The Archive arriving on Platform 1...
Digital Archives and Mega-infrastructure projects

Julian Richards, Tim Evans, Katie Green, Kieron Niven & Jenny O’Brien

CHNT, Vienna
4 Nov 2019
Archaeology Data Service

- UK National digital repository
- Set up in 1996
- Based within the University of York
- 12 staff
- Business model based upon charging policy
- Trusted Digital Repository: Data Seal of Approval
- Received Digital Preservation Coalition’s Decennial Award in 2012

http://archaeologydataservice.ac.uk

The Archaeology Data Service is the only accredited digital repository in the UK for heritage data, with over 20 years of experience supporting research, learning and teaching with free, high quality and dependable digital resources.
“The HS2 Ltd historic environment digital archive will be the largest historic environment digital archive ever compiled in the UK.

The ADS will provide a single cohesive sustainable and accessible archive location for the HS2 Ltd archived historic environment digital data.”
ADS experience:

- Stansted Airport 2009
- Heathrow Terminal 5 2011
- A46, A1, A14 trunk roads
- CTRL: Channel Tunnel Rail Link 2004
- Crossrail 2019
- HS2: HighSpeed2 2019+

- Challenges and opportunities
Issues to consider

- Largest transport infrastructure projects ever undertaken in UK
- Major financial investment
- Often direct Govt funding
- Archaeology = tiny fraction of budget
- Digital archive costs = tiny proportion of that
- Working within “Best value” frameworks
The Stansted Framework Project
Framework Archaeology, 2009

Introduction
Framework Archaeology is a Joint Venture agreement between Oxford Archaeology (OA) and Wessex Archaeology (WA) to provide archaeological services to BAA. Given the potential scale of some of BAA's projects, the joint venture enables Framework Archaeology to draw on the full resources of both OA and WA, including site staff, specialist managers, administrative support, and technical facilities. This combination of resources (totalling over 300 staff) considerably reduces risk for both our client and us, and provides Framework Archaeology with a wider skills base.

Framework Archaeology is committed to a particular archaeological philosophy developed by BAA's archaeological consultants, Gill Andrews and John Barrett. This is concerned with understanding how people inhabited past landscapes: archaeology as a study of people rather than deposits or objects. This approach is at the heart of the Archaeological Policy adopted by the BAA Main Board. Framework projects are thus academically driven but undertaken within a commercial environment. In order to fulfil the approach a Framework Archaeology recording system has been developed and is now in operation on all Framework Projects. It places great emphasis on interpretation in addition to recording, and developing a historical narrative as the site is excavated (Andrews, Barrett & Lewis 2000).

Between 1999 and 2004, Framework Archaeology undertook a series of large-scale archaeological excavations at Stansted Airport, Essex. These were undertaken in advance of redevelopment work within the Stansted Airport Limited landholding. The developments were designed to improve facilities for passengers or to augment the infrastructure of the Airport. The results of the archaeological excavations were published by Framework Archaeology in 2008 in the book entitled "From hunter gatherers to huntsmen: A history of the Stansted landscape" (Framework Archaeology Monograph No. 2.).
Framework Archaeology Heathrow Terminal 5 Excavation Archive
Framework Archaeology, 2011

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Between 1996 and 2000 Framework Archaeology undertook extensive excavations of an important prehistoric and Roman landscape at Perry Oaks sludge works, Heathrow, Middlesex. Further archaeological work in advance of a fifth passenger terminal ("TS") at Heathrow Airport took place from 2002 onwards, and the results of those excavations will be integrated with the data contained in this archive.

The digital archive for the Framework excavations at Stansted is also held by the ADS.
A46 Newark to Widmerpool Road Improvement scheme (2009)
Wessex Archaeology, Cotswold Archaeology, 2017

Introduction

Cotswold Wessex Archaeology, a Joint Venture between Cotswold Archaeology and Wessex Archaeology, were appointed as the archaeological contractors to Balfour Beatty Civil Engineering Limited, employed by the Highways Agency as lead contractor on the A46 Newark to Widmerpool Improvements. The project comprised on-line and offline improvements to an approximately 29km stretch of the A46 trunk road between Newark and Widmerpool, Nottinghamshire.

The course of the A46 trunk road in south-east Nottinghamshire follows the line of the Fosse Way, a Roman road linking Lincoln and Leicester. The project provided a rare opportunity to investigate not only how the construction of the Roman road influenced patterns of settlement, economy and agriculture during the period of Roman occupation, but also how those patterns had developed through the preceding prehistoric period, and in turn how they helped shape the post-Romano-British landscape up to the present day. These road improvements, as previously, largely reproduced the line of the ancient road almost two millennia after its construction.

Yet, the archaeological evidence revealed during the investigations along its course – of flint working in the Upper Palaeolithic, Mesolithic and Neolithic; barrow construction and burial in the Early Bronze Age; land division starting in the Late Bronze Age; settlement and agriculture in the Iron Age and, subsequently, in the Romano-British period flanking the Roman road and around the town of Margidunum; funerary practices of Romano-British and Saxon date; and land use from the medieval period to the present – has thrown light on longer-term patterns of continuity and change in the settlement and exploitation of the landscape.
Channel Tunnel Rail Link Section 1
Stuart Foreman, 2004 (updated 2018)

Map Search
Click on the panels of the map below to see site details.

Route Map
Click on a panel to view the sites in that area

Reproduced from the 1:250 000 'Routenmaster' series map by the permission of the Ordnance Survey on behalf of the Controller of Her Majesty's Office Crown © Copyright AL850292
Channel Tunnel Rail Link Section 1
Stuart Foreman, 2004 (updated 2018)

Map Search
Click on the panels of the map below to see site details.

Reproduced from the 1:250 000 ‘Routemaster’ series map by the permission of the Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright AL850292
Channel Tunnel Rail Link Section 1
Stuart Foreman, 2004 (updated 2018)

Map Results
Your search on Parsonage Farm returned the following results:

Results from Phase 2 (Sites)

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Project type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parsonage Farm, Westwell, Kent</td>
<td>Integrated Report</td>
</tr>
</tbody>
</table>

Results from the Scheme Wide Programme
Parsonage Farm may also be discussed in the Scheme Wide programme and watching briefs:

<table>
<thead>
<tr>
<th>Scheme Wide Programme</th>
<th>Project type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel Tunnel Rail Link Section 1 - Watching Brief Area 430, Kent</td>
<td>Scheme Wide</td>
</tr>
</tbody>
</table>

Results from Phase 1 (superseded)
N.B. Much of the work in Phase 1 has been superseded by works associated with Phase 2 and Schemewide programmes, but are included here for completeness.

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Project type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parsonage Farm (West Of Station Road), ARC PFM 97</td>
<td>Site Archives</td>
</tr>
<tr>
<td>Parsonage Farm, ARC PFM 98</td>
<td>Site Archives</td>
</tr>
</tbody>
</table>
Parsonage Farm (West Of Station Road), ARC PFM 97
Museum of London Archaeology, 2004 (updated 2017)

Introduction

As part of a programme of archaeological investigations along the route of the Channel Tunnel Rail Link, Union Railways Limited (URL) commissioned the Museum of London Archaeology Service (MoLAS) to undertake an evaluation in a field to the west of Station Road, opposite Parsonage Farm. The site (ARC PFM97) was located to the south of the M20, approximately 5km northwest of the centre of Ashford, Kent.

Sixteen trenches were originally planned, but in the course of the evaluation three additional trenches were added in the vicinity of 1677TT: 3077TT; 3078TT and 3079TT.

Natural strata consisted of Folkestone Beds sands which were sealed in places by drift deposits of sandy silt and capped, on the higher ground, by colluvial ‘head’ deposits of ‘clay-with-flints’. To the south and south-west the natural strata were removed by the channel of a relict river, now mostly infilled by hillwash deposits.

In the southern part of the site the stone foundations of a rectangular building were found, close to the bank of the relict river. The full extent of the structure was not revealed, although it was possible to postulate the presence of an internal earth floor, a hearth and an external cobbled surface. Pottery and roof tiles from these deposits indicated that the structure was of medieval date.
Channel Tunnel Rail Link Section 1
Stuart Foreman, 2004 (updated 2018)

Period Search
Select a period below to see all sites from that period.

- **Mesolithic 10,000-4000 BC**
- **Roman AD 43-410**
- **Neolithic 4000-2300 BC**
- **Early Medieval AD 410-1066**
- **Bronze Age 2300-700 BC**
- **Medieval AD 1066-1540**
- **Iron Age 700 BC-AD 43**
- **Post Medieval/Modern After 1540**

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Channel Tunnel Rail Link Section 1
Stuart Foreman, 2004 (updated 2018)

Advanced Search
Use the form below to enter a query and click search or go to the Map Search to see site details. Alternatively you can pick a site from the Site List.

Site Details
Site or place name

Intervention type

Contractor responsible

Materials and/or Features
Use this field to search the archive for feature or artefact types. This field can be used in conjunction with the Period fields below to return results from specific periods. Please use terms from the Historic England Monuments Type Thesauri or the MDA Archaeological Objects Thesauri using the Search Form facility.

Monument or Archaeological Object

Period

search reset query
Channel Tunnel Rail Link Section 1
Stuart Foreman, 2004 (updated 2018)

Programme and Site Lists
A list of discreet programmes of work that have been carried out as part of research associated with Phase Two of the Channel Tunnel Rail Link (CTRL) project, later known as High Speed 1. These are arranged

Totals since May 2011

Statistics start from May 2011 but if the values are zero to start with they are not shown. Zero values after the start of use for the archive are shown.

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Project type</th>
</tr>
</thead>
<tbody>
<tr>
<td>A20 Diversion Holm Hill, ARC HOL 98</td>
<td>Site Archives</td>
</tr>
<tr>
<td>A20 Diversion Holm Hill, ARC HOL 99</td>
<td>Site Archives</td>
</tr>
<tr>
<td>Ashenbank Wood Army Camp, ARC AWC 98</td>
<td>Site Archives</td>
</tr>
<tr>
<td>Beechbrook Wood (South Of), ARC BWD 97</td>
<td>Site Archives</td>
</tr>
<tr>
<td>Beechbrook Wood (South of), ARC BWD 98</td>
<td>Site Archives</td>
</tr>
<tr>
<td>Beechbrook Wood, ARC BBW 98</td>
<td>Site Archives</td>
</tr>
<tr>
<td>Blind Lane (West of), ARC BLN 97</td>
<td>Site Archives</td>
</tr>
</tbody>
</table>
Welcome
Explore the digital resources and services that ARIADNE has brought together from across Europe for archaeological research, learning and teaching.

Browse the Catalog
Channel Tunnel Rail Link Section 1

The Phase 1 archive of the Channel Tunnel Rail Link (CTRL), representing the route of the link from Fawkham Junction (Gravesham) to Folkestone, is a major new research archive for the archaeology of Kent. The construction of the Channel Tunnel Rail Link has provided a unique opportunity to investigate thousands of years of change and development across the landscape and the archaeological programme of works associated with CTRL is probably the largest ever undertaken in the UK. The Link is the first new railway to be built in Britain for over a century and runs for 109km (68 miles) between St Pancras station in London and the Channel Tunnel. The Phase 1 archive represents the first 74 km of this route and was finished in September 2003. The CTRL Phase 1 archive is organised at a site level allowing access to data from 122 interventions and is accompanied by extensive introductory text both at an overall project level as well as the individual site level. The archive itself contains site reports, site datasets and images for 122 excavations, evaluations and geophysical and standing building surveys provided in a number of file formats (RTF, PDF, CSV and SVG). The data can be accessed through any of three search interfaces (a spatial map search, a period search or an advanced search) or alternatively via a full site list. The CTRL archive is also fully integrated into the ADSs ArchSearch catalogue allowing spatial searches to retrieve CTRL site level data alongside archaeological data from a number of other sources such as the National Trust SMR and the National Monuments Record.

Thematical similarity

- The Stansted Framework Project
- Post-Medieval Fieldwork in Britain and Northern Ireland
- Roman Villas in the North of England
- Medieval Britain and Ireland
- The Danebury Excavations Digital Archive
- The Rural Settlement of Roman Britain: an online resource
- The Eagle in the Landscape: The Archaeology of the Cotswold Water Park

Metadata

- ARIADNE ID: 19138333
- Original ID: 335
- Language: English
- Resource type: Fieldwork archives
- Subject: agriculture
- residential structures

World, Europe, United Kingdom, England, Kent
Crossrail: Archaeological Investigations Conducted in Advance of Construction of the Elizabeth Line
Crossrail Ltd, 2019

Introduction
The construction of Crossrail through the heart of London has resulted in one of the most extensive archaeological programmes ever undertaken in the UK. The project has given archaeologists an exceptional opportunity to record important parts of London’s history.

The Generic Written Scheme of Investigation (WSI) was prepared in consultation with English Heritage and relevant County and local authority archaeologists to ensure a consistent approach across the route and throughout the life of the project.

One of the core objectives of the Crossrail archaeology programme was the dissemination of archaeology information to the wider archaeological community, together with a focused education and outreach programme for local communities.

Years of research have been carried out to understand the impact that construction will have on the archaeology along the route. Moreover, Crossrail’s archaeological team will be producing detailed reports on their findings. All the significant artefacts will be provided to the Museum of London and the Natural History Museum.
Crossrail: Archaeological Investigations Conducted in Advance of Construction of the Elizabeth Line
Crossrail Ltd, 2019

Introduction
Site List

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Primary contact
Jay Carver
Crossrail Ltd
25 Canada Square
Canary Wharf
London
E14 5LQ

Send e-mail enquiry

Resource identifiers
ADS Collection: 2902
DOI: https://doi.org/10.5284/1055125
How to cite using this DOI

Site List
- 18-19 Hanover Square, Bond Street Station (Eastern Ticket Hall) (Crossrail XSG10)
- Blomfield Street Phase 2 Mitigation, 11-12 Blomfield Street (Crossrail XTB12)
- Blomfield Worksite, Liverpool Street, 11-12 Blomfield Street, EC2 (Crossrail XSL10)
- Bond Street Station (Crossrail XSC10)
- City Wall at Old Broad Street (Crossrail XSZ11)
- Connaught Tunnel (Crossrail XSY11)
- Custom House Station, Victoria Dock Road (Crossrail XTI13)
- Eleanor Street Shaft (Crossrail XTJ13)
- Farringdon Eastern Ticket Hall, Phase 2 Mitigation, Hayne Street (Crossrail XTE12)
- Farringdon Station, Micro Works and UtilityMichelle Wheel Street Station (Crossrail XSF12)
Liverpool Street Worksite, Liverpool Street (Crossrail XSM10)
Museum of London Archaeology, 2019

Introduction

This archive presents the results of an archaeological investigation by MOLA (Museum of London Archaeology) at the site of the Crossrail Central Broadgate Ticket Hall, Liverpool Street, London EC2M, City of London (Museum of London (MoL) sitecode XSM10). The fieldwork comprised a series of watching briefs (targeted and general), evaluations and excavations, conducted between 20/02/11 and 09/10/15. These were undertaken in response to the redevelopment of the site as part of the Crossrail station at Liverpool Street: excavation of the site area to a depth of 25 metres below street level was necessary to provide below-ground concourses and booking halls and escalator access to the platforms. Documents in this archive also incorporate the results of archaeological investigation by the Museum of London Archaeology (MOLA) at the Crossrail 11–12 Blomfield Street site, EC2, in the City of London (sitecodes XSL10/XTB12). These investigations comprised a series of watching briefs (Targeted and General), evaluations and excavations conducted between 24/05/2011 and 23/01/2014.

The site lay 120m north of the Roman town boundary in a landscape dominated by a tributary of the Walbrook stream, which ran along the west edge of the site. The earliest Roman activity focused on draining the site sufficiently to allow burial and road building in the area. Extensive remains of an early 2nd- to 3rd-century AD west–east metalled road were traced across the site, along with several phases of roadside ditches. The road ran west from the main Roman road to the north (later Ermine Street) and may have led to the fort in the north-west corner of Londinium (built in stone after c AD 120). To the south of the road, seven 2nd-century AD inhumation burials, including three decapitations, and one cremation burial formed part of a burial ground in this waterlogged area. Following on earlier such finds, the large assemblage of accompanying disarticulated human bone remains one of the most intriguing
Liverpool Street Worksite, Liverpool Street (Crossrail XSM10)
Museum of London Archaeology, 2019

Downloads
Reports | Images | CAD (Vector graphics) | Spreadsheets | GIS | Harris Matrices | CT Data | X-ray Data

Reports

The project report (OASIS ID: molas1-11282) associated with this archive is currently awaiting validation and will be added to the ADS Library shortly.


Primary contact
Karen Thomas
Head of Archive
Museum of London Archaeology

Send e-mail enquiry
Challenges

Digital

• Volume of digital data
• User navigation of archives
• Project-specific recording schemes
• Complexity of data types
• Gaining access to in-house systems
• Engaging with systems dictated by engineering companies rather than archaeologists
  • e.g. BIM vs GIS
• Proprietary formats
• Currency of data
  • multiple revisions over a long project – evaluation phase etc
• Ensuring / enforcing consistency over long-running projects
Challenges

Non-Digital

• Extended Communication Channels
  • Consortia of contractors – not used to working with each other, and often with their own systems
  • Difficulty of talking directly to people doing the work

• Political sensitivities of the development
  • e.g. compulsory purchase / demolition
  • Client confidentiality vs Open Data
  • Not even allowed to talk about it!

Photo: Press Association
Opportunities

Digital

• Integrated access and search across multiple sites

• Opportunity to develop “object-level” metadata, allowing granular search

• Ideally, chance for early planning
  • Digital archiving strategy
Opportunities

Non-Digital

• Training of archaeological contractors
  • Embedding archivists with field archaeologists

• Providing exemplars of best practice
  • High profile projects – public impact

• Budget to allow innovation?
  • e.g. integrated publications & archives

• For research
  • Enabling major works of synthesis, underpinned by reliable data collected to a consistent standard
Beagrie/ Houghton 2014:

- Investment value £1.2m pa
  - £698,000 pa funding from sponsors
  - £465,000 pa indirectly contributed by depositors
- Direct use value £1.4m pa
- But efficiency impacts £13m-£58m per annum
- Research efficiency gains = 7 hours per person per week
- £1 investment provides up to £8.30 return
Thank-you for listening

Follow us on Twitter:
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http://www.facebook.com/archaeology.data.service

E-mail: julian.richards@york.ac.uk
Website: http://archaeologydataservice.ac.uk/