

1. Summary

Development Stage 2A1: 2A A1 Ecological Compensation Site at Land West of Charbridge Lane, Oxfordshire

Site Details

Development Stage	2A1	
Site Name	2A A1	
Type of Works	Ecological Compensation Site	
Proposed Archaeological Works	Watching Brief	
National Grid Reference	SP 60012 22950 (centred)	
Site Area	1.3 ha (13,066m²)	
Chainage	109000 to 109200	
Land Use	Arable cultivation, mature trees and hedgerows	
Local Planning Authority	Cherwell District Council	
Curator	Oxfordshire County Council; Richard Oram, Planning Archaeologist (archaeologydc@oxfordshire.gov.uk or 07917 001026)	

Proposed Archaeological Investigation

Archaeological monitoring in the form of an archaeological watching brief, which will involve the observation, investigation and recording during the creation of an ecological compensation site at 2A A1. It is important to stress the main contractor's method of working will not be directly controlled for archaeological purposes, unless important archaeological discoveries are found (in which case the site method will change to Construction Integrated Recording¹). All work will be carried out by the Contractor in accordance with national, regional and local policy and guidelines, and in conjunction with the Heritage Delivery Strategy².

Previous Archaeological Works

Type of Work Undertaken	Findings
LiDAR	LiDAR data of the Site has been analysed. Faint traces of ridge and furrow are visible within the Site, however no further archaeological features are visible. The Mill mound and associated earthworks are visible on LiDAR data to the north of the Site.

¹ EWR Alliance, 2019a. Network Rail (East West Rail Bicester to Bedford Improvements) Order Heritage Delivery Strategy. Unpublished Report. Section 6.6

² ibid



Trial Trenching	A trial trench investigation was carried out across the Site and to the north of the Site in November 2019³ with trenches placed throughout the Site and to the north of the Site, targeting the mound area. Within the area of the WB, shallow ditches were recorded and probably represent field boundaries. The shallowness was a typical characteristic of all features and may indicate that some of their original depth has been lost to
	agriculture or to fluvial erosion.

Archaeological Potential

Potential	Period	Type of remains likely to be encountered
High	Post Medieval	Remains associated with the railway; agricultural remains
	Medieval	Remains of mill mound; remains of an agricultural nature e.g. ridge & furrow; field system; finds associated with manuring
	Iron Age	Settlement; field systems
	Romano-British	Settlement; field systems
Low	Palaeolithic	Flint scatters
	Mesolithic	Flint scatters
	Neolithic	Lithic scatters; settlement
	Bronze Age	Settlement; ceremonial
	Early Medieval	Field systems; settlement
	Modern	Agricultural remains

³ EWR Alliance, 2020. East West Rail Phase 2: Land West of Bicester Bypass, Charbridge Lane Overbridge Diversion, Oxfordshire: An Archaeological Evaluation Report Unpublished report.



2. Introduction

This Written Scheme of Investigation (WSI) sets out a methodology for an archaeological watching brief during works at an ecological mitigation site at 2A A1 ('the Site'). The Site is highlighted within the 'Specific Sites requiring Written Schemes of Investigation' section of the Heritage Delivery Strategy as requiring a WSI for these archaeological works⁴.

The Site is located within Development Stage 2A1 of the EWR2 scheme (centred on NGR Ref: SP 60012 22950). The Site comprises an irregular parcel of land of approximately 1.3ha located to the west of Bicester, bound by the railway line to the south. The Site is currently in use for arable cultivation and is enclosed by mature trees and hedgerows. Within the wider area, the Site is surrounded by commercial and residential properties of the town of Bicester. The Site lies within the local authority administrative area of Cherwell District Council.

Topographically, the Site is located in a gently sloping landscape with an elevation of approximately 69m Above Ordnance Datum AOD. The underlying bedrock geology of the Site consists of the Kellaways Sand Member - Sandstone and Siltstone and Kellaways Clay Member - Mudstone; sedimentary bedrocks formed approximately 164 to 166 million years ago in the Jurassic Period⁵. Alluvial deposits of clay, silt, sand and gravel are recorded overlying the bedrock geology in the western portion of the Site.

The Site is required for a programme of ecological compensation. The exact scope of works has yet to be fully determined; however, the Site will likely be completely stripped of topsoil and may require deeper excavations in some areas. The extent of the intrusive works thus means that archaeological mitigation within the Site is required.

3. Key Potential

Prehistoric (500,000BC - AD43)

There is an absence of evidence for Palaeolithic in the vicinity of the Site. This is thought to be due to alluvial deposits masking early prehistoric remains in this area⁶; a band of which is recorded along the north-western extent of the Site. However, there is presently little identified evidence for Lower Palaeolithic remains on the gravel terraces of the River Cherwell in the area around Bicester⁷. There is little evidence for Mesolithic activity in the vicinity of the Site, however lithic scatters have been found in archaeological investigations near Bicester. As such there is Low potential for remains of these dates to be present on the Site.

Little evidence of Neolithic activity can be found within the wider environs surrounding the Site, and no evidence is present directly within the Site. There is no evidence of Bronze Age activity within the Site or its immediate vicinity. In the wider area, at the site of Whitelands Farm⁸ (c.3.5km to the south-west of the Site), excavations revealed evidence of Bronze Age funerary monuments, including two ploughed out barrows, a cremation, and a Beaker burial. Much of the Bronze Age evidence around Bicester has been identified in recent years as part of archaeological works related to suburban residential development and the A421 Chesterton Lane Overpass/Wendlebury-Bicester Dualling⁹.

⁴EWR Alliance, 2019. *Network Rail (East West Rail Bicester to Bedford Improvements) Order Heritage Delivery Strategy*. Unpublished Report Section 8, Table 8.1 Page 8-8

⁵ British Geological Survey Website, 2019.

⁶ Hardaker, T. (2014) The Lower and Middle Palaeolithic of Oxfordshire. In Hey, G and J, Hinds (eds) *Solent-Thames Research Framework*; Hey, G. 2014. Late Upper Palaeolithic and Mesolithic: Resource Assessment. In G. Hey, and J. Hind, (eds) *Solent-Thames Research Framework*

⁷ Network Rail, 2018. Order Environmental Statement. Volume 2ii - Route Section 2A. Chapter 7, Cultural Heritage.

⁸ Martin, J., 2011. 'Prehistoric, Romano-British, and Anglo-Saxon Activity at Whitelands Farm, Bicester'. Oxoniensia, Vol. 76, 173-240.

⁹ Martin, J., 2011. 'Prehistoric, Romano-British, and Anglo-Saxon Activity at Whitelands Farm, Bicester'. Oxoniensia, Vol. 76, 173-240.



The Oxfordshire and Buckinghamshire landscapes had been extensively cleared of woodland by the Middle/Late Iron Age as evidenced from sites across the county, with environmental data indicating a rise in open grassland environments¹⁰. Evidence for land division during this period has been clearly identified, and where recorded, the divisions appear to represent stock enclosures and droveways, and taken together with large assemblages of cattle bones, are suggestive of a strong pastoral element to the economy. The remains of Middle to Late Iron Age features representing evidence of settlement, quarrying, and domestic activity in the form of ditches, stone-lined tanks, ovens, pits, post-hole structures and ditched enclosures were identified in the area of Whitelands Farm c.3.5km south-west of the Site¹¹.

Iron Age enclosed settlement and land management is observable in the immediate vicinity of the Site; Iron Age and/or Romano-British features (MOX12267) are recorded adjacent to the eastern boundary of the Site on the Bicester Perimeter Road. The remains comprised a ditch and posthole in addition to Iron Age to Roman pottery suggesting a high potential for further remains to be found within the Site. A further Late Iron Age or Roman farmstead and associated field system (MOX23494) are located c.600m to the south of the Site.

Romano-British (AD43 – AD410)

There is sufficient evidence within Oxfordshire to indicate a general continuity from the Late Iron Age period, although with some relocation to the new road network. Although this is broadly the case, there are exceptions in Bicester, for example Slade Farm (c.2.25km north-west of the Site)¹², where occupation appears to have ceased at the time of the Roman occupation.

The Romano-British period saw widespread activity across the EWR route and the wider landscape ¹³. Alchester was a sizeable Roman town and legionary fortress located c.4km to the south-west of the Site. Beyond its limits, the rural pattern of settlement, of dispersed villas and farmsteads in the wider area suggests a variety of dwellings from small 'native' type farmsteads and small farms with Romanstyle buildings, to more substantial villas. Roman pottery (MOX12267) has been found in association with the possible Late Iron Age or Roman features directly adjacent the eastern boundary of the Site suggesting a High potential for Romano-British assets to be found within the Site. Romano-British and Iron Age settlement evidence is also visible in the wider landscape such as the ditch and post-hole (MOX23494) recorded c. 450m south of the Site.

Early Medieval (AD410 - AD1066)

The settlement of Bicester evolved either side of a ford over the River Bure and close to the Saxon Minster of St Edburg's. The first group of farms were established in the vicinity of what became the Manor of King's End, followed by a later settlement on the east side of the Bure which became the Manor of Market End.

No heritage assets dating from the Early Medieval period have been identified within the Site or in the surrounding area suggesting a Low potential for encountering Early Medieval heritage assets within the Site.

Late Medieval (AD1066 – AD1540)

The Site lies in the east of Bicester which was first recorded in The Domesday Book¹⁴ of 1086 as *Berencestra*. There are no heritage assets of late medieval date present within the Site. However, a probable windmill mound is recorded c. 200m to the north-east (MOX5020); a demesne windmill was

Network Rail, 2018. Order Environmental Statement. Volume 2ii - Route Section 2A. Chapter 7, Cultural Heritage.

Martin, J., 2011. 'Prehistoric, Romano-British, and Anglo-Saxon Activity at Whitelands Farm, Bicester'. Oxoniensia, Vol. 76, 173-240.
 Ellis, P., Hughes, G. & Jones, L., 1996. An Iron Age Boundary and Settlement Features at Slade Farm, Bicester, Oxfordshire: a report on excavations, 1996. Unpublished report.

¹³ Network Rail, 2018. Order Environmental Statement. Volume 2ii - Route Section 2A

¹⁴ Domesday Book Online, 2019



mentioned in 1279 and it is possible that these remains date from this period¹⁵. During geophysical survey and trail trenching across the Site, several features were noted around the probable windmill mound; resulting in a High potential for further remains to exist within the Site.

Other Late Medieval heritage assets within the area include a market cross (MOX5007) of probable Late Medieval date located approximately 400m to the south-east. Also, evidence of ridge of furrow (MOX24816; MOX12722) is located 850m to the south-west and 665m to the south-east of the Site.

Post Medieval (AD1540 – c.1750) and Industrial Period (c.1750 – 1901)

The Site is located c.1.5km east of the historic core of Bicester and at the start of the post-medieval period the area surrounding the Site was still predominantly rural and the pattern of open-field cultivation prevailed.

A post-medieval ornamental pond (MOX5008) is recorded c.400m south-east of the Site.

The line of the Buckinghamshire Railway from Oxford to Bletchley (MOX5870) is a non-designated heritage asset runs along the southern boundary of the Site. The railway line was opened in 1850.

Modern Period (Post-1901)

Ordnance Survey maps show that there was very little change in the surrounding area from the post-medieval to the modern period, with the landscape staying rural and agricultural in nature though with increased urban development in the later 20th century.

There are no recorded modern heritage assets within the Site.

Historic Landscape Character

The present character of the Site can be defined as probable pre-18th century regular type enclosures, bordering a later 19th century railway line to the south. Surrounding fields are characterised in a similar way.

4. Previous Works

LiDAR data of the Site has been previously analysed. Faint traces of ridge and furrow are visible within the Site, however no further archaeological features are visible. The mound and associated earthworks are visible on LiDAR data to the north of the Site.

A trial trench investigation was carried out across the Site in November 2019, with trenches placed throughout the Site and to the north of the Site, targeting the mound area. Within the area of the WB, shallow ditches were recorded and probably represent field boundaries. The shallowness was a typical characteristic of all features and may indicate that some of their original depth has been lost to agriculture or to fluvial erosion.

5. Proposal for Archaeological Investigations

The proposed programme of works at 2A A1 will initially involve a programme of archaeological monitoring. All works will follow the specific methodologies set out in Section 6 of the Heritage Delivery Strategy¹⁶:

6.5 Archaeological Monitoring

¹⁵ Victoria County History of Oxford, Vol VI, p.237

¹⁶ EWR Alliance, 2019. Network Rail (East West Rail Bicester to Bedford Improvements) Order Heritage Delivery Strategy. Unpublished Report



- 6.6 Construction Integrated Recording
- 6.7 Chance Finds Procedure
- 6.9 Environmental Sampling
- 6.10 Human Remains
- 6.11 Finds
- 6.12 Recording & Reporting
- 6.13 Archiving

Where archaeological remains are encountered, further mitigation may be required. This will be discussed and agreed between the Contractor, the Employer and the Curator.

6. Archaeological Watching Brief Methodology

The archaeologist will be present to observe all intrusive groundworks associated with the site investigations. Should there be unsupported sections deemed unsafe by the onsite staff, no member of staff will enter the excavated area. In this instance recording of the excavated areas will be conducted from ground level unless shoring has been made available.

In the event that significant archaeological remains are revealed, additional excavation staff are available. The ground work in the location of the archaeology can be temporarily halted in order to determine the extent and character of any remains revealed. The degree of further work will be defined in discussions with the monitoring archaeologist and client. Delays to development can be minimised by continuing to monitor areas of watching brief while the archaeological resource is recorded.

Archaeological recording, where not precluded by Health & Safety considerations, will consist of:

- Hand cleaning of archaeological sections and surfaces sufficient to establish the stratigraphic sequence exposed.
- Structures will be cleaned to enable interpretation, recording and phasing.
- Planning of all exposed archaeological features and horizons (including boundaries of natural) at an appropriate scale.
- Excavated material will be examined in order to retrieve artefacts to assist in the analysis of their spatial distribution.
- A scaled photographic record of representative exposed sections and surfaces, along with sufficient photographs to establish the setting and scale of the groundworks.
- · A record of the datum levels of archaeological deposits.

The EWR Alliance Archaeological Manager will be informed as soon as possible of the discovery of any unexpected archaeological remains or changes in the programme of ground works on Site.

Records will be produced using either pro-forma context or trench record sheets compatible with those published by the Museum of London¹⁷, and features will be planned according to the single context method.

¹⁷ Museum of London (1994). Archaeological Site Manual (Third Edition).



A full photographic record will be maintained using a digital SLR camera to produce RAW and JPEG images.

A record of the full sequence of all archaeological deposits as revealed in the evaluation will be made. Plans and sections of features will be drawn at an appropriate scale of 1:10 or 1:20, as appropriate. The actual areas of ground disturbance and any features of archaeological interest will be accurately located on a site plan and to a known, permanent location. Locations of observations may be surveyed using a differential GPS (Trimble).

Bulk samples, 20 L for wet and 40 L for dry contexts of will be taken from appropriate contexts for the recovery and assessment of environmental data. Provision will be made for column and other appropriate samples to be taken. Sampling methods will follow Historic England guidelines¹⁸.

A metal detector will be made available on site to aid in the recovery of artefacts if required. The detector will not be set to discriminate against iron.

Any finds of human remains will be left *in situ*, covered and protected and the coroner will be informed immediately. If removal is essential a Licence will be sought from the Home Office. The Oxfordshire County Council Archaeological Officer will be informed.

Any finds covered by the provisions of the Treasure Act (1996, amended 2003, 2008) and Treasure (Designation) Order 2002¹⁹, including gold and silver, will be secured and preserved in situ until a view can be obtained from the Portable Antiquity Scheme officer.

All identified finds and artefacts will be collected and retained. Certain classes of material, i.e. post-medieval pottery and building material may be discarded after recording if a representative sample is kept. No finds will be discarded without the prior approval of the Oxfordshire County Council's Archaeological Adviser.

Finds will be studied to provide a date range of the assemblage with particular reference to pottery. In addition, the artefacts will be used to characterise the Site, and to establish the potential for all categories of finds should further archaeological work be necessary.

All finds and samples will be treated in a proper manner and to standards agreed in advance with the Oxfordshire Museums Service. Finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guidelines set out in United Kingdom Institute for Conservation's Conservation Guidelines No. 2²⁰.

Provision for onsite conservation and finds treatment, in addition to any scientific dating of materials uncovered, will be undertaken where appropriate.

Oxfordshire County Council Archaeological Services (OCCAS) will monitor progress and standards throughout the project. The County Archaeological Officer shall be notified of the start date at least two weeks prior to commencement of work in order to arrange a date for the monitoring visit(s).

Upon completion of the project the landowner and the Oxfordshire Museums Service will be contacted.

7. Site in the Context of the Research Agenda

Given the location of the railway immediately adjacent to the Site results in there being a High potential for remains associated with the post-medieval construction of the railway. Iron Age and Romano-British

¹⁸ Campbell, Moffett and Straker (2011). *Environmental Archaeology. A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation* (Second Edition).

¹⁹ MSO (1996, revised 2002, 2008) *Treasure Act 1996*.

²⁰ United Kingdom Institute for Conservation, 1983. Conservation Guidelines No. 2.



remains have been found directly adjacent the Site suggesting a High potential for further remains of the Iron Age and British-Romano period to be found within the Site. With the remains of known ridge and furrow in proximity to the site in addition to the probable windmill mound of likely medieval date, there is considered to be a High potential for medieval remains to survive on the Site. The potential for encountering hitherto unknown remains of other periods is less but cannot be ruled out.

The Heritage Delivery Strategy outline the Specific Research Objectives (SROs) that the work on EWR2 may address. Where remains of Iron Age settlement or agriculture are encountered within the Site, they may have the potential to contribute to:

- **SRO09:** What is the evidence for pre-Iron Age phases of enclosure, and to what extent were Iron Age and Romano-British field systems and settlement influenced by earlier structuring of the landscape?
- SRO10: Can we identify regional patterns in the form, location and status of Late Bronze Age and Iron Age settlements across the route, and are there associated differences in landscape organisation and enclosure? Further, can we detect a decline in mobile domestic activity as the period progressed?
- **SRO12:** Can we clarify the development of the architecture and building techniques of late prehistoric houses from the Middle Bronze Age to the Iron Age?

If British-Romano features are encountered within the Site, they may have the potential to contribute to:

- SRO18: Can we investigate continuity of local traditions by excavating sites with well-preserved deposits of both Late Iron Age and Roman date?
- SRO19: Can we study more Roman settlement types?
- SRO25: Identify evidence for late Roman occupation and attempt to identify any continuity in settlement patterns between the end of the Romano-British period and the Early Medieval period

Where remains of medieval ridge and furrow or industrial activity are encountered within the Site, they may have the potential to contribute to:

- SRO29: Understand the chronology of development and character of later medieval field systems and their relationship to settlement across the region
- SRO30: Better understand the character and organisation of later medieval ridge and furrow and field systems
- SRO37: Can we understand better the extent of medieval industrial activity and the relationship between agricultural practices and estates e.g. milling.

If features associated with the railway are encountered within the Site, they may have the potential to contribute to:

 SRO45: Investigate the link between the development of the railways and broader changes in the historic landscape during the post-mediaval period, such as urban settlement expansion and the decline of the canal network

The ability of any other remains which might be encountered to contribute to the established regional and sub-regional research framework²¹ and the SRO's would be dependent upon the nature, condition, extent and significance of the remains. Any such remains, however, could have the potential to contribute to and/or further the understanding the patterns of land use, settlement and/or economy of the period to which they belong. Should hitherto unknown remains be encountered during archaeological monitoring, they should be considered in the context of Section 4 of Heritage Delivery Strategy and Solent-Thames Framework, or any successor document.

²¹ Hey, G. and Hind, J., 2014. Solent-Thames Research Framework for the Historic Environment Resource Assessments and Research Agendas. Oxford Wessex Monograph Series



8. Report Preparation

Upon completion of the SMS, the stratigraphic record and all excavated material from the Site will be reported on. Within one year of completion of the work on site, these results will be presented as a post-excavation assessment report.

The report will include, as a minimum:

- A non-technical summary containing the essential elements of the results preceding the main body
 of the report.
- A table of contents.
- An introduction including a list of all staff members involved in the project.
- Summary geological, archaeological and historical background details for the Site.
- A statement of the aims of the project.
- A statement of the methodology of the excavation and an assessment of the same.
- A preliminary archaeological site narrative and account of the phasing based on the stratigraphic record and spot dating.
- Plans and sections at an appropriate scale cross-referenced with the written description.
- Appropriate maps, photographs and artefact drawings.
- A discussion of the location, extent, date, nature, condition, quality and significance of any archaeological deposits identified during the work.
- All finds and environmental specialist reports.
- An interpretation of the results of the excavation in relation to archaeology in the vicinity and an identification of any significance and research implications arising i.e. consideration of the archaeological evidence from within the site set in its broader landscape setting.
- A bibliography of sources consulted.
- Site matrix.
- Context register.

Richard Oram, Planning Archaeologist for Oxfordshire County Council, will be sent a copy of the draft report before a final version is produced or submitted to the local Planning Authority. Once finalised, copies of the report (paper & electronic) will also be submitted to be deposited in the relevant HER.

Any significant variation in the project design, including timetables, proposed after the agreement of the proposals must be acceptable to the Planning Archaeologist for Oxfordshire County Council.

9. Archiving

On completion of the project, an electronic copy of the post-excavation assessment report will be deposited with the Archaeological Data Service (ADS) as per Section 6.13 of the Heritage Delivery Strategy²².

²² EWR Alliance, 2019a. Network Rail (East West Rail Bicester to Bedford Improvements) Order: Heritage Delivery Strategy. Unpublished Report



On completion of the EWR project the archive will be deposited with Oxfordshire County Museum. An accession number will be applied for from Oxfordshire County Museum. The archive will be prepared in the format agreed with the Museum and following national guidance²³²⁴.

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United Kingdom Institute for Conservation, 1983. Conservation Guidelines No. 2.

Victoria County History of Oxford, Vol VI, p.237

