1. Summary

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

Site Details

Development Stage	2A1
Site Name	ECSA1
Type of Works	Ecological Compensation Site
Proposed Archaeological Works	Watching Brief
National Grid Reference	SP 60012 22950 (centred)
Site Area	1.27 ha (12,680.89m^2)
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 (archaeology@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 the ecological compensation site A1. It is important to stress the contractor's method of working will not be directly controlled for archaeological purposes, unless important archaeological discoveries are found. In the event of an important archaeological discovery the construction methodology will change to Construction Integrated Recording[1]. 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 Strategy[2].

Previous Archaeological Works

Type of Work Undertaken	**Findings**
Geophysical Survey	A geophysical gradiometer survey was undertaken in October 2018[3]. No anomalies or features of a definitive archaeological nature were identified. A number of discrete linear trends were identified in the far north of the dataset, along with a further linear to the south. Though they have the potential to be archaeological in origin, their poor magnetic strength means only a tentative interpretation can be formed as to their

[1] EWR Alliance, 2019a. *Network Rail (East West Rail Bicester to Bedford Improvements) Order Heritage Delivery Strategy.* Unpublished Report. Section 6.6
[2] ibid
[3] EWR Alliance, (2018). Land West of Bicester Bypass, Charbridge Lane Overbridge Diversion (Gradiometer): Archaeological Geophysical Survey. Unpublished report

	origin. A mill mound is reported to be located in the survey area itself, and it is possible that several of the linear trends identified could relate to these remains. A discrete pit-like anomaly was also detected in the dataset which could be archaeological in origin, however its isolated position means that other more natural origins are possible. A number of agricultural trends relating to field drainage have also been identified and geological trends were also identified in the southern part of the Site. Several areas of magnetic disturbance of a likely modern date were also detected. These were especially visible at the survey edges and boundaries. A response relating to a large modern service was also detected running east-west along the southern boundary
Trial Trenching	In June 2019[4], an archaeological evaluation was undertaken within both the Site and land to the north. Only two trenches were excavated within the Site boundary (trenches 17 and 18), with possible evidence from Romano-British activity identified. This was represented by pottery sherd finds within subsoil and topsoil. One sherd piece from topsoil in Trench 17 may indicate that a shallow ditch which crosses Trench 17 and 18 is of Romano-British date, but no further finds or features were identified for confirmation of dating evidence. Evidence for a medieval mill mound and associated features were identified to the immediate north of the Site through upstanding earthworks, and evaluation trenching.

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 (to the north of the Site boundary); 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

[4] EWR Alliance (2019b). East West Rail Phase 2; Land West of Bicester Bypass, Charbridge Lane Overbridge Diversion, Oxfordshire: An Interim Archaeological Evaluation Report

2. Introduction

This document is a Written Scheme of Investigation (WSI) setting out a methodology for an archaeological watching brief during works at an ecological compensation site at ECS 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 works[5].

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 Period[6]. 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 area[7]; 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 Bicester[8]. 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 Farm[9] (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

[5]EWR 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
[6] British Geological Survey Website, 2019.
[7] 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*
[8] Network Rail, 2018. *Order Environmental Statement. Volume 2ii - Route Section 2A.* Chapter 7, Cultural Heritage.
[9] Martin, J., 2011. 'Prehistoric, Romano-British, and Anglo-Saxon Activity at Whitelands Farm, Bicester'. *Oxoniensia,* Vol. 76, 173-240.

been identified in recent years as part of archaeological works related to suburban residential development and the A421 Chesterton Lane Overpass/Wendlebury-Bicester Dualling[10].

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 environments[11]. 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 Site[12].

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)[13], 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[14]. 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 Roman-style buildings, to more substantial villas. Roman pottery (MOX12267) has been found in association with the possible Late Iron Age or Roman features directly adjacent to 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.

[10] Martin, J., 2011. 'Prehistoric, Romano-British, and Anglo-Saxon Activity at Whitelands Farm, Bicester'. *Oxoniensia,* Vol. 76, 173-240.
[11] Network Rail, 2018. *Order Environmental Statement. Volume 2ii - Route Section 2A.* Chapter 7, Cultural Heritage.
[12] Martin, J., 2011. 'Prehistoric, Romano-British, and Anglo-Saxon Activity at Whitelands Farm, Bicester'. *Oxoniensia,* Vol. 76, 173-240.
[13] 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.
[14] Network Rail, 2018. *Order Environmental Statement. Volume 2ii - Route Section 2A*

Late Medieval (AD1066 – AD1540)

The Site lies in the east of Bicester which was first recorded in The Domesday Book[15] 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 mentioned in 1279 and it is possible that these remains date from this period[16]. During geophysical survey and trial 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

The available LiDAR data has been analysed and the data shows the windmill mound and associated earthworks predominantly in the north-east corner of the land parcel the Site is situated within. No other archaeological features are visible within the Site itself.

A geophysical gradiometer survey was undertaken in October 2018 [17]. No anomalies or features of a definitive archaeological nature were identified. A number of discrete linear trends were identified in the far north of the dataset, along with a further linear to the south. Though they have the potential to be archaeological in origin, their poor magnetic strength means only a tentative interpretation can be formed as to their origin. A windmill mound is reported to be located in the survey area itself, and it is possible that several of the linear trends identified could relate to these remains. A discrete pit-like anomaly was also detected in the dataset which could be archaeological in origin, however its isolated

[15] Domesday Book Online, 2019
[16] *Victoria County History of Oxford, Vol VI, p.237*
[17] EWR Alliance, (2018). Land West of Bicester Bypass, Charbridge Lane Overbridge Diversion (Gradiometer): Archaeological Geophysical Survey. Unpublished report.

position means that other more natural origins are possible. A number of agricultural trends relating to field drainage have also been identified and geological trends were also identified in the southern part of the Site. Several areas of magnetic disturbance of a likely modern date were also detected. These were especially visible at the survey edges and boundaries. A response relating to a large modern service was also detected running east-west along the southern boundary

A follow up resistivity survey did not provide quantifiable results, due to unknown interference to the equipment [18].

In June 2019 [19], an archaeological evaluation trial trenching was undertaken both within and to the north of the Site. Only two trenches were excavated within the Site boundary (trenches 17 and 18), with possible evidence from Romano-British activity identified. This was represented by pottery sherd finds within subsoil and topsoil. One sherd piece from topsoil in Trench 17 may indicate that a shallow ditch which crosses Trench 17 and 18 is of Romano-British date, but no further finds or features were identified for confirmation of dating evidence.

Evidence for a medieval mill mound and associated features were identified to the immediate north of the Site through upstanding earthworks, and evaluation trenching.

5. Proposal for Archaeological Investigations

The proposed programme of works at ECS 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 Strategy[20]:

- 6.5 Archaeological Monitoring
- 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. Site in the Context of the Research Agenda

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 remains have been found directly adjacent to the Site suggesting a High potential for further remains of the Iron Age and British-Romano period to be found within the Site, though no features identified could be confirmed from this period during evaluation works. 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

[18] EWR Alliance, (2019a). Land West of Bicester Bypass, Charbridge Lane Overbridge Diversion (Resistivity): Archaeological Geophysical Survey. Unpublished report.
[19] EWR Alliance (2019b). East West Rail Phase 2; Land West of Bicester Bypass, Charbridge Lane Overbridge Diversion, Oxfordshire: An Interim Archaeological Evaluation Report
[20] EWR Alliance, 2019. *Network Rail (East West Rail Bicester to Bedford Improvements) Order Heritage Delivery Strategy.* Unpublished Report

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 outlines 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 framework[21] 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

7. Bibliography

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[1] 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*

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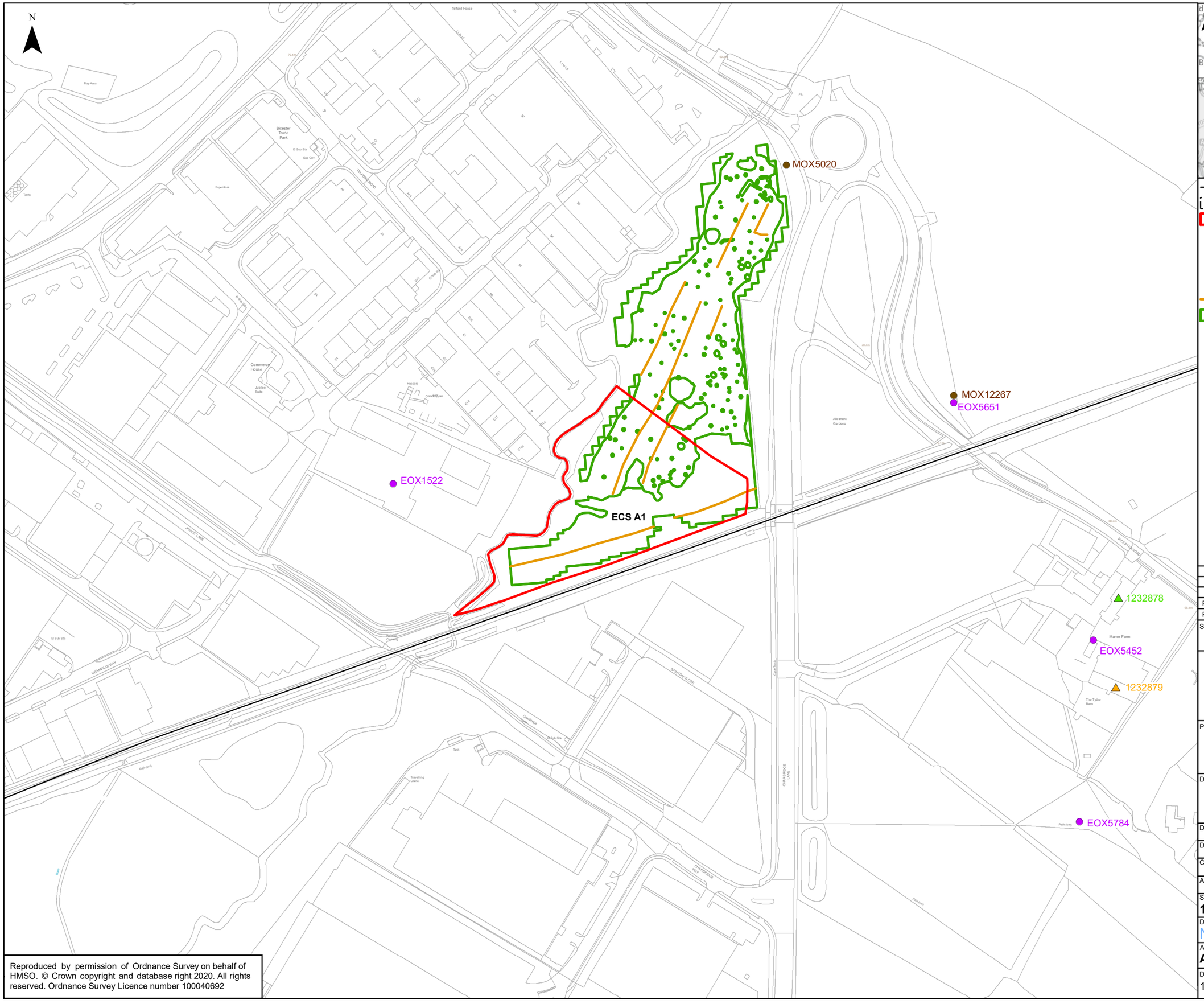
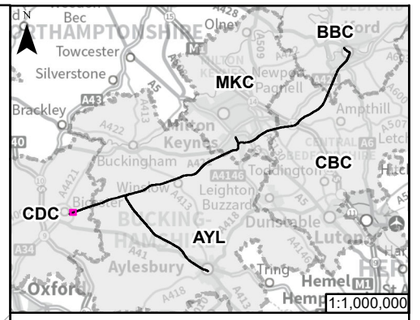
Martin, J., 2011. 'Prehistoric, Romano-British, and Anglo-Saxon Activity at Whitelands Farm, Bicester'. *Oxoniensia,* Vol. 76, 173-240.

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





PROJECT EXTENTS
LOCAL AUTHORITY BOUNDARY
SITE
EVENT
MONUMENT
LISTED BUILDING GRADE II*
LISTED BUILDING GRADE II
GEOPHYSICAL INTERPRETATION LINE
GEOPHYSICAL INTERPRETATION BORDER

0 20 40 60 80 100 Metres

Rev	Date	Description of Revisions	Dsnd	Chkd	Appr
P01	26/02/20	FIRST ISSUE	KP	KS	AFM

Status: PUBLISHED - STAGE APPROVED
Suitability: A1

EWR Alliance
Connecting People

Project: THE NETWORK RAIL (EAST WEST RAIL BICESTER TO BEDFORD IMPROVEMENTS) ORDER

Drawing Title: FIGURE 2A A1- ECOLOGICAL COMPENSATION SITE, CHARBRIDGE LANE

Designed	Krithika S Patwardhan	Signed	Date 26/02/2020
Drawn	Krithika S Patwardhan	Signed	Date 26/02/2020
Checked	Kelvin Snell	Signed	Date 26/02/2020
Approved	Amy Farringdon McCabe	Signed	Date 26/02/2020

Scale(s): 1:2,500
ELR & Project Chainage: N/A
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Sheet: 1 of 1
Alternative Reference: Alternative_Ref
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