Eastern Apron Redevelopment Phase 2: South-Eastern Area Heathrow Airport

Archaeological Monitoring Report

Framework Archaeology

Site Code: EAN 08
Report Ref: 93014.03
April 2010

BAA Archaeology Framework

Heathrow Airport Limited

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Summary

Heathrow Airport Limited commissioned Framework Archaeology to carry out a program of archaeological monitoring during the removal of topsoil and overburden in preparation for the construction of new taxiways and the alteration of underground services. The works also included the insertion of new services and diversion of existing services. The area of development lay towards the eastern boundary of Heathrow Airport, east of the current terminal buildings (NGR 508500 176300).

The monitoring was undertaken in stages which were tied to the construction programme and was carried out between the 30th June 2008 and 10th June 2009.

Over most of the area monitored, previous construction activity had resulted in the destruction of any archaeological deposits which may once have been present. No archaeological remains were observed during the course of the monitoring.

Acknowledgements

Framework Archaeology would like to thank Heathrow Airport Limited for commissioning the archaeological monitoring and the BAA Pavement Team for their assistance and co-operation in carrying out the work. Kim Stabler of GLAAS is also thanked for her advice and guidance throughout the course of the project.

Caroline Budd managed the project on behalf of Framework Archaeology. Rebecca Fitzpatrick, Steve Beach, Gareth Chaffey, Ruth Panes, Catrin Matthews, Daniel Brace and Darryl Freer conducted the monitoring. Vasilis Tsamis compiled this report. Report illustrations were produced by Kitty Brandon.

Eastern Apron Redevelopment Phase 2: South-Eastern Area Heathrow Airport

Archaeological Monitoring Report

1 PROJECT BACKGROUND

1.1 Introduction

1.1.1 Framework Archaeology (FA) was commissioned by Heathrow Airport Limited (HAL) to carry out a programme of archaeological monitoring of the south-eastern portion of the Eastern Apron Redevelopment (hereafter 'the Site'), NGR 508500 176300 (**Figure 1**).

1.1.2 The area of development fell entirely within the study area of the Strategic Cultural Heritage Audit of Heathrow Airport, undertaken for BAA Ltd by FA in 2000 in relation to possible future development at the Airport (Framework Archaeology, June 2000).

1.1.3 Framework Archaeology was previously commissioned by BAA Ltd to undertake a desk-based assessment of the Site (Framework Archaeology, April 2005). This assessment formed an initial stage of archaeological investigation of the proposed development Site and outlined the likely archaeological implications of the development proposals. The results of the assessment were taken into account in the project design (Framework Archaeology, May 2008).

1.2 The Scheme

1.2.1 The development comprises the construction of new taxiways and the alteration of underground services. The works also include the insertion of new services and the diversion of existing services.

1.3 Planning Background

1.3.1 The scheme was undertaken as General Permitted Development in accordance with the Town and Country Planning Act 1990, and was subject to consultation with the Local Planning Authority (LPA), the London Borough of Hillingdon, under Schedule 2 Part 18 of the Town and Country Planning Order 1995.

1.3.2 English Heritage Greater London Archaeology Advisory Service (EH GLAAS), acting as archaeological advisers to the LPA, recommended that an archaeological Consideration should be attached to the GDO in line with PPG 16 Para 30:

> *No development shall take place until the applicant has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Planning Authority.*

1.3.3 English Heritage also advised that, given the restrictions affecting the Site, this consideration would be most appropriately fulfilled through a programme of archaeological monitoring.

1.3.4 A project design and detailed specification (Framework Archaeology, May 2008) was submitted to and approved by EH GLAAS, on behalf of the LPA, prior to the commencement of works.

2 GEOLOGICAL, TOPOGRAPHICAL AND ARCHAEOLOGICAL BACKGROUND

2.1 Introduction

2.1.1 The geological, topographical and archaeological background has already been described within the archaeological desk-based assessment for the proposed scheme (Framework Archaeology, October 2005) and is not repeated here. A brief summary is provided below to set the context for the results of the monitoring exercise.

2.2 Topography and Geology

2.2.1 The scheme area is located on the north side of the Middle Thames Valley on the Taplow Terrace gravels at a height of *c* 23.5m above Ordnance Datum (aOD). The gravels are in places capped by a yellow/brown sand and silt deposit known as the Langley Silt Complex, more commonly referred to as 'brickearth'.

2.3 Archaeological Background

2.3.1 Extensive excavations in the area around Heathrow since 1945 have demonstrated the presence complex prehistoric, Romano-British and Medieval landscapes.

2.3.2 Excavations at Terminal 5 (Framework Archaeology 2006 and forthcoming) have shown that during the Neolithic, the landscape was transformed by the construction of cursus monuments and small circular enclosures. In turn this landscape was redefined by a complex system of fields and settlements originating during the Early-Middle Bronze Age (from 1700 BC onwards).

Larger and more widely spaced settlements were a feature of the Iron Age, which in turn were replaced by Romano-British farmsteads and fields set out along new alignments. Saxon settlement was sparse, but small medieval settlements and hamlets were much more numerous.

2.4 Archaeology in the vicinity of the site

2.4.1 The area of development contained no known archaeological sites or finds.

2.4.2 Some 500m to the south of the site, a Middle Bronze Age pit or waterhole was found during a watching brief at Grass Area 12 (**Figure 2**).

2.4.3 Some 200m to the north, excavations at Caesar's Camp (**Figure 1**) revealed a pair of pits of Neolithic date overlain by an unenclosed settlement of Late Bronze Age date which was in turn overlain by an enclosure of Iron Age date containing a small settlement and a temple or shrine (Grimes and Close-Brooks 1993).

2.4.4 An enclosure, shown as an earthwork known as Fernhill (**Figure 1**) on Rocque's map of 1765, existed some 800m to the south-east of the site and may have dated to the Late Bronze Age or Early Iron Age (Cotton 1990).

3 ARCHAEOLOGICAL POTENTIAL

3.1.1 The desk-based assessment concluded that the site had a very low potential to contain deposits dating to the Palaeolithic period; a low potential for deposits dating to the Mesolithic period; a moderate potential for deposits dating to the Neolithic period; a moderate to high potential for deposits dating to the Bronze Age, Iron Age and Roman periods; and a low potential for deposits dating to the Medieval, Post-medieval and modern periods.

4 EXISTING ARCHAEOLOGICAL IMPACT

4.1 Introduction

4.1.1 It was predicted that previous and current land use would have resulted in some impact upon any archaeological remains that may once have existed within the site. These predicted impacts are given in detail in the desk-based assessment (Framework Archaeology, October 2005) and are summarised below.

- Possible ploughing and tree root damage will have damaged archaeology across much of the Site, although it is possible that deep cut features such as pits, ditches, wells and possibly building foundations may survive partially intact;
- Borrow pits and ponds are likely to have seriously compromised the survival of archaeological features, or to have completely destroyed them.

- Changes in ground level associated with the construction of the airport will have had a varying impact upon archaeological features, dependant on the depth of pavements and the possibility that some areas were built up rather than reduced;
- Existing taxiway and runway pavement will have had a severe effect on potential archaeological deposits;
- Deep archaeological cut features may survive beneath service trenches. The integrity of any archaeological remains present will have been compromised by isolation into stratigraphic 'islands'.

5 MONITORING AIMS AND OBJECTIVES

5.1.1 The aims in accordance with the project design (Framework Archaeology, May 2008), were to observe the topsoil strip and subsequent mass reduction. Also, to record, as far as was reasonably practicable, the distribution, nature, date and extent of any archaeological remains within those areas of the scheme which had not already been subject to significant impact, or were subject to operational constraints.

5.1.2 The archaeological monitoring specifically targeted areas of identified high archaeological potential within the boundary limits defined by each phase of works.

6 METHODOLOGY

6.1 Introduction

6.1.1 The on-site archaeological monitoring methodology, as well as the proposed finds and environmental sampling strategy, were set out in full and agreed by GLASS on behalf of the LPA prior to the commencement of the works within the specification and project-design (Framework Archaeology, May 2008) and are not reiterated in full here.

6.1.2 The Site was visited intermittently between 30th June 2008 and 10th June 2009.

6.1.3 All areas were mechanically stripped using a fifteen ton, 360° excavator, equipped with a 2.50m wide toothless bucket. The turf and topsoil were kept separate. Further excavation was required in order to get a clean surface where the natural geology could be distinguished from potential archaeology and modern anomalies/services.

6.2 Health and Safety

6.2.1 All work was carried out in accordance with the Health and Safety at Work etc. Act 1974 and the Management of Health and Safety Regulations 1992 and all other relevant Health and Safety legislation and codes of practice in force at the time.

6.2.2 In addition the guidance given in English Heritage London Region's *Standards and Practices in Archaeological Fieldwork* (Archaeological Guidance Paper 3 paras 4.1 to 4.5 inclusive, Revised June 1998) was followed.

6.2.3 Prior to the commencement of fieldwork a Risk Assessment was produced. All Framework Archaeology site staff involved in the works signed and complied with this document.

6.3 Constraints

6.3.1 The scheme area was designated as Airside and therefore was subject to special security and operational restrictions. All personnel involved in Airside work complied with these restrictions, which overrode any archaeological considerations.

6.4 Fieldwork Strategy

6.4.1 Areas of high archaeological potential were monitored. In particular the zones observed were 1A (1), 1A(2) North, 1A(2) South, 3A, 3B, and 3C (**Figure 2**). Monitoring was undertaken whilst ground reduction was being carried out in those areas which were not subject to the constraints stated above (Section 6.3.1).

6.4.2 Once archaeological monitoring of an area was completed and found to be devoid of any features/deposits, these areas of the Site were identified to the civil engineer contractors so that groundwork could proceed. Each monitoring visit was concluded when it was clear that no archaeological remains survived.

7 RESULTS

7.1.1 No archaeological features/deposits were identified during the monitoring works and no artefactual or palaeo-environmental material was revealed.

7.1.2 In area 1A(1) the natural geology comprised gravel and mid reddish yellow brickearth. It was revealed at 0.40m depth with no subsoil deposits. Several modern disturbances were identified, one of which was thought to be associated with the previous taxiway redevelopment.

7.1.3 In areas 1A(2) North and South (**Plate 1**) the underlying natural geology contained higher proportions of gravel and the brickearth included a higher clay content with grey mottling. As previously there were no subsoil deposits. The area was machined to an approximate depth of 0.40m-0.50m below of the level turf line.

7.1.4 In area 3A (**Plate 2**) a series of small test pits were excavated which revealed modern services. Within these test pits the deposits comprised topsoil of 0.40m depth overlying natural sands and gravels.

7.1.5 Monitoring of areas 3B and 3C revealed modern services (field drains) and a deposit profile consisting of 0.40m deep topsoil overlying natural mid yellowish brown brickearth.

8 CONCLUSIONS

8.1.1 It is clear that, even in the areas previously identified as having high potential for the survival of archaeological remains, past activity associated with the construction of the airport and pre-airport quarrying has resulted in the truncation, across much of the site, of any archaeological deposits that may have been present.

8.1.2 The results of the archaeological monitoring confirm that there has been considerable and extensive reduction of ground levels prior to the construction of the existing taxiways and grass areas.

9 ARCHIVE

9.1.1 The project archive will be prepared in accordance with the Museum of London Guidelines for Archive Preparation and with the guidelines outlined in Appendix 3 of Management of Archaeological Projects (English Heritage 1991). The archive from the project will be deposited with the Museum of London under the site code EAN08.

10 REFERENCES

Cotton, J, 1990, StJohn's Camp, alias Fern Hill: a forgotten west Middlesex earthwork, in *Transactions of the London and Middlesex Archaeological Society*, Vol 41, 1-8

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Grimes, W F, and Close-Brooks, J, 1993, The excavation of Caesar's Camp, Heathrow, Harmondsworth, Middlesex, 1944, in *Proc. Prehist. Soc.* Vol 59, 303-60

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Project details

Project name	Eastern Apron Redevelopment Phase 2: South-Eastern Area, Heathrow Airport
Short description of the project	Framework Archaeology (FA) was commissioned by Heathrow Airport Limited (HAL) to carry out a programme of archaeological monitoring of the south-eastern portion of the Eastern Apron Redevelopment , NGR 508500 176300. The area of development fell entirely within the study area of the Strategic Cultural Heritage Audit of Heathrow Airport, undertaken for BAA Ltd by FA in 2000 in relation to possible future development at the Airport. FA was previously commissioned by BAA Ltd to undertake a desk-based assessment of the Site. This assessment formed an initial stage of archaeological investigation of the proposed development Site and outlined the likely archaeological implications of the development proposals. The results of the assessment were taken into account in the project design.
Project dates	Start: 30-06-2008 End: 10-06-2009
Previous/future work	Yes / Not known
Any associated project reference codes	EAN08 - Sitecode
Any associated project reference codes	93014 - Contracting Unit No.
Type of project	Field evaluation
Site status	None
Current Land use	Transport and Utilities 2 - Other transport infrastructure
Monument type	NONE None
Significant Finds	NONE None
Methods & techniques	'Visual Inspection'
Development type	Not recorded

Prompt	Direction from Local Planning Authority - PPG16
Position in the planning process	Not known / Not recorded

Project location

Country	England
Site location	GREATER LONDON HOUNSLOW HOUNSLOW Heathrow Airport
Study area	284020.00 Square metres
Site coordinates	TQ 508500 176300 50.9377834618 0.147232254363 50 56 16 N 000 08 50 E Point
Height OD / Depth	Min: 23.50m Max: 23.50m

Project creators

Name of Organisation	Framework Archaeology
Project brief originator	Self (i.e. landowner, developer, etc.)
Project design originator	Framework Archaeology
Project director/manager	Caroline Budd
Project supervisor	Steve Beach, Gareth Chaffey, Ruth Panes, Catrin Matthews, Daniel Brace and Darryl Freer

Project archives

Physical Archive Exists?	No
Digital Archive recipient	Museum of London

Digital Archive ID	EAN08
Digital Contents	'other'
Digital Media available	'Database','Images raster / digital photography','Text'
Paper Archive recipient	Museum of London
Paper Archive ID	EAN08
Paper Contents	'other'
Paper Media available	'Context sheet','Microfilm','Notebook - Excavation',' Research',' General Notes','Report','Unspecified Archive'

Project bibliography 1

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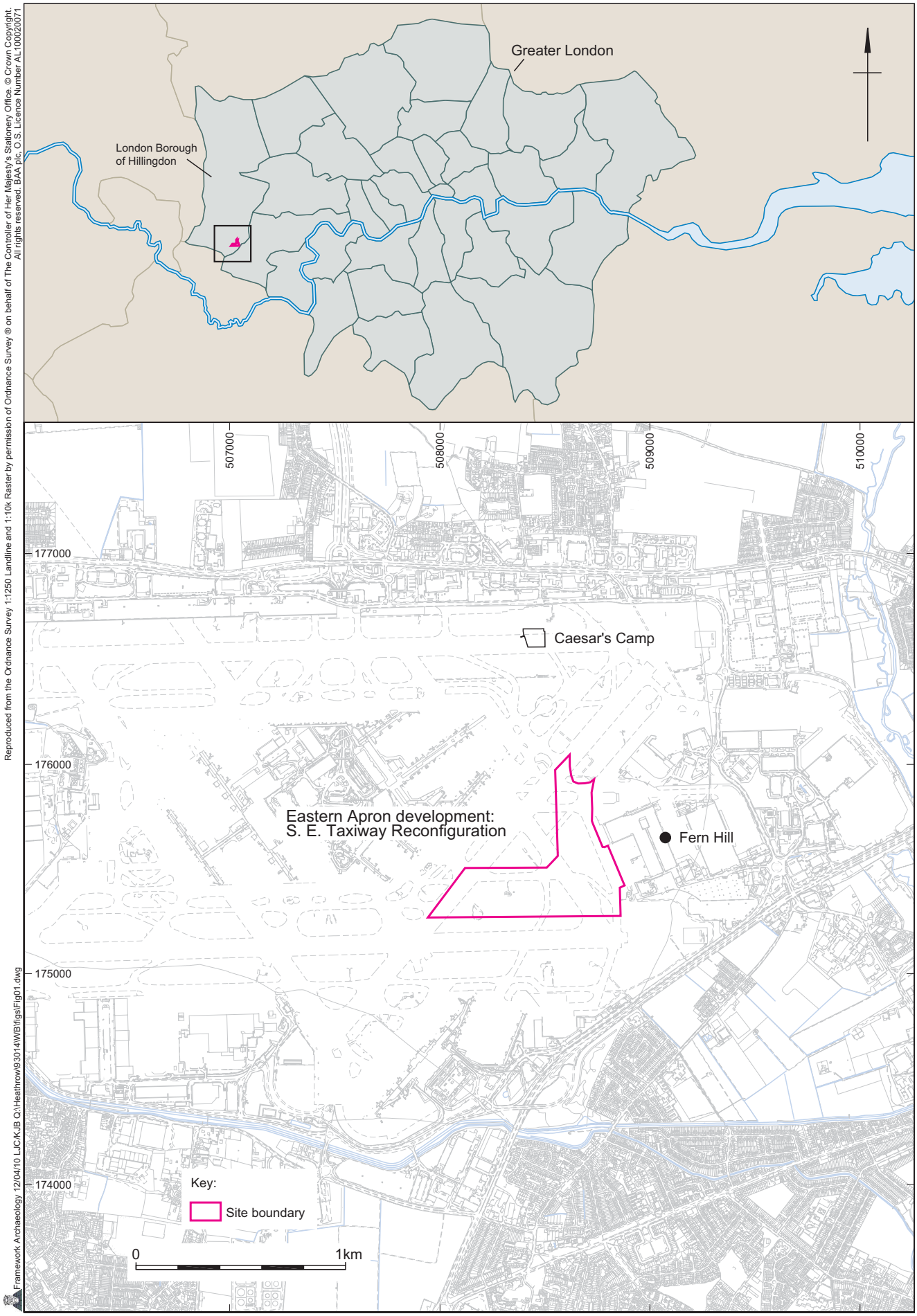

Site location and watching brief area

Figure 1

508000

508500

509000

176000

175500

Eastern Apron development:
S. E. Taxiway Reconfiguration

Extent of SE Taxiway enhancement project

Area of high potential archaeological survival

Area of low potential archaeological survival

Area of no archaeological survival

Existing pavement, no proposed change

No impact beneath existing formation

No development

WA 2008/09 observed areas

0 100 200m

3A

3A

1A(1)

1A(2)

1A(2)

Grass Area 12

3B

3C

Heathrow A

Fire Training Ground

Aircraft Taxiing Bay

Air Shaft

Wind Sock

Approach Lights

Monitored areas within Eastern Apron Development

Figure 2

Plate 1: Overview of Area 1A(2) from the south

Plate 2: Overview of Area 3A from the south-east

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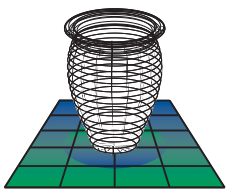

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