stockley Junction are:

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- To identify, investigate and record any significant archaeological remains revealed by the groundworks, where such remains cannot be avoided by the ground investigations; paying particular regard to the potential for early Prehistoric levels not previously noted in the area
- To establish a chronology for the archaeological remains in the area
- To contribute to an understanding of the potential impact of the development
- 4.1.3 The following site specific research aims can be outlined for the investigations at the Stockley Airport Junction:
 - What is the development of the local landscape from prehistory to the medieval period?
 - Are any Palaeolithic remains present, and if so, at what level(s) and at what date did they form?
 - Is there any evidence for buried land surfaces?
 - What evidence exists in the landscape for the development of the Roman and Saxon landscape?
 - What information exists about the development of the agricultural and industrial landscape in the post-medieval period?

4.2 Standards and guidance

- 4.2.1 The archaeological watching brief was undertaken in accordance with the following guidance documents (where relevant):
 - Institute for Archaeologists Standard and Guidance for an archaeological watching brief, 2008 (revised);
 - Museum of London collections and archive policies and guidance;
 - English Heritage Geoarchaeology, 2007;
 - English Heritage Archaeological Science at PPG16 interventions: Best Practice Guidance for Curators and Commissioning Archaeologists, 2006;
 - GLAAS Archaeological Guidance Papers 1999;
 - Corporation of London archaeology guidance Planning Advice Note 3, 2004;
 - Museum of London Archaeology Service site recording manual (MOLAS 1994); and
 - English Heritage Understanding Historic Buildings A guide to good recording practice,
 2006

4.3 Fieldwork methodology

4.3.1 The overall strategy for archaeological works has been set out in the Crossrail Generic Written Scheme of Investigation (Crossrail 2011a; GWSI; doc. ref. 14022008-44ES-P2Z1). The GWSI presents the strategy for archaeology design, evaluation, mitigation, analysis, dissemination and archive deposition that will be adopted for the design and construction of Crossrail and provides a general statement of objectives, standards and structure for the planning and implementation of archaeological works.



- 4.3.2 A site-specific written scheme of investigation for Stockley Airport Junction, detailing the archaeological works to be undertaken at the Site, has been prepared (Crossrail 2011b; WSK1B-HEN-REP-JED-000004, Rev B03). This will not be repeated here.
- 4.3.3 All archaeological work was undertaken in accordance with the relevant legislation, published standards, accepted industry practice, national guidelines and codes of practice appropriate to Crossrail, as set out in the GWSI, SSWSI and accompanying project procedures and standards.

5 Archaeological results

5.1 Introduction

- 5.1.1 The following section provides a summary description of the results of the watching brief. A tabulated summary of the deposits encountered is provided in **Appendix 1** of this report. **Figure 1** presents the overall location of each trench across the Site and **Plates 1 to 4** provide a general illustration of the stratigraphy across the Site, and working conditions/ restrictions.
- 5.1.2 The following section should be read in conjunction with **Appendix 1**.

5.2 Site-wide stratigraphy and geology

- 5.2.1 The stratigraphic model across the Site has revealed several layers of made ground down to *c*.

 1.40m below modern ground survey (the build up for the railway and working platform), sealing directly on to the surface of *in situ* Lynch Hill terrace gravel (at approx. 31.6m aOD) brickearth deposits or a weathered mantle on the top of the terrace gravel were not present.
- 5.2.2 The pile cap trench had been sheet-piled prior to the archaeological watching brief, and it was not therefore possible to obtain a detailed record of the depositional sequence encountered. Furthermore, the relatively closely spaced 1m diameter concrete piles within the pile cap trench (arranged in rows of three) further restricted opportunities for detailed observation.
- 5.2.3 However, despite these constraints it was clear from the very sharp contact between the *c*. 1.40m of mixed modern overburden and underlying *in situ* terrace gravels that substantial truncation of the gravel had occurred in the past. This truncation is likely to result from either historic unmapped quarrying of the overlying brickearth, or potentially truncation during the development of the rail network at this location.
- 5.2.4 An interim report on the findings was issued via e-mail on 26th June 2013, on the basis of which the Network Rail Project Archaeologist concluded that no further archaeological watching brief was required.

5.3 Anthropogenic indicators

5.3.1 No artefacts of pre-modern date were observed within the trenches or the excavated spoil, including close examination of the terrace gravels excavated in an attempt to identify artefacts of Palaeolithic or Mesolithic date. Modern (i.e. late 20th century or later) artefacts were noted but not retained. No features or deposits suitable for environmental sampling were identified during the course of the evaluation.



6 Assessment of results

6.1.1 With the exception of the two known assets in the development area the overall archaeological potential was considered to be low and the area observed was relatively small. With this and the degree of truncation observed the absence of finds and features is not unexpected.

7 Statement of potential of archaeology

7.1.1 The watching brief has been successful in fulfilling the aims of the specification. The model of archaeological potential across the Site has been tested and refined and there is a very low potential for further archaeological remains to be encountered within the Site.

8 Conclusions and recommendations

- 8.1.1 The archaeological watching brief has confirmed the absence of any features or deposits of archaeological significance across the Site.
- 8.1.2 The stratigraphic model across the Site has revealed several layers of made ground lying over *in situ* terrace gravel.
- 8.1.3 The nature of the abrupt sharp contact between the base of the made ground and underlying terrace gravel indicates that the ground was significantly truncated in the past. This probably resulted in the removal of evidence relating to the Roman to post-medieval phases as identified in the research framework.

9 Publication and dissemination proposals

- 9.1.1 An OASIS online record (http://oasis.ac.uk/pages/wiki/Main) has been initiated and all appropriate parts completed for submission (Appendix 2), including an uploaded .pdf version of the entire report (a paper copy will also be included with the archive). Subject to any contractual requirements on confidentiality, copies of the OASIS record will be integrated into the relevant local and national records and published through the Archaeology Data Service ArchSearch catalogue. This will enable information from this investigation to be submitted the Greater London Historic Environment Record (GLHER).
- 9.1.2 Due to the nature of the work and its results no further publication is deemed to be warranted.

10 Archive deposition

10.1 Museum

10.1.1 The complete project archive will be prepared in accordance with Wessex Archaeology's Guidelines for Archive Preparation and in accordance with Guidelines for the Preparation of Excavation Archives for Long-Term Storage (Walker 1990) and following nationally recommended guidelines (SMA 1995). On completion of the project, the archive will be deposited with the London Archaeological Archive & research Centre (LAARC).



10.2 Archive

- 10.2.1 The archive from the archaeological works has been compiled into a stable fully cross-referenced and indexed archive in accordance with *Management of Research Projects in the Historic Environment* (English Heritage 2006).
- 10.2.2 The project archive comprises one A4 ring-bound file containing the following:
 - One Context Record Sheet
 - Day Book (3 sheets)
 - A copy of the WSI
 - A copy of this Watching Brief Report
- 10.2.3 The project archive including plans, photographs and written records are currently held at Wessex Archaeology's Rochester office under the Site code 100130. The project archive will be deposited with the LAARC.

10.3 Copyright

10.3.1 The full copyright of the written/illustrative archive relating to the Site will be retained by Wessex Archaeology Ltd under the *Copyright, Designs and Patents Act* 1988 with all rights reserved. The recipient museum, however, will be granted an exclusive license for the use of the archive for educational purposes, including academic research, providing that such use shall be non-profit making, and conforms to the *Copyright and Related Rights regulations* 2003.

10.4 Security Copy

10.4.1 In line with current best practice, on completion of the project a security copy of the paper records will be prepared, in the form of microfilm. The master jackets and one diazo copy of the microfilm will be submitted to the National Monuments Record Centre (NMR) (English Heritage) in Swindon; a second diazo copy will be deposited with the paper records at a local museum, and a third diazo copy will be retained by Wessex Archaeology.

11 Bibliography

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 Archaeological Watching Brief Report. Unpublished client report. Reference number 84770.03



12 Appendices

12.1 Appendix 1: Trench summary

Context		Description	Depth (max) from ground level	Approx. m aOD
1001	Layer	Made Ground: Type 2 crush/ hardcore. Build up for railway and working platform	0.00-0.60m	33.0-32.4
1002	Layer	Made Ground: Modern blackened crush	0.60-1.00m	32.4-32.0
1003	Layer	Made Ground: Mid reddish grey redeposited clay 1.00-1.40m		32.0-31.6
1004	Layer	Natural: Mid reddish brown sand with darker and lighter lenses containing c. 70% gravel	1.40m+	31.6



12.2 Appendix 2: OASIS form

OASIS ID: wessexar1-274468

Project details

Project name Stockley Airport Junction, London Borough of Hillingdon, Greater London

Short description of the project

Wessex Archaeology was commissioned to carry out an Archaeological Watching Brief during construction works at Stockley Airport Junction. The scheme is part of the ongoing programme of works associated with the Crossrail Scheme. The proposed junction is located between West Drayton and Hayes and Harlington train stations, in the London Bough of Hillingdon. The project is being undertaken to provide a grade separated junction to facilitate Crossrail and Heathrow Express service movements from the Main and Relief lines to Heathrow and London Paddington without disruption to Main Line services. The watching brief monitored the works at the Western Flyover, Central Pier, and between the Main and Relief railway lines. This involved the predrilling of 18 new pile locations, and the machine excavation of ground surrounding 24 existing piles in order to reduce the ground level enough to enable the piles to be capped. These investigations were all carried out under the supervision of a fully trained and suitably experienced archaeologist. No significant archaeological features or deposits were encountered during the investigations. The stratigraphic model across the Site has revealed several layers of made ground down to c. 1.40m below ground level, primarily comprising build up for the railway and working platform, overlying clean in situ terrace gravel. The sharp contact between the overlying made ground and the gravel deposits suggests the upper profile of the terrace gravel has been truncated in the past; most likely for the construction of the railway lines.

Project dates Start: 08-06-2013 End: 26-06-2013

Previous/future work Not known / Not known

Any associated project

reference codes

100310 - Contracting Unit No.

Type of project Recording project

Site status None

Current Land use Transport and Utilities 2 - Other transport infrastructure

Monument type NONE None

Significant Finds NONE None

Investigation type "Watching Brief"

Prompt National Planning Policy Framework - NPPF



OASIS ID: wessexar1-274468

Project location

Country England

Site location GREATER LONDON HILLINGDON HAYES Stockley Airport Junction, London

Borough of Hillingdon, Greater London

Postcode UB3 1RH

Study area 0 Square metres

Site coordinates TQ 07617 79850 51.506831398176 -0.449183685328 51 30 24 N 000 26 57 W Point

Height OD / Depth Min: 31.6m Max: 32m

Project creators

Name of Organisation Wessex Archaeology

Project brief originator Crossrail

Project design originator Jacobs Engineering U.K. Limited

Project director/manager A Crockett

Project supervisor Lisa McCaig

Type of sponsor/funding

body

Developer

Project archives

Physical Archive Exists? No

Physical Archive recipient London Archaeological Archive and Research Centre

Physical Archive ID 100310

Digital Archive recipient London Archaeological Archive and Research Centre

Digital Archive ID 100310

Digital Contents "none"

Digital Media available "Images raster / digital photography", "Text"

Paper Archive recipient London Archaeological Archive and Research Centre

Paper Archive ID 100310



OASIS ID: wessexar1-274468

Paper Contents "none"

Paper Media available "Context sheet", "Diary"

Project bibliography 1

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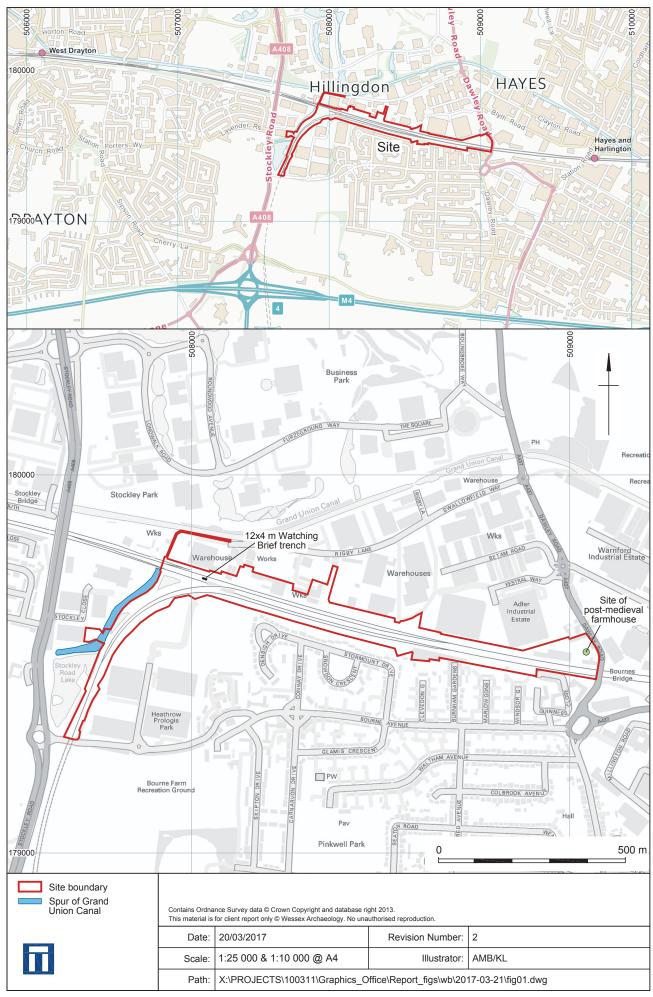




Plate 1: General view of watching brief area



Plate 2: Ground reduction around existing piles

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Plate 3: Partial removal of former pile



Plate 4: Section showing made ground

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