

# The Network Rail (East West Rail Bicester to Bedford Improvements) Order

## Heritage Delivery Strategy

Network Rail

February 2020



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## Document History

JOB NUMBER: 133735			DOCUMENT REF: 133735-EWR-REP-EEN-000244			
Revision	Purpose Description	Originated	Checked	Reviewed	Approved	Date
A01	Draft for review	AMc AH VO NW	GT AF	SR		
B02	Draft for review	AMc	AF	SR	RV	29/10/19
B03	Final Issue for Approval	AMc	AF	PC	RV	26/02/2020



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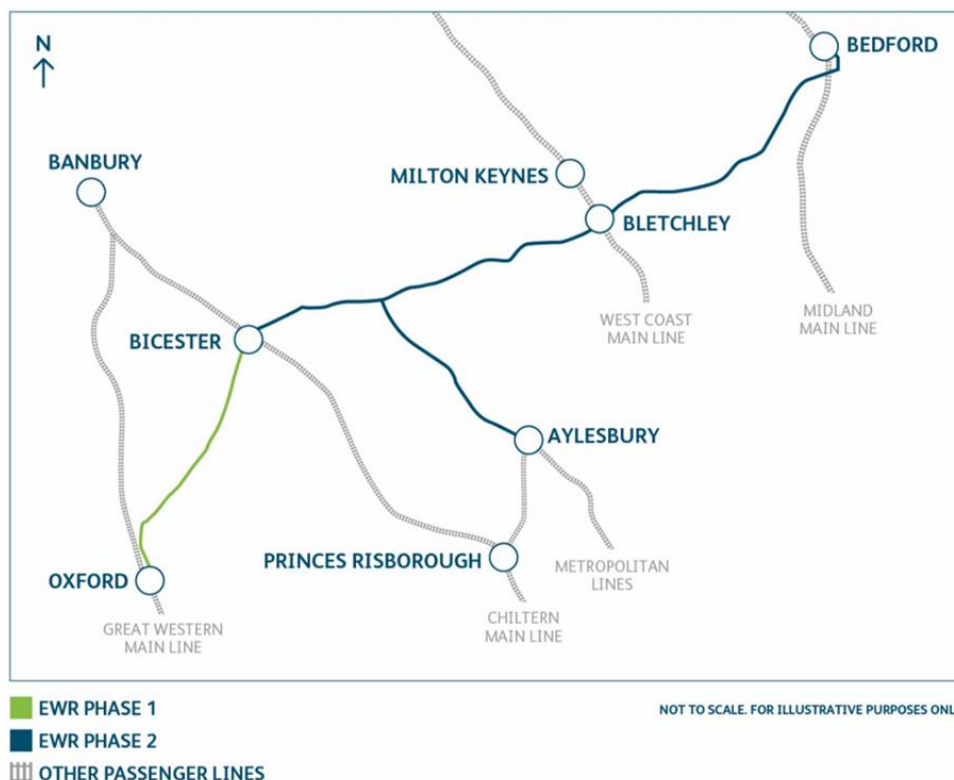


# 1. Introduction

## 1.1 Scheme summary

- 1.1.1 The Scheme forms Phase 2 of the Western part of the East West Rail (EWR) programme of works that aims to establish a strategic railway connecting East Anglia with central, southern and western England.
- 1.1.2 The Scheme makes use of the existing railway between Bicester and Bedford, Bletchley and Aylesbury and proposes to upgrade and reconstruct it to modern standards, so facilitating the reinstatement of rail services between these locations.
- 1.1.3 Once operational, EWR will link the strategic growth areas along the M1 corridor (Milton Keynes, Aylesbury, Bedford and Oxford) and support the growing hi-tech and digital economic sectors by connecting the key hubs between Oxford and Cambridge. It will, via connections with the Great Eastern, East Coast, Midland, West Coast and Great Western Lines, connect to the ports of Felixstowe and Harwich, avoiding the need for freight travel on congested tracks around north London, and could provide an additional route for north-south freight traffic from the port of Southampton. The aspiration has been supported and developed since 1995 by the East West Rail Consortium (EWR Consortium); a group of local authorities and strategic partners with an interest in improving access to and from East Anglia.
- 1.1.4 EWR has three sections – Western, Central and Eastern. The Western section of EWR comprises two distinct phases of works: East West Rail Phase 1 (EWR1) and East West Rail Phase 2 (EWR2).
- 1.1.5 EWR1 was opened to services in December 2016 and trains operate between Oxford and London Marylebone via Bicester Village station and the Chiltern Main Line. EWR2 commences at Bicester and proceeds eastbound to Bletchley before dividing to travel northbound to Milton Keynes and eastbound to Bedford. The route also divides at Claydon Junction to travel southbound through to Aylesbury. The total length of the line is approximately 78 km, see Insert 1.1 and Figure 2.

Insert 1.1 EWR1 and EWR2 location map



## 1.2 Project context

- 1.2.1 EWR2 requires upgrading and reinstating the Bicester-Bletchley-Bedford and the Aylesbury-Claydon Junction railway lines to facilitate the operation of new passenger services between Oxford and Milton Keynes, Oxford and Bedford and Milton Keynes and Aylesbury. The overall EWR2 scheme is divided into six sections, 2A, 2B, 2C, 2D, 2E and the HS2 interface. These sections are then subdivided into development stages, e.g. 2A1, 2A2, 2A3 and 2A4 (Figure 2).
- 1.2.2 The works will take place under The Network Rail (East West Rail Bicester to Bedford Improvements) Order (TWAO), from 25th February 2020 when the order came into force. A portion of EWR2 is already authorised under the High Speed Rail (London-West Midlands) Act 2017 (The HS2 Act).
- 1.2.3 The “Project” comprises all elements of works requiring authorisation under the TWAO, as well as the operational railway between Bicester, Bedford, Bletchley and Aylesbury on which EWR2 train services operate, up to the point at which they join the main existing rail network. This includes the operational railway within the HS2 Interface Area. The physical extent of the Project is known as the Scheme Area and is delineated by the Scheme Boundary.
- 1.2.4 The East West Rail Phase 2 Output Specification v3.0 2017 presents the following strategic objectives for the Project:
- Improve east-west public transport connectivity through rail links between Oxford, Bicester, Bletchley and Bedford / Milton Keynes, and between Aylesbury, Bletchley and Milton Keynes;
  - Meet initial forecast passenger demand through new and reliable train services;
  - Stimulate economic growth, housing and employment through new and reliable train services;
  - Contribute to improved inter-regional passenger connectivity and journey times;
  - Maintain current capacity for rail freight and appropriate provision for anticipated future growth;
  - Consider and plan for future demand and economic growth, making provision affordable; and
  - Provide a sustainable transport solution to support economic growth in the area.
- 1.2.5 The key elements of EWR2 include:
- Alterations to or replacement of overbridges and underbridges along the route;
  - Improvement of facilities at or closure of highway, private road and public right of way level crossings;
  - Provision of replacement bridges or diversions at closed level crossings; and
  - A new station at Winslow, new platforms at Aylesbury Vale Parkway and Bletchley stations and platform extensions at Woburn Sands and Ridgmont stations to support the new train services and increased passenger numbers.

## 1.3 Project role definitions

- 1.3.1 The following terms are used throughout this document
- **The Employer** means EWR Alliance, who also encompasses the Principal Contractor and who will appoint the Contractor(s);
  - **Project Heritage Lead** means the individual appointed by the Employer to fulfil this role;
  - **Archaeological Manager** means the individual appointed by the Employer to fulfil this role, reporting to the Project Heritage Lead and the Employer;
  - **Principal Contractor** means the contractor with responsibility over the construction phase of a project involving more than one contractor;
  - **Contractor(s)** means the archaeological organisation(s) appointed by the Employer to carry out the works as defined in this strategy and associated Written Schemes of Investigation; and

- **The Curator** means Bedfordshire Borough Council, Central Bedfordshire Council, Buckinghamshire County Council, Oxfordshire County Council, and Milton Keynes Council archaeological officers or their representatives on this project

1.3.2 A full Glossary of terms can be found in Appendix 1 of this document.

## 2. Purpose and guidance

### 2.1 Purpose

- 2.1.1 The purpose of this document is to set out the strategy for the planning and implementation of a programme of archaeological works required for the delivery of East West Rail Phase 2 (EWR2) which in turn will part discharge Condition 9 under deemed planning consent associated with the EWR2 Transport and Works Order Scheme. Specifically, this document seeks to discharge part a) of this condition, by providing proportionate and appropriate methodologies for both evaluation and mitigation (sections 7 and 8), as well as providing locations for which archaeological works will be undertaken (section 9).
- 2.1.2 Condition 9: Archaeology, states:
- No development is to commence in respect of any Individual Stage until the Heritage Delivery Strategy document has been produced and approved in writing by the relevant local planning authority related to that individual stage. This document must detail evaluation and mitigation measures for heritage assets including buried archaeology. These measures must include geophysical surveys, trial trenching and excavation and a programme of works.*
  - Where archaeological evaluation is planned, no development, unless otherwise agreed in writing beforehand by the local planning authority, is to take place until a location specific Written Scheme of Investigation (WSI) has been submitted to and approved in writing by the relevant local planning authority.*
  - Where archaeological remains of national importance are found, no development at that location is to take place until an appropriate methodology for their preservation in situ, where reasonably practical, has been submitted to and approved in writing by the relevant local planning authority. The methodology must be implemented as approved.*
  - Where archaeological remains are recorded by evaluation and are not of sufficient importance to warrant preservation in situ but are worthy of recording, the development at the relevant location must be carried out in accordance with a WSI, that includes details of timings, provision for post excavation analysis and the publication of a report, which has been submitted to and approved in writing by the relevant Local Planning Authority.*
- 2.1.3 Following issue of the of the Heritage Delivery Strategy (HDS), separate location specific written scheme of investigations (WSIs) will be issued, in order to discharge part b) of Condition 9 and in some instances part d). Archaeology and heritage works will need to be planned, procured and implemented as part of the mitigation required for EWR2; in many instances, these works are likely to be on the critical path for any given Work Package. As such these WSIs will be phased geographically, and directly associated with the development stages. Site works, and the aspects to be covered of the site specific WSIs are detailed in Section 8 of this document and highlighted in Figure 2, in Appendix 3.
- 2.1.4 These archaeology and heritage works, fall into two broad phases: evaluation and mitigation. The former includes on-site tasks comprising non-intrusive geophysical surveys, and intrusive trial trenching. The latter encompasses archaeological excavation, watching briefs, building recording and any concomitant assessment, analysis and reporting.
- 2.1.5 This document does not include discussion on Listed Buildings as the mitigation for this has been considered in the EWR2 Environmental Statement and is dealt with through the planning conditions associated with the listed building consents.

### 2.2 Aims and objectives

- 2.2.1 In addition to part discharging Condition 9, all investigatory historic environment work undertaken as part of EWR2 shall support defined objectives in terms of creating knowledge relating to archaeology

and history. In particular these will be linked to recent Research Agendas, Assessments and Strategies that have been written over the last decade or so. Thus, the aspiration of the EWR2 HDS is to contribute towards addressing many of the Research Priorities and Agendas set out in recent documents, such as Solent-Thames Research Framework for the Historic Environment: Resource Assessments and Research Agendas<sup>1</sup> and the Bedfordshire Archaeology Research and Archaeology: Resource Assessment, Research Agenda and Strategy<sup>2</sup>. EWR2 also intends to contribute to the aims and objectives of other heritage projects taking place including HS2, as enshrined in the Historic Environment Research and Delivery Strategy (HERDS)<sup>3</sup>.

- 2.2.2 Creating knowledge from investigative historic environment works will be achieved in two ways. First, the EWR2 HDS will target specific areas of known or high potential with value for creating and advancing knowledge (The Knowns). Thus, specific sites that appear to inform pertinent research questions to be addressed will be targeted. Second, the EWR2 HDS also allows for ‘unexpected discoveries’ (The Unknowns). Thus, provision is made within the Strategy for investigations in apparent blank areas and, therefore, for unexpected discoveries. Investigations may, therefore, uncover remains of a different form and character than perhaps originally expected. This is important as portions of the geography through which EWR2 runs has complex geology whereby the alluvium and colluvium may mask earlier archaeology. Further, it also appears to run through areas where the more iconic monuments of many periods are absent.
- 2.2.3 This approach - which moves away from merely information gathering based on standard sampling methodologies- is in keeping with current thinking across the heritage sector, as for example espoused in HERDS<sup>4</sup>.
- *‘It is arguable that historically, historic environment investigations associated with the management of the impact of construction have created significant bodies of information of questionable value. Many schemes pursued a standard ‘preservation by record’ philosophy that reflects the ‘rescue’ oriented practices from the 1990s and early 2000s. Often this was driven by the programme and procurement approach that left little room for a reflection regarding the objectives and outcomes of the historic environment work.’*
  - *‘Investigatory works will be aimed at answering questions about the past, about how we study the past and about how we should address the past in the future – the works will not record buildings, archaeological remains and landscapes for the sake of recording them before they are removed if that recording would not address identified questions.’*
- 2.2.4 Like many major linear schemes, the historic environment works will involve many stakeholders (heritage sub-contractors, specialists, curators and advisors) and an open, collaborative partnership approach is required. All stakeholders must recognise that all activities form part of a wider programme of research, engagement and legacy building. Critical to this will be timely information sharing across all phases of the project. The EWR2 route runs across the following districts:
- Cherwell District Council (CDC), within Oxfordshire County Council (OCC)
  - Aylesbury Vale District Council (AVDC), within Buckinghamshire County Council (BCC)
  - Milton Keynes Council (MKC), a unitary authority
  - Central Bedfordshire Council (CBC), a unitary authority
  - Bedford Borough Council (BBC), also a unitary authority
- 2.2.5 Not only are these areas diverse in terms of geology they are also diverse in their nature and extent of heritage. In order to maximise the knowledge creation of the project then it is critical that all stakeholders across these regions work collaboratively to reach a common goal.
- 2.2.6 In summary, knowledge creation is a central tenet to our approach and to the resourcing and delivery of the EWR2 HDS. All work must contribute to and explore key research themes in the area. To achieve this, it is essential that investigations are designed to focus on key research themes that can be addressed in an integrated manner along the route. Recognising research potential within specific

<sup>1</sup> Hey, G. and Hind, J., 2014. Solent-Thames Research Framework for the Historic Environment Resource Assessments and Research Agendas. Oxford Wessex Monograph Series.

<sup>2</sup> Oake, M., 2007. Bedfordshire Archaeology: Research and Archaeology: Resource Assessment, Research Agenda and Strategy. Bedfordshire County Council.

<sup>3</sup> High Speed Two., 2017. HS2 Phase One Historic Environment Research and Delivery Strategy. Department for Transport (DfT).

<sup>4</sup> High Speed Two., 2017. HS2 Phase One Historic Environment Research and Delivery Strategy. Department for Transport (DfT). 17-18



landscape, historical, architectural or archaeological contexts is, therefore, key to contributing to a targeted strategy focusing upon advancing understanding of certain time periods and themes, rather than perpetuating existing knowledge through recording heritage assets that may have little research value.

## 2.3 Legislative and policy context

2.3.1 The following legislation and planning policies provide relevant context for the interaction of the Scheme with the cultural heritage resource.

**Table 2:1 Legislation and planning policies**

National – Legislation	
	Ancient Monuments and Archaeological Areas Act 1979
	Planning (Listed Building and Conservation Areas) Act 1990
	National Heritage Act 1983
	Ancient Monuments and Archaeological Areas Act 1979
	Burial Act 1857
	Treasure Act 1996
National – Planning Policy	
	National Planning Policy Framework, 2012 (NPPF) in Section 12: Conservation and enhancing the historic environment.
Local – Planning Policy	
Cherwell District Council Local Plan, adopted July 2015	Policy ESD 13: Local Landscape Protection and Enhancement
	Policy ESD 15: The Character of the Built and Historic Environment
Adopted Aylesbury Vale District Local Plan, adopted January 2004	GP.53: Policy relating to development within Conservation Areas
	GP.59: Policy relating to development affecting a site of archaeological importance
	GP.60: Policy relating to development within or affecting Registered Parks and Gardens
The Milton Keynes Core Strategy, adopted July 2013	Policy CS19: The Historic and Natural Environment
Milton Keynes Local Plan, adopted December 2005	Policy HE1: Protection of Archaeological Sites
	Policy HE2: Buildings of Special Architectural or Historic Interest (Listed Buildings)
	Policy HE3: Demolition of a Listed Building
	Policy HE4: Extension or Alteration of a Listed Building
	Policy HE5: Development affecting the setting of a Listed Building
	Policy HE6: Conservation Areas
	Policy HE8: Protection of Historic Parks and Gardens

	Policy HE1: Protection of Archaeological Sites
	Policy HE2: Buildings of Special Architectural or Historic Interest (Listed Buildings)
	Policy HE3: Demolition of a Listed Building
	Policy HE4: Extension or Alteration of a Listed Building
Bedford Borough Local Plan 2030 – adopted version	Policy 41S - Historic environment and heritage assets
Central Bedfordshire Local Development Framework: Core Strategy and Development Management Policies, adopted November 2009	Policy CS15: Heritage
	Policy DM13: Heritage in development
East of England Plan	Policy ENV6: Historic Environment



## 3. Archaeological and historical summary

### 3.1 Overview

- 3.1.1 The Archaeological and historical summary is predicated on supporting documents such as the EWR2 Environmental Statement (July 2018)<sup>5</sup>, and presents an overview of the archaeological and historical evidence around, and potentially within, the EWR2 Scheme Area. This summary is important both to give an overview of the known archaeology within the Scheme Area but also to highlight the other known and potential archaeology within the wider landscape. The latter is equally important as it identifies gaps in our current archaeological knowledge and, therefore, highlights future potential that may be uncovered during the EWR2 work. As will become apparent, although the high potential heritage assets appear to be associated with specific periods and characters (e.g. Iron Age / Romano British; Medieval and Post-Medieval), all work must take cognisance of the potential of uncovering other, currently unknown and undiscovered, archaeology.
- 3.1.2 This resource assessment forms the basis for identifying specific research objectives that are likely to be addressed by future archaeological work on EWR2, appropriate methodologies and how individual heritage programmes of work can add to our knowledge.
- 3.1.3 For convenience, the summary section is organised by modern region (e.g. Oxfordshire, Buckinghamshire and Bedfordshire). As a result, the Unitary Authorities of Milton Keynes and Central Bedfordshire are discussed in the context of the wider counties of Buckinghamshire and Bedfordshire respectively.
- 3.1.4 Each regional section is then structured chronologically by established heritage period (e.g. the Mesolithic). Within each period there is an overview of the key characteristics of said period from a wider UK perspective, followed by a general overview of the period in the particular region. Then each period section outlines the known heritage assets within the Scheme Area, if any. Each section finishes by a brief discussion of the potential archaeology that could be found in future work.
- 3.1.5 At the outset, it is important to appreciate the likely biases within the data, driven by many varying factors. Different regions have been subject to varying amounts of archaeological and historical research and exploration. Different geological factors (e.g. alluvial and colluvial deposits) introduce significant bias into the preservation of artefacts, ecofacts and settlements and may hide evidence, particularly of the earlier prehistoric periods. Thus, current presence of absence is not absence of presence. Indeed, EWR2 provides a good opportunity to test 'blank areas' away from some of the more recent areas of development and associated archaeological investigations.
- 3.1.6 Due to length, the detailed baseline is presented in Appendix 2 of this document.

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<sup>5</sup> Network Rail, 2018. Network Rail (East West Rail Bicester to Bedford Improvements) Order application Environmental Statement, Volume 2i – Project-wide Assessment, Chapter 7 – Cultural heritage

## 4. Objectives and research themes

### 4.1 Overview and Introduction

- 4.1.1 EWR2 presents an exciting opportunity to explore our past through heritage work on one of the country's largest linear infrastructure projects. Investigations arising from the historic environment programme should allow key questions about the area's history and prehistory to be answered, all within a cost-effective manner and within the confines of an ambitious construction programme.
- 4.1.2 This section outlines the key research objectives that the EWR2 works may address. Like any good research programme all work should be grounded on sound and current research objectives; thus, this chapter begins with a brief overview of the main current regional research agendas (section 4.2) relevant to the Scheme. From here and combined with the wider resource assessment, a number of key research themes are identified. It is important to appreciate that the themes are not necessarily specific to periods, regions or specific locations, but seek to identify useful and universal topics, topics that are highlighted as important areas for study in current research thinking. Specific Research Objectives (SROs) are suggested (section 4.4). These SROs translate the key research themes into tangible potential actions that could be addressed during EWR2. The SROs will be referenced in the site specific WSIs. It is likely that the SROs will need to be reviewed and updated as individual work programmes progress. Thus, this document, and the WSIs, should be viewed as evolving documents with questions and agendas updated and refined as fieldwork progresses.

### 4.2 Regional Research Agendas: An Overview

- 4.2.1 The Project is covered by two regional/sub-regional frameworks:
- The Solent-Thames Research Framework for the Historic Environment: Resource Assessments and Research Agendas<sup>6</sup>
  - The Bedfordshire Archaeology Research and Archaeology: Resource Assessment, Research Agenda and Strategy<sup>7</sup>.
- 4.2.2 The latter was updated in Research and Archaeology Revisited: A Revised Framework for the East of England<sup>8</sup>. The EWR2 HDS also considers other heritage projects taking place including HS2, as enshrined in HERDS<sup>9 10</sup>.
- 4.2.3 The Solent-Thames Research Framework for the Historic Environment: Resource Assessments and Research Agendas covers the historic counties of Buckinghamshire, Oxfordshire, Berkshire, Hampshire and the Isle of Wight. Although it covers an area larger than that covered by the EWR2 Scheme it is relevant to those parts that run through Buckinghamshire, and Oxfordshire, and the modern administrative area of Milton Keynes. The Solent-Thames Research Framework reviews the current understanding of the archaeology of the area by period and then sets out a research agenda for each period. The latter is particularly helpful as it identifies areas where there are major gaps in current understanding and sets out key research questions that need to be addressed in future work. Finally, the Framework suggests practical methodologies that could help the evidence be obtained.
- 4.2.4 The Bedfordshire Archaeology Research and Archaeology: Resource Assessment, Research Agenda and Strategy was published in 2007. This was updated, though not replaced, by Research and Archaeology Revisited: A Revised Framework for the East of England, published four years later. The Bedfordshire strategy follows a similar structure to the Solent-Thames Research Framework and sets out an assessment of the existing archaeological resource and the current understanding of it, followed by a largely chronological approach to the research agenda.
- 4.2.5 The Generic Written Scheme of Investigation (GWSI) HERDS is another key current and live document. HERDS sets out the project mechanisms for designing works, undertaking evaluation,

<sup>6</sup> Hey, G. and Hind, J., 2014. Solent-Thames Research Framework for the Historic Environment Resource Assessments and Research Agendas. Oxford Wessex Monograph Series.

<sup>7</sup> Oake, M., 2007. Bedfordshire Archaeology: Research and Archaeology: Resource Assessment, Research Agenda and Strategy. Bedfordshire County Council.

<sup>8</sup> Medlycott, M. ed., 2011. Research and Archaeology Revisited: a revised framework for the East of England. ALGAO.

<sup>9</sup> High Speed Two., 2017. *HS2 Phase One Historic Environment Research and Delivery Strategy*. Department for Transport (DfT).

<sup>10</sup> High Speed Two., 2017. Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy. Document no.: HS2-HS2-EV-STR-000-000015. Department for Transport (DfT).

delivering investigations, undertaking post excavation assessment, and archive deposition for all works during the design and construction of Phase One of High Speed Two (HS2). HERDS is the lead document for all historic environment works on Phase One of HS2. Central to HERDS are a series of key research themes and priorities that could be investigated throughout the HS2 project.

- 4.2.6 These recent Research Frameworks are the foundations for any research and fieldwork in the area, including the EWR2 Scheme. Thus, said documents will guide the research themes and objectives, and (where possible and practical) the methodologies used throughout the Project.

## 4.3 Research Themes

- 4.3.1 In keeping with current Research Agendas any remains encountered during EWR have the potential to give insight into some of the following Research Themes:

- How do the encountered remains inform an understanding of landscape and use in the region and for their identified period?
- How do the encountered remains inform an understanding of settlement in the region and for their identified period?
- How do the encountered remains inform an understanding of the built environment in the region and for their identified period?
- How do the encountered remains inform an understanding of specialised activities (eg crafts, trade and industry) in the region and for their identified period?
- How do the encountered remains inform an understanding of society (social organisation, economy and subsistence) in the region and for their identified period?
- How do the encountered remains inform an understanding of transport and communication in the region and for their identified period?
- How do the encountered remains inform an understanding of warfare, defence and military in the region and for their identified period?
- How do the encountered remains inform an understanding of ceremony and monuments (including ritual and burial) in the region and for their identified period?
- How do the encountered remains inform an understanding of issues of inheritance and legacy in the region and for their identified period?

- 4.3.2 It is important to note that any remains uncovered during EWR2 construction work will also contribute significantly to our understandings of the nature of evidence, chronology, material culture and the environment. As outlined in Chapters 6 and 7, the industry standard methodologies that will be used during EWR2 construction works will insist on the study of, for example, ecofacts and artefacts, and a programme of radiocarbon dating (and/or other appropriate dating techniques, such as isotope analysis). There will also be opportunities to investigate methodological research questions which may include, for example: how well does geophysical survey work in the area; do geophysical anomalies present as sub-surface features; do features indicated on LiDAR imagery and aerial photographs survive sub-surface?

## 4.4 Specific Research Objectives (SROs)

- 4.4.1 The following SROs translate the key research themes into tangible potential actions on the ground. The SROs will be referenced further in the site specific WSIs and are derived from the baseline assessment in Appendix 2, which outlines the known assets in the Scheme Area and demonstrates that the archaeological potential within the Scheme Area is predominantly associated with the Iron Age, Roman, Medieval, Post-Medieval and Modern periods. However, discoveries and research across the wider landscape (e.g. out with the Scheme Area boundaries, and within the wider hinterland) suggest that other heritage assets may be encountered during the course of evaluation and subsequent mitigation, particularly for earlier periods. Thus, the SROs also cover potential discoveries, assets that may exist on the sub-surface that, for whatever reason, are not currently known.

4.4.2 Thus, it is important to identify SROs that are relevant to current research thoughts that may be answered during the works from assets that are currently unknown. As discussed in section 4.1, it may be that some of the SROs highlighted below may be deemed irrelevant on completion of the works or actually gain wider prominence during the post-excavation phases.

4.4.3 The table below (Table 4.1) outlines the SROs. The accompanying matrix relates the SROs back to the relevant Research Agendas and associated themes.

**Table 4:1 SRO outlines**

Specific Research Objective ID	Specific Research Objective
SRO01	What is the extent of Late Upper Palaeolithic and Mesolithic sites that are buried beneath alluvium and colluvium? Is the current density of sites in the Middle Kennet and Colne Valleys a genuine reflection of Mesolithic preferences for these areas in the past?
SRO02	Does a lack of visibility of Neolithic and Bronze Age monuments reflect genuine area distinctiveness, or is this due to variations in geology?
SRO03	Can we gain a better understanding of herd composition and the primary use of domesticated animals during the Neolithic and the Early Bronze Age?
SRO04	Can we establish the extent and character of Neolithic and Early Bronze Age settlement away from monumental complexes, especially in areas where early settlement has traditionally been thought to be thin (e.g. the Vale of Aylesbury). Within this question we need to consider the range of settlement evidence, including middens.
SRO05	Why is there comparatively little evidence of Early Bronze Age settlement?
SRO06	Can we provide further understanding of the transition between a mobile pattern of settlement in the Early Bronze Age to the development of fixed settlement and enclosure in the Middle and Late Bronze Age?
SRO07	Recent work has shown the diversity in Neolithic and Early Bronze Age burials; can we get a better understanding of the variety across the study area?
SRO08	Can we better address the issue of the origin and mobility of individuals, communities and their animals in the Neolithic and Earlier Bronze Age through wider use of isotope analysis?
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?
SRO11	Investigate the degree of continuity that existed between Late Bronze Age and Iron Age communities in terms of population, mobility and subsistence strategies.
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?
SRO13	Can we learn more about Iron Age crafts, particularly the beginning of ironworking, and the sites where activity took place?
SRO14	Explore the evidence for increasing social complexity in the archaeological record in the Late Bronze Age and Iron Age, and to identify patterns of intra-regional and regional variation
SRO15	What evidence is there for regionality in the mortuary rites of the Late Bronze Age and Iron Age and how does that alter over time?

Specific Research Objective ID	Specific Research Objective
SRO16	Evidence from Late Bronze Age and Iron Age settlements suggests that society was peaceful, although this conflicts somewhat with the picture from hillforts. Can we explore this idea more through the exploration of non-hillfort sites?
SRO17	Can we provide a more holistic pattern taking cognisance of not just the chalk downlands and river valleys but also other environments such as the claylands?
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?
SRO20	Establish the relationship between the Romano-British small town at Fleet Martson, its rural hinterland and wider networks of communication and settlement.
SRO21	Can we find evidence for Roman burials and cemeteries, ideally in association with parent towns and settlements that can shed light on social organisation?
SRO22	Can we provide new insight into Roman crafts, trade and industries, particularly pottery, ironworking and stone?
SRO23	The Romano-British period saw the beginning of more established infrastructure network. Can we investigate the development of these routes, trackways and roads and the influence they had on landscape change?
SRO24	Identify the location and form of Early and Middle Saxon land use in the period, particularly the origins and use of open field systems.
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
SRO26	Identify the location of Early, Middle and/or Late Saxon settlement, explore processes of settlement nucleation and understand the development of associated field types and agricultural regimes
SRO27	Can we provide new insight into Early Medieval crafts, trade and industries, particularly pottery, ironworking and stone?
SRO28	Can we understand more about the fate of Roman roads in the Early Medieval period and, if possible, the structure of the Medieval road network?
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
SRO31	Can we investigate other key later medieval land use such as water resources; deer farms; the growth of horticulture?
SRO32	Can we understand better later medieval rural settlement, particularly the origins and nature of nucleated village settlement and the origins /continuation of dispersed settlement as farms/granges/hamlets?
SRO33	What factors influenced the origins and growth of the principal towns during the later medieval period?
SRO34	Can we recognise changing building techniques in timber, stone and brick, and the chronology and distribution of different materials in the Later Medieval period?
SRO35	Despite good documentary records and a wide assemblage of artefacts, the production sites and technology associated with late medieval industries (e.g. pottery, stone, metal, brick etc) is not well understood. Can we understand later medieval crafts, trade and industries better?

Specific Research Objective ID	Specific Research Objective
SRO36	Can we study human, animal and environmental later medieval remains in new innovative ways that may give insight into diet, migration patterns, differences in social status between town and country?
SRO37	Can we understand better the extent of medieval industrial activity and the relationship between agricultural practices and estates e.g. milling.
SRO38	Can we collect environmental evidence routinely to gather information on the origins of fields and changes in agricultural practice during the post-medieval period, which may have occurred at different times in different areas?
SRO39	How did post-medieval rural industries impact on the landscape, and what was their contribution to society over the period of the urban-centred industrial revolution?
SRO40	What was the impact of the agricultural revolution on the post-medieval landscape?
SRO41	Can we recognise social hierarchy in post-medieval settlements?
SRO42	In the Post-Medieval period rural settlement and landscape cannot be regarded separately. Can we identify key areas where towns and villages expanded whilst others retracted and find evidence for the differences between the rural and urban economies?
SRO43	Investigate whether anciently enclosed landscapes display greater diversity and innovation than surviving open field areas during the post-medieval period
SRO44	The conflicts of the 20th century define the history of modern Britain and the world: how can we achieve a greater understanding of the significance of sites associated with conflict to local communities along the route?
SRO45	Investigate the link between the development of the railways and broader changes in the historic landscape during the post-medieval period, such as urban settlement expansion and the decline of the canal network
SRO46	Identify key changes in the technology of railway infrastructure and how these changes influenced the distribution of goods or the movement of people during the post-medieval period. Can we recognise changing public perceptions of railway infrastructure and associated buildings over time?





**Table 4:2 SROs and relevant Research Agendas and associated themes**

SRO	Relevant Research Agenda			Key Research Themes as derived from associated Research Agendas														
	HERDS	Solent and Thames	Bedfordshire	Landscape and Land Use	Settlement	The Built Environment	Specialized Activities (Crafts, Trades and Industry)	Society / Social Organization / Economy and Subsistence	Transport and Communication	Warfare, Defence and Military	Ceremony and Monuments / Ritual / Burial	Links with the Outside World	What were the drivers and inhibitors of change?	Inheritance	Legacy	Nature of the Evidence	Chronology	Material Culture
<b>SRO01</b>	-	6.1.4	-	X												X		
<b>SRO02</b>	KC9	8.1.1	-	X												X		
<b>SRO03</b>	-	8.3.4	-	X				X										
<b>SRO04</b>	KC5	8.4.1; 8.4.6	-	X	X													
<b>SRO05</b>	KC5	8.4.3	-		X													
<b>SRO06</b>	KC10	8.4.7	-	X	X													
<b>SRO07</b>	-	8.5	-					X		X								
<b>SRO08</b>	-	8.8.2	-					X			X							
<b>SRO09</b>	KC12	10.4.5; 10.4.6	-	X														
<b>SRO10</b>	KC15	10.5.5; 10.5.9; 10.5.10	-	X	X			X			X							

SRO	Relevant Research Agenda			Key Research Themes as derived from associated Research Agendas														
	HERDS	Solent and Thames	Bedfordshire	Landscape and Land Use	Settlement	The Built Environment	Specialized Activities (Crafts, Trades and Industry)	Society / Social Organization / Economy and Subsistence	Transport and Communication	Warfare, Defence and Military	Ceremony and Monuments / Ritual / Burial	Links with the Outside World	What were the drivers and inhibitors of change?	Inheritance	Legacy	Nature of the Evidence	Chronology	Material Culture
<b>SRO11</b>	KC16	10.5.1; 10.6	-		X			X				X						X
<b>SRO12</b>	-	10.7.1	-			X		X						X				
<b>SRO13</b>	-	10.9	-				X											
<b>SRO14</b>	KC18	10.6	-				X	X				X						X
<b>SRO15</b>	KC17	10.11	-								X							
<b>SRO16</b>	-	10.12.5	-	X	X					X								
<b>SRO17</b>	-	12.4	-	X														
<b>SRO18</b>	-	12.2.1	-		X									X				X
<b>SRO19</b>	-	12.6	-		X													
<b>SRO20</b>	KC28	12.6	-	X	X				X									
<b>SRO21</b>	-	12.5	-		X			X			X							

SRO	Relevant Research Agenda			Key Research Themes as derived from associated Research Agendas															
	HERDS	Solent and Thames	Bedfordshire	Landscape and Land Use	Settlement	The Built Environment	Specialized Activities (Crafts, Trades and Industry)	Society / Social Organization / Economy and Subsistence	Transport and Communication	Warfare, Defence and Military	Ceremony and Monuments / Ritual / Burial	Links with the Outside World	What were the drivers and inhibitors of change?	Inheritance	Legacy	Nature of the Evidence	Chronology	Material Culture	
SRO22	-	12.11	-				X												X
SRO23	KC19	12.12.13	-	X					X										
SRO24	KC30	14.4.3	-	X				X											
SRO25	KC23	14.2	-		X								X	X					
SRO26	KC30	14.5.1; 14.5.3-5	-		X	X													
SRO27	-	14.6.2	-					X											X
SRO28	-	14.8.2; 14.8.5; 14.11.3	-						X										
SRO29	-	16.4.1	-	X	X													X	
SRO30	-	16.4.2	-	X															
SRO31	-	16.4	-	X				X											

SRO	Relevant Research Agenda			Key Research Themes as derived from associated Research Agendas														
	HERDS	Solent and Thames	Bedfordshire	Landscape and Land Use	Settlement	The Built Environment	Specialized Activities (Crafts, Trades and Industry)	Society / Social Organization / Economy and Subsistence	Transport and Communication	Warfare, Defence and Military	Ceremony and Monuments / Ritual / Burial	Links with the Outside World	What were the drivers and inhibitors of change?	Inheritance	Legacy	Nature of the Evidence	Chronology	Material Culture
<b>SRO32</b>	KC40	16.6.1, 16.6.2, 16.6.6	-		X			X					X					
<b>SRO33</b>	-	16.6.17	-		X		X	X	X	X			X					
<b>SRO34</b>	-	16.7.3	-			X								X	X		X	X
<b>SRO35</b>	-	16.14	-				X	X										X
<b>SRO36</b>	-	16.5	-					X										
<b>SRO37</b>	-	16.14	-			X			X									
<b>SRO38</b>	-	18.3.2	-	X				X										
<b>SRO39</b>	KC44	18.3.9	-	X			X						X					
<b>SRO40</b>	-	18.3.10	-	X				X										
<b>SRO41</b>	-	18.4.2	-		X			X										

SRO	Relevant Research Agenda			Key Research Themes as derived from associated Research Agendas														
	HERDS	Solent and Thames	Bedfordshire	Landscape and Land Use	Settlement	The Built Environment	Specialized Activities (Crafts, Trades and Industry)	Society / Social Organization / Economy and Subsistence	Transport and Communication	Warfare, Defence and Military	Ceremony and Monuments / Ritual / Burial	Links with the Outside World	What were the drivers and inhibitors of change?	Inheritance	Legacy	Nature of the Evidence	Chronology	Material Culture
<b>SRO42</b>	-	18.5.1; 18.5.3; 18.5.5	-		X								X					
<b>SRO43</b>	-	18.6.2	-			X												
<b>SRO44</b>	KC45	18.8.3	-					X		X							X	
<b>SRO45</b>	KC43	18.11.2; 18.11.3	-	X					X				X				X	



## 5. Standards and responsibilities

### 5.1 Responsibilities

- 5.1.1 The Contractor is responsible for the design and delivery of all required works within the Objectives and Research Themes as set out in this document. In particular they will be responsible for:
- Managing budgets and programmes for works;
  - Preparing and maintaining an integrated archaeological programme of works;
  - Preparing the project plans;
  - Delivering specified works;
  - Preparing defined outputs;
  - Preparing and delivering physical and digital archive materials;
  - Engaging with the Employer and external parties to deliver community engagement activities; and
  - Attending specified progress meetings with the Employer.

### 5.2 Compliance with EWR Remit/Protocols

- 5.2.1 Technical outputs for delivery will be compliant with EWR Protocols and will be undertaken in coordination with the Employer.

### 5.3 Compliance with Heritage Specific technical standards

- 5.3.1 All relevant legislation and planning policies are detailed in Section 2, Table 2.1.
- 5.3.2 The following general guidance and standard documents will guide all work undertaken. Where relevant others, are referred to directly in the appropriate Specific Methodologies as set out in Section 7 of this Strategy.
- Campbell, G, Moffett, L and Straker, V 2011 'Environmental Archaeology. A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (second edition)'. Portsmouth: English Heritage
  - Chartered Institute for Institute for Archaeologists (CIfA), 2014a. Code of Conduct.
  - Chartered Institute for Archaeologists, 2014b. Standard and guidance for archaeological field evaluation.
  - Chartered Institute for Archaeologists, 2014c. Standard and guidance for archaeological geophysical survey.
  - Chartered Institute for Archaeologists, 2014d, Standards and Guidance for Archaeological Excavation
  - Chartered Institute for Archaeologists, 2014e, Standards and Guidance for and Archaeological Watching Brief
  - Chartered Institute for Archaeologists, 2014f, Standards and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures
  - Chartered Institute for Archaeologists, 2014g, Standards and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives
  - Chartered Institute for Archaeologists, 2014h, Standard and Guidance for the collection, documentation, conservation and research of archaeological materials
  - DCLG, 2018. National Planning Policy Guidance.

- Historic England, 2008, MoRPHE Project Planning Note 3: 'Archaeological Excavation'
- Historic England, 2011, Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation
- Historic England, 2015a. Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide.
- Historic England, 2015b. Conservation Principles, Policies and Guidance: For the sustainable management of the historic environment.
- Historic England, 2015c. Digital Image Capture and File Storage Guidelines for Best Practice;
- Historic England, 2016a. Preserving Archaeological Remains: Decisions-taking for Sites under Development.
- Historic England, 2016b. Understanding Historic Buildings: A guide to good recording practice; and
- Institute of Historic Building Conservation (IHBC), 2003. Code of Conduct.
- Watkinson, D and Neal, V., 2001. First Aid for Finds.

## 5.4 Health and Safety Considerations and Protocols

- 5.4.1 The Contractor will provide the Project Heritage Lead and Archaeological Manager with details of their public liability and professional indemnity insurance cover.
- 5.4.2 The evaluation works will not fall within the definition of Construction Works as defined under the Construction Design and Management (CDM) Regulations 2015; however, mitigation work undertaken during construction periods, i.e. Strip, Map and Sample, Watching Brief, Historic Building Recording etc, will fall within the CDM Regulations 2015. The Contractor, therefore, will prepare the necessary Health and Safety Plan, Risk Assessment and Method Statements and provide suitable welfare facilities. The Employer, acting as Principal Contractor, will be responsible for delivering the Health and Safety Site Inductions for all staff that work on the project.
- 5.4.3 The Contractor will have their own Health and Safety policy as required under the Health and Safety at Work etc Act 1974. A copy of the Contractor's latest Health and Safety policy will be submitted to the Project Heritage Lead, who will forward it on to the Employer.
- 5.4.4 The Contractor shall also undertake all works in accordance with the EWR2 Health and Safety Policies and prepare project-specific H&S documentation, as well as all Permits to Dig, and submit these to the Project Heritage Lead and Archaeological Manager for approval prior to starting on site. The Contractor will not be permitted to start on site until the Employer is satisfied with the plan and has received confirmation that the Plan is acceptable to the Curator for the proposed works. If amendments are required to these reports during the works, the Project Heritage Lead, Archaeological Manager and the Employer must be provided with the revised document at the earliest opportunity.

## 5.5 Communication and engagement

- 5.5.1 All enquiries on the archaeological works from Stakeholders and interested parties (including the media) should be referred to the Project Heritage Lead and the Employer.
- 5.5.2 If confronted by members of the public, ensure communication is polite and respectful. If staff are abused verbally by members of the public or there is clear intent to harm staff, the Contractor should take appropriate action by either disengaging in conversation or exiting the site to seek safety. Any such incidents must be reported to the Archaeological Manager and the Employer immediately. The Project Heritage Lead will be advised of the situation by the Archaeological Manager at the earliest opportunity following the immediate response.
- 5.5.3 All communication and engagement (to both internal and external parties) will be undertaken in accordance with the EWR Alliance Communication Strategies.

## 5.6 Monitoring of progress

- 5.6.1 The Curators will be invited to monitor all archaeological fieldwork. All fieldwork will be subject to regular monitoring visits by the Project Heritage Lead, Archaeological Manager and the relevant Curator(s). The Project Heritage Lead, Archaeological Manager and Curator(s) will have unrestricted access to the records or any other information. The Curator(s) will be invited to inspect the fieldwork as required, and attend site meetings where possible, which will be arranged by the Project Heritage Lead or Archaeological Manager. The work will be inspected to ensure that it is being carried out to the required standards and that it will achieve the stated objectives in line with the approved WSI.
- 5.6.2 Weekly written progress reports (via email each Friday to be received no later than 1200 hrs) will be provided to the Project Heritage Lead, who will forward on to the relevant Curator(s) during the fieldwork. In addition, the Contractor will inform the Project Heritage Lead and Archaeological Manager on the progress of the fieldwork verbally upon request.
- 5.6.3 The Contractor will only accept instruction from the Project Heritage Lead and Archaeological Manager. All instructions will be in writing.

## 5.7 GIS/BIM outputs

- 5.7.1 Geospatial Information System (GIS) standards have been prepared to outline the procedures for the use of GIS data and mapping on the EWR2 project. This document has been drafted to align with EWR Alliance GIS Standards (Document Number: 133735-EWR-EEN-000046) and is for internal use only. For Curators, ESRI ArcGIS is the software to be used to produce all GIS based mapping for the project. All files and data associated with them are to be compatible with at least ArcGIS 10.3.





## 6. Generic methodologies

### 6.1 Introduction

6.1.1 These following methodologies are generic, and it should be noted that bespoke site-specific considerations may be necessary as fieldwork progresses. Where this is the case it will be outlined in the site-specific Written Schemes of Investigation (WSI). Examples that may be additional to the generic methodologies may include:

- Targeted sieving for Mesolithic and Neolithic artefacts;
- Specific considerations viz historic railway construction;
- Augering of deep alluvial and hillwash deposits to recover palaeoenvironmental evidence; and
- Considerations with regard to Palaeolithic activity remains.

### 6.2 Geophysics

6.2.1 Geophysical survey will be carried out prior to any intrusive ground works to determine the presence or absence of archaeological remains within the specified area.

6.2.2 All geophysical survey work will be carried out in accordance with recommended good practice specified in guideline documents published by European Archaeological Council<sup>11</sup>, and the Chartered Institute for Archaeologists (CIfA). Data processing, storage and documentation will be carried out in accordance with the good practice specifications detailed in the guidelines issued by the Archaeology Data Service<sup>12</sup>.

6.2.3 There are three types of geophysical survey that may be used as part of the EWR archaeological investigations:

- **Magnetometer survey:** This is usually the technique of first choice that can identify a wide range of archaeological features such as ditches and pits; made surfaces, metalled roads and trackways; drains and gulleys; pottery and kilns; hearths and ovens, and ferrous debris including some slag. It is suitable for greenfield sites with archaeology up to approximately a metre below the surface and able to cover large areas in a time and cost-effective manner. Igneous geology, utilities and modern infrastructure can reduce its efficacy.
- **Earth resistance survey:** A commonly applied technique ideal for locating foundations, but also able to detect ditches and pits; made surfaces; metalled roads and trackways; stone coffins and graves; drains and gulleys. This technique benefits from not being affected by underlying geology and so is often deployed on sites with underlying igneous or metamorphic geology.
- **Ground penetrating radar (GPR):** This technique is ideally suited to sites where depth information is required. It is able to detect ditches and pits; walls, foundations and rubble spreads; made surfaces; metalled roads and trackways; stone coffins, cists and graves; drains and gulleys; depth of peat; depth to bedrock; location of voids. It can be applied to a variety of even ground conditions and can detect to a wide range of depths, making it the most versatile technique available; it is not the most time or cost effective technique however.

### Aims and Objectives

6.2.4 The primary aim of all archaeological geophysical survey is to identify and record potential archaeological remains through the production and interpretation of geophysical data, to inform the need for, scope and method of subsequent phases of archaeological investigation and mitigation. It should be noted that while geophysical survey can aid in identifying areas of archaeological potential, only intrusive evaluations can provide confirmation of the nature, character, extent and significance of sub-surface archaeological remains.

<sup>11</sup> Schmidt, A.R., Linford, P., Linford, N., David, A., Gaffney, C.F., Sarris, A. and Faßbinder, J., 2016. EAC Guidelines for the use of Geophysics in Archaeology: Questions to Ask and Points to Consider.

<sup>12</sup> Schmidt, A. and Ernenwein, E., 2011. Guide to Good Practice: geophysical data in archaeology. Archaeology Data Service/Digital Antiquity Guides to Good Practice.

6.2.5 The results of all geophysical survey will be assessed and interpreted to attempt to understand the potential for buried remains within the targeted areas, in advance of development works.

6.2.6 The specific aims are to:

- Locate potential sub-surface archaeological remains within the Site and characterise where possible; and
- Produce a comprehensive report and archive.

## Methodology

### *Brief and Project Design*

6.2.7 WSIs will be prepared in accordance with current policy and practice and all archaeological investigations will adhere to the specific methodologies set out. However, the documents may be subject to change depending on the results of future works, e.g. geophysical survey, and developments in industry policies and standards. Any changes to the WSIs must be agreed in writing with all relevant parties prior to the commencement of the works as per Condition 9b.

6.2.8 The relevant geophysical surveys will be undertaken across all accessible parts of the sites as specified in Section 10. If for any reason certain areas cannot be surveyed, e.g. due to underlying geology, presence of utilities or health and safety constraints, the reasons for this will be included within the fieldwork report.

6.2.9 WSIs will be agreed with the Curator prior to the commencement of the survey works. The Curator will be notified of the timings of the surveys by the Archaeological Manager.

### *Magnetometer Survey*

6.2.10 The geophysical survey will be undertaken using Bartington Grad601-2 instruments (or equivalent). Sub-surface intrusion will be limited to the insertion of canes and plastic pegs into the ground. These will be required to mark out the grids, baselines and traverses.

6.2.11 Survey grids will be accurately set out at 30m x 30m. Data will be collected using zig-zag traverses, with a minimum sample interval of 0.25m and a traverse interval of 1m.

6.2.12 Before each session of use, each gradiometer will be balanced around a single set up point within that particular survey block, specifically chosen for use by all machines. This point will be magnetically quiet and balancing the machine around this point, produces a more uniform dataset throughout and allows all data to be plotted with ease within the stipulated plotting range of -1nT to 2nT.

6.2.13 Where significant drift occurs on a machine throughout a survey session, the affected grids will be re-surveyed. Striping of the data may occur due to machine drift and it is decided in the field if this is within a sensible and acceptable limit.

6.2.14 Care will be taken to attempt to avoid metal obstacles present within the survey area, such as metal fencing around nearby houses as gradiometer survey is affected by 'above-ground noise'. All data will be logged consecutively on site and downloaded daily.

6.2.15 At the end of the project, all data will be downloaded and processed by the Contractor to be presented in the survey report in line with EWR GIS output requirements.

### *Earth Resistance Survey*

6.2.16 Sub-surface intrusion will be limited to the insertion of canes and plastic pegs into the ground. These will be required to mark out the grids, baselines and traverses.

6.2.17 Resistance surveys will be carried out using a two twin probe array with a mobile probe spacing of 0.5m (i.e. Geoscan Research RM15). Data will be collected in an east-west direction using zig-zag traverses. Generally, a 0.5m or 1m probe separation will be used, along a 0.5m or 1m wide traverse with readings every 1m although this may be altered as required.

6.2.18 The instrument will store the data collected on an on-board data-logger, which will then be downloaded as a series of survey grids for processing. Following the survey, the resistance data is downloaded and processed for the report.

- 6.2.19 In some cases, should ground conditions allow, the survey may be carried out using a cart system with a square array. If this is the case, alpha and beta measurements will be collected.
- 6.2.20 Earth Resistance Survey may be used to target areas where magnetometry survey has previously identified potential features, as this can provide further clarity as to the potential character.

### *Ground Penetrating Radar*

- 6.2.21 The use of GPR is limited to relatively level ground surfaces. It is unlikely that GPR will be utilised during the course of the EWR construction programme for archaeological purposes; however, where appropriate the following methodology will apply.
- 6.2.22 Parameters will be selected that are suitable for the prospective aims of the survey and in accordance with recommended professional good practice<sup>13</sup>. Data will be collected using single antennas or antenna arrays and zig-zag traverses (with a traverse interval of 0.25m or 0.5m).

## **Health and Safety**

- 6.2.23 Health and Safety regulations and requirements will be adhered to at all times during the survey works. All works will comply with the overall EWR Health and Safety Policy.

## **Reporting**

- 6.2.24 Reporting of the geophysical survey will comply with the specific methodology set out in Section 7. In addition to general reporting standards, all processed data from the geophysical survey will be presented within the report at an appropriate scale between 1:1,000 and 1:2,500.

## **Archiving**

- 6.2.25 Archiving of the physical and digital record will comply with the specific methodology set out in Section 6.13 and Section 7.

<sup>13</sup> David, A. Linford N. and Linford P., 2008. Geophysical Survey in Archaeological Field Evaluation (2nd edn). Swindon: English Heritage. 8

## 6.3 Trial Trenching

- 6.3.1 Trial trench evaluation provides a means of sampling a large area to record the density of archaeological features and finds and determine levels of recent disturbance. It is also employed to test the results of geophysical and topographic survey.
- 6.3.2 Trial trenching can help to identify the archaeological potential of a site and to locate specific zones of activity within the site.
- 6.3.3 For the purposes of the Project, trial trenching will be used to inform the need for further archaeological works and/or mitigation; and to allow for an understanding of the risks posed by the archaeology on site and therefore, to effectively plan construction programmes.
- 6.3.4 A per section 5.6, all fieldwork will be subject to regular monitoring visits by the Project Heritage Lead, Archaeological Manager and the relevant Curator(s). The Curator(s) will be invited to inspect the fieldwork as required and attend all site meetings which will be arranged by the Project Heritage Lead and / or the Archaeological Manager. The work will be inspected to ensure that it is being carried out to the required standards and that it will achieve the stated objectives in line with the approved WSI.
- 6.3.5 A percentage of the specified works area is excavated by machine by means of linear trenches. All archaeological trial trenching will be carried out by the Contractor in accordance with national, regional and local policy and guidelines and in particular will be carried out in accordance with the ClfA Standard and guidance for archaeological field evaluation<sup>14</sup>.
- 6.3.6 Consideration should be given to the sample sieving of topsoil and subsoil from trial trenches located at the top of slopes overlooking watercourses to capture evidence of Mesolithic and Neolithic activity.

### Aims and Objectives

- 6.3.7 The purpose of archaeological trial trenching is to identify the presence or absence of archaeological remains and record any archaeological features and deposits within the sampled area. The findings of the investigation will then inform the need for further archaeological works.
- 6.3.8 The aims of the archaeological trial trenching within the specified works area will be:
- To establish the presence/absence of archaeological remains within the Site;
  - To determine the significance, extent, condition, nature, character, quality and date of any archaeological remains encountered;
  - To record and sample excavate any significant archaeological remains encountered;
  - To assess the eco-factual and environmental potential of any significant archaeological features and deposits;
  - To assess and investigate the palaeoenvironmental potential of the Site;
  - To determine the extent of previous truncations of the archaeological deposits;
  - To inform the Employer and Curator of the nature of archaeological remains within the specified area, thus allowing for a decision on the necessity for further works and/or mitigation; and
  - To make available to interested parties the results of the investigation.
- 6.3.9 All archaeological trial trenching will contribute to the overall East West Rail fieldwork research aims and will be targeted works within areas with archaeological potential. All works will be conducted in accordance with the individual WSI's for the works area with outlined key potential.

### Methodology

#### *Brief and Project Design*

- 6.3.10 WSIs will be prepared in accordance with current policy and practice and all archaeological investigations will adhere to the specific methodologies set out. However, the documents may be

<sup>14</sup> ClfA., 2014. Standard and Guidance for Archaeological Excavation. Reading: Chartered Institute for Archaeologists.

subject to change depending on the results of future works, e.g. geophysical survey, and developments in industry policies and standards. Any changes to the WSIs must be agreed in writing with all relevant parties prior to the commencement of the works.

- 6.3.11 The sample requirements will be agreed with each relevant Curator on a site by site basis; contingencies may be required where archaeological remains are encountered, ranging from 2-10% where appropriate. These will be detailed within the individual site specific WSI's.
- 6.3.12 Trench plans will be set out prior to the commencement of the investigations. The trenches will largely target features identified through previous field investigations (i.e. geophysical survey). The remainder of the trenches will be located evenly across the Site with varying alignments to ensure for widespread coverage. These trench plans will be detailed and presented within the individual site specific WSI's.
- 6.3.13 Prior to the commencement of the archaeological works, the relevant Curator will be notified.

### *Fieldwork*

- 6.3.14 The archaeological trial trenching will adhere to the following methodology, wherever reasonably practicable e.g. where site conditions and health & safety consideration allow. Any significant variations, such as movement of trenches or reduction of samples size due to site condition or live services etc. to the WSI must be agreed verbally with all relevant parties (i.e. the Employer, the Curator) prior to the works, to allow for variations to be dealt with rapidly in the field. However, such agreements must be confirmed as soon as practicable in writing.
- 6.3.15 The proposed areas requiring archaeological trial trenching have been outlined in Section 10. Where geophysical survey is practicable, trench plans will be based upon these results.
- 6.3.16 On-site conditions, may mean that the trenches have to be re-located at the beginning of the works on Site. The archaeological site supervisor will take that decision on site upon consultation with the Project Heritage Lead. Welfare will be sited on Site to minimise impact on the Site and the environment.
- 6.3.17 Service plans must be provided for the Site. Buried services and overhead lines require appropriate buffers and this should be taken into consideration during the creation of the trenching plan. Trench locations will be CAT scanned before excavation and where overhead lines are present goal posts will be required to mark locations for plant crossings. Any plant crossing under and overhead line will require to be supervised banksman with the hydraulic arm depressed to the maximum extent.
- 6.3.18 The trenches will be opened using a mechanical excavator equipped with a toothless bucket. Trenching will be carried out under constant archaeological direction under the control of an experienced archaeologist. Plant of an appropriate size will be used and will be equipped with a 1.4-1.8m wide bucket in most cases.
- 6.3.19 Undifferentiated topsoil or overburden of recent origin will be removed in successive level spits down to the first significant archaeological horizon, or the natural geology, whichever is encountered first. Topsoil and subsoil will be stored separately and will be visually scanned and where appropriate subject to metal detecting.
- 6.3.20 Trenches will be excavated only to a safe working depth, although can be stepped if deemed necessary. The trenches will be fenced from access with road pins and barrier mesh, if required.
- 6.3.21 Where structures, finds, soil features and layers of archaeological interest are exposed in the evaluation trenches, the Contractor will observe, clean, assess, excavate by hand where appropriate, sample and record these features and finds. Archaeological features will be excavated sufficiently to identify and characterise, where possible, the nature, quantity and significance of the deposits as well as establishing date and depths.
- 6.3.22 The Employer will be informed as soon as possible of the discovery of any significant archaeological remains, such as human burials or hoards, or changes in the programme of ground works on Site.
- 6.3.23 On completion of machine excavation, all faces of the trench that require examination or recording will be cleaned using appropriate hand tools e.g. trowels and brushes. All investigation of archaeological horizons will be by hand, with cleaning, inspection, and recording both in plan and section.
- 6.3.24 Where archaeological features are encountered typically the following samples will be excavated:

- Linear features: a minimum sample of 10% of their length, with a minimum individual slot length of 1m.
- The termini of any linear features: 100% excavated.
- Pits: a minimum of 50%.
- Complex features (such as hearths): will be preserved in situ pending mitigation
- Significant solid or bonded structural remains, building slots or postholes will be preserved intact, even if fills are sampled.

6.3.25 Sampling strategies will be agreed with the relevant Curator's in advance of archaeological works progressing on Site, and if required, through on Site consultation.

6.3.26 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 metal detection will be undertaken by an experienced operator.

### *Finds*

6.3.27 Full details of the specific methodology for archaeological finds is outlined in Section 6.11.

### *Human Remains*

6.3.28 Any human remains will be handled in line with the specific methodology for Human Burials (See Section 6.10).

### *Environmental Sampling*

6.3.29 Where archaeological remains are uncovered, bulk samples 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 the specific methodology in Section 6.9.

### *Recording*

6.3.30 Archaeological recording will comply with the specific methodology set out in Section 6.12.

### *Backfilling and Reinstatement*

6.3.31 Where backfilling is required, the excavated areas will be backfilled with the excavated material and compacted with the machine bucket only. If significant archaeology is identified, this will be covered and protected by terram a protective geotextile, as appropriate, prior to backfilling

### *Health and Safety*

6.3.32 Health and Safety regulations and requirements will be adhered to at all times during the trial trenching works. All works will comply with the overall EWR Health and Safety Policy as well as Section 5.4 of this document.

### *Reporting*

6.3.33 Reporting of the archaeological works will comply with the specific methodology set out in Section 7.

### *Archiving*

6.3.34 Archiving of the physical and digital record will comply with the specific methodology set out in Section 6.13 and Section 7.

## 6.4 Strip Map & Sample (SMS)

- 6.4.1 SMS is a method of partial excavation carried out over large areas of land, where archaeological remains are believed to exist, but their type is unidentified.
- 6.4.2 Where SMS is required, the specified area will be machine stripped under archaeological control to the first archaeological horizon, or to the natural geology where no archaeological remains are encountered. All archaeological features are recorded in plan and a sample of features are excavated.
- 6.4.3 In some cases, where complex archaeological features/ relationships are identified, an initial small sample and analysis/ spot dating may need to be undertaken, before a strategy for the entire site is developed in consultation with the Project Heritage Lead, Archaeological Manager and relevant Curator.
- 6.4.4 As per section 5.6, all fieldwork will be subject to regular monitoring visits by the Project Heritage Lead, Archaeological Manager and the relevant Curator(s). The Curator(s) will be invited to inspect the fieldwork as required and attend all site meetings which will be arranged by the Project Heritage Lead and / or the Archaeological Manager. The work will be inspected to ensure that it is being carried out to the required standards and that it will achieve the stated objectives in line with the approved WSI.
- 6.4.5 All archaeological SMS conducted will be carried out by the Contractor in accordance with national, regional and local policy and guidelines and in particular will be carried out in accordance with the ClfA Standard and guidance for archaeological field evaluation<sup>15</sup>.
- 6.4.6 All soil stripping activities will be undertaken in accordance with the site-specific Soil Management Plan provided by the Employer.

### Aims and Objectives

- 6.4.7 The purpose of archaeological SMS is to identify and record any archaeological remains within the specified area immediately prior to construction works or site investigations. SMS guides us in making decisions as to which features to excavate and how much. Once a SMS has been completed the area would usually be handed back to the Principal Contractor for development to proceed.
- 6.4.8 The aims of the archaeological SMS within the specified works area will be:
- To provide a comprehensive record of the archaeological features and analysis of the results;
  - To determine the significance, extent, condition, nature, character, quality and date of any archaeological remains encountered;
  - To record and sample or fully excavate any significant archaeological remains encountered;
  - To assess the eco-factual and environmental potential of any significant archaeological features and deposits;
  - To assess and investigate the palaeoenvironmental potential of the Site;
  - To determine the extent of previous truncations of the archaeological deposits, if this has not already been determined through trial trenching;
  - To inform the Employer and Curator of the nature of archaeological remains within the specified area, thus allowing for a decision on the necessity for further works; and
  - To make available to interested parties the results of the investigation.
- 6.4.9 All archaeological SMS will contribute to the overall East West Rail fieldwork research aims and will be targeted works within areas of known archaeology. All works will be conducted in accordance with the Area-Specific WSIs detailed in Section 10. The WSIs will outline specific aims for each SMS and will be undertaken with reference to research questions as outlined in Section 4.

<sup>15</sup> ClfA., 2014c. Standard and guidance for archaeological field evaluation. Reading: Chartered Institute for Archaeologists.

## Methodology

### *Brief and Project Design*

- 6.4.10 WSIs will be prepared in accordance with current policy and practice and all SMS archaeological investigations will adhere to the specific methodologies set out. However, the documents may be subject to change depending on the results future works, such as geophysical survey or trial trenching, and developments in industry policies and standards.
- 6.4.11 Prior to the commencement of the SMS, the area-specific WSIs will require to be agreed with the Curator. Any changes to the WSIs must be agreed in writing with all relevant parties prior to the commencement of the works.

### *Fieldwork*

- 6.4.12 The archaeological SMS will adhere to the following methodology as well as the appropriate area-specific WSIs and site-specific Soil Management Plan, wherever reasonably practicable e.g. where site conditions and health & safety consideration allow. Any significant variations, such as reduction of samples size due to site condition or live services to the WSI must be agreed verbally with all relevant parties (i.e. the Employer, Archaeological Manager and the Curator) prior to the works, to allow for variations to be dealt with rapidly in the field. However, such agreements must be confirmed as soon as practicable by in writing.
- 6.4.13 The proposed areas requiring SMS have been outlined in Section 10. In these areas, all topsoil stripping will be monitored and directed by the supervising archaeologist. Archaeological supervision of topsoil stripping will be at a ratio of one archaeologist per mechanical excavator. Topsoil and overburden will be removed in successive level spits down to the first archaeological horizon, or the natural sub-stratum, whichever is encountered first. At this point, ground works will cease while archaeological recording is carried out in line with the aims and objectives, and the requires in Table 6.1 below.
- 6.4.14 Plant will work away from, and not track across, the machined surface until the monitoring archaeologist has given permission to do so. Movement of plant over the remainder of the Site will be minimised to prevent rutting or damage to sub-surface archaeological features as far as is practicable. Topsoil and subsoil will be stored separately and will be visually scanned or metal detected if appropriate.
- 6.4.15 Investigation of archaeological horizons and features will be undertaken by hand. Minimum requirements for sample excavation will follow national, regional and local guidelines.

**Table 6:1 Minimum requirements for sample excavation**

Feature type	Minimum Sampling Requirement
Complex/ significant features/ deposits/ artefact assemblages/ artefacts	Sampling to be subject of further discussion with the Curator. If of exceptional nature, the advice of Historic England may be sought.
Hearths, ovens, kilns	100% of domestic/industrial working features (hearths, ovens). These are also to be sampled for arch/mag as standard if appropriate (this applies to any in-situ burnt features unless agreed otherwise on-site following discussion).
Possible prehistoric roundhouses or other post-built structures	Total excavation of all post-holes, spreads/ occupation layers and cut features (e.g. ring-gullies) directly associated with structures. Metal detector to be used at all stages of excavation/ removal, for better artefact recovery (e.g. for droplets of bronze).
Possible cremation burials	Total excavation; lifting of intact/ semi-intact pottery vessels with following micro-excavation in laboratory.



Feature type	Minimum Sampling Requirement
Linear features	Excavation by hand of sections across all termini, all junctions or intersections of cut features and, in the body of the features if <i>datable</i> , <i>ancient</i> and manifestly rich in ancient palaeoenvironmental remains, the following scope of works: linear features <10m long: at least one 1.0 metre-wide section. linear features >10m long: 1.0 metre-wide sections at maximum 10.0-metre intervals. Partial excavations within a linear at junctions of cut features will not be a substitute for sections across the body of the linear, away from such junctions, because of possible contamination between intercutting contexts. With prior agreement with the Curator, the remainder of the fills may be excavated mechanically under close archaeological supervision and control and thorough metal detecting.
Discrete cut features general	Total excavation by hand of all discrete, potentially <i>datable</i> and <i>ancient</i> cut features of less than 2 sq. metres plan area, and of such features manifestly rich in ancient palaeoenvironmental remains; except where deeper than 1 metre, when half-sections will be acceptable.
Post-holes	Post-holes probably associated with structures - complete excavation by hand.
Pits	Default - half-section. Further sampling to be decided on basis of Health & Safety considerations/ vulnerability of fill/ contents. In general all pits would be subject to this sampling; however if substantial numbers of pits are encountered then the Curator will be consulted to establish percentage of pits requiring sampling to allow for characterisation.
Structural Features	All structural features will be fully revealed in plan and recorded. All individual elements including walls, floors, doorways, and any negative features will have context boundaries distinguished facilitating a full written, drawn and photographic record.
Demonstrably 19 <sup>th</sup> /20 <sup>th</sup> century features	If not evidently part of a structure, e.g. a structure of industrial archaeological interest, or if without good artefact assemblage, record and sample only that sufficient to confirm late date. If artefact-rich/ part of a structure, treat as with pits and post-holes above.
Highly/nationally significant features (e.g. high-status burials)	The Employer and Curator, to be notified immediately on discovery/recognition. Strategy for excavation/scientific investigation/conservation <i>etc</i> to be agreed before work resumes.

## *Finds*

- 6.4.16 Full details of the specific methodology for archaeological finds is outlined in Section 6.11.

## *Human Remains*

- 6.4.17 Any human remains will be handled in line with the specific methodology for Human Burials (See Section 6.10).

## *Environmental Sampling*

- 6.4.18 Where archaeological remains are uncovered, bulk samples 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 the specific methodology in Section 6.9.

## *Recording*

- 6.4.19 Archaeological recording will comply with the specific methodology set out in Section 6.12.

### *Backfilling and Reinstatement*

- 6.4.20 Where backfilling is required, the excavated areas will be backfilled with the excavated material and compacted with the machine bucket only. If significant archaeology is identified, this will be covered and protected by terram, a protective geotextile, prior to backfilling

### *Health and Safety*

- 6.4.21 Health and Safety regulations and requirements will be adhered to at all times during the trial trenching works. All works will comply with the overall EWR Health and Safety Policy as well as Section 5.4 of this document.

### *Reporting*

- 6.4.22 Reporting of the archaeological works will comply with the specific methodology set out in Section 7.

### *Archiving*

- 6.4.23 Archiving of the physical and digital record will comply with the specific methodology set out in Section 6.13 and Section 7.

## **6.5 Archaeological Monitoring**

- 6.5.1 A programme of observation, investigation and recording of archaeological remains undertaken during construction where appropriate. It is used where archaeological remains have not been identified by a detailed desk-based assessment or field evaluation, but where there is a realistic potential for archaeological discoveries. The main contractor's method of working would not be directly controlled for archaeological purposes, unless important archaeological discoveries are found (in which case the site method may change to Construction Integrated Recording – see Section 6.6)
- 6.5.2 All work will be carried out by the Contractor in accordance with national, regional and local policy and guidelines and in particular will be carried out in accordance with the ClfA Standard and guidance for archaeological field evaluation<sup>16</sup> and the ClfA Standard and guidance for an archaeological watching brief<sup>17</sup>.

### **Aims and Objectives**

- 6.5.3 In line with ClfA standard and guidance<sup>18</sup>, the purpose of archaeological monitoring is to:
- 'to allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of development or other potentially disruptive works'
  - 'to provide an opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief itself are not sufficient to support treatment to a satisfactory and proper standard.'
- 6.5.4 All archaeological monitoring will contribute to the overall East West Rail fieldwork research aims and will be conducted in accordance with an individual Site specific WSI with outlined specific aims.

### **Methodology**

#### *Brief and Project Design*

- 6.5.5 Site specific WSIs outlining the archaeological potential and specific objectives can be found in Section 10. These WSIs have been prepared in accordance with current policy and practice and all archaeological monitoring will adhere to the specific methodologies set out. However, the documents

<sup>16</sup> ClfA., 2014c. Standard and guidance for archaeological field evaluation. Reading: Chartered Institute for Archaeologists.

<sup>17</sup> ClfA., 2014e. Standard and guidance for an archaeological watching brief. Reading: Chartered Institute for Archaeologists.

<sup>18</sup> ClfA., 2014e. Standard and guidance for an archaeological watching brief. Reading: Chartered Institute for Archaeologists. 4.

may be subject to change depending on future works and developments in industry policies and standards.

- 6.5.6 Prior to the commencement of archaeological monitoring the WSI must be agreed with the Curator and they will be informed of the timings of the work. Any changes to the WSIs must be agreed in writing with all relevant parties prior to the commencement of the works.

### *Fieldwork*

- 6.5.7 The archaeological monitoring will adhere to the area-specific WSI, wherever reasonably practicable e.g. where site conditions and health & safety consideration allow. Any significant variations, such as reduction of sample size due to site condition or live services etc. to the WSI must be agreed verbally with all relevant parties (i.e. the Employer and Curator) prior to the works, to allow for variations to be dealt with rapidly in the field. However, such agreements must be confirmed as soon as practicable by in writing.
- 6.5.8 An archaeologist will be present to monitor all intrusive ground-works involving the removal of modern material, made ground, topsoil and subsoils (including any temporary works and site set up and demolition works which may have an impact on archaeological deposits) within the specified works area. They will be positioned at a safe distance, beyond the limits of the working area of any mechanical excavator. Should access to the machined area be required, the machine will cease operations and if necessary, relocate to ensure safe access.
- 6.5.9 Any machining undertaken under archaeological monitoring will be done, where practicable, with a flat bladed bucket (toothless) and in horizontal spits. The machined area should be exposed to a 'clean' state which allows for the identification, definition and investigation of any archaeological remains.
- 6.5.10 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 installed by a competent person.
- 6.5.11 In the event that significant archaeological remains are revealed, additional excavation staff should be made 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, the Employer and the Curator. Delays to development can be minimised by continuing to monitor areas of watching brief while the archaeological resource is recorded.
- 6.5.12 A full written and photographic record of the on-site works should be maintained at all times.

### *Finds*

- 6.5.13 Full details of the specific methodology for archaeological finds is outlined in Section 6.11.

### *Human Remains*

- 6.5.14 Any human remains will be handled in line with the specific methodology for Human Burials (See Section 6.10).

### *Environmental Sampling*

- 6.5.15 Where archaeological remains are uncovered, bulk samples 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 the specific methodology in Section 6.9.

### *Recording*

- 6.5.16 Archaeological recording will comply with the specific methodology set out in Section 6.12.

### *Backfilling and Reinstatement*

- 6.5.17 Where backfilling is required, the excavated areas will be backfilled with the excavated material and compacted with the machine bucket only. If significant archaeology is identified, this will be covered and protected by terram, a protective geotextile, prior to backfilling

## *Health and Safety*

- 6.5.18 Health and Safety regulations and requirements will be adhered to at all times during the trial trenching works. All works will comply with the overall EWR Health and Safety Policy as well as Section 5.4 of this document.

## *Reporting*

- 6.5.19 Reporting of the archaeological works will comply with the specific methodology set out in Section 7.

## *Archiving*

- 6.5.20 Archiving of the physical and digital record will comply with the specific methodology set out in Section 6.13 and Section 7.

## **6.6 Construction Integrated Recording**

- 6.6.1 Construction Integrated Recording is a programme of observation, investigation and recording of archaeological remains. It is used where the likely extent of the remains has been demonstrated, but it is not practical or appropriate to investigate in detail before the main construction programme (e.g. due to safety or logistical considerations or environmental or engineering constraints). The main contractor's preferred method of working would be controlled as necessary to allow archaeological recording to take place to the required standard. The specified area will be machine stripped under archaeological supervision to the first archaeological horizon, or to the natural geology where no archaeological remains are encountered. All archaeological features will be recorded in plan and a sample of features will be excavated. The archaeological works will be conducted simultaneously with construction works and will be directed by an archaeologist. All Construction Integrated Recording will be carried out by the Contractor in accordance with national, regional and local policy and guidelines.

## **Aims and Objectives**

- 6.6.2 The purpose of Construction Integrated Recording is to identify and record any archaeological remains within the specified area during construction works or site investigations. The works will aim to avoid delays and substantial impacts on the construction programme, wherever possible.
- 6.6.3 The aims of Construction Integrated Recording within the specified works area will be:
- To identify the presence and/or absence of archaeological remains;
  - To provide a comprehensive record of identified archaeological features and analysis of the results;
  - To determine the significance, extent, condition, nature, character, quality and date of any archaeological remains encountered;
  - To record and sample or fully excavate any significant archaeological remains encountered;
  - To assess the eco-factual and environmental potential of any significant archaeological features and deposits;
  - To assess and investigate the palaeoenvironmental potential of the Site; and
  - To make available to interested parties the results of the investigation.
- 6.6.4 All Construction Integrated Recording will aim to contribute to the overall East West Rail fieldwork research aims and will be targeted works within areas of known archaeological potential. All works will be conducted in accordance with the individual Written Scheme of Investigation (WSI) for the works area with outlined specific aims.

## **Methodology**

### *Brief and Project Design*

- 6.6.5 Site-specific WSIs outlining the archaeological potential and specific objectives can be found in Section 10. These WSIs have been prepared in accordance with current policy and practice and investigations will adhere to the specific methodologies set out. However, the documents may be

subject to change depending on the results of future works, such as geophysical survey, and developments in industry policies and standards.

- 6.6.6 Prior to the commencement of the archaeological works, the Curator will be notified. Any changes to the WSIs must be agreed in writing by the Contractor, the Archaeological Lead, the Curator and the Employer prior to the commencement of the works.

### *Fieldwork*

- 6.6.7 Construction Integrated Recording will adhere to the following methodology as well as the appropriate Site-specific WSI found in Section 10, wherever reasonably practicable e.g. where site conditions and health & safety consideration allow. Any significant variations, such as reduction of sample size due to site condition or live services etc. to the WSI must be agreed verbally with all relevant parties (i.e. the Employer, and the Curator) prior to the works, to allow for variations to be dealt with rapidly in the field. However, such agreements must be confirmed as soon as practicable by in writing.
- 6.6.8 The proposed areas requiring Construction Integrated Recording have been outlined in Section 10. In these areas, the construction works and site investigations will be carried out under the direct supervision of an archaeologist. The archaeologist will be given prior notice of the nature of the construction work and site investigation works to be carried out.
- 6.6.9 All topsoil stripping will be monitored and directed by an experienced archaeologist. Archaeological supervision of topsoil stripping will be at a ratio of at least one archaeologist per mechanical excavator, and undertaken in accordance with the site-Specific Soil Management Plan.
- 6.6.10 The removal of topsoil and overburden must be carried out using a mechanical excavator utilising a flat bladed bucket (toothless), and in horizontal spits. Plant will work away from, and not track across the, machined surface until the monitoring archaeologist has given permission to do so. Movement of plant over the remainder of the Site will be minimised to prevent rutting or damage to sub-surface archaeological features as far as is practicable.
- 6.6.11 A team of experienced archaeologists will carry out the archaeological works where archaeological remains are uncovered. The number of archaeologists should be proportional to the scale of the construction works and the number and scale of archaeological remains so as to ensure the requisite sample of features are adequately investigated and recorded within the necessary timeframe.
- 6.6.12 The main contractor's preferred method of working would be controlled as necessary to allow archaeological recording to take place to the required standard. In general, topsoil and overburden will be removed in successive level spits down to the first archaeological horizon, or the natural sub-stratum, whichever is encountered first. At this point, ground works will cease while archaeological recording is carried out where necessary.
- 6.6.13 Where no archaeological remains are identified within the works area, this should be noted in written records and photographs of the area will be taken to demonstrate the lack of features and deposits. The construction programme may continue in areas where no archaeological remains have been identified, so long as the archaeologist consents and the works do not preclude archaeological investigations on other parts of the Site from being carried out based on Health and Safety, access etc.
- 6.6.14 Investigation of archaeological horizons and features will be by hand. Minimum requirements for sample excavation will be limited to the works area and to the formation depth and follow national, regional and local guideline (see table 6.1).
- 6.6.15 Where nationally significant remains are uncovered, further mitigation may be required. The Employer and the Curator should be consulted as soon as possible and certainly prior to further construction works and site investigations within the specified area.

### *Finds*

- 6.6.16 Full details of the specific methodology for archaeological finds is outlined in Section 6.11.

### *Human Remains*

- 6.6.17 Any human remains will be handled in line with the specific methodology for Human Burials (See Section 6.10).

### *Environmental Sampling*

- 6.6.18 Where archaeological remains are uncovered, bulk samples 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 the specific methodology in Section 6.9.

### *Recording*

- 6.6.19 Archaeological recording will comply with the specific methodology set out in Section 6.12.

### *Backfilling and Reinstatement*

- 6.6.20 Where backfilling is required, the excavated areas will be backfilled with the excavated material and compacted with the machine bucket only. If significant archaeology is identified, this will be covered and protected by terram, a protective geotextile, prior to backfilling

### *Health and Safety*

- 6.6.21 Health and Safety regulations and requirements will be adhered to at all times during the trial trenching works. All works will comply with the overall EWR Health and Safety Policy as well as Section 5.4 of this document.

### *Reporting*

- 6.6.22 Reporting of the archaeological works will comply with the specific methodology set out in Section 7.

### *Archiving*

- 6.6.23 Archiving of the physical and digital record will comply with the specific methodology set out in Section 6.13 and Section 7.



## 6.7 Chance Finds Procedure

- 6.7.1 Document 133735-EWR-EMP-EEN-000003 Environmental Incident Response Plan, details that if an unexpected archaeological find is discovered during the enabling works phase, work will stop immediately and reported to the Archaeological Manager, Supervisor and EWR Environment & Sustainability Team.
- 6.7.2 Notification will be made, and guidance sought from the Project Heritage Lead, Archaeological Manager, relevant Curator. Reporting of this incident will be in accordance with the process set out within the Construction Environmental Management Plan (Document Number - 133753-EWR-EMP-EEN-000002).
- 6.7.3 If an unexpected archaeological feature or artefact is found work must immediately stop and the find shall be communicated in accordance with the Environmental Incident Response Plan. Until the find is assessed it shall be protected to prevent loss/destruction.
- 6.7.4 Intrusive archaeological investigation may be required to determine the extent of the find and to record its details for posterity. This will be undertaken in accordance with the relevant guidance and methodology contained within this document.
- 6.7.5 Works will not recommence until the appropriate statutory body or Curator has given consent for works to recommence.

## 6.8 Historic building recording

- 6.8.1 Historic building recording of bridges and railway stations proposed for removal for construction of the EWR2 project to Historic England Level 1 and Level 2 standards was identified in the Environmental Statement for the scheme and has been agreed with the relevant Curators and Conservation Officers.
- 6.8.2 All work will be carried out by the Contractor in accordance with national, regional and local policy and guidelines and in particular will be carried out in accordance with the appropriate IHBC and ClfA Standards and guidance.
- 6.8.3 All historic building recording will contribute to the overall East West Rail fieldwork research aims and will be conducted in accordance with an overarching route wide WSI (Document number: 133735-EWR-REP-EEN-000251)

### Aims and Objectives

- 6.8.4 The aims of the Level 1 and 2 historic building recording are:
- To document the form and survival of historic railway structures proposed for removal on sections 2A and 2B of the East West Rail Western Section Phase 2 project; and
  - To provide an objective documentary record of the structures.
- 6.8.5 The objectives of the recording works are
- To record the historic railway structures to level 1 and 2 standards;
  - To disseminate the results of the recording works through deposition of an ordered digital archive and detailed report with the Buckinghamshire and Oxfordshire Historic Environment Records; and
  - To disseminate the results of the recording works through deposition of digital data and report with the Archaeology Data Service, and submit details of the project to the Online Access to Index of Archaeological Investigations (OASIS) Project.

### Level 1 standards

- 6.8.6 Historic building recording to level 1 standards will comprise the compilation of a written and photographic record as detailed below, and in accordance with *Understanding Historic Buildings: A*

*guide to good recording practice*.<sup>19</sup> This is defined in the guidance as ‘essentially a basic visual record, supplemented by the minimum of information needed to identify the building’s location, age and type’.

## Level 1 standards for photographic record

- 6.8.7 A photographic record of each structure will be made using a high resolution DSLR camera with a minimum of 10 megapixel resolution to capture colour images, and a 35mm single lens reflex camera to capture black and white prints. A tripod shall be used where necessary.
- 6.8.8 As a minimum the photographic record will include:
- General views of each structure in its wider setting and landscape, where these can be safely obtained from public highways, the track bed or from third party land where access has been granted;
  - The structures’ external appearance. This will typically include a series of oblique views which show all external elevations of the structure and give an overall impression of its size and shape;
  - More detail shots of individual elevations which may provide complex architectural or historical information;
  - Any external architectural detail, structural, functional or decorative, which is relevant to the structure’s design, development or use and which does not show adequately on general photographs; and
  - Any dates or other inscriptions; any signage, makers’ plates or graffiti which contribute to an understanding of the building. A transcription should be made wherever characters are difficult to interpret.
- 6.8.9 All photographs forming part of the record will be in sharp focus with an appropriate depth of field and will be suitably well lit if required. All photographs will have a suitable scale (for example, 2m rather than 1m ranging pole) clearly visible in each photo.
- 6.8.10 Digital images shall be supplied in RAW and JPG format and shall be taken using the highest resolution possible. All digital photography and subsequent data storage shall follow Historic England guidance provided in *Digital Image Capture and File Storage Guidelines for Best Practice*.<sup>20</sup>
- 6.8.11 Black and white prints and an illustrative selection of digital images shall be provided in hard copy on silver halide paper as part of the project archive.

## Level 1 standards for written records

- 6.8.12 A written record of each structure will be made on site using the Contractors pro forma record forms, and include appropriate sketch plans, and photographs.

## Level 2 standards

- 6.8.13 A level 2 record is defined in the Historic England guidance as: “a descriptive record” which will produce an analysis of the building’s development and use, but which will not discuss in detail the evidence on which this analysis is based.

## Level 2 standards for drawn record

- 6.8.14 A drawn record shall be prepared, and as a minimum the drawn record shall include:
- Dimensioned / measured plans of the building as existing, including all floors. These will identify evidence for phasing, alteration, structural features of historic significance, evidence for fixtures and fittings etc. All plans will have a grid north point and an appropriate drawn metric scale clearly visible. Existing plans may be used where available, subject to verification of their accuracy. Any such drawings should not be relied upon without validation; and

<sup>19</sup> Historic England, 2016. *Understanding Historic Buildings: A guide to good recording practice*  
<sup>20</sup> Historic England, 2015c. *Digital Image Capture and File Storage Guidelines for Best Practice*.



- Measured drawings of significant structural, functional or architectural detail which cannot be captured in a single photograph or are so complex as to render features difficult to interpret in a photograph.
- 6.8.15 All drawings shall be annotated with information on structural detail, changes in building material, evidence for phasing, function and alteration, and any other relevant architectural detail. All drawings will be produced using drawing conventions as laid out in Understanding Historic Buildings: A guide to good recording practice (Historic England 2016).
- 6.8.16 Existing plans of structures will, where possible be supplied by the Employer and may be employed as the basis for the drawn record, subject to verification and checking for accuracy. In the absence of existing plans good quality dimensioned sketch plans of this asset will be acceptable
- 6.8.17 The drawn record shall include:
- Roughly dimensioned sketched plan and elevation drawings. These will identify evidence for phasing, alteration, structural features of historic significance, evidence for fixtures and fittings etc. All plans will have a grid north point and an appropriate drawn metric scale clearly visible. Existing plans may be used where available, subject to verification of their accuracy. Any such drawings should not be relied upon without validation; and
  - Measured drawings of significant structural, functional or architectural detail which cannot be captured in a single photograph or are so complex as to render features difficult to interpret in a photograph.

## Level 2 standards for photographic record

- 6.8.18 A photographic record of each structure will be made using a high resolution DSLR camera with a minimum of 10 megapixel resolution to capture colour images, and a 35mm single lens reflex camera to capture black and white prints, using a tripod where necessary. The photographic record of the site shall be used to amplify and illuminate the archive drawings and supplement and verify the written record.
- 6.8.19 As a minimum the photographic record will include:
- General views of each structure in its wider setting and landscape, where these can be safely obtained from public highways, the track bed or from third party land where access has been granted;
  - The overall appearance of the buildings, including oblique and parallel shots. Typically a series of oblique views showing all external elevations of the buildings, to give an overall impression of its size and shape. Where an individual elevation embodies complex historical information, views at right angles to the plane of the elevation and detail shots will be required;
  - The overall appearance of the principal rooms, circulation areas and roofspace;
  - Any external architectural detail, structural, functional or decorative, which is relevant to the structure's design, development or use and which does not show adequately on general photographs; and
  - Any dates or other inscriptions; any signage, makers' plates or graffiti which contribute to an understanding of the building. A transcription should be made wherever characters are difficult to interpret.
- 6.8.20 Photographs will be taken using the highest resolution possible. All photographs forming part of the record will be in sharp focus with an appropriate depth of field. All photographs will have a suitable

scale (for example, 2m rather than 1m ranging pole, 10cm scales for detail) clearly visible in each photo.

- 6.8.21 Digital images shall be supplied in RAW and JPG format and shall be taken using the highest resolution possible. All digital photography and subsequent data storage shall follow Historic England guidance provided in *Digital Image Capture and File Storage Guidelines for Best Practice*.<sup>21</sup>
- 6.8.22 Black and white prints and an illustrative selection of digital images shall be provided in hard copy on silver halide paper as part of the project archive.

## Level 2 standards for written records

- 6.8.23 A written record of each structure will be made on site. This will include the following:
- The precise location of the building as an address and in the form of a National Grid reference;
  - The date when the record was made;
  - The name(s) of the recorder(s); and
  - A summary statement describing the building's type or purpose, historically and at present, its materials and possible date(s) so far as these are apparent from the inspection.
- 6.8.24 The written recording of the structures, historic surfaces and associated heritage assets shall be undertaken using pro forma record forms and should include examinations of the buildings' exterior and interior fabric.

<sup>21</sup> Historic England, 2015c. *Digital Image Capture and File Storage Guidelines for Best Practice*.

## 6.9 Environmental Sampling

- 6.9.1 Archaeological science refers to the science-based research methods used in archaeology in the post-excavation phase. Provision must be made during the intrusive on-site works, including trial trenching, SMS, Construction Integrated Recording and archaeological monitoring, to ensure that archaeological science can be comprehensive and accurate as the post-excavation analysis can greatly contribute to knowledge creation and can improve the understanding of a Site. The following methodology will be of relevance to environmental samples.

### Methodology

#### *On Site*

- 6.9.2 All environmental sampling will be conducted in accordance with national, regional and local policies and guidance. All aspects of the collection, selection, processing, assessment and reporting on the environmental sampling shall be undertaken in accordance with the principles set out in Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation<sup>22</sup> and with reference to the Association for Environmental Archaeology's Working Paper No. 2, Environmental Archaeology and Archaeological Evaluation.
- 6.9.3 Provision shall be made for the removal of samples from all securely stratified deposits which shall be scatter sampled for retrieval and assessment of biological remains. A sampling strategy appropriate to the archaeological features and deposits will be adopted. As a minimum this will include bulk samples for most archaeological contexts as well as provision for column and/or other necessary sampling as set out in the paragraphs below. The processing and assessment of samples shall be undertaken in parallel with the trial trenching so that preliminary results are available to inform the development of the sampling programme. If these preliminary results indicate the need for a sampling strategy which deviates from the requirements set out here, this will require to be agreed with the Project Heritage Lead, the Curator and the Employer.
- 6.9.4 In some circumstances a particular geoarchaeological or environmental specialism may be required on Site, or the Historic England Regional Science Advisor consulted. The circumstances for this will be decided on a Site specific basis by the Project Heritage Lead and Archaeological Manager using their professional judgement, and in consultation with the relevant Curator.
- 6.9.5 Bulk samples will be taken using 10L plastic, lidded tubs (with handles) or securely fastened strong polythene bags (double bagged). All sample tubs/bags will be appropriately and clearly labelled with site codes, context details and sample information using permanent ink.
- 6.9.6 Bulk samples of dry context will be taken in the range of 40L-60L as appropriate. Samples of wet (i.e. waterlogged) deposits should total 20L. Where the context is of a lower volume, 100% of the context will be sampled.
- 6.9.7 Monolith and Kubiena box samples should be taken where necessary to allow for specialist analysis of deposits. The location and depth should be accurately recorded, and all samples should be taken with a 50mm overlap where more than one monolith is required. Column samples should also be taken down the length of a section where appropriate. These samples should be neatly packed and secured with plastic and rubber bands. All samples will be appropriately and clearly labelled with site codes, context details and sample information using permanent ink.
- 6.9.8 In waterlogged conditions, it is possible that timbers will survive below ground. Where there is potential for timbers to be dated, they should be sampled following guidelines in Waterlogged Wood: Guidelines to the Recording, Sampling, Conservation and Curation of Waterlogged Wood<sup>23</sup>.
- 6.9.9 All samples will be recorded in a sample register forming part of the site record.
- 6.9.10 The Contractor will be responsible for the safekeeping of all samples on-site and during transportation to the processing facility.

<sup>22</sup> English Heritage. 2011. Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation.

<sup>23</sup> Brunning, R. and Watson, J., 2010. Waterlogged wood: guidelines on the recording, sampling, conservation, and curation of waterlogged wood. English Heritage.

## *Post-excavation*

- 6.9.11 Where archaeological remains are encountered, a post-excavation research strategy should be prepared by the Contractor during the on-site archaeological investigations, in order to inform development of any post excavation assessment, and finalised following the immediate completion of the site specific fieldwork program.
- 6.9.12 Processing and assessment of samples shall be undertaken in line with the agreed strategy for the recovery and sampling of environmental remains and Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation<sup>24</sup>. Subject to variations agreed in writing based on this, samples shall be processed and assessed under the supervision of the contractor's palaeoenvironmental specialist(s).
- 6.9.13 Suitable samples for scientific dating shall also be recovered. Dating techniques shall only be applied where required to meet the aims and objectives of the investigations and on written instruction from the Employer. These may include:
- Radiocarbon dating;
  - Radiocarbon dating (Accelerator Mass Spectrometry);
  - Archaeomagnetic dating;
  - Optically Stimulated Luminescence (OSL) dating; and
  - Dendrochronological dating.
- 6.9.14 The following post-excavation analysis techniques may also be adopted where appropriate:
- Sample Flotation;
  - Sample Wet Sieving;
  - Sample Dry Sieving;
  - Residue Sorting;
  - Flot Sorting;
  - Routine Soil Analysis;
  - Soil Micromorphological Analysis (Thin Section Analysis);
  - Charcoal Identification;
  - Wood Identification;
  - Non-charcoal charred plant macrofossil and macrofaunal analysis;
  - Waterlogged plant analysis; and
  - Dendrochronological analysis
- 6.9.15 All processing, recording, cleaning, storage and conservation of samples shall be in accordance with the Chartered Institute for Archaeologist's Standard and guidance for the collection, documentation, conservation and research of archaeological materials<sup>25</sup>.

<sup>24</sup> English Heritage. 2011. Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation.

<sup>25</sup> CIfA., 2014d. Standards and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials. Reading: Chartered Institute for Archaeologists.

## 6.10 Human Remains

- 6.10.1 Human remains may be uncovered during the course of the EWR2 construction programme. No known burial sites will be impacted during the works, however, ground works may result in unexpected human remains being exposed, and this would potentially be most likely on later prehistoric and Romano-British sites
- 6.10.2 Where human remains are encountered the Contractor will inform the Project Heritage Lead, Archaeological Manager and the Ministry of Justice and the local constabulary immediately, in addition the Project Heritage Lead will inform the Employer and the relevant Curator. Advice on how best to proceed will be sought from the Ministry of Justice, relevant Curator, and the local authority environmental health officer.
- 6.10.3 If removal of human remains is deemed necessary following consultation with the Employer, a coroner's licence from the Ministry of Justice will be required prior to the excavation and removal of the remains.
- 6.10.4 Human remains will be treated with dignity and respect at all times. It may be necessary to screen off the human remains from public view and other construction works and this will be arranged as soon as possible where required.
- 6.10.5 The following methodology will apply where human remains are encountered. All human remains will be treated in accordance with national, regional and local policies and guidance. In addition, all works will comply with the following relevant best practice guidelines:
- Brickley and McKinley, 2004. Guidelines to the Standards for Recording Human Remains;
  - APABE, 2017. Guidance for Best Practice for the Treatment of Human Remains Excavated from Christian Burial Grounds in England;
  - Historic England, 2018. The Role of the Human Osteologist in an Archaeological Fieldwork Project;
  - McKinley and Roberts, 1993. Excavation and post excavation treatment of cremated and inhumed human remains; and
  - Mitchell and Brickley, 2017. Updated Guidelines to the Standards for Recording Human Remains – December 2017.

### Methodology

#### *Fieldwork*

- 6.10.6 Any finds of human remains will be left in situ, covered and protected. An initial in situ visual observation and assessment of the remains will be carried out in order to inform the Project Heritage Lead, the Employer, the Curator and notifiable parties. All works will cease within the area until consultation has been undertaken and provision made for an Osteoarchaeologist to attend the site.
- 6.10.7 All articulated and disarticulated human remains, including structured burials and charnel, will be excavated and lifted in a logical and appropriate manner with the suitable tools. There should be an awareness that further human remains may be present within the surrounding area.
- 6.10.8 All articulated human remains will be lifted by hand by archaeologists or, if required, an exhumation contractor. Each excavated individual will be bagged separately and permanently labelled as to content and cross referenced with the archaeological records of the excavation<sup>26</sup>. Different skeletal areas and bones from the left and right sides will be bagged separately<sup>27</sup> and all bags labelled.
- 6.10.9 Unstratified disarticulated human bone is of limited scientific value<sup>28</sup>, as there is often little opportunity to relate types of data together (e.g. number of individuals, bone size and age). Disarticulated bone will be rapidly screened when discovered and any anomalies, such as anatomically dissected disarticulated remains or remains thought to have been deposited within a deliberate deposit that may

<sup>26</sup> APABE., 2005. Guidance for best practice for treatment of human remains excavated from Christian burial grounds in England. Historic England.

<sup>27</sup> Ibid. Annex S3, 38

<sup>28</sup> Ibid. 41

have cultural significance<sup>29</sup> will be brought to the attention of the Osteoarchaeologist who will determine the appropriate course of further investigation, in consultation with the Project Heritage Lead, the Curator and the Employer. Any disarticulated remains will be carefully cleared from the spoil. Care will be taken to clearly differentiate disturbed but originally articulated human burials

- 6.10.10 All grave goods and associated exposed artefacts will be recorded and removed at the end of the working day to limit the risk of theft and disruption to the area. If this is not possible, security will be required and should be coordinated in conjunction with the Employer.
- 6.10.11 Samples may be taken from the fill around the head and around the torso and feet for the recovery of small bones/teeth and for the possibility of further scientific investigation (e.g. investigation of parasite flora)<sup>30</sup>.

### *Recording*

- 6.10.12 Prior to being lifted, all human remains will be recorded in line with the specific methodology in Section 7.9 and in line with the specific methodology set out below. All human remains should be bagged and boxed with an assigned identification number or code.
- 6.10.13 All applicable pro forma record forms, including context sheets and skeleton recording sheets, should be completed. Written descriptions should include details about the human remains and their surrounding context as well as the degree of truncation and disruption. The location of all skeletons should be accurately located on plans and mapped using appropriate survey and photogrammetry methods, general plans will be completed at a scale of 1:20 with section drawings at a scale of 1:10. All plans will be tied in the OS NGR, with levels give to AOD.
- 6.10.14 Photography is generally recognised as the best way to record in situ human remains. Only authorised photographs should be taken, and these should be carried out in a sensitive manner. A suitable scale should be visible in photographs. The photographic record should be jpeg and RAW formats and all photographs should be taken at a minimum of 16 megapixels.

### *Health and Safety*

- 6.10.15 Health and Safety regulations and requirements will be adhered to at all times during the works on site. All works will comply with the overall EWR Health and Safety Policy as well as the specific methodology set out in Section 5.4.
- 6.10.16 Particular health and safety issues may arise in instances where human remains are uncovered, particularly where soft tissue survives. Risk assessments and method statements will be evaluated and updated as necessary.

### *Reporting*

- 6.10.17 Reporting of the excavation and/or removal of human remains will be incorporated into the relevant archaeological investigation report, or independent report if the investigations have been carried out separately.
- 6.10.18 All reporting will comply with the specific methodology set out in Section 7.

### *Archiving*

- 6.10.19 Archiving of the physical and digital record will comply with the specific methodology set out in Section 6.13.
- 6.10.20 Generally, human remains should be reinterred within two years. However, this time limit may be altered after consultation with the Ministry of Justice.

<sup>29</sup> Ibid. 44.

<sup>30</sup> Ibid. Annex S3, 38

## 6.11 Finds

- 6.11.1 The following methodology will apply wherever finds are uncovered and collected. All finds will be treated in accordance with national, regional and local policies and guidance and in particular with ClfA's Standard and Guidance for the collection and documentation, conservation and research of archaeological materials<sup>31</sup>, Historic England's Archaeological Conservation guidance documents<sup>32 33</sup>; ICON's professional standards and ethics<sup>35</sup>; and ICON Archaeology Group guidelines: A brief guide to the principles of archaeological conservation<sup>36</sup>.

### Methodology

#### *On Site*

- 6.11.2 All finds shall be recorded by context; individually significant finds ("special finds" or "small finds") shall also be recorded three-dimensionally using a sequence of unique numbers. To inform the investigation strategy finds processing shall be carried out during the course of the investigations and provisional spot dates and information provided to the Project Heritage Lead and Archaeological Manager who will provide the information to the Curator(s).
- 6.11.3 All identified finds and artefacts will be collected and retained. Certain classes of material, i.e. post-medieval pottery and building material, may on occasion be discarded after recording if a representative sample is kept. No finds will be discarded without the prior approval of the archaeological representative of the local authority and the receiving museum.
- 6.11.4 Any finds covered by the provisions of the Treasure Act (1996, amended 2003) and Treasure (Designation) Order 2002, including gold and silver, will be moved to a safe place and reported to the coroner's office according to the procedures determined by the Act. They will also be reported to the relevant Curator, and local finds liaison officer from the Portable Antiquities Scheme.
- 6.11.5 Exposed finds will be lifted at the end of each working day. Where removal cannot be undertaken on the same working day as the discovery, suitable security measures will be taken to protect the artefacts from theft or damage.
- 6.11.6 On site a representative sample of finds will be examined to establish the 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.
- 6.11.7 All finds of gold and silver will be moved to a safe place. Where removal cannot be undertaken on the same working day as the discovery, suitable security measures will be taken to protect the artefacts from theft or damage.
- 6.11.8 Provision for onsite conservation and finds treatment, in addition to any scientific dating of materials uncovered, will be undertaken where appropriate.
- 6.11.9 The protection of all finds on site and during transportation to the post-excavation facility will be the responsibility of the Contractor
- 6.11.10 Upon completion of the project, the landowner will be contacted regarding the preparation, ownership and deposition of the archive and finds. The local museum will also be contacted to ascertain whether deposition can be attained. This contact will be made at the earliest stage possible, in order to ensure delivery of, and public accessibility to the archive.

<sup>31</sup> ClfA., 2014d. Standards and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials. Reading: Chartered Institute for Archaeologists.

<sup>32</sup> English Heritage, 2006. Guidance on conservation area appraisals. English Heritage.

<sup>33</sup> English Heritage, 2008. Conservation principles, policies and guidance. English Heritage, London.

<sup>34</sup> Historic England, 2018. The Role of the Human Osteologist in an Archaeological Fieldwork Project. Historic England, Swindon.

<sup>35</sup> ICON., 2014. ICON's professional standards and ethics.

<sup>36</sup> ICON Archaeology Group., 2009. A brief guide to the principles of archaeological conservation.

### *Post-excavation*

- 6.11.11 Where artefacts are encountered and collected, a post-excavation research strategy should be prepared by the Contractor following the completion of the on-site archaeological investigations.
- 6.11.12 Artefacts will be cleaned and conserved, where necessary, to allow for identification and to accommodate further investigation.
- 6.11.13 Post-excavation storage will be secure and appropriate to the material and significance of the object. Analysis will be in line with national best practice guidelines for artefact conservation and may include x-radiography and consolidation as part of the process.
- 6.11.14 All post-excavation work will be undertaken in accordance with Historic England Archaeological Conservation guidance documents as well as ICON's professional standards and ethics; and ICON Archaeology Group guidelines.





## 6.12 Recording & Reporting

### Recording

- 6.12.1 All recording will be based upon the standards and requirements as set out in the Archaeological Contractor's bespoke recording system, so long as this meets ClfA requirements. A copy of this recording system will be provided to the Curator's for review prior to commencement on site. All excavated contexts shall be fully recorded by detailed written context records giving details of location, composition, shape, dimensions, relationships, finds, samples, cross-references to other elements of the record and other relevant contexts.
- 6.12.2 Written and photographic records will be maintained at all sites, even where archaeological features have not been encountered, in order to document the scope of the works, their location and the presence/absence of archaeological remains.
- 6.12.3 The record of archaeological investigations will include, at minimum:
- The site/trench codes as defined by the Employer;
  - the location of the works area;
  - the date(s) of the works;
  - personnel involved in the works;
  - a description of the archaeological and/or construction works;
  - scope of excavation works and depths, if applicable;
  - degree of visibility and capacity to observe archaeological features, noting any areas where obstructions occurred and reasons for this;
  - location and description of any archaeological remains;
  - location and description of any modern remains; and
  - areas and depths where archaeological remains were left in situ.
- 6.12.4 In order to achieve this, on-site recording of archaeological features, where not precluded by Health & Safety considerations, will consist of:
- Hand cleaning of archaeological features, sections and surfaces sufficient to establish the stratigraphic sequence exposed;
  - Examination of excavated material in order to retrieve artefacts to assist in the analysis of their spatial distribution;
  - Sample excavation of exposed features (see relevant methodology sections for minimum sample requirements);
  - Completion of pro-forma record sheets;
  - Plans and sections of all exposed archaeological features and horizons (including boundaries of natural) at an appropriate scale. A scale of 1:100 and/or 1:200 will be utilised to initially map the entire exposure and will be linked to detail plans at 1:20 of excavated features and sections at 1:10, if necessary. All features will be accurately tied into the Ordnance Survey National Grid and Ordnance Datum;
  - A scaled photographic record of representative exposed sections and surfaces, along with sufficient photographs to establish the setting and scale of the groundworks; and
  - A record of the datum levels of archaeological deposits.
- 6.12.5 Records will be produced using either pro-forma context or trench record sheets. These will be compatible with those published by the Museum of London<sup>37</sup>.

<sup>37</sup> MoLAS., (1994). Archaeological Site Manual Third Edition. Museum of London Archaeology Service.

- 6.12.6 All written records should be completed with black or permanent ink and all drawings will be completed using a 'hard' pencil (recommended 2H or 4H). All documents will include the unique site code.
- 6.12.7 A record of the full sequence of all archaeological deposits as revealed in the investigation works will be made. Plans and sections of features will be drawn at an appropriate scale of 1:10 or 1:20, with sections drawn at 1:10.
- 6.12.8 A full photographic record will be maintained inclusive of working shots to represent the general context of the archaeological investigations. The principal features and finds will both be recorded in detail and in a general context. This will consist of SLR digital photography (using a minimum of a 16-megapixel camera) capturing RAW and JPEG data. An appropriate scale should be included in detailed images wherever possible.
- 6.12.9 Registers of all contexts, drawings, photographs, finds, and samples will be maintained in a standardised format.
- 6.12.10 Where archaeological features are encountered, linear features and occasional discreet features will be located using a GNSS GPS and tied into the National Grid. All planning will be done by GPS and transferred straight into GIS.
- 6.12.11 For trial trenching and SMS excavations, trench locations and the extent of the excavated area will be surveyed using a differential GPS. 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. This will also be required in cases where significant remains are uncovered during a watching brief. A site grid will be accurately tied into the National OS Grid and located on a map of the area.

### *Human Remains*

- 6.12.12 Any human remains will be recorded as per this methodology and in accordance with the Specific Methodology for Human Burials in Section 6.10.

### *Finds*

- 6.12.13 Finds recording on Site will include, as a minimum:
- the site/trench codes as defined by the Employer;
  - the location of the works area;
  - context number in which the artefact was found;
  - designated find number;
  - material type; and
  - brief description of the artefact.
- 6.12.14 All finds will be labelled and bagged or boxed, where possible, with attached identification tags in plastic bags and entered into an on-site finds register and numbered accordingly. Any finds that are too large to be bagged will be labelled in an appropriate and visible manner with a finds tag.

## **Report Preparation**

- 6.12.15 Upon completion of the fieldwork, the Contractor will prepare a fieldwork report within four to twelve weeks, this will be dependent upon the scope and nature of the fieldwork and upon the results of the fieldwork and external specialist reports. This timetable may be extended on those sites with extensive and significant archaeological remains; this will be agreed in advance with the Project Heritage Lead.
- 6.12.16 The contractor and the Project Heritage Lead, and Archaeological Manager should agree the reporting timescales in writing once work in the field is complete. Where appropriate an interim report will be provided.
- 6.12.17 For larger sites, and those with more complicated archaeological remains a staged approach, of process of post-excavation assessment, updated project design and reporting must be followed as per

MoRPHE<sup>38</sup>, with project updates/interims at all stages. Those sites which require deviation from standard reporting preparation procedure, will be identified by the Project Heritage Lead, the Archaeological Manager and the relevant Curator, either immediately prior too, or immediately following the start of on site works.

- 6.12.18 The standard report will adhere to national standards and will include the following, as a minimum:
- Non-technical summary;
  - Contents list;
  - List of Tables, Figures etc.;
  - Introduction;
  - Summary of project background;
  - Description and illustration of the Site location;
  - Geology and topography of the Site;
  - Archaeological and historical background details for the Site including relevant previous archaeological interventions;
  - Statement of objectives and aims;
  - Statement of methodology;
  - Results and observations based on the quantitative and stratigraphic record with reference to any specific project constraints;
  - Discussion of the results in terms of the location, extent, date, nature, condition, quality and significance of any archaeological remains identified during the works;
  - Statement of archaeological significance and potential of the Site;
  - Assessment of results in terms of the Site-specific aims and wider context;
  - Conclusions and recommendations for appropriate further archaeological investigation and mitigation with reference to the specific aims and research agenda as set out in Section 4 of this Strategy;
  - Bibliography;
  - Acknowledgements;
  - Site matrix, (if applicable);
  - Trench, context, find, drawing and photographic etc. registers (as applicable); and
  - A copy of the OASIS form.
- 6.12.19 Copies of the draft report will be sent to the Project Heritage Lead and Archaeological Manager for onward transmission to the Curator and the Employer for comment; final copies of the report (paper & electronic) will also be submitted to be deposited in the relevant Historic Environment Record (HER).
- 6.12.20 Any significant variation in the project design, including timetables, proposed after the agreement of the proposals must be acceptable to the Curator.
- 6.12.21 An OASIS form will be completed, and a paper copy will be appended to the report. An electronic copy of the post-excavation assessment report will be deposited with the Archaeological Data Service (ADS).

<sup>38</sup> Historic England, 2015a. Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide.

## 6.13 Archiving

- 6.13.1 Archaeological material recovered from fieldwork is irreplaceable and data recorded during the course of fieldwork should be copied and held securely in a separate location in line with current good practice, until it can be deposited in a recipient repository
- 6.13.2 The EWR archaeological programme will take place over a wide number of Sites and over several years. The physical and digital archives are anticipated to contain a wealth of material which must be catalogued, interpreted and made accessible in order for the overall EWR research aims to be met. As such, the following methodology sets out the steps that will be taken regarding all archaeological works at all Sites.
- 6.13.3 The methodology for archiving the physical and digital record is included in this section:
- **Physical archive:** All written records, drawings, and photographs as well as artefacts, ecofacts and environmental samples.
  - **Digital archive:** All 'born digital' material such as GIS files, survey data, digital images, databases, spreadsheets, LiDAR data, etc.
- 6.13.4 The paper and digital archive will be security copied via the Archaeology Data Service (ADS), the only accredited digital archive in the United Kingdom for heritage data. The digital archive copy will be prepared and deposited through ADS-easy 2.0.
- 6.13.5 All archiving will comply with national, regional and local standards and guidance as set out in Section 6.3 – Compliance with Technical Standards. In addition, archiving will comply with the following guidelines:
- ADS, 2011. Guides to Good Practice;
  - Brown, D.H., 2011. Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation (Second Edition);
  - Brown, D.H., 2011b. Safeguarding Archaeological Information. Procedures for minimising risk to undeposited archaeological archives;
  - Chartered Institute for Archaeologists, 2014. Standards and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials; and
  - Society of Museum Archaeologists, 1993. Selection, Retention and Dispersal of Archaeological Collections: Guidelines for use in England, Wales and Northern Ireland.

### Physical Archive

- 6.13.6 The physical archive for all archaeological investigations at every specified Site will comprise all artefacts, environmental samples and written and drawn records. It is to be consolidated after completion of each phase of archaeological works with records and finds collated and ordered as a permanent record which is accessible and secure.

### Documentary archive

- 6.13.7 The documentary archive includes written and drawn records and photography generated during Site fieldwork as well as associated site matrix, summary of key findings, photography, specialist reporting, specialist data and finds and environmental inventories generated during post-excavation.
- 6.13.8 Deterioration and damage of all documents is to be avoided by ensuring that the site records, drawings and post-excavation records are stored in a secure and stable environment.
- 6.13.9 All documents will be appropriately labelled and include the EWR site code and will be consistent within the confines of the project. A contents list will be included within the archive.
- 6.13.10 Printed copies of any reports and publications, if applicable, of the archaeological investigations at each Site will be included along with all maps and figures associated with the reports.
- 6.13.11 In addition to deposition with the receiving museum, the documentary archive will be security copied as PDF/A files and deposited digitally, alongside "born digital" material, with the ADS.

## Material archive

- 6.13.12 The material archive refers to finds and environmental samples. This includes:
- Small finds;
  - Bulk finds of material grouped by type i.e. ceramic fragments, animal bone, etc; and
  - Environmental samples, including thin-sections, and other environmental remains
- 6.13.13 Prior to fieldwork, the contractor will have storage facilities in place to temporarily house the Site archive for a period of one year from completion of fieldwork; this should be an appropriate period of time for archive preparation and deposition.
- 6.13.14 Archaeological finds rarely have any monetary value, but they are an important source of information for future research, included in museum exhibits and teaching collections. The Chartered Institute of Archaeologists recommend that finds are publicly accessible and that landowners donate archaeological finds to a local museum. The receiving museums are as follows:
- Bedford Borough and Central Bedfordshire: The Higgins Bedford;
  - Central Bedfordshire: Luton Cultural Services Trust, Wardown Park Museum in some instances and with prior discussion;
  - Buckinghamshire and Milton Keynes: Buckinghamshire County Museum; and
  - Oxfordshire: Oxfordshire County Museum.
- 6.13.15 All receiving museums require notification before fieldwork begins. The appropriate notification forms should be completed and discussions should be had with the museum to discuss arrangements as early as possible. On completion of the project, the Contractor will discuss arrangements for the archive to be deposited with the corresponding local museum and with the Employer. This will be prepared in the format agreed with local museum services and following national guidance<sup>39 40</sup>. The Contractor will provide the Project Heritage Lead and Archaeological Manager with copies of communications with the recipient museums and written confirmation of the deposition of the archive. The Project Heritage Lead and Archaeological Manager will be responsible for the transfer of ownership and copyright issues once the archive has been transferred to the recipient repositories.
- 6.13.16 Where an area of archaeological works overlaps between areas where there are several receiving museums and/or administrative areas, discussions will be had at the earliest opportunity with the relevant museums prior to fieldwork to arrange where the archive will be deposited to avoid an archive becoming fragmented.
- 6.13.17 Prior to the deposition of the material archive, all finds will be kept secure and clean, wherever possible. They will be recorded and catalogued and stored in suitable archive boxes or in conditions suitable to their material composition and size as per national guidelines.
- 6.13.18 All finds will be labelled, with reference to the accession number, and accompanied with catalogues and copies of specialist reports.
- 6.13.19 The retention, selection and dispersal of finds will be carried out after discussion with the receiving museum and relevant specialists prior to museum deposition, in compliance with best practice outlined in the SMA Selection, Retention and Dispersal of Archaeological Collections: Guidelines for use in England and the individual museum's retention, selection and dispersal policy.
- 6.13.20 In the event of the legal owner(s) resolving to retain all or part of the Site archive, they shall be responsible for the future preservation and maintenance of any material element of that archive. That part of the Site archive in question, shall be transferred to the legal owner only after; all necessary processing, research, analysis and investigative/stabilising conservation and correct packing necessary to prepare the archive for preservation and in a usable, accessible form, and to produce a full report for publication, has been completed. The owner shall ensure that all necessary provision is made for the long-term preservation of the archive in a satisfactory environment, and that it is accessible for future research. The Contractor will ensure that a proper record of material is kept by the landowner and shall be included in the written archive and public record. The explicit (written)

<sup>39</sup> ADS, 2011. Guides to Good Practice. Archaeology Data Service.

<sup>40</sup> Brown, D.H., 2011. Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation (Second Edition). English Heritage.

permission of the owner shall be obtained in order that the Data Protection Act 1984 is not contravened.

- 6.13.21 In the case where finds are retained, landowner consent will be required to allow transfer of the finds. A Deed of Transfer will be drawn up by the relevant museum for signing by the landowner. The complete finds inventory and further finds information can be provided to the landowner, on request.
- 6.13.22 The Site archive will be deposited with the relevant museum within one year of the completion of all fieldwork (if no further work is required). It will then become publicly accessible.

## Human Remains

- 6.13.23 The specific methodology for human remains should be followed during the post-excavation stage (as per Section 6.10). Human remains should be reburied unless exceptional circumstance call for their retention for future study and this is agreed with all relevant parties. All ethical and conservation considerations must be carefully deliberated.

## Digital Archive

- 6.13.24 The Contractor will complete OASIS records for each individual phase of archaeological works resulting in a report as soon as possible after the completion of the works. All applicable sections of the record should be completed.
- 6.13.25 An electronic copy of the final report will be deposited with the ADS.
- 6.13.26 The digital archive shall include all relevant files and will be submitted via the Employer's digital archiving system.



## 7. Deliverables

### 7.1 Criteria for interim statements

- 7.1.1 The Contractor shall supply brief written reports summarising progress and results to the Project Heritage Lead and Archaeological Manager. These reports shall be weekly. As a minimum, the weekly reports shall include the following:
- A table setting out all staff and other resources used on the project during the relevant period;
  - Staff time broken down by staff grade/role and task on project; and
  - A short free text summary of tasks undertaken and archaeological results.
- 7.1.2 Weekly reports shall be submitted by email and shall be submitted by noon on Friday of each week. If requested by the Project Heritage Lead and Archaeological Manager, weekly reports may also include copies of plans (sketch or measured) or of digital photographs.
- 7.1.3 Where possible interim statements will also be issued to the Curator's to provide comments and feedback for the creation of site fieldwork reports.

### 7.2 Criteria for fieldwork reports

#### Geophysical Surveys

- 7.2.1 A draft geophysical survey plot will be submitted to the Project Heritage Lead and Archaeological Manager for comment within one week following completion on site. A final draft version of the report will be issued within a further two weeks to the Project Heritage Lead and Archaeological Manager for final comments before completing and submitting formally. For larger sites, dispensation may be sought for additional reporting time.
- 7.2.2 The report will include the following elements:
- The name(s) of the investigators/contractors, title, date, report reference number and Employer details;
  - A non-technical summary including the basis for the survey, its aims and results;
  - Introduction including site location plan, site history, National Grid Reference, site description;
  - An account of the background to the project and circumstances of work;
  - The aims and objectives of the survey; and
  - The methodology used.
- 7.2.3 The results of the survey will include:
- Plans at appropriate scales to include: raw data, greyscale plot, XY trace plot, interpretative plot. Each illustration will contain a scale bar and north arrow;
  - Greyscale images of the process data plots, as well as the archaeological interpretation data will be available in ArcGIS shapefile or dwg file format.
  - A figure and text to demonstrate that the survey has been accurately georeference;
  - Detailed survey results and interpretation;
  - Recommendations regarding further archaeological work necessary on site in advance of, or during, development where relevant;
  - References to all primary and secondary sources consulted; and
  - Appendices to include details of the geophysical and survey equipment, methods and processing undertaken and full definitions of the interpretation terms used in the report.

## Trial Trenching

- 7.2.4 The Contractor shall submit draft summary reports within 10 working days of completion of archaeological trial trenching at each site. Summary reports shall include as a minimum:
- Site Code/Project Number and an 8-figure grid reference;
  - Dates when investigations took place;
  - A description of the background to and circumstances of the work;
  - A brief description of the previously known archaeology of the site;
  - A short description of the methodology used;
  - A short description of the results of the fieldwork (this shall be presented in tabular format, and should show from left to right: Site number, Trial Trench number, any identified feature(s)/deposit(s) their classification and dimensions, and initial interpretation;
  - General and detailed plans at appropriate scales, showing the location of each trench or group of trenches accurately positioned on an up-to-date Ordnance Survey base;
  - Plans of each trench at appropriate scales (1:10, 1:20, 1:50 or 1:100), with grid points, spot levels, scale bars, keys and north points;
  - Detailed plans and section of individual features where necessary;
- 7.2.5 Georeferenced digitised site plans shall be provided as Shapefiles and in ESRI compatible format and shall include the trench/site number and relevant context numbers.
- 7.2.6 Where the need for further archaeological mitigation is required the Summary shall include:
- Detailed plans of proposed mitigation excavation area, if required, overlaying trench plans and including spoil management areas; and
  - Detailed costs and programme for undertaking the proposed mitigation.
- 7.2.7 The draft Summary report shall be submitted to the Project Heritage Lead and Archaeological Manager in the first instance for review and comment. With a draft copy transmitted to the Curator's following internal approval procedures. In finalising the report, the Contractor shall also take into account all comments identified by the Project Heritage Lead, Archaeological Manager, Curators and the Employer. The finalised report will be submitted to the Project Heritage Lead and Archaeological Manager within a prior agreed timescale, within receipt of comments.

## Mitigation Fieldwork

- 7.2.8 The Contractor shall allow for monitoring by the Project Heritage Lead and the Curator during the post-fieldwork assessment stage. At least one meeting shall be arranged by the Contractor at the beginning of the post-fieldwork assessment stage to discuss the aims, resources and timetable for the assessment. Subsequent meetings on a monthly basis or more frequently if required shall be planned to assess progress and any other matters arising from the ongoing assessment in accordance with MoRPHE.
- 7.2.9 All reports shall include as a minimum:
- Site Code/Project Number and an 8-figure grid reference;
  - a non-technical summary;
  - a description of the background to and circumstances of the work;
  - a brief description of the previously known archaeology of the site;
  - a description of the methodology used;
  - an objective description of the results of the fieldwork;
  - an assessment of each category of data (including statement of potential);



- a statement of the storage and curation requirements for each category of data and a retention/discard policy;
- plan(s) showing the location of the route and sites of appropriate scale (at least 1:10,000 scale), and include a background OS grid, with grid lines labelled where possible;
- general and detailed plans at appropriate scales, showing the location of each site accurately positioned on an up-to-date Ordnance Survey base;
- plans of features or groups of features at appropriate scales, with grid points, spot levels, scale bars, keys and north points;
- detailed plans and sections of individual features where necessary;
- all scales used on any drawings shall be standard scales such as would appear on a normal scale ruler;
- phasing for each site;
- appropriate text describing and interpreting the results with reference to comparable sites;
- a table summarising the deposits, features, classes and numbers of artefacts encountered and spot dates of significant finds;
- a complete site matrix (these can be provided on a CD or as an appendix);
- a summary statement of the results of the fieldwork including reference to comparable sites in the region; and
- a justified Updated Project Design (UPD) including Research Objectives for further analysis and a publication strategy.

7.2.10 Georeferenced digitised site plans shall be provided as Shapefiles and in ESRI compatible format and shall include the trench/site number and relevant context numbers.

7.2.11 One copy of the complete draft post-excavation assessment report for review and comment shall be submitted to the Project Heritage Lead and Archaeological Manager who will also consult with the Curator during the review period. In finalising the report, the Contractor shall take into account all comments identified by the Project Heritage Lead, the Curator and the Employer. Revised drafts shall be submitted to the Project Heritage Lead and Archaeological Manager within 10 working days of receipt of comments unless agreed otherwise.

7.2.12 The finalised post-excavation assessment report shall be submitted to the Project Heritage Lead and Archaeological Manager within 10 working days of a written instruction from the Project Heritage Lead.

## Built Heritage Reporting

7.2.13 A single historic building report shall be provided presenting the results of the Level 1 and 2 Historic Building Recording. As a minimum this report shall include:

- A non-technical summary of the results (an 'abstract');
- A description of the background to and circumstances of the work. This shall include the dates on which the survey was undertaken;
- The structures' location, parish and National Grid References;
- Aims and objectives of the historic building recording;
- A description of the methodology used for the survey;
- Historical background;
- For structures subject to Historic Building Recording to level 1 standards: a summary statement describing the structures' type or purpose, historically and at present, its materials and possible date(s) so far as these are apparent from a superficial inspection;

- For structures subject to Historic Building Recording to level 2 standards: a statement which will summarise the building's form, function, date and sequence of development, and identify the architects, builders, patrons and owners if known;
- Interpretation of the results and assessment of the significance of the findings of the historic building recording on a local, regional and national basis;
- Bibliography;
- General and detailed location plans at appropriate scales, showing the location of the building. The general location plan shall be presented at not less than 1:10,000 scale, and detailed location plans shall be presented at not less than 1:100 scale.;
- Plan drawings presenting the results of the Level 2 Historic Building Recording. Drawings shall be presented at an appropriate scale and in accordance with the guidance and conventions provided in *Understanding Historic Buildings: A Guide to Good Recording Practice*.<sup>41</sup> All elevations will have an appropriate drawn metric scale clearly visible and should be cross-referenced to the relevant plans and overall site plan;
- Reproduction of the complete photographic record produced at a high resolution and at sufficient size to make the detail in each photograph full visible upon reproduction;
- A detailed selection of colour digital photographs to illustrate the written report;
- Fully referenced bibliography and cartographic sources;
- Photographic registers as an appendix in addition to drawn photographic plans detailing the position and direction of each shot at an appropriate scale;
- Index to and location of the archive;
- Copy of this WSI within an appendix; and
- OASIS form within an appendix.

7.2.14 In addition to the specific requirements identified above, the report shall include:

- A title page, which includes the name of the project, the title of the report, the name of the Sub-Consultant.
- The logo of the Employer shall appear on the front cover of the report;
- A unique report number or reference;
- Report author(s) and company/organisation details where appropriate;
- Date when the report was completed;
- An accurate 6 figure grid reference centred on the project location;
- Primary Record Numbers (PRN) referenced for structures recorded on the local Historic Environment Record; and
- Site name, 6 figure grid reference, period, site type.

7.2.15 A draft of the report shall be submitted to the Employer for comment no later than 8 weeks after the completion of the fieldwork. Any comments provided by the Employer shall be addressed within 10 working days of receipt and a revised draft submitted for approval.

<sup>41</sup> Historic England, 2016. *Understanding Historic Buildings: A Guide to Good Recording Practice*

## 7.3 Criteria for Post-Excavation Assessment, analysis and reporting

### Post-Excavation Assessment and Updated Project Design (Trial Trenching)

- 7.3.1 The Contractor shall provide written progress reports, interim plans and any other data during the works upon request from the Project Heritage Lead.
- 7.3.2 The Contractor shall allow for monitoring by the Project Heritage Lead, Archaeological Manager and the Curator during the post-excavation assessment stage. At least one meeting with the Curator, the Project Heritage Lead, and Archaeological Manager shall be arranged by the Contractor at the beginning of the post-excavation assessment stage to discuss the aims, resources and timetable for the assessment. Subsequent meetings on a monthly basis, or more frequently if required, shall be planned to assess progress and any other matters arising from the ongoing assessment.
- 7.3.3 A post-excavation assessment and a report on the results of the trial trenching shall be completed within 8 weeks of the completion of the trial trenching. This may be subject to an extension if archaeological/artefactual/eco-factual evidence of particular significance is identified that requires a longer period of study. Any revised timescale shall be approved by the Project Heritage Lead in consultation with all parties once nature and scale of the work is understood.
- 7.3.4 Post-excavation assessment shall be undertaken in accordance with the requirements of the Chartered Institute of Archaeologist's 'Standard and guidance for archaeological field evaluation'<sup>42</sup> and 'Standard and guidance for the collection, documentation, conservation and research of archaeological Materials'<sup>43</sup> as well as MoRPHE.
- 7.3.5 A report on the results of the evaluation should be developed during the course of the evaluation period in order to ensure a draft version is submitted to the Project Heritage Lead.
- 7.3.6 The report should follow the guidance set out in the Standard and guidance for archaeological evaluation and address the aims and objectives of the site-specific WSI.
- 7.3.7 All assessment and analytical work must be carried out by suitably qualified and experienced staff, who must be apprised of the project design before commencing work.
- 7.3.8 Artefacts and ecofacts should be assessed in accordance with ClfA Standard and guidance for the collection, documentation, conservation and research of archaeological materials. The level of recording and analysis should be appropriate to the aims and purpose of the project and should take account of the potential of artefacts and ecofacts to contribute to the understanding of the archaeological resource.
- 7.3.9 As a minimum the report should contain:
- a non-technical summary;
  - a background to the project and circumstances of work;
  - A statement of the aims of the work and the methodologies used;
  - A presentation of the archaeological results of the work in each area;
  - an interpretive discussion of the results, placing them in a local and regional context;
  - the results of assessments and/or analyses of artefacts, ecofacts and industrial remains carried out by suitable specialists;
  - supporting illustrations and plans, suitably captioned, at appropriate scales; and
  - Details of the location of the archive and the intended recipient for the archive.
- 7.3.10 Georeferenced digitised trench plans shall be provided as Shapefiles in ESRI format and shall include the trench number and relevant context numbers etc.

<sup>42</sup> ClfA 2014a

<sup>43</sup> ClfA, 2014d.

- 7.3.11 One copy of the complete draft post-excavation assessment report for review and comment shall be submitted to the Project Heritage Lead and Archaeological Manager will also consult the Curator during the review period. In finalising the report, the Contractor shall take into account all comments identified by the Project Heritage Lead, the Curator and the Employer. Revised drafts shall be submitted to the Project Heritage Lead and Archaeological Manager within 10 working days of receipt of comments, unless otherwise previously arranged (as above).
- 7.3.12 The finalised post-excavation assessment report shall be submitted to the Project Heritage Lead and Archaeological Manager within 10 working days of a written instruction from the Project Heritage Lead. The Contractor shall note that four bound copies, one unbound copy and a digital copy (including drawings) of the final report shall be required. This shall be undertaken by the Contractor upon written instruction from the Project Heritage Lead.
- 7.3.13 One copy of the complete draft of the summary shall be submitted to the Project Heritage Lead and Archaeological Manager for review and comment who shall also consult the Curator during the review period. In finalising the summary, the Contractor shall take into account any comments and remedy any faults identified by the Project Heritage Lead, Archaeological Manager and the Curator and the submission shall be made by the Contractor on receiving written confirmation to issue from the Project Heritage Lead.

## Post-Excavation Assessment and Updated Project Design (Mitigation Fieldwork)

- 7.3.14 The Contractor shall allow for monitoring by the Project Heritage Lead, Archaeological Manager, and Curator during the post-excavation assessment stage. At least one meeting shall be arranged by the Contractor at the beginning of the post-fieldwork assessment (PEA) stage to discuss the aims, resources and timetable for the assessment. Subsequent meetings on a monthly basis or more frequently if required shall be planned to assess progress and any other matters arising from the ongoing assessment.
- 7.3.15 Processing and PEA shall be undertaken in accordance with the requirements of the Chartered Institute for Archaeologists 'Standard and Guidance for Archaeological Excavation'<sup>44</sup>, 'Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials'<sup>45</sup> and 'Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation'<sup>46</sup>.
- 7.3.16 Assessment and analysis of human remains shall be undertaken in line with guidance given in 'Excavation and post-excavation treatment of cremated and inhumed human remains'<sup>47</sup>, and 'Human Bones from Archaeological Sites: Guidelines for producing assessment documents and analytical reports'<sup>48</sup>.
- 7.3.17 A PEA and an Updated Project Design (UPD) as defined in Historic England's Management of Research Projects in the Historic Environment (MoRPHE) Project Planning Note 3<sup>49</sup> will be produced by the Contractor on completion of the excavations. Consultation of the results of the assessment will be undertaken with the relevant Curators and Historic England's Scientific Advisor where relevant.
- 7.3.18 All archaeological work undertaken prior to the submission of this strategy will be integrated into the assessment and analytical programmes.
- 7.3.19 The PEA shall clearly acknowledge the role of the EWR Alliance, the Project Heritage Lead, the Archaeological Manager and the Curator and show the logo of the EWR Alliance on the front cover. All reports shall be prepared in line with the principles set out in Appendix 1: Product P1 of MoRPHE PPN3, and shall include as a minimum:
- A non-technical summary;

<sup>44</sup> ClfA., 2014a

<sup>45</sup> ClfA., 2014d

<sup>46</sup> English Heritage, 2011. Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation. English Heritage.

<sup>47</sup> McKinley, J. and Roberts, C., 1993. Excavation and post-excavation treatment of cremated and inhumed human remains. Birmingham: Institute of Field Archaeologists.

<sup>48</sup> English Heritage, 2004. Human Bones from Archaeological Sites: guidelines for producing assessment documents and analytical reports. English Heritage.

<sup>49</sup> Historic England, 2008. Management of Research Projects in the Historic Environment PPN 3: Archaeological Excavation. Historic England.

- Site code and project number;
- Planning Reference number and HER event codes;
- Dates when the fieldwork took place;
- A description of the background to and circumstances of the work;
- A brief description of the methodology used;
- An objective description of the results ('factual date' in Appendix 1 P2 of MoRPHE PPN3);
- A specialist assessment of each category of data ('statement of potential' in Appendix 1 P2 of MoRPHE PPN3);
- Details of archive location and destination (with accession number, where known), together with a catalogue of what is contained in the archive;
- An assessment of the archaeological significance of the deposits identified, in relation to other sites in the region;
- A conclusion with recommendations for further post-excavation work, if required;
- A statement of the storage and curation requirements for each category of data;
- General and detailed plans at appropriate scales, showing the location of each site accurately positioned on an up-to-8 vdate Ordnance Survey base;
- Plans of each site at appropriate scales, with keys and north points;
- Detailed plans and sections of individual features where necessary;
- All scales used on any drawings should be standard scales such as would appear on a normal scale ruler;
- A copy of the site specific WSI; and
- References and bibliography of all sources used.

- 7.3.20 Each category of data and material recovered by the fieldwork (site records/stratigraphic data, each category of artefacts or other find, each category of palaeoenvironmental/economic evidence, any other data) shall be examined and assessed by a suitably qualified and experienced archaeologist or specialist in line with the principles set out in Section 3.5 of MoRPHE PPN3. During the assessment specialists shall make recommendations regarding the discard and retention of material.
- 7.3.21 The assessment of all samples shall be undertaken in accordance with the guidance provided by Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-Excavation<sup>50</sup>. The Contractor shall start processing and assessing samples as soon as fieldwork work starts to both inform the onsite sampling strategy and also to reduce the number of samples to be processed after fieldwork. Any samples remaining after fieldwork shall be prioritised (such as those from key deposits) for processing and assessment.
- 7.3.22 If necessary and possible to achieve the aims and objectives of the PEA, dating evidence shall be obtained by the application of radiocarbon, dendrochronological or other scientific dating techniques.
- 7.3.23 The PEA report shall be accompanied by a UPD in accordance with Section 3.5 of MoRPHE PPN3. The UPD shall set out the further analytical and archiving works, if any, required to achieve the potential identified in the PEA report.
- 7.3.24 The UPD shall make a recommendation as to the scope of further reporting works, including the form of any publication required.
- 7.3.25 The UPD will include a programme, task list and table of resources required to complete the works. A costed task/resource table shall be attached as an Appendix. This will include costs for publication. Note that if only minor remains have been identified, there may be no value in further analysis, and in such circumstances the UPD should clearly state that this is the case. In the event that the UPD identifies the requirement for further analysis, additional assessment and reporting will be undertaken.

<sup>50</sup> English Heritage, 2011. Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation. English Heritage.

## Phased Assessment and Reporting

- 7.3.26 Following completion of fieldwork at each site, a programme of finds and environmental analysis and reporting will be undertaken in order to inform the PX Assessment report. The assessment report will provide an initial quantitative and qualitative assessment of artefacts, environmental samples and recorded information recovered during the evaluation fieldwork, and their ability to contribute to site-specific research questions. The aim will be to submit this in draft form within a realistic and appropriate timescale, which should be agreed between all parties on the basis of the nature of the site and recovered material(s).



## 8. Specific Sites requiring Written Schemes of Investigation

### 8.1 Archaeological Programme of works

- 8.1.1 Archaeological works required are demarcated with an X.
- 8.1.2 C – Completed prior to submission of Fieldwork Delivery Strategy
- 8.1.3 At the time of production Haul Roads and Ecological Compensation Sites (ECS) were under design review, therefore land take associated with these works may require additional input. Where possible TBC (to be confirmed) has been included to account for this, however, additional sites may still need to be added to this table.
- 8.1.4 Curatorial Bodies who will provide archaeological advice and WSI sign off are as follows:
- Oxfordshire County Council (OCC)
  - Buckinghamshire County Council (BCC)
  - Milton Keynes Council (MKC)
  - Central Bedfordshire Council (CBC)
  - Bedford Borough Council (BBC)
- 8.1.5 Associated Local Planning Authorises are listed below:
- Cherwell District Council (CDC)
  - Aylesbury Vale District Council (AVDC)
  - Milton Keynes Council (MKC)
  - Central Bedfordshire Council (CBC)
  - Bedford Borough Council (BBC)
- 8.1.6 No archaeological works have been identified within Route Section 2C. All archaeological works situated within the HS2 Interface Section are to be undertaken by HS2 Ltd and their associated contractors.
- 8.1.7 Figure 2, Appendix 3 shows the extent of proposed archaeological works.

**Table 8:1 Proposed archaeological works – Scheme wide**

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2A	OCC	CDC	2A1	2A0001/8.1/FB, 2A0005/8.1/FB	Work Access and Construction	459650	222759					x
2A	OCC	CDC	2A1	2A A1 (Charbridge lane)	Ecological Compensation Site	460013	222947	C	C	x		
2A	OCC	CDC	2A1	2A0011/8.1/FB, 2A0330/2.2/FA, 2A0354/8.1/FB	Work Access and Construction	459650	222759	C	C		x	
2A	OCC	CDC	2A1	2A0033/8.1/FB, 2A0037/8.1/FB	Work Access and Construction	460197	223102			x		
2A	OCC	CDC	2A1	2A0030/8.1/FB, 2A0329/2.2/FA (associated with Tythe Barn screening)	Work Access and Construction	460165	222923	x	x		x	
2A	OCC	CDC	2A1	2A0061 / 5.2 / FH (Charbridge Lane)	Flood Alleviation Area	460258	223316			x		
2A	OCC	CDC	2A1	2A1	Compound	460328	223123	C	C		x	
2A	OCC	CDC	2A1	2A0079/8.1/FB	Work Access and Construction	460622	223190	Removed from Scheme				
2A	OCC	CDC	2A1	2A0080 / 5.2 / FH	Flood Alleviation Area	460625	223207	Removed from Scheme				
2A	OCC	CDC	2A1	2A0082/2.5/FA, 2A0077/2.5/FA, 2A0072/2.5/FA	Work Access and Construction	460634	223061	Removed from Scheme				
2A	OCC	CDC	2A1	2A A3	Ecological Compensation Site	460797	223237	C	C			x



Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2A	OCC	CDC	2A1	2A0350/8.1/FB, 2A0349/8.1/FB	Work Access and Construction	461092	223115			x		
2A	OCC	CDC	2A2	2A A4	Ecological Compensation Site	461477	223309	C	C			x
2A	OCC	CDC	2A2	2A0326 / 5.2 / FH	Flood Alleviation Area	462192	223837	Removed from Scheme				
2A	OCC	CDC	2A2	2A0359/8.1/FB, 2A0162/8.1/FB	Work Access and Construction	462078 461670	223695 223738			x		
2A	OCC	CDC	2A2	2A2	Compound	461916	223411	C			x	
2A	OCC	CDC	2A2	2A0362 / 5.2 / FH 2A0326 / 5.2 / FH (East) - Not Preferred	Flood Alleviation Area	461834 462181	223736 223835	Removed from Scheme				
2A	OCC	CDC	2A2	2A0362 / 5.2 / FH	Flood Alleviation Area	462169	224041			x		
2A	OCC	CDC	2A2	2A0162/8.1/FB	Work Access and Construction	462334	223743					x
2A	OCC	CDC	2A2	2A0325 / 5.2 / FH	Flood Alleviation Area	462688	223771			x		
2A	OCC	CDC	2A2	2A0178/8.1/FB, 2A0196/8.1/FB	Work Access and Construction	463244	224068					x
2A	OCC	CDC	2A2	A2-P-2	Passing Place	461297	227321					x
2A	OCC	CDC	2A2	A2-P-8	Passing Place	461524	227041					x
2A	OCC	CDC	2A2	2A0336/8.1/FB, 2A0224/2.5/FA, 2A0225/2.5/FA, 2A0226/2.5/FA, 2A0229/2.5/FA	Work Access and Construction	463286	224020			x		

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2A	OCC	CDC	2A2	2A-PA-15	Works Access	462739	223817			x		
2A	OCC	CDC	2A2	HRA3	Haul Road	461916	223411			x		
2A	BCC	AVDC	2A3	2A0324 / 5.2 / FH	Flood Alleviation Area	464381	224494	Removed from Scheme				
2A	BCC	AVDC	2A3	2A0252/2.1/FA, 2A0254/2.1/FA, 2A0253/2.1/FA, 2A0260/8.1/FB, 2A0261/8.1/FB	Work Access and Construction	464719	224519			x		
2A	BCC	AVDC	2A3	2A3	Compound	464846	224448	C	C		x	
2A	BCC	AVDC	2A3	2A0323 / 5.2 / FH	Flood Alleviation Area	465069	224653			x		
2A	BCC	AVDC	2A3	2A0278 / 5.2 / FH	Flood Alleviation Area	465431	224954	C		x		
2A	BCC	AVDC	2A3	HRA6	Haul Road	464846	224448			x		
2A	BCC	AVDC	2A4	2A4	Compound	465749	225019	C	C	x	x	
2A	BCC	AVDC	2A4	2A0322 / 5.2 / FH	Flood Alleviation Area	466153	225011			x		
2A	BCC	AVDC	2A4	2A0365 / 5.2 / FH	Flood Alleviation Area	466865	225092	x		x		
2A	BCC	AVDC	2A4	2A0363/8.1/FB	Work Access and Construction	467317	225314			x		
2A	BCC	AVDC	2A4	HRA8	Haul Road	467317	225314			x		
2A	BCC	AVDC	2A3	A3-P-14	Passing Place	464154	225900					x
2A	BCC	AVDC	2A3	A3-P-15	Passing Place	464312	225780					x
2A	BCC	AVDC	2A3	A3-P-16	Passing Place	464484	225676					x

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2A	BCC	AVDC	2A3	A3-P-21	Passing Place	464950	224853					x
2A	BCC	AVDC	2A3	A3-P-26	Passing Place	464981	225506					x
2A	BCC	AVDC	2A3	A4-P-18	Passing Place	464914	225137					x
2A	OCC	CDC	2A1	A1 Compound Access	Compound Access	460233	223155				x	
2A	OCC	CDC	2A2	A2 Compound Access	Compound Access	461748	223391				x	
2A	BCC	AVDC	2A3	A3 Compound Access	Compound Access	464981	224479				x	
2A	BCC	AVDC	2A4	A4 Compound Access	Compound Access	465032	225493			x		
2A	OCC	CDC	2A2	A2-J-6	Junction Improvement	460777	227826	Removed from Scheme				
2A	BCC	AVDA	2A3	A3-J-1	Junction Improvement	465011	225481			x		
2A	BCC	AVDA	2A3	A3-P-11	Passing Place	463655	226231			x		
2A	BCC	AVDA	2A3	A3-P-5	Passing Place	462676	226664			x		
2A	BCC	AVDC	2A4	A4-J-14	Junction Improvement	467241	224856			x		
2A	BCC	CDC	2A2	2A A5	Ecological Compensation Site	462944	223730					x
2A	BCC	AVDC	2A3	2A A6	Ecological Compensation Site	463929	224335					x
2A	BCC	AVDC	2A4	2A A7	Ecological Compensation Site	466542	225077					x

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2B	BCC	AVDC	2B1	2B0004/1.4/FB, 2B0011/1.4/FB	Work Access and Construction	470718	226517			x		
2B	BCC	AVDC	2B1	2B0003 / 5.2 / FH	Flood Alleviation Area	470835	225974	C		x		
2B	BCC	AVDC	2B1	2B1	Compound	471024	226265	C	C			x
2B	BCC	AVDC	2B1	2B0008/8.1/FB, 2B0045/8.1/FB	Work Access and Construction	471077	226189	C		x		
2B	BCC	AVDC	2B1	2B0054 / 5.2 / FH	Flood Alleviation Area	471904	226517	C		x		
2B	BCC	AVDC	2B1	2B B2	Ecological Compensation Site	471782	226601		C			
2B	BCC	AVDC	2B1	2B0080 / 5.2 / FH	Flood Alleviation Area	471904	226517	C		x		
2B	BCC	AVDC	2B1	2B B27	Ecological Compensation Site	471946	226630	C	C			
2B	BCC	AVDC	2B1	2B0323/8.1/FB	Work Access and Construction	471995 472259	226815 227002					x
2B	BCC	AVDC	2B2	2B/0091/8.1/FB	Work Access and Construction	472223	227042			x		
2B	BCC	AVDC	2B2	2B0097 / 5.2 / FH	Flood Alleviation Area	472409	227035	C		x		
2B	BCC	AVDC	2B2	2B B26	Ecological Compensation Site	472565	227137	Removed from Scheme				
2B	BCC	AVDC	2B2	2B0102/8.1/FB, 2B0104/8.1/FB	Work Access and Construction	472674	227383			x		

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2B	BCC	AVDC	2B2	2B0116/8.1/FB, 2B0115/8.1/FB	Work Access and Construction	472853	227178					x
2B	BCC	AVDC	2B2	2B2	Compound	473451	227312	C	C			x
2B	BCC	AVDC	2B2	2B0126/8.1/FB, 2B0150/2.5/FA, 2B0152/2.5/FA, 2B0154/2.5/FA	Work Access and Construction	473502	227607			x		
2B	BCC	AVDC	2B2	2B0332 / 5.2 / FH	Flood Alleviation Area	474117	227968	x		x		
2B	BCC	AVDC	2B2	2B0182/8.1/FB	Work Access and Construction	474210	22790	Removed from Scheme				
2B	BCC	AVDC	2B2	2B0180/8.1/FB	Work Access and Construction	474340	227497			x		
2B	BCC	AVDC	2B2	2B0181/8.1/FB	Work Access and Construction	474981	227712			x		
2B	BCC	AVDC	2B3	2B0197/8.1/FB	Work Access and Construction	475100	227832			x		
2B	BCC	AVDC	2B3	2B0219/8.1/FB, 2B0220/8.1/FB, 2B0217/8.1/FB	Work Access and Construction	475750 475966	227986 228108					x
2B	BCC	AVDC	2B3	2B0227/7.1/FD	Work Access and Construction	476041	228081					
2B	BCC	AVDC	2B3	2B B9	Ecological Compensation Site	476176	228116	C	x			
2B	BCC	AVDC	2B3	2B3	Compound	476224	228281	C	C			x

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2B	BCC	AVDC	2B3	2B0309/8.1/FB	Work Access and Construction / Winslow Station	476538	228388	C			x	
2B	BCC	AVDC	2B3	2B B10	Ecological Compensation Site	477364	228635	C	x			
2B	BCC	AVDC	2B3	2B0331 / 5.2 / FH	Flood Alleviation Area	477435	228776	C		x		
2B	BCC	AVDC	2B3	2B0244/1.4/FB, 2B0249/8.1/FB	Work Access and Construction	477598	228665			x		x
2B	BCC	AVDC	2B3	2B0261/8.1/FB, 2B0258/8.1/FB, 2B0244/1.4/FB	Work Access and Construction	478050 478027	228872 228931			x		
2B	BCC	AVDC	2B3	2B B13	Ecological Compensation Site	478284	228878					x
2B	BCC	AVDC	2B3	2B0281 / 5.2 / FH	Flood Alleviation Area	478548	229052	C		x		
2B	BCC	AVDC	2B4	2B B28	Ecological Compensation Site	478942	229093	C	C			x
2B	BCC	AVDC	2B4	2B1281/8.1/FB, 2B1323/2.1/FA, 2B1329/8.1/FB, 2B1319/2.1/FA, 2B1333/8.1/FB	Work Access and Construction	478964	228989	Removed from Scheme				
2B	BCC	AVDC	2B4	2B1281/8.1/FB, 2B1329/8.1/FB	Work Access and Construction	479015	228897	Removed from Scheme				
2B	BCC	AVDC	2B4	2B B14	Environmental Mitigation Site	479531	229141	C	C	C		x

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2B	BCC	AVDC	2B4	2B1293 / 5.2 / FH	Flood Alleviation Area	479897	229385	C		x		
2B	BCC	AVDC	2B4	2B1345/8.1/FB, 2B1353/2.1/FD, 2B1358/8.1/FB	Work Access and Construction	480064	229336					x
2B	BCC	AVDC	2B4	2B1872 / 5.2 / FH	Flood Alleviation Area	480440	229615	C		x		
2B	BCC	AVDC	2B4	2B4	Compound	480504	229461	C	C			x
2B	BCC	AVDC	2B4	2B B17	Ecological Compensation Site	480740	229919			x		
2B	BCC	AVDC	2B4	2B1388/8.1/FB, 2B1397/8.1/FB, 2B1860/8.1/FB	Work Access and Construction	481353 481360	230572 230711			x		
2B	BCC	AVDC	2B4	2B1860/8.1/FB	Work Access and Construction	481360	230711	Removed from Scheme				
2B	BCC	AVDC	2B4	2B1394/8.1/fb	Work Access and Construction	481534	230769					x
2B	BCC	AVDC	2B5	2B B20	Ecological Compensation Site	481901	230812	C	x			
2B	BCC	AVDC	2B5	2B1415/8.1/FB	Work Access and Construction	482150	231269			x		
2B	BCC	AVDC	2B5	2B1434 / 5.2 / FH	Flood Alleviation Area	482751	231324			x		
2B	BCC	AVDC	2B5	2B B23	Ecological Compensation Site	482976	231443	x	x			
2B	BCC	AVDC	2B5	2B5	Compound	483284	231856	C	C			x

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2B	BCC	AVDC	2B5	2B1510 / 5.2 / FH	Flood Alleviation Area	484122	232010	C		x		
2B	BCC	AVDC	2B5	2B1874/8.1/FB	Work Access and Construction	484696	232212			x		
2B	BCC/ MKC	AVDC/ MKC	2B6	2B6	Compound	485226	232460					x
2B	MKC	MKC	2B6	2B1563 / 5.2 / FH	Flood Alleviation Area	485594	232693	x		x		
2B	MKC	MKC	2B6	B24	Ecological Compensation Site	485944	232566	C	C			
2B	BCC	AVDC	N/A	2B-OXD-HRC-5	Haul Road Crossing Point	471114	226273			x		
2B	BCC	AVDC	N/A	2B-OXD-HRC-6	Haul Road Crossing Point	472643	227442					
2B	BCC	AVDC	N/A	2B-OXD-HRC-7	Haul Road Crossing Point	477799	228717			x		
2B	BCC	AVDC	N/A	2B-OXD-HRC-8	Haul Road Crossing Point	483292	231913				x	
2B	BCC	AVDC	N/A	2B-OXD-HRC-9	Haul Road Crossing Point	484873	232272				x	
2B	BCC	AVDC	2B1	B1-J-1	Junction Improvement	471410	228101					x
2B	BCC	AVDC	2B1	B1-J-2	Junction Improvement	471091	231693					x



Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2B	BCC	AVDC	2B2	B2-J-1	Junction Improvement	473095	226931			x		
2B	BCC	AVDC	2B2	B2-J-2	Junction Improvement	470316	226875	Removed from Scheme				
2B	BCC	AVDC	2B3	B3-J-1	Junction Improvement	476212	227717					x
2B	BCC	AVDC	2B4	B4-J-1	Junction Improvement	480332	229533					x
2B	BCC	AVDC	2B4	B4-J-15	Junction Improvement							x
2B	BCC	AVDC	2B1	B1-P-10	Passing Place	470498	22663				x	
2B	BCC	AVDC	2B1	B1-P-11	Passing Place	471940	227971					x
2B	BCC	AVDC	2B1	B1-P-12	Passing Place	470540	227596					x
2B	BCC	AVDC	2B1	B1-P-13	Passing Place	470957	227784			x		
2B	BCC	AVDC	2B1	B1-P-14	Passing Place	471028	227795			x		
2B	BCC	AVDC	2B1	B1-P-15	Passing Place	471118	227802					x
2B	BCC	AVDC	2B1	B1-P-16	Passing Place	471498	228396					x
2B	BCC	AVDC	2B1	B1-P-17	Passing Place	471593	228799					x
2B	BCC	AVDC	2B1	B1-P-18	Passing Place	471557	228979			x		
2B	BCC	AVDC	2B1	B1-P-19	Passing Place	471554	229046			x		
2B	BCC	AVDC	2B1	B1-P-20	Passing Place	471052	230292			x		
2B	BCC	AVDC	2B1	B1-P-21	Passing Place	470846	230638					x

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2B	BCC	AVDC	2B1	B1-P-22	Passing Place	470914	231466					x
2B	BCC	AVDC	2B1	B1-P-23	Passing Place	470337	227369					x
2B	BCC	AVDC	2B1	B1-P-24	Passing Place	471475	229211					x
2B	BCC	AVDC	2B1	B1-P-25	Passing Place	471491	228510					x
2B	BCC	AVDC	2B1	B1-P-26	Passing Place	471265	230143				x	
2B	BCC	AVDC	2B1	B1-P-27	Passing Place	471305	229891			x		
2B	BCC	AVDC	2B1	B1-P-28	Passing Place	471395	229539					x
2B	BCC	AVDC	2B1	B1-P-29	Passing Place	471431	229400					x
2B	BCC	AVDC	2B1	B1-P-30	Passing Place	470914	231065					x
2B	BCC	AVDC	2B1	B1-P-31	Passing Place	472208	227889					X
2B	BCC	AVDC	2B1	B1-P-5	Passing Place	470980	230321			x		
2B	BCC	AVDC	2B1	B1-P-6	Passing Place	470863	230512					x
2B	BCC	AVDC	2B1	B1-P-7	Passing Place	470865	230834					x
2B	BCC	AVDC	2B1	B1-P-8	Passing Place	470906	231155					x
2B	BCC	AVDC	2B1	B1-P-9	Passing Place	471059	231654					x
2B	BCC	AVDC	2B2	B2-P-1	Passing Place	472463	227812					x
2B	BCC	AVDC	2B2	B2-P-10	Passing Place	473226	227242					x

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2B	BCC	AVDC	2B2	B2-P-11	Passing Place	473528	227167					x
2B	BCC	AVDC	2B2	B2-P-12	Passing Place	473700	227359			x		
2B	BCC	AVDC	2B2	B2-P-14	Passing Place	474043	227258			x		
2B	BCC	AVDC	2B2	B2-P-15	Passing Place	474140	227315					x
2B	BCC	AVDC	2B2	B2-P-16	Passing Place	474332	227444					x
2B	BCC	AVDC	2B2	B2-P-17	Passing Place	474438	227514			x		
2B	BCC	AVDC	2B2	B2-P-18	Passing Place	474586	227610					x
2B	BCC	AVDC	2B2	B2-P-19	Passing Place	474795	227684					x
2B	BCC	AVDC	2B2	B2-P-2	Passing Place	472549	227680					x
2B	BCC	AVDC	2B2	B2-P-20	Passing Place	474995	227752					x
2B	BCC	AVDC	2B2	B2-P-21	Passing Place			Removed from Scheme				
2B	BCC	AVDC	2B2	B2-P-22	Passing Place	475148	227937			x		
2B	BCC	AVDC	2B2	B2-P-23	Passing Place	475328	227893					x
2B	BCC	AVDC	2B2	B2-P-3	Passing Place	472623	227476					x
2B	BCC	AVDC	2B2	B2-P-4	Passing Place	473030	227013					x
2B	BCC	AVDC	2B2	B2-P-5	Passing Place	473135	226996					x
2B	BCC	AVDC	2B2	B2-P-6	Passing Place	473359	227214					x

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2B	BCC	AVDC	2B2	B2-P-7	Passing Place	471509	228119					x
2B	BCC	AVDC	2B2	B2-P-8	Passing Place	472853	227179			x		
2B	BCC	AVDC	2B3	B3-P-1	Passing Place	480179	229390					x
2B	BCC	AVDC	2B3	B3-P-11	Passing Place	476010	227738					x
2B	BCC	AVDC	2B3	B3-P-12	Passing Place	475780	227834			x		
2B	BCC	AVDC	2B3	B3-P-13	Passing Place	475703	227843			x		
2B	BCC	AVDC	2B3	B3-P-14	Passing Place	475494	227852					x
2B	BCC	AVDC	2B3	B3-P-15	Passing Place	477717	228456					x
2B	BCC	AVDC	2B3	B3-P-16	Passing Place	476211	227820					x
2B	BCC	AVDC	2B3	B3-P-17	Passing Place	476212	227899					x
2B	BCC	AVDC	2B3	B3-P-18	Passing Place	476246	228073					x
2B	BCC	AVDC	2B3	B3-P-19	Passing Place	476268	228141					x
2B	BCC	AVDC	2B3	B3-P-2	Passing Place	479938	229052					x
2B	BCC	AVDC	2B3	B3-P-3	Passing Place	477635	227924					x
2B	BCC	AVDC	2B3	B3-P-4	Passing Place	477725	228307					x
2B	BCC	AVDC	2B3	B3-P-5	Passing Place	477745	228572					x
2B	BCC	AVDC	2B3	B3-P-6	Passing Place	477738	228187					x

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2B	BCC	AVDC	2B3	B3-P-7	Passing Place	476347	228465					x
2B	BCC	AVDC	2B4	B4-P-1	Passing Place	481275	228992					x
2B	BCC	AVDC	2B4	B4-P-10	Passing Place	485434	227936					x
2B	BCC	AVDC	2B4	B4-P-11	Passing Place	485278	228910					x
2B	BCC	AVDC	2B4	B4-P-12	Passing Place	485832	229949					x
2B	BCC	AVDC	2B4	B4-P-13	Passing Place	486258	230262					x
2B	BCC	AVDC	2B4	B4-P-14	Passing Place	486593	230523					x
2B	BCC	AVDC	2B4	B4-P-17	Passing Place	481104	228995					x
2B	BCC	AVDC	2B4	B4-P-18	Passing Place	480991	229024					x
2B	BCC	AVDC	2B4	B4-P-19	Passing Place	480775	229169					x
2B	BCC	AVDC	2B4	B4-P-2	Passing Place	482386	228210			x		
2B	BCC	AVDC	2B4	B4-P-20	Passing Place	480404	229491					x
2B	BCC	AVDC	2B4	B4-P-21	Passing Place	480093	229270					x
2B	BCC	AVDC	2B4	B4-P-22	Passing Place	479998	229200					x
2B	BCC	AVDC	2B4	B4-P-23	Passing Place	479891	228954					x
2B	BCC	AVDC	2B4	B4-P-24	Passing Place	480554	229327					x
2B	BCC	AVDC	2B4	B4-P-3	Passing Place	482901	228305					x

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2B	BCC	AVDC	2B4	B4-P-4	Passing Place	483123	228293			x		
2B	BCC	AVDC	2B4	B4-P-5	Passing Place	483992	227347			x		
2B	BCC	AVDC	2B4	B4-P-6	Passing Place	484147	227202			x		
2B	BCC	AVDC	2B4	B4-P-7	Passing Place	484826	227424			x		
2B	BCC	AVDC	2B4	B4-P-8	Passing Place	485184	227664			x		
2B	BCC	AVDC	2B4	B4-P-9	Passing Place	485425	227931					x
2B	BCC	AVDC	2B5	B5-P-16	Passing Place	485530	229506					x
2B	BCC	AVDC	2B1	HRB0	Haul Road	471100	226327			x		
2B	BCC	AVDC	2B2	HRB1	Haul Road					x		
2B	BCC	AVDC	2B2	HRB3	Haul Road	475026	227727			x		
2B	BCC	AVDC	2B3	HRB6	Haul Road					x		
2B	BCC	AVDC	2B3	HRB7	Haul Road	477804	228720			x		
2B	BCC	AVDC	2B3	B3-TA-14	Works Access	476827	228968			x		
2B	BCC	AVDC	2B4	HBR8	Haul Road	479458	228772			x		
2B	BCC	AVDC	2B4	HRB9	Haul Road	480241	229586			x		
2B	BCC	AVDC	2B4	HRB9a	Haul Road			Removed from Scheme				
2B	BCC	AVDC	2B4	HRB10	Haul Road	481208	230356	Removed from Scheme				

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2B	BCC	AVDC	2B4	HRB11	Haul Road	481351	230712			x		
2B	BCC	AVDC	2B5	HRB12	Haul Road	483010	231664				x	
2B	BCC	AVDC	2B5	HRB13	Haul Road	482648 483421	231676 232534	Removed from Scheme				
2B	BCC	AVDC	2B5	HRB14	Haul Road	483463	231837			x		
2B	BCC	AVDC	2B6	HRB15	Haul Road	484432 485361	232091 232655			x		
2C	MKC	MKC	2C1	C1	Compound	486789	233270					C
2C	MKC	MKC	C1	C1-TA-5	Works Access	486962	233850					x
2C	MKC	MKC	C1	C1-TA-6	Works Access	487014	233269			X		
2D	MKC	MKC	2D	2D0023 / 5.2 / FH	Flood Alleviation Area	491841	236334	C		x		
2D	MKC	MKC	2D	2D0030/8.1/FB	Work Access and Construction	491839	236169	x	x	x		
2D	MKC	MKC	2D	2D0121/8.1/FB, 2D0029/8.1/FB,	Work Access and Construction	491929 491766	235819 236353			x		
2D	CBC	CBC	2D	2D0033/8.1/FB, 2D0034/8.1/FB	Work Access and Construction	494243	236817			x		
2D	CBC	CBC	2D	2D0037 / 5.2 / FH	Flood Alleviation Area	494147	236850	C		x		
2D	CBC	CBC	2D	2D D1	Ecological Compensation Site	494323	236837	C		x		

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2D	CBC	CBC	2D	2D0033/8.1/FB, 2D0034/8.1/FB	Work Access and Construction	494107	236793					x
2D	CBC	CBC	2D	2D0039/8.1/FB, 2D0042/8.1/FB	Work Access and Construction	495538	236985			x		
2D	CBC	CBC	2D	2D D2	Ecological Compensation Site	495486	236805	C	x			x
2D	CBC	CBC	2D	2D1	Compound	495992	237125	C	x		x	
2D	CBC	CBC	2D	2D0045 / 5.2 / FH	Flood Alleviation Area	496277	237063	C		x		
2D	CBC	CBC	2D	2D0048 / 5.2 / FH	Flood Alleviation Area	499108	239341	C		x		
2D	CBC	CBC	2D	2D0063/8.1/FB, 2D0047/8.1/FB, 2D0058/2.3/FA, 2D0060/2.5/FA	Work Access and Construction	499444 499434	239335 239459			x		
2D	CBC	CBC	2D	2D D3	Ecological Compensation Site	502429	244847	C	x	x	TBC	
2D	BBC	BBC	2D	2D0084 / 5.2 / FH	Flood Alleviation Area	502429	244847	C	x			
2D	BBC	BBC	2D	2D D4	Ecological Compensation Site	502487	245011	C	x	TBC	TBC	
2D	BBC	BBC	2D	2D2	Compound	502504	244777	C	x		x	
2D	BBC	BBC	2D	2D0082 / 5.2 / FH	Flood Alleviation Area	502696	244601	x		x		
2D	CBC	CBC	2D	D2-P-4	Passing Place					x		
2D	CBC	CBC	2D	D2-P-5	Passing Place							x



Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2D	CBC	CBC	2D	D2-P-6	Passing Place							x
2E	BCC	AVDC	2E	2.00E+03	Compound	473582	219070	C	x		x	
2E	BCC	AVDC	2E	2E0228 / 5.2 / FH	Flood Alleviation Area	473620	218983	C		x		
2E	BCC	AVDC	2E	2E0035 / 5.2 / FH	Flood Alleviation Area	474460	218586	x		x		
2E	BCC	AVDC	2E	2E E3	Ecological Compensation Site	474535	218777	x	x	TBC	TBC	x
2E	BCC	AVDC	2E	2.00E+04	Compound	475629	217919	x	x		x	x
2E	BCC	AVDC	2E	2E0207 / 5.2 / FH	Flood Alleviation Area	475761	218100	C		x		
2E	BCC	AVDC	2E	2E0068/8.1/FB	Work Access and Construction	476563	217466	x		x		
2E	BCC	AVDC	2E	MCJ2/178A Lower Blackgrove Farm No. 1	Ecological Compensation Site	476656	217485	x	TBC	TBC	x	
2E	BCC	AVDC	2E	2E0113 / 5.2 / FH	Flood Alleviation Area	476774	217487	x			x	
2E	BCC	AVDC	2E	2E0208 / 5.2 / FH	Flood Alleviation Area	476949	216832	x			x	
2E	BCC	AVDC	2E	2E E4	Ecological Compensation Site	477452	217060	x	x	TBC	TBC	
2E	BCC	AVDC	2E	2.00E+05	Compound	477631	216662	x	x		x	
2E	BCC	AVDC	2E	2E0183 / 5.2 / FH	Flood Alleviation Area	478118	216325	x	TBC		x	

Section	Curator	Local Planning Authority	Development Stage	Site Name	Type	Easting	Northing	Geophysical Survey	Evaluation	Watching Brief (During Construction)	Strip, Map, Sample (SMS)	Chance Finds Procedure
2E	BCC	AVDC	2E	Fleet Marston 2E0216/8.1/FB, 2E0173/8.1/FB, 2E0213/8.1/FB, 2E0195/8.1/FB	Work Access and Construction	478119	216016	C			x	
2E	BCC	AVDC	2E	Fleet Marston	Work Access and Construction	478584	215252	C	x		x	
2E	BCC	AVDC	2E	E3-J-1	Junction Improvement					x		
2E	BCC	AVDC	2E	E4-J-1	Junction Improvement							x
2E	BCC	AVDC	2E	E3-P-1	Passing Place							x



## 8.2 Built Heritage Programme of works

8.2.1 These works are further detailed, and the associated location figure included, within the 'Written Scheme of Investigation, Historic Building Recording in Route Sections 2A, 2B and 2D (Document No: 133735-EWR-REP-EEN-000251)', which has been met with prior approval by the LPAs. This table is for reference only.

**Table 8:2 Proposed Built Heritage work – Scheme wide**

Section	Curatorial Body	Asset reference	Asset name	Summary description	Recording Level
2A	OCC	OXD/34	Bicester Road Underbridge, Marsh Gibbon	Post medieval stone and brick bridge with iron deck beams and concrete deck	Level 1
2A	BCC	OXD/32	Station Road Underbridge, Marsh Gibbon	Post medieval brick bridge with a modern concrete deck	Level 1
2A	BCC	OXD/31	Marsh Gibbon Poundon Occupation Overbridge	Post medieval brick bridge	Level 1
2B	BCC	MBC33283	Steeple Claydon station	Nineteenth to twentieth century railway station at Steeple Claydon, closed in 1964. Station buildings now demolished, platforms only surviving.	Level 1
2B	BCC	OXD/25	Sandhill Road Overbridge, Middle Claydon	Post medieval brick bridge	Level 1
2B	BCC	MBC14925	Verney Junction Station	Nineteenth and twentieth century railway station. Now demolished. Platforms only surviving.	Level 1
2B	BCC	OXD/19	Winslow Footbridge No. 6	Post medieval iron bridge	Level 2
2B	BCC	MBC12888	Winslow Station	Nineteenth to twentieth century railway station at Winslow, built in 1850, closed in 1967 and demolished in 1993.	Level 1
2B	BCC	OXD/16	Horwood Road Underbridge	Post medieval brick bridge with replacement iron and concrete deck and modern guard rails	Level 1
2B	BCC	MBC25532	Swanbourne Old Station	Nineteenth to twentieth century railway station at Swanbourne, closed in 1964.	Level 2
2B	BCC	OXD/12	Salden Water Trough Aqueduct	Post medieval aqueduct with metal trough carried on brick piers	Level 1

Section	Curatorial Body	Asset reference	Asset name	Summary description	Recording Level
2B	BCC	OXD/10	Salden Overbridge	Post medieval brick bridge with decorative, later, parapet and cobbled road surface	Level 1
2B	BCC	OXD/8	Trenches Underbridge	Post medieval brick bridge	Level 1
2B	BCC	OXD/7	Tompkins Underbridge	Post medieval brick bridge	Level 1
2D	CBC	MBD18252	Crossing Keeper's Cottage / Chuffa Cottage	Station house, now a private home. Two-storey building with tiled roofs and a distinctive chimneybreast facing the roadway, with a gothic arched doorway in the centre of the chimneybreast. Opened in 1846 by the Bedford Railway. Originally built of yellow brick with red dressings, now pebble dashed.	Level 2
2B	BCC	MBC14932	Ox Lane Railway Bridge; 19th Century	Nineteenth century bridge	Level 1



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# 10. Appendices

## Appendix 1 – Glossary of Terms

Term	Definition
Alluvium	Sediment laid down by a river. Can range from sands and gravels deposited by fast flowing water and clays that settle out of suspension during overbank flooding. Other deposits found on a valley floor are usually included in the term alluvium (e.g. peat)
Archaeological horizon	The layer at which archaeological remains are first visible
Archaeological Manager	The individual appointed by the Employer to fulfil this role, reporting to the Project Heritage Lead and the Employer.
Archaeomagnetic dating	A method of absolute dating using the study of the Earth's magnetic signature over time
Bronze Age	Chronological period, 2,500 - 800 BC
Building Recording	Recording of historic buildings (by a competent archaeological organisation) is undertaken 'to document buildings, or parts of buildings, which may be lost as a result of demolition, alteration or neglect', amongst other reasons. Four levels of recording are defined by Royal Commission on the Historical Monuments of England (RCHME) and Historic England. Level 1 (basic visual record); Level 2 (descriptive record), Level 3 (analytical record), and Level 4 (comprehensive analytical record)
Built Heritage	Upstanding structure of interest
Bulk Sample	A method of environmental sampling for general floatation. Typically comprising of a 40 – 60L sample of a deposit.
Conservation area	An area of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance. Designation by the local authority often includes controls over the demolition of buildings; strengthened controls over minor development; and special provision for the protection of trees.
Construction access route	An existing road used to transport equipment and materials from the main roads to the construction site.
Construction compound	A temporary group of buildings used by the contractors during construction. These can be principal (main) or satellite construction compound areas which will be used for civil engineering works, railway installation works and the storage of materials.
Construction Environmental Management Plan	The mechanism through which construction phase mitigation will be implemented
Construction Integrated Recording	A method of mitigation, where the likely extent of remains has been demonstrated, but it is not practical or appropriate to investigate in detail before the main construction programme
Construction phase	The period when construction of the Project takes place
Contractor	Organisation contracted to carry out archaeological work

Term	Definition
The Curator	Bedfordshire Borough Council, Central Bedfordshire Council, Buckinghamshire County Council, Oxfordshire County Council, and Milton Keynes Council archaeological officers or their representatives on this project
Cut feature	Archaeological feature such as a pit, ditch or well, which has been cut into the then- existing ground surface
Cutting	Where material (generally soil or rock) is removed to make way for the railway below the surrounding ground level to avoid a change in level of the railway itself. A cutting is open at the top, thereby differentiating it from a tunnel. Can be considered opposite to an embankment.
Dendrochronology	A method of absolute dating using tree rings
Designated/Designation	"The recognition of particular heritage value(s) of a significant place by giving it formal status under law or policy intended to sustain those values." p71, Conservation Principles, English Heritage, 2008
Devensian	The most recent cold stage (glacial) of the Pleistocene. Spanning the period from c 70,000 years ago until the start of the Holocene (10,000 years ago). Climate fluctuated within the Devensian, as it did in other glacials and interglacials. It is associated with the demise of the Neanderthals and the expansion of modern humans
Early Medieval	Chronological period AD450 – 1065
Earth Resistance Survey (Resistivity)	A form of geophysical survey which measures subsurface electrical resistance to identify archaeological features.
East West Rail ("EWR")	A programme of works that aims to establish a strategic railway connecting East Anglia with Central, Southern and Western England, comprising three sections (Western, Central and Eastern).
East West Rail Phase 1 ("EWR1")	Infrastructure works completed between Oxford and Bicester, which became operational in December 2016, as authorised by The Chiltern Railways (Bicester to Oxford Improvements) Order 2012.
East West Rail Phase 2 ("EWR2")	The proposed infrastructure works between Bicester, Bedford and Milton Keynes for which authorisation is sought as authorised under the Transport and Works Act, planning permission under the Town and Country Planning Act, permitted development under the General Permitted Development Permitted Order, changes to Public Rights of Way under the Highways Act and the HS2 Phase One Act.
East West Rail Western Section ("EWR Western Section")	The railway forming the western section of EWR connecting Milton Keynes, Bedford and Oxford, comprising two phases (EWR1 and EWR2).
Ecofact	Material which can demonstrate the interaction between the environmental of the locality and the human exploitation within the locality, such as pollen samples, grain, nuts, fish etc.
Embankment	Where the railway is raised up on a bank (generally soil or rock based) in relation to the surrounding ground level to avoid a change in level of the railway itself. Can be considered opposite to a cutting.
Employer	EWR Alliance
Environmental Statement	Report of the Environmental Impact Assessment (EIA) process

Term	Definition
<b>Evaluation (archaeological)</b>	A limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area.
<b>Excavation (archaeological)</b>	A programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological remains, retrieves artefacts, ecofacts and other remains within a specified area. The records made and objects gathered are studied and the results published in detail appropriate to the project design.
<b>Existing railway corridor</b>	The railway that already exists between Bicester, Bletchley, Milton Keynes, Bedford and Aylesbury.
<b>Fieldwalking Survey</b>	Non-intrusive evaluation method comprising a structured site walkover and finds retrieval to assess the potential of said site.
<b>Findspot</b>	Chance find/antiquarian discovery of artefact. The artefact has no known context, is either residual or indicates an area of archaeological activity.
<b>Floatation</b>	A method of environmental processing where soil samples are floated to recover small artefacts and ecofacts.
<b>Geophysical survey</b>	A method of non-intrusive evaluation using ground-based physical sensing techniques (e.g. resistivity, gradiometry) for archaeological mapping of below ground features
<b>Geotechnical</b>	Ground investigation, typically in the form of boreholes and/or trial/test pits, carried out for engineering purposes to determine the nature of the subsurface deposits.
<b>Ground Penetrating Radar</b>	A method of geophysical survey that uses radar pulses to identify buried archaeological remains.
<b>Haul road</b>	A temporary road built to facilitate the movement of equipment and materials during Project construction.
<b>Heritage asset</b>	A building, monument, site, place, area or landscape positively identified as having a degree of significance meriting consideration in planning decisions. Heritage assets are the valued components of the historic environment. They include designated heritage assets and assets identified by the local planning authority (including local listing).
<b>Heritage Delivery Strategy (“HDS”)</b>	A document outlining guidance for planning and implementing the archaeological strategy for East West Rail 2. This document.
<b>Historic Environment Record (HER)</b>	Heritage database held and maintained by the County authority. Sometimes prefixed with the county’s initial
<b>Historic Environment Research and Delivery Strategy (“HERDS”)</b>	Sets out the project mechanisms for designing works, undertaking evaluation, delivering investigations, undertaking post excavation assessment, and archive deposition that will be adopted for the design and construction of the Scheme
<b>Holocene</b>	The most recent epoch (part) of the Quaternary, covering the past 10,000 years during which time a warm interglacial climate has existed. Also referred to as the ‘Postglacial’ and (in Britain) as the ‘Flandrian’
<b>Impacts</b>	An impact is a physical or measurable change to a receptor or resource that is attributable to the construction and/or operation of the project, when compared to baseline.
<b>Iron Age</b>	Chronological period, 800BC - AD 43



Term	Definition
<b>The Knowns</b>	An area/ areas of known archaeological remains or with high archaeological potential which have value for creating and advancing knowledge.
<b>Kubina / Monolith sample</b>	A method of environmental sampling that covers a number of archaeological deposits, whilst retaining stratigraphic sequencing.
<b>Last Glacial Maximum</b>	Characterised by the expansion of the last ice sheet to affect the British Isles (around 18,000 years ago), which at its maximum extent covered over two-thirds of the present land area of the country.
<b>Level crossings</b>	A place where a railway and a highway or right of way cross at the same level
<b>Listed Building</b>	A structure considered to be of sufficient value to warrant legal protection. These are included on the Secretary of State's list, which affords statutory protection. These are subdivided into Grades I, II*, and II (in descending importance)
<b>Locally Listed Building</b>	A structure that is not included in the Secretary of State's Listing but are considered by the local authority to have architectural and/or historical merit
<b>Local Plan</b>	Prepared by LPA, in accordance with National planning policy, setting out a vision and framework for the future development of the area, addressing needs and opportunities in relation to housing, the economy, community, facilities, and infrastructure – as well as providing a basis for safeguarding the environment, adaption to climate change and securing good design. As such, Local Plans are also a critical tool in guiding decisions about development proposals.
<b>Magnetometer Survey</b>	A form of geophysical survey using a magnetometer to detect magnetic variations
<b>Maintenance compound</b>	Compound area used to support maintenance of the Project once it is operational
<b>Medieval Period</b>	Chronological period AD 1066 - 1539
<b>Mesolithic</b>	Chronological period 10,000 - 4000 BC
<b>Mitigation</b>	Measures identified to reduce potential environmental impacts and effects arising from the construction or operation of the Project.
<b>Mothballed section</b>	The railway within Section 2B that is not currently open to railway traffic.
<b>Neolithic</b>	Chronological period 4000 - 2000 BC
<b>Operational phase</b>	The period when the Project is in operation
<b>Optically Stimulated Luminescence (OSL)</b>	A method of absolute dating used to date minerals, particularly identifying when they were last exposed to light (i.e. before they were buried)
<b>Overbridge</b>	A bridge crossing over the railway
<b>Palaeoenvironmental</b>	Related to past environments, i.e. during the prehistoric and later periods. Such remains can be of archaeological interest, and often consist of organic remains such as pollen and plant macro fossils which can be used to reconstruct the past environment.

Term	Definition
Palaeolithic	Chronological period, c.500,000 – 10,000 BC
Permanent access road	Access road installed during construction which is retained permanently as part of the operational Project
Permanent compound	Compound installed during construction which is retained permanently as part of the operational Project
Permanent land take	The land that is acquired for an indefinite period of time
Pleistocene	Geological time period pre-dating the Holocene
Post- Medieval and Modern	Chronological period 1540 - 1950
Preservation by record	Archaeological mitigation strategy where archaeological remains are fully excavated and recorded archaeologically, and the results published.
Preservation in situ	Archaeological mitigation strategy where archaeological remains deemed of sufficient significance are preserved in situ for future generations, typically through modifications to design proposals to avoid damage or destruction of such remains
Principal Contractor	The contractor with responsibility over the construction phase of a project involving more than one contractor;
Project	The East West Rail Phase 2 Project (“the Project”) – East West Rail Phase 2 works as assessed in the ES, including all elements of construction of EWR2 requiring authorisation, and including operation and maintenance of the railway between Bicester, Bedford, Bletchley and Aylesbury.
Project Heritage Lead	Responsible for interface between contractors, clients and consultants. Manages and drives forward heritage aspect of the project.
Radiocarbon Dating	A method of absolute dating by measuring the ratio of Carbon 12 and Carbon 14 isotopes.
Research Agendas, Assessments and Strategies (“RAAS”)	Research questions to be asked, assessment of data and ability to answer research questions, approach to be taken in answering research questions.
Rail	Linear steel support for train wheels. Two rails secured to sleepers make up the track.
Railway	General term referring to the rail transport system as whole and the corridor in which it sits.
Romano-British	AD 43 - 450
Risk	The likelihood of an adverse event occurring
Route Section	The way the Project has been divided for reporting purposes in the ES. The Project includes Route Sections 2A, 2B, 2C, 2D, 2E and HS2 Interface Area.
Scheduled Monument	A nationally important archaeological site, or building, protected by law.
Scheme	The works authorised under the Order and permitted development rights are referred to as “the Scheme”

Term	Definition
<b>Scheme Area</b>	The geographical footprint of the Scheme
<b>Scheme Boundary</b>	Delineated extent of Scheme Area
<b>Soil micromorphology</b>	An environmental sample and technique used to identify outside influences (human, animal, or ecological) on the composition of soils.
<b>Stratigraphy</b>	A term used to define a sequence of visually distinct layers, which can be used to identify the archaeological sequence
<b>Strip, map, and Sample (SMS)</b>	A method of archaeological mitigation where a site is stripped of top soil to the archaeological horizon, features recorded, and a sample excavated.
<b>Study Area</b>	The identified spatial scope over which an assessment has been undertaken. 250m Non-designated and 1km for Designated heritage assets.
<b>Temporary land take</b>	The area of land that is acquired for a fixed and finite period of time with the intent to discontinue such use upon the completion of works.
<b>Town and Country Planning Regulations</b>	The Town and Country Planning (Environmental Impact Assessment) Regulations 2017
<b>Track</b>	Rail system consisting of two rails, secured on sleepers, on which trains run
<b>Trial Trenching</b>	A method of archaeological evaluation or mitigation, where a sample of the site is excavated to clarify or confirm the presence of remains
<b>TWAO</b>	Transport and Works Act Order
<b>TWAO Scheme Boundary</b>	The TWAO Scheme Boundary comprises all areas of land that need to be authorised under the TWAO for construction and operation of the Project, excluding the HS2 Interface Area that is consented under the HS2 Act.
<b>The Unknowns</b>	An area/ areas of unexpected archaeological discovery.
<b>Watching brief (archaeological)</b>	A method of archaeological mitigation where non-archaeological works are carried out under the observation of an archaeologist
<b>Written Scheme of Investigation (WSI)</b>	A document outlining the methodology under which a programme of archaeological investigation will be carried out



# Appendix 2 – Archaeological and Historical Baseline

## 10.1 Oxfordshire

- 10.1.1 Development Stages 2A1 and 2A2 are located in Oxfordshire within the local administrative area of Cherwell District Council.

### Palaeolithic (500,000BC to 10,000BC)

#### Overview

- 10.1.2 The Palaeolithic is the earliest period of prehistory, representing a very substantial period of time where hunter-gatherers moved around the landscape hunting animals and foraging for food. This activity leaves a scarce archaeological record; there is no structural evidence such as huts, houses and monuments as we see in later periods. Evidence is limited to stone objects that we recognise as humanly worked and/or faunal remains and varies greatly across the United Kingdom. In-situ Palaeolithic sites are extremely rare. In the absence of such sites and artefacts evidence is often gained through detailed analysis of sedimentary sequences and palaeoenvironmental data, often known as 'environmental archaeology'. Palaeolithic sites reflect the diverse nature of past environments and our understanding is based on our interpretation of the context in which the artefacts are found, and study of associated faunal and floral remains. It is only through the natural sediments that survive, and the archaeological and environmental evidence they contain, that we have any knowledge of the Palaeolithic.
- 10.1.3 Recognition of the Palaeolithic is greatly hindered by extremely complex environmental, climatic and landscape conditions that have taken place over hundreds of thousands of years. In simple terms, as the climate was colder than it is now sea levels were significantly lower; therefore one must approach this long period accepting that our modern landscape was markedly different to what it was like hundreds of thousands of years ago. Most of the evidence of past activity is likely to be underwater or buried beneath metres of soil accumulations. Thus, most of our evidence is derived from areas such as river valleys, terraces and floodplains. The process of glacial advance and retreat during parts of the Palaeolithic led to the creation of various valley terraces and the subsequent deposition of till, sands and gravels which dominate the superficial geology of many regions, including the current Scheme Area and its surrounding landscape. Due to the changing course of rivers and post-depositional processes within river valleys, much of our evidence survives only at a significant depth below modern ground level. As a result, the majority of Palaeolithic evidence is only normally identified during deep ground work such as quarrying.
- 10.1.4 Turning to Oxfordshire specifically, the archaeological record for the Palaeolithic is characteristically rare, in-keeping with the rest of the United Kingdom. A broad analysis of the Lower and Middle Palaeolithic period shows the dearth of 'sites'<sup>51</sup>. This may be a genuine representation or perhaps, as highlighted above, more a reflection of the differential survival of artefact-bearing deposits and our attempts to find them. Although there is little evidence of hominin presence in Oxfordshire there is some evidence from, for example, Stanton Harcourt and Wolvercote<sup>52</sup>.

#### The Known Resource within the EWR2 Area

<sup>51</sup> Hardaker, T (2014), 'The Lower/Middle Palaeolithic Resource Assessment and Research Agenda', in Hey, G & Hind, J (eds) *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, 21-51.

<sup>52</sup> Hardaker, T (2014), *op.cit*; table 3.8, 37 and figure 3.1, 45.

10.1.5 There are no known Palaeolithic assets in the Scheme Area.

## Potential

10.1.6 As noted, for various taphonomic reasons<sup>53</sup> discovering Palaeolithic archaeology within the Scheme Area may prove difficult. That said, the few examples of 'sites' within Oxfordshire as outlined above, and others from the wider Buckinghamshire and Bedfordshire regions (see sections below), suggest that there may still be potential to encounter Palaeolithic remains during investigate ground works, possibly within river valleys and associated terrace systems or surviving palaeoenvironments.

## Mesolithic (10,000BC to 4,000BC)

### Overview

10.1.7 Around 10,000 years ago there was a dramatic shift in the climate of Europe, with a rapid rise in temperature. The Ice Age ended, trees began to grow, fauna migrated, and people began returning to the country. This period is known as the Mesolithic. These early people were hunter-gatherers moving across the landscape. On a broad scale, Mesolithic people appear to have favoured landscapes close to water sources and/or elevated terrain. It is from this period that some structural archaeological remains begin to survive; however, again most of the archaeological evidence is artefactual (lithic material) or ecofactual and primary in situ contexts are rare.

10.1.8 The history of Mesolithic research is variable across the United Kingdom and equally so in the regions around EWR2. For example, the Kennet Valley in Berkshire and the Greensand of Hampshire are amongst the best-known Mesolithic landscapes in Britain; however, in contrast, relatively little is known about other areas, including Oxfordshire, particularly the north-east of the county<sup>54</sup>. That said, Later Upper Palaeolithic and Mesolithic activity is known from Oxfordshire from several sites including New Plantation, Otmoor, Fyfield<sup>55</sup> and Tubney and Windmill Hill, Nettlebed<sup>56</sup>; Ascott-under-Wychwood<sup>57</sup>, Cothill Fen<sup>58</sup>, Gatehampton Farm<sup>59</sup> and Rollright<sup>60</sup>. This evidence comes from a variety of 'sites' including earth cores, lithic scatters, and even middens from beneath a Neolithic long cairn.

### The Known Resource within the EWR2 Scheme Area

10.1.9 No Mesolithic sites or finds have been identified.

## Potential

10.1.10 Oxfordshire has a small number of Mesolithic remains, with a comparative absence of occupation sites, and low density of lithic find spots. However, this scarcity may reflect a regional bias within the archaeological record. Further, it may reflect recovery approaches; recent intensive systematic surface collection implemented at, for example, a residential development at Biddenham, Bedfordshire resulted in the recovery of 'Mesolithic' flint tools in association within alluvial contexts<sup>61</sup>, showing that there is potential to find evidence of Mesolithic activity. Like the earlier period, it is possible that alluvial and colluvial deposits are masking the remains of activity and could account for some of the inherently low visibility of Mesolithic sites within the region. Further, evidence of the

<sup>53</sup> Hey, G (2014), 'Late Upper Palaeolithic and Mesolithic: Resource Assessment', in Hey, G & Hind, J (eds) *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, 61-82.

<sup>54</sup> Hey, G (2015). Op. Cit.

<sup>55</sup> Bradley, P and Hey, G (1993), 'A Mesolithic Site at New Plantation, Fyfield and Tubney, Oxfordshire', *Oxoniensia*, 58, 1-26.

<sup>56</sup> Boismier, W A and Mephram, L N (1995), 'Excavation of a Mesolithic site at Windmill Hill, Nettlebed, Oxon', *Oxoniensia*, 60, 1-19.

<sup>57</sup> Bayliss, A, Benson, D, Bronk Ramsey, C, Galer, D, McFadyen, L, van der Plicht, J and Whittle, A (2007), 'Interpreting Chronology: the radiocarbon dating programme', in Benson, D and Whittle, A (eds), *Building Memories: The Neolithic Cotswold Long Barrow at Ascott-under-Wychwood, Oxfordshire*. Oxford.

<sup>58</sup> Day, S P (1991), 'Post-Glacial Vegetational History of the Oxford Region', *New Phytologist*, 119, 445-70.

<sup>59</sup> Barton, N (1995), 'The Long Blade Assemblage', in Allen, T G, *Lithics and Landscape: Archaeological Discoveries on the Thames Water Pipeline at Gatehampton Farm, Goring, Oxfordshire 1985-92*. Thames Valley Landscapes 7. Oxford.

<sup>60</sup> Holgate, R (1988), 'The Flints', in Lambrick, G (ed) *The Rollright Stones: Megaliths, Monuments and Settlement in the Prehistoric Landscape*, 85-90. London

<sup>61</sup> Luke, M, Meckseper, C, barker, J, Pilkinton, K and Leslie, I (2014), 'Bedford Northern Bypass', *Council for British Archaeology South Midlands Report*.

Mesolithic may be in disturbed material in the ploughsoil, making recognition and characterisation difficult.

- 10.1.11 Thus, the inherently low visibility of Mesolithic sites, and a suite of issues associated with preservation, makes it difficult to predict the locations in which they may be encountered. However, the handful of sites across Oxfordshire, Buckinghamshire and Bedfordshire none-the-less show that Mesolithic evidence may be waiting to be discovered.

## Neolithic (4,000BC to 2,500BC)

### Overview

- 10.1.12 Within Britain, the Neolithic period (which began around 4000BC) is broadly characterised by the construction of permanent monuments, the domestication of livestock, the cultivation of cereal crops and the introduction of pottery. The previous itinerant hunter-gather Mesolithic population became focused on sedentary cultivation. The period also witnessed the development of long-distance trade networks, particularly with Ireland and Europe. It appears that the original Neolithic populations may have maintained a degree of 'residential mobility'<sup>62</sup>, with hunting and gathering remaining integral to these communities; however, the environmental and archaeological record indicates that an eventual shift to farming transformed the landscape for agricultural purposes through the encroachment upon, and loss of, the mixed deciduous woodland and subsequent early land division. Later, around 3,400 – 2,400 BC, monuments and ceremonial landscapes emerged, such as mortuary enclosures, stone and timber circles and henges. As with earlier periods, many Neolithic communities preferred high ground adjacent to, or overlooking, watercourses.
- 10.1.13 It is important to note, however, there was regional variation as different areas had different trajectories. The Neolithic and Early Bronze Age of Oxfordshire (and beyond) was recently reviewed by Bradley, who outlined the key sites and current thinking<sup>63</sup>. Bradley's review illustrates that the Early Neolithic is defined by the appearance of the domestication of animal and plant species with a shift from an itinerant hunter gather Mesolithic population to one focussed upon sedentary agrarianism. The Middle and Later Neolithic is characterised by the emergence of monuments and ceremonial landscapes associated with more permanent settlement. Thus, when we consider the usual issues of preservation and the bias in archaeological investigations, we are faced again with a varying record across Oxfordshire.
- 10.1.14 Within the county, the core of Neolithic activity appears primarily to be concentrated within the Thames valley, close to the river's confluence with the Rivers Ock and Thame. This pattern is evidenced by the recent discovery of an Early Neolithic causewayed enclosure at Thame, the Abingdon Causewayed Enclosure that overlooks the Ock confluence with the Thames; and extensive ceremonial landscapes (mainly Late Neolithic and Early Bronze Age) identified at Drayton, also on the Ock confluence, Dorchester on Thames on the Thame/Thames confluence, surrounding the Cherwell confluence in Oxford, and at the confluences of the Windrush and Evenlode above Oxford at Yarnton, Standlake and Stanton Harcourt. Bradley's general discussion of sites highlights the paucity of Neolithic remains within the north-east of the county, that is the area of the EWR2 Scheme.
- 10.1.15 Settlement evidence, particularly for the Earlier and Middle Neolithic, is meagre, and identifying Neolithic occupation sites continues to be problematic. There are, however, some informative examples. There was at least one timber structure beneath the cairn at Ascott-under-Wychwood<sup>64</sup> and the 'house' discovered at Yarnton may be a domestic building. In discussing earlier Neolithic settlement it is pertinent to remember that evidence for occupation sites may come in many forms, such as pits and occupation debris accumulated on a land surface and broaden what we often think of as 'buildings'. Recognition of occupation sites may also be hindered by the fact that perhaps

<sup>62</sup> Green, H.S. (1976), 'The excavation of a late Neolithic settlement at Stacey Bushes, Milton Keynes, and its significance', in Burgess, C and Milet, R (eds) *Settlement and Economy in the Third and Second Millennia B.C.* = British Archaeological Reports, British Series, 33.

<sup>63</sup> Bradley, R. (2014), 'The Neolithic and Early Bronze Age: Research Assessment;', in Hey, G & Hind, J (eds) *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, 87-147.

<sup>64</sup> Benson, D & Whittle, A (2007), *Building Memories: The Neolithic Cotswold Long Barrow at Ascott-under-Wychwood, Oxfordshire*. Oxford.

domestic buildings did not make use of uprights embedded in the subsoil<sup>65</sup>. Further, one has to appreciate that the apparent lack of occupation evidence may be because in the Earlier Neolithic, groups adopted a more mobile pattern of settlement in which few places were occupied for long. Evidence for Later Neolithic occupation sites and structures within Oxfordshire is equally sparse; although there are examples from some sites, for example Yarnton. More broadly, Bradley<sup>66</sup> suggests that within the wider Solent-Thames region, Later Neolithic buildings may have been insubstantial and ephemeral.

- 10.1.16 Funerary and Ceremonial monuments are more common and come in a variety of shapes and sizes. Earlier Neolithic examples are known from, for example, Ascott-under-Wychwood<sup>67</sup>, Wayland's Smithy<sup>68</sup>, Whispering Knights<sup>69</sup>, Barrow Hills, Radley, Stanton Harcourt<sup>70</sup>, Uffington<sup>71</sup>, Abingdon<sup>72</sup>, Mount Farm and Newnham Murren<sup>73</sup>. Later Neolithic funerary and ceremonial evidence is known from Keble College, Oxford<sup>74</sup>, Big Rings at Dorchester-on-Thames<sup>75</sup>, the Devil's Quoits at Stanton Harcourt<sup>76</sup>, and the aforementioned Barrow Hills, Radley.

## The Known Resource within the EWR2 Scheme Area

- 10.1.17 There are no known Neolithic assets in the Scheme Area.

### Potential

- 10.1.18 Like earlier periods, the disparate nature of the archaeological evidence for Neolithic activity (away from monumental architecture which has not been identified on the route) makes it very difficult to predict possible sites or specific areas of potential. For reasons highlighted above, predicting occupation sites is extremely difficult; a genuine lack of monuments may indicate an absence of settlement, intermittent settlement, or people moving around the landscape at different time. However, it is also important to note that where Neolithic sites do exist (eg funerary monuments) this may not indicate the presence of settlement (and vice versa). Indeed, it may be likely that our best evidence for human, settlement and landscape activity in general derives from chance artefact finds (metal, pottery or lithics) or occasional pit features and/or alignments uncovered during the work, which are then well-dated. Once again, palaeoenvironmental samples collected during the EWR2 work may play an important role in the reconstruction of past environments and/or human endeavours, particularly in identifying changes to the landscape and agricultural regimes. As Bradley acknowledges, perhaps linear schemes such as EWR2 will provide a useful opportunity for

<sup>65</sup> Bradley, R. (2014), op. cit., 93-94.

<sup>66</sup> Bradley, R. (2014), op., cit., 101

<sup>67</sup> Benson and Whittle (2007), op.cit.

<sup>68</sup> Whittle, A (1991), 'Wayland's Smithy, Oxfordshire: Excavations at the Neolithic tomb in 1962-3 by R J Atkinson and S Piggott', *Proc Prehist Soc*, 57(2), 61-101.

<sup>69</sup> Lambrick, G H (1988) *The Rollright Stones: Megaliths, Monuments and Settlement in the Prehistoric Landscape*. English Heritage Archaeological Report 6. London.

<sup>70</sup> Grimes, W F (1960) *Excavation on Defence Sites, 1939-1945, 1: Mainly Neolithic-Bronze Age*. Ministry of Works Archaeological Report 3. HMSO. London.

<sup>71</sup> Miles, D, Plamer, S, Lock, G, Gosden, C & Cromarty, A M (2003), *Uffington White Horse and its Landscape: Investigations at White Horse Hill, Uffington, 1989-95 and Tower Hill Ashbury, 1993-4*. Oxford Archaeology Thames Valley Landscapes Monograph 18. Oxford.

<sup>72</sup> Leeds, E T (1927) 'A Neolithic Site at Abingdon, Berks', *Antiq J*, 7, 438-64; Leeds, E T (1928), 'A Neolithic Site at Abingdon, Berks (second report)', *Antiq J*, 8, 461-77; Avery, M (1982), 'The Neolithic Causewayed Enclosure, Abingdon', in Case, H J & Whittle, A (eds), *Settlement patterns in the Oxford Region: Excavations at Abingdon Causewayed Enclosure and Other Sites*, Counc Brit Archaeol Res Rep 44. London, , 10-50; Bradley, R (1992), 'The Excavation of an Oval Barrow beside the Abingdon Causewayed Enclosure, Oxfordshire', *Proc Prehist Soc*, 58, 127-42.

<sup>73</sup> See Bradley (2014), op.it, 94-100 for summary and further references.

<sup>74</sup> Hey, G, Garwood, P, Robinson, M, Barclay, A & Bradley, P (2011), 'Part 2 Mesolithic to Early Bronze Age', in Morigi, A, Schreve, D, White, M, Hey, G, Garwood, P, Robinson, M, Barclay, A and Bradley, P, *Thames Through Time: The Archaeology of the Gravel Terraces of the Upper and Middle Thames: Early Prehistory to 1500BC*. Oxford Archaeology Thames Valley Landscapes Monograph, 32, 151-463.

<sup>75</sup> Whittle, A, Atkinson, R J C, Chambers, R and Thomas, N (1992), 'Excavations in the Neolithic and Bronze Age complex at Dorchester-on-Thames, Oxfordshire, 1947-1952 and 1981', *Proc Prehist Soc*, 58, 143-201; Loveday, R (1999), 'Dorchester-on-Thames: ritual complex or Ritual Landscape?', in Barclay, A J & Harding, J (eds), *Pathways and Ceremonies: The Cursus Monuments of Britain and Ireland*. Neolithic Studies Group Seminar Papers, 4. Oxford, 49-66.

<sup>76</sup> Barclay, A, Gray, M and Lambrick, G (1995), *Excavations at the Devil's Quoits, Stanton Harcourt, Oxfordshire 1972-3 and 1988*, Thames Valley Landscapes Monograph: The Windrush Valley Volume 3. Oxford.

uncovering new information on many periods, including the Neolithic, and offer new perspectives from which new understandings of our past can develop<sup>77</sup>.

## Bronze Age (2,500BC to 800BC)

### Overview

- 10.1.19 Two recent analyses of Bronze Age (Early and Late) material in the Solent-Thames give a broad overview of the nature and scale of the resource within Oxfordshire<sup>78 79</sup>. Save for the introduction of Beaker pottery and the wider use of copper and bronze in general terms, the Early Bronze Age (c2500BC to 1500BC) appears to have maintained many characteristics from the previous Neolithic epoch, hence why the Neolithic and Early Bronze Ages are often discussed together. The Middle / Later Bronze Age witnessed the beginning of the transition from 'monument-dominated landscapes' and 'mobile settlement patterns' to that of more permanent settlement and a greater emphasis on agricultural production<sup>80</sup>. It is from this period that settlement evidence finally appears in the archaeological record. There also appears to have been an increase and establishment of agrarian land division and management; this is seen in palaeoenvironmental evidence, with pollen sequences in Oxfordshire showing an increase in herbaceous pollens (as at Little Marlow and Sydlings Close), and molluscs from funerary contexts, for example in the Ouzel valley, indicating that the former arboreal landscape was dramatically shifting into a grassland, both indicative of emerging pastoralism.
- 10.1.20 Turning first to the settlement evidence, when discussing the evidence for Early Bronze Age across the wider Solent-Thames area Bradley highlights that there is little structural evidence from this period, perhaps again because the remains of domestic buildings were slight, the inhabitants practised residential mobility, and/or their settlements have been buried beneath substantial deposits of hillwash. Of the structural evidence for this period, the work at Yarnton is important; the excavation identified a small round house associated with sherds of a Biconical urn. Further, the excavation uncovered a burnt mound, a feature likely to date to the earlier Bronze Age period<sup>81</sup>.
- 10.1.21 A recent analysis of Late Bronze Age settlement in Oxfordshire again gives a broad-brush indication of the scale of the resource<sup>82</sup>. Hilltop enclosures, such as at Rams Hill<sup>83</sup>, Castle Hill<sup>84</sup> and Blewburton Hill<sup>85</sup> were constructed during this period. Castle Hill is also notable for having an extensive midden of Late Bronze Age to early Iron Age date. Away from hilltops, a range of other structures appear to have been built. In general, post-built houses become a lot more widespread in the later Bronze Age and into the early Iron Age, with good examples known from Stanton Harcourt and Cassington. Although most houses were round, rectangular examples are known, as exemplified by recent work at Cassington<sup>86</sup>. Possible D-shaped structures of Late Bronze Age and Early Iron Age date have been identified at Yarnton and Little Wittenham.
- 10.1.22 Although Early Bronze Age settlement evidence is rare, there is more for ceremony, ritual and religion with examples from Barrow Hills, Radley and Stanton Harcourt. The construction of ceremonial monuments appears to have declined from the middle Bronze Age perhaps because the aforementioned enclosures and forts acted as new, major communal focal points.
- 10.1.23 In terms of geography, historically the core of Bronze Age activity was thought to be primarily concentrated within upland contexts overlooking the confluences of the Thames within the Cherwell

<sup>77</sup> See Bradley (2014), op.it.

<sup>78</sup> Bradley, R. (2014), op. cit.

<sup>79</sup> Allen, T (2014). 'The Later Bronze Age and Iron Age: Resource Assessment', in Hey, G & Hind, J (eds) *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, 115-147.

<sup>80</sup> English Heritage (1991), *Exploring Our Past: Strategies for the Archaeology of England*. English Heritage.

<sup>81</sup> Bradley, R. (2014), op. cit, 105.

<sup>82</sup> Allen, T (2014), op. cit.

<sup>83</sup> Needham, S P & Ambers, J (1994), *Redating Rams Hill and Reconsidering Bronze Age Enclosure*, *Proc Prehis Soc*, 60, 225-243.

<sup>84</sup> Allen, T, Cramp, K, Lamdin-Whymark, H & Webley, L (2010), *Castle Hill and its Landscape: Archaeological Investigations at Wittenhams*, Oxfordshire. Oxford Archaeology Monograph, 9. Oxford.

<sup>85</sup> Harding, D W (1976), 'Blewburton Hill, Berkshire: Re-excavation and Reappraisal', in Harding, D (ed), *Hillforts: Later Prehistoric Earthworks in Britain and Ireland*. London, 133-46.

<sup>86</sup> Allen, T (2014), op. cit., 135-136.



and Thame valleys, c. 16 km to the south-west of the Study Area. However, in recent years work to the immediate south and west of Bicester, as part of suburban residential development and the A421 Chesterton Lane Overpass/Wendlebury-Bicester Dualling, has revealed evidence for Bronze Age settlement and burial rites, signifying the presence of a substantial Bronze Age population within the region. Additionally, a number of isolated bronze socketed axe heads have been recovered from topsoil contexts in Bicester. These finds clearly demonstrate that modern developments continue to cast new perspectives on periods and areas.

## The Known Resource within the EWR2 Scheme Area

- 10.1.24 No Bronze Age remains have been identified within the Scheme Area; however, this, again, may be the result of limited archaeological investigations within the area, rather than a genuine absence of occupation<sup>87</sup>.

### Potential

- 10.1.25 It was highlighted above that recent development work has led to new discoveries. It is important to note that a great deal of Bronze Age evidence may be difficult to recognise without intrusive work. For example, some burials and houses (which are not as readily identifiable as large-scale monuments) may be hidden beneath the ground. Similarly, stray finds may help our story. Certain types of metalwork and/or stray finds may be indicative of past settlement areas (although it is pertinent to note that many finds were deposited in watery or ritual locations well away from settlement areas). Land divisions and enclosures may also be uncovered during future work and, where they have been recorded, some cropmark sites may shed light on this period. Thus, just like previous periods the lack of visible archaeology may not be reflective of past prehistoric activity. Indeed, it has been argued that more extensive recent development work in nearby areas may have created an uplift (or bias) in the Bronze Age archaeological record.

## Iron Age (800BC to AD43)

### Overview

- 10.1.26 Like the previous period, Iron Age groups lived in dispersed rural settlements, many comprising roundhouses, some of which were positioned within enclosures. This period also saw the continued use of hilltops, coinciding with organisational changes within both the form and extent of enclosure and field systems, perhaps as a result of population change and growth. In addition, the Early Iron Age saw the start of the development of large linear boundary systems, such as Grims Dyke in north Oxfordshire, that delimited areas and could potentially be associated with the development of local elites and territories. The Rivers Cherwell and Thames also acted as boundaries and trading routes, with entrepôts at Abingdon and Dorchester on Thames, and also formed the possible interface of the Dobunni and Catevealauni civitas, which EWR Phase 2 lies just to the east of.
- 10.1.27 Unlike the agrarian practices of the Bronze Age, the underlying geology does not appear to have had any major influencing factor upon occupation, and there is evidence of farming communities on previously more marginal areas of land in the Iron Age. A rise in the visibility of cattle bones within faunal assemblages in Iron Age contexts may also suggest a stronger pastoral element emerging within Iron Age society and their economy. Unlike earlier periods, evidence of funerary practices is rare possibly because individuals were disposed of in different ways (see below).
- 10.1.28 A recent summary<sup>88</sup> indicated that there are about 27 Iron Age forts in Oxfordshire; the greatest concentration to be found along the scarp of the Berkshire Downs and outlying hills. There are also valley forts at Burroway Brook and Cerbury Camp, as well as the Late Iron Age enclosed oppida at Cassington Big Ring, Abingdon and Dyke Hills, Dorchester-on-Thames. Including those which

<sup>87</sup> Allen, M J (1991) 'Land snails; The vegetational history at Barton; Prehistoric landscape history of the Chilterns. Excavations at Barton Ring Ditches: landscape history and archaeology', *Bed Archaeol*, 19, 4-29.

<sup>88</sup> Allen, T (2014), op. cit., 131.

superseded the aforementioned Late Bronze Age enclosures, most investigated hillforts in Oxfordshire appear to be of Early Iron Age origin although some were re-used later.

- 10.1.29 Moving away from hillforts, it appears that most of the Iron Age settlement within the region is predominantly characterised by groups living in a variety of roundhouses, and the emergence of dispersed rural settlement, often enclosed, coupled with considerable landscape management, categorised by the development of co-axial or rectilinear land sub-division/field systems that are aligned alongside associated tracks/droeways. Some of these sites also appear to have been used for a good length of time.
- 10.1.30 Over the period the means of disposing of the dead varied, with rites involving cremation becoming uncommon by the early Iron Age and recurring in the late Iron Age. Larger collections of burials and/or cemeteries are much rarer in the Iron Age, although the discovery of 35 individuals at Yarnton demonstrate that they were used. Importantly, and in keeping with other areas of the UK, it appears that disposal of the dead took place within settlements and various key landscape locations. For example, the use of Iron Age buildings as places of burial or ritual deposition is shown by the burials at the roundhouse at Spring Road, Abingdon<sup>89</sup>. At Watchfield a double inhumation of a woman and child was placed within a funnel entrance of an Iron Age field system, with another burial of a young woman and perinatal infant close to one of the boundaries<sup>90</sup>. Double inhumations, often of women and children, have been found in a variety of contexts, including pits within the hillfort at Castle Hill, Little Wittenham<sup>91</sup>.

## The Known Resource within the EWR Scheme Area

- 10.1.31 Iron Age and Romano-British features and finds were observed during stripping north-east of Bicester Perimeter Road (MOX12267). A possible Late Iron Age to Romano-British farmstead and field system was also noted (MOX23494).

## Potential

- 10.1.32 There is a possibility that work will uncover hitherto undiscovered evidence for settlement, enclosure and associated agrarian practices, particularly adjacent to Launton. Like earlier periods work may discover previously unrecognised and undated negative features (pits, ditches, enclosures, field boundaries) of Iron Age date. Stray finds may also prove instructive: indicators of settlement, land-use activity, long-distance trade and exchange or ritual practices (e.g. hoarding or burial). Palaeoenvironmental evidence may allow elucidation of past land regimes and agricultural practices. There is also a potential that isolated Iron Age burials may be uncovered, as many are likely to be unfurnished their date and provenance may only become apparent during post-excavation analysis.

## Romano-British (AD43 to AD450)

### Overview

- 10.1.33 By the first century AD the landscape across and around Oxfordshire had a substantial Romano-British influence, with general settlement continuity demonstrated from the Late Iron Age onwards. Within the wider Solent-Thames region an extensive number of Romano-British sites and finds have been found which feed into a complex pattern of occupation set within a substantial Roman road network, one of the most significant developments from previous periods. This network lies within a landscape containing numerous dispersed occupation sites including villas, small 'native' type farms and farmsteads to larger multiphase settlements.

<sup>89</sup> Allen, T G & Kamash, Z (2008), *Saved From the Grave: Neolithic to Saxon Discoveries at Spring Road Municipal Cemetery, Abingdon, Oxfordshire, 1990-2000*. Oxford Archaeology Thames Valley Landscapes Monograph, 28. Oxford.

<sup>90</sup> Birkbeck, V (2001), 'Excavations at Watchfield, Shrivenham, Oxfordshire, 1998', *Oxoniensia*, 66, 221-288.

<sup>91</sup> Allen, T, Cramp, K, Lamdin-Whymark, H & Webley, L (2010), *Castle Hill and its Landscape: Archaeological Investigations at Wittenhams, Oxfordshire*. Oxford Archaeology Monograph, 9. Oxford.

- 10.1.34 The evidence for Romano-British occupation around Oxfordshire has been conveniently summarised<sup>92</sup>. The modern county boundaries, of course, bear no relation to the boundaries of Iron Age and Roman Britain and during this period it appears that Oxfordshire lay at the junction of the Artebates, Dobunni and Catevelauni civitas. During this period, a range of settlement types were current including large towns with a range of military and public buildings (eg Silchester) and smaller towns, defended and undefended settlements, such as Alchester<sup>93</sup>, which lies to the south-west of the Scheme Area.
- 10.1.35 Alchester is important in terms of understanding Romano-British Oxfordshire but little modern work has been undertaken on this walled settlement to explore its character and history. From studies that have been conducted, aerial photography reveals the potential of the site, demonstrating a range of buildings within the area. As with other Romano-British smaller towns, Alchester is associated with a Roman Road network and in addition to the walled town Oxfordshire also has examples of undefended roadside settlements such as at Asthall<sup>94</sup> and Wilcote. These sites are some of the few excavated examples in the region and allow rare insight into the road networks and associated settlements in the region.
- 10.1.36 The wider settlement repertoire includes single settlements or settlement complexes (eg villas), for example at Abingdon and Shakenoak villa<sup>95</sup>. Aside from actual excavations, various forms of non-invasive surveys (eg geophysics and surface collection of material culture) also hint at probable Romano-British rural settlement. However, there is much to learn; as Fulford reminds us<sup>96</sup> the extent of our ignorance is reinforced when we look across to the 'small towns' and the evidence of their built environment, as tantalisingly revealed by aerial photography at Alchester<sup>97</sup>. Further, to date, many lower status rural settlements have failed almost totally to provide evidence for structures.
- 10.1.37 The settlement evidence is complimented by various other traces of Romano-British activity including temples, cemeteries, landscape interventions (field systems, paddocks) and woodland management. The Romans also needed a huge suite of industries, essential for the manufacture of weapons, tools, jewellery, buildings and everyday life. Thus, any narrative of Romano-British archaeology must take note of the evidence for manufacturing workshops of pottery, iron, metal, brick, tile as well as the physical exploitation of raw materials (stone, metal etc). Oxford, of course, is well known for its Romano-British pottery industries<sup>98</sup>.

## The Known Resource within the EWR Scheme Area

- 10.1.38 Within the Scheme Area Iron Age and Roman/ Romano-British features and finds were observed during stripping north-east of Bicester Perimeter Road (MOX12267). A possible Late Iron Age to Romano-British farmstead and field system was also noted (MOX23494).

## Potential

<sup>92</sup> Fulford, M (2014), 'The Roman Period: Resource Assessment', in Hey, G & Hind, J (eds) *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, 155-178.

<sup>93</sup> Hawkes, C F C (1927) 'Excavations at Alchester 1926', *Antiq J*, 7, 155-184; Iliffe, J H (1929) 'Excavations at Alchester 1927', *Antiq J*, 9, 105-136; Iliffe, J H (1932) 'Excavations at Alchester 1928', *Antiq J*, 12, 35-67; Booth, P, Evans, J & Hiller, J (2001) *Excavations in the Extramural Settlement of Roman Alchester, Oxfordshire, 1991*. Oxford Archaeology Monograph 1. Oxford.

<sup>94</sup> Booth, P (1997) *Asthall, Oxfordshire, Excavations in a Roman 'Small Town'*, 1992. Thames Valley Landscapes Monograph 9, OAU. Oxford; Hands, A R (1993), *The Romano-British Roadside Settlement at Wilcote, Oxfordshire I. Excavations 1990-92*. British Archaeol Rep, 232. Oxford; Hands, A R (1998), *The Romano-British Roadside Settlement at Wilcote, Oxfordshire II. Excavations 1993-96*. British Archaeol Rep, 265. Oxford; Hands, A R & Cotswold Archaeology (2004), *The Romano-British Roadside Settlement at Wilcote, Oxfordshire III. Excavations 1997-2000*. British Archaeol Rep, 370. Oxford

<sup>95</sup> Brodrribb, A C C, Hands, A R & Walker, D R (1968) *Excavations at Shakenoak Farm, near Wilcote, Oxfordshire, Part I: sites A & D*. Oxford; Brodrribb, A C C, Hands, A R & Walker, D R (1971) *Excavations at Shakenoak Farm, near Wilcote, Oxfordshire, Part II: sites B & H*. Oxford; Brodrribb, A C C, Hands, A R & Walker, D R (1972) *Excavations at Shakenoak Farm, near Wilcote, Oxfordshire, Part III: site F*. Oxford; Brodrribb, A C C, Hands, A R & Walker, D R (1968) *Excavations at Shakenoak Farm, near Wilcote, Oxfordshire, Part IV: site C*; Brodrribb, A C C, Hands, A R & Walker, D R (1978) *Excavations at Shakenoak Farm, near Wilcote, Oxfordshire, Part I: sites K & E*. Oxford;

<sup>96</sup> Fulford, M (2014), *op. cit.*, 167.

<sup>97</sup> Winton, H (2001) 'A Possible Roman Small Town at Sansom's Platt, Tackley, Oxon', *Britannia*, 32, 304-309.

<sup>98</sup> Young, C J (1977) *The Roman Pottery Industry of the Oxford Region*. British Archaeology Report, 43. Oxford.

- 10.1.39 As noted, one of the largest Romano-British settlements in Oxfordshire is in Alchester, only 2km south-west of the line. Coupled with the emerging evidence at Bicester and the general Romano-British archaeology across the broader area, there is potential that within the Scheme Area there is hitherto undiscovered evidence for Romano-British activity, possibly small-scale rural settlements and/or farmsteads. There is also potential of finding evidence of ritual, crafts, trades and industries, perhaps shown through isolated pockets of archaeology or disparate material culture.

## Early Medieval (AD450 to AD1065)

### Overview

- 10.1.40 Whilst there is exceptional Early Medieval / Anglo-Saxon evidence from across Britain (usually discussed through the lavish furnished cemeteries of Anglo-Saxon royalty such as Sutton Hoo) the reality is, compared to say the earlier Iron Age and Romano-British periods, the evidence for Anglo-Saxon settlement and land use is fairly limited, particularly for the earlier medieval period (5<sup>th</sup> - 6<sup>th</sup> centuries AD). Place name evidence, and the extent of the medieval landscape recorded in the Domesday Book of 1086, suggests that Oxfordshire should have had a substantial Early Medieval population. During this period, the region is believed to have initially retained much of its Romano-British character, with dispersed road-side settlement patterns, isolated high-status villas, and widespread associated agricultural production, before gradually 'abandoning' the Romano-British centres for discrete Saxon nuclei.
- 10.1.41 There is a convenient recent overview of the key Early Medieval evidence in wider Oxfordshire and hinterland<sup>99</sup>. Of course, one of the most important sites in the region is Oxford itself which has been the subject of extensive archaeological investigations since the 1960s, showing activity throughout the Early Medieval period particularly from the mid-Saxon period through to the Late Saxon period<sup>100</sup>; and of particular note is the Minster of St Edburg at Bicester the presence of which indicated an important early ecclesiastical site with potential links to the royal family of Mercia. The county also has a good number of Saxon cemeteries, such as Frilford<sup>101</sup>, Abingdon<sup>102</sup>, Berinsfield<sup>103</sup>, Long Wittenham and Standlake Down (recently reviewed by Dodd<sup>104</sup>).
- 10.1.42 Early Medieval settlement generally conforms to the national pattern of small, non-hierarchical and unenclosed rural settlements consisting of a few timber halls and ancillary sunken-featured buildings. Oxfordshire has the largest number of known early Saxon settlement sites in the Solent-Thames region<sup>105</sup>. The best example is from Barton Court, near Abingdon, where a group of seven sunken-featured buildings and several post-built structures were found on the site of a late Romano-British villa; a further 45 sunken floor buildings and other features were found in the nearby vicinity<sup>106</sup>. Other important earlier settlements include Sutton Courtenay<sup>107</sup> and Cassington where a range of settlement and burial evidence was discovered; as well as Drayton and particularly Dorchester on Thames which developed into an important Royal and Ecclesiastical centre, and could be argued to be the most important early and middle Saxon centre in Oxfordshire. More recently various sunken-floor buildings

<sup>99</sup> Dodd, A (2014) 'The Early Medieval Period: Resource Assessment', in Hey, G & Hind, J (eds) *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, 185-233.

<sup>100</sup> Dodd, A (2003) *Oxford Before the University: the late Saxon and Norman Archaeology of the Thames Crossing, the Defences and the Town*. Oxford Archaeology Thames Valley Landscapes Monograph, 17. Oxford.

<sup>101</sup> Booth et al (2007) op. cit.

<sup>102</sup> Leeds, E T & Harden, D B (1936) *The Anglo-Saxon Cemetery at Abingdon, Berkshire*. Oxford.

<sup>103</sup> Boyle, A, Dodd, A, Miles, D and Mudd, A (1995) *Two Oxfordshire Anglo-Saxon Cemeteries: Berinsfield and Didcot*. Thames Valley Landscapes Monograph, 8. Oxford. OAU.

<sup>104</sup> Dodd, A. (2014), op. cit., 211-214.

<sup>105</sup> Booth, P, Dodd, A, Robinson, M & Smith, A (2007) *The Thames Through Time: The Archaeology of the Gravel Terraces of the Upper and Middle Thames. The Early Historical Period: Britons, Romans and the Anglo-Saxons in the Thames Valley AD1-1000*. Oxford Archaeology Thames Valley Landscapes Monograph, 27, 88-98.

<sup>106</sup> Miles, D (1986) *Archaeology at Barton Court Farm, Abingdon, Oxon: An Investigation into the Late Neolithic, Iron Age, Romano-British and Saxon Settlements*. Oxford Archaeological Unit Rep 3. CBA Research Report, 50. Oxford and London.

<sup>107</sup> Leeds, E T (1923) 'A Saxon Village Near Sutton, Courtenay, Berkshire', *Archaeologia*, 73, 147-92; Leeds, E T (1927) 'A Saxon Village at Sutton Courtenay, Berkshire, second report', *Archaeologia*, 76, 59-80; Leeds E T (1947) 'A Saxon Village at Sutton Courtenay, Berkshire, third report', *Archaeologia*, 92, 79-93.

were found at Oxford Science Park, Littlemore<sup>108</sup>. Aerial photography from other areas across Oxford suggest similar buildings may be more widespread<sup>109</sup>.

10.1.43 Mid-Saxon settlement evidence is not as well-known but again Oxford has good examples from Banbury, Yarnton<sup>110</sup> and New Wintles Farm<sup>111</sup>. An excellent example of Late Saxon settlement is from Bicester to the immediate west of the route. The finds include substantial timber buildings associated with ditches, pits and a possible granary. The site was likely to have been first occupied around the late 10<sup>th</sup> century. However, little is known regarding the occupation of early to mid-Saxon Bicester as there is an absence of archaeological features dating between the 7<sup>th</sup> and 10<sup>th</sup> centuries within the town<sup>112</sup>. Yarnton continues to be an important site in our narrative, with evidence showing how from the 10<sup>th</sup> century the mid-Saxon farmstead appears to have been abandoned and the estate centre relocated towards the manor house and church to the north-east. The Known Resource within the EWR Scheme Area

10.1.44 There are no known Early Medieval assets in the Scheme Area.

## Potential

10.1.45 Discussion of the Early Medieval period is often dominated by high-status burials or the more impressive structures. However, recent studies and development work have highlighted the range of settlement types that can be found singly or in small numbers in restricted investigation areas. Thus, a wider landscape perspective and dataset is invaluable for understanding this complex period. Cropmark evidence within the wider landscape suggests that early Saxon buildings, such as sunken-featured buildings (SFBs), could be widely spread across landscapes. Tantalising features have been found at Wootton near Woodstock, Churchill near Chipping Norton, Kirklington, Bicester, Wantage and possibly from Cogges near Witney. The Mid-Saxon settlement complex at Yarnton is also notable. Together with the aforementioned Bicester (and the evidence in Buckinghamshire described below), it may be that there are buildings within the wider Scheme Area. The mention of Launton, Bicester, Caversfield and Ambrosden in the Domesday Book also suggests the potential for earlier evidence in these areas. However, remains of the period are likely to be ephemeral and their location hard to predict. As with other periods it may well be that evidence, if any, for the period comes from palaeoenvironmental and dating evidence from negative pits and features.

## Medieval (AD1066 to AD1539)

### Overview

10.1.46 Between the 11<sup>th</sup> and 14<sup>th</sup> century there was a marked expansion in the population in southern England. Towns became planned and agriculture transformed. Medieval settlements are typically associated with an increase in population size, resulting from, or in, an increasingly agrarian landscape, expansion of the open-field system of agricultural practice, and the loss of former woodland for common grazing. Many components of our modern landscape - settlements, parish boundaries, roadways and street patterns - were established during this transformative medieval period. Many of these elements are well-represented within the archaeological record of Oxford. For an excellent summary see Munby<sup>113</sup>.

<sup>108</sup> Moore, J (2001) 'Excavations at Oxford Science Park, Littlemore, Oxford', *Oxoniensia*, 66, 163-219.

<sup>109</sup> Dodd, A. (2014), op. cit., 198.

<sup>110</sup> Hey, G (2004) *Yarnton: Saxon and Medieval Settlement and Landscape. Results of Excavation 1990-1996*. Oxford Archaeology Thames Valley Landscapes Monograph 20. Oxford.

<sup>111</sup> Hawkes, S C (1986) *The Early Saxon Period* in Briggs, G, Cook, J and Rowley, T (eds) *The Archaeology of the Oxford Region*. Oxford University Department of External Studies. Oxford, 64-108; Booth et al (2007), op. cit., 108-109; Hamerow, H (2012) *Rural Settlements and Society in Anglo-Saxon England*. Oxford

<sup>112</sup> Blair, J. (2002) 'Anglo-Saxon Bicester: the minster and the town', *Oxoniensia*, 67, 133-140.

<sup>113</sup> Munby, J (2014), 'The Later Medieval Period', in Hey, G & Hind, J (eds) *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, 235-253.

- 10.1.47 Turning first to settlements, there are a high number within the wider landscape of the county demonstrating the extent of the growing medieval population. The scale and extent of the agrarian landscape, which are associated with these settlements, can be seen within the preserved medieval field-scape, particularly through areas of ridge and furrow and land divisions as seen at Launton. There are also a number of moated sites which may represent the establishment of new manors, granges and outfarms on the periphery of parishes during a period of population growth in the late 12<sup>th</sup> to 13<sup>th</sup> centuries. The continuing importance of the church is shown by a number of medieval monastic sites, with Bicester and Launton useful examples.
- 10.1.48 As with the Romano-British and Early Medieval periods, it is important to take a wider landscape approach. Other elements of the medieval landscape are important such as the evidence for transport (roads and bridges), industry (pottery production, mills etc) and the agrarian landscape.

### The Known Resource within the EWR Scheme Area

- 10.1.49 There may be a demesne windmill built at Launton in 1279; LiDAR imagery indicates the likely windmill mound in association with ridge and furrow (MOX5020). Evaluation trial trenching carried out adjacent to the Scheme (EOX6199) as part of the East West Rail Stage 2A Planning Application sites, uncovered ridge and furrow.

### Potential

- 10.1.50 Given the landscape scale, it is likely that evidence for medieval agricultural activity or land divisions will be encountered during the EWR2 Scheme. As noted, ridge and furrow provides insight into the wider organisation and development of the landscape through analysis of their morphology and sampling for environmental indicators of crop types. Less easily predicted, are the remains of medieval settlements that may be encountered and evidence for industry.

## Post Medieval and Modern (AD1540 to AD1950)

### Overview

- 10.1.51 The post-medieval period saw further rapid changes to the regional and national socio-economic climate, leading to extensive physical changes within the landscape. This period saw the population of Oxfordshire grow, in part due to its location within the hinterland of Greater London. At the start of this period, the region was predominately characterised by open field cultivation practices and rural dispersed settlements retaining much of the earlier medieval patterns of occupation. However, by the late 19<sup>th</sup> century the region had been dramatically transformed; widespread enclosure, intensive industrialised farming practices and extractive industries began to characterise the surrounding landscape. Prior to the Inclosure Acts and Commons Acts of 1773 to 1882, the process of enclosure appears to have been predominantly piecemeal, the earliest example of which can be seen at Launton in Oxfordshire. This enclosure led to the widespread loss of medieval open-field systems and associated common land, and the creation of regular, rectilinear field systems. By the early 19<sup>th</sup> century, the process was largely complete; the scale of agrarian output is evidenced by the extent of ridge and furrow within the wider areas, the significant number of farmsteads and market towns/villages, and the emergence of large country estates with associated parks and gardens.
- 10.1.52 The establishment and growth of large-scale extractive industries also had an extensive impact upon the surrounding landscape. The clay bedrock geology of the region allowed for Oxfordshire to become centres for brick and tile production, with virtually every parish situated upon the clay foundations likely having a brickyard and kiln, allowing for a tradition of small-scale localised extraction.
- 10.1.53 From the early-19<sup>th</sup> century onwards, the industrial revolution saw the continuing expansion of Britain's transportation links, and the creation of an extensive rail network across the country and in Oxfordshire, allowing for the long-haul movement of raw materials and manufactured goods. Subsequently the rail network led to the rapid industrialisation of clay extraction, with large scale

production sites opening at, for example, Bicester<sup>114</sup>. The impact for these extractive practices can still be seen on the surrounding landscape today, surviving as widespread complexes of ponds and lakes, primarily adjacent to the railways themselves.

- 10.1.54 Constructed in the mid to late 19th century, railways across the county to both passenger and freight transport. The railways and their associated infrastructure would have also formed an extensive physical barrier across the region, dividing the historic landscape at the north and south of the Study Area, truncating many of the former field systems, and crossable only where the rail line accommodated the existing road network.
- 10.1.55 Toll roads formed a significant element of the transport and communications network from the 17<sup>th</sup> century onwards. Owned by private enterprises, who extracted tolls from travellers for road maintenance, toll roads were particularly prominent during the 18<sup>th</sup> and early 19<sup>th</sup> centuries. The rise of railway transport led to the loss of toll income and regional value, with the gradual reversion to local authority ownership.
- 10.1.56 A prominent feature of the modern landscape within the Scheme Area is the number of military airfields which were constructed before and during World War II. The Bicester airbase established toward the end of the First World War became RAF Bicester and from 1925 was transformed into a state-of-the-art Bomber Station.

### The Known Resource within the EWR Scheme Area

- 10.1.57 All of the known post-medieval assets in the Scheme Area relate to the history and/or continued use of the railway (or elements of it). These include: existing bridges at Bicester Road (OXD/34), Station Road (OXD/32) and Marsh Gibbon Poundon (OXD/31) and Launton Station (MOX5012).

### Potential

- 10.1.58 The landscape within which the Scheme Area is located contains a large amount of evidence dating to the post-medieval period, associated with a range of agricultural and industrial activities as well as rapid settlement growth and transport links. Thus, there is potential to encounter evidence for post-medieval agricultural activity or land division, and late post-medieval infrastructure associated with the construction of the railway.

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<sup>114</sup> Hind, J. (2014) 'The Post-Medieval and Modern Period (AD 1540 onwards): Resource Assessment', in Hey, G & Hind, J (eds) *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, 261-286.

## 10.2 Buckinghamshire

- 10.2.1 Development Stages 2A3, 2A4, 2B1 to 2B6, 2C1, 2C2 and 2E are located in Buckinghamshire with the local administrative areas of Aylesbury Vale and Milton Keynes.

### Palaeolithic (500,000BC to 10,000BC)

#### Overview

- 10.2.2 A recent summary of the Lower and Middle Palaeolithic of Buckinghamshire outlined the broad cultural trends<sup>115</sup>. Although the study stressed the limited evidence for hominin presence, particularly in the clay lands of northern Buckinghamshire, there is some evidence across the county. Key sites for discussions include Burnham, Marlow, Marworsyth, Bletchley and Stoke Goldington. The latter two are of particular importance, being closer to the general Scheme Area. A moderately high number of Palaeolithic find spots occur in the vicinity of Bletchley and Stoke Goldington is a key site that has rich palaeoenvironmental remains<sup>116</sup>. Within the general landscape, during the mid-19<sup>th</sup> century Lower Palaeolithic faunal remains (primarily aurochs) were uncovered during the construction of the Haydon Hill rail line at Aylesbury although little is known or understood of the context of this deposit<sup>117</sup>. Lower Palaeolithic remains have also been recorded from gravels associated with the Padbury Brook, a tributary of the River Great Ouse, at Steeple Claydon and Twyford; and palaeofaunal remains have been recovered from quarrying in the Hartwell area to the south of Aylesbury. These include the remains of mammoth, rhinoceros and horse. A species of elephant was recovered during gravel quarrying at Lake Farm and Three Bridge Mills, c. 1.5 m below the modern ground surface<sup>118 119</sup>.

#### The Known Resource within the EWR Scheme Area

- 10.2.3 There are no known Palaeolithic assets in the Scheme Area.

#### Potential

- 10.2.4 As noted, for various reasons, discovering Palaeolithic archaeology within the Scheme Area may prove difficult. That said, the limited site examples from Oxfordshire, and others from the wider Buckinghamshire area (above) and Bedfordshire suggest that there may be potential to encounter Palaeolithic remains during the EWR programme. For example, recent work on the HS2 project has suggested potential for recovering Lower Palaeolithic remains within gravels adjacent to Calvert and to the south of Steeple Claydon. Possible Glaciolacustrine and Glaciofluvial superficial deposits recorded at Milton Keynes and Aylesbury may also relate to ice fronts during the middle Pleistocene glaciation, and indicate the potential for discovering Lower Palaeolithic deposits<sup>120</sup>, although the relationship of the Thames terraces with the wider and relatively well-understood Thames terrace sequence is not particularly clear in terms of dates.

<sup>115</sup> Silva, B (2014) 'The Lower/Middle Palaeolithic Resource Assessment and Research Agenda', in Hey, G & Hind, J (eds) *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, 21-51.

<sup>116</sup> Silva, B (2014), op.cit., 35-36.

<sup>117</sup> Farley, M (2012) 'Discoveries of Ice Age Mammals and Other Pleistocene Deposits in Central and North Buckinghamshire', *Records of Buckinghamshire*, 52, 10-11.

<sup>118</sup> Farley, M (2012), op.cit.

<sup>119</sup> HS2 Ltd (2013) *London-West Midlands Environmental Statement. Volume 5. Technical Appendices. CFA 13. Calvert, Steeple Claydon, Twyford and Chetwode. Baseline Report (CH-001-103) Cultural Heritage*.

<sup>120</sup> O'Gorman, L (2014) *Terrestrial Mineral Resource Assessment: Historic Environment Assessment of the Mineral Producing Areas of Buckinghamshire and Milton Keynes*.



## Mesolithic (10,000Bc to 4000BC)

### Overview

- 10.2.5 The key Upper Palaeolithic and Mesolithic sites of Buckinghamshire have recently been reviewed by Hey<sup>121</sup>, who highlights that relatively little is known about the Mesolithic of large parts of Buckinghamshire. Within the region in situ Mesolithic activity has primarily been identified in the south particularly near the Thames and Colne valleys, some 10 km to the south of the Scheme Area. Hey stresses that traditionally most work in Buckinghamshire has been conducted in the south of the county, on the outskirts of London, especially related to gravel extraction in the lower Colne Valley. Within Buckinghamshire important sites include Eton Rowing Course, Iver, Kimble Farm, Sanderson and Stratford's Yard, Chesham and scientific dating from some of these sites has produced evidence for Early and Late Mesolithic activity. However, all of these sites lie many miles to the south of the Scheme Area.
- 10.2.6 That being said, evidence is known from northern Buckinghamshire with lithics discovered near to the Rivers Ouzel and Great Ouse at Milton Keynes<sup>122</sup>; Williams<sup>123</sup> notes the discovery of significant quantities of Mesolithic flints in both the Ouse valley and its tributaries, the River Ouzel and Loughton Brook. Mesolithic finds have been recovered from plough soil near Caldecotte Lake which may be indicative of an encampment site<sup>124</sup>. Other early activity near to Milton Keynes is perhaps indicated by the long blade lithics found in plough soil at Little Woolstone by the Ouzel. According to Hey<sup>125</sup>, however, no specific Mesolithic sites appear to have been excavated or published from the Milton Keynes area, noting that the geomorphological history of these valleys has led to only limited alluviation, and thus perhaps the evidence is not well-preserved.

### The Known Resource within the EWR Scheme Area

- 10.2.7 There are no known Mesolithic assets in the Scheme Area.

### Potential

- 10.2.8 As outlined the different geomorphological histories of the area may have led to varying levels of preservation. The inherently low visibility of Mesolithic sites makes it difficult to predict the locations in which they will be encountered.

## Neolithic (4,000Bc to 2,500BC)

### Overview

- 10.2.9 Neolithic Buckinghamshire was recently reviewed by Bradley who outlined the key sites and discussed their locations showing, again, particular concentrations around rivers just like previous periods<sup>126</sup>. In broad terms, Bradley's review illustrates that the Early Neolithic is defined by the appearance of the domestication of animal and plant species with a shift from an itinerant hunter gather Mesolithic population to one focussed upon sedentary agrarianism. The Middle and Later Neolithic is characterised by the emergence of monuments and ceremonial landscapes associated with more permanent settlement.
- 10.2.10 Across the county, settlement evidence, particularly for the Earlier and Middle Neolithic, is sparse and identifying Neolithic occupation sites continues to be highly problematic. As noted in section 3.2.3,

<sup>121</sup> Hey, G (2014), 'Late Upper Palaeolithic and Mesolithic: Resource Assessment', in Hey, G & Hind, J (eds) *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, 61-82.

<sup>122</sup> Ibid

<sup>123</sup> Williams, A (1993), in Croft and Mynard (eds) *The Changing Landscape of Milton Keynes*, Buckinghamshire Archaeological Society Monograph Series, 5.

<sup>124</sup> Farley, M (2014) *Upper Palaeolithic and Mesolithic Buckinghamshire 38,000-4000BC*. County Assessment for Solent-Thames Research Framework.

<sup>125</sup> Hey, G (2014), op. cit., 71.

<sup>126</sup> Bradley, R. (2014), 'The Neolithic and Early Bronze Age: Research Assessment' in Hey, G & Hind, J (eds) *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, 87-147.

when discussing Earlier Neolithic settlement, it is necessary to broaden expectations away from evidence solely for buildings and consider occupation sites being characterised as much by pits and occupation debris accumulated on land surfaces, and often now only surviving as scatters within the ploughsoils. Further, one has to appreciate that the lack of occupation evidence may be because Earlier Neolithic groups had a mobile pattern of settlement in which few places were occupied continuously for long. Recognition of occupation sites may also be hindered by the fact that perhaps domestic buildings did not make use of uprights embedded in the subsoil<sup>127</sup>. Evidence for Later Neolithic occupation sites and structures is equally sparse; the main information is still provided by the contents of pits. Bradley<sup>128</sup> suggests that within the wider Solent-Thames region, including Buckinghamshire, Later Neolithic buildings may have been insubstantial and ephemeral. Finally, although some Neolithic occupation sites were positioned on higher ground adjacent to watercourses, it has been suggested that the heavy clay geology of Buckinghamshire would have made prehistoric horticulture difficult in comparison to the sandstone and limestone formations of Oxfordshire and north Bedfordshire, impacting the level of occupation<sup>129</sup>.

10.2.11 Despite all of these issues, Neolithic archaeological remains have been identified in the county, suggesting that the 'unsuitability' of parts of the geology did not totally preclude occupation. Notable sites include the Earlier Neolithic site at Eton Rowing Course which lies to the south of the Scheme Area, although this is not an exception to the rule as it is located on the Thames gravels. Evidence for Neolithic occupation closer to the Scheme Area is recorded at Coldharbour Farm, Aylesbury. Excavated in the mid-1990s a series of pits, post holes and gullies, in association with late 3rd to late 2nd millennium pottery, were discovered underlying a later Iron Age village. These finds indicate a notable Neolithic presence in the area, probably occupation.

10.2.12 Funerary and ceremonial monuments are more common, particularly in the later Neolithic. Recently; the sheer range of burial types emerging, particularly from large-scale developer funded projects, has been unexpected and has confounded previously long-held preconceptions both of the Neolithic and the Bronze Ages. Indeed, during the 4<sup>th</sup> millennium BC burial monuments across the Solent-Thames region can include a vast range of types including portal dolmens, mortuary enclosures, oval barrows, long barrows, U-shaped enclosures and so on. Recent work has also highlighted the extent and importance of unmarked burials, sites near impossible to recognise without intrusive works. Turning to the landscape around the Scheme Area, the mortuary enclosure, associated cursus and hengiform monuments at Old Wolverton, Milton Keynes is a good example of non-settlement evidence<sup>130</sup>. Further evidence of Neolithic activity near to the Scheme Area is indicated by stray finds, such as the Neolithic flint flake from an allotment at Steeple Claydon and a 'Neolithic findspot' from Fenny Stratford, Milton Keynes.

## The Known Resource within the EWR Scheme Area

10.2.13 There are no known Neolithic assets in the Scheme Area.

### Potential

10.2.14 Like earlier periods, the disparate nature of the archaeological evidence for Neolithic activity makes it very difficult to predict possible sites or locations of potential. Predicting, for example, occupation sites, is extremely difficult; a genuine lack of monuments may indicate an absence of occupation, intermittent settlement, or people moving around the landscape at different time. It is also important to note that where Neolithic sites do exist (eg. funerary monuments) this may not indicate the presence of occupation (and vice versa). Indeed, it may be likely that our best evidence for human, settlement and landscape activity in general derives from chance artefact finds (metal, pottery or lithics) or occasional negative pit features and/or alignments uncovered during the work, which are then well-

<sup>127</sup> Bradley, R. (2014), op. cit., 93-94.

<sup>128</sup> Bradley, R. (2014), op. cit, 101

<sup>129</sup> Lambrick, G. (2014) 'The Later Bronze Age and Iron Age: Resource assessment' in Hey, G & Hind, J (eds) *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, 115-147.

<sup>130</sup> Hogan, S (2013) 'Manor Farm cursus complex: floodplain investigations on the River Great Ouse, Milton Keynes', *Past: The Newsletter of the Prehistoric Society*, 73, 1-16.

dated, particularly in relation to the Earlier and Middle Neolithic. Once again, palaeoenvironmental samples collected during the EWR work may play an important role in the reconstruction of past environments and/or human endeavours, particularly changes to the landscape and agricultural regimes. The presence of isolated finds, the mortuary enclosure at Old Wolverton and the potential settlement site at Coldharbour Farm, Aylesbury does suggest a potential for discovering Neolithic remains during the EWR work. This potential is considered to be highest at the southern extent of Route Section 2E within the Aylesbury Vale.

## Bronze Age (2,500Bc to 800BC)

### Overview

- 10.2.15 Save for the introduction of Beaker pottery and the wider use of copper and bronze, in general terms the Early Bronze Age (c2500BC to 1500BC) appears to have maintained many Neolithic characteristics. The Middle Bronze Age witnessed the first substantive settlements appearing, shown through the construction of roundhouses, enclosures and land divisions.
- 10.2.16 Two recent studies of Bronze Age (Early and Late) material in Buckinghamshire give a broad overview of the nature and scale of the resource<sup>131 132</sup>.
- 10.2.17 In discussing the evidence for Early Bronze Age occupation across the wider Solent-Thames area Bradley highlights that there is little structural evidence from this period, perhaps because again the remains of domestic buildings were slight, the inhabitants practised residential mobility, or the settlements have been buried beneath substantial deposits of hillwash. Evidence for wider landscape use during the Early Bronze Age is shown by the various burnt mounds at, for example, Little Marlow<sup>133</sup> and Eton Rowing Course, indicating that there was activity in these areas. The rarity of Early Bronze Age occupation sites is offset by the survival of burials surviving either as standing mounds or as ring ditches in cultivated land. A good example is the recently excavated barrow at Gayhurst Quarry, which lies to the north of the Scheme Area, near the River Great Ouse<sup>134</sup>.
- 10.2.18 The Middle / Later Bronze Age witnessed the beginning of the transition from 'monument-dominated landscapes' and 'mobile settlement patterns' to that of more permanent settlement and a greater emphasis on agricultural production<sup>135</sup>. The emergence of permanent sedentary farming settlement has been assumed to occur across entire swathes of southern England (including Buckinghamshire) by the Middle Bronze Age although this dynamic is only beginning to be fully explored. To understand these complex dynamics more fully there is a greater need to understand not only the settlements but also the associated farming economies, land units and the transitions from an open to enclosed landscapes whilst, of course, always open to expecting regional variations and specialisations.
- 10.2.19 The different types of Late Bronze Age settlement evidence has been conveniently reviewed by Lambrick<sup>136</sup>. In general, post-built houses appear to have become more common in the Late Bronze Age and into the Early Iron Age. During this period prominent hilltop locations become important with the enclosures at Taplow Court<sup>137</sup> and Ivinghoe useful examples. Although perhaps intermittent places for settlement it is clear that such enclosures were also sacred places where communal ritual activity took place. At Ivinghoe a Late Bronze Age metalwork hoard was discovered, probably a ritual deposit<sup>138</sup>. The construction of ceremonial monuments appears to have declined from the Middle Bronze Age onwards perhaps as enclosures became the new, major communal focal points.

<sup>131</sup> Bradley, R (2014) op. cit.

<sup>132</sup> Lambrick, G (2014), op. cit.

<sup>133</sup> Richmond, A, Rackham, J & Scaife, R (2006), 'Excavations of a Prehistoric Stream-side site at Little Marlow: Buckinghamshire', *Rec Buckinghamshire*, 46, 65-102.

<sup>134</sup> Chapman, A (2007), 'A Bronze Age Barrow Cemetery and later Boundaries, Pit Alignments and Enclosures at Gayhurst Quarry, Newport Pagnell, Buckinghamshire', *Rec Buckinghamshire*, 47(2), 81-211.

<sup>135</sup> English Heritage (1991) *Exploring Our Past: Strategies for the Archaeology of England*. English Heritage.

<sup>136</sup> Lambrick, G. (2014), op. cit., 135-136.

<sup>137</sup> Allen, T G, Hayden, C & Lamdin-Whymark, H (2009), *Excavations at Taplow Court, Buckinghamshire: a late Bronze Age and Iron Age Hillfort*. Oxford Archaeology Thames Valley Landscapes Monograph 30. Oxford.

<sup>138</sup> Lambrick, G. (2014), op. cit., 133.

- 10.2.20 Concerning evidence closer to the Scheme Area there is an observable bias in evidence towards Milton Keynes and Aylesbury, due to the extent of modern development and associated excavation in these areas. Milton Keynes is argued to be one of the most intensively studied local areas for later prehistoric archaeology in Britain<sup>139</sup>. And once again remains are primarily focussed within the Thames and Ouzel river valleys. Notable settlements have been recorded at Berryfield and Stone, in Aylesbury, and at Wolverton and Bancroft in Milton Keynes<sup>140</sup>. The latter site, some 7 km north of the Scheme Area, is a useful example for understanding the settlement architecture of the period, the roundhouse over 18 m in diameter, with three post-rings surrounded by a drainage gully. The house also contained structured deposits of Late Bronze Age ceramics, a saddle quern and pig bones<sup>141</sup>. Wider Bronze Age presence near the Scheme Area is further evidenced by lithic scatters, bronze artefacts and other possible occupation features within Aylesbury town centre at Walton Street and Court, at Billingsfield, Quarrendon, and in and around Central Avenue, Bletchley/ Milton Keynes.

## The Known Resource within the EWR Area

- 10.2.21 There are no known Bronze Age assets in the Scheme Area.

### Potential

- 10.2.22 It was highlighted above that recent development work has led to new discoveries, particularly in and around Milton Keynes and Aylesbury. Thus, there is good potential for encountering evidence for Bronze Age occupation. These remains are likely to comprise isolated findspots in the first instance; however, evidence for settlement has been encountered within the wider landscape and may also be encountered during the course of construction.
- 10.2.23 It is important to note the range of possible evidence of Bronze Age material that may be uncovered within the Scheme Area. For example, some burials and houses, which are not as readily identifiable as large-scale monuments, may be hidden beneath the ground. Similarly, stray finds may help our story. Certain types of metalwork and/or stray finds may be indicative of past settlement areas; although, it is pertinent to note that many finds were deposited in watery or ritual locations well away from settlement areas. Land divisions and enclosures recorded in nearby regions, particularly Aylesbury and Stoke Mandeville, may also be uncovered during future work, and where they have been recorded some cropmark sites may shed light on this period. Thus, just like previous periods, the lack of visible archaeology may not be reflective of past prehistoric activity. Indeed, it has been argued that more extensive recent development work in nearby areas may have created an uplift (or bias) in the Bronze Age archaeological record.

## Iron Age (800BC to AD43)

### Overview

- 10.2.24 Lambrick has conveniently summarised the major Iron Age themes and sites from across the Solent-Thames area, including Buckinghamshire<sup>142</sup>. Once again, the evidence is varied and includes: houses, hillforts, land divisions, burials, and evidence for trade, exchange and ritual.
- 10.2.25 Building on the Later Bronze Age, the use of hilltops continued to be important. There are seventeen hillforts (and another possible five) across Buckinghamshire of which many, including Aylesbury, Cholesbury, Taplow and Danesfield, were occupied during the Iron Age. Others may also fall into this range; some, for example Taplow, also had external settlement.
- 10.2.26 Away from the hilltops, Iron Age settlement within the region is predominantly characterised by the emergence of dispersed rural settlement, often enclosed. Roundhouses continued to be the mainstay

<sup>139</sup> Lambrick, G. (2014), op. cit., 119.

<sup>140</sup> Kidd, S (2007) *Later Bronze Age and Iron Age: Historic Environment Resource Assessment*. County Assessment for Solent-Thames Research Framework

<sup>141</sup> Williams R J and Zeevat, R J (1994) *Bancroft: A Late Bronze Age/Early Iron Age Settlement, Roman Villa and Temple Mausoleum*. Vol 1: *Excavations and Building Materials*, Vol 2: *Finds and Environmental Evidence*. Buckinghamshire Archaeol Soc Monograph 7. Aylesbury.

<sup>142</sup> Lambrick, G (2014); op. cit., 135-136.

of occupation, post-built houses continued to be built and as the Iron Age progressed different construction techniques appear to be used including post-built, stake-and plank-walled and possibly turf. Occupation has been identified at a number of locations within Buckinghamshire with particular foci at, for example: White House, Little Horwood; Coldharbour Farm, Aylesbury; Billingsfield, Quarrendon; Berryfields Farm, Quarrendon; and various features at Fleet Marston. At White House there may be a Late Iron Age settlement (currently defined by rectangular ditched enclosures, pits and field boundaries, found by geophysical survey and confirmed by evaluation trial). There is also good evidence for Iron Age occupation and settlement within Milton Keynes. An Early Iron Age enclosure has been identified at Crossroads Farm, Bow Brickhill and a Late Bronze Age/Iron Age settlement and pit alignment at Fenny Lock. Possible other occupation sites have been identified at: The Hollows, Little Horwood; Aylesbury Vale Parkway; Walton Street, Aylesbury and St Mary's School, Friarage Road, Aylesbury. Concentrations of Late Iron Age finds (including coins, metal objects and pottery) have also been recovered from Aylesbury, Quarrendon, Fleet Marston, Quainton and Bletchley.

- 10.2.27 Land divisions were also important during this period. Geophysical Surveys (ECB17198) undertaken to the immediate north of the railway in the location of Newton Approach Overbridge, to the north of Newton Longville, identified a group of anomalies identified as possible late prehistoric rectangular banked and ditched enclosures<sup>143</sup>.
- 10.2.28 During the Iron Age the means of disposing of the dead vary with cremation becoming uncommon by the Early Iron Age and recurring in the Late Iron Age. Iron Age cemeteries are much rarer than in the Bronze Age. Formal burials are uncommon and grave goods rarely found. In Buckinghamshire a rich cremation burial was found at Dorton the finds including a decorated Bronze mirror<sup>144</sup>. Burying the dead in houses or in boundary locations in non-formal burial traditions also took place, with the collection of human and animal skeletons from the Aylesbury hillfort without parallel in the region<sup>145</sup>. Disposing of the dead in watery places also became prevalent.

## The Known Resource within the EWR Scheme Area

- 10.2.29 The following have been included due to their potential for Iron Age/ Romano-British transition archaeological remains.
- 10.2.30 Within Section 2B Late Iron Age rectangular ditched enclosures, pits and field boundaries (MBC25756) have been identified through geophysical survey and confirmed by evaluation trial trenching, indicating that further associated remains may survive within the Scheme Area
- 10.2.31 Section 2B of the Scheme Area includes three Archaeological Notification Areas( ANAs): a possible small Romano-British settlement or farmstead indicated by geophysical surveys and surface finds (MBC22400); sherds of Romano-British and undated pottery found on surface of field and possible ditched field or settlement boundaries found by geophysical survey (MBC21613; ANA 0626900000); and the Roman Road (Margery 162) between Akeman Street and the roadside settlement of Fleet Marston and the cult centre at Thornborough, with possible extension to the Alchester-Towcester Road (MBC6013). This section also includes Viatores route 169a (MBC8063).
- 10.2.32 Section 2E of the Scheme Area includes four ANAs: the Romano-British Settlement of Lower Blackgrove Farm (MBC21690); Roman Small Town (Fleet Marston) pottery scatter south of Manor Farm (SMR No 0065600000; 0085300000; 0102500000; 0614000000; 0622300000) and the Roman Road Margary 162 (including MBC6013; MBC21691 & SMR No. 0203400000). The ANA at Quainton Parish has also yielded Roman artefacts. Section 2E also includes the Roman Road, Viatores 173A-D (MBC6018) and possible Romano-British ditched enclosures and pits suggested by geophysical surveys and evaluation trial trenching north of Fleet Marston Farm (MBC26477).

## Potential

- 10.2.33 Iron Age activity is observable across Buckinghamshire and close to the Scheme Area. Thus, there is potential for encountering a range of evidence including, occupation sites, enclosures and associated

<sup>143</sup> Stratascan (2008) *Geophysical Survey Report: Salden Chase, Milton Keynes*. Unpublished Client Report.

<sup>144</sup> Farley, M (1983), 'A Mirror Burial at Dorton, Buckinghamshire', *Proc Prehist Soc*, 49 (1983), 269-302.

<sup>145</sup> Farley, M and Jones, G (2012) *Iron Age Ritual, A Hillfort and Evidence for a Minister at Aylesbury, Buckinghamshire*. Oxbow. Oxford.

agrarian practices. This potential is considered to be highest at the eastern extent of Route Section 2B, within the vicinity of Newton Longville and Bletchley and at the northern extent of Section 2C, within the vicinity of Holne Chase, Bletchley. Within section 2E Fleet Marston offers good potential. Geophysical surveys in the area have demonstrated rectilinear enclosures flanking the line of the Akeman Street Roman Road. Although these enclosures are likely to relate to the Romano-British settlement, they may relate to earlier, Iron Age activity. Within this area fieldwalking has produced a small assemblage of Early to Middle Iron Age pottery, while two curvilinear enclosures to the south of the A41 at Fleet Marston Cottages may relate to later prehistoric, possibly Iron Age, activity.

## Romano-British (AD43 to AD450)

### Overview

- 10.2.34 By the first century AD, southern Britain had a substantial Romano-British occupation, with general settlement continuity demonstrated from the Late Iron Age onwards. The evidence for Romano-British activity across the area is diverse, including settlements (large towns, villas, farmsteads), associated land management regimes (eg woodland management, field systems and paddocks), cemeteries, temples and industry (pottery, metalworking, brick and tile) as well as food production.
- 10.2.35 The evidence for Romano-British occupation around Buckinghamshire has been conveniently summarised<sup>146</sup>, the report highlighting the key sites that are relevant to broad understandings of the region, and good examples of some of the key site types.
- 10.2.36 In terms of settlements, there are no large towns (civitas) in Buckinghamshire but there is the smaller walled town of Magiovinium on Watling Street at Fenny Stratford, situated to the south-east of Milton Keynes. This is the largest Romano-British centre within the surrounding region. Situated on the floodplain of the River Ouzel it is bisected north-west to south-east by the Watling Street Roman Road<sup>147</sup>. Excavations to the immediate north of the monument at Belvedere Nurseries, Fenny Stratford revealed evidence for a substantial field system<sup>148</sup>, as well as evidence of an early Romano-British settlement and cemetery, indicating a potential settlement shift during the 2<sup>nd</sup> and 3<sup>rd</sup> centuries AD. Masonry painted wall plaster, tiles, pottery, metalwork and coins have also been found within the adjoining fields<sup>149</sup>.
- 10.2.37 Away from the larger nucleated towns and adjoining roads, many individuals and groups lived in single settlements or settlement complexes like villas. Recent work has uncovered villa complexes in and around Milton Keynes including those at Bancroft<sup>150</sup>, Stantonbury and Wymbush<sup>151</sup>. Excavations at Bancroft have been particularly important due to the preservation of soft fruit and vegetable remains due to waterlogging, allowing important insight into the lifestyles of the inhabitants. Indeed, Bancroft villa remains exceptional for the contribution that it has made to our understanding of Romano-British villas in the area<sup>152</sup> and the work in Milton Keynes has given clearer insight into the diversity of rural settlement during this period (see also Mynard<sup>153</sup>).
- 10.2.38 Another key site is Fleet Marston, the site of a probable small Romano-British town. Lying to the immediate north of Aylesbury, it is positioned strategically adjacent to the line at the confluence of the

<sup>146</sup> Fulford, M (2014), 'The Roman Period: Resource Assessment' in Hey, G & Hind, J (eds) *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, 155-178.

<sup>147</sup> Woodfield, C (1977) 'A Roman Military Site at Magiovinium?' *Rec Buckinghamshire* 20.3, 384-99; Neal, D S (1987), 'Excavations at Magiovinium, Buckinghamshire, 1978-80', *Rec Buckinghamshire*, 29, 1-124; Hunn, A, Lawson, J and Parkhouse, J (1997), 'Investigations at Magiovinium, 1990-91: the Little Brickhill and Fenny Stratford by-passes', *Rec Buckinghamshire*, 37, 3-66.

<sup>148</sup> Oxford Archaeology (2006) *Land at Belvedere Nurseries, Fenny Stratford, near Milton Keynes, Buckinghamshire: Archaeological Watching Brief Report*. Unpublished Client Report

<sup>149</sup> Ford, S. and Taylor, K. (2001) 'Iron Age and Roman settlements with Prehistoric and Saxon features at Fenny Lock, Milton Keynes, Buckinghamshire' *Records of Buckinghamshire*, 41, 79-12

<sup>150</sup> Williams R J and Zeepvat, R J (1994) *Bancroft: A Late Bronze Age/Early Iron Age Settlement, Roman Villa and Temple Mausoleum. Vol 1: Excavations and Building Materials, Vol 2: Finds and Environmental Evidence*. Buckinghamshire Archaeol Soc Monograph 7. Aylesbury.

<sup>151</sup> Zeepvat, R J (1988) 'Another Roman Building at Wymbush?', *Rec Buckinghamshire* 30, 111-116.

<sup>152</sup> Fulford, M (2014) op. cit., 180.

<sup>153</sup> Mynard, D C (1987) *Roman Milton Keynes*. Buckingham Archaeol Soc Monograph Ser 1. Aylesbury.

River Tame and associated tributary and located at the junction of several major Roman roads, including Akeman Street, one of the earliest Roman roads in Britain; as well as Roman the road leading northwards from Fleet Marston to the cult centre at Thornborough just to the east of Buckingham is worthy of note.

- 10.2.39 Fieldwalking and metal detecting surveys have yielded extensive quantities of Romano-British pottery, tile, coins and other metal objects, as well as numerous masonry fragments across a 100 ha area (between Fleet Marston Farm Billingsfield, Putlowes Farm, Berryfields and at Quarrendon<sup>154</sup>), suggesting the presence of a substantial high-status site. An evaluation (EBC17503) undertaken on land either side of the railway line at Fleet Marston uncovered late prehistoric and Romano-British features. Further, a trial trench evaluation at Berryfields development (EBC16155) north-west of Aylesbury uncovered evidence of Romano-British settlement, along with a section of Akeman Street Roman road and Romano-British field systems. The excavation revealed prehistoric settlement, defined by enclosures, pits, hearths, a trackway and at least three roundhouses. The Romano-British areas of settlement revealed a number of inhumations<sup>155</sup>. Further Romano-British evidence includes the presence of a number of square enclosures flanking Akeman Street established through varying programmes of geophysical survey. Other work also highlights the potential for uncovering Romano-British activity in the area<sup>156</sup>. It is highly probable, therefore, that Fleet Marston and its surrounding hinterland (eg Quarrendon and Berryfields) contains extensive buried remains with the potential to provide important evidence relating to the Romano-British period, particularly at Berryfields that included well-preserved and deeply stratified waterlogged remains including potential timber bridge abutments.
- 10.2.40 Other Romano-British occupation activity near the Scheme Area includes Calvert (post holes, pits and ditches)<sup>157</sup> and Sherwood Drive (EMK 122), the latter perhaps dating to between the 1<sup>st</sup> - 4<sup>th</sup> centuries AD.
- 10.2.41 Away from settlements there is evidence for ceremony, religion and ritual in the region. The discovery of a lead sarcophagus, Romano-British cremations, and a possible temple complex at Upper Cranwell Farm, close to Fleet Marston is a useful example, as is the probable temple at Thorborough. The finds from Fleet Marston reiterate the importance of the area and the potential to illuminate understandings of a range of Romano-British activities and beliefs.
- 10.2.42 The Romano-British period is also, of course, known for the construction of infrastructure, particularly roads some of which cross both the Scheme Area and the surrounding area. These include Akeman Street (MBC3193), Viatores 169a, Viatores Route 173a-d (MBC6018), and Margary Viatores Road 162 (MBC6013).
- 10.2.43 Stray finds, such as the pottery uncovered 400 m to the north-east of Queen Catherine Road (MBC20293) and the metalwork found 200 m to the west of Station Road Industrial Estate, also show activity around the wider Scheme Area.

## The Known Resource within the EWR Scheme Area

- 10.2.44 Section 2B of the Scheme includes three ANAs: a possible small Romano-British settlement or farmstead indicated by geophysical surveys and surface finds (MBC22400; ANA 0670000000); sherds of Romano-British and undated pottery found on surface of field and possible ditched field or settlement boundaries found by geophysical survey (MBC21613); and the Romano-British Road (Margery 162) between Akeman Street at Fleet Marston and Thornborough, with possible extension to the Alchester-Towcester Road (MBC6013). This section also includes Viatores route 169a (MBC8063).

<sup>154</sup> HS2 Ltd, (2017) *Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy*. Document no.: HS2-HS2-EV-STR-000-000015

<sup>155</sup> Oxford Archaeology (2006) *Land at Belvedere Nurseries, Fenny Stratford, near Milton Keynes, Buckinghamshire: archaeological watching brief report*. Unpublished Client Report

<sup>156</sup> AC Archaeology (1997) *Billingsfield proposed housing development in 2 phases*. Unpublished Client Report: AC Archaeology (1997) *An Archaeological Evaluation of a Proposed Housing Development Site at Billingsfield, Aylesbury, Buckinghamshire*. Unpublished Client Report

<sup>157</sup> HS2 Ltd (2013), op. cit.

- 10.2.45 Section 2E of the Scheme includes four ANAs: The Roman-British Settlement of Lower Blackgrove Farm (MBC21690); Roman Small Town (Fleet Marston), pottery scatter south of Manor Farm (SMR No 0065600000; 0085300000; 0102500000; 0614000000; 0622300000) and the Roman Road Margary 162 (including MBC6013). The ANA at Quainton Parish has also yielded Romano-British artefacts. Section 2E also includes the Roman Road, Viatores 173A-D (MBC6018) and possible Romano-British ditched enclosures and pits suggested by geophysical surveys and evaluation trial trenching north of Fleet Marston Farm (MBC26477).
- 10.2.46 Within or adjacent to the Fleet Marston ANA findspots within the Scheme Area include Romano-British metalwork, potter, tile and stone found during a metal-detecting survey at Putlowes (MBC21440 & MBC21441); a Romano-British artefact scatter and Romano-British metalwork and pottery at Billingsfield (MBC21445, MBC2166 & MBC2163); Roman coins at Quarrendon (MBC30999, MBC31056 & MBC31202).

## Potential

- 10.2.47 As has been illustrated above, there is a suite of actual or probable Romano-British evidence, including large towns, roads, rural settlement and funerary activity across the area. On the basis of the archaeological evidence both within and adjacent to the Scheme Area, there is a high potential for encountering Romano-British remains. These remains could comprise evidence for enclosure and associated agrarian practices, as well as high status Romanized occupation, including burials. This potential is considered to be highest at the vicinity of Newton Longville and Bletchley, within the vicinity of Holne Chase, Bletchley, within the area around Fleet Marston and at Aylesbury Vale.

## Early Medieval (AD450 to AD1065)

### Overview

- 10.2.48 In comparison to the Romano-British period, archaeological evidence from the Early Medieval period is not as well represented both within Buckinghamshire and at a national scale. However, place name evidence, and the extent of the medieval landscape recorded in the Domesday Book of 1086, demonstrates that Buckinghamshire would have had a notable medieval population including the Scheme Area and its vicinity (e.g at Steeple Claydon; Middle Claydon; Boltoph Claydon & East Claydon; Waddesdon; Fleet Marston; Quarrendon and Aylesbury). Buckingham was noted both in the Burghal Hidage and the Anglo-Saxon Chronicle (AD914).
- 10.2.49 Until the 1970s there was little systematic research into Early Medieval Buckinghamshire, but this has changed in recent times due to the increased development projects in and around the county's historic towns and villages, particularly in Aylesbury and Milton Keynes. Again, a recent synopsis of the Early Medieval period in Buckinghamshire outlines some key sites<sup>158</sup> and illustrates the range of evidence for settlements, cemeteries, churches and minsters, transport and crafts, trades and industries.
- 10.2.50 Until the discovery of Walton, Aylesbury<sup>159</sup> in the mid-1970s no Early Saxon evidence was previously known. Thereafter the corpus grew to include evidence from Hartigan's, Pennyland<sup>160</sup>, Bancroft<sup>161</sup> (all around the Milton Keynes area) and others such as Pitstone<sup>162</sup>, Fenny Lock<sup>163</sup>, Aston Clinton, Taplow<sup>164</sup> and Brooklands.

<sup>158</sup> Dodd, A (2014), op.cit.

<sup>159</sup> Farley, M (1976) 'Saxon and Medieval Walton, Aylesbury, Buckinghamshire 1973-4', *Rec Buckinghamshire* 20, 153-292; Dalwood, H, Dillon, J, Evans, J & Hawkins, A (1989) 'Excavations in Walton, Aylesbury, 1985-1986', *Rec Buckinghamshire*, 31, 137-221.

<sup>160</sup> Williams, R J (1993) *Pennyland and Hartigans: two Iron Age and Saxon Sites in Milton Keynes*. Buckinghamshire Archaeol Soc Monograph 4.

<sup>161</sup> Williams R J and Zeepvat, R J (1994). *Bancroft: A Late Bronze Age/Early Iron Age Settlement, Roman Villa and Temple Mausoleum. Vol 1: Excavations and Building Materials, Vol 2: Finds and Environmental Evidence*. Buckinghamshire Archaeol Soc Monograph 7. Aylesbury.

<sup>162</sup> Phillips, M (2005) 'Excavation of an Early Saxon Settlement at Pistone', *Rec Buckinghamshire*, 45, 1-32.

<sup>163</sup> Ford, S and Taylor, K (2001) 'Iron Age and Roman Settlements with prehistoric and Saxon features, at Fenny Lock, Milton Keynes, Buckinghamshire'. *Rec Buckinghamshire*, 41, 79-123.

<sup>164</sup> Allen, T G, Hayden, C & Lamdin-Whymark, H (2009) *Excavations at Taplow Court, Buckinghamshire: a late Bronze Age and Iron Age hillfort*. Oxford Archaeology Thames Valley Landscapes Monograph 30. Oxford.



- 10.2.51 The Middle-Saxon period saw a change in site types with more elaborate buildings and enclosure types although it is clear that there was regional variation in the way in which rural development developed in this period. During this period Aylesbury is one of the most important sites in the county. First recorded as Æglesburgh and Aegelesbyrig, derived from 'burh of Ægel/ Aegel's fortification'<sup>165</sup> the settlement was initially contained within the preceding Iron Age hillfort (discussed above) that was refortified and utilised as a burh; it formed an important administrative centre and briefly a royal mint for the region, becoming a royal manor after the Norman Conquest. Mid-Saxon occupation has also been recovered at, Pennyland, Friarage Road/Rickford Hill and Temple Street/Bourbon Street, Water Eaton, Bletchley and Wolverton Turn within Milton Keynes.
- 10.2.52 Examples of Late Saxon rural settlements are rarer in Buckinghamshire, although a number have been found during developments. Areas of village shrinkage and 'deserted settlements' within or close to existing villages have been explored in Milton Keynes (eg Great Linford, Loughton, Tattenhoe, Shenley Brook End and Caldecotte<sup>166</sup>). It should be noted that no Buckinghamshire towns were larger than market towns and the only towns directly mentioned in the Late Saxon period are Newport Pagnell, Buckingham and Aylesbury, all of which were briefly mint towns.
- 10.2.53 Away from settlements there is good burial evidence from the county with useful examples from Taplow, Newport Pagnell, Wolverton, Dinton near Aylesbury, Westbury Shenley, Fleet Marston and Drayton Beauchamp<sup>167 168</sup> (see also Dickinson<sup>169</sup> and Booth et al<sup>170</sup> for a useful summary). Many burials are part of flat cemeteries that have no indication of surmounting barrows.
- 10.2.54 Churches were rarely noted in the Buckinghamshire Domesday and only four can be inferred: Buckingham, Aylesbury, Haddenham and the 'monastery' of North Crawley. Of this group only Aylesbury has related archaeological information derived from archaeological investigations<sup>171</sup>. Other sites in the county, such as Wing, contain fabric demonstrable of the period. Excavations nearby recovered an extensive Saxon and medieval cemetery enclosed within a substantial boundary, perhaps suggesting a church of some status.
- 10.2.55 The development of later Anglo-Saxon systems of government and justice, including shire and hundred courts, is visible in the form of the shire towns and meeting places such as at Secklow in Milton Keynes.
- 10.2.56 Material culture, found within burials, on sites, or as stray finds also contribute to our understanding of everyday life, crafts, trades and industries. Stray finds, such as the Saxon pottery (MBC21468) found 970 m to the north-west of the Scheme Area near Steeple Claydon, indicate activity in the wider area. There is also a notable concentration of finds recovered from fields adjacent to Fleet Martson, suggesting the site maintained its importance after the Romano-British period (see above).

## The Known Resource within the EWR Scheme Area

- 10.2.57 There are no known Early Medieval assets in the Scheme Area.

## Potential

<sup>165</sup> Ekwall op. cit.

<sup>166</sup> Farley, M. 2014 The Early Medieval Period: Resource Assessment. In G. Hey, and J. Hind, (eds) Solent-Thames Research Framework, p204.

<sup>167</sup> Hunn, A, Lawson, J & Farley, M 1994 The Anglo-Saxon Cemetery at Dinton, Buckinghamshire. *Anglo-Saxon Studies in Archaeology and History*, 7, 85-148.

<sup>168</sup> Farley, M. (2014) 'The Early Medieval Period: Resource Assessment', in Hey, G & Hind, J (eds) *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, 212.

<sup>169</sup> Dickinson, T M (1976) *The Anglo-Saxon burial sites of the Upper Thames Region and their bearing on the history of Wessex, circa AD400-700*. 3 volumes. Oxford D. Phil thesis (unpublished)

<sup>170</sup> Booth, P, Dodd, A, Robinson, M & Smith, A (2007) *The Thames Through Time; the Archaeology of the Gravel Terraces of the Upper and Middle Thames. The Early Historical Period: Britons, Romans and the Anglo-Saxons in the Thames Valley, AD1-1000*. Oxford Archaeology. Thames Valley Landscapes, Monograph 27.

<sup>171</sup> Durham, B (1978) 'Traces of a Late Saxon Church at St Mary's Aylesbury', *Rec Buckinghamshire*, 20, 621-6; Farley, M (1979) 'Burials in Aylesbury and the Early History of the Town', *Rec Buckinghamshire*, 21, 116-121; Allen, D (1983) 'Iron Age Occupation, a Middle Saxon Cemetery with Twelfth to Nineteenth Century Urban Occupation. Excavations at George Street, Aylesbury 1981'. *Rec Buckinghamshire* 25, 1-60; Farley, M and Jones, G (2012) *Iron Age Ritual, a Hillfort and Evidence for a Minster at Aylesbury, Buckinghamshire*, Oxbow. Oxford.

- 10.2.58 Despite the recovery of numerous Anglo-Saxon finds within the wider area surrounding the Scheme Area, and the extent to which documentary evidence indicates the presence of settlement during this period in the region, few occupation sites have been recorded. There is potential to encounter evidence for Anglo-Saxon activity, probably land divisions. This potential is considered to be highest at the western extent of Route Section 2B. There is also potential to encounter evidence for Anglo-Saxon settlement, possibly at the southern extent of Route Section 2E within Walton Court, Aylesbury. An evaluation was also undertaken on land either side of the railway line at Fleet Marston where linear features of Roman-to Saxon date were uncovered.

## Late Medieval (AD1066 to AD1539)

### Overview

- 10.2.59 As noted, between the 11<sup>th</sup> and 14/15<sup>th</sup> centuries there is a marked expansion in the population. Towns became planned and agriculture transformed. The nature of the evidence is still varied and includes: settlements (rural, manorial, towns, urban centres), monastic houses, churches, cemeteries, trade and industry and transport links.
- 10.2.60 In Buckinghamshire there are a number of settlements recorded near to the Scheme Area in the Domesday survey of 1086, demonstrating the extent of the medieval population, such as Marsh Gibbon, Quainton and Bletchley. It is also believed that many Late Medieval settlements were established during the earlier Medieval period.
- 10.2.61 Several deserted and shrunken medieval villages have been identified within the wider landscape for example at Steeple Claydon, Doddershall and Fleet Marston. Geophysical surveys (EBC17219) carried out in Section E of the Scheme identified a dense concentration of settlement activity, pits, tracks and ditched property boundaries, probably representing the remains of a deserted medieval settlement. A curving boundary ditch appears to define the extent of the village on the north and east, with a possible extension to the south.
- 10.2.62 There are also a number of moated sites which may represent the establishment of new manors, granges and outfarms on the periphery of parishes during a period of population growth in the late 12<sup>th</sup> to 13<sup>th</sup> centuries with Upper South Farm, Quainton being a useful example. Excavated manorial sites include Whaddon, Buckinghamshire.
- 10.2.63 There are several medieval monastic sites in the wider landscape and the Scheme Area's immediate vicinity with key focal points of monastic activity at, for example, Aylesbury. Aylesbury Greyfriars was a house of Franciscan Friars Minor founded in 1387 and dissolved in 1538. There is also said to have been a Trinitarian Nunnery in Aylesbury although this has not been confirmed. Newton Longville Priory was founded in the first half of the 12<sup>th</sup> century as house of Cluniac monks. It was a daughter house to Sainte Foy Abbey in the French Pyrenees. As a house held by a foreign abbey the priory was dissolved in 1414. St Faith's Church in Newton Longville appears to contain 12<sup>th</sup> century remains that may have been part of the priory.
- 10.2.64 The scale and extent of the agrarian landscape which appears to have been associated with these settlements can be partially seen within the preservation of the medieval fieldscape across the wider landscape. As the ES and WSIs demonstrate, a combination of non-intrusive surveys and intrusive work indicates areas of ridge and furrow and possible field boundaries either within the Scheme Area, adjoining fields or the wider landscape. For example, a recent trial trench evaluation in the area of the proposed Berryfields development northwest of Aylesbury uncovered evidence of medieval field systems (EBC16155). The landscape surrounding Quainton is particularly noteworthy due to the high level of preservation of ridge and furrow<sup>172</sup>. Other areas of ridge and furrow have also been identified in Marsh Gibbon, Charndon, Steeple Claydon and Fleet Marston. At the latter site a recent evaluation (EBC17503), undertaken on land either side of the railway line, uncovered more features from the

<sup>172</sup> Hall, D (2001) *Turning the Plough, Midland Open Fields: Landscape Character and Proposals for Management Northampton and Swindon*. Northamptonshire County Council and English Heritage

medieval period likely to be related to farming practices<sup>173</sup>. Another recent archaeological geophysical survey carried out on land to the south of Church Farm, Wavendon, Milton Keynes identified an earthwork platform and an undated network of ditches at the northern end of the site and mapped extensive tracts of medieval ridge and furrow.

- 10.2.65 Much of landscape surrounding the Scheme Area within Buckinghamshire formerly lay within the Forest of Bernwood. Despite its modern meaning the appellation forest related to forest law rather than an area of dense woodland during the medieval period. This also explains why there are extensive settlements and agricultural remains within this area. First recorded in the Anglo-Saxon Chronicles<sup>174</sup>, the Bernwood Forest is believed to have extended across Route Section 2E. During the Early Norman periods, the forest was designated a royal forest for hunting, reaching its peak in the reign of Henry II during the 12<sup>th</sup> century, before its contraction and abandonment in the later medieval period<sup>175</sup>. The reduced extents of the forest are recorded on a map of 1590 when it became confined to an area to the west of the Scheme Area. A number of areas were subsequently formally imparked during the later medieval and early post medieval periods within the forest; including at Claydon and Eythrope.
- 10.2.66 Stray finds are again indicative of wider activity across the landscape within which the Scheme is located. For example, an excavation was carried out at Water Eaton Road T.A. Centre (EMK36) which revealed 13<sup>th</sup> and 14<sup>th</sup> century pottery sherds. Further medieval findspots have been identified near Queen Catherine Road (MBC6697).

## The Known Resource within the EWR Scheme Area

### Section 2A

- 10.2.67 The medieval ridge and furrow north of Bicester Road (SMR No. 634924000) has been locally designated as an Archaeological Notification Area (ANA), due to the asset being well-preserved and having the potential to provide dating evidence. Medieval ridge and furrow north-west of Charndon (SMR No. 635703000) is designated as an ANA.

### Section 2B

- 10.2.68 One heritage asset of probable medieval date –ridge and furrow (recorded in the HER as being located at NGR SP 84100 32022)– is known from within the footprint of Section 2B.

### Section 2E

- 10.2.69 An ANA (SMR NO 0635503000 including MBC7245, MBC7246 & MBC2747), designated due to the presence of ridge and furrow and medieval pottery was a found during recent intrusive works when stripping for a gas pipeline.
- 10.2.70 The ANA (SMR NO 0635506000) in Quainton Parish contains ridge and furrow and has also yielded Roman, medieval and post-medieval (17<sup>th</sup> century) artefacts.
- 10.2.71 A small portion of a proposed access track, included in the Scheme Area, enters the ANA for Fleet Marston Deserted Medieval Settlement and Church (SMR No. 0065800000)

## Potential

- 10.2.72 Given the extent of the known medieval landscape within which the Scheme Area is located, there is potential for undiscovered medieval archaeological remains to be encountered within the Scheme Area. These remains are likely to comprise evidence for medieval agricultural activity or land division, considered to be highest along the length of Route Section 2B. There is also the possibility to uncover

<sup>173</sup> Pre-Construct Archaeology (2009) *An Archaeological Evaluation on Land at Fleet Marston, Aylesbury, Buckinghamshire*. Unpublished Client Report

<sup>174</sup> [http://avalon.law.yale.edu/subject\\_menus/angsax.asp](http://avalon.law.yale.edu/subject_menus/angsax.asp)

<sup>175</sup> Aylesbury Vale District Council (2015) *Quainton Conservation Area Review*, 10

evidence for medieval settlement, agricultural activity and/or land division, along the length of Route Section 2E, with concentrations anticipated to be highest at Doddershall and within Aylesbury Vale.

## Post Medieval and Modern (AD1540 to AD1950)

### Overview

- 10.2.73 As noted, the post-medieval period saw rapid changes to the regional and national socio-economic climate, leading to extensive physical changes across the landscape. The post-medieval period saw the population of Buckinghamshire grow exponentially, in part due to its location within the hinterland of Greater London. At the start of the post-medieval period the wider Study Area was probably characterised by open-field cultivation practices and rural dispersed settlements retaining much of the earlier medieval patterns of occupation. However, by the late 19<sup>th</sup> century the region had been dramatically transformed, with widespread enclosure, intensive industrialised farming practices and extractive industries coming to characterise the surrounding landscape.
- 10.2.74 During this period the act of enclosure led to the widespread loss of medieval open-field systems and associated common land, and the creation of the regular, rectilinear field systems recorded in the wider landscape, with examples from Doddershall, associated with the formation of the Doddershall House and estate. By the early 19<sup>th</sup> century, the process was largely complete, and the scale of agrarian output at this time is evidenced by the extent of ridge and furrow within the wider landscape, and the large number of farmsteads and market towns/villages within the region, as well as the emergence of large country estates, and associated parks and gardens, which were constructed by wealthy land owners as seen at the Verney Estate, Claydon (1000597), and Waddesdon (1117804) in Buckinghamshire.
- 10.2.75 The establishment and growth of large scale extractive industries also had an extensive impact upon the surrounding landscape. The clay bedrock geology of the region allowed for Buckinghamshire to become centres for brick and tile production, with virtually every parish situated upon the clay members within the region likely having had its own brickyard and kiln, allowing for a tradition of small-scale localised extraction. However, from the early-19<sup>th</sup> century onwards the industrial revolution saw the expansion of Britain's transportation links, with the creation of an extensive rail network across the region allowing the long-haul movement of raw materials and manufactured goods. Subsequently the rail network led to the rapid industrialisation of clay extraction, with large scale production sites opening at, for example, Milton Keynes<sup>176</sup>. The impact for these extractive practices can still be seen on the surrounding landscape today, surviving as widespread complexes of ponds and lakes, primarily adjacent to the railway itself. Traversing the area, toll roads formed a significant element of the transport and communications network within the region from the 17<sup>th</sup> century onwards. Owned by private enterprises, who extracted tolls from travellers for road maintenance, toll roads were particularly prominent during the 18<sup>th</sup> and early 19<sup>th</sup> centuries. The rise of railway transport led to the loss of toll income and regional value, with the gradual reversion to local authority ownership.
- 10.2.76 Constructed in the mid to late-19<sup>th</sup> century, railways across the region would have opened the area to both passenger and freight transport and included the following routes, East West Rail (MBC34074), Aylesbury to Calvert (MBC34119), Great Central (MBC14947), Bedford to Bletchley (MBD11594), Grendon-Ashendon (MBC14956), Bedford to Hitchin (MBD11832) and the Quanton to Brill Tramway (MBC11114). The railways and their associated infrastructure would have also formed an extensive physical barrier across the region, dividing the historic landscape and controlling movement in the landscape based on where the rail line accommodated the existing road network. This road network included the Thames to Aylesbury and Hockliffe turnpike road (MBC34475), the Sparrows Herne Turnpike (MBC34436), Wendover to Buckingham (MBC34428), and the Fornhill to Stony Stratford Turnpike (MBC34425).
- 10.2.77 Following the construction of the railway, The Metropolitan Railway Company had a surplus of land which was sold during the 20<sup>th</sup> century and allowed for the creation of suburban areas to the north-

<sup>176</sup> Hind, J. (2014) 'The Post-Medieval and Modern Period (AD 1540 onwards)' in Hey, G & Hind, J (eds) *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas*, 261-290.

west of London in areas served by the rail lines within the wider landscape. This expansion in north Buckinghamshire, was initially confined to Bletchley, before further expansion led to the establishment of Milton Keynes in the 1960s, a new city created to relieve the growing housing shortage, which now forms a unitary authority independent from Buckinghamshire.

## The Known Resource within the EWR Scheme Area

- 10.2.78 With the exception of the milestone in Winslow (MBC25711) and the gravel pits (MBC23117), all the post-medieval heritage assets which will be impacted in this Section relate to the historical and/or continued use of the railway (or elements of it).
- 10.2.79 Eight of the assets are existing bridges, two of which will be repaired as part of the Project. Five bridges will be demolished, and some will be replaced, including new bridges or box culverts, either in the same location or at alternative locations. The bridges are: Ox Lane Railway Bridge (MBC14932); Sandhill Road Overbridge, Middle Claydon (OXD/25); Winslow No. 6 Footbridge (OXD/19); Horwood Road Underbridge (OXD/16); Moco Farm Occupation Bridge (OXD/14); Salden Overbridge (OXD/10); Trenches Underbridge (OXD/8); and Fleet Marston Accommodation Bridge (MCJ2/177).
- 10.2.80 Six railway stations, or the remains thereof, will be lost as a result of the Project. These include remains associated with historical stations at Quainton (1390836, MBC23641; MBC24866), Swanbourne (MBC25532), Winslow (MBC12888), Verney Junction Station (MBC14925 & MBC14931), Steeple Claydon (MBC33283) and Waddesdon Manor (MBC34128).
- 10.2.81 The ANA in Quainton Parish contains post-medieval (17<sup>th</sup> century) artefacts.
- 10.2.82 The Salden Water Trough Aqueduct (OXD/12) is also within the footprint of the Scheme.
- 10.2.83 Two modern heritage assets are within Section 2B of the Scheme Area. The first, World War II approach guides for Little Horwood airfield (MBC23065) and the 1930s brick and tile works (MBC14980).
- 10.2.84 Two assets of post-medieval date are located within Milton Keynes in Section 2E of the Scheme Area. These include the site of Bletchley Station Gas Works (MMK4309) and Woburn Sands signal box (MMK5820), neither of which will be impacted by the Project.

## Potential

- 10.2.85 Within section 2B there is a high potential to encounter evidence for post-medieval agricultural activity or land division; there is also potential to encounter late post-medieval occupation, infrastructure associated with the construction of the railway. In addition, there is potential to encounter evidence for post-medieval occupation, agricultural activity and infrastructure associated with the construction of the railway within section 2E.

## Remains of unknown date

- 10.2.86 A small portion of the Scheme Area within Section 2B will cross the ANA associated with the HER record for a possible settlement south and west of Weasels (MBC25716; ANA0990000000). The HER records that a geophysical survey identified a large group of anomalies interpreted as subdivided rectilinear ditched enclosures at the site. Given that no intrusive investigation has taken place at the site the HER records the remains as being of unknown date.



## 10.3 Bedfordshire

- 10.3.1 Development Stages 2D Main Works and 2D Platform Extensions lie in Bedfordshire, within the local authority administrative areas Central Bedfordshire Council (CBHER) and Bedford Borough Council (BHER).

### Lower and Middle Palaeolithic (800,000 to 250,000BC)

#### Overview

- 10.3.2 A recent study outlines the Palaeolithic of Bedfordshire in more detail<sup>177</sup>.
- 10.3.3 There are important deposits of Palaeolithic material notably in the Great Ouse valley and brickearth deposits in the Chilterns, the discoveries made during the mid-19<sup>th</sup> century. Notable examples include discoveries made at Kempston and Biddenham, situated on the banks of the River Great Ouse several hundred hand-axes, associated flint debitage, and faunal remains, including those of mammoth, deer, horse and rhinoceros<sup>178</sup>, recovered over a hundred years ago. Palaeoenvironmental and artefactual material was also recovered during the construction of the Bedford-Hitchin Railway in 1851 at Summerhouse Hill, Cardington<sup>179</sup>. Here, discoveries included the remains of hippopotamus and reindeer, in association with axes and hand tools. Very little material of Upper Palaeolithic date has been found in Bedfordshire<sup>180</sup> although a recent find from Willington may be an Upper Palaeolithic blade<sup>181</sup>.

#### The Known Resource within the EWR Scheme Area

- 10.3.4 There are no known Palaeolithic assets in the Scheme Area.

#### Potential

- 10.3.5 As Luke states there is scant evidence for occupation in Bedfordshire during the Upper Palaeolithic<sup>182</sup>; thus, the potential of finding evidence is unlikely. However, the Kempston, Biddenham and Cardington remains indicate the extent of survival for possible Lower Palaeolithic remains across Bedford and as such, there is still the possibility that these remains may be present within the eastern extent of the Scheme Area<sup>183</sup>.

### Mesolithic (10,000 to 4,000BC)

#### Overview

- 10.3.6 Although not widespread, there is reasonable evidence for the Mesolithic in Bedfordshire, with finds largely deriving from surface collections from plough soils or within archaeological features of later date. A survey undertaken around 20 years ago suggested that the number of Mesolithic sites from

<sup>177</sup> Luke, M 2007 'The Palaeolithic to Early Bronze Age'. Research and Archaeology: Resource Assessment, Research Agenda and Strategy. Bedfordshire Archaeology Monograph 9.

<sup>178</sup> Roe, D A 1968 *A Gazetteer of the British Lower and Middle Palaeolithic sites*

<sup>179</sup> Wymer, J 1999 *The Lower Palaeolithic Occupation of Britain*.

<sup>180</sup> Luke, M 2007 'The Palaeolithic to Early Bronze Age'. Research and Archaeology: Resource Assessment, Research Agenda and Strategy. Bedfordshire Archaeology Monograph 9.

<sup>181</sup> Rylatt 2003, pp106. Worked Flint Report in Network Archaeology *Willington to Steppingley 900mm Gas Pipeline: Archaeological Evaluation, Excavation and Watching Brief 2002* (Report 182).

<sup>182</sup> Luke, M 2007 'The Palaeolithic to Early Bronze Age'. Research and Archaeology: Resource Assessment, Research Agenda and Strategy. Bedfordshire Archaeology Monograph 9.

<sup>183</sup> Luke, M (2008) 'Life in the Loop: Investigation of a Prehistoric and Romano-British Landscape at Biddenham Loop, Bedfordshire', *East Anglian Archaeology*, 125

Bedfordshire amounted to 53<sup>184</sup>. As with other regions the evidence is ephemeral, as shown well at Priestley Farm, Flitwick where no sub-surface features were identified<sup>185</sup>.

- 10.3.7 There appears to be two favoured locations in this period: river valleys and good vantage points, such as the Greensand Ridge and Chilterns<sup>186</sup>. The scarcity of finds may reflect an unfair regional bias within the archaeological record, with recent intensive systematic surface collection implemented at a residential development at Biddenham, Bedfordshire, recovering 'Mesolithic' flint tools in association with alluvial contexts<sup>187</sup>. Thus, it is possible that some alluvium may be masking earlier activity and could account for the inherently low visibility of Mesolithic sites within the region.

## The Known Resource within the EWR Scheme Area

- 10.3.8 There are no known Mesolithic assets in the Scheme Area.

### Potential

- 10.3.9 Mesolithic sites are inherently difficult to locate because they usually comprise flint scatters, rather than sub-surface features. The recovery of flint scatters suggest that sites are most likely to be found in river valleys or good vantage points.

## Neolithic (4000BC to 2500BC)

### Overview

- 10.3.10 The Early Neolithic is often defined by the appearance of the domestication of animal and plant species with a shift from an itinerant hunter gather Mesolithic population to one focussed upon sedentary agrarianism. The Middle and Later Neolithic periods are characterised by the emergence of monuments and ceremonial landscapes associated with more permanent settlement.
- 10.3.11 As with many other areas of the United Kingdom the evidence for Neolithic activity in Bedfordshire is varied and the few sites that have been investigated have produced limited dating evidence. Various studies have summarised the key sites<sup>188</sup>. Once again, the distribution of sites is biased towards river valleys, mainly the Great Ouse and Ivel, and the Chilterns chalk ridge in the south of the county.
- 10.3.12 Much of the Early Neolithic evidence in Bedfordshire is related to artefacts, often single finds rather than widespread scatters. Like other regions, many have been chance finds uncovered during quarrying; for example, almost 100 stone axes findspots are recorded within the county.
- 10.3.13 At present, Neolithic (Early and Late) Bedfordshire settlement is characterised by sparse and ephemeral settlement evidence; on excavated sites the settlement is usually confined to small clusters of pits and other features and occasionally possible structures, and few form coherent or structured patterns. It should also be noted that a good proportion of earlier Neolithic evidence has been located 'accidentally' during the investigation of post-Neolithic sites. That said, as illustrated above, the existing evidence may point to a picture of small-scale and perhaps relatively mobile settlement groups within Earlier Neolithic Bedfordshire<sup>189</sup>. The other possible manifestation of settlements, or at least activity areas, are flint scatters. However, without detailed analysis their precise meaning in terms of the extent, nature and duration of any human occupation is uncertain.

<sup>184</sup> Luke, M (2007) 'The Palaeolithic to Early Bronze Age', in Oake, M, Luke, M, Dawson, M, Edgeworth, M and Murphy, P (eds), *Research and Archaeology: Resource Assessment, Research Agenda and Strategy*, Bedfordshire Archaeology Monograph 9, 21-51.

<sup>185</sup> Fadden, K (1991) 'Mesolithic Finds From Priestly Farm, Flitwick', *Beds Arch* 19, 91-94; EAS (1997) *Flitwick 1996-1997 Post Excavation Assessment*.

<sup>186</sup> Dawson, M (2000) *The Mesolithic Interlude* in Dawson, M (ed) *Prehistoric, Roman and Post-Medieval Landscapes of the Great Ouse Valley*.

<sup>187</sup> Luke, M, Meckseper, C, Barker, J, Pilkinton, K & Leslie, I (2014) 'Bedford Northern Bypass', *CBA South Midlands Region Annual Report*.

<sup>188</sup> Luke, M (2007), op.cit., Thomas, N (1964) 'A Gazetteer of Neolithic and Bronze Age sites and Antiquities in Bedfordshire', *Beds Arch J, II*, 16-33; Holgate, R (ed) (1995) *Chiltern Archaeology: Recent Work; A Handbook for the Next Decade*; Clark, R and Dawson, M (1995) 'The Prehistoric and Romano-British Landscape in Bedfordshire: Recent Fieldwork', in Holgate (ed), 1995, op.cit.,56-67.

<sup>189</sup> Pollard, J & Hamilton, M (1994) 'Recent Fieldwork at Maiden Bower', *Beds Arch*, 21, 10-18.

- 10.3.14 In contrast to the limited range of settlements, monumental and ceremonial funerary features are more frequent; the county has examples of the major monuments believed to be constructed during this period, such as the causewayed enclosures, curses, long barrows, enclosures<sup>190</sup> and 'paperclip enclosures'<sup>191</sup>. Although many monuments are yet to be explored, the Cardington/Couple/Willington is a good example of what remains to be discovered<sup>192</sup>. As Luke reminds us<sup>193</sup> given the extent of gravel quarrying, building programmes and road construction within the Great Ouse Valley over the last forty years it is perhaps surprising that the evidence for activity in this period is relatively rare and that it is therefore not surprising that the evidence available for the Bedfordshire monuments is only of limited use when trying to understand the intricacies of their origins, function and development history.
- 10.3.15 The Later Neolithic fares little better with discussions again largely related to findspots, cropmarks and earthworks. As noted above the settlement evidence is sparse and comprises pits and flint scatters. As in the rest of the country, round barrows and ring ditches are the most common late Neolithic/Early Bronze Age monuments. Malim<sup>194</sup> has produced a convenient review of the major monument complexes.
- 10.3.16 No evidence for either settlement, or for any monumental/ ceremonial landscapes has been identified within the immediate Scheme Area, with the majority of Neolithic occupation evidence recorded on the claylands to the north. Neolithic activity is restricted to the recovery of an axe (BHER 272) found c. 200 m to the south-east of the Section 2D Scheme Area in Bedford.

## The Known Resource within the EWR Scheme Area

- 10.3.17 There are no known Neolithic assets in the Scheme Area.

### Potential

- 10.3.18 As Luke has pointed out<sup>195</sup> many monuments appear to be largely restricted to the gravels of the Great Ouse valley. The settlement evidence is fragile and ephemeral and thus it may be that we only discover more evidence for the Neolithic during large-scale development work and associated post-excavation programmes. Further, it is commonplace for non-monumental evidence to be located 'by accident' during large-scale excavation (eg the Biddenham Loop).

## Bronze Age (2,500Bc to 800BC)

### Overview

- 10.3.19 Recent analyses of Bronze Age (Early and Late) material in Bedfordshire give a broad overview of the nature and scale of the resource<sup>196,197</sup>.
- 10.3.20 Save for the introduction of Beaker pottery and the wider use of copper and bronze in general terms the Early Bronze Age (c. 2500BC to 1500BC) appears to have maintained many Neolithic characteristics, hence why the Neolithic and Early Bronze Ages are often discussed together, as done by Luke 2007<sup>198</sup>. The Middle Bronze Age witnesses the first substantive settlements appearing, shown through the construction of roundhouses, enclosures and land divisions. The Middle / Later Bronze Age is important as apparently it witnesses the beginning of the transition from 'monument-

<sup>190</sup> See Luke, M (2007), op.cit., 31-37 for a useful summary.

<sup>191</sup> Luke, M (2007), op.cit., 31.

<sup>192</sup> Pinder (1986) 'Excavations at Willington 1984 I The Bronze Age', *Beds Arch J*, 17, 15-21; Dawson, M (1996) 'Plantation Quarry, Willington: Excavations 1988-91', *Beds Arch*, 22, 2-49; Malim, T (2000) 'The Ritual Landscape of the Neolithic and Bronze Age along the middle and lower Ouse Valley', in Dawson, M (ed), *Prehistoric, Roman and Post-Medieval Landscape of the Great Ouse Valley*, 57-88.

<sup>193</sup> Luke, M (2007), op.cit.

<sup>194</sup> Malim, T (2000) 'The Ritual Landscape of the Neolithic and Bronze Age along the middle and lower Ouse Valley', in Dawson, M (ed), *Prehistoric, Roman and Post-Medieval Landscape of the Great Ouse Valley*, 57-88.

<sup>195</sup> Luke, M (2007), op.cit.

<sup>196</sup> Luke, M (2007), op.cit.

<sup>197</sup> Dawson, M (2007) 'From the Bronze Age to the Roman Period' in Oake, M, Luke, M, Dawson, M, Edgeworth, M and Murphy, P (eds), *Research and Archaeology: Resource Assessment, Research Agenda and Strategy*, Bedfordshire Archaeology Monograph 9, 59-79.

<sup>198</sup> Luke, M (2007), op.cit.



dominated landscapes' and 'mobile settlement patterns' (see above) to that of more permanent settlement and a great emphasis on agricultural production.

- 10.3.21 The Late Bronze Age in Bedfordshire is still a period characterised by the distribution of barrows along its river valleys and the existence of extensive, monument complexes. That said the visibility of the Bronze Age within the archaeological record increases noticeably from the middle of the first millennium BC. This increase in prominence is, in part, due to the scale and extent of archaeological investigation undertaken in association with the urban expansion of Bedford, Kempston and Biddenham.
- 10.3.22 In general, the structural evidence remains largely elusive. In the earlier period evidence still largely derives from pits although a few structures have been suggested at, for example, Dunstable and Totternhoe. Although some evidence from sites has been claimed to represent Late Bronze Age settlements, the attributes of settlement to many of these sites is far from secure. Possible examples are known from Biddenham, Broom and Salford but it has been noted that it is only when the Late Bronze Age shades into the Early Iron Age that settlement evidence increases slightly<sup>199</sup>.
- 10.3.23 As with other regions, hilltops were probably used during the Late Bronze Age with perhaps Maiden Bower<sup>200</sup> and others part of the wider Bronze Age repertoire. Field systems may have originated during the Late Bronze Age or Early Iron Age, although current dating is imprecise.
- 10.3.24 Recent work has uncovered a suite of Bronze Age evidence. For example, a Bronze Age mortuary complex was discovered during the development of the Bunyan Centre, Bedford<sup>201</sup>. Work at the Biddenham loop uncovered an Early Bronze Age funerary complex, Middle Bronze Age field system, and a Late Bronze Age pit alignment<sup>202</sup>. Further, cropmarks recorded at Lidlington and Wavendon to the east of Milton Keynes are suggestive of two separate Bronze Age funerary complexes and indicate the potential for remains of these periods outside of the larger urban areas.
- 10.3.25 Within the Bedfordshire extent of the Scheme Area, Bronze Age archaeological remains are limited to isolated find spots, including a copper alloy awl and ring recovered adjacent to the rail line in the centre of Bedford.

## The Known Resource within the EWR Scheme Area

- 10.3.26 There are no known Bronze Age assets in the Scheme Area.

### Potential

- 10.3.27 Discussion above highlights that recent development work has led to new discoveries. Thus, there is potential for encountering evidence for Bronze Age activity. These remains may comprise isolated findspots in the first instance; however, evidence for settlement may be encountered within the wider landscape. It is important to note the range of possible evidence of Bronze Age material that may be uncovered during EWR, much of which may still lurk beneath the ground. For example, some burials and houses (which are not as readily identifiable as large-scale monuments) may be located within the Scheme Area and similarly, stray finds may help our story. Certain types of metalwork and/or stray finds may be indicative of past settlement areas (although it is pertinent to note that many finds were deposited in watery or ritual locations well away from settlement areas). Land divisions and enclosures recorded in nearby regions may also be uncovered during future work. Thus, just like previous periods the lack of visible archaeology may not be reflective of past prehistoric activity.

## Iron Age

### Overview

<sup>199</sup> Dawson, M (2007), op. cit., 59-61.

<sup>200</sup> Pollard, J & Hamilton, M (1994) 'Recent Fieldwork at Maiden Bower', *Beds Arch*, 21, 10-18

<sup>201</sup> Dawson, M (2007), op. cit.

<sup>202</sup> Albion Archaeology (2008) *Bedford Water Main: Biddenham Loop Phase 1; Results of Archaeological Investigations*. Unpublished Client report

- 10.3.28 Once again, the evidence for the Iron Age in Bedfordshire is varied and includes: houses, hillforts, land divisions, burials, and evidence for trade, exchange and ritual<sup>203</sup>.
- 10.3.29 Building on the Later Bronze Age traditions hilltops continue to be important with the examples from Maiden Bower<sup>204</sup>, Billington Hill<sup>205</sup>, Sharpenhoe Clappers<sup>206</sup>, Sandy Lodge<sup>207</sup>, Mowsbury<sup>208</sup> and Caesar's Camp, Sandy<sup>209</sup> thought to have been used during this period.
- 10.3.30 The transition from the Late Bronze Age to the Iron Age settlement is evidenced by examples known from Puddlehill and possibly Bedford. Around 400 to 150BC (The Middle Iron Age) significant changes appear in the pattern of settlement<sup>210</sup>. This includes the appearance of new sites, both open and enclosed, with some sites becoming more substantial. Excavated examples are known from Salford, Shillington, Stagsden and Biddenham<sup>211</sup>. The latter site is particularly instructive where extensive evidence has been identified and includes several phases of occupation including six Early Iron Age farmsteads<sup>212</sup>. During the Late Iron Age (150BC to AD43) there is an apparent general increase in settlement density, with many surrounded by enclosures; again, the evidence is summarised by Dawson. Excavations at Biddenham have identified several phases of occupation including four Late Iron Age farmsteads<sup>213</sup>. Closer to the Scheme Area, possible examples of Iron Age settlement in the area include Marsh Lee's Farm (BHER 9600)<sup>214</sup>, Ridgmont Station (CBHER 19550) and Rookery Pit (CBHER 19806). During recent work a concentration of archaeological features was uncovered on low-lying land close to west Elstow Brook. Some features produced finds of Late Iron Age date. Further, possible Iron Age (and Romano-British and medieval activity) was identified during the field evaluation for 'A507 Ridgmont Bypass, Area 8'<sup>215</sup>.
- 10.3.31 As with other parts of the country the 1<sup>st</sup> millennium BC appears to see an increase in land boundaries (dykes, ditched boundaries and post hole alignments). An Iron Age boundary ditch was recently located during an archaeological evaluation adjacent to the A6.
- 10.3.32 There is no more than a broad awareness of Iron Age burial practices within the region. Burial evidence is sparse from the Middle Iron Age, but includes crouched inhumations, some accompanied by animals. One of the most striking changes in the late Iron Age is the re-appearance of human burial. Cremations appear again in the 1<sup>st</sup> century BC. Less common are inhumations on settlement sites.
- 10.3.33 Stray finds are also indicative of Iron Age activity. For example, finds of Late Iron Age bronze mirrors have been made sporadically in Bedfordshire and recently metal detector finds have increased their number significantly.

## The Known Resource within the EWR Scheme Area

- 10.3.34 There are no known Iron Age assets in the Scheme Area.

## Potential

- 10.3.35 Iron Age activity is observable across the landscape within which the Scheme Area is located and there is potential for additional Iron Age remains to be uncovered within the Scheme Area. These

<sup>203</sup> Dawson, M (2007), op. cit.

<sup>204</sup> Pollard, J & Hamilton, M (1994) 'Recent Fieldwork at Maiden Bower', *Beds Arch*, 21, 10-18

<sup>205</sup> Warren, D (1998) 'Billington Hill Excavations 1997 (Interim Report)', *The Manshead Magazine*, 38.

<sup>206</sup> Dix, B (1983) 'An Excavation at Sharpenhoe Clappers, Beds'. *Beds Archaeol* 16, 65-74.

<sup>207</sup> Dyer, J F (1971) 'Excavations at Sandy Lodge, Bedfordshire', *Beds Archaeol*, 6, 9-7.

<sup>208</sup> Dring, G J (1971) 'Iron Age Pottery from Mowsbury' *Beds Archaeol*, 6, 68-89.

<sup>209</sup> Dawson, M (2007), op. cit, 64

<sup>210</sup> Dawson, M (2007), op. cit.

<sup>211</sup> Dawson, M (2007), op. cit, 64-69.

<sup>212</sup> Luke, M. (2008), op. cit.

<sup>213</sup> Luke, M. (2008), op. cit.

<sup>214</sup> EAA 138 (2011). Farm and Forge: late Iron Age/Romano- British farmsteads at Marsh Leys, Kempston, Bedfordshire. Albion Archaeology

<sup>215</sup> Albion Archaeology (2007) *A507 Ridgmont Bypass. Area 8. Archaeological Field Evaluation*. Unpublished Client Report.

remains could comprise a range of archaeological remains including isolated find spots, farmsteads or unidentified settlement and funerary complexes. It is also becoming apparent that pit alignments are significant features in the landscape but their function and relationship to the rest of the settlement pattern needs further investigation.

## Romano-British (AD43 to AD450)

### Overview

- 10.3.36 By the 1<sup>st</sup> century AD, the wider landscape surrounding the Scheme Area appears to have had a substantial Romano-British occupation, with general settlement continuity demonstrated from the Late Iron Age onwards. With the Roman conquest came significant developments including the construction of major roads and settlements, including the small towns at Dunstable<sup>216</sup> and Sandy<sup>217</sup>. These two small towns developed a hinterland of villas and smaller settlements. Probably established as a posting station or mansio, Sandy appears to have grown throughout the 2<sup>nd</sup> and 3<sup>rd</sup> centuries until it extended over 10 ha<sup>218</sup>. Away from these towns, several settlement forms were built in the countryside including nucleated farmsteads and substantial farms or villa sites. Examples include Newnham Marina<sup>219</sup> and Totternhoe villas<sup>220</sup>. A possible planned village has been suggested at Kempston<sup>221</sup> and farmsteads are known from Bedford, Peartree Farm and Odell<sup>222</sup>.
- 10.3.37 Moving away from settlements, there is evidence for ritual, religion and burial across the county, important sites including Ruxox<sup>223</sup>, the river Flit and Sandy<sup>224</sup>. However, it has been argued that our understanding of burial practices in the Romano-British period has not really progressed in recent years. In publishing the cemeteries, the focus has been on human bone analysis and layout, but considerable potential exists to compare cemetery traditions across the region. Little work has focussed on the ritual codes underlying the Romano-British period even in the context of burial. Many of the burials clearly have specific ritual elements such as decapitation, orientation or grave goods and further work will be required into these aspects. In recent years Bedfordshire has produced several interesting votive deposits and artefacts of Romano-British date in eastern England – the Sandy sculpture<sup>225</sup>, and the Shillington and Haynes hoards<sup>226</sup>.
- 10.3.38 Closer to the Scheme Area, Romano-British occupation to the east of Milton Keynes in Bedfordshire is evidenced by numerous isolated Romano-British finds, a Romano-British site west of Ridgmont Station (CBHER 19550), and suspected Roman Roads, including Viatores route 173 (CBHER 485), Viatores route 210 (BHER 10480), and Viatores route 170b (CBHER 5020). Possible Romano-British activity was also identified during the field evaluation for 'A507 Ridgmont Bypass, Area 8'<sup>227</sup>. An archaeological evaluation carried out at Marsh Lees Farm revealed a Romano-British settlement site. Trial trench evaluation suggested that there is no settlement pre-dating the late Iron Age. Two of the settlements, consisting of farmsteads associated with field systems and enclosures, appear to have originated in the Late Iron Age and developed in to the Romano-British period.

### The Known Resource within the EWR Scheme Area

<sup>216</sup> Matthews, C L (1989) *Ancient Dunstable*. Dunstable.

<sup>217</sup> Dawson, M (1995) 'Sandy', in Brown, A (ed), *Roman Small Towns in Eastern England and Beyond*, 167-177. Oxford; Black, E W (1995) *Cursus Publicus: The Infrastructure of Government in Roman Britain*. Oxford BAR 241.

<sup>218</sup> Dawson, M (2007) op.cit.; BCAS (1995) *Roman Sandy, Assessment of Potential and Updated Project Design*. Bedfordshire County Archaeology Service Report 95/32.

<sup>219</sup> Simco, A (1987) *Research Assessment, Newnham Marina*. Unpublished Report for Bedfordshire County Archaeology Service.

<sup>220</sup> Matthews, C L, Schneider, J & Horne, B (1992) 'A Roman Villa at Totternhoe'. *Beds Archaeol*, 20, 41-95.

<sup>221</sup> Dawson, M (2004) *Archaeology of the Bedford Region*. BAR British Series 373. Oxford.

<sup>222</sup> Dawson, M (2007), op. cit., 73-74; Dix, B (1982) 'The Romano-British farmstead at Odell and its setting: some reflections on the Roman landscape of the south-east Midlands', *Landscape History*, 1981, 3, 17-26.

<sup>223</sup> Dawson, M (2004) op.cit.

<sup>224</sup> Appleton, G & Dawson, M (1995) 'A Large Stone Relief from the Roman Small Town of Sandy, Bedfordshire', *Britannia*, XXVI, 303-306.

<sup>225</sup> Appleton, G & Dawson, M (1995) 'A Large Stone Relief from the Roman Small Town of Sandy, Bedfordshire', *Britannia*, XXVI, 303-306.

<sup>226</sup> DCMS (2001) 'Roman coin finds: 284 Shillington B, Bedfordshire', *Treasure Annual Report, 1998-1999*, 109-111.

<sup>227</sup> Albion Archaeology (2007) *A507 Ridgmont bypass, Area 8; Archaeological field Evaluation* Unpublished Client Report

10.3.39 There are no known Romano-British assets in the Scheme Area.

## Potential

10.3.40 The suggested evidence for roads is limited; however, the density of Romano-British settlement within the landscape adjacent to the Study Area, including Vale Farm, Marston Mortaine and Brogborough, may indicate the potential for a Romano-British routeway or other Romano-British evidence within the vicinity of the Scheme Area<sup>228</sup>.

## Early Medieval (AD450 to AD1065)

### Overview

- 10.3.41 As with other periods evidence for rural settlement is sparse although it has increased in recent years thanks to developer-funded fieldwork. Sites such as Puddlehill<sup>229</sup>, Grove Priory and Odell hint at rural settlements and concentrations of Anglo-Saxon pottery found during fieldwalking may indicate the former sites of buildings that have been ploughed out<sup>230</sup>, a perennial problem in locating Anglo-Saxon settlements.
- 10.3.42 Discussion of the earlier period is inevitably centred on graves and Bedfordshire has produced a number of important early cemeteries, such as Kempston and Leighton Buzzard. The antiquarian excavation of a significant 'Anglian' cemetery at Kempston, c. 1 km to the west of the Scheme boundary, has provided perhaps the most significant evidence for Anglo-Saxon occupation, giving an indication as to the size, socio-economics and general health of the local population during this period<sup>231</sup>. Further, the 5<sup>th</sup> century burials from Kempston<sup>232</sup>, Luton<sup>233</sup> and Sandy<sup>234</sup>, all within the vicinity of the small Romano-British towns, are also of note.
- 10.3.43 During the Middle Saxon period Bedfordshire was part of Mercia and the kingdom's rise to a dominant position, in part at the expense of the East Anglian kingdom, is of considerable importance. However, finding evidence is difficult. The paucity of remains may in part be explained in light of a national scarcity for evidence from this period, with Early Medieval remains typically difficult to identify via standard evaluation techniques (e.g. geophysical survey and trial trenching), and by Early Medieval cultural material having a poor preservation rate within the archaeological record in comparison to preceding periods<sup>235</sup>. It may also be understood within the context of continuous historic occupation at Anglo-Saxon settlement sites, with the Saxon charters and other contemporary documentary sources identifying early medieval occupation at both Marston Moretaine (Mercstuninga gemœre)<sup>236</sup> and Aspley Guise, and the Domesday Book of 1086 recording significant settlement at Brogborough, Elstow, Redbornstoke, Lidlington and Kempston Hardwick at the time of the Norman Conquest, indicative of a Saxon origin<sup>237</sup>.
- 10.3.44 During the Late Saxon period much of the eastern region is firmly within the Danelaw. Although to date, little clearly Scandinavian material has been identified in the county. Despite Bedfordshire's location along the boundary of the Danelaw, there is an even greater paucity of distinctly Scandinavian style archaeological remains within the region. Situated c. 1 km to the south of the line (Route Section 2D) at Aspley Heath, near Milton Keynes Danesborough Camp (NHLE1011302), a Scheduled Iron Age univallate hillfort provides perhaps the most visible evidence for potential occupation, with the monument's name suggestive of reuse as a Danish fortified settlement or

<sup>228</sup> Viatores (1969) *Roman Roads in the South-East Midlands*, London: Gollancz; Margary, I (1973) *Roman Roads in Britain*, London.

<sup>229</sup> Matthews, C L (1962) 'Saxon Remains on Puddlehill, Dunstable', *Bed Archaeol J*, 1, 25-47.

<sup>230</sup> Edgeworth, M (2007), op. cit., 92.

<sup>231</sup> Kennett, D. (1986) 'Recent work on the Anglo-Saxon cemetery found at Kempston', *South Midlands Archaeology*, 16

<sup>232</sup> Kennett, D H (1986) 'Recent Work on the Anglo-Saxon Cemetery found at Kempston', *SMA*, 16, 3-14.

<sup>233</sup> Morris, J (1962) 'The Anglo-Saxons in Bedfordshire', *Beds Archaeol J*, 1, 58-76.

<sup>234</sup> Kennett, D H (1970) 'Pottery and other finds from the Anglo-Saxon Cemetery ay Sandy, Bedfordshire', *Med Archaeol*, 14, 17-33.

<sup>235</sup> Farwell, D.E., Andrews, P. & Brook, R (1999) *Prehistoric, Roman, and Early Saxon Settlement at Prospect Park, London Borough of Hillingdon*

<sup>236</sup> VCH (1912) *A History of the County of Bedford*, 3 London.

<sup>237</sup> Williams, A. and Martin, G.H. 2002 *Domesday Book: A Complete Translation*. London:

temporary encampment. However, to date no material from this period has been recovered from the site<sup>238</sup>.

- 10.3.45 For the Saxon period the only place that can be described as a town or 'urban' is Bedford. Whilst most of the towns in Bedfordshire have origins in the late Saxon period none, except Bedford, have urban characteristics until the later medieval period (see below).
- 10.3.46 Bedford is believed to have been named after a Saxon chief named Beda, and the settlement's location at the crossing point of the River Great Ouse, 'Beda's ford'<sup>239</sup>. Excavations within Bedford have produced substantial remains dating from the Early to Middle Saxon period and it has clear potential for studying the origins and development of urbanism in the post-Romano-British period<sup>240</sup>. The full extent of Anglo-Saxon occupation at Bedford has not been established but the earliest reference is for the year AD 571 when a battle between Cuthulf and the Britons is meant to have occurred at Bedford according to the Anglo-Saxon Chronicles<sup>241</sup>. Bedford is also the reputed burial place of King Offa in the latter part of the 8<sup>th</sup> century<sup>242</sup>.
- 10.3.47 The town became a strategic and religious centre from the 10<sup>th</sup> century onwards, situated on the boundary of the Saxon territory of Mercia and the Danelaw. Bedford's position on the Danelaw boundary, as a frontier town, also gives it considerable potential in the study of Scandinavian settlement. Occupied intermittently by Danish forces, the town was captured by the Saxon Edward the Elder in the 10<sup>th</sup> century, who heavily fortified the settlement against further Danish invasion<sup>243</sup>. Evidence for this conflict has perhaps been identified near the Scheme Area at the Kingsway in Bedford where the 'King's Ditch'- a defensive ditch associated with the construction of a second burh by Edward- was investigated where it crosses Cauldwell Street, St John's Street and St Mary's Street. These excavations have revealed evidence for Late Saxon occupation of the town, as well as the reuse and appropriation of the ditch for later flood defences during the medieval period.

## The Known Resource within the EWR Scheme Area

- 10.3.48 There are no known Early Medieval assets in the Scheme Area.

### Potential

- 10.3.49 One of the great problems for archaeologists studying the Early Anglo-Saxon settlement of Bedfordshire is the lack of visibility of occupation sites. Unlike the Iron Age and Romano-British sites, they do not appear to show up on aerial photography. However, this may be due to the fact Anglo-Saxon settlers may have made use of the pre-existing field systems and landscapes rather than construct their own and, of course, many settlements may be beneath later and present-day settlements. During recent work a concentration of archaeological features was uncovered on low-lying land close to Elstow Brook at the west. Some features produced finds of Late Iron Age date and in addition Early/ Middle Saxon occupation debris was recovered from at least two trenches.

## Late Medieval (AD1066 to AD1539)

### Overview

- 10.3.50 As with other regions Bedfordshire has a suite of archaeological evidence related to the Late Medieval period for example towns; monastic houses, rural settlements; moated sites, "Ends," church/ manor complexes and magnate enclosures<sup>244</sup>.

<sup>238</sup> Bradbrooke, W., Wyness, J. & Berry, J (1924) *Danesborough Fort*

<sup>239</sup> Ekwall, E (1960) *Dictionary of English Place-Names*. Oxford:

<sup>240</sup> Baker, D B, Baker E, Hassall, J & Simco, A (1979) 'Excavations in Bedford 1967-77', *Beds Archaeol J.*, 13; Baker, D B & Baker, EM (1985), *The Beginnings of Bedford*. Bedford; Hassall, J (1983), 'Excavations in Bedford, 1977 and 1978', *Beds Archaeol*, 16.

<sup>241</sup> <http://avalon.law.yale.edu/medieval/ang06.asp>

<sup>242</sup> [http://avalon.law.yale.edu/subject\\_menus/angsax.asp](http://avalon.law.yale.edu/subject_menus/angsax.asp)

<sup>243</sup> Edgeworth, M (2001) 'The weir and the flowing earthworks of Bedford', *British Archaeology*, 121, 22-7

<sup>244</sup> Edgeworth, M (2007), 'Post-Medieval, Industrial and Modern Periods', in Oake, M, Luke, M, Dawson, M, Edgeworth, M and Murphy, P (eds), *Research and Archaeology: Resource Assessment, Research Agenda and Strategy*, Bedfordshire Archaeology Monograph 9, 119-141.

- 10.3.51 Throughout the medieval period Bedfordshire was not heavily urbanised. There were no cathedral towns comparable to Norwich or St Albans or trading centres like Kings Lynn or Ipswich. The county town of Bedford<sup>245</sup> was the only major town. As the county town, and the oldest and most established town in the county, Bedford is of considerable importance. But even though there have been more archaeological investigations in the town than anywhere else in the county it is still not well understood.
- 10.3.52 Other Bedfordshire settlements with urban characteristics are few in number and cannot be described as anything other than small towns, an exception being Dunstable. Although the remains of the priory, the surviving part of which is the parish church, are still prominent in the townscape details of its layout and development are not well understood. The location of the royal palace, well known from documentary sources and thought to be in the vicinity of the priory, has never been confirmed. Elsewhere, despite the sporadic identification and investigation of medieval deposits little is really known about the character of the medieval town.
- 10.3.53 Moving away from the towns, there are a good number of moated sites (indeed the county has one of the densest concentrations in Britain) which may represent the establishment of new manors, granges and out farms on the periphery of parishes during a period of population growth in the late 12<sup>th</sup> to 13<sup>th</sup> centuries.
- 10.3.54 Several deserted and shrunken medieval villages have been identified across the county such as those at Wootton Pillinge, Kempston Hardwick, Thrupp End, and Marston Pillinge. Few medieval rural settlements have been investigated although the potential of deserted settlements has been amply demonstrated by the almost complete excavation of the settlement at Stratton. Recent work at Marston Moretaine and Yelden show the potential for acquiring information about the origins and development of villages from within or around the edges of existing settlements.
- 10.3.55 Bedfordshire is particularly strong in evidence of monastic sites. For example, there are a number of medieval monastic sites in Bedford. Bedford Greyfriars was a house of Franciscan Friars Minor founded in 1238 and dissolved in 1539. Elstow Abbey was founded in 1078 as a house of Benedictine Nuns and was dissolved in 1539. Hardwick Preceptory was founded by the Knights Hospitaller before 1279 and dissolved before 1489. Cauldwell Priory was a house of Canons of the Holy Sepulchre founded in 1154 and dissolved in 1536. Recent archaeological works undertaken at the site of the former Britannia Works in Bedford (BHER 2007/91: BHER 2012/63 & 2014/25) revealed a single ditch with medieval pottery and part of a medieval building; the structural remains may have been part of the medieval monastic complex of Cauldwell Priory.
- 10.3.56 Wider elements of the landscape (eg field systems highlighted by ridge and furrow) are also apparent with examples in the areas surrounding Wootton, Marston Moretaine, Husborne Crawley and Apsley Guise. A recent programme of trial trenching at the site of the proposed 'Millennium' country Park at Stewartby showed evidence of medieval manuring, late medieval ridge and furrow and modern boundary features. An archaeological geophysical survey near Church Farm, Wavendon, Milton Keynes also identified extensive tracts of ridge and furrow. A field evaluation at St John's Area Relief Scheme in Bedford (BHER 96/10) may also have encountered medieval or post-medieval field boundaries.

## The Known Resource within the EWR Scheme Area

- 10.3.57 There are no known late medieval assets in the Scheme Area.

### Potential

- 10.3.58 Given the extent of the known medieval landscape in the area surrounding the Scheme, there is potential for undiscovered medieval archaeological remains to be encountered within the Scheme Area. These remains are likely to comprise evidence for medieval agricultural activity or land division. Further, given the presence of several monastic houses within the wider landscape it is highly likely that further aspects of monastic land ownership and management may also be present.

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<sup>245</sup> Baker et al, op.cit.

## Post Medieval and Modern (AD 1540 to AD1950)

### Overview

- 10.3.59 A recent summary by Edgeworth outlines the basis for our general understandings of post-medieval Bedfordshire from an archaeological perspective<sup>246</sup>.
- 10.3.60 Despite the potential wealth and relative accessibility of information about this period, both historical records and material culture, this period is still not that well understood. The county has a range of site types that could be investigated including diverse settlement types, model farms and estate cottages, country houses and gardens, churches and chapels and various industries (including cottage, rural to major industries). As with other regions, evidence associated with railways and transportation is scattered across the county.
- 10.3.61 There is a wide disparity in the distribution of historic parks, gardens and designed landscapes in the county. The large, well known parks tend to be concentrated in the middle of the county along the Greensand Ridge (Woburn, Wrest Park, Ampthill Park) as a result of land use patterns dating back to the medieval period. In the rest of the county there are many parks and gardens, but they tend to be on a much smaller and less imposing scale.
- 10.3.62 The county, as with most of the region is predominantly an agricultural area, largely lacking the resources of power or mineral raw materials to provide the conditions for the development of an industrialised landscape in the accepted sense.
- 10.3.63 Bedfordshire has a long and complex history of enclosure although this is not particularly well understood. However, archaeological investigations are beginning to shed light on land use; for example, recent work along the St John's Area Relief Scheme in Bedford (BHER 96/10) uncovered medieval or post-medieval field boundaries and truncated plough furrows.
- 10.3.64 Many of the characteristic industries of Bedfordshire are agriculturally based such as straw plaiting, leather working or basket making. In their early stages these were cottage industries undertaken in the homes of workers. It is a challenge to identify archaeological remains of these and how their organisation and practice is reflected in buildings, structures and landscapes.
- 10.3.65 The major industry in the county is brick making and although Central Bedfordshire still bears the mark of the 20<sup>th</sup> century developments in this industry in many facets of the environment and landscape, little is known about the earlier phases of its development from the late medieval period. As previously noted, the establishment and growth of large scale extractive industries had a notable impact upon the surrounding landscape.
- 10.3.66 Further, from the early-19<sup>th</sup> century onwards the industrial revolution saw the expansion of the country's transportation links, with the creation of an extensive rail network across the region allowing the long-haul movement of raw materials and manufactured goods. Subsequently the rail network led to the rapid industrialisation of clay extraction, with large scale production sites opening at Kempston Hardwick. Constructed in the mid to late 19<sup>th</sup> century, railways would have opened the region to both passenger and freight transport and included the following routes of Bedford to Bletchley and Bedford to Hitchin, for example.

### The Known Resource within the EWR Scheme Area

- 10.3.67 One post-medieval heritage asset was identified within the Scheme Area - Chuffa Cottage (CBHER 8832). This relates to use of the railway in the 19<sup>th</sup> century.
- 10.3.68 Two assets of post-medieval date are included in 2D but will not be subject to direct impacts by the Project. These include a post-medieval barn (CBHER 15852) and Kempston Hardwick Station (MBD77314).

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<sup>246</sup> Edgeworth, M (2007), 'Post-Medieval, Industrial and Modern Periods', in Oake, M, Luke, M, Dawson, M, Edgeworth, M and Murphy, P (eds), *Research and Archaeology: Resource Assessment, Research Agenda and Strategy*, Bedfordshire Archaeology Monograph 9, 119-141.

## Potential

- 10.3.69 The wider area contains evidence dating to the post-medieval period, associated with a range of agricultural and industrial activities as well as settlement and transport links. Thus, there is potential to encounter evidence for post-medieval agricultural activity or land division, and late post-medieval infrastructure associated with the construction of the railway.

## Remains of unknown date

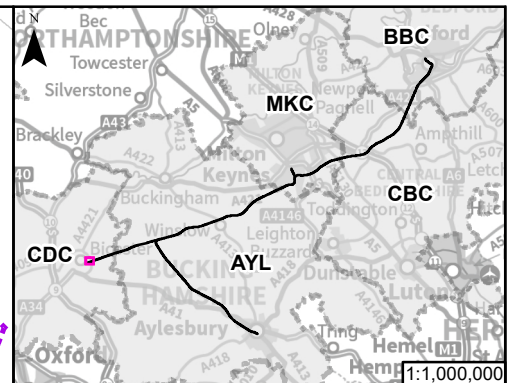
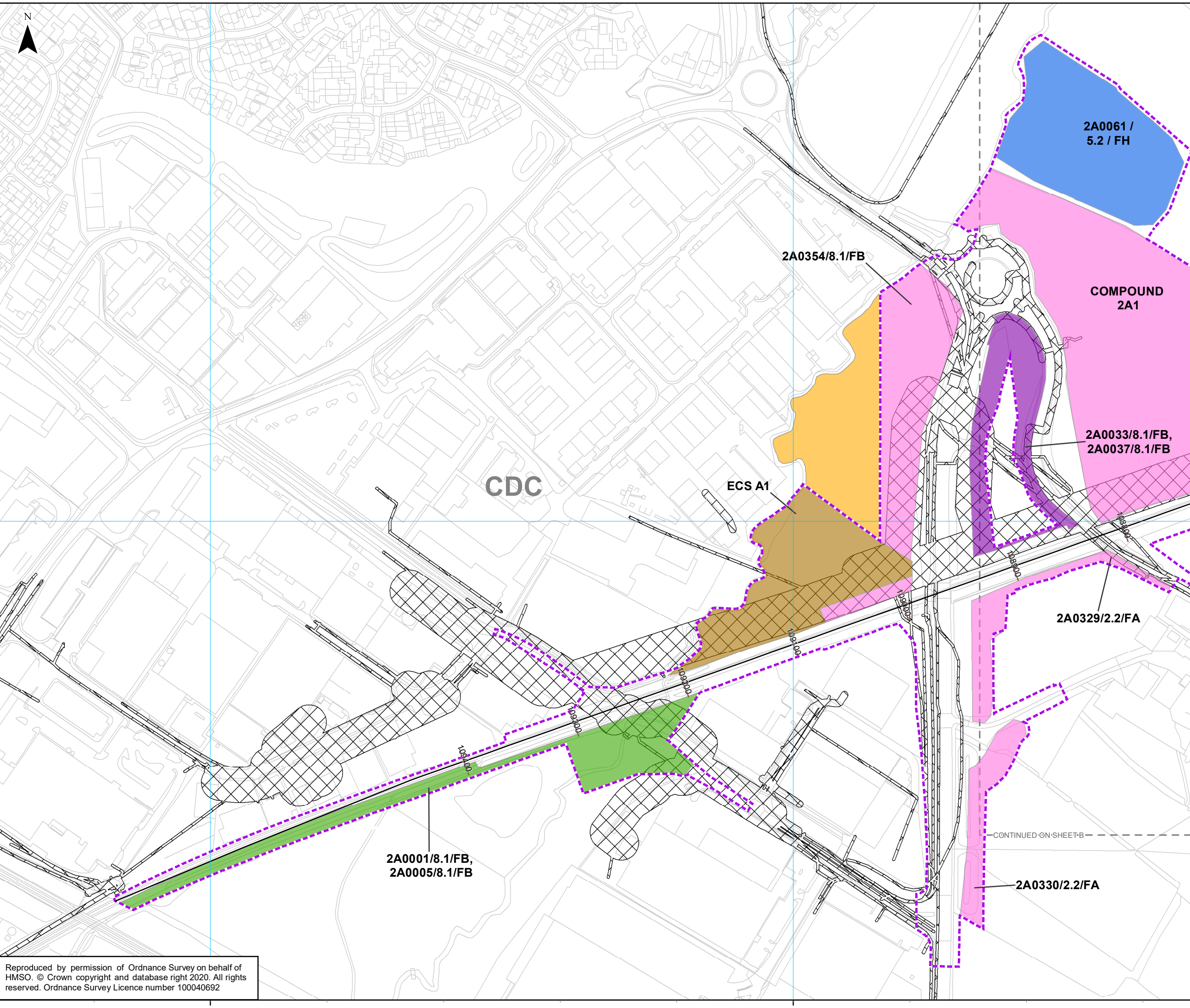
- 10.3.70 A circular cropmark of unknown date (BHER 14749) is located with the Scheme Area in Section 2D.





# Appendix 3: Figures





- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2A1
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
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- ▨ UTILITIES EXCLUSION ZONE
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- GEOPHYSICS; TRIAL TRENCHING; WATCHING BRIEF
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF

Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status	Suitability
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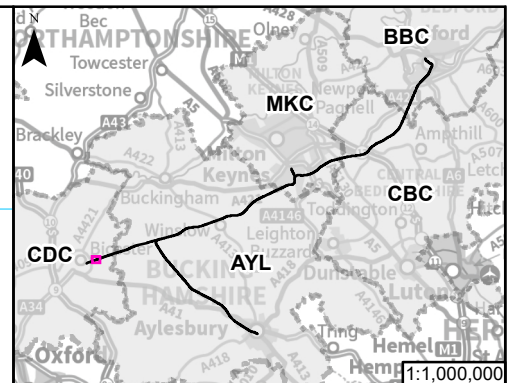
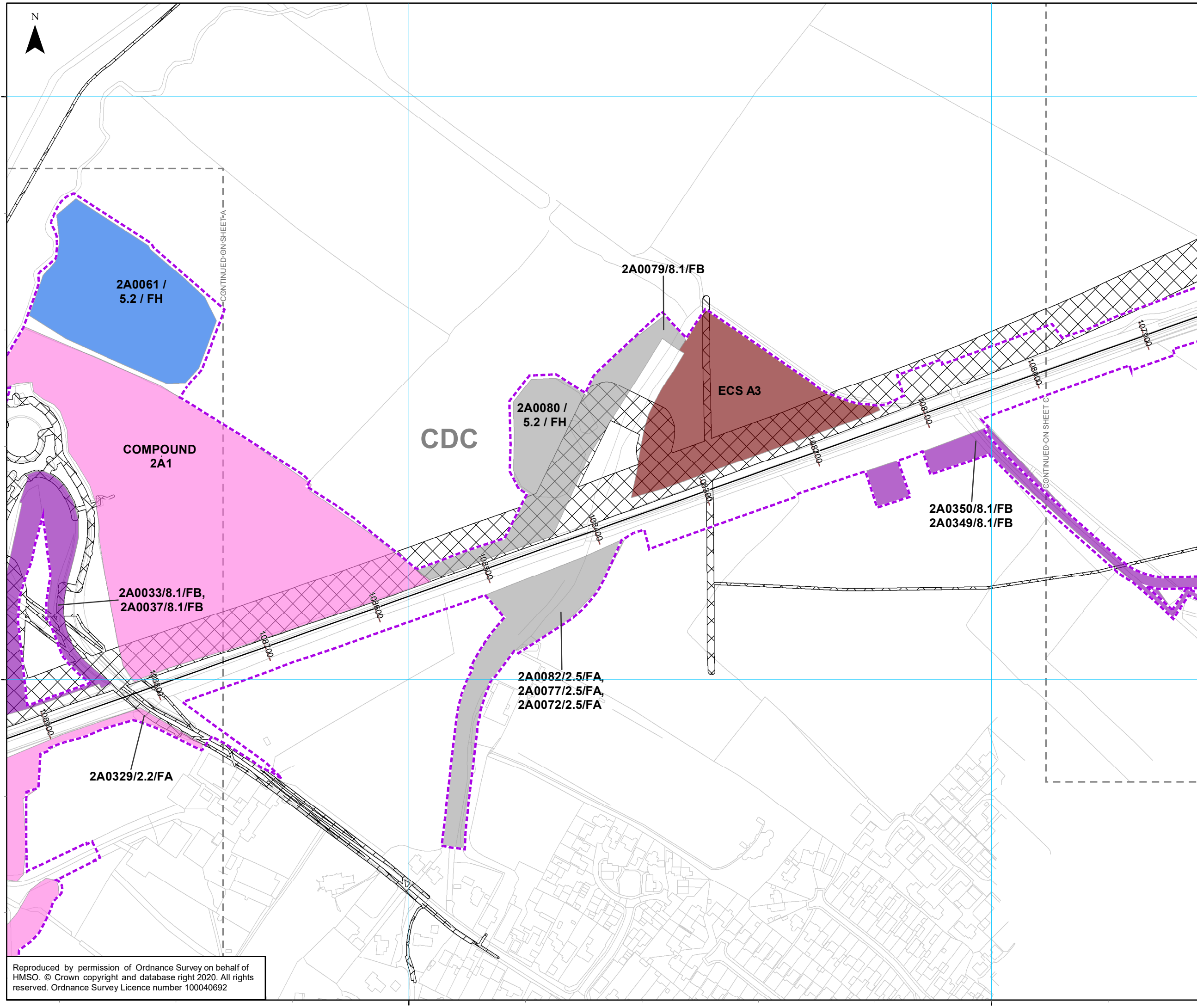
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**THE NETWORK RAIL (EAST WEST RAIL BICESTER TO BEDFORD IMPROVEMENTS) ORDER**

Drawing Title  
**FIGURE 2A HERITAGE EVALUATION & MITIGATION - PROJECTED**

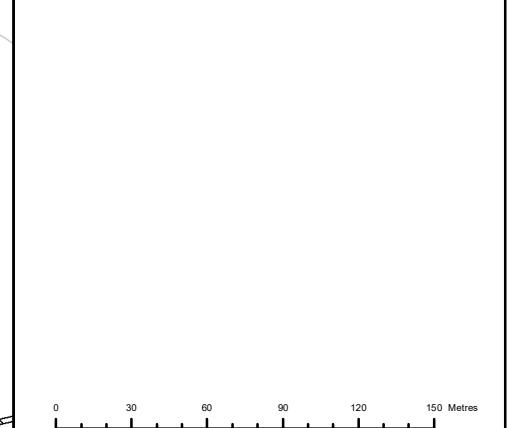
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Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s)	1:3,000	ELR & Project Chainage	N/A
Design Package Risk Classification	<b>NORMAL</b>	Sheet	1 of 66
Alternative Reference	<b>Alternative_Ref</b>	Revision	<b>P05</b>
Drawing Number	133735_RW-EWR-XX-XX-DR-LH-010324		

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- PROJECT EXTENTS
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- ▭ WATCHING BRIEF
- ▭ DESCOPE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT WORKS STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
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Status					Suitability
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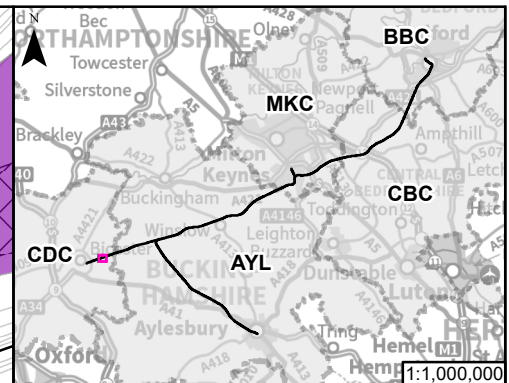
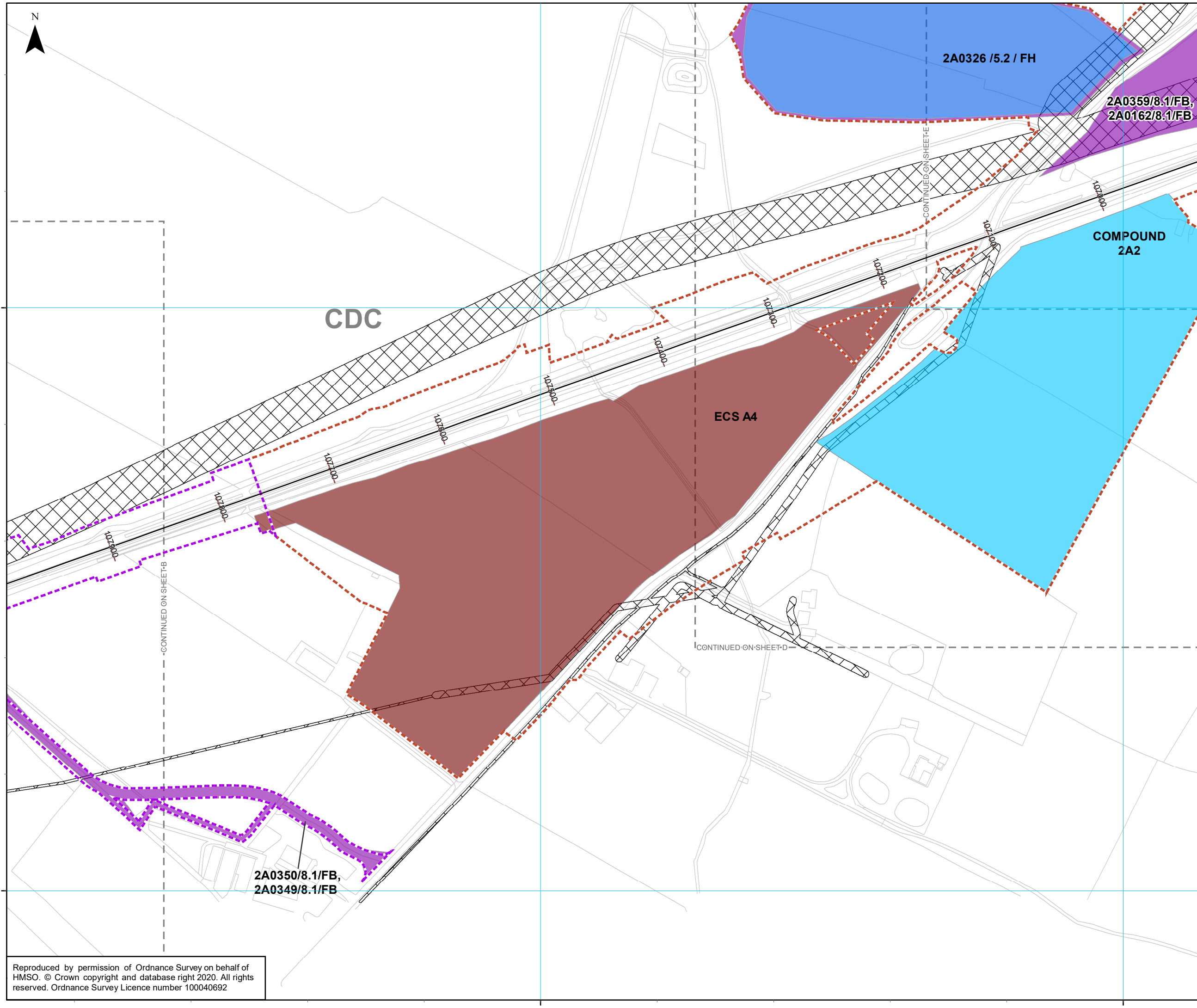
Project  
**THE NETWORK RAIL (EAST WEST RAIL BICESTER TO BEDFORD IMPROVEMENTS) ORDER**

Drawing Title  
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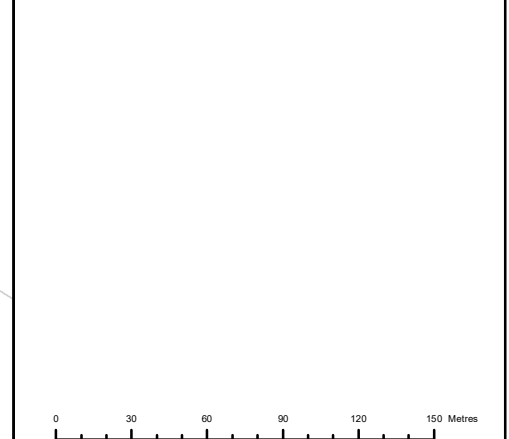
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Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s)	<b>1:3,000</b>	ELR & Project Chainage	N/A
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Alternative Reference	<b>Alternative_Ref</b>	Revision	<b>P05</b>
Drawing Number	133735_RW-EWR-XX-XX-DR-LH-010325		

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- PROJECT EXTENTS
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- ▭ GEOPHYSICS; WATCHING BRIEF
- ▭ WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
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P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
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PUBLISHED - STAGE APPROVED					A1



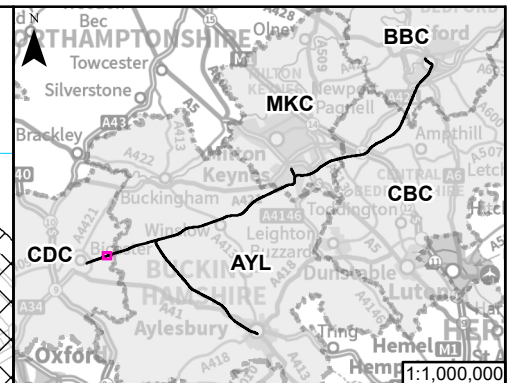
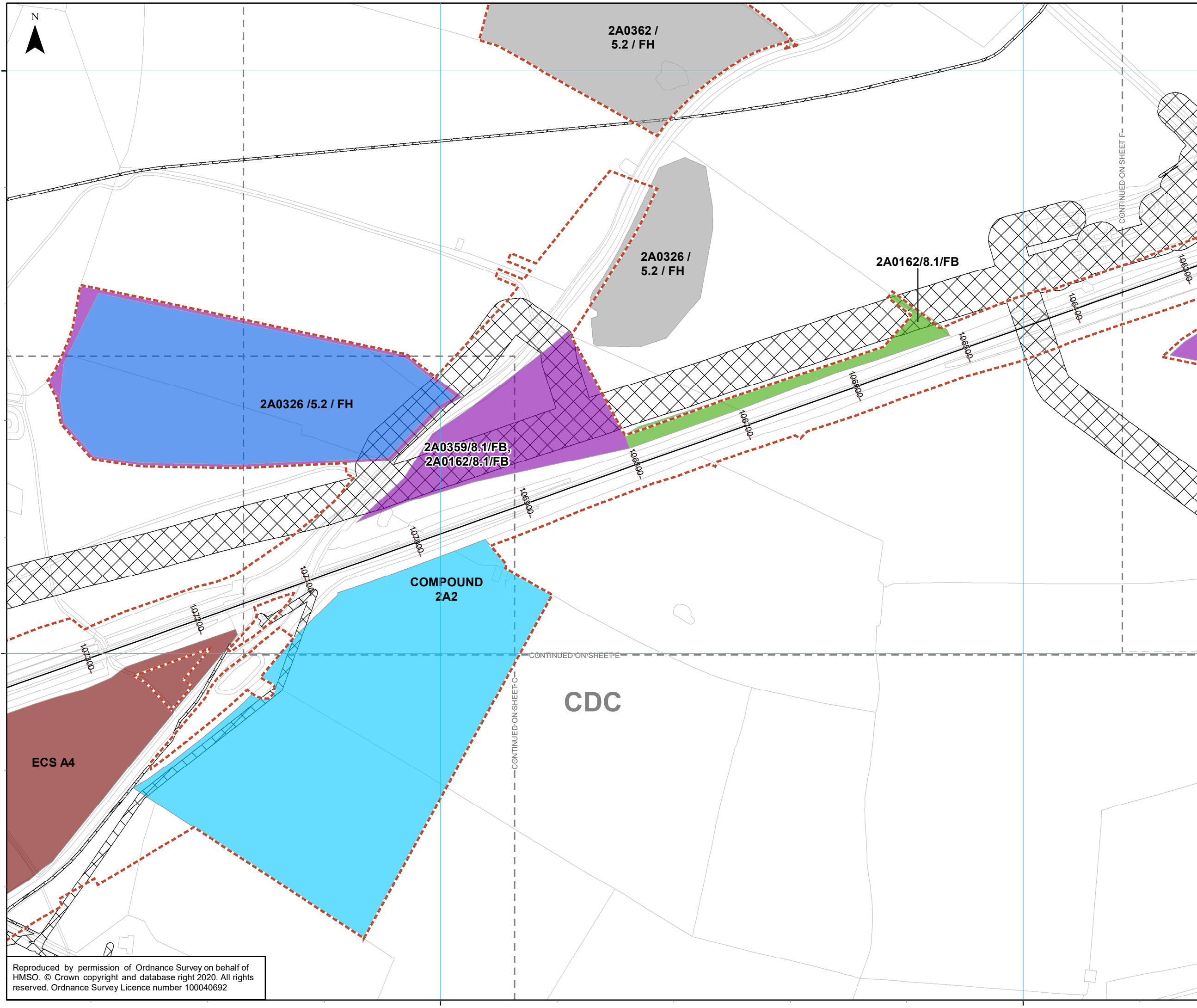
Project  
**THE NETWORK RAIL (EAST WEST RAIL BICESTER TO BEDFORD IMPROVEMENTS) ORDER**

Drawing Title  
**FIGURE 2C  
 HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s)	1:3,000	ELR & Project Chainage	N/A
Design Package Risk Classification	<b>NORMAL</b>	Sheet	3 of 66
Alternative Reference	<b>Alternative_Ref</b>	Revision	<b>P05</b>
Drawing Number	133735_RW-EWR-XX-XX-DR-LH-010326		

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2A2
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- CHANGE FINDS PROCEDURE
- COMPLETED; CHANGE FINDS PROCEDURE
- GEOPHYSICS; STRIP MAP SAMPLE
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF
- DESCOPE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr
Status	PUBLISHED - STAGE APPROVED				Suitability
					A1



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

Drawing Title  
**FIGURE 2D  
 HERITAGE EVALUATION & MITIGATION -  
 PROJECTED: ROUTE SECTION 2A**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

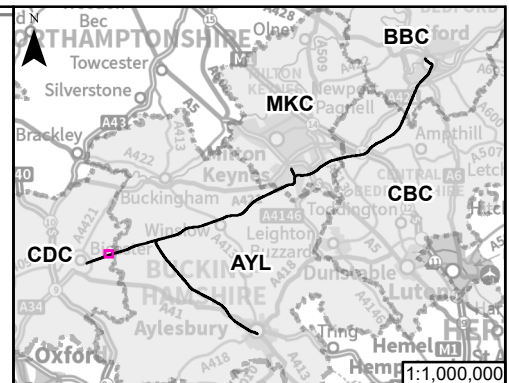
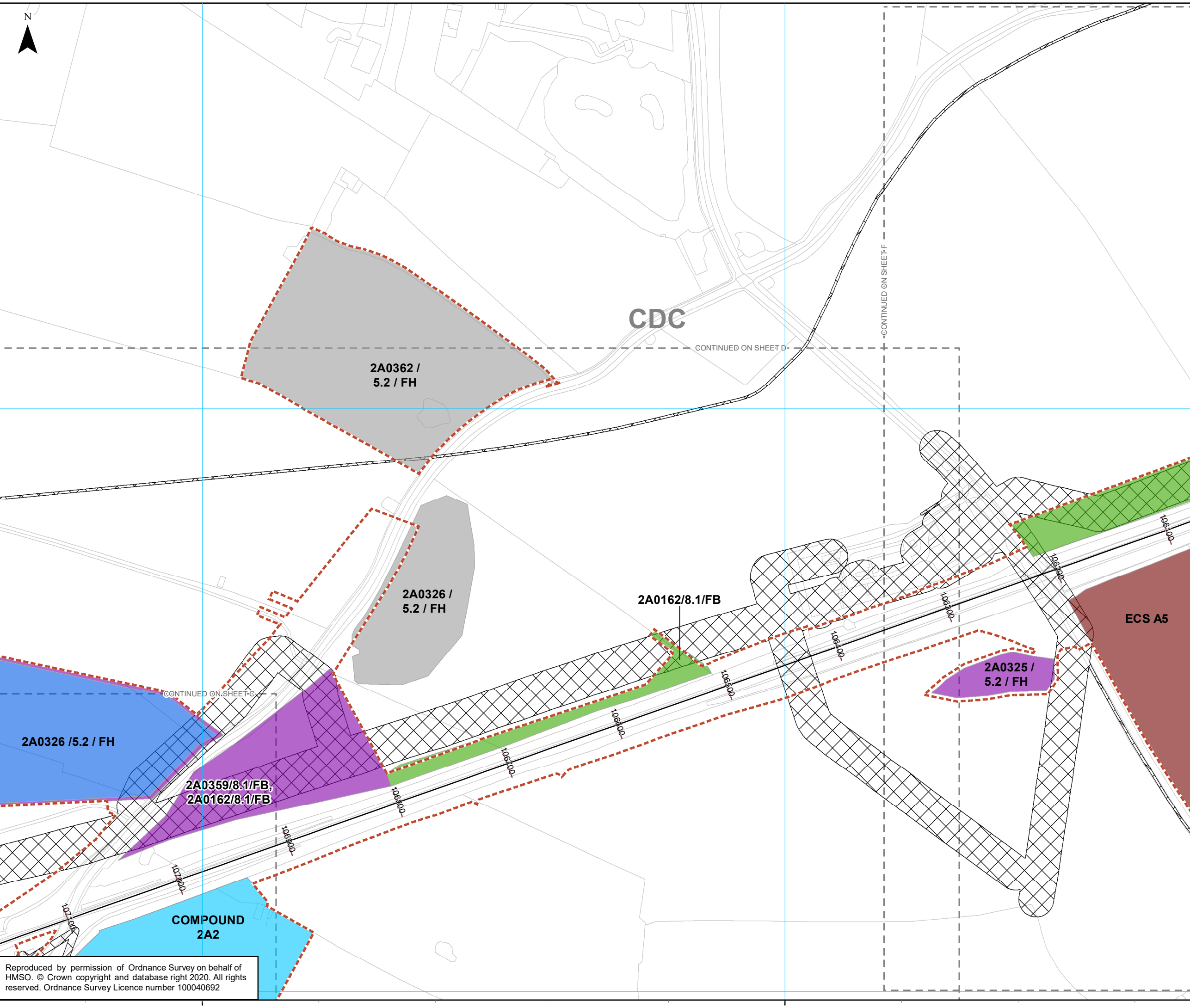
Scale(s)  
**1:3,000** ELR & Project Chainage  
 N/A

Design Package Risk Classification  
**NORMAL** Sheet  
 4 of 66

Alternative Reference  
**Alternative\_Ref** Revision  
**P05**

Drawing Number  
**133735\_RW-EWR-XX-XX-DR-LH-010327**

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2A2
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- CHANGE FINDS PROCEDURE
- COMPLETED; CHANGE FINDS PROCEDURE
- GEOPHYSICS; STRIP MAP SAMPLE
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF
- DESCOPED



Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2E HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AM</i>	Date	25/02/2020

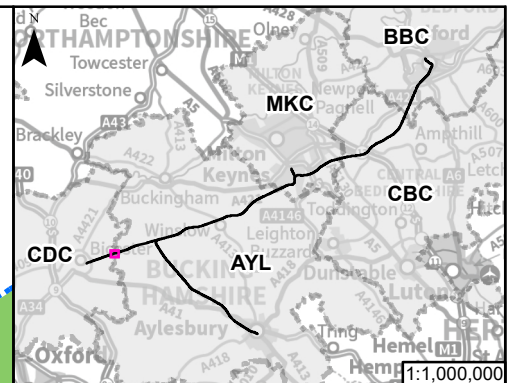
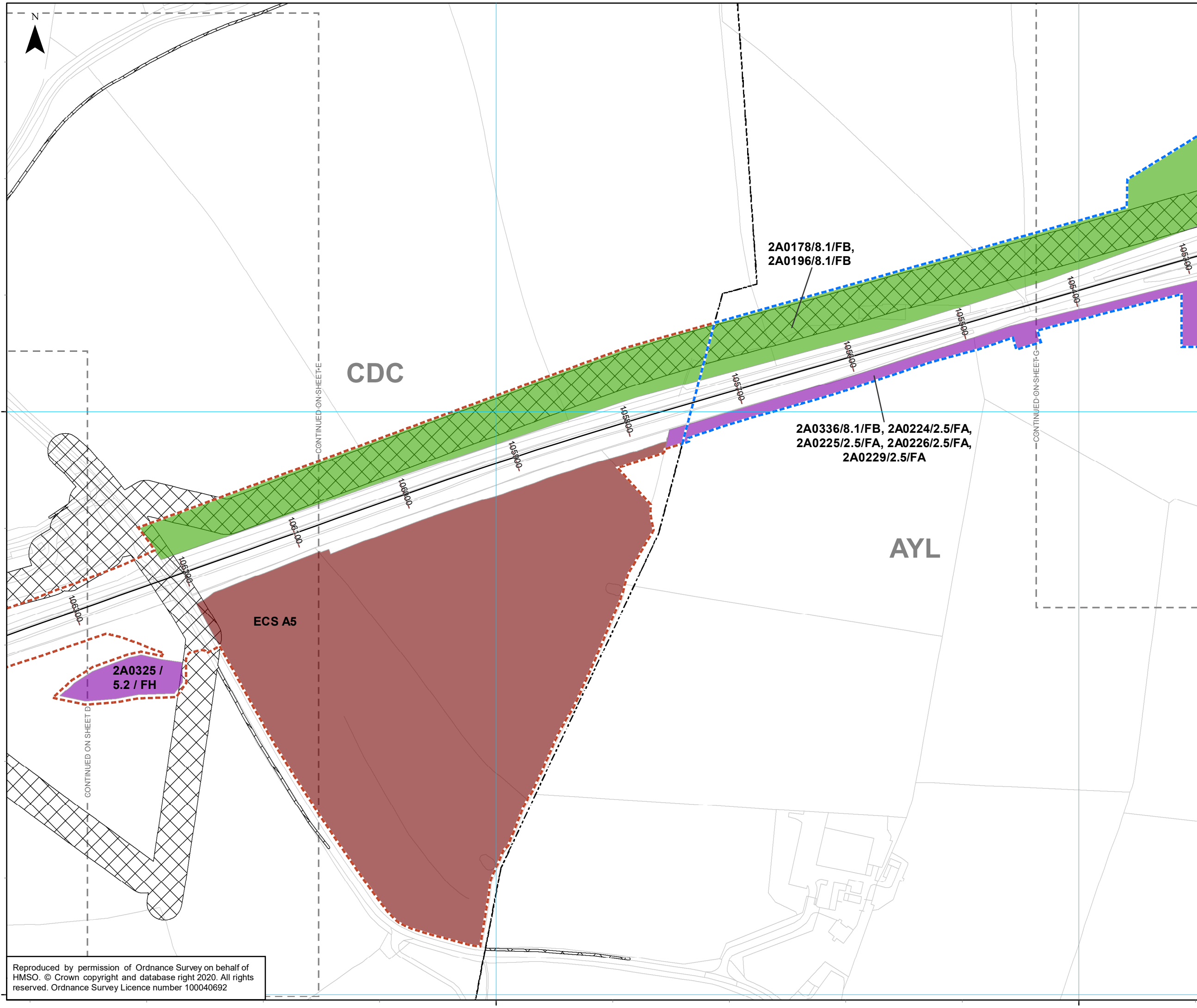
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **5 of 66**

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010328**

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- PROJECT EXTENTS
- ▭ DEVELOPMENT STAGE 2A2
- ▭ DEVELOPMENT STAGE 2A3
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ▭ UTILITIES EXCLUSION ZONE
- MITIGATION
- ▭ CHANCE FINDS PROCEDURE
- ▭ COMPLETED; CHANCE FINDS PROCEDURE
- ▭ WATCHING BRIEF



Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2F HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kevin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

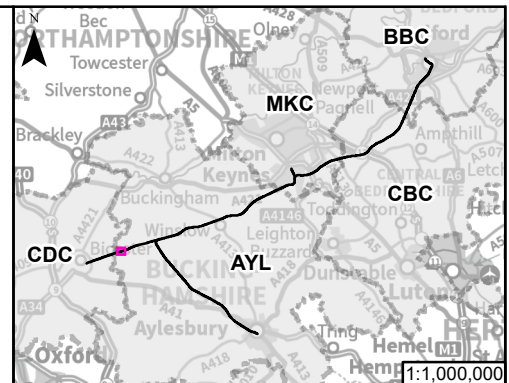
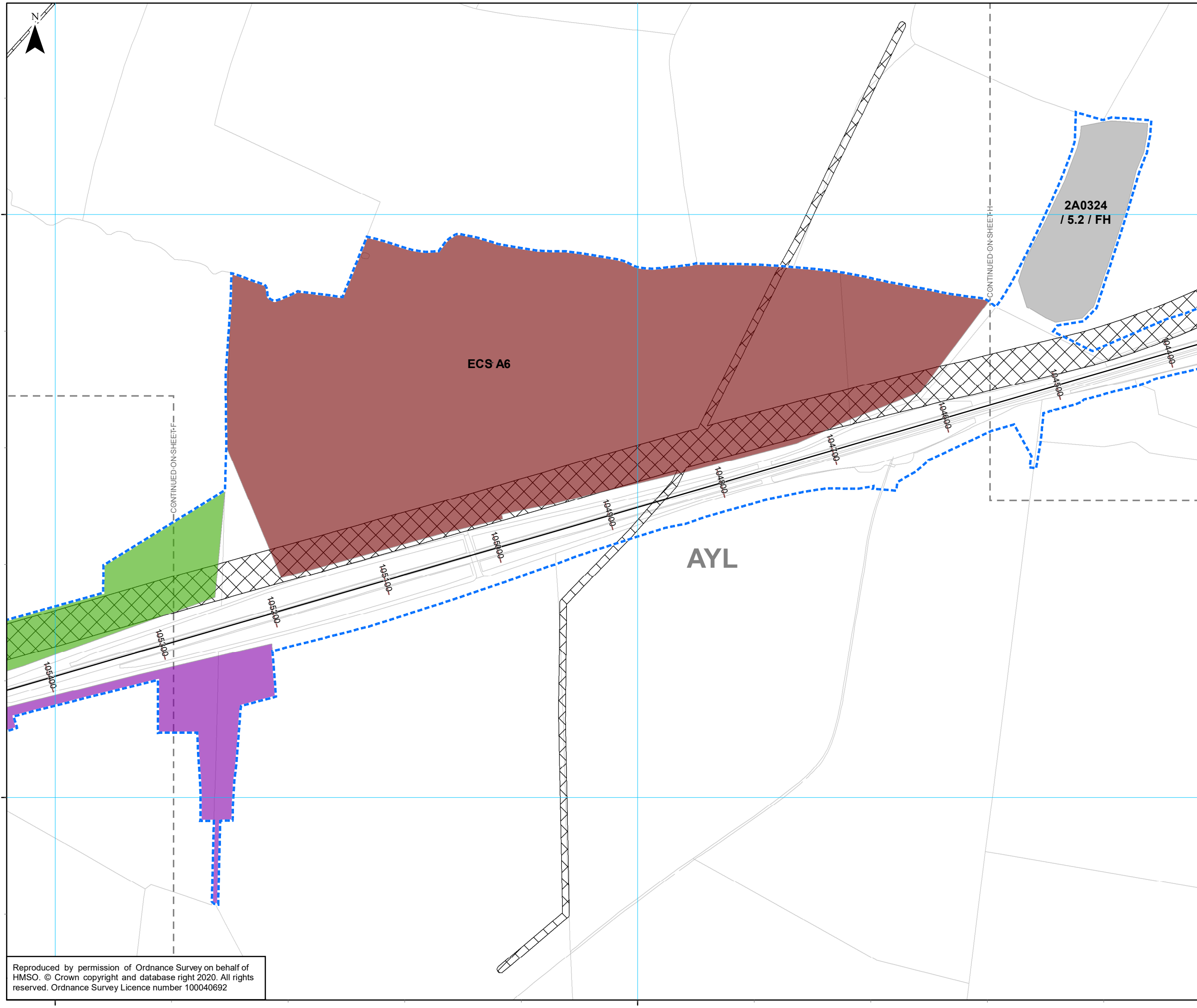
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **6 of 66**

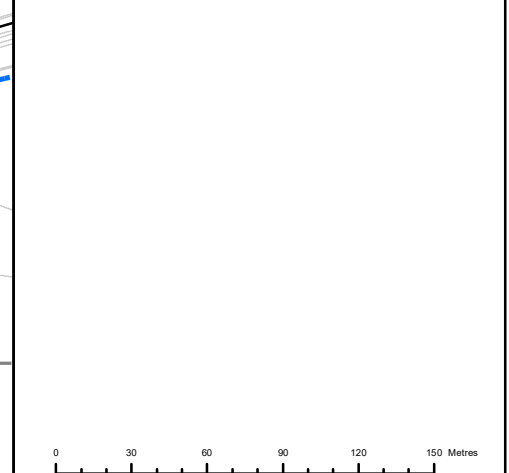
Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010329**

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- PROJECT EXTENTS
- ▭ DEVELOPMENT STAGE 2A3
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- CHANGE FINDS PROCEDURE
- COMPLETED; CHANGE FINDS PROCEDURE
- WATCHING BRIEF
- DESCOPE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr
Status					Suitability
PUBLISHED - STAGE APPROVED					A1



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

Drawing Title  
**FIGURE 2G  
 HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s)  
**1:3,000** ELR & Project Chainage  
 N/A

Design Package Risk Classification  
**NORMAL** Sheet  
 7 of 66

Alternative Reference  
**Alternative\_Ref** Revision  
**P05**

Drawing Number  
**133735\_RW-EWR-XX-XX-DR-LH-010330**

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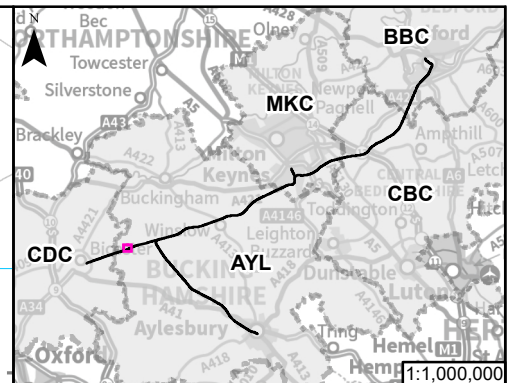
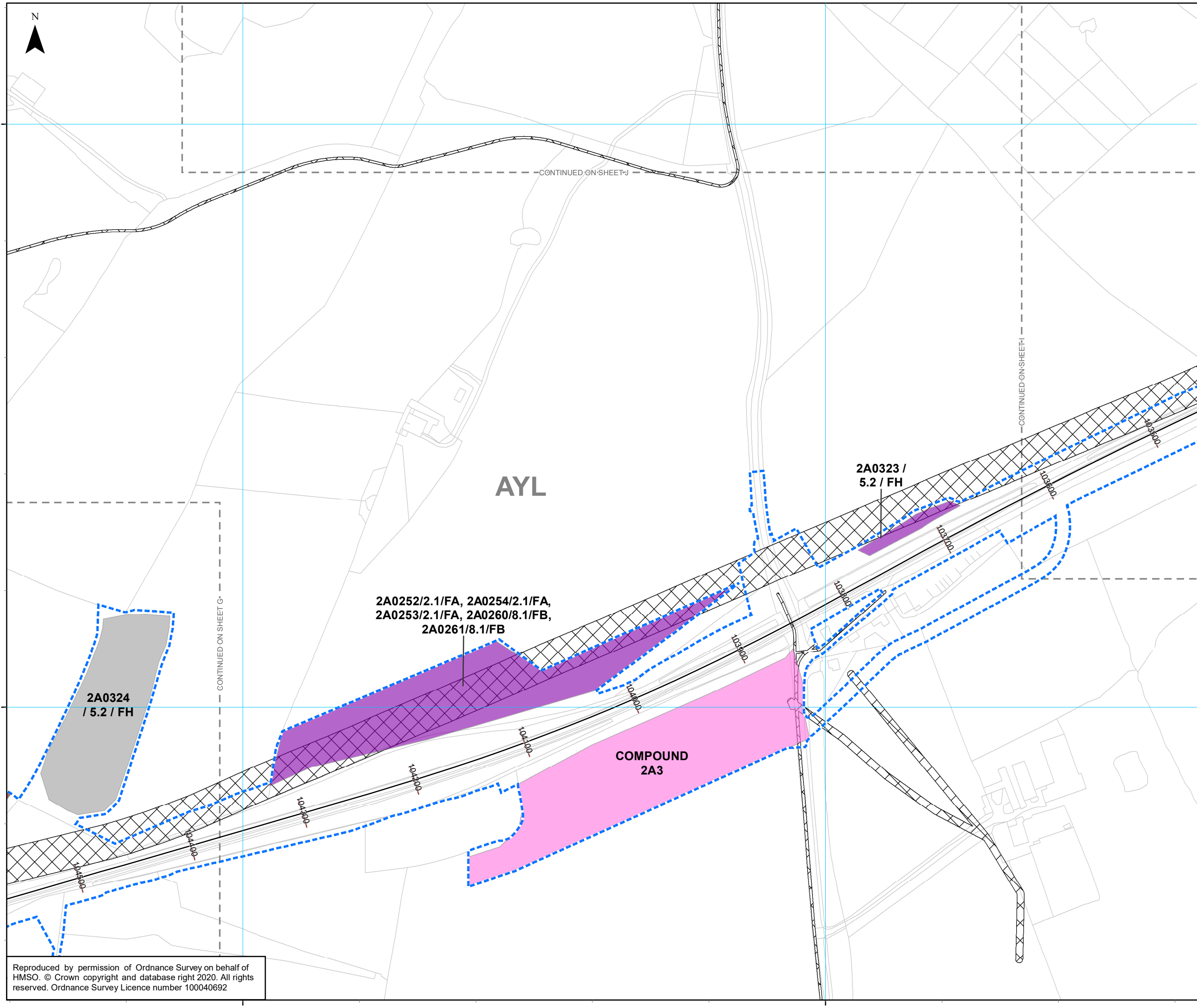
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Sheet Size A3 297 x 420





- PROJECT EXTENTS
- ▭ DEVELOPMENT STAGE 2A3
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- COMPLETED; CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING; STRIP MAP SAMPLE
- WATCHING BRIEF
- DESCOPE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsmd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2H HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

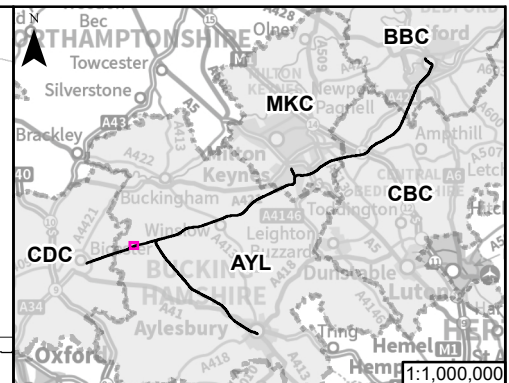
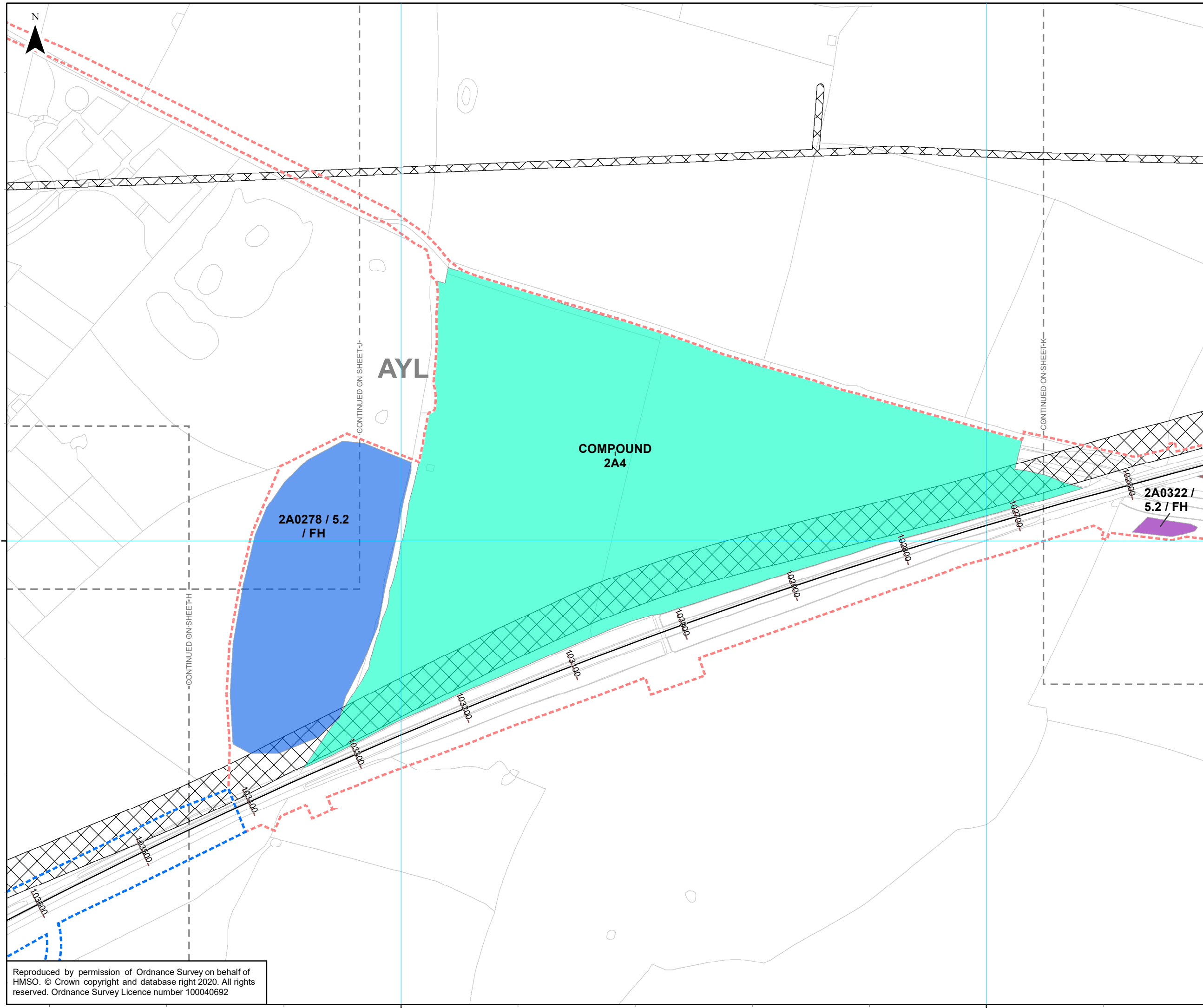
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **8 of 66**

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010331**

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- PROJECT EXTENTS
- ▨ DEVELOPMENT STAGE 2A3
- ▨ DEVELOPMENT STAGE 2A4
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ⊠ UTILITIES EXCLUSION ZONE
- MITIGATION
- COMPLETED; CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING; WATCHING BRIEF; STRIP MAP SAMPLE
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF



Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 21 HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

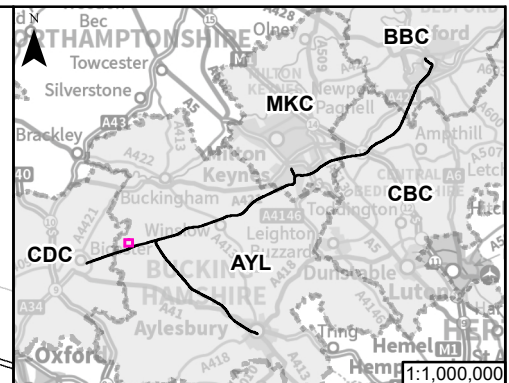
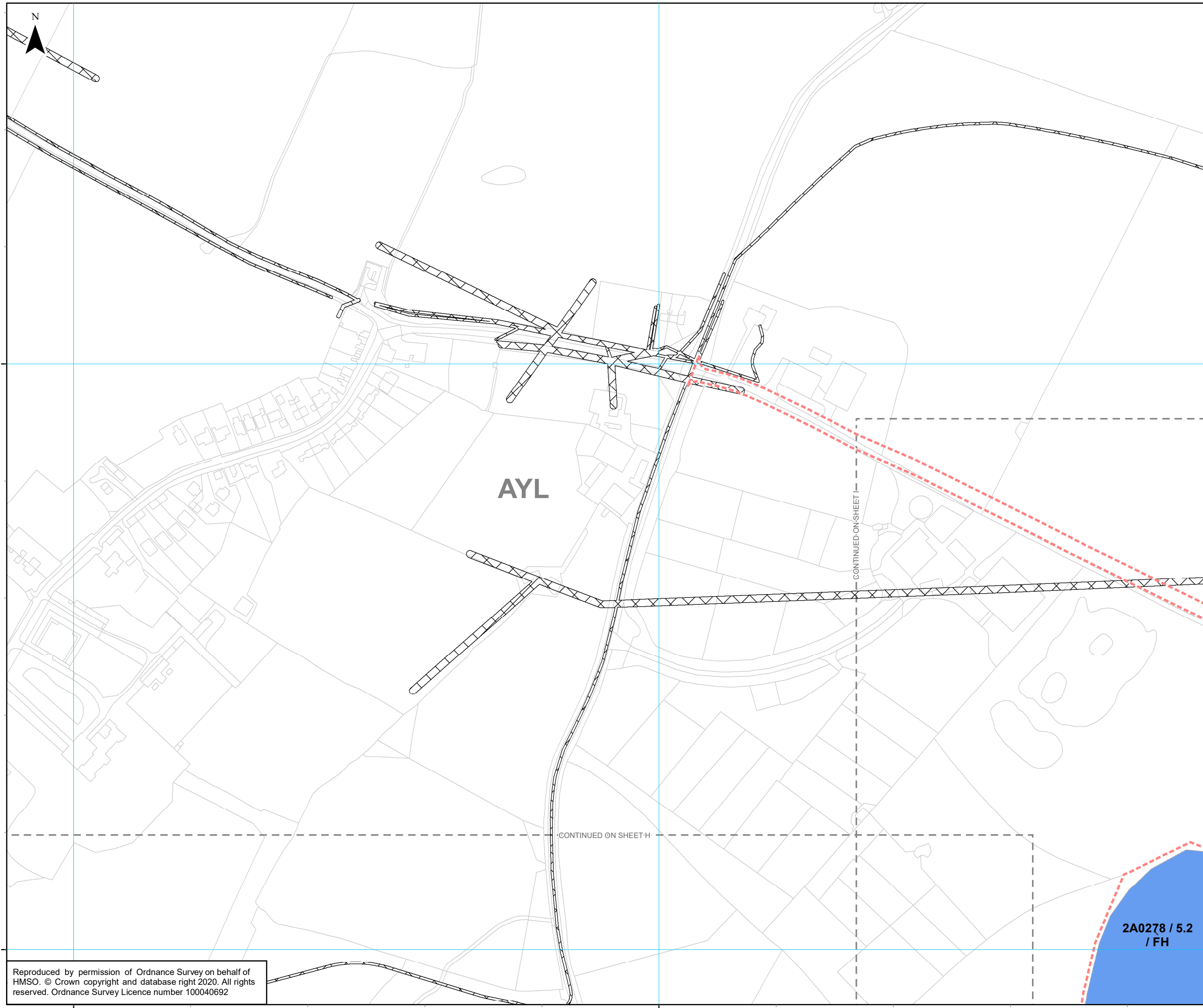
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **9 of 66**

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010332**

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2A4
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; WATCHING BRIEF



Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2J HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

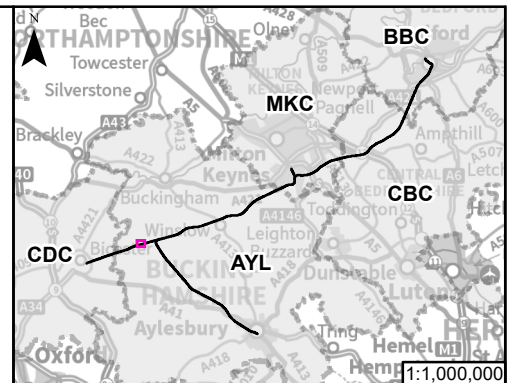
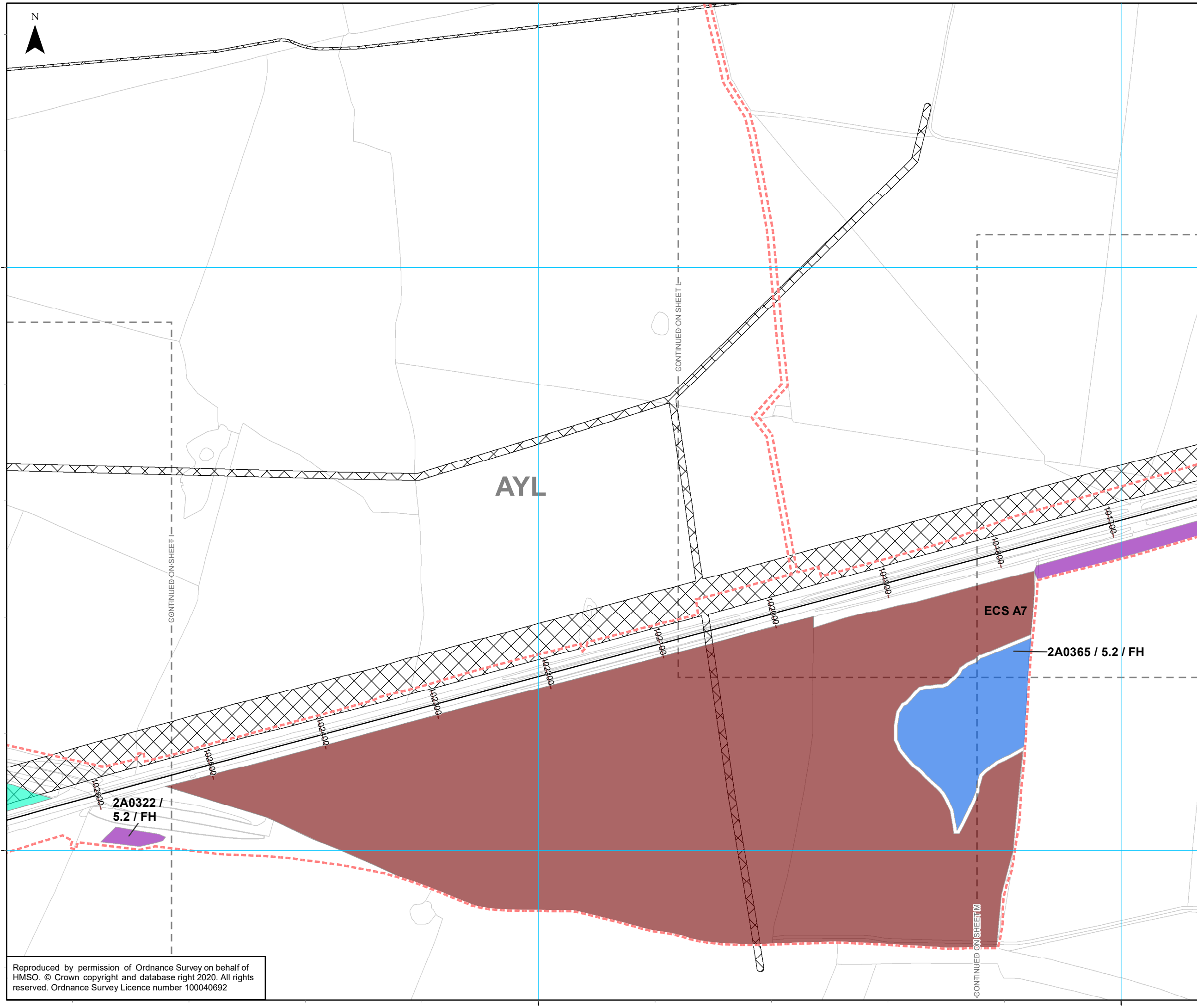
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **10 of 66**

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010333**

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2A4
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- COMPLETED: CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING; WATCHING BRIEF; STRIP MAP SAMPLE
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr
Status					Suitability
PUBLISHED - STAGE APPROVED					A1



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

Drawing Title  
**FIGURE 2K  
 HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

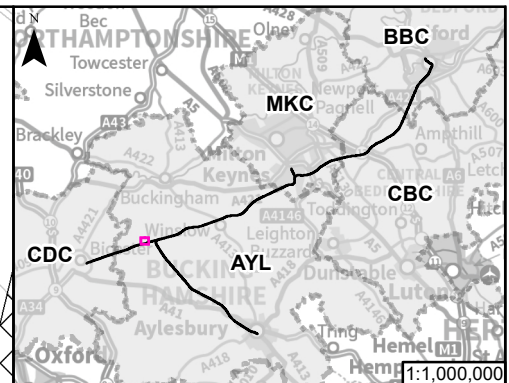
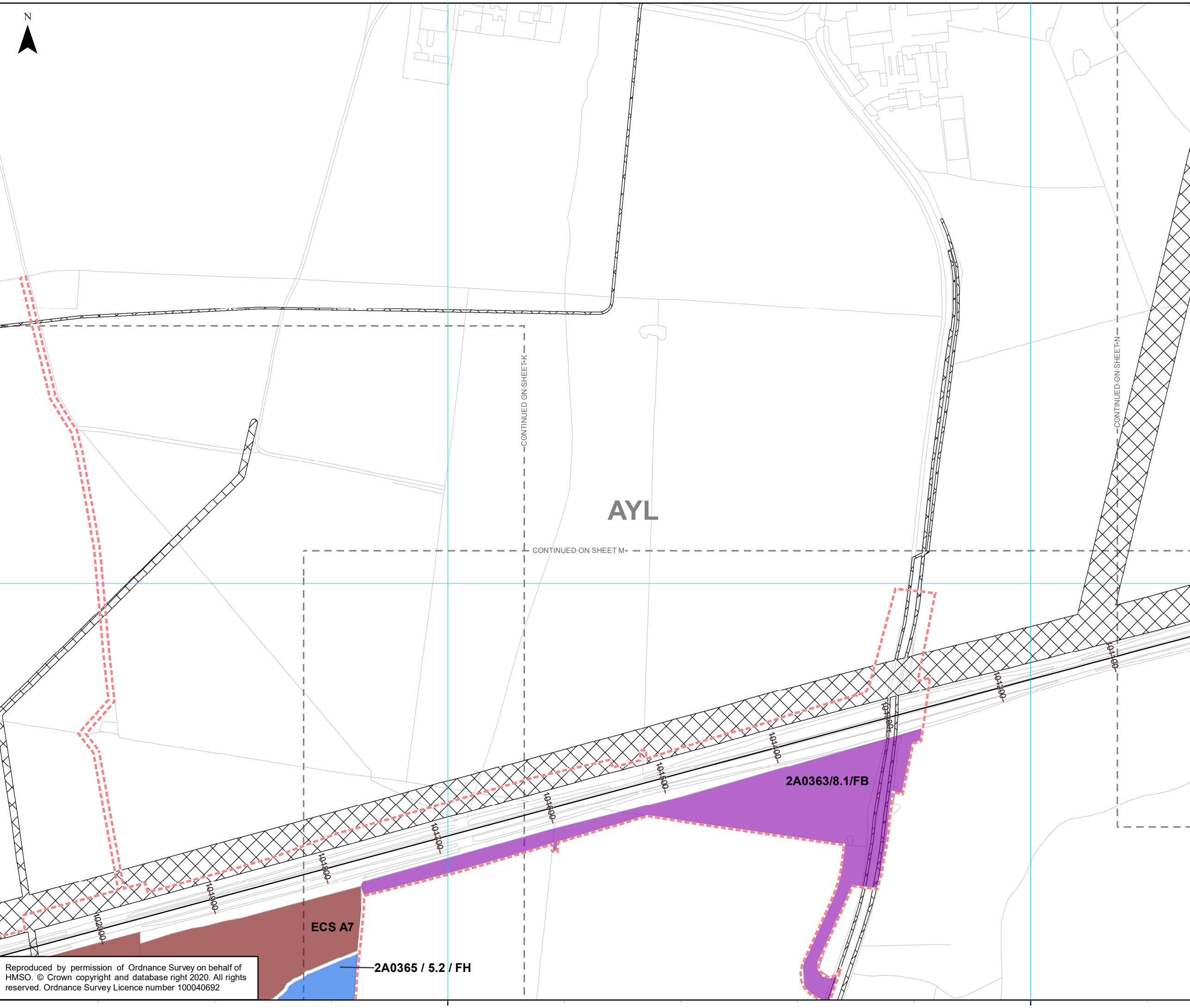
Scale(s)  
**1:3,000** ELR & Project Chainage  
 N/A

Design Package Risk Classification  
**NORMAL** Sheet  
 11 of 66

Alternative Reference  
**Alternative\_Ref** Revision  
**P05**

Drawing Number  
**133735\_RW-EWR-XX-XX-DR-LH-010334**

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2A4
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- COMPLETED; CHANCE FINDS PROCEDURE
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsmd	Chkd	Apr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2L HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

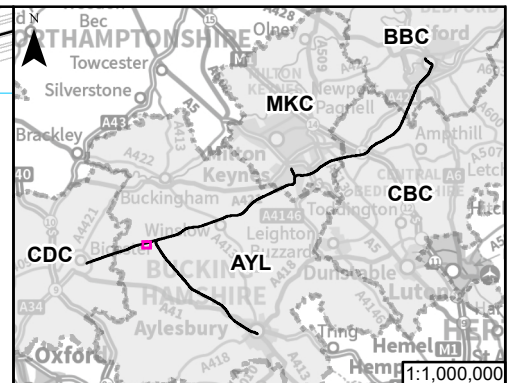
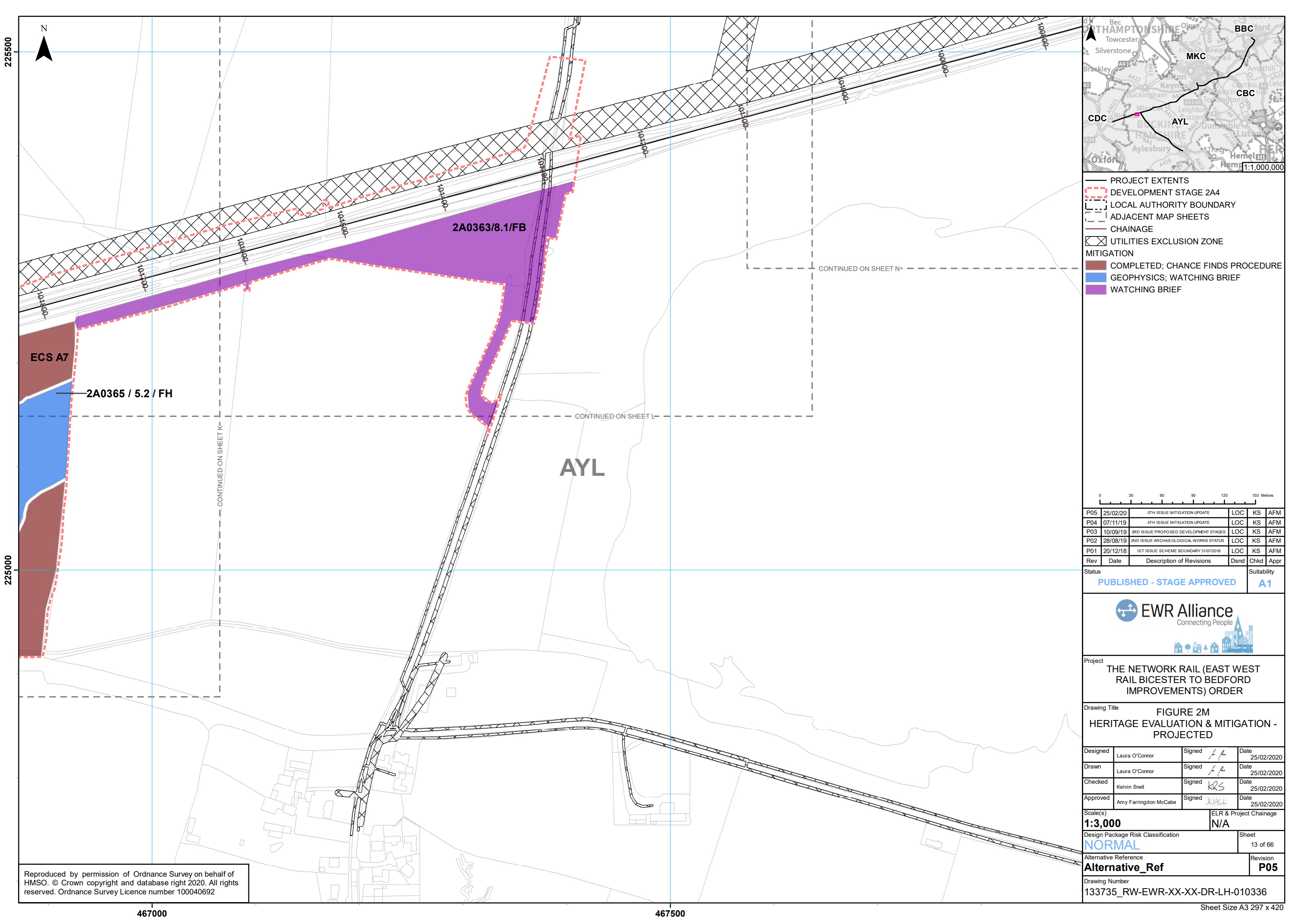
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 12 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010335**

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2A4
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- COMPLETED; CHANCE FINDS PROCEDURE
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF



Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2M HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

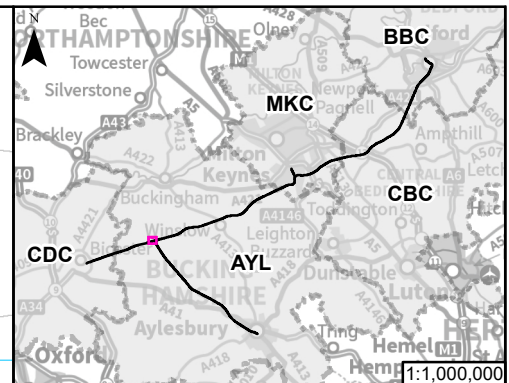
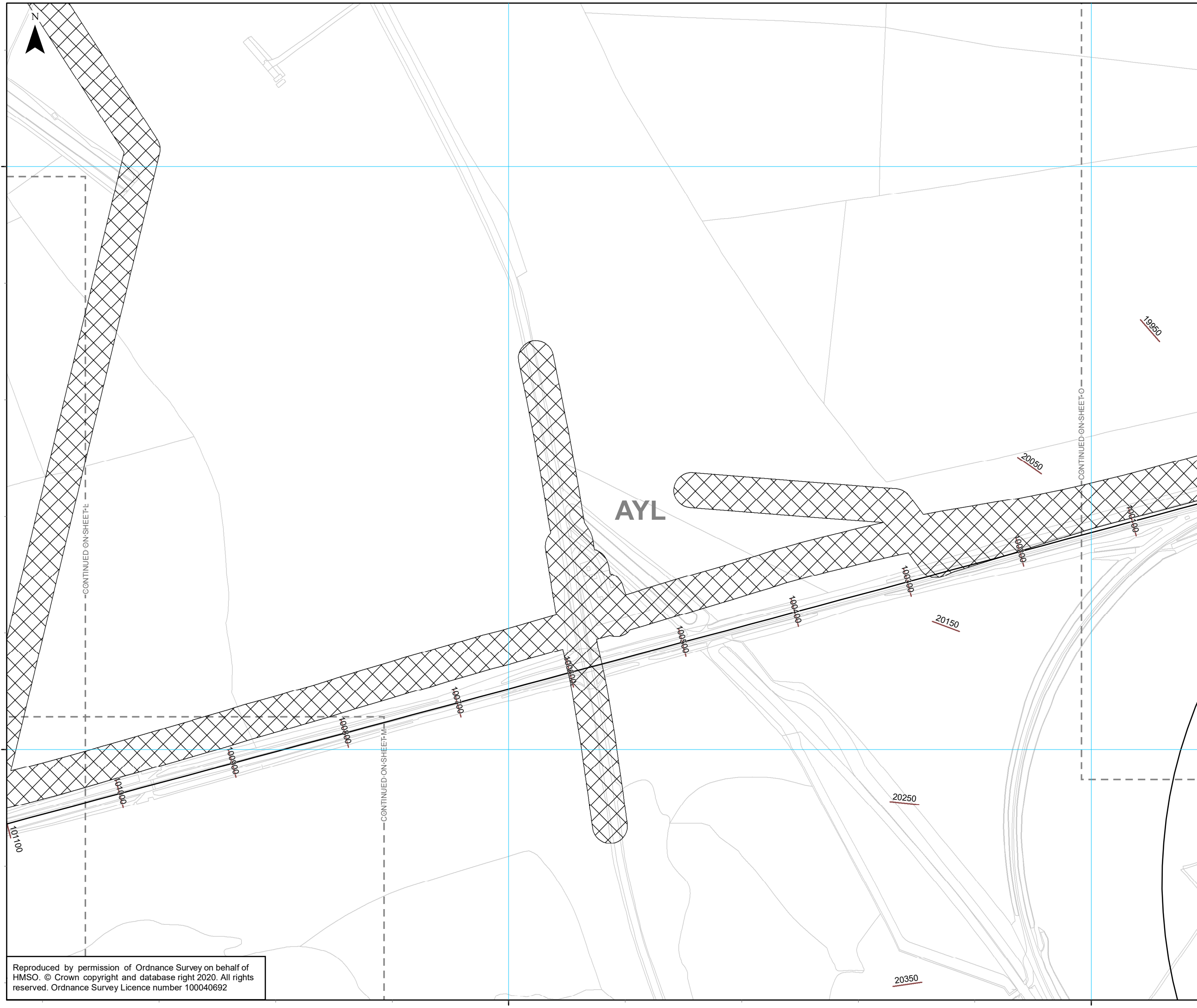
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 13 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010336**

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- PROJECT EXTENTS
- LOCAL AUTHORITY BOUNDARY
- ADJACENT MAP SHEETS
- CHAINAGE
- UTILITIES EXCLUSION ZONE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2N HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

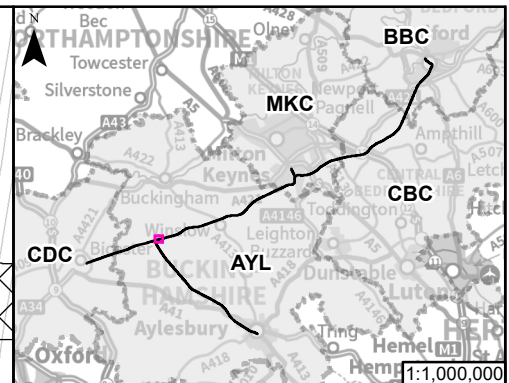
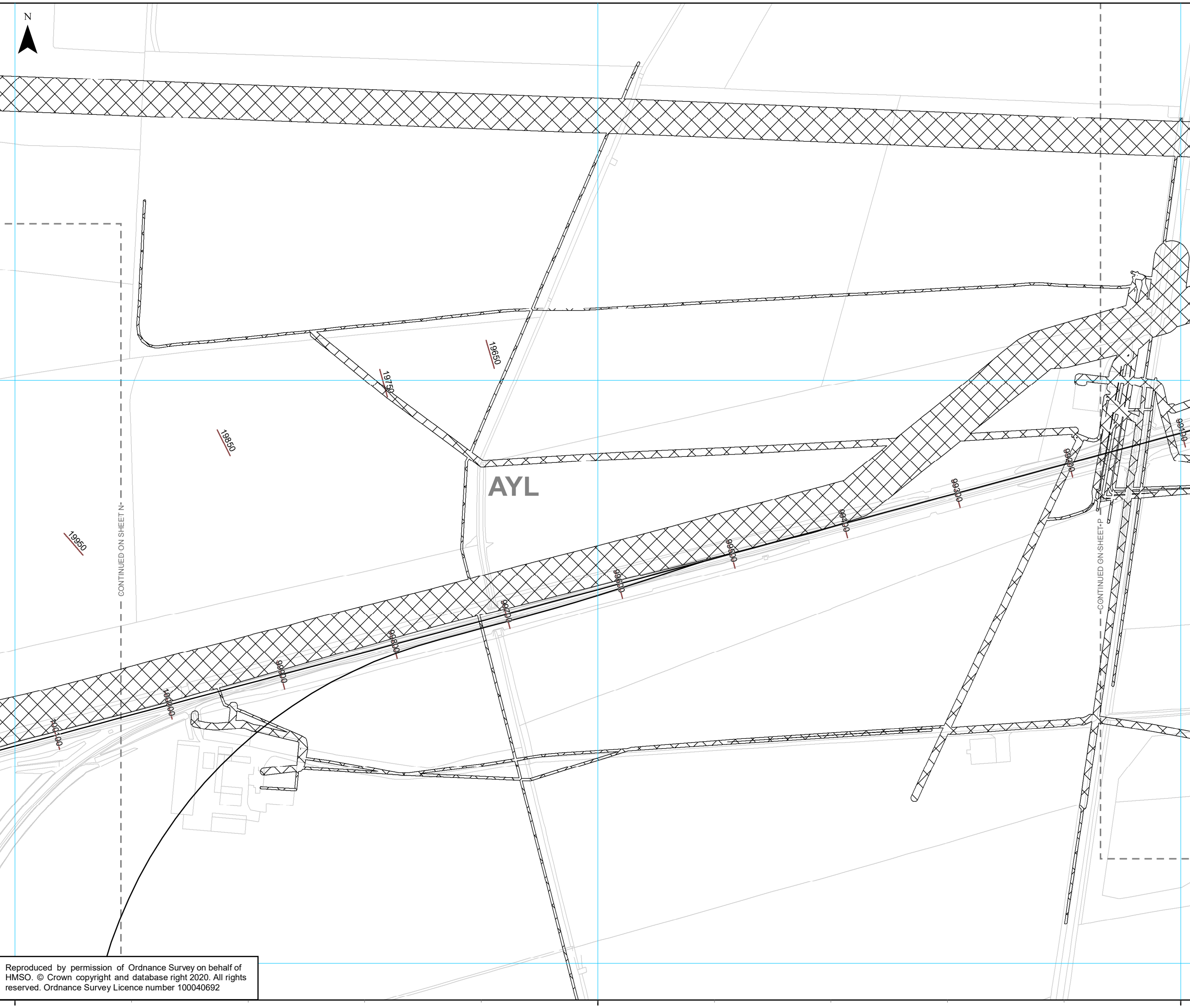
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 14 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010337**

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- PROJECT EXTENTS
- LOCAL AUTHORITY BOUNDARY
- ADJACENT MAP SHEETS
- CHAINAGE
- UTILITIES EXCLUSION ZONE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 20 HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

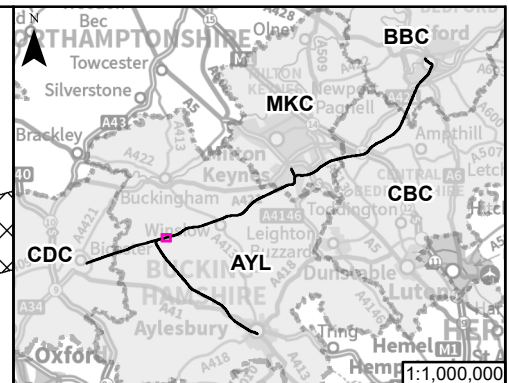
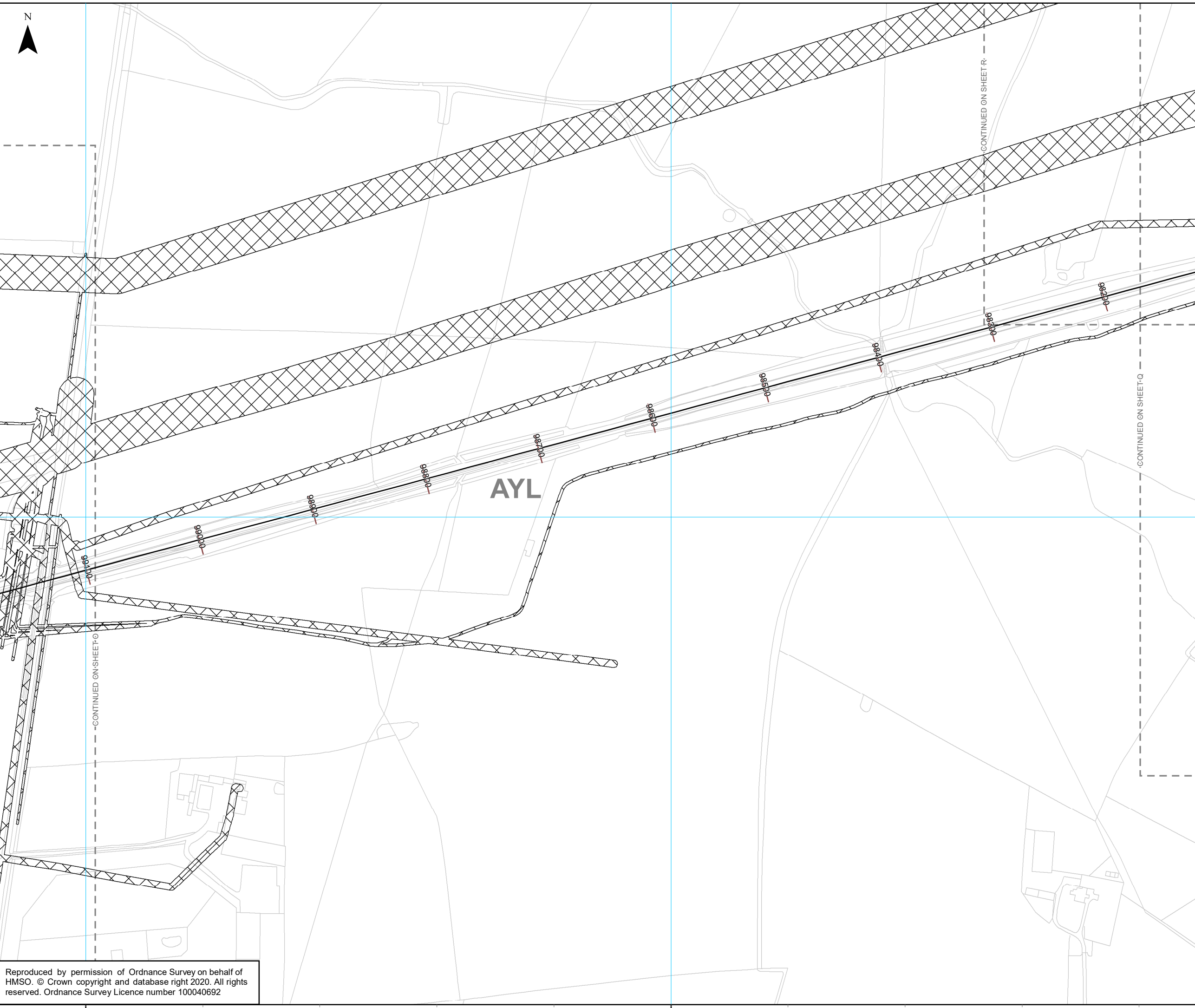
Design Package Risk Classification: **NORMAL** Sheet: 15 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010338**

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- PROJECT EXTENTS
- LOCAL AUTHORITY BOUNDARY
- ADJACENT MAP SHEETS
- CHAINAGE
- UTILITIES EXCLUSION ZONE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsmd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2P HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

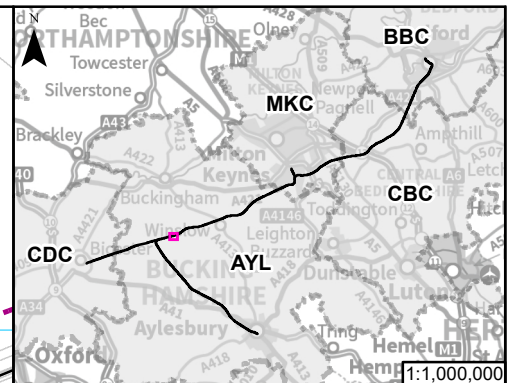
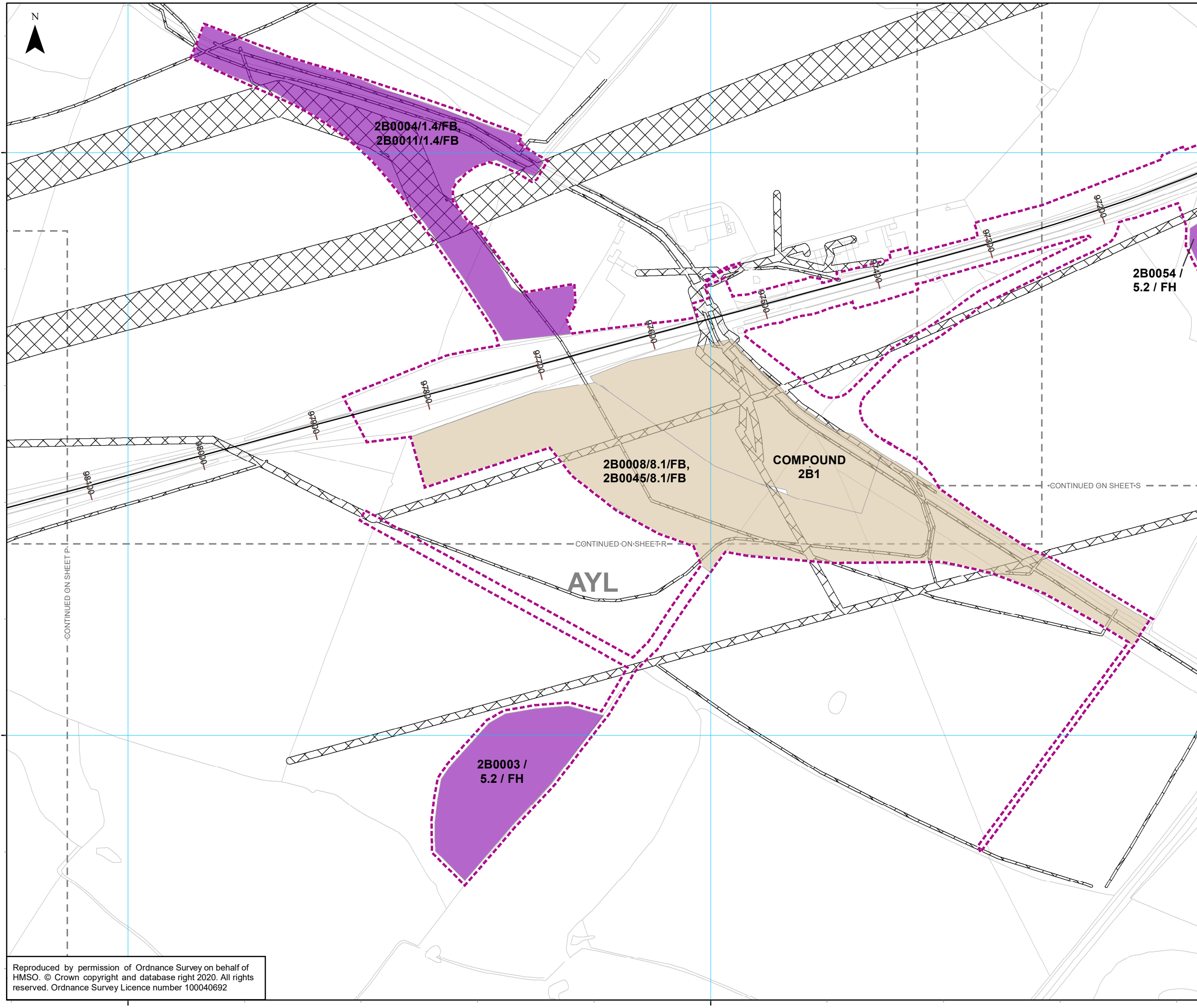
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 16 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010339**

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2B1
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE
- WATCHING BRIEF



Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2Q HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

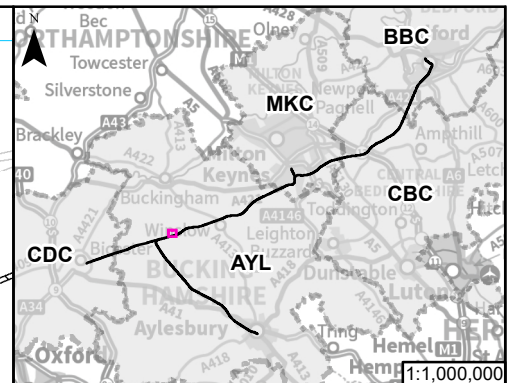
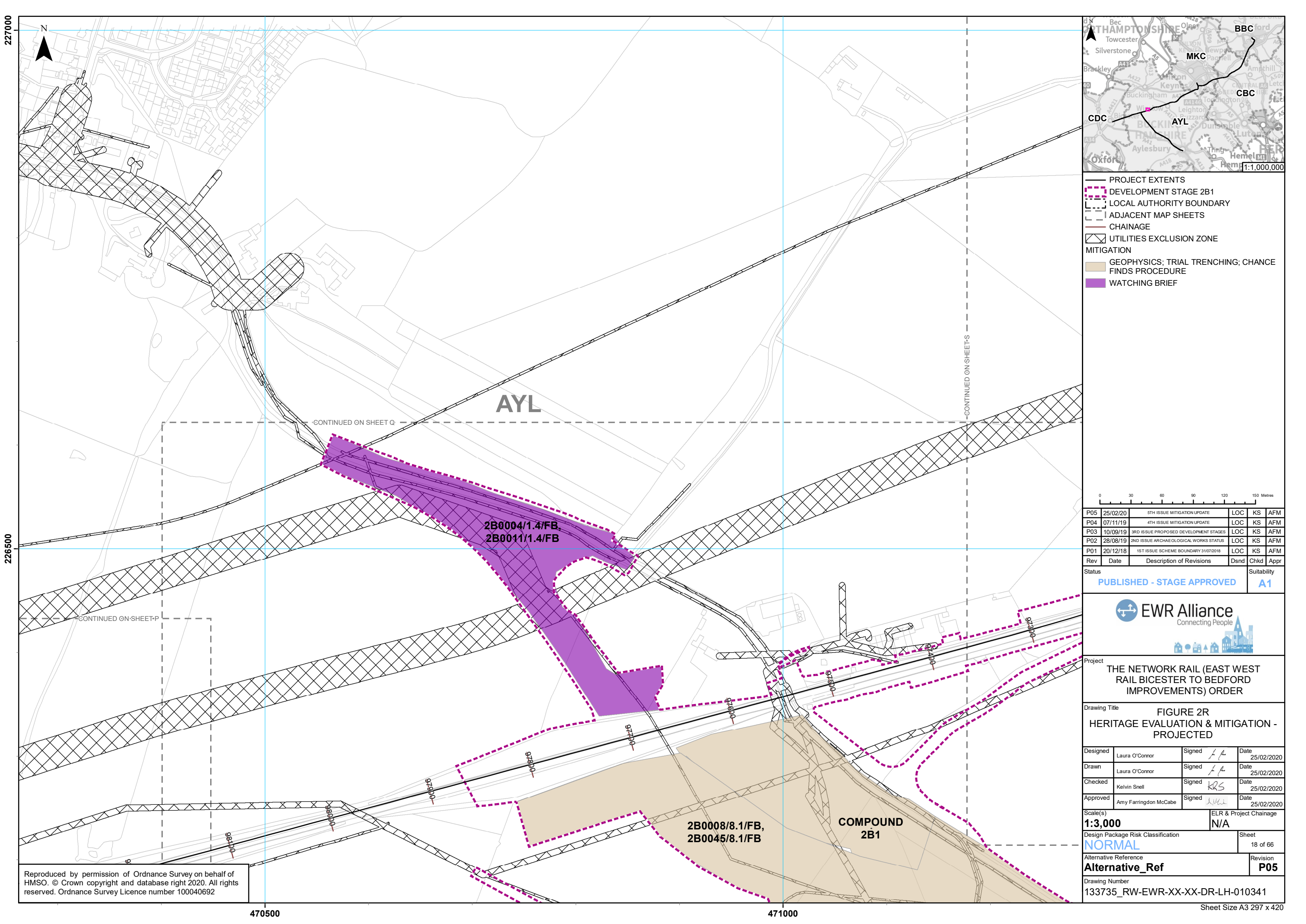
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 17 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010340**

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- PROJECT EXTENTS
- ▬ DEVELOPMENT STAGE 2B1
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE
- WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2R HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AM</i>	Date	25/02/2020

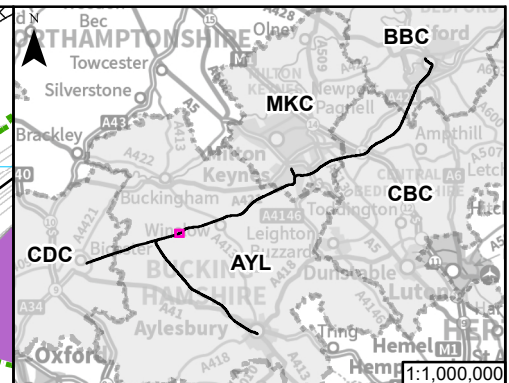
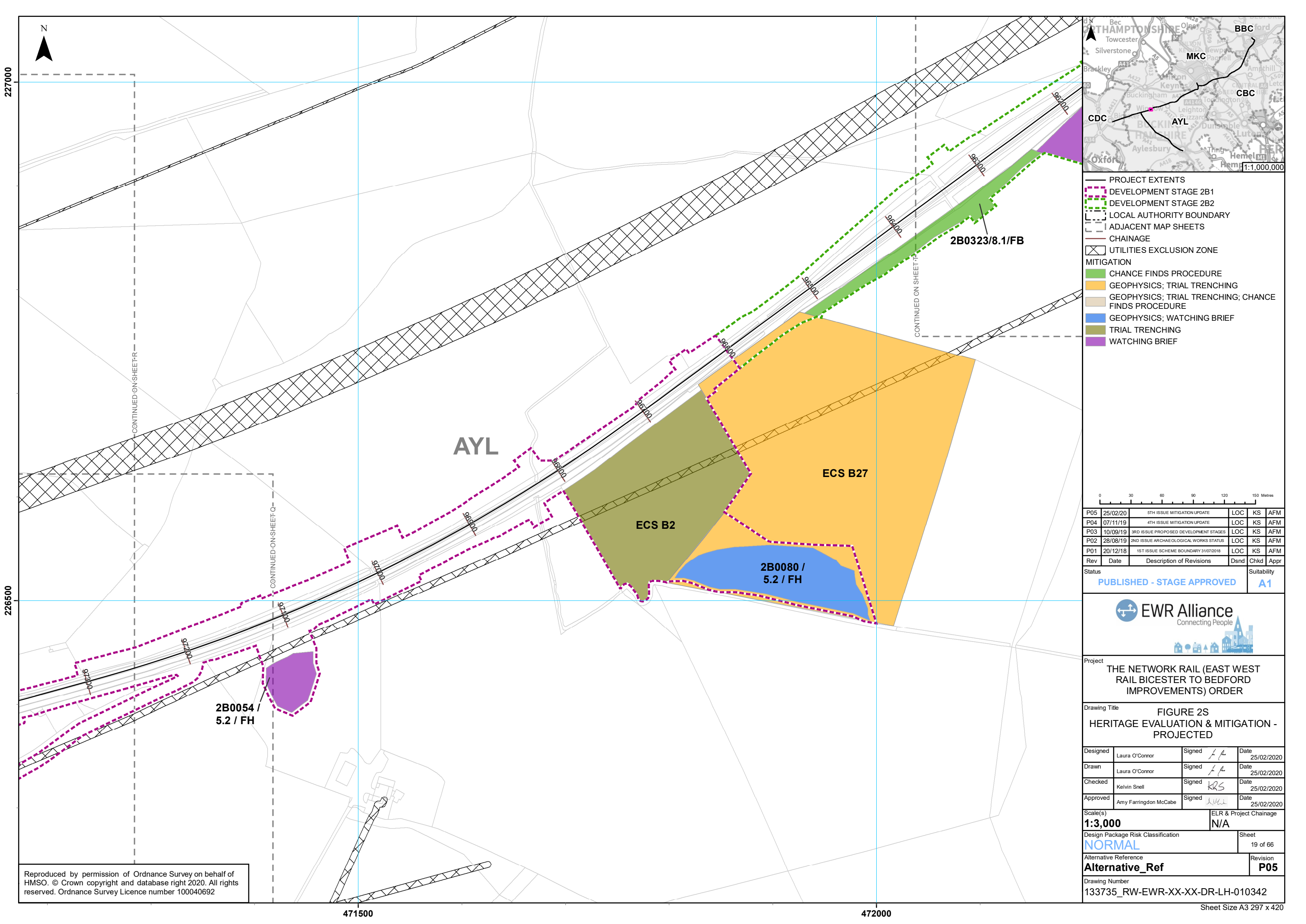
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 18 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010341**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2B1
- DEVELOPMENT STAGE 2B2
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ⊠ UTILITIES EXCLUSION ZONE
- MITIGATION
- CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING
- GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE
- GEOPHYSICS; WATCHING BRIEF
- TRIAL TRENCHING
- WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2S HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

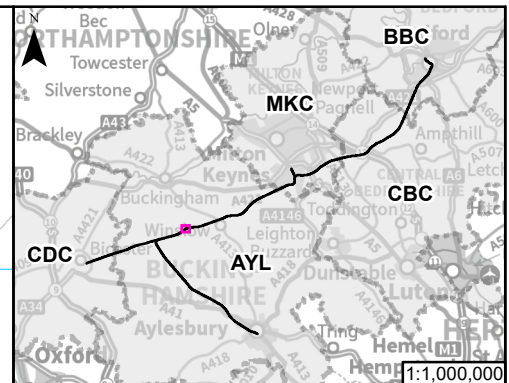
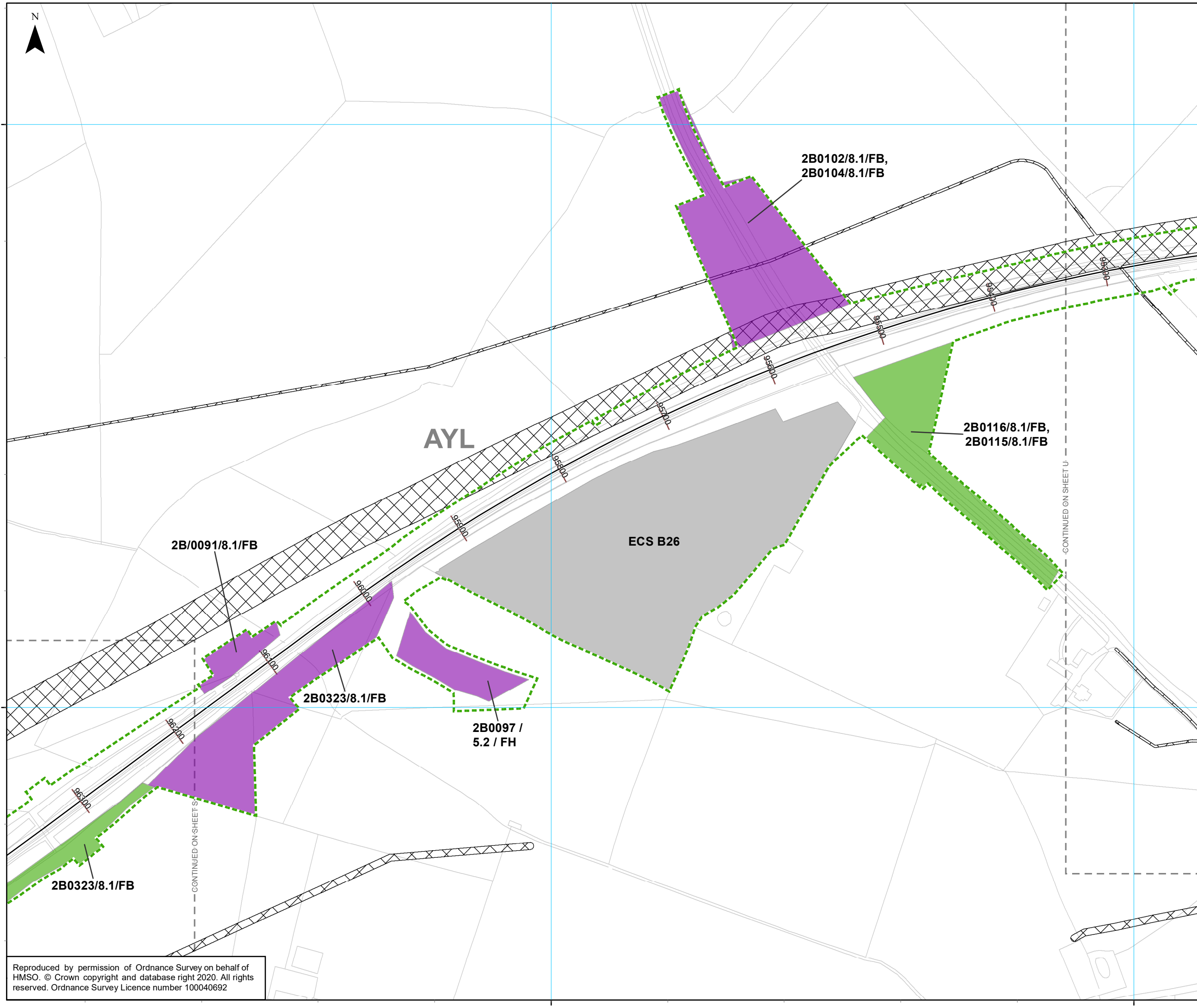
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 19 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010342**

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2B2
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION**
- CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING
- WATCHING BRIEF
- DESCOPE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsmd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2T HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

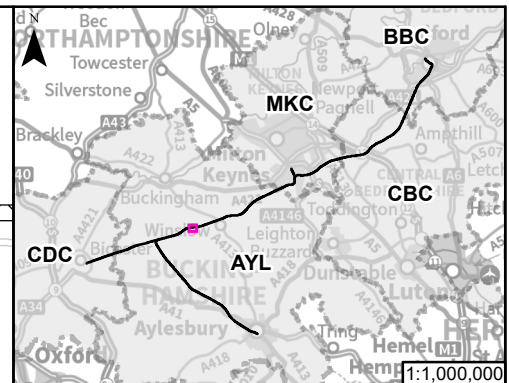
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 20 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010343**

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2B2
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▭ UTILITIES EXCLUSION ZONE
- MITIGATION
- ▭ CHANCE FINDS PROCEDURE
- ▭ GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE
- ▭ WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2U HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 21 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010344**

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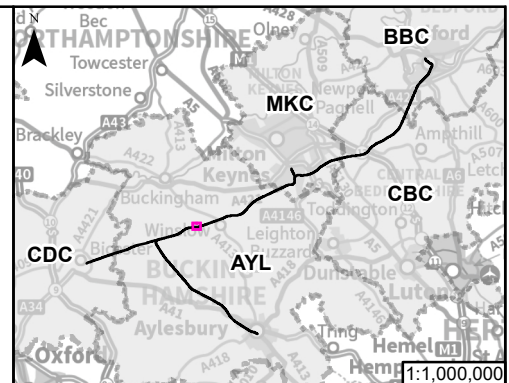
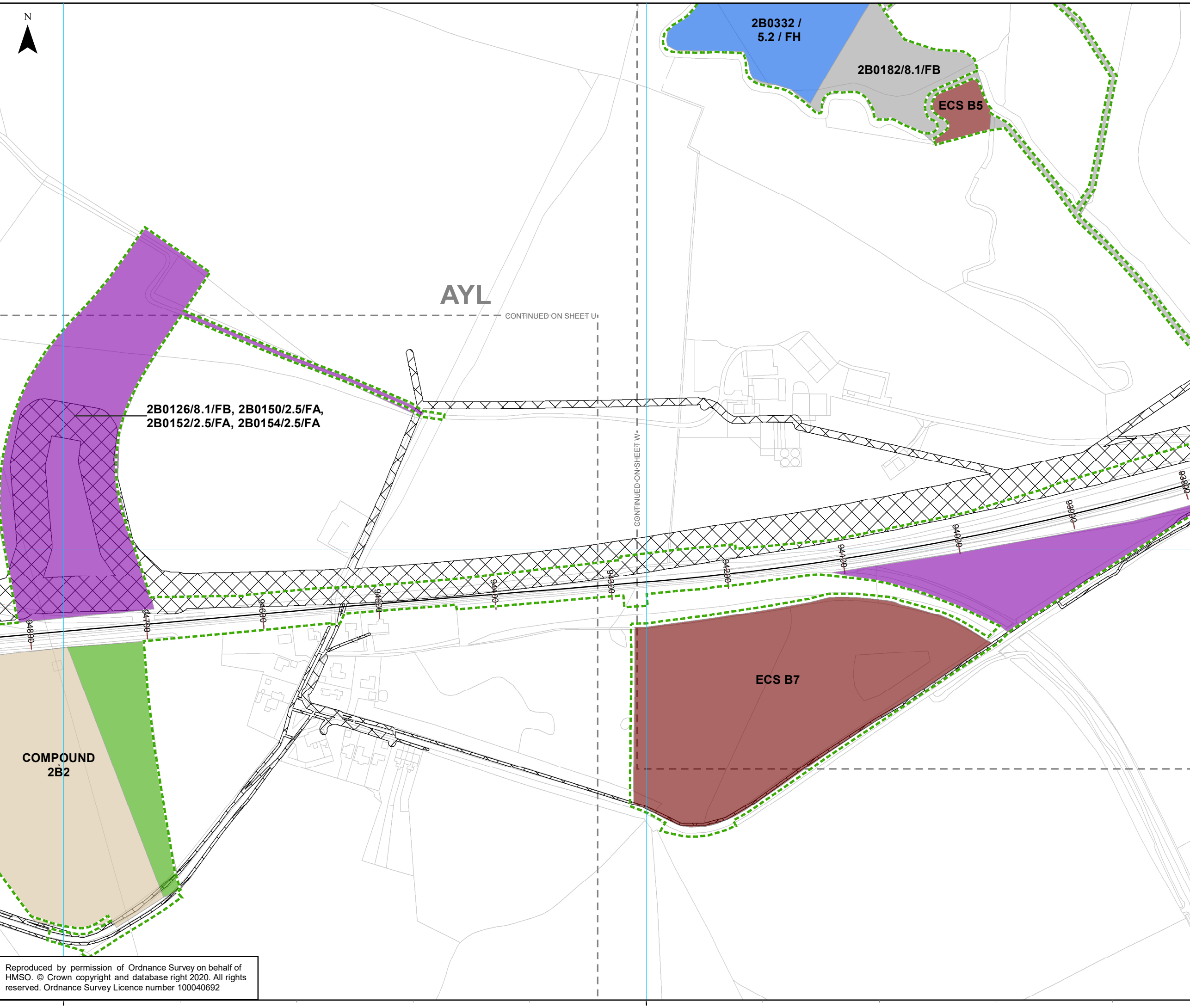
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Sheet Size A3 297 x 420



- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2B2
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- CHANCE FINDS PROCEDURE
- COMPLETED; CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF
- DESOCPED



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2V HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

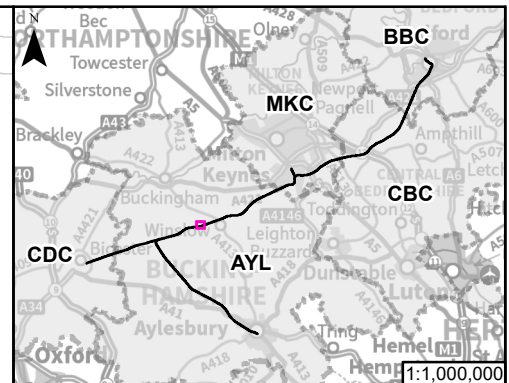
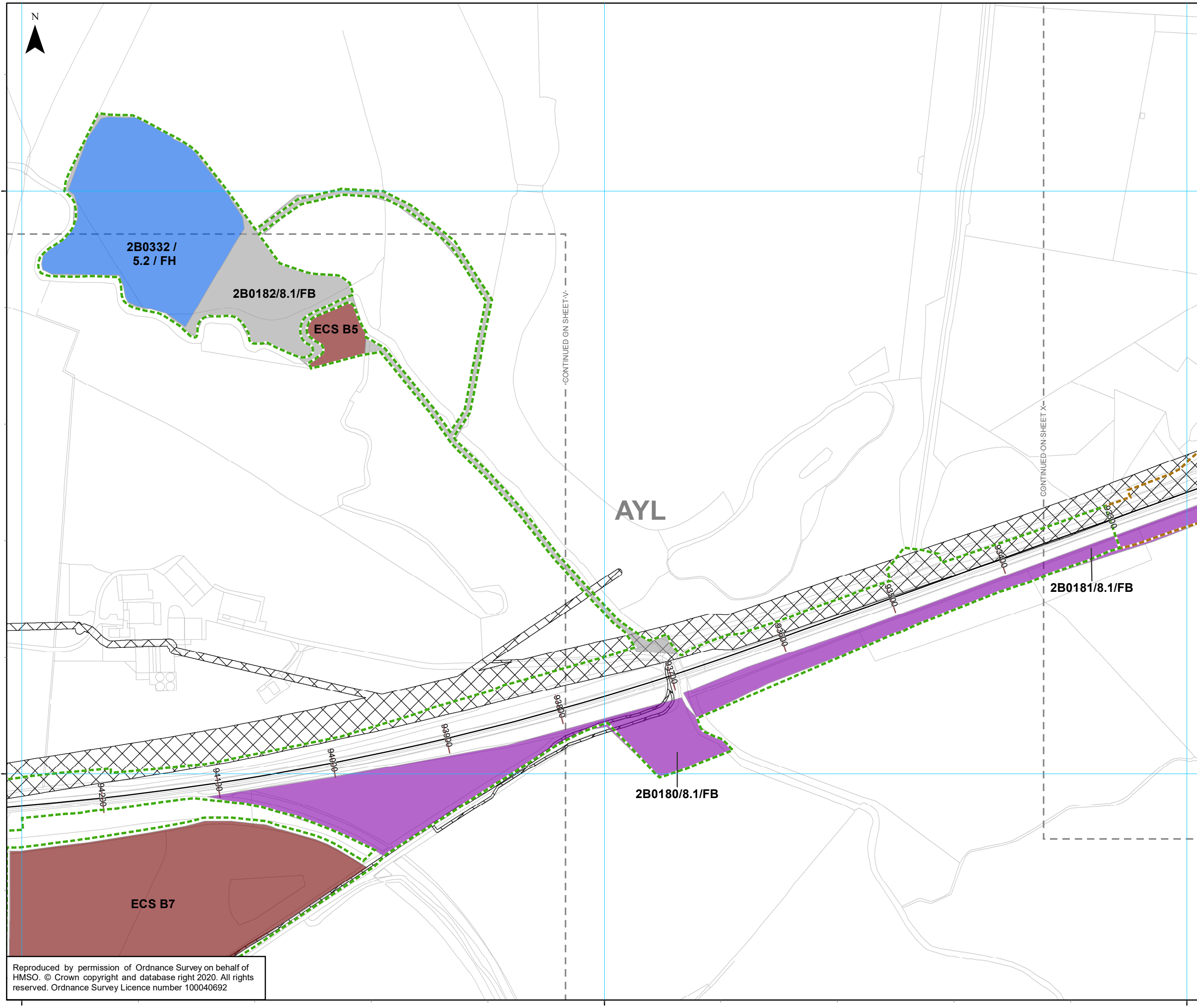
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 22 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010345**

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- PROJECT EXTENTS
  - DEVELOPMENT STAGE 2B2
  - DEVELOPMENT STAGE 2B3
  - - - LOCAL AUTHORITY BOUNDARY
  - - - ADJACENT MAP SHEETS
  - - - CHAINAGE
  - ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- COMPLETED; CHANCE FINDS PROCEDURE
  - GEOPHYSICS; WATCHING BRIEF
  - WATCHING BRIEF
  - DESCOPED



Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2W HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

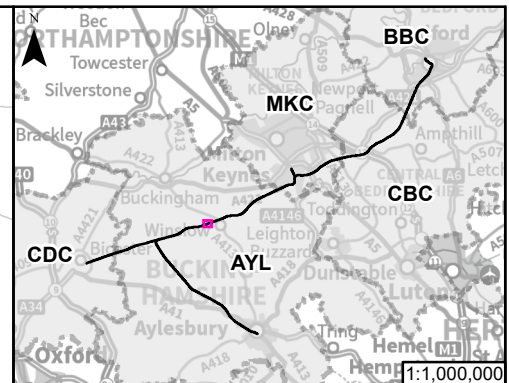
Design Package Risk Classification: **NORMAL** Sheet: 23 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010346**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2B2
- DEVELOPMENT STAGE 2B3
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ⊠ UTILITIES EXCLUSION ZONE
- MITIGATION
- CHANCE FINDS PROCEDURE
- WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsmd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2X HERITAGE EVALUATION & MITIGATION - PROJECTED**

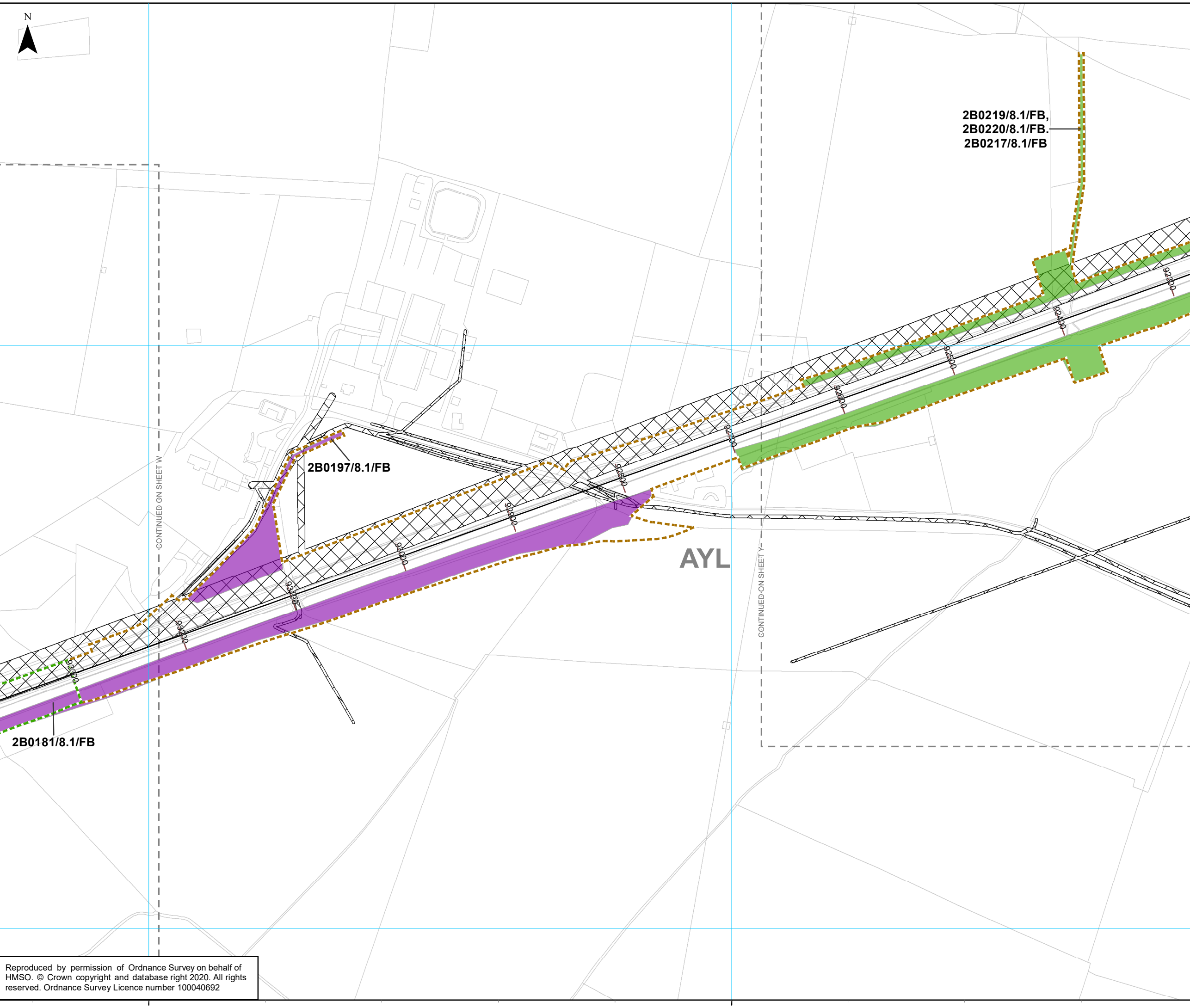
Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **24 of 66**

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010347**

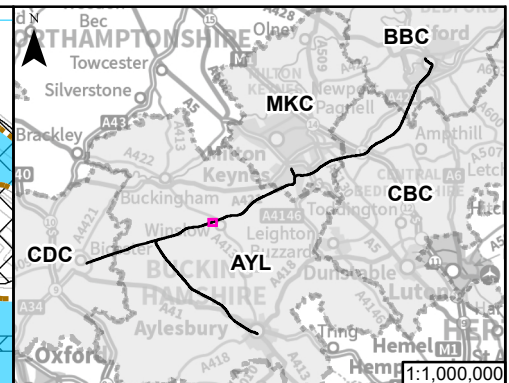
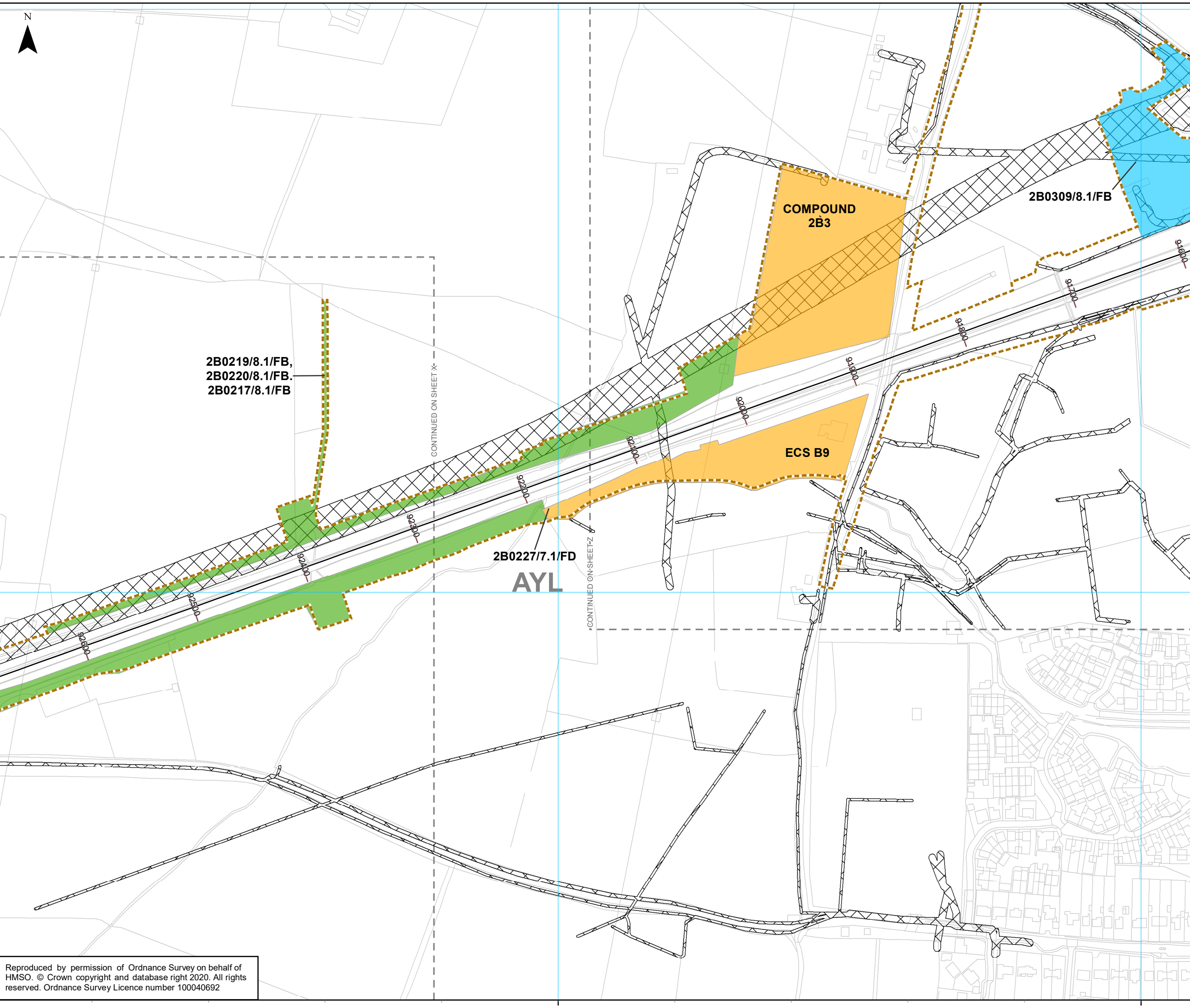


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228500



228000



- PROJECT EXTENTS
- DEVELOPMENT STAGE 2B3
- LOCAL AUTHORITY BOUNDARY
- ADJACENT MAP SHEETS
- CHAINAGE
- UTILITIES EXCLUSION ZONE
- MITIGATION**
- CHANCE FINDS PROCEDURE
- GEOPHYSICS; STRIP MAP SAMPLE
- GEOPHYSICS; TRIAL TRENCHING



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STAGES	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2Y HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AM</i>	Date	25/02/2020

Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 25 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

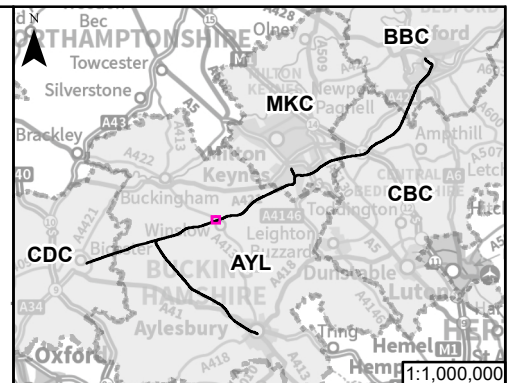
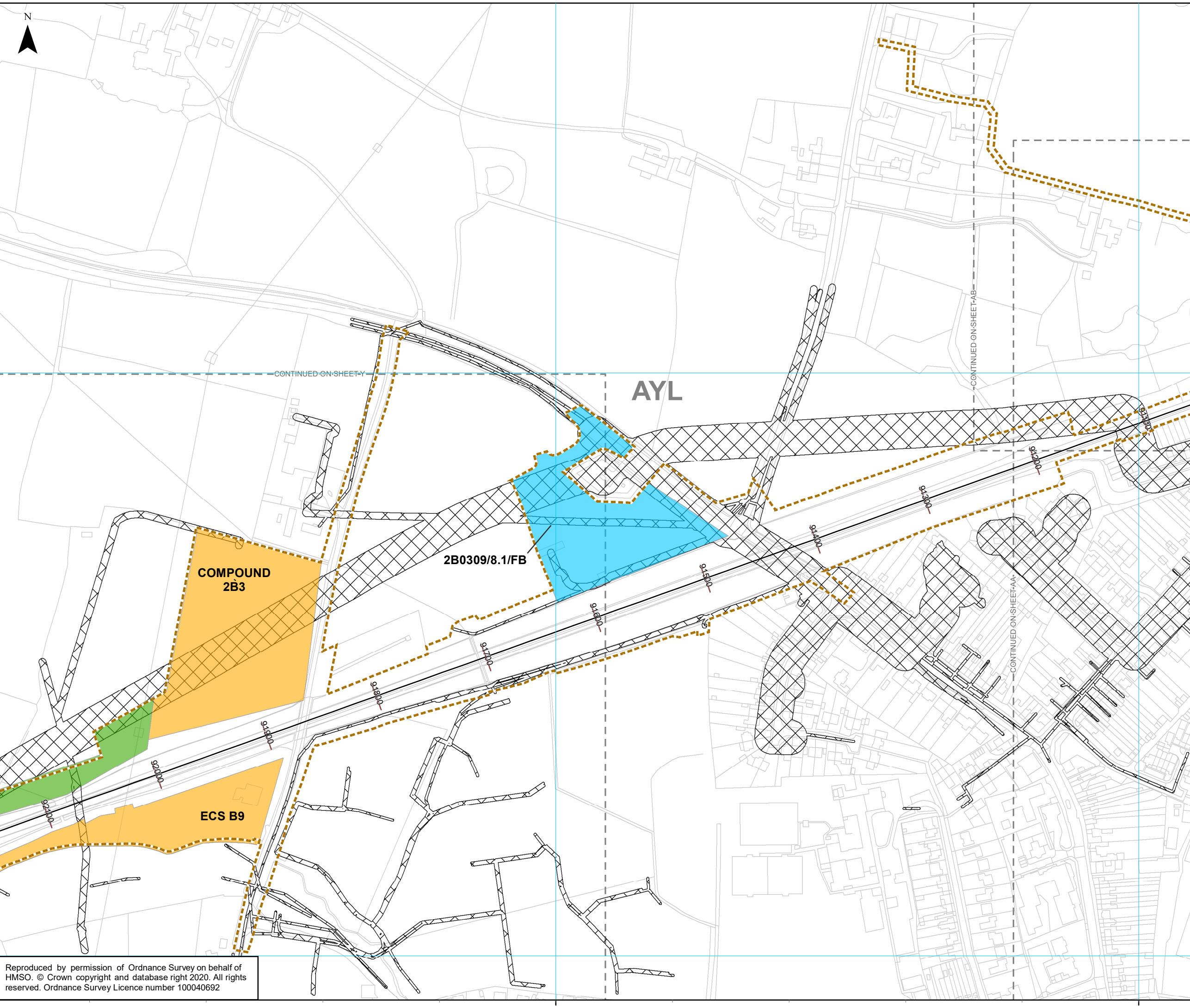
Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010348**

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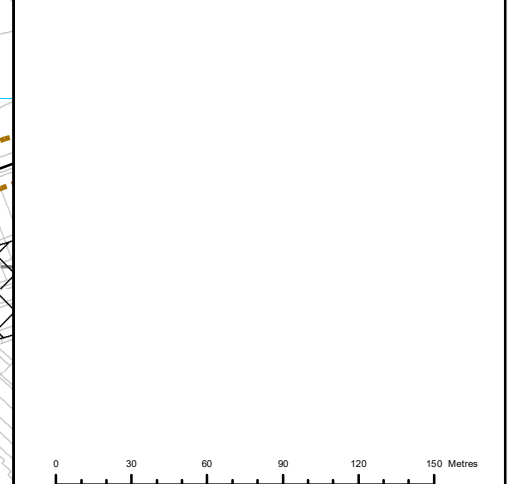
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Sheet Size A3 297 x 420



- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2B3
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION**
- CHANCE FINDS PROCEDURE
- GEOPHYSICS; STRIP MAP SAMPLE
- GEOPHYSICS; TRIAL TRENCHING



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STAGES	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsmd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2Z HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

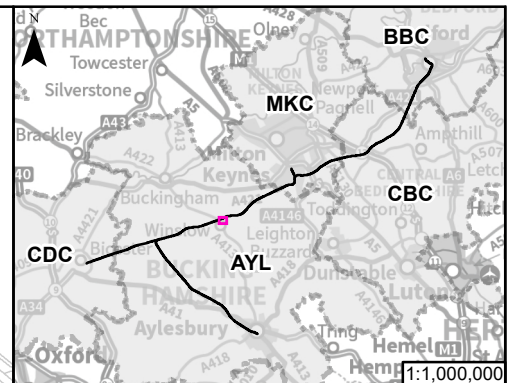
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 26 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010349**

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2B3
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION**
- CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING
- GEOPHYSICS; WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AA HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

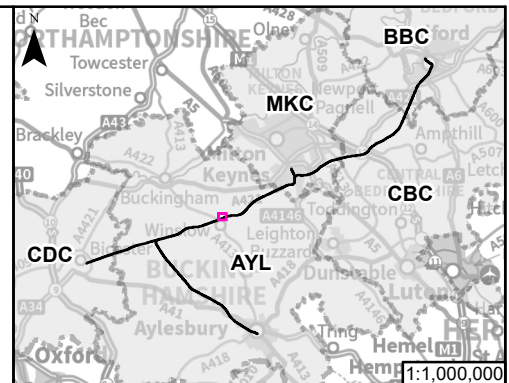
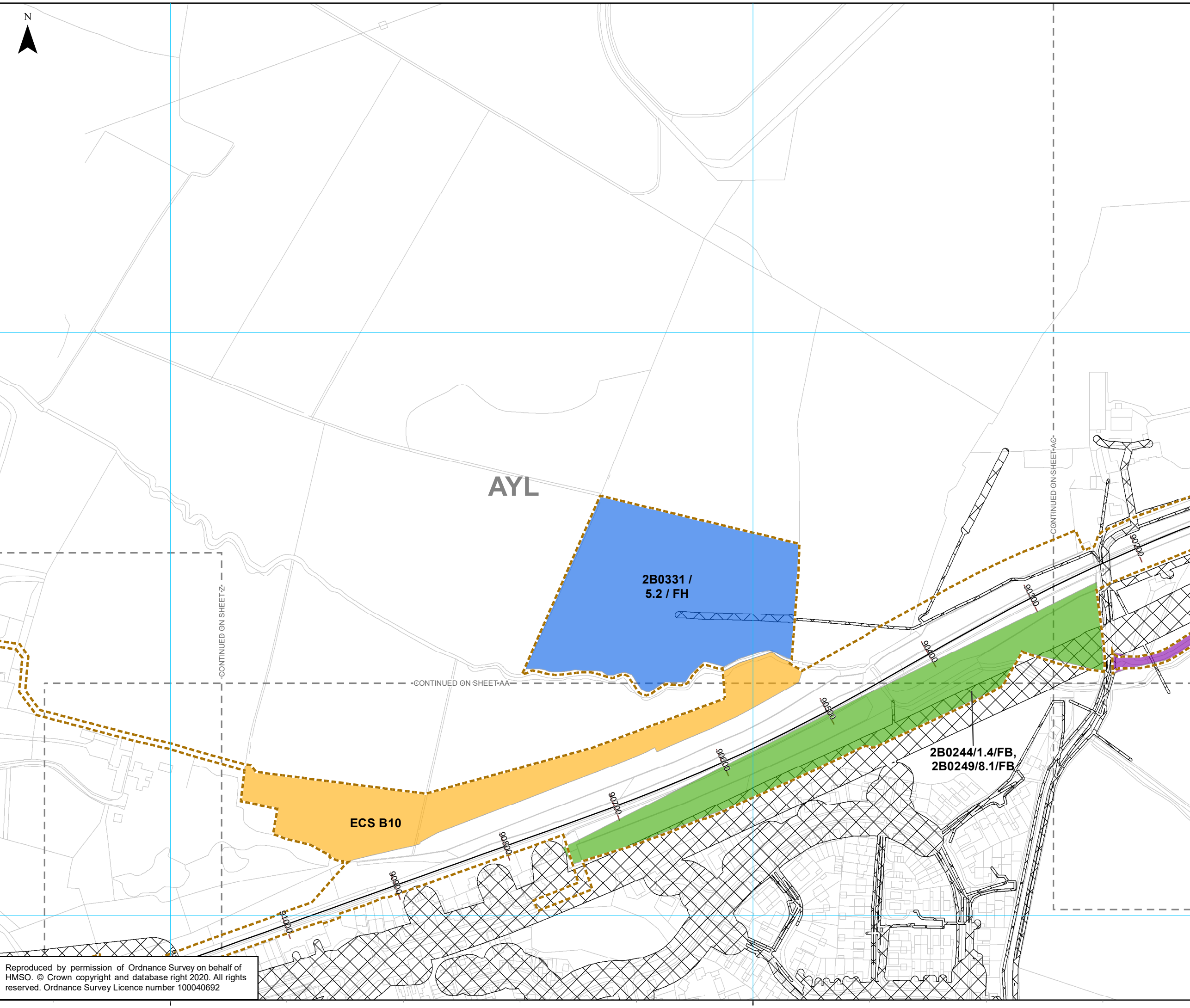
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 27 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010350**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2B3
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AB HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

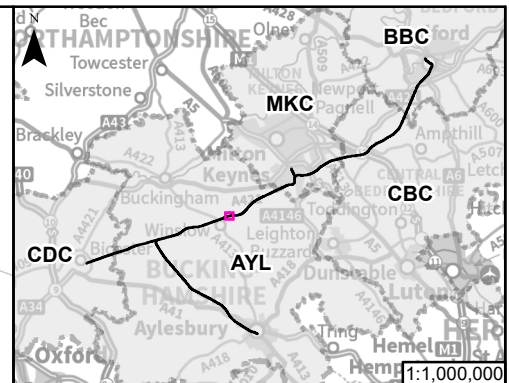
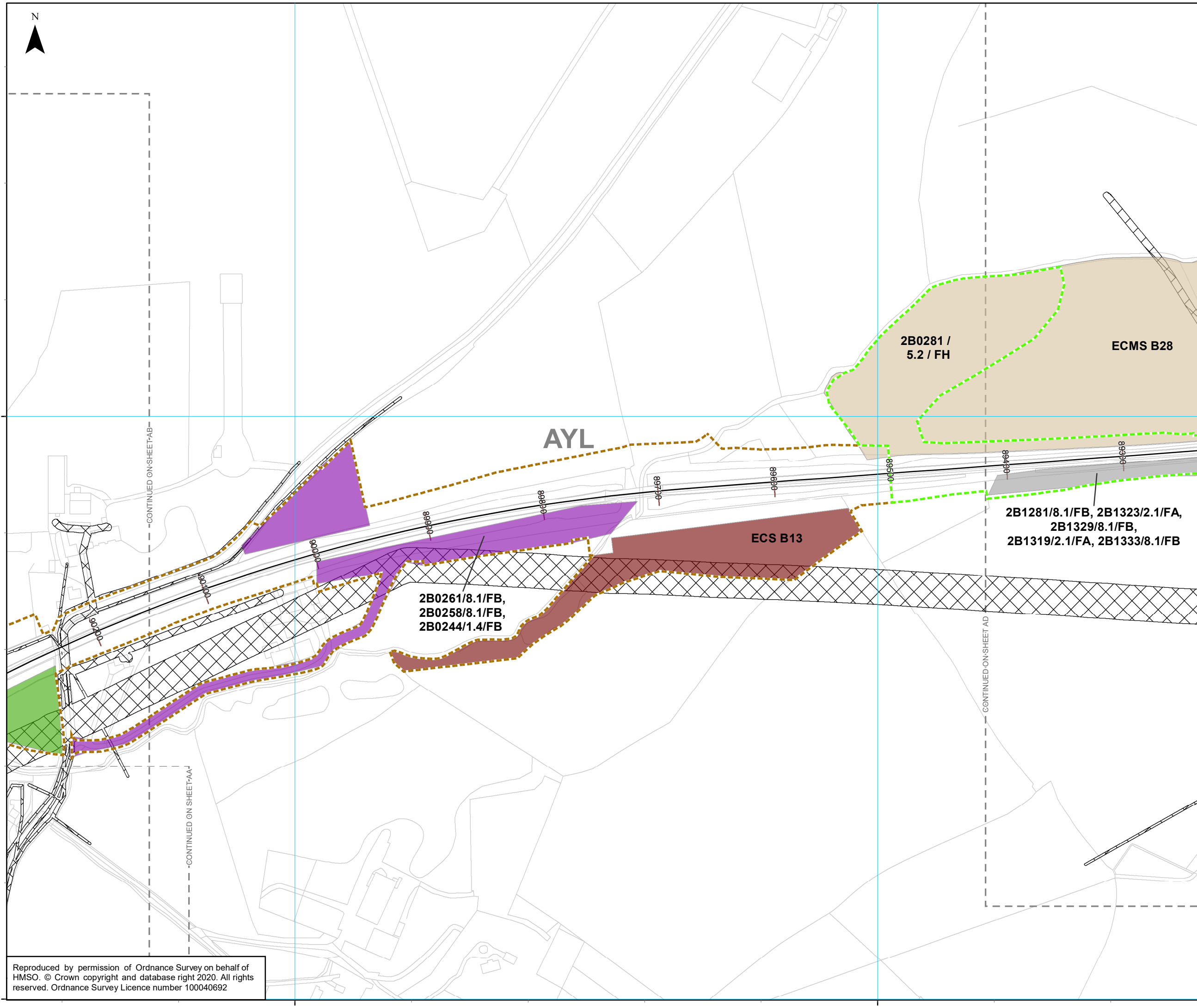
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Design Package Risk Classification: **NORMAL** Sheet: **28 of 66**

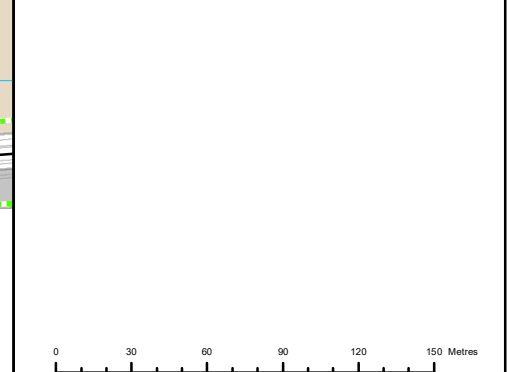
Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010351**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2B3
- DEVELOPMENT STAGE 2B4
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ⊠ UTILITIES EXCLUSION ZONE
- MITIGATION
- CHANCE FINDS PROCEDURE
- COMPLETED; CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF
- DESCOPE



Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AC HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 29 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010352**

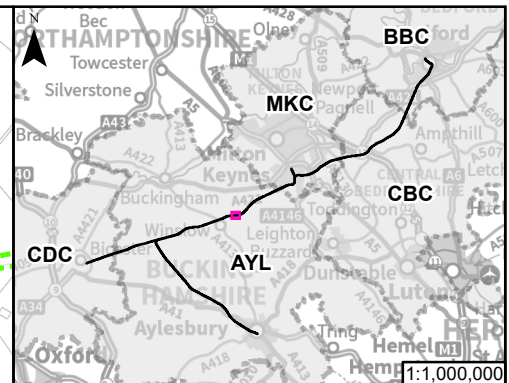
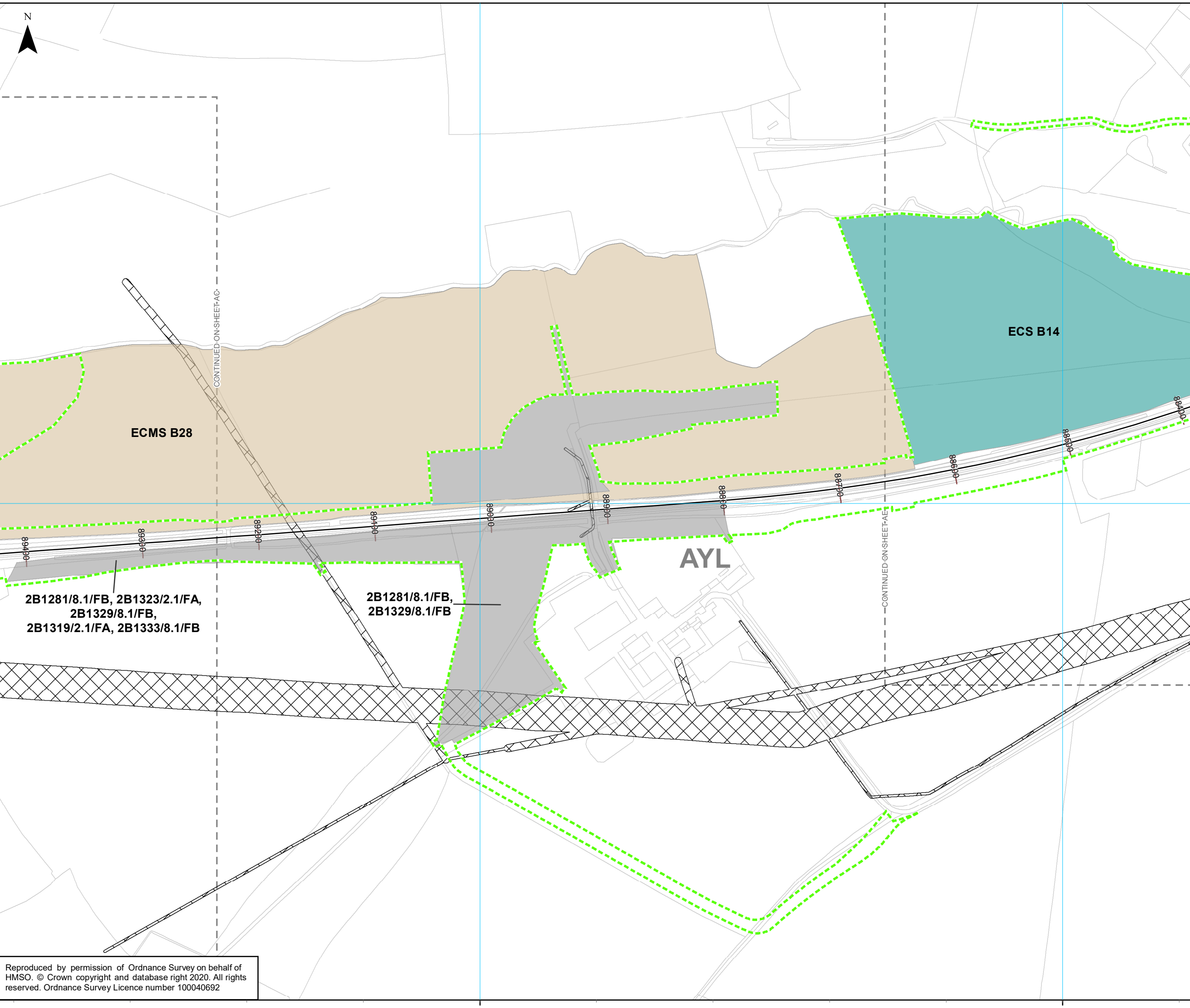
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Sheet Size A3 297 x 420



- PROJECT EXTENTS
  - DEVELOPMENT STAGE 2B4
  - LOCAL AUTHORITY BOUNDARY
  - ADJACENT MAP SHEETS
  - CHAINAGE
  - UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE
  - GEOPHYSICS; TRIAL TRENCHING; WATCHING BRIEF; CHANCE FINDS PROCEDURE
  - GEOPHYSICS; WATCHING BRIEF
  - DESCOPE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AD HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

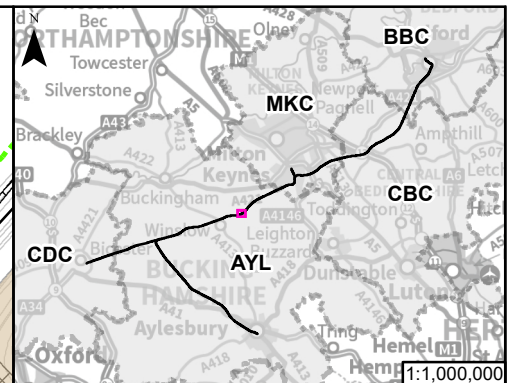
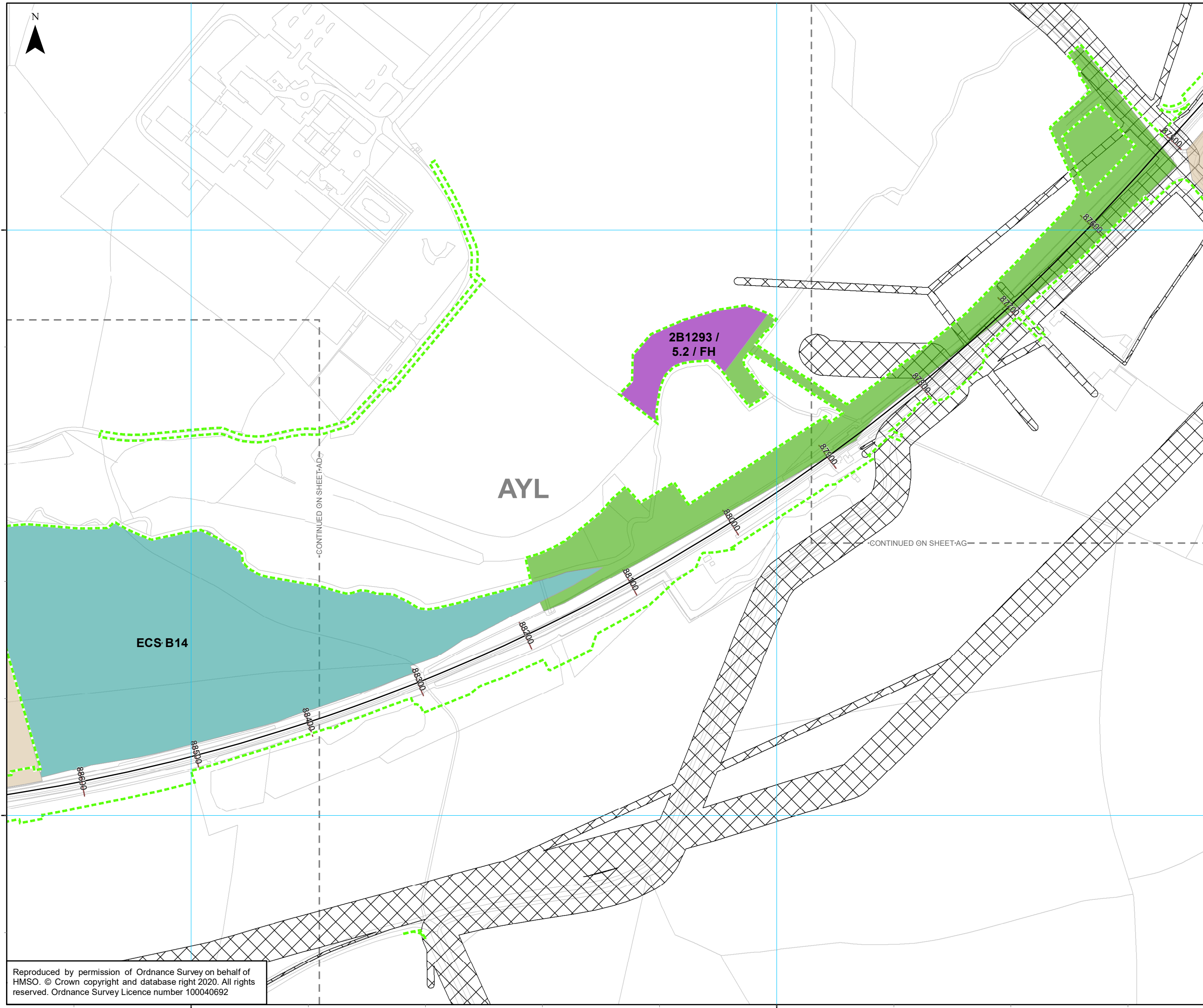
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 30 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010353**

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- PROJECT EXTENTS
- - - - - DEVELOPMENT STAGE 2B4
- - - - - LOCAL AUTHORITY BOUNDARY
- - - - - ADJACENT MAP SHEETS
- - - - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING; WATCHING BRIEF; CHANCE FINDS PROCEDURE
- WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AE HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

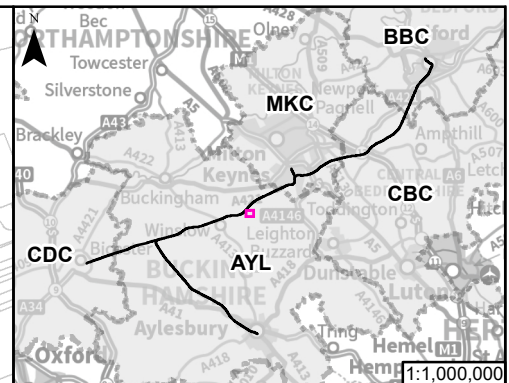
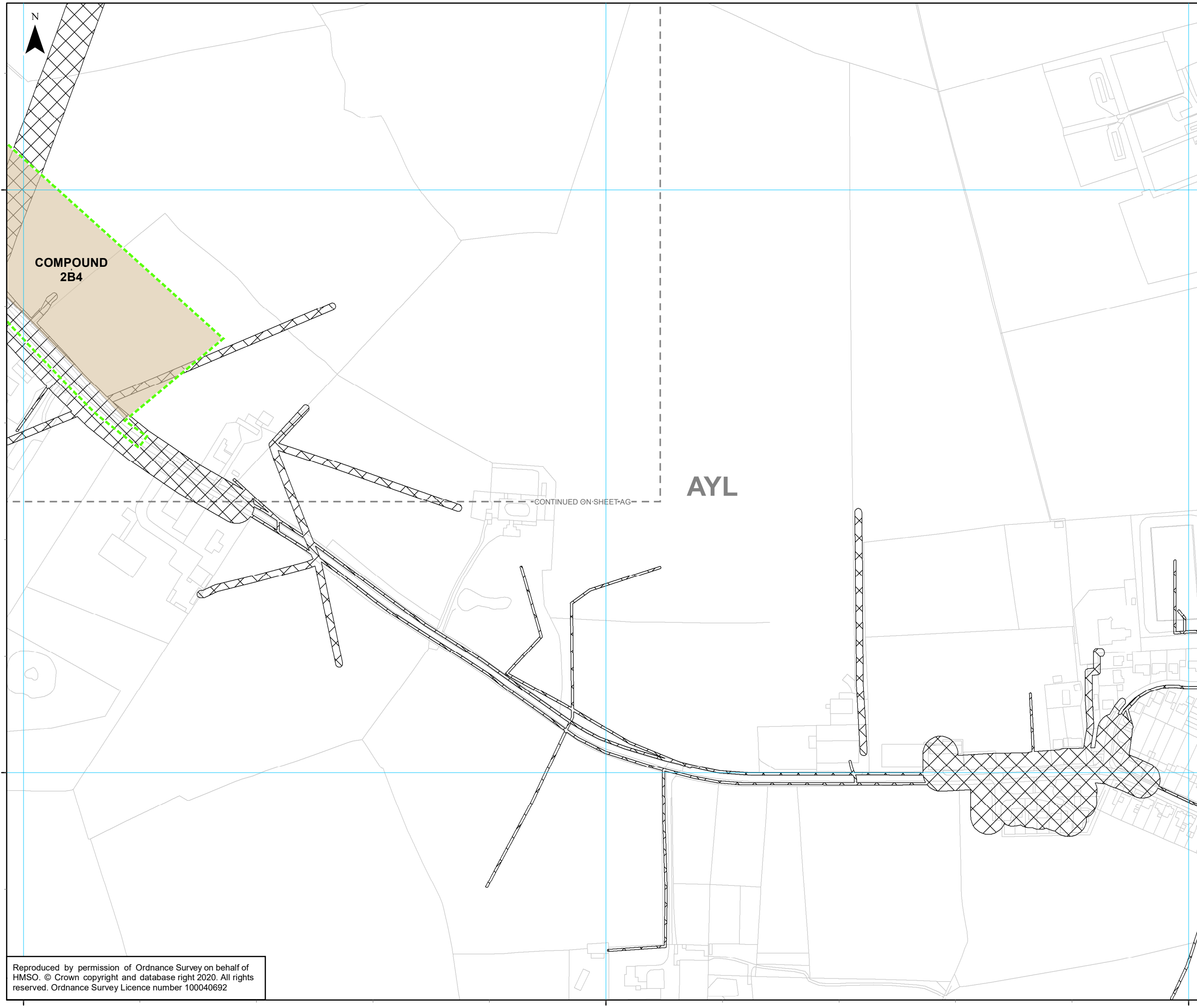
Design Package Risk Classification: **NORMAL** Sheet: 31 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010354**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2B4
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE



Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AF HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

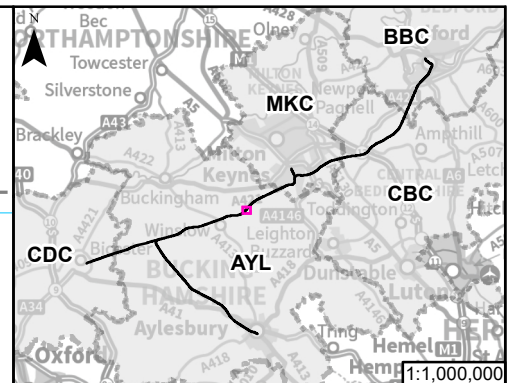
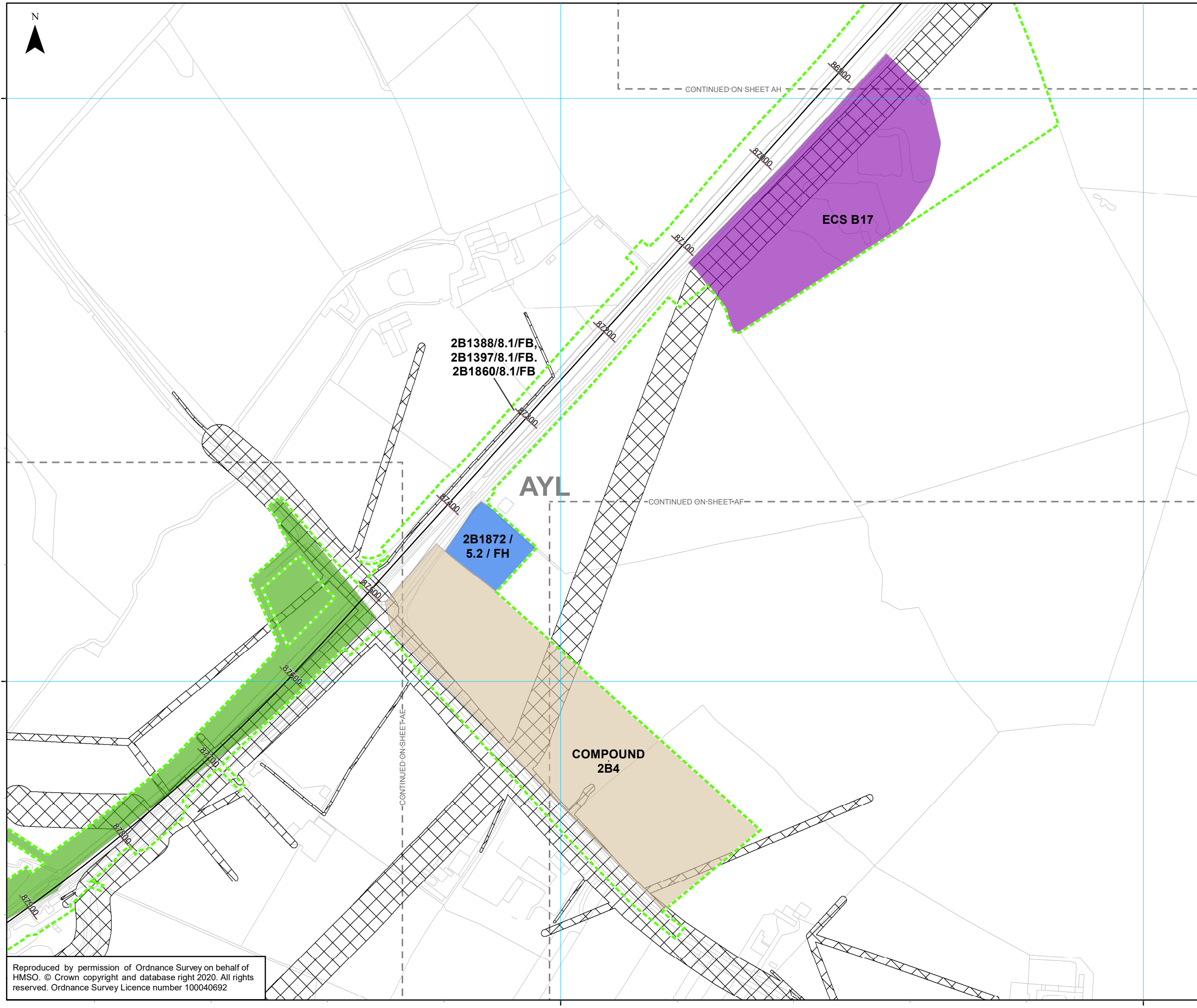
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 32 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010355**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2B4
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AG HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

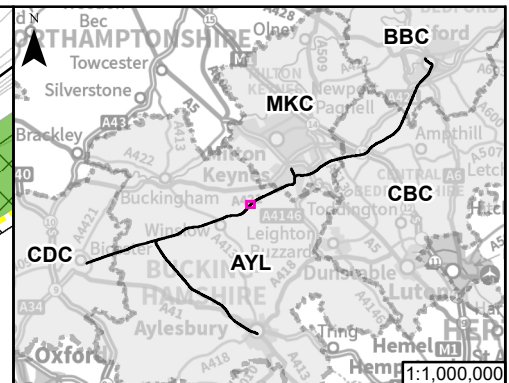
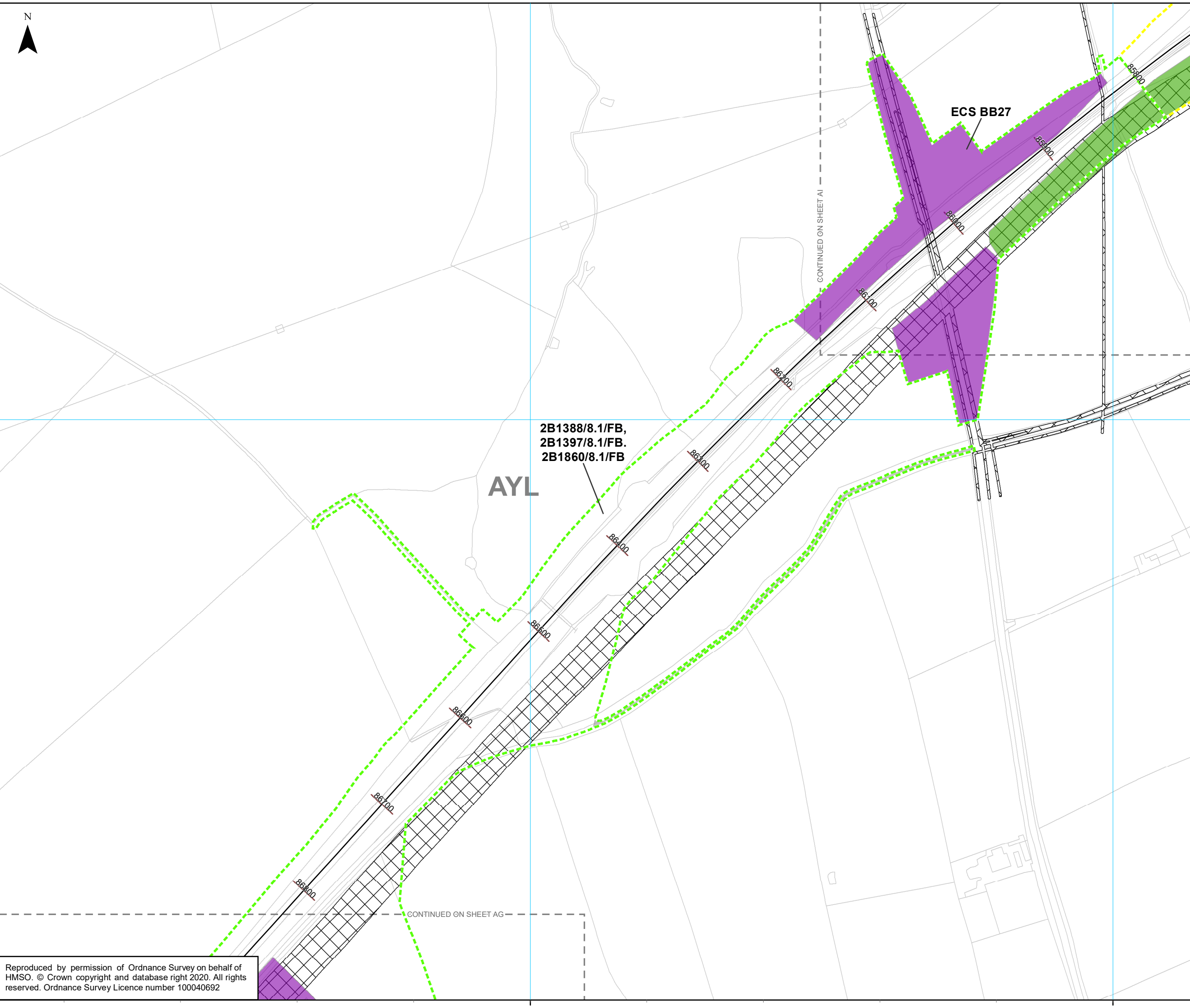
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 33 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010356**

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2B4
- - - DEVELOPMENT STAGE 2B5
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ⊗ UTILITIES EXCLUSION ZONE
- MITIGATION
- CHANCE FINDS PROCEDURE
- WATCHING BRIEF
- DESCOPED



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AH HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

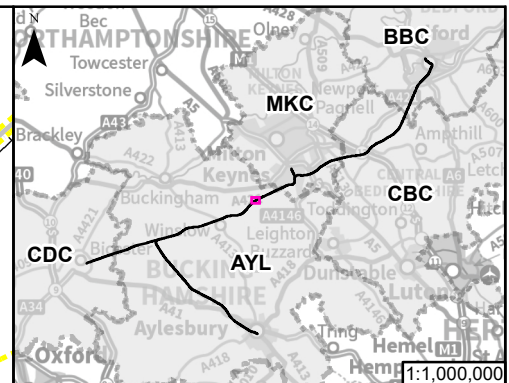
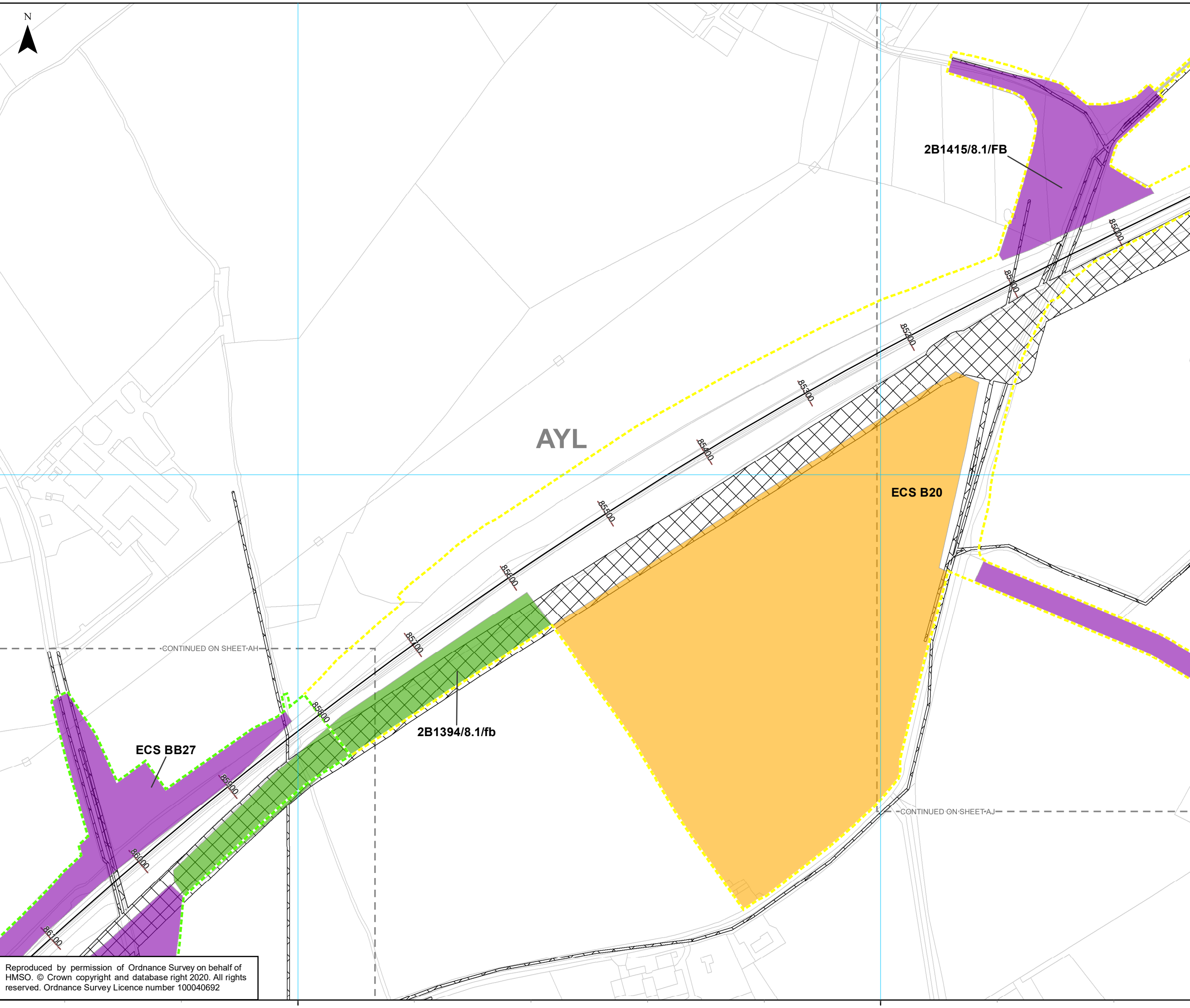
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 34 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010357**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2B4
- DEVELOPMENT STAGE 2B5
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ⊠ UTILITIES EXCLUSION ZONE
- MITIGATION**
- CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING
- WATCHING BRIEF
- DESCOPE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AI HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

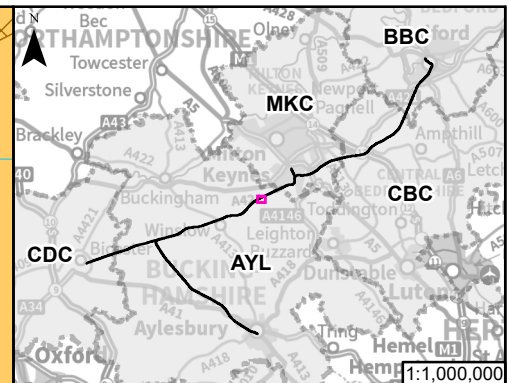
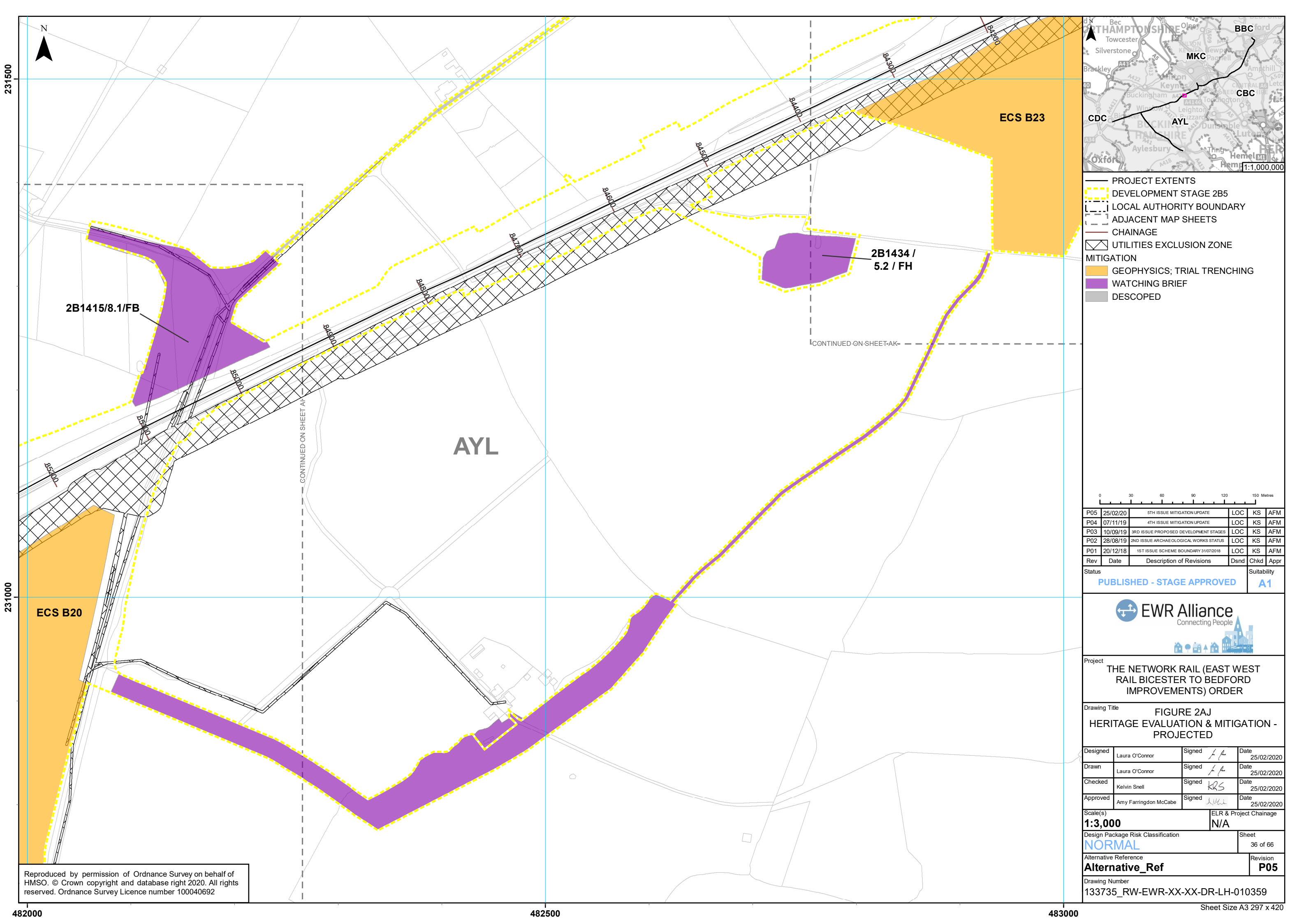
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 35 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010358**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2B5
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; TRIAL TRENCHING
- WATCHING BRIEF
- DESCOPE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsmd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AJ HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

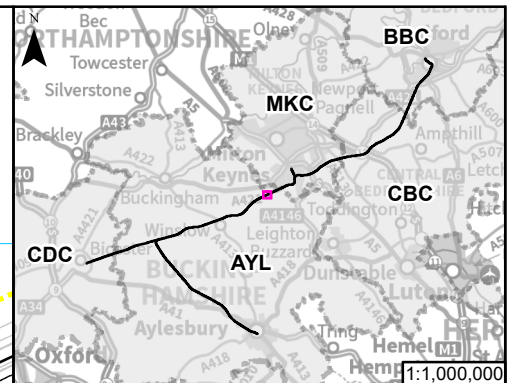
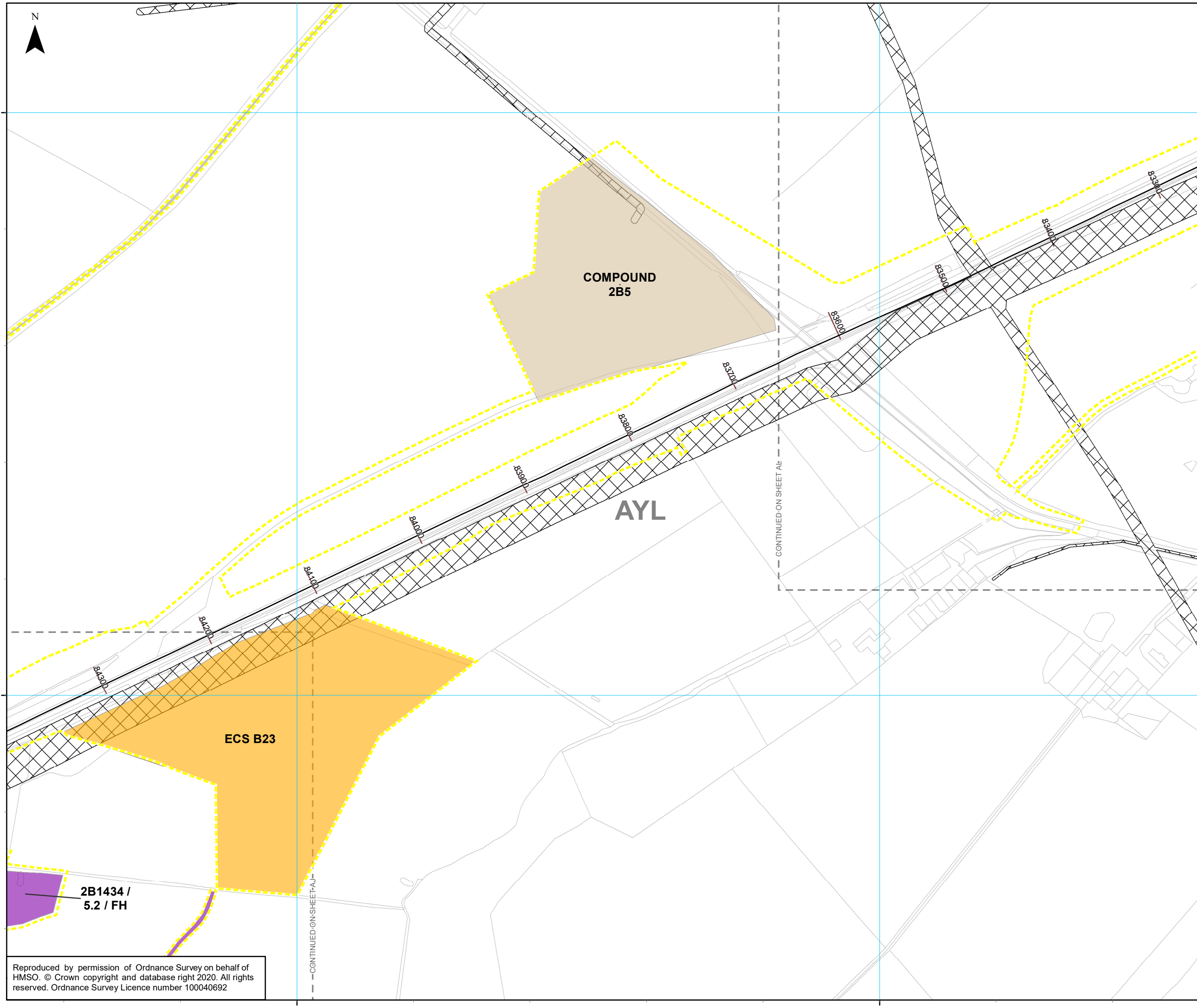
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Design Package Risk Classification: **NORMAL** Sheet: **36 of 66**

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010359**

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2B5
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; TRIAL TRENCHING
- GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE
- WATCHING BRIEF
- DESCOPE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AK HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

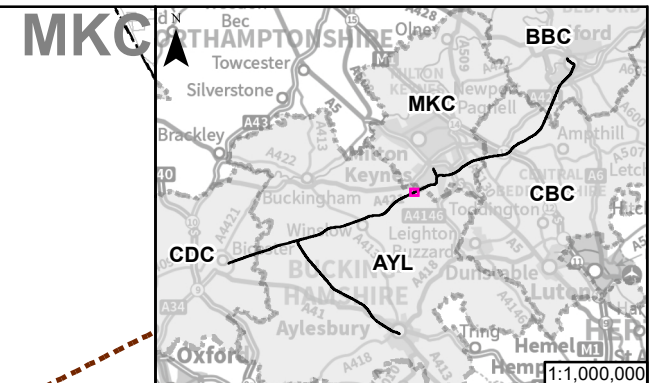
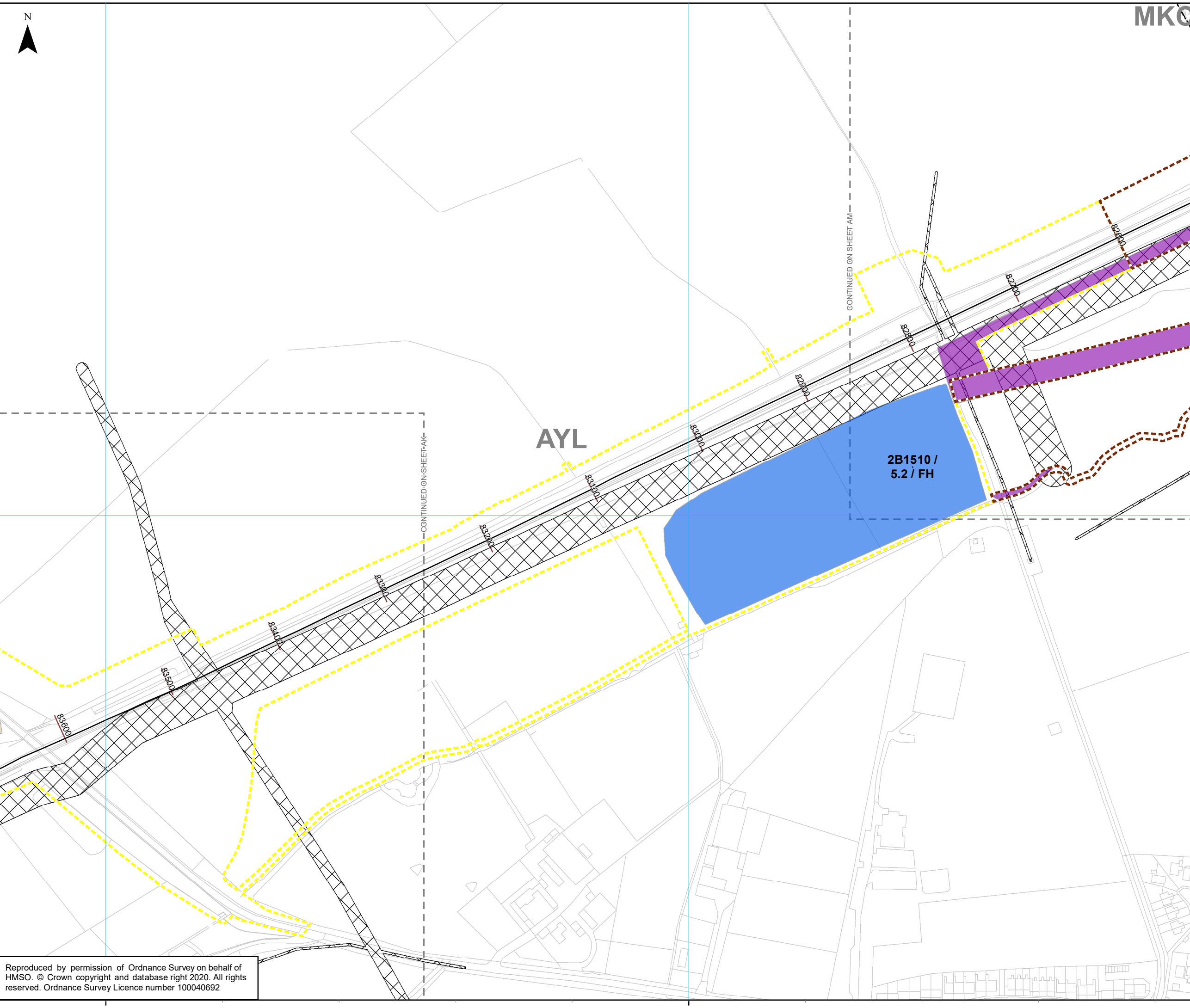
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Design Package Risk Classification: **NORMAL** Sheet: 37 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010360**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2B5
- DEVELOPMENT STAGE 2B6
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ⊠ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF



Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status	Suitability
<b>PUBLISHED - STAGE APPROVED</b>	<b>A1</b>



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

Drawing Title  
**FIGURE 2AL  
 HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

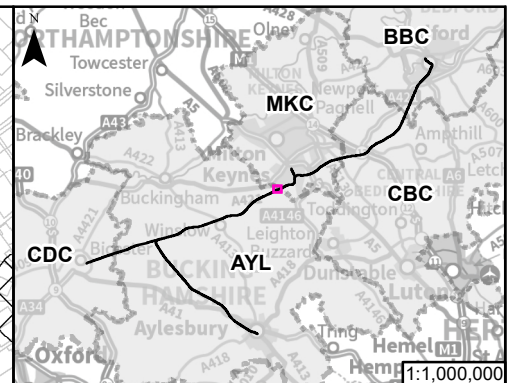
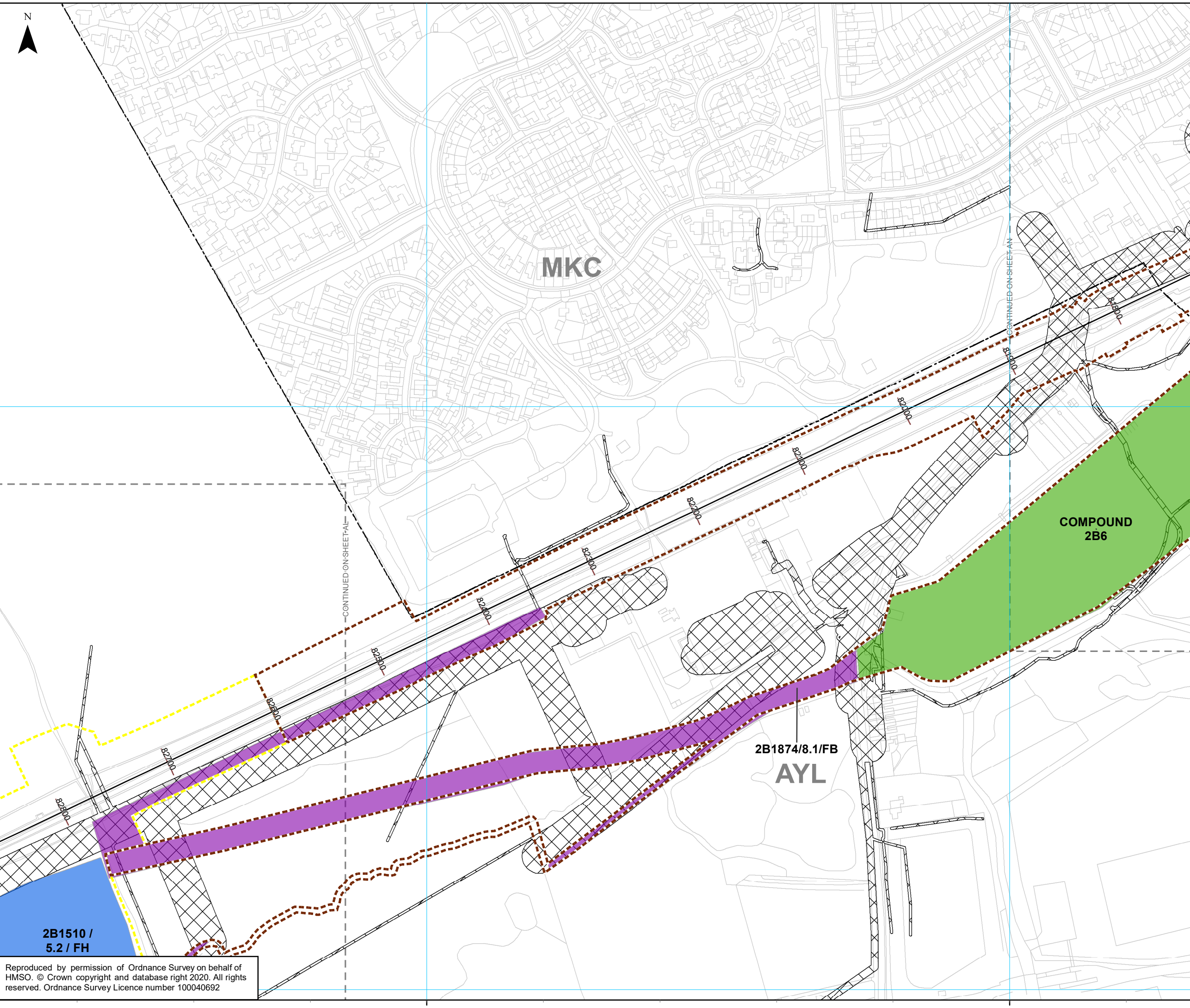
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**1:3,000** ELR & Project Chainage  
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Design Package Risk Classification  
**NORMAL** Sheet  
 38 of 66

Alternative Reference  
**Alternative\_Ref** Revision  
**P05**

Drawing Number  
**133735\_RW-EWR-XX-XX-DR-LH-010361**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2B5
- DEVELOPMENT STAGE 2B6
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ⊠ UTILITIES EXCLUSION ZONE
- MITIGATION
- CHANCE FINDS PROCEDURE
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr
Status					Suitability
PUBLISHED - STAGE APPROVED					A1



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

Drawing Title  
**FIGURE 2AM HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s)  
**1:3,000** ELR & Project Chainage  
 N/A

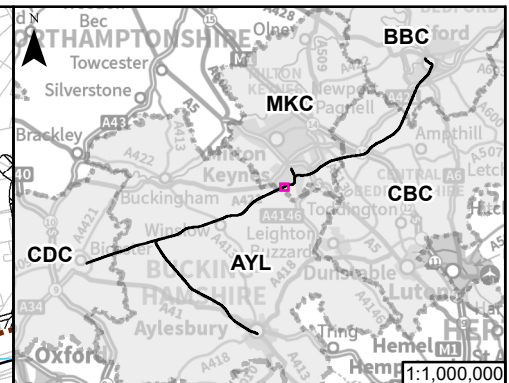
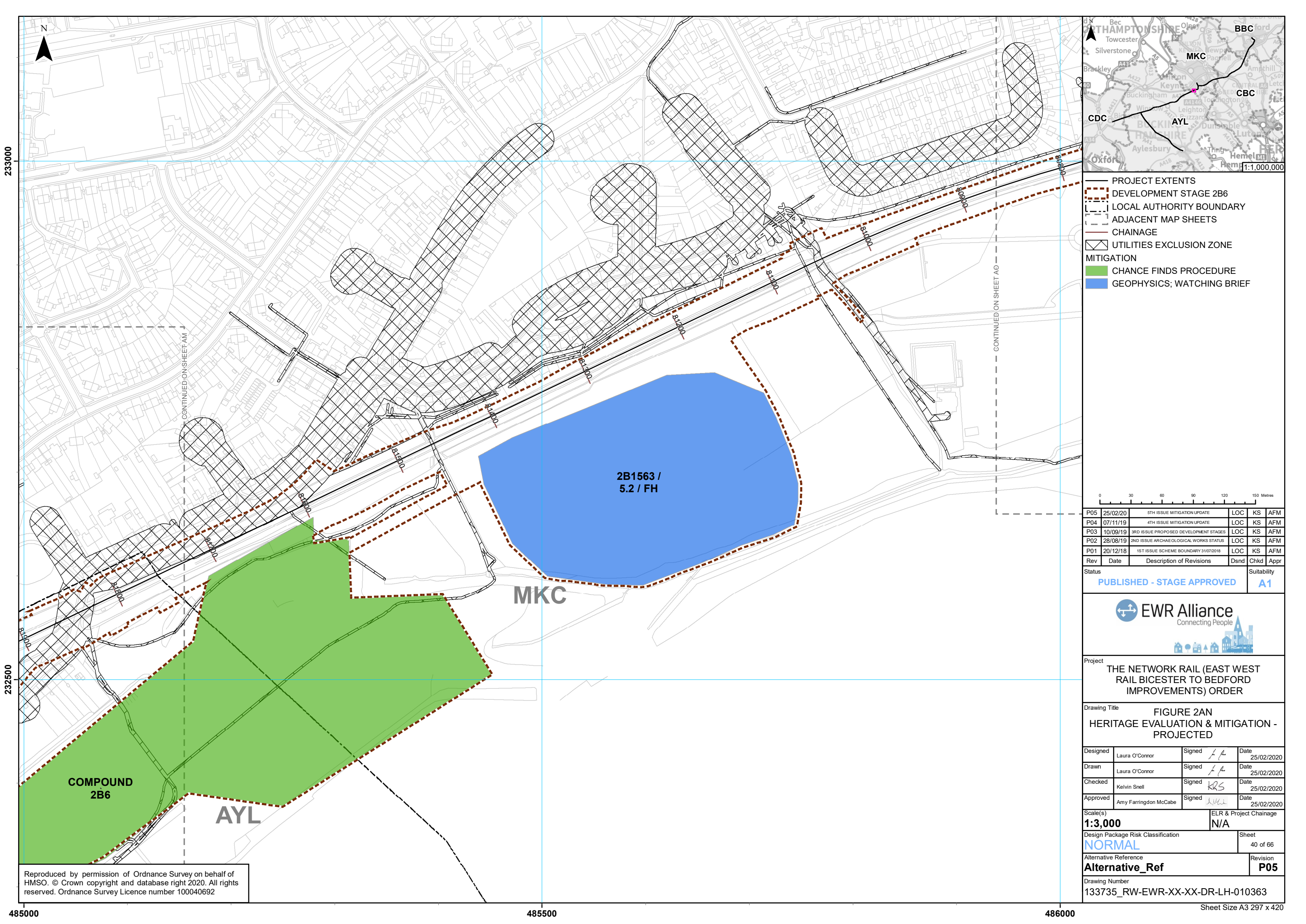
Design Package Risk Classification  
**NORMAL** Sheet  
 39 of 66

Alternative Reference  
**Alternative\_Ref** Revision  
**P05**

Drawing Number  
**133735\_RW-EWR-XX-XX-DR-LH-010362**

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2B6
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION**
- CHANCE FINDS PROCEDURE
- GEOPHYSICS; WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AN HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **40 of 66**

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010363**

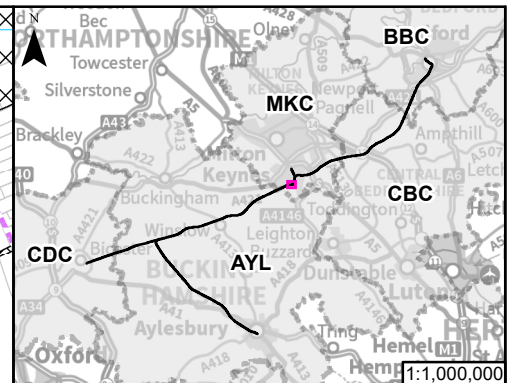
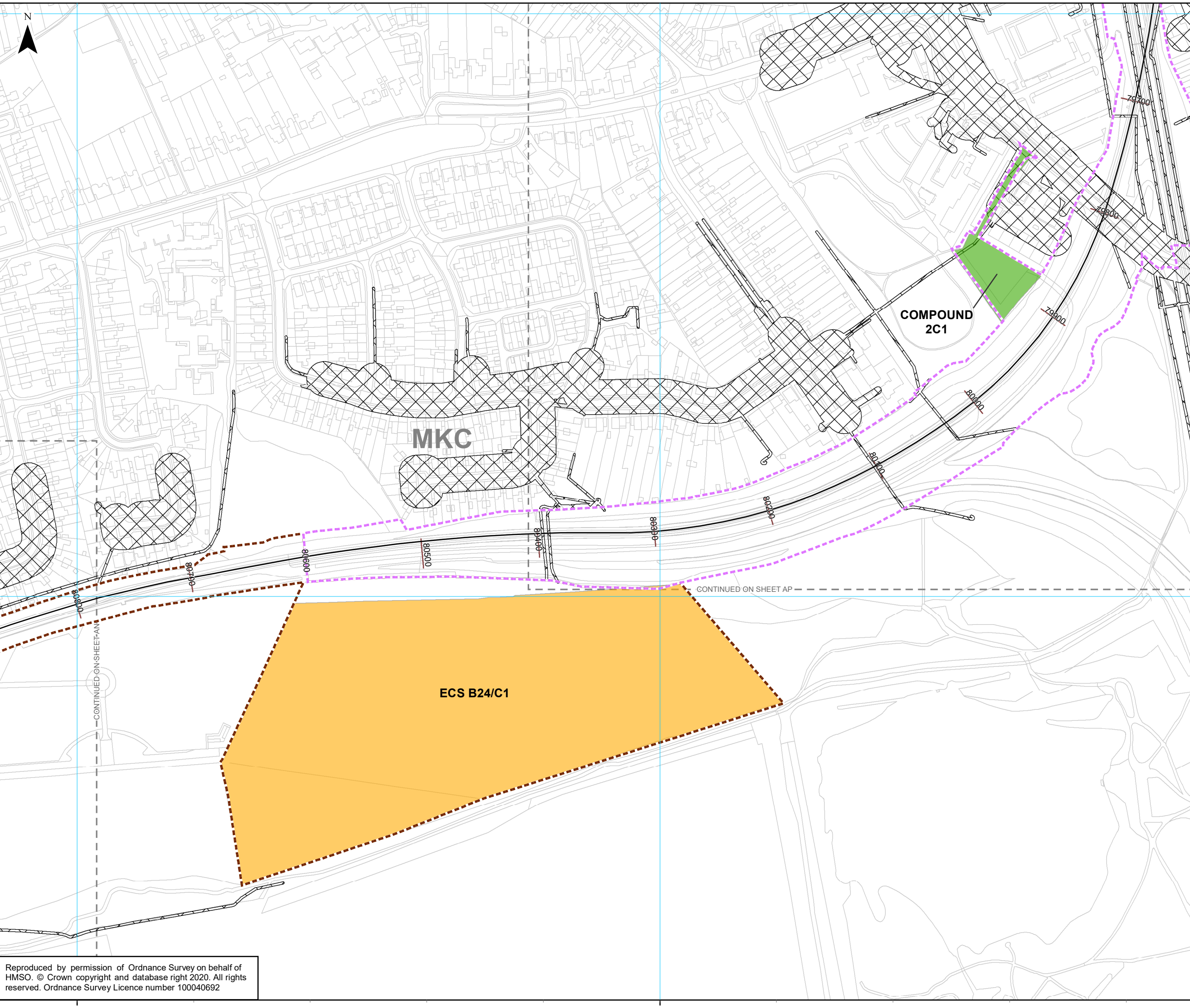
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233500

233000

486000

486500



- PROJECT EXTENTS
- DEVELOPMENT STAGE 2B6
- DEVELOPMENT STAGE 2C1
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ⊗ UTILITIES EXCLUSION ZONE
- MITIGATION
- CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2A0 HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

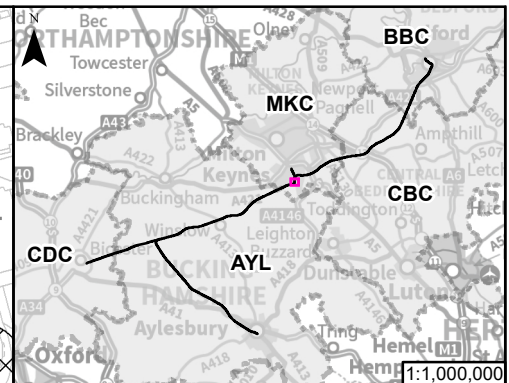
Design Package Risk Classification: **NORMAL** Sheet: 41 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010364**

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Sheet Size A3 297 x 420



- PROJECT EXTENTS
- ▨ DEVELOPMENT STAGE 2B6
- ▨ DEVELOPMENT STAGE 2C1
- ▨ DEVELOPMENT STAGE 2C2
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING



Rev	Date	Description of Revisions	Dsnd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AP HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

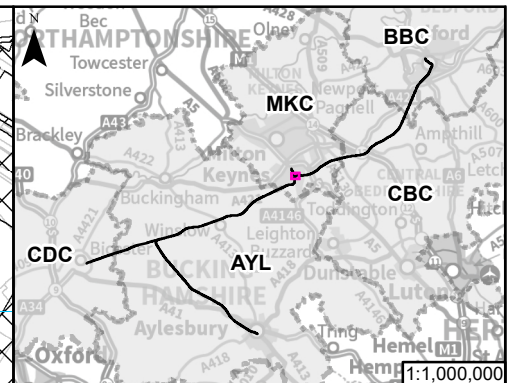
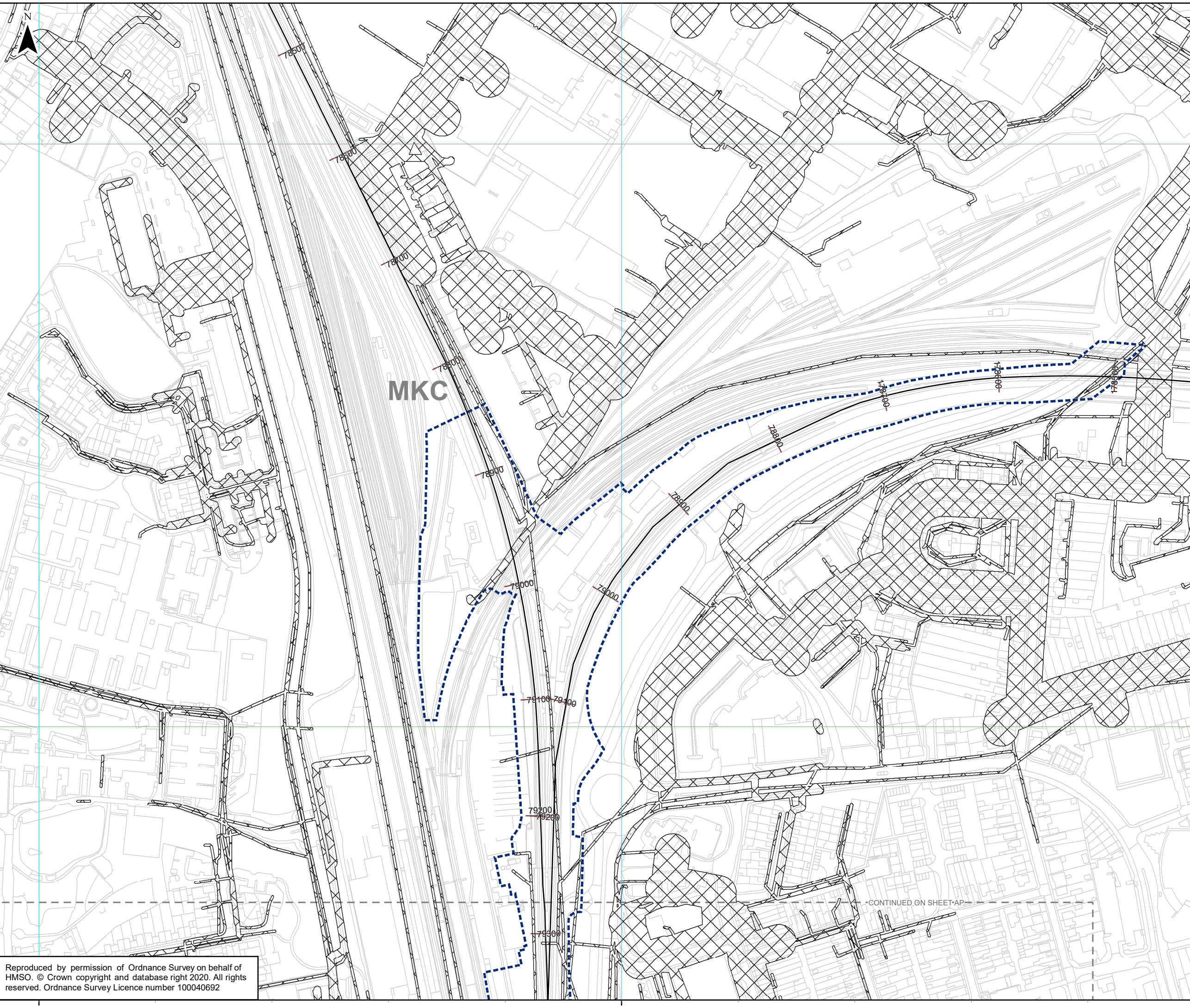
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 42 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010365**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2C2
- LOCAL AUTHORITY BOUNDARY
- ADJACENT MAP SHEETS
- CHAINAGE
- UTILITIES EXCLUSION ZONE



Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AQ HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

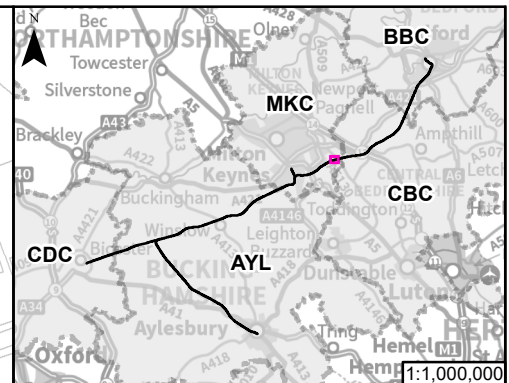
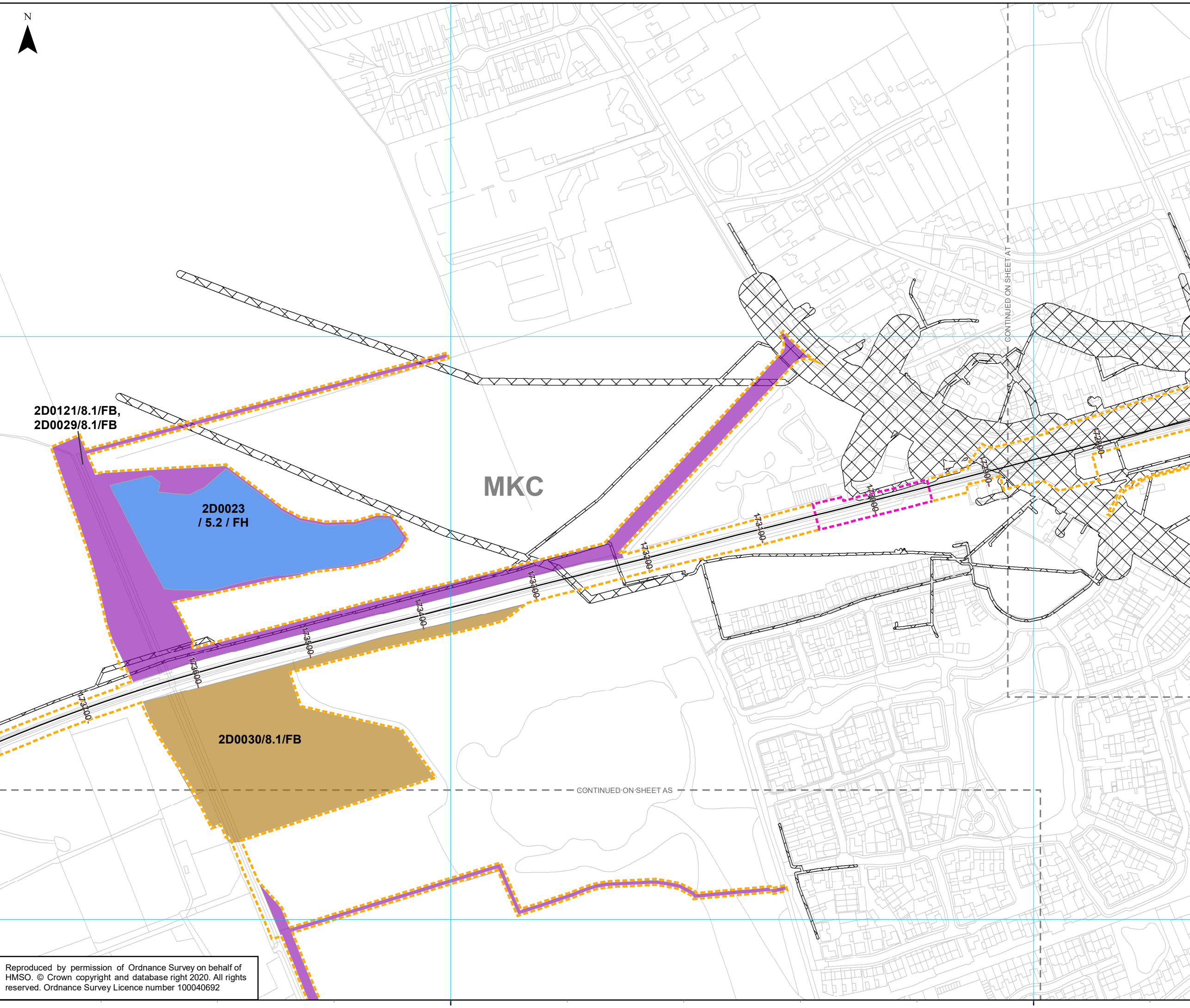
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 43 of 66

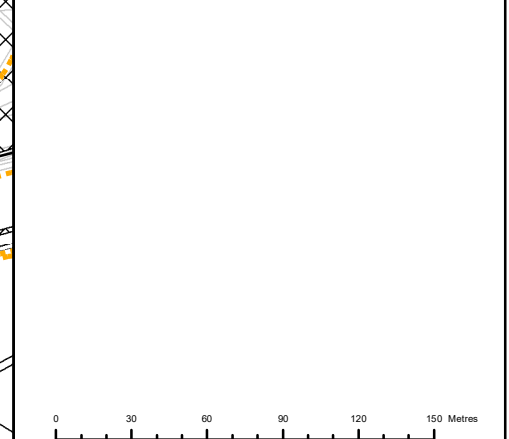
Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010366**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2D MAIN WORKS
- DEVELOPMENT STAGE 2D PLATFORM EXTENSIONS
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ⊠ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; TRIAL TRENCHING; WATCHING BRIEF
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr
Status					Suitability
PUBLISHED - STAGE APPROVED					A1



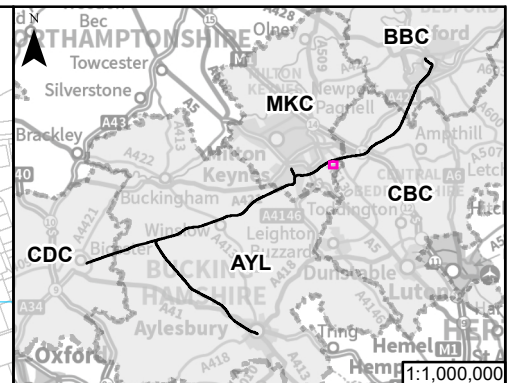
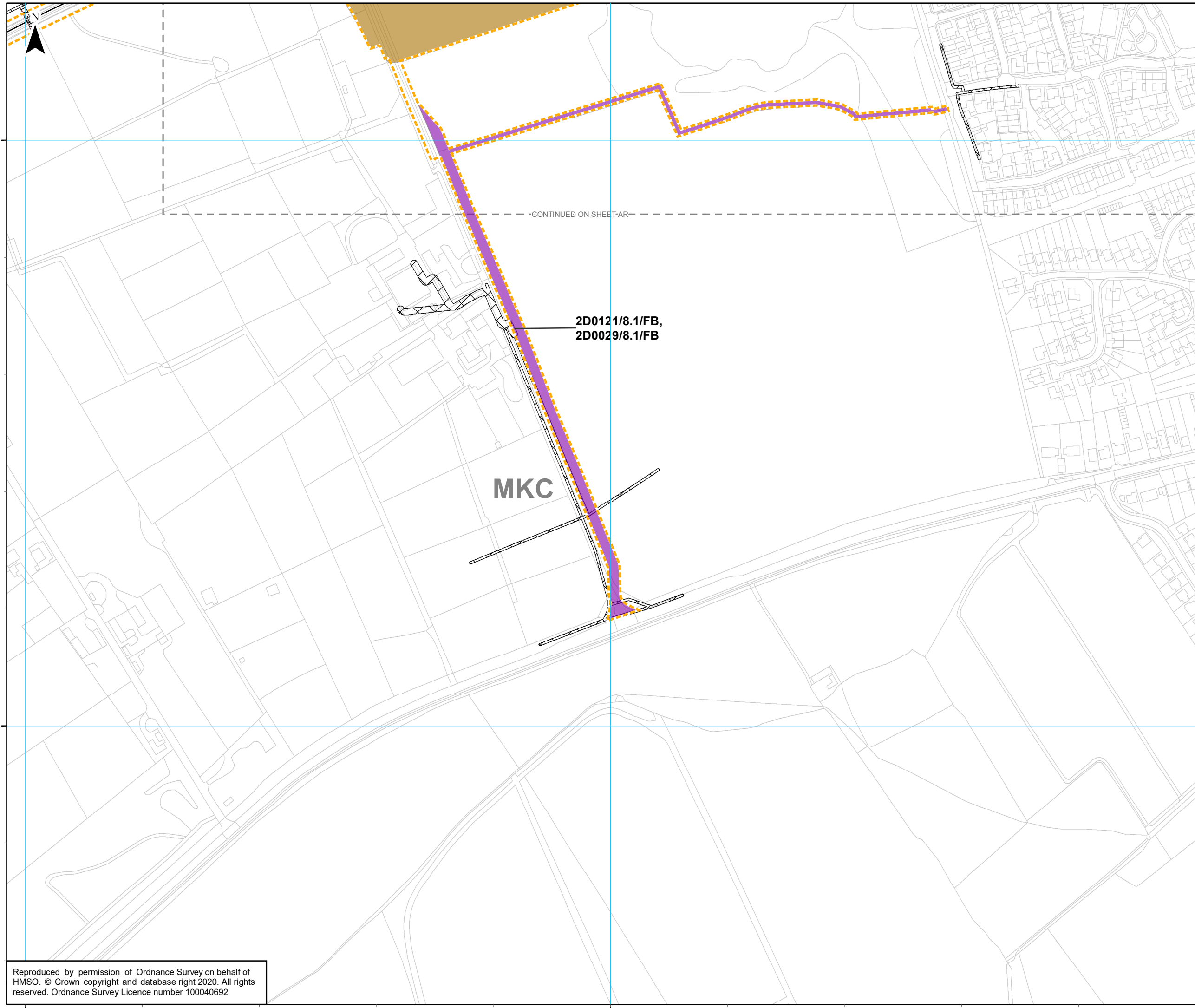
Project  
**THE NETWORK RAIL (EAST WEST RAIL BICESTER TO BEDFORD IMPROVEMENTS) ORDER**

Drawing Title  
**FIGURE 2AR HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kevin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s)	1:3,000	ELR & Project Chainage	N/A
Design Package Risk Classification	<b>NORMAL</b>	Sheet	44 of 66
Alternative Reference	<b>Alternative_Ref</b>	Revision	<b>P05</b>
Drawing Number	133735_RW-EWR-XX-XX-DR-LH-010367		

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- PROJECT EXTENTS
  - DEVELOPMENT STAGE 2D MAIN WORKS
  - LOCAL AUTHORITY BOUNDARY
  - ADJACENT MAP SHEETS
  - CHAINAGE
  - UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; TRIAL TRENCHING; WATCHING BRIEF
  - WATCHING BRIEF

2D0121/8.1/FB,  
2D0029/8.1/FB

MKC

-CONTINUED ON SHEET-AR-



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AS HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

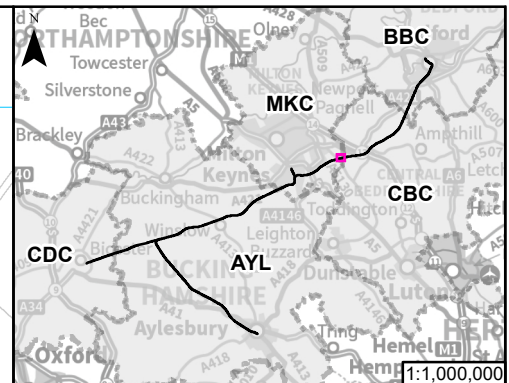
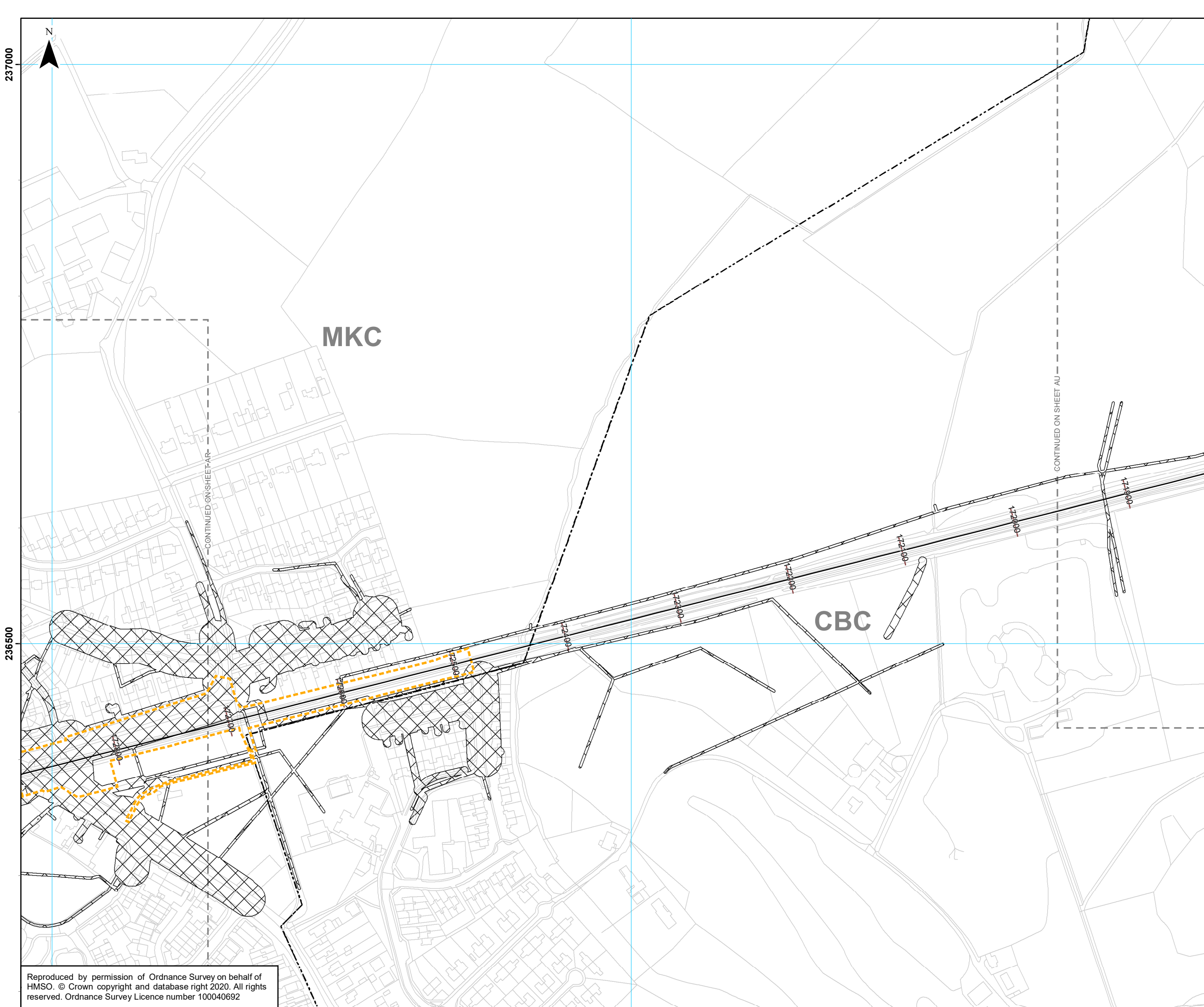
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 45 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010368**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2D MAIN WORKS
- LOCAL AUTHORITY BOUNDARY
- ADJACENT MAP SHEETS
- CHAINAGE
- UTILITIES EXCLUSION ZONE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AT HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

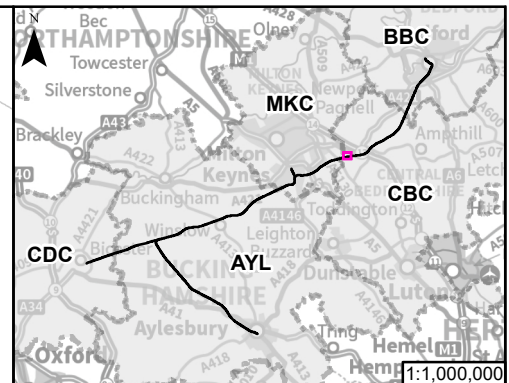
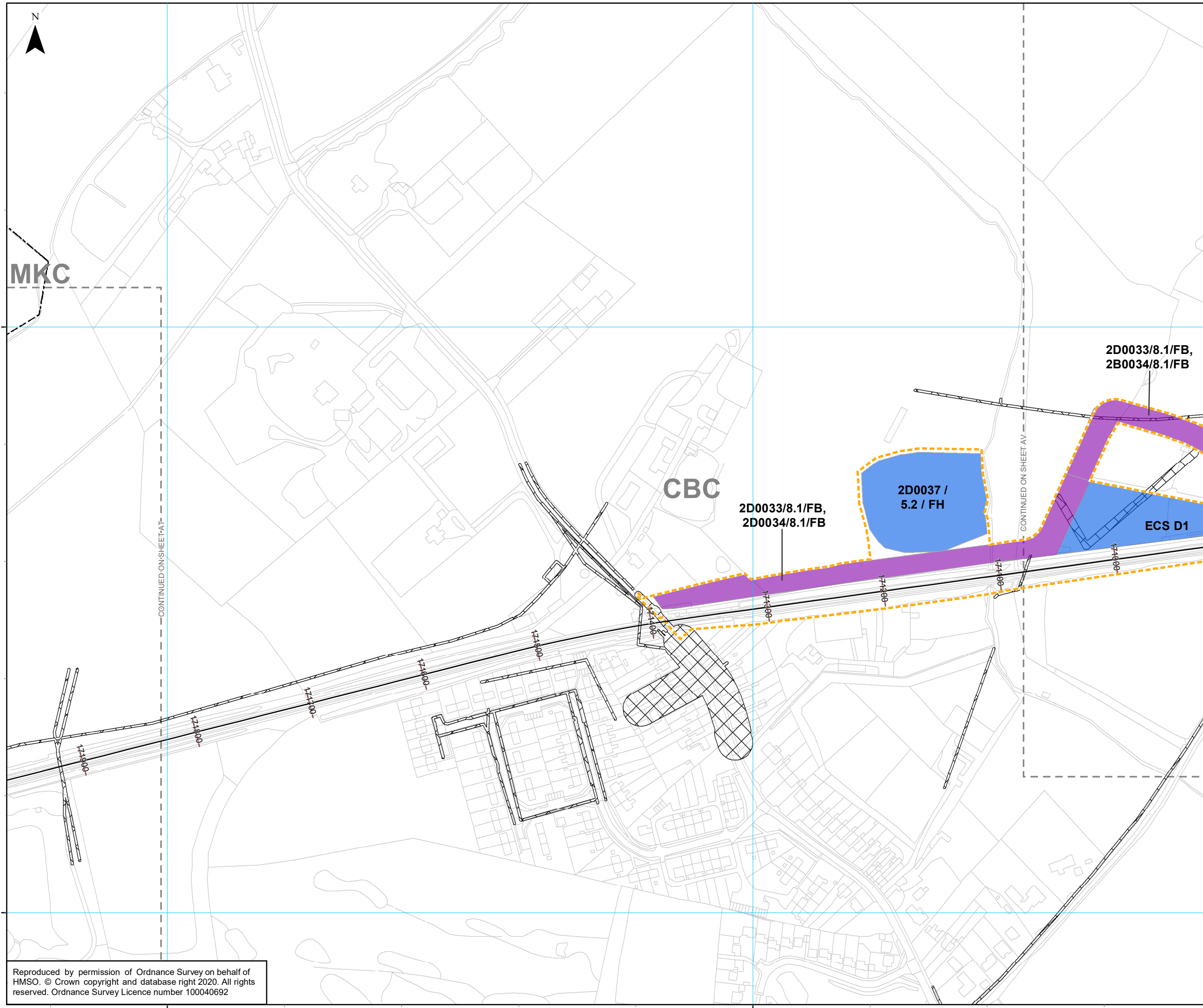
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **46 of 66**

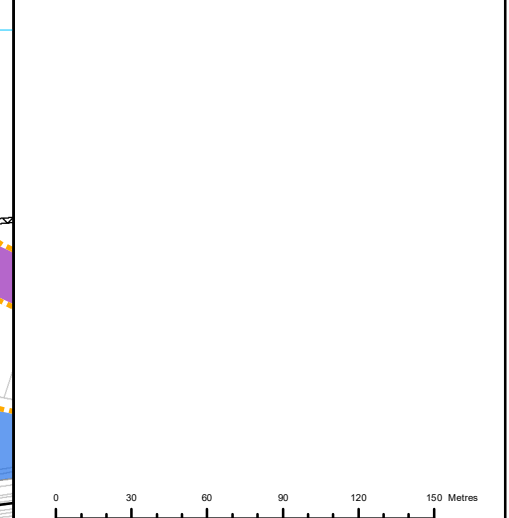
Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010369**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2D MAIN WORKS
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF



Rev	Date	Description of Revisions	Dsnd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AU HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AM</i>	Date	25/02/2020

Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

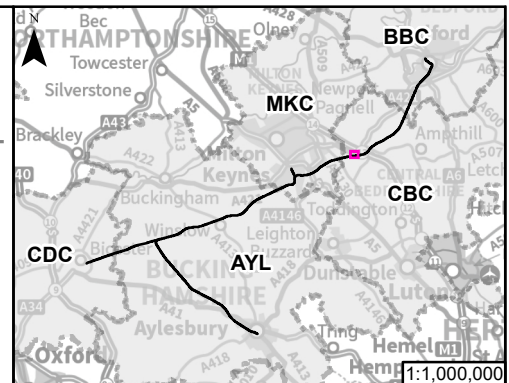
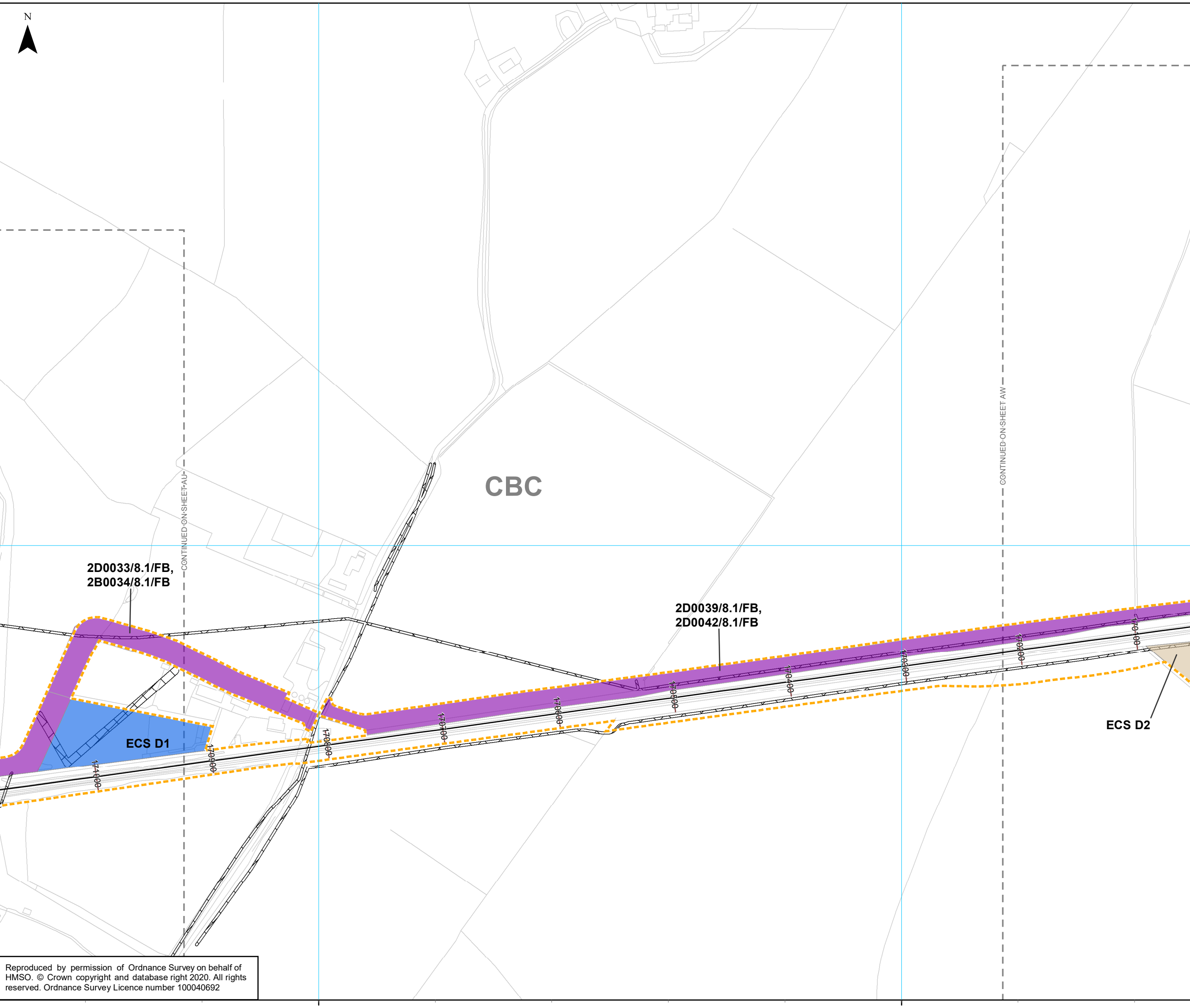
Design Package Risk Classification: **NORMAL** Sheet: **47 of 66**

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010370**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2D MAIN WORKS
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▭ UTILITIES EXCLUSION ZONE
- MITIGATION
- ▭ GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE
- ▭ GEOPHYSICS; WATCHING BRIEF
- ▭ WATCHING BRIEF



Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AV HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kevin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

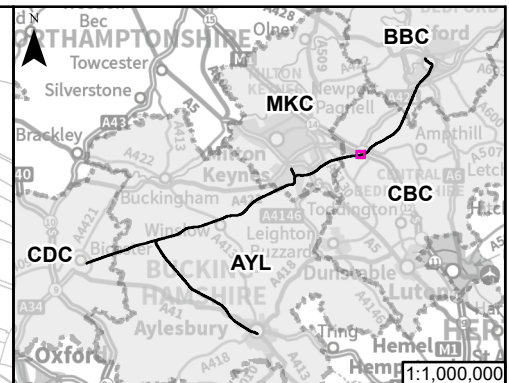
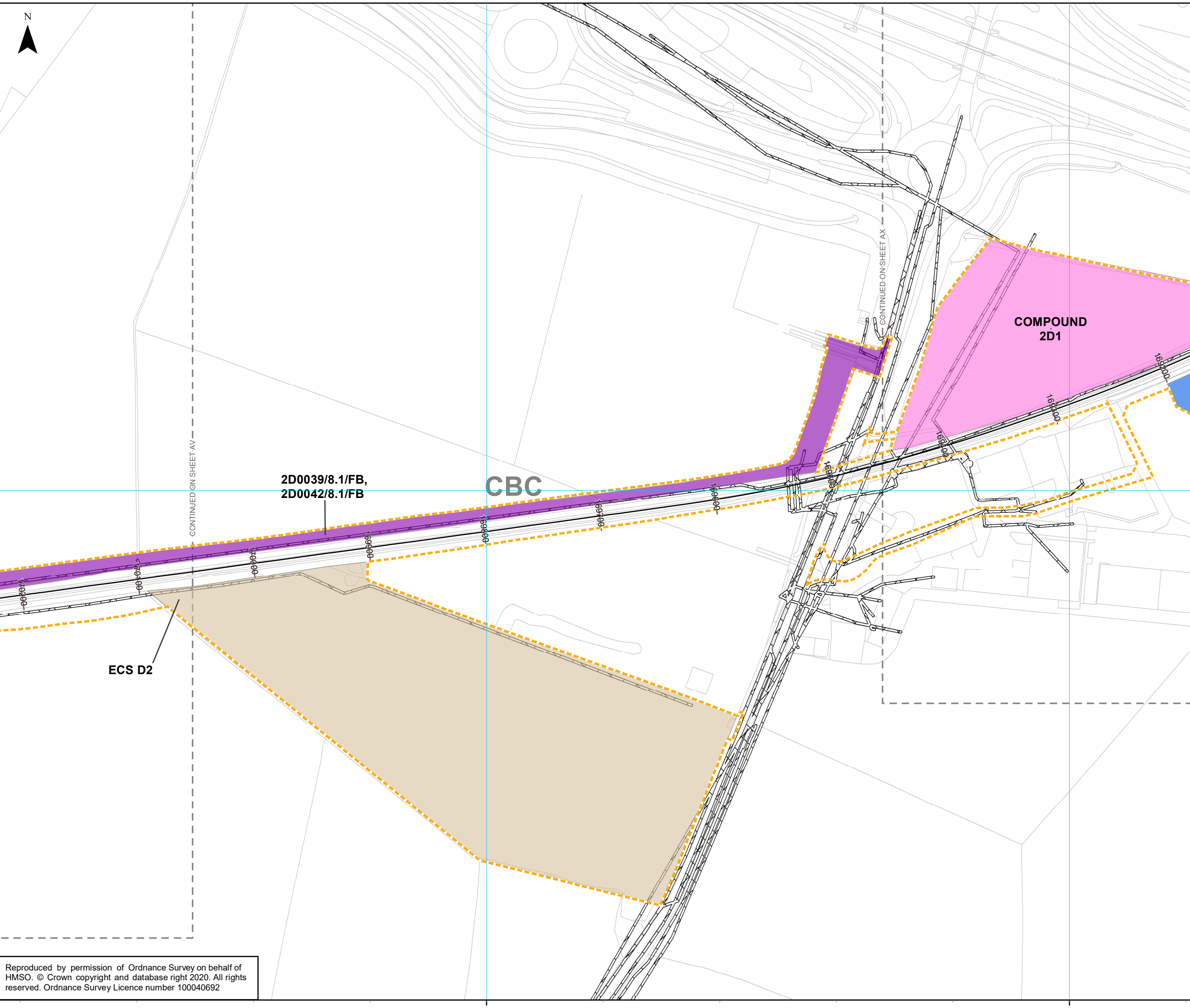
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **48 of 66**

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010371**

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2D MAIN WORKS
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▭ UTILITIES EXCLUSION ZONE
- MITIGATION
- ▭ GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE
- ▭ GEOPHYSICS; TRIAL TRENCHING; STRIP MAP SAMPLE
- ▭ GEOPHYSICS; WATCHING BRIEF
- ▭ WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: Suitability **A1**



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

Drawing Title: **FIGURE 2AW HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

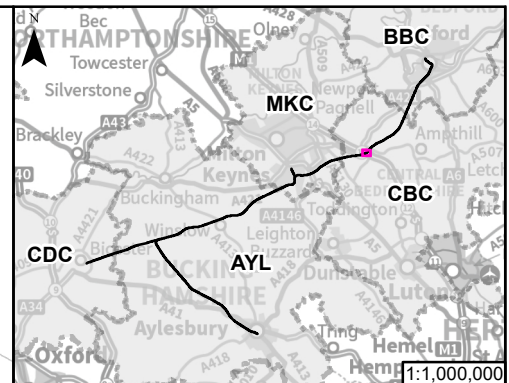
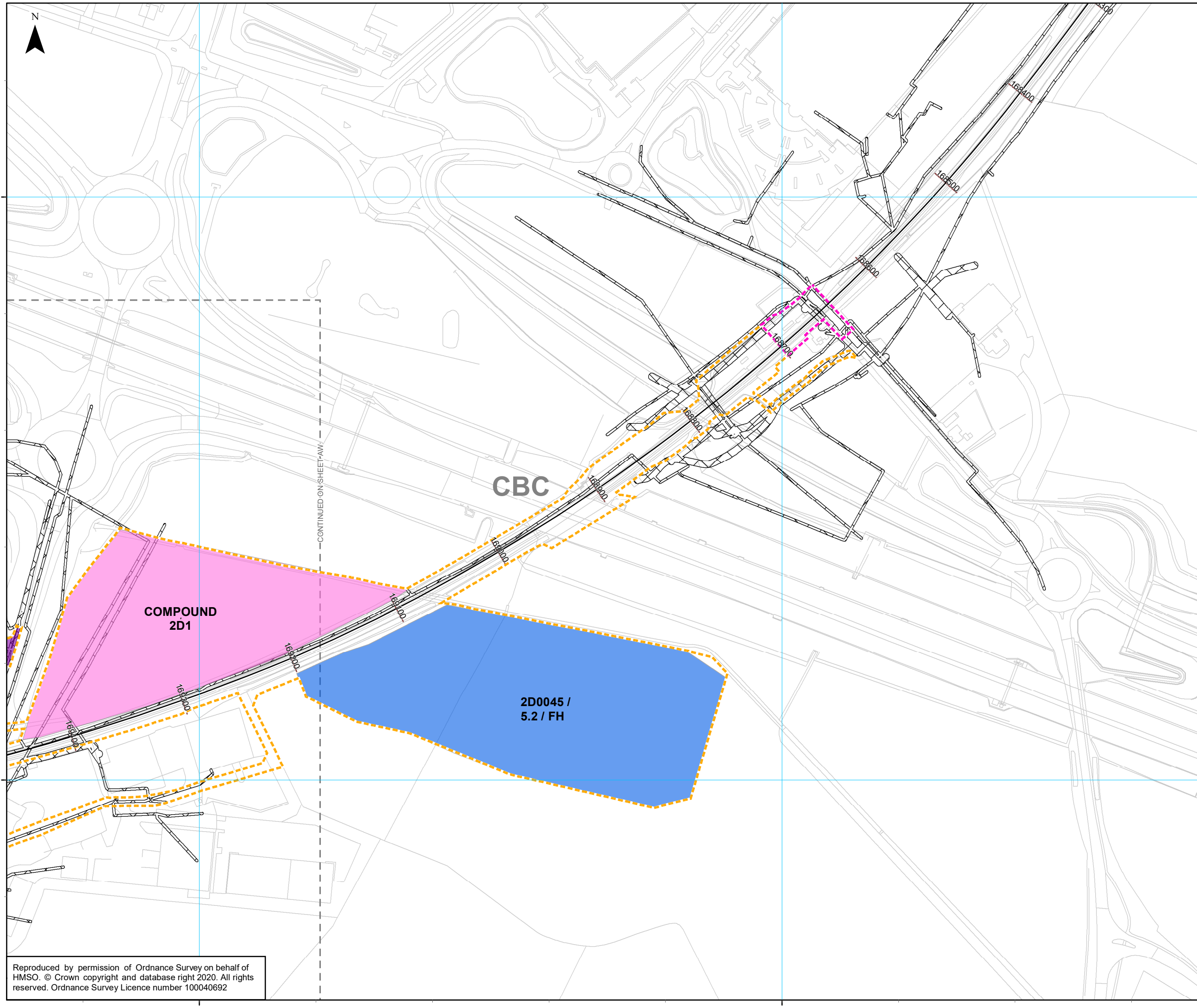
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 49 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010372**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2D MAIN WORKS
- DEVELOPMENT STAGE 2D PLATFORM EXTENSIONS
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ⊠ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; TRIAL TRENCHING; STRIP MAP SAMPLE
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AX HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

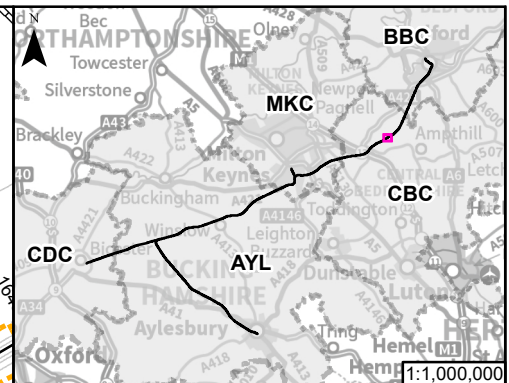
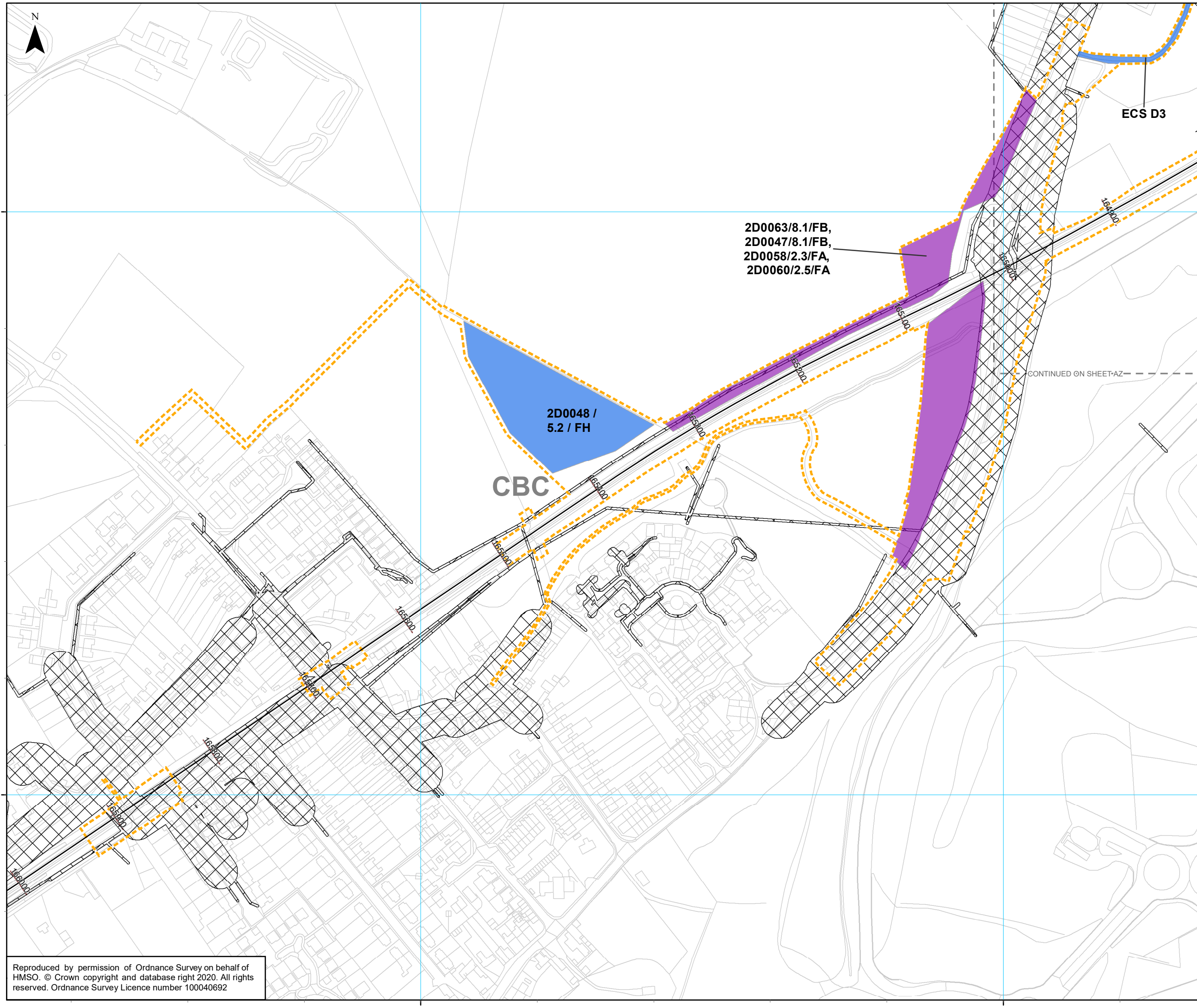
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 50 of 66

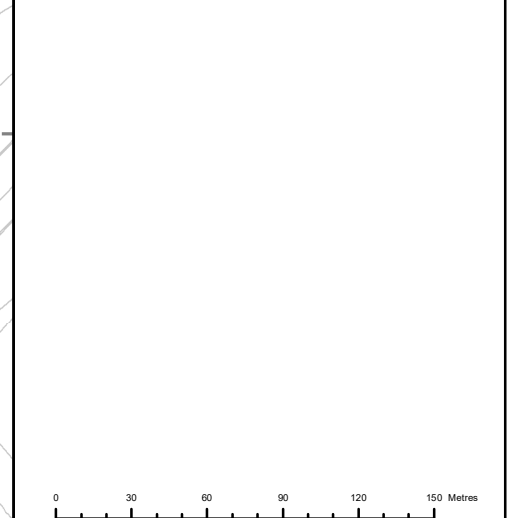
Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010373**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2D MAIN WORKS
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- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; WATCHING BRIEF
- WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr
Status					Suitability
PUBLISHED - STAGE APPROVED					A1



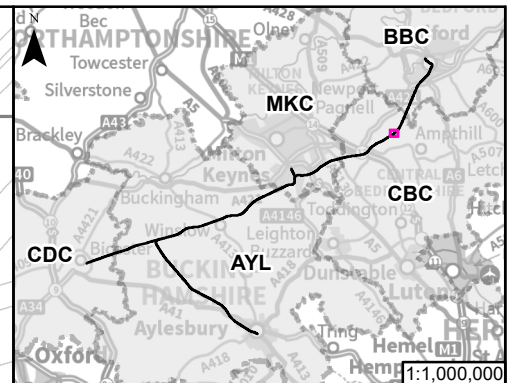
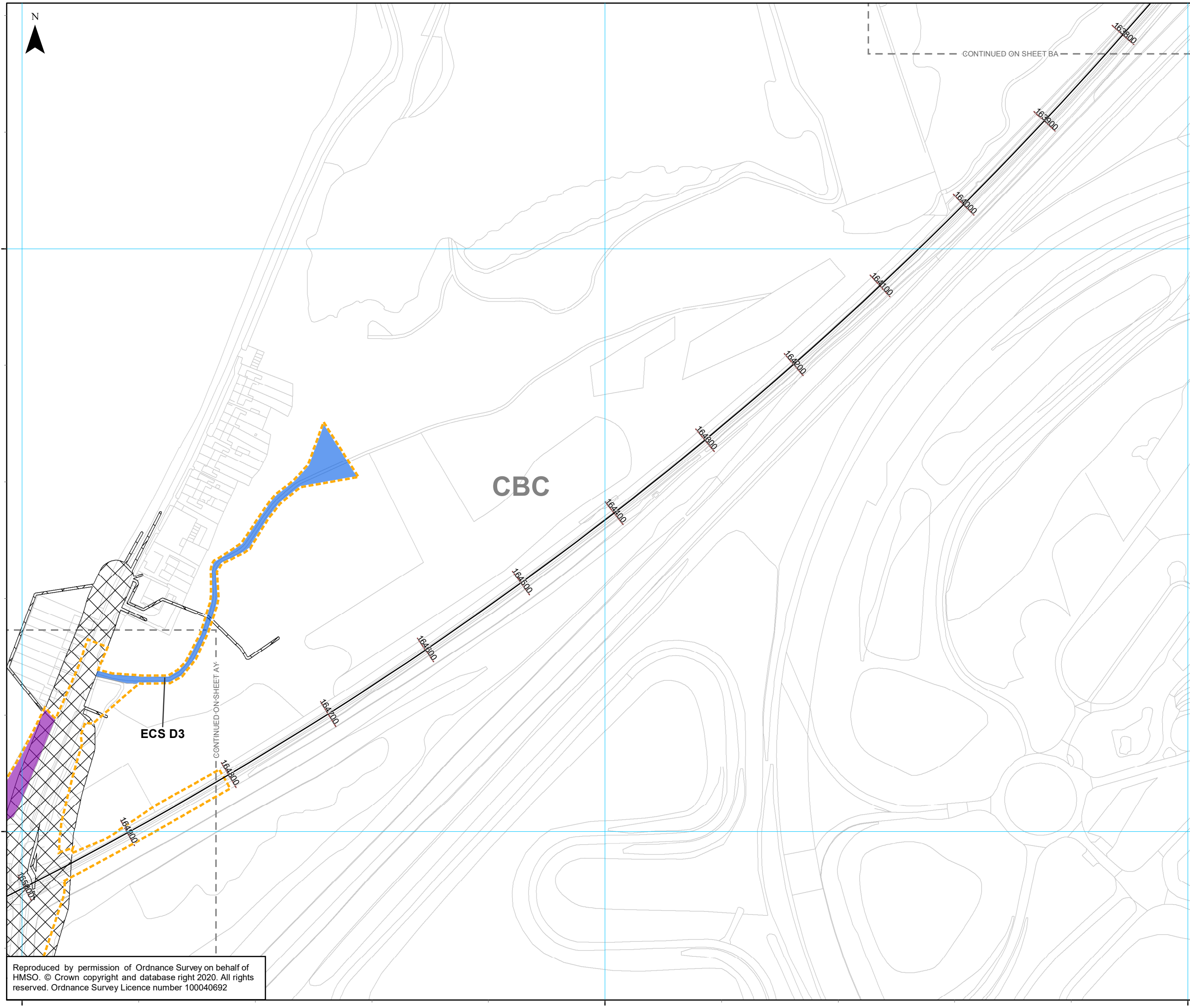
Project  
**THE NETWORK RAIL (EAST WEST RAIL BICESTER TO BEDFORD IMPROVEMENTS) ORDER**

Drawing Title  
**FIGURE 2AY  
 HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s)	1:3,000	ELR & Project Chainage	N/A
Design Package Risk Classification	<b>NORMAL</b>	Sheet	51 of 66
Alternative Reference	<b>Alternative_Ref</b>	Revision	<b>P05</b>
Drawing Number	133735_RW-EWR-XX-XX-DR-LH-010374		

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- PROJECT EXTENTS
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- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- ▨ GEOPHYSICS; WATCHING BRIEF
- ▨ WATCHING BRIEF



Rev	Date	Description of Revisions	Dsnd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2AZ HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

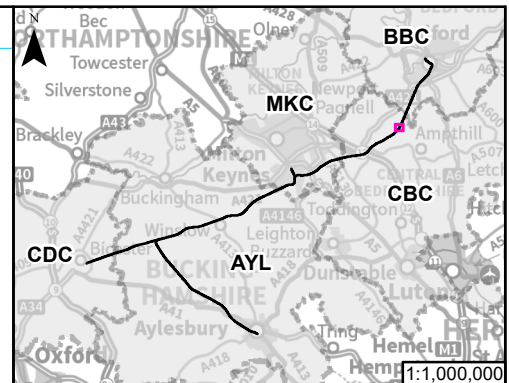
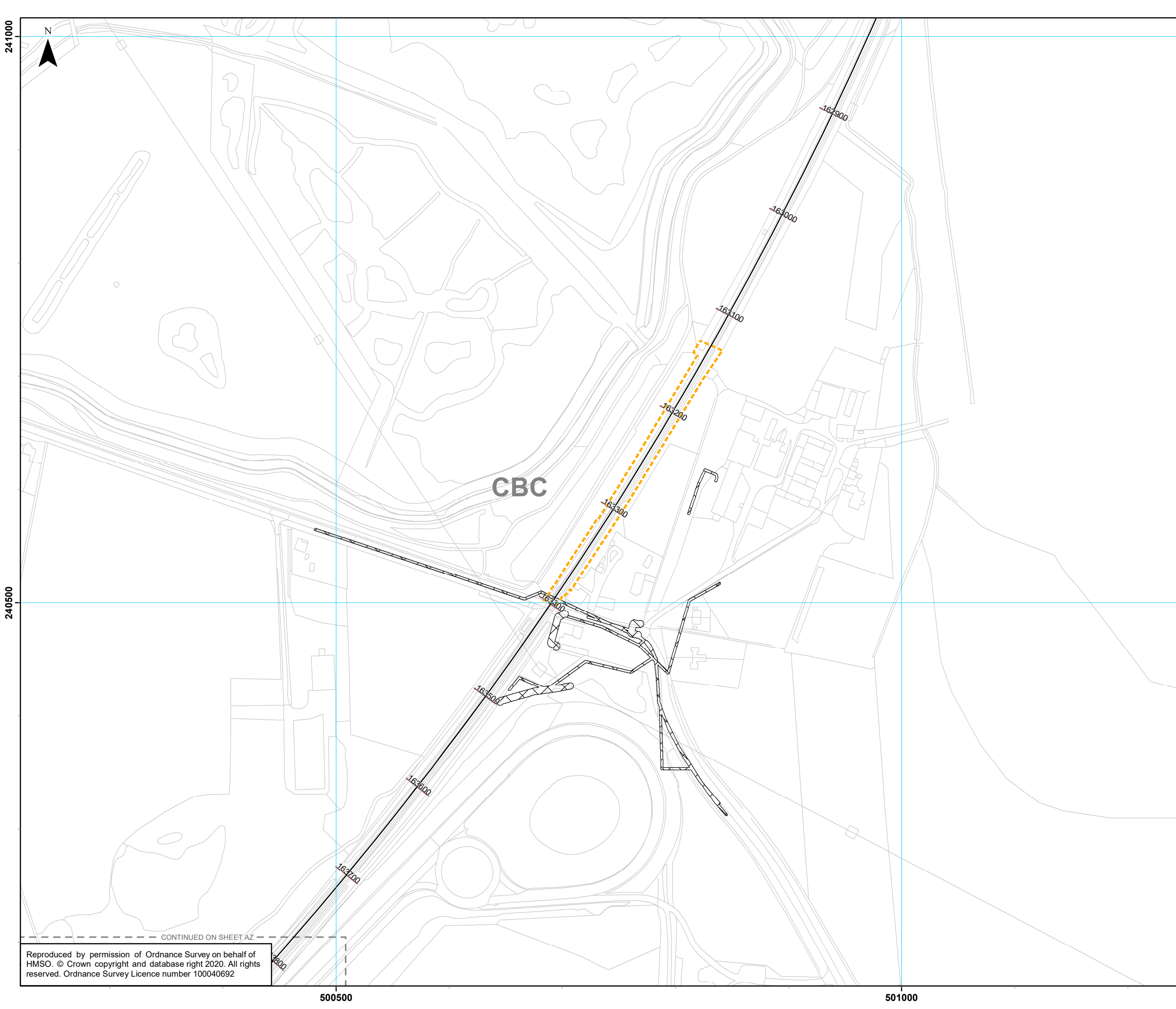
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 52 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010375**

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- PROJECT EXTENTS
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- ADJACENT MAP SHEETS
- CHAINAGE
- UTILITIES EXCLUSION ZONE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
Status					Suitability
PUBLISHED - STAGE APPROVED					A1



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

Drawing Title  
**FIGURE 2BA HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s)  
**1:3,000** ELR & Project Chainage  
 N/A

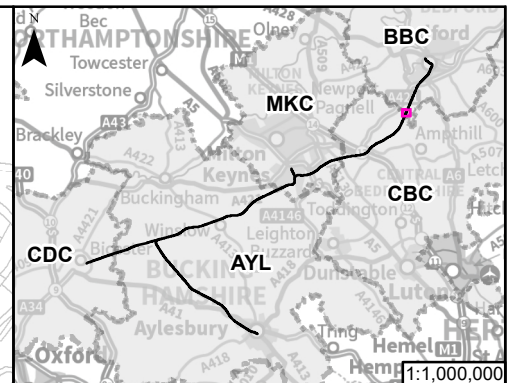
Design Package Risk Classification  
**NORMAL** Sheet  
 53 of 66

Alternative Reference  
**Alternative\_Ref** Revision  
**P05**

Drawing Number  
**133735\_RW-EWR-XX-XX-DR-LH-010376**

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CONTINUED ON SHEET AZ



- PROJECT EXTENTS
- DEVELOPMENT STAGE 2D MAIN WORKS
- LOCAL AUTHORITY BOUNDARY
- ADJACENT MAP SHEETS
- CHAINAGE
- UTILITIES EXCLUSION ZONE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2BB HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AM</i>	Date	25/02/2020

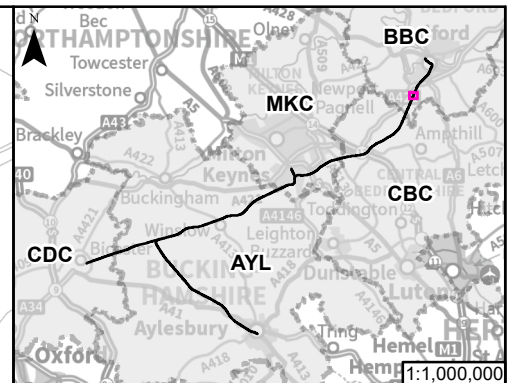
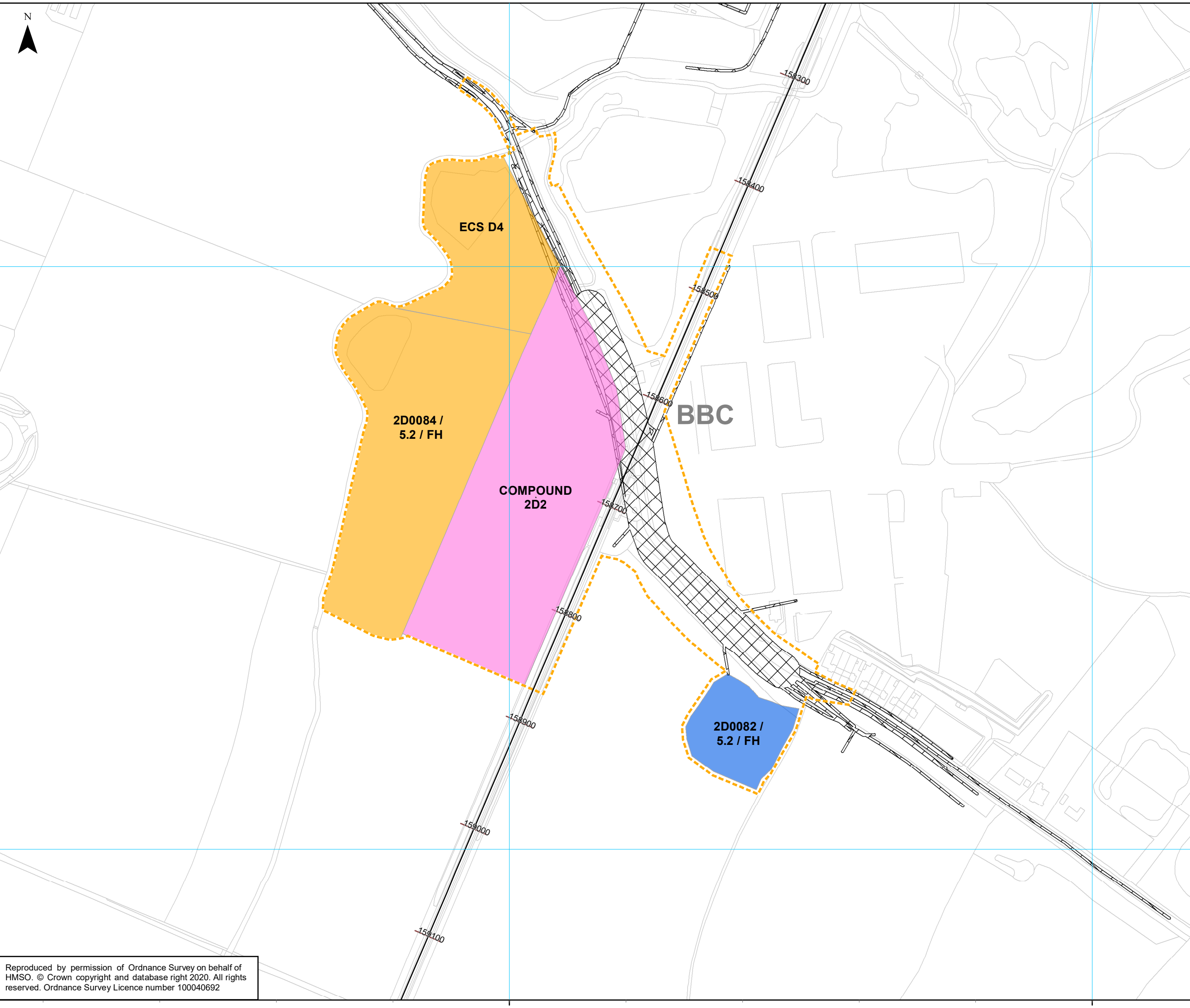
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 54 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010377**

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2D MAIN WORKS
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▭ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; TRIAL TRENCHING
- GEOPHYSICS; TRIAL TRENCHING; STRIP MAP SAMPLE
- GEOPHYSICS; WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2BC HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

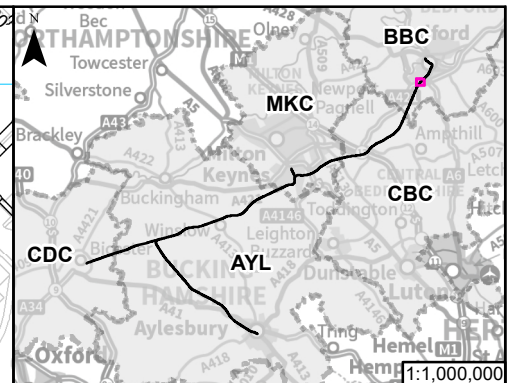
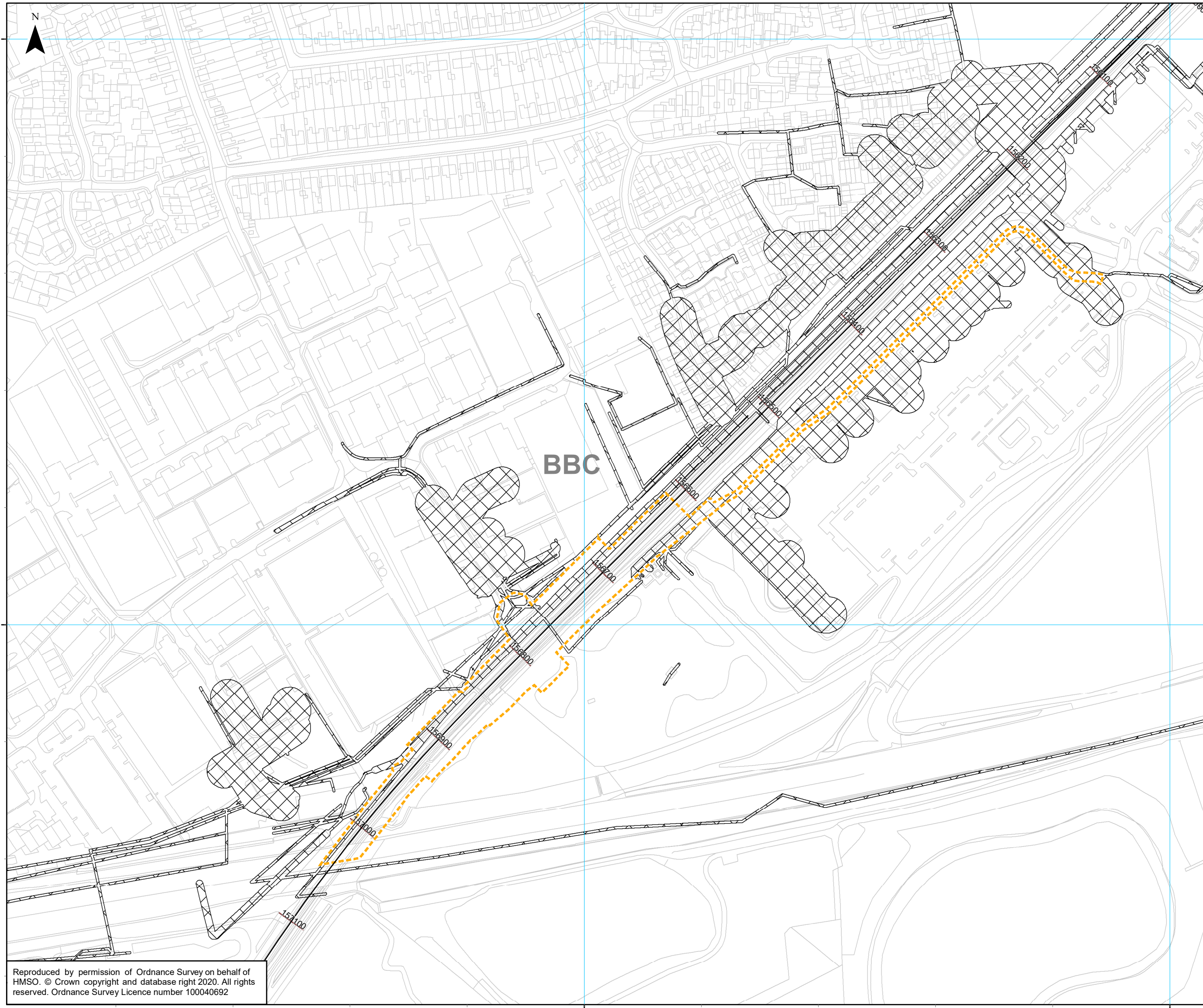
Design Package Risk Classification: **NORMAL** Sheet: 55 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010378**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2D MAIN WORKS
- LOCAL AUTHORITY BOUNDARY
- ADJACENT MAP SHEETS
- CHAINAGE
- UTILITIES EXCLUSION ZONE



Rev	Date	Description of Revisions	Dsnd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2BD HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

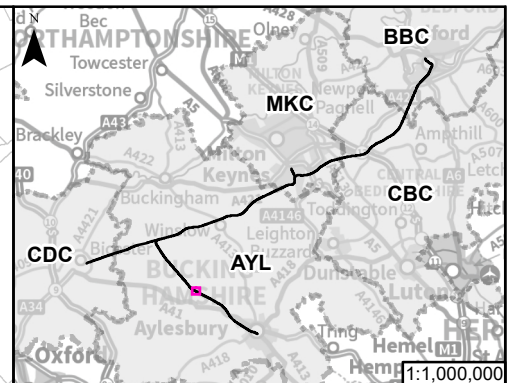
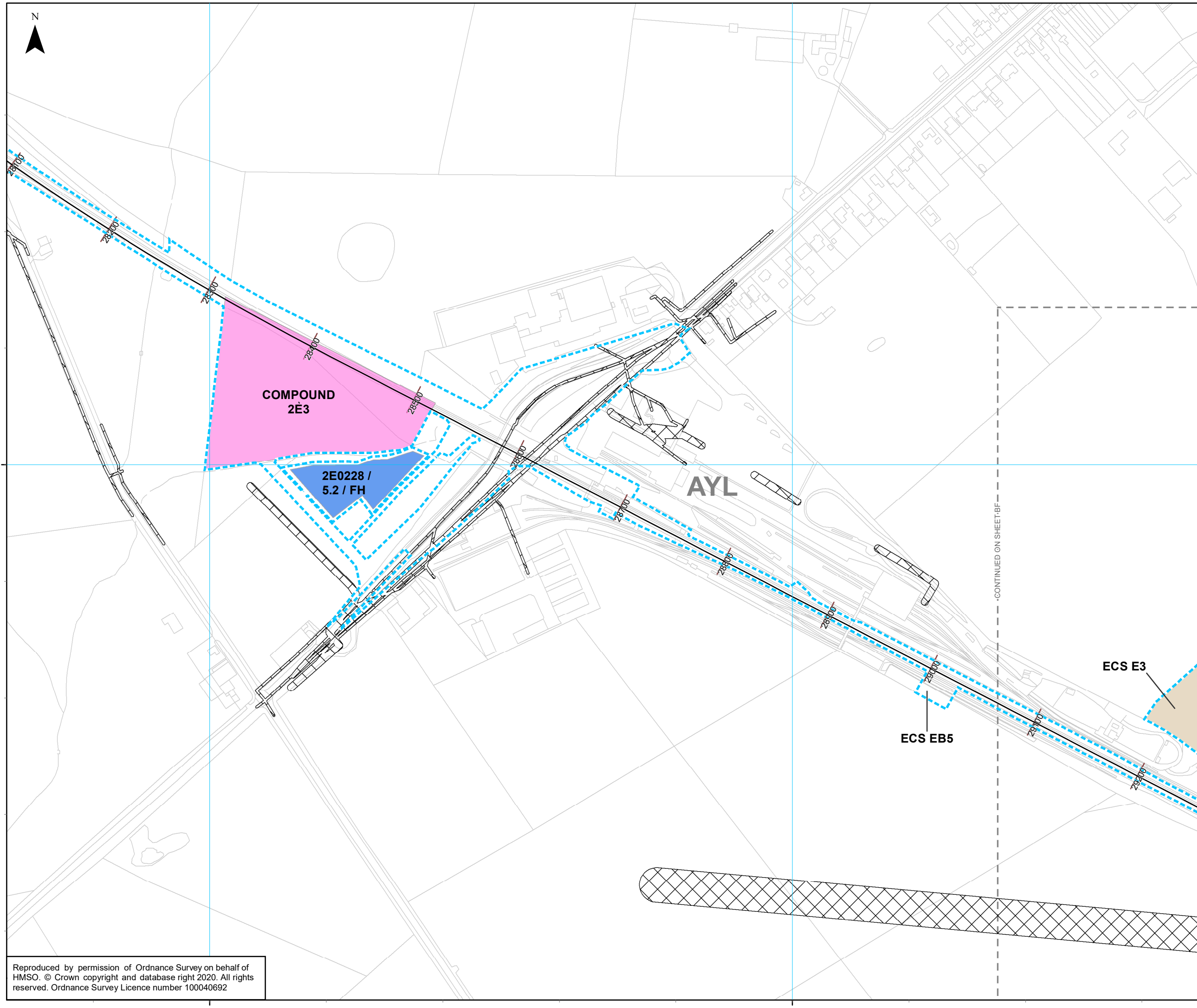
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **56 of 66**

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010379**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2E
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION**
- GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE
- GEOPHYSICS; TRIAL TRENCHING; STRIP MAP SAMPLE
- GEOPHYSICS; WATCHING BRIEF



Rev	Date	Description of Revisions	Dsnd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2BE HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

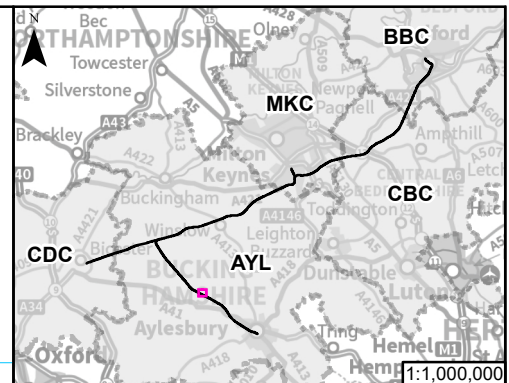
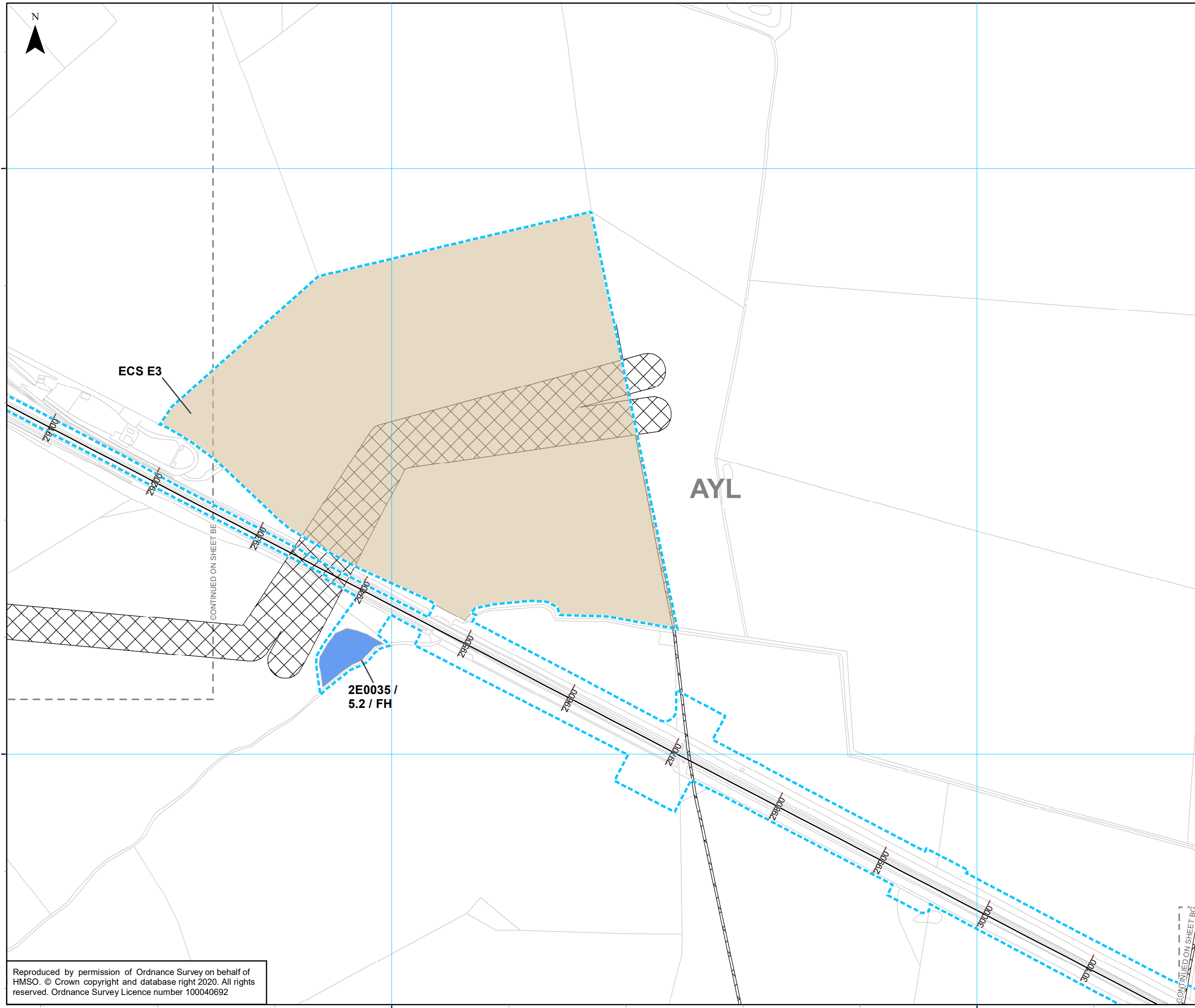
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 57 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010380**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2E
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; TRIAL TRENCHING; CHANCE FINDS PROCEDURE
- GEOPHYSICS; WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2BF HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

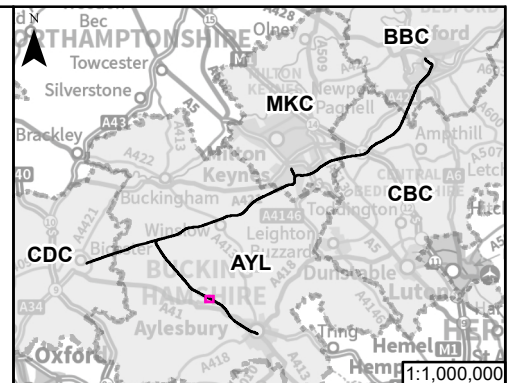
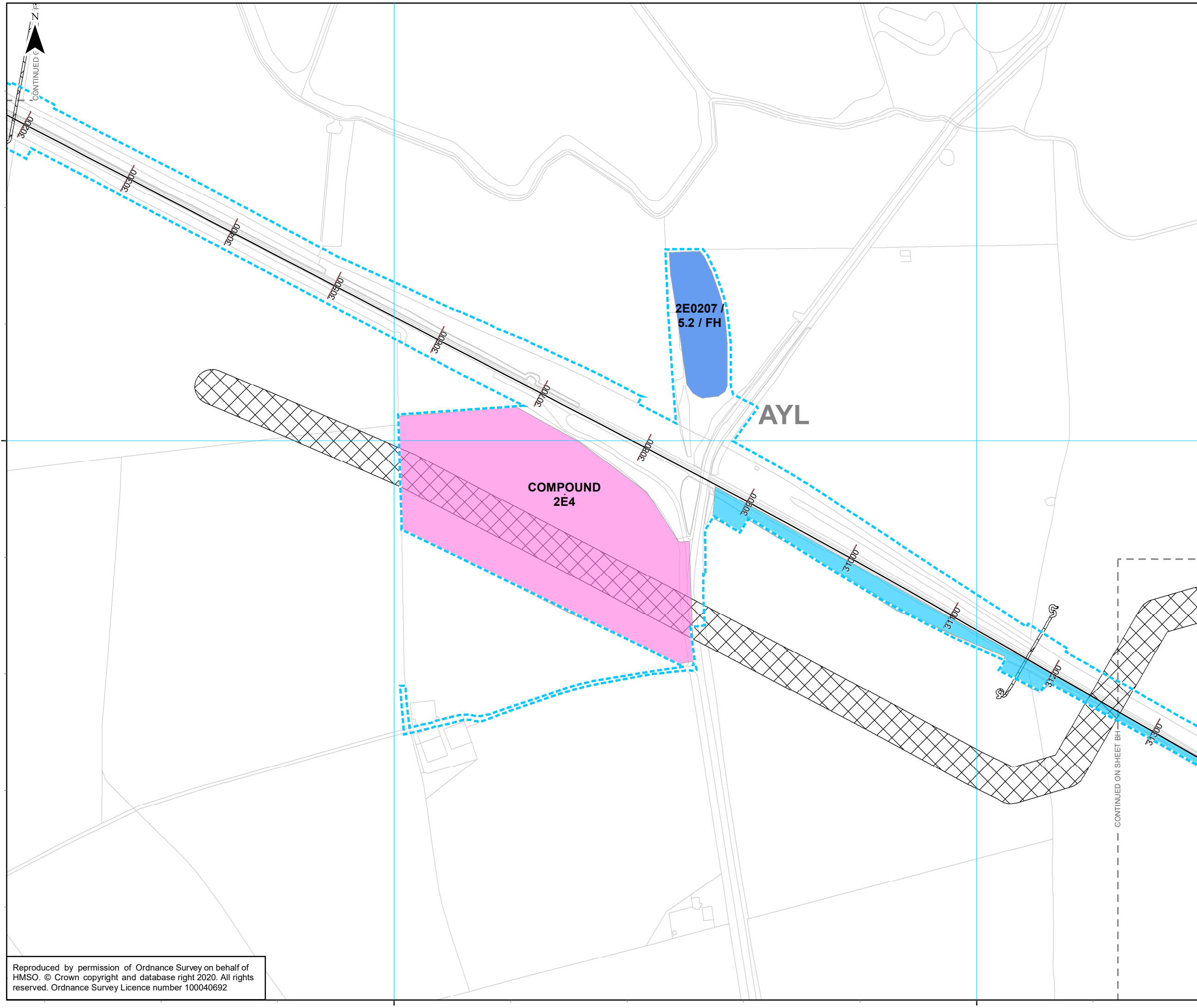
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **58 of 66**

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010381**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2E
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; STRIP MAP SAMPLE
- GEOPHYSICS; TRIAL TRENCHING; STRIP MAP SAMPLE
- GEOPHYSICS; WATCHING BRIEF



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2BG HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

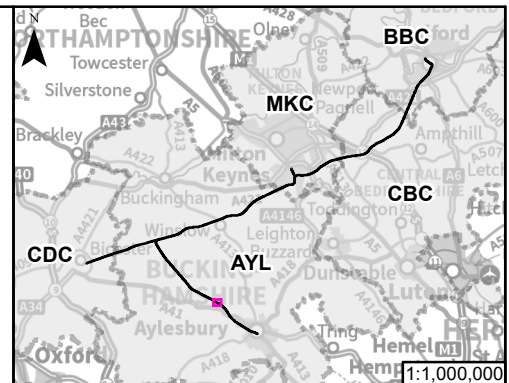
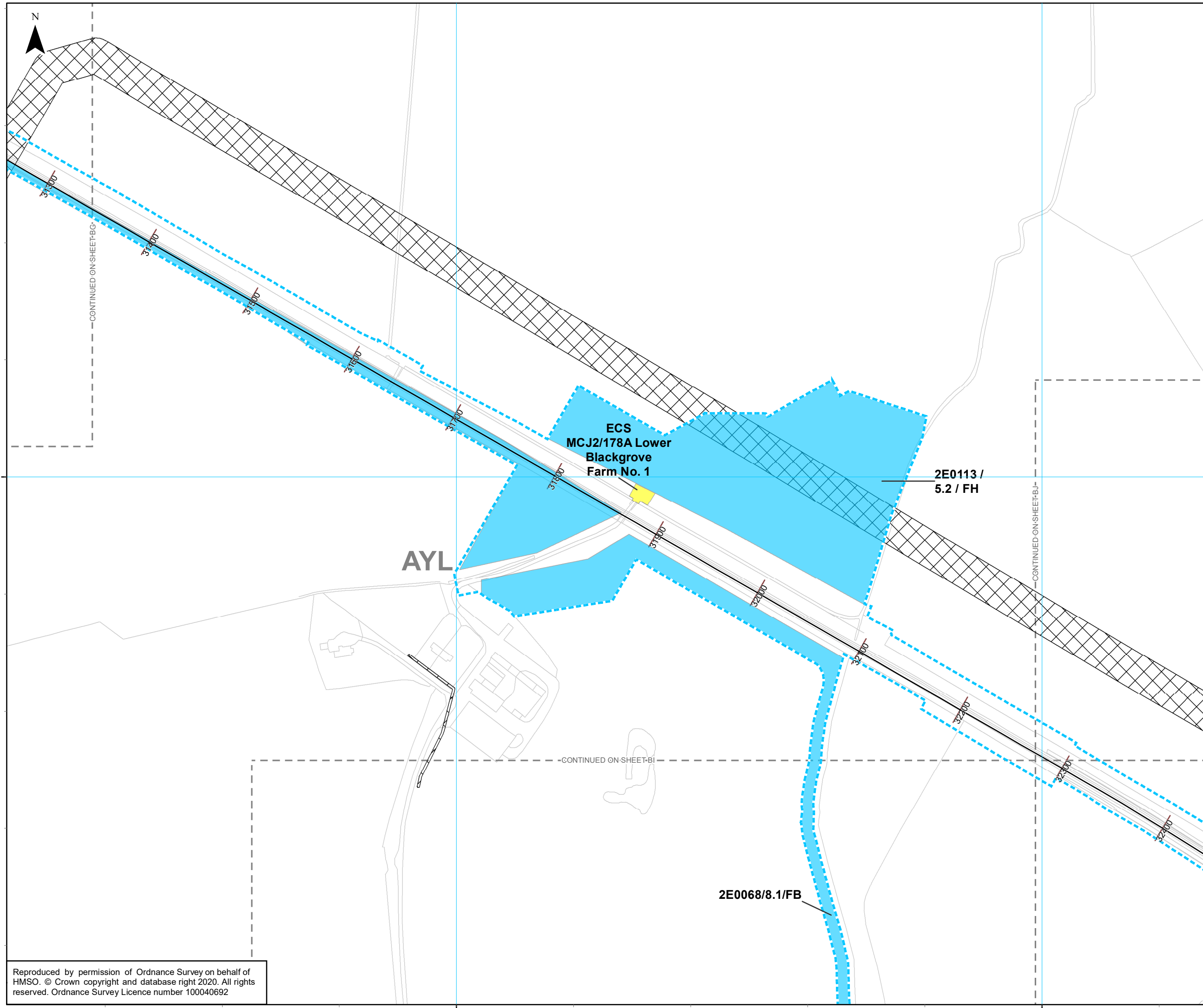
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 59 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010382**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2E
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS
- GEOPHYSICS; STRIP MAP SAMPLE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsmd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2BH HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kevin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

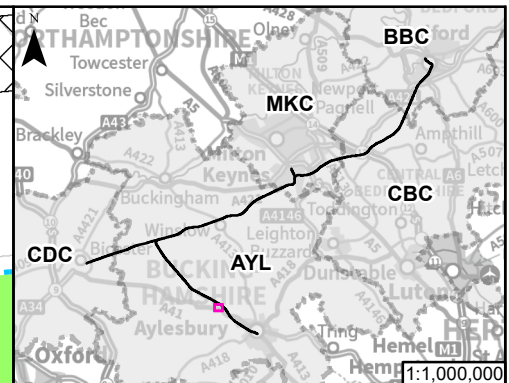
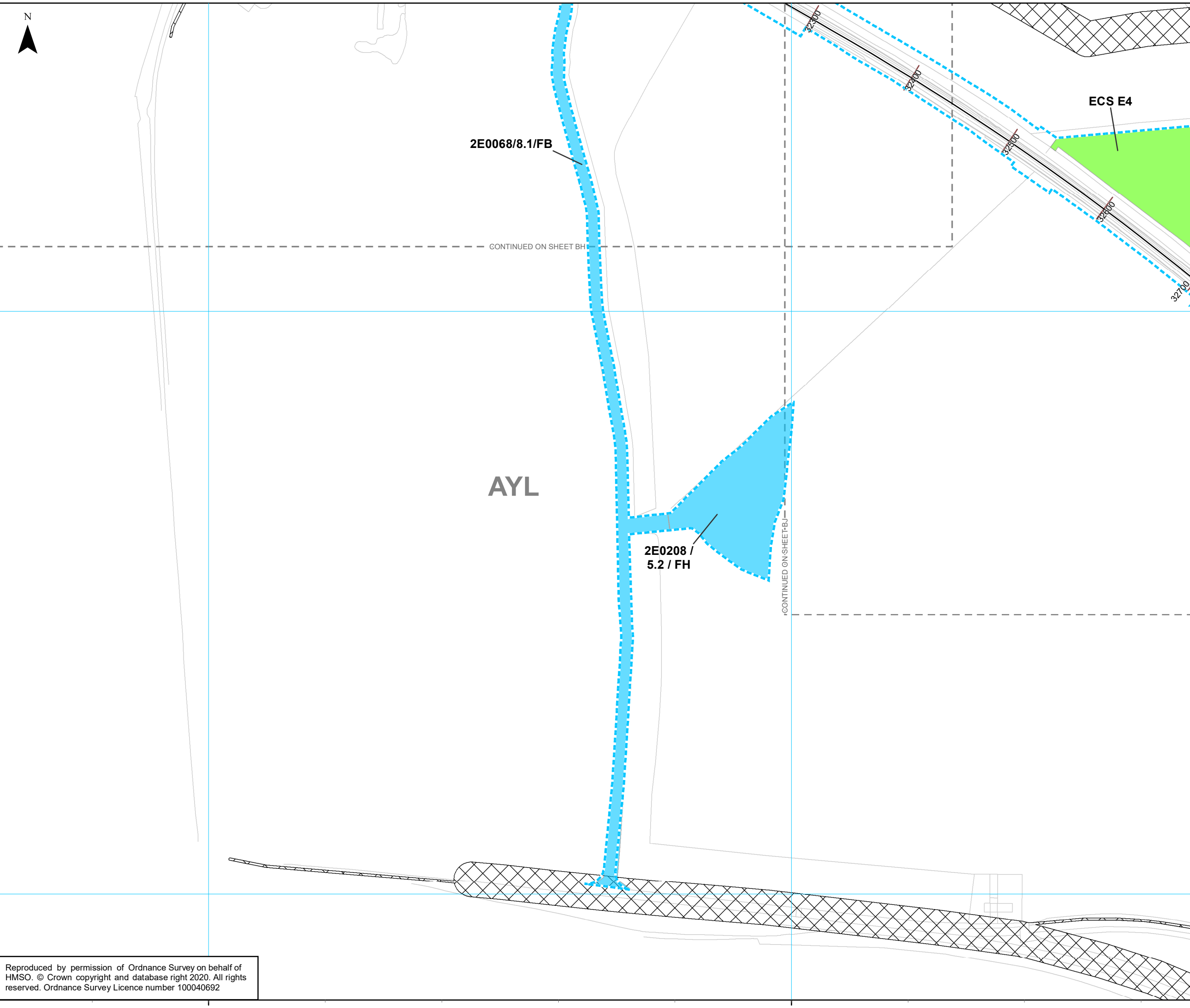
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **60 of 66**

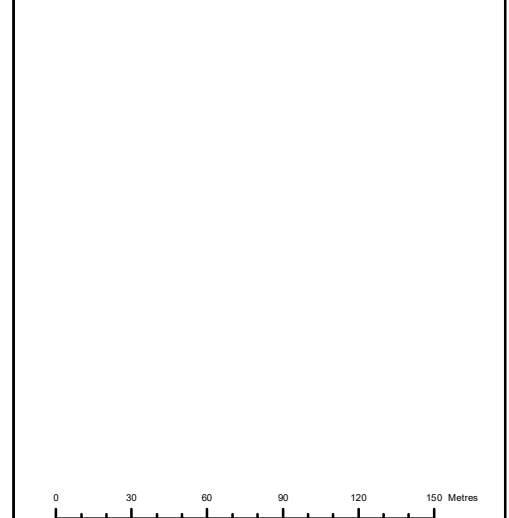
Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010383**

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- PROJECT EXTENTS
- - - DEVELOPMENT STAGE 2E
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; STRIP MAP SAMPLE
- GEOPHYSICS; TRIAL TRENCHING; TBC



Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2BI HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

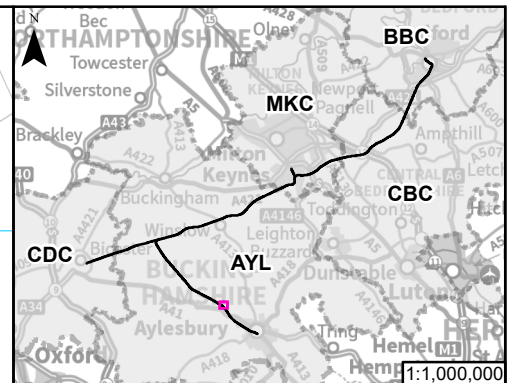
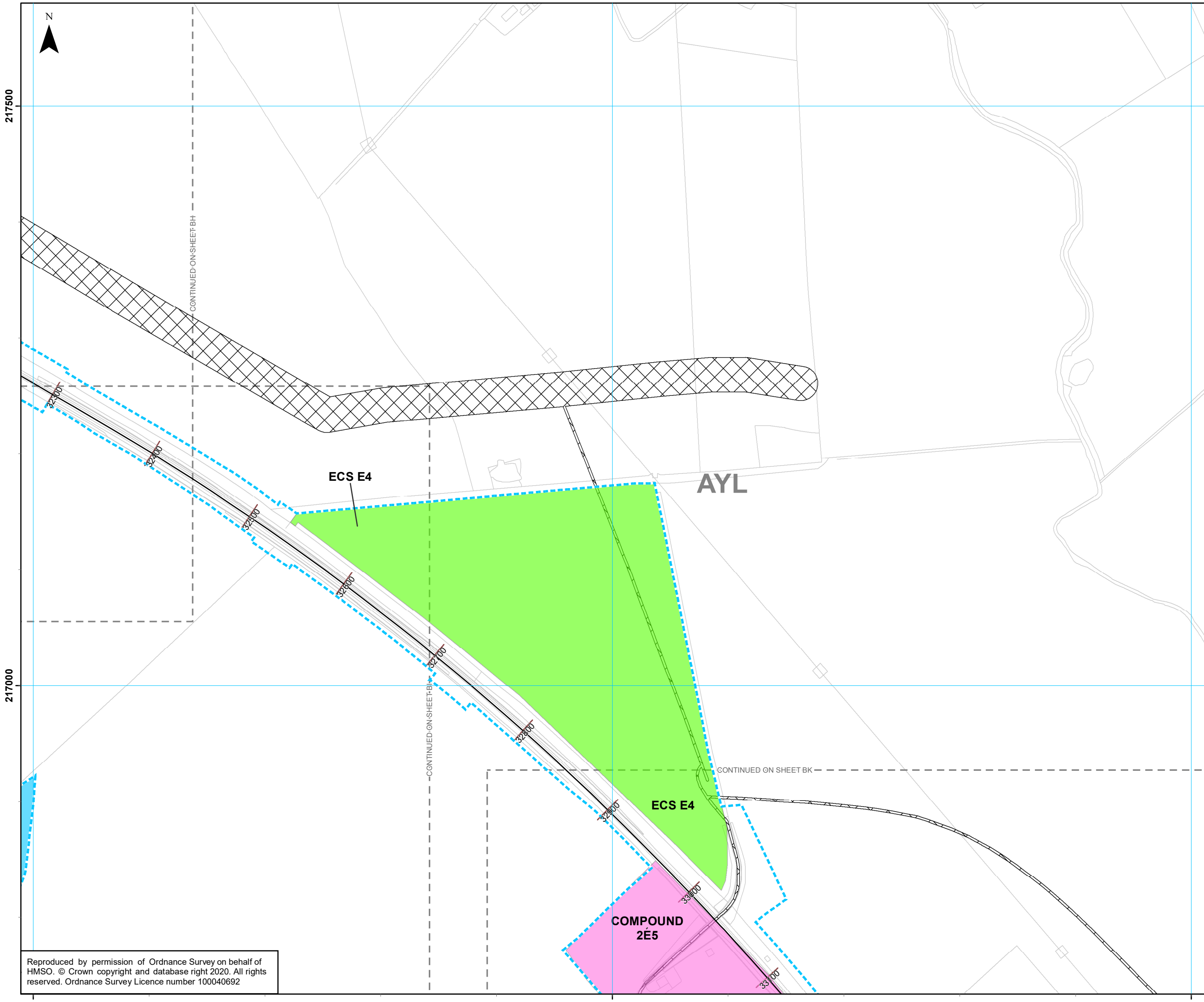
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **61 of 66**

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010384**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2E
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- - - CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; STRIP MAP SAMPLE
- GEOPHYSICS; TRIAL TRENCHING; STRIP MAP SAMPLE
- GEOPHYSICS; TRIAL TRENCHING; TBC



Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2BJ HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AM</i>	Date	25/02/2020

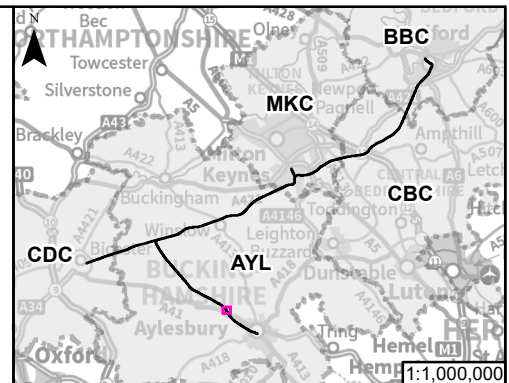
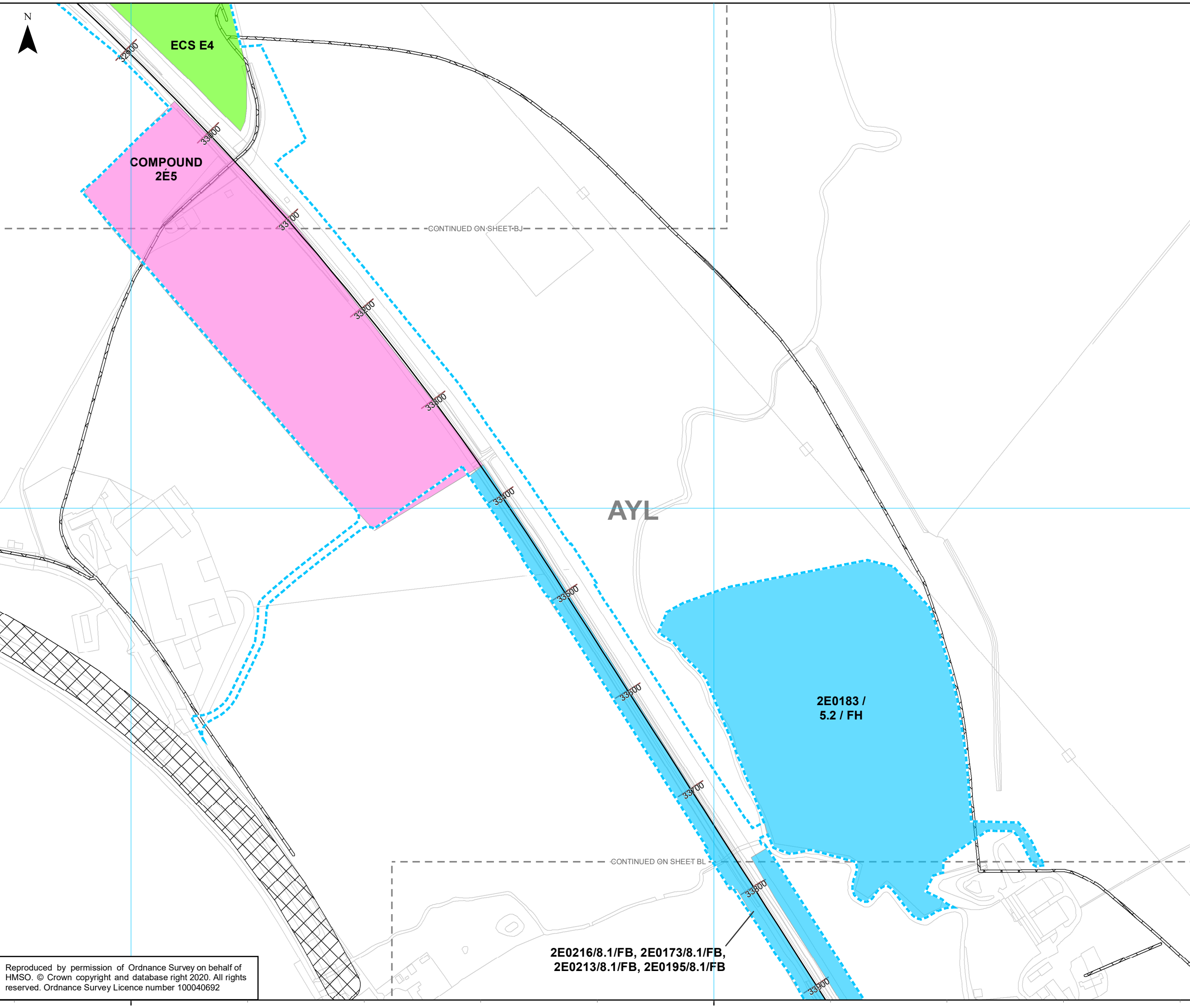
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **62 of 66**

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010385**

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- PROJECT EXTENTS
  - DEVELOPMENT STAGE 2E
  - - - LOCAL AUTHORITY BOUNDARY
  - - - ADJACENT MAP SHEETS
  - CHAINAGE
  - ▭ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; STRIP MAP SAMPLE
  - GEOPHYSICS; TRIAL TRENCHING; STRIP MAP SAMPLE
  - GEOPHYSICS; TRIAL TRENCHING; TBC

Rev	Date	Description of Revisions	Dsnd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status	Suitability
<b>PUBLISHED - STAGE APPROVED</b>	<b>A1</b>



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

Drawing Title  
**FIGURE 2BK HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LO</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AM</i>	Date	25/02/2020

Scale(s)  
**1:3,000** ELR & Project Chainage  
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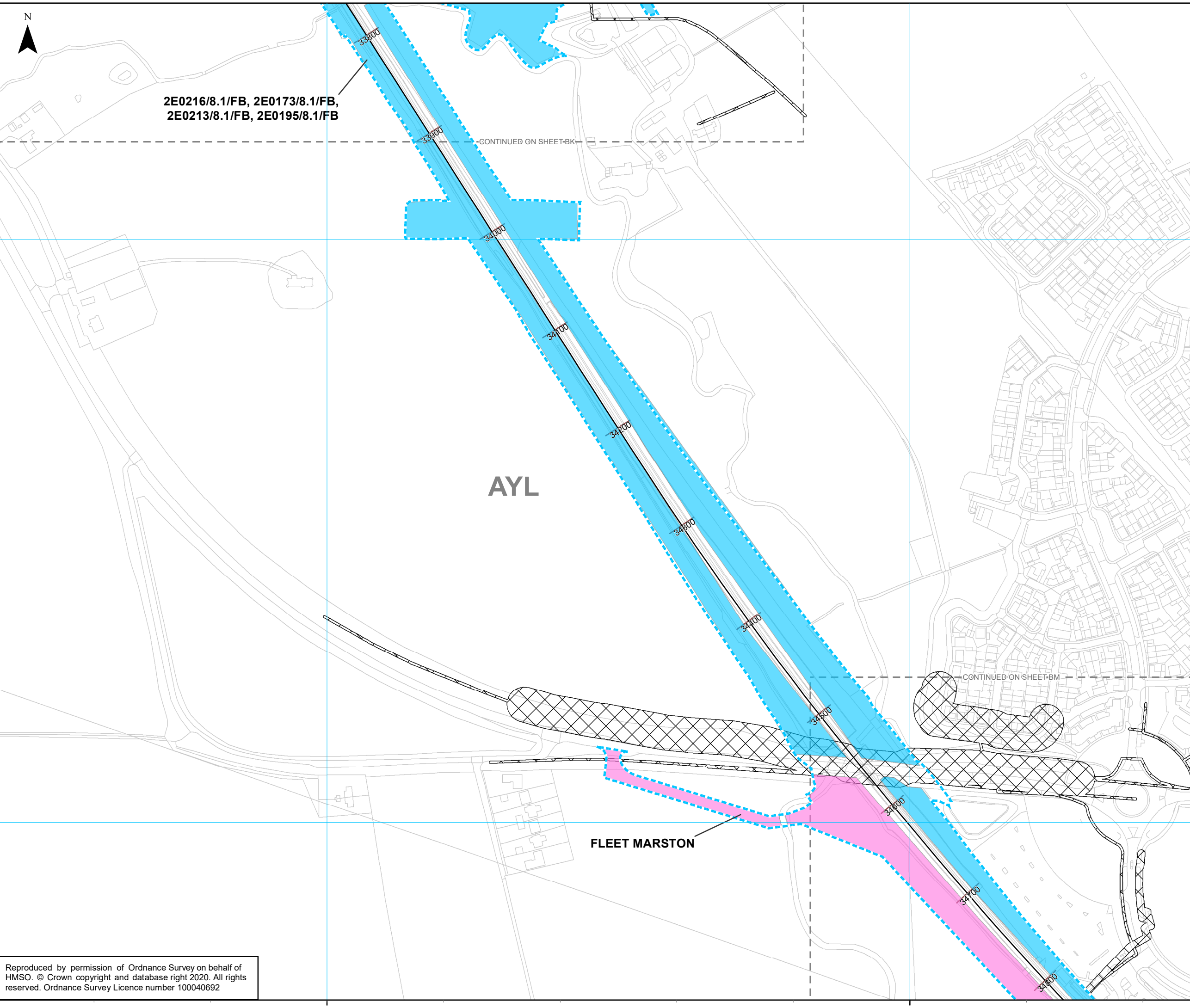
Design Package Risk Classification  
**NORMAL** Sheet  
 63 of 66

Alternative Reference  
**Alternative\_Ref** Revision  
**P05**

Drawing Number  
**133735\_RW-EWR-XX-XX-DR-LH-010386**

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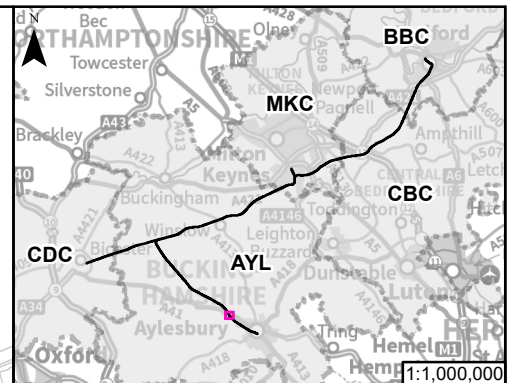
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CONTINUED ON SHEET-BK

CONTINUED ON SHEET-BM

AYL

FLEET MARSTON



- PROJECT EXTENTS
- ▬ DEVELOPMENT STAGE 2E
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; STRIP MAP SAMPLE
- GEOPHYSICS; TRIAL TRENCHING; STRIP MAP SAMPLE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2BL HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

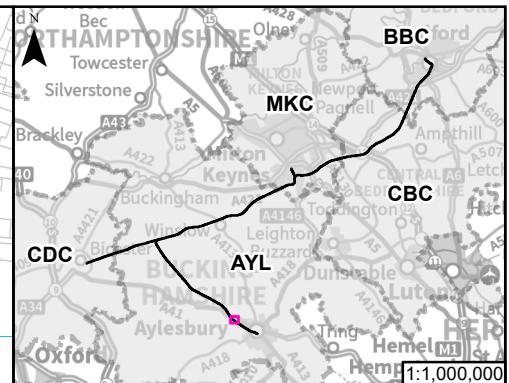
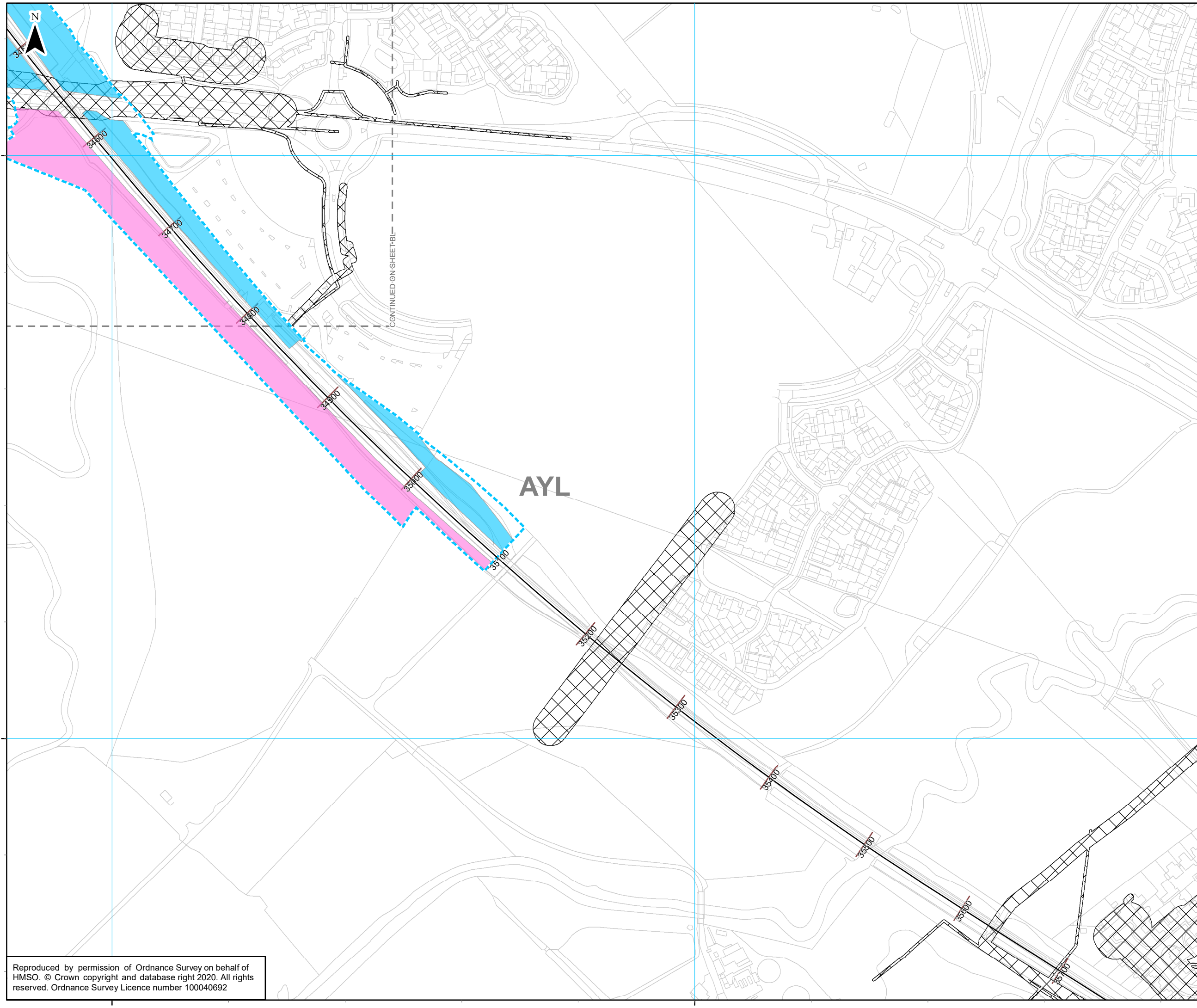
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: 64 of 66

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010387**

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- PROJECT EXTENTS
- ▬ DEVELOPMENT STAGE 2E
- - - LOCAL AUTHORITY BOUNDARY
- - - ADJACENT MAP SHEETS
- CHAINAGE
- ▨ UTILITIES EXCLUSION ZONE
- MITIGATION
- GEOPHYSICS; STRIP MAP SAMPLE
- GEOPHYSICS; TRIAL TRENCHING; STRIP MAP SAMPLE



P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM
Rev	Date	Description of Revisions	Dsnd	Chkd	Appr

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2BM HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

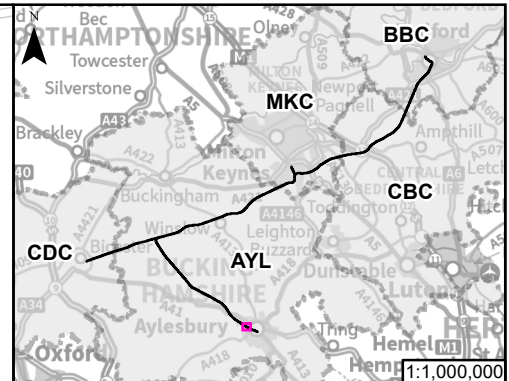
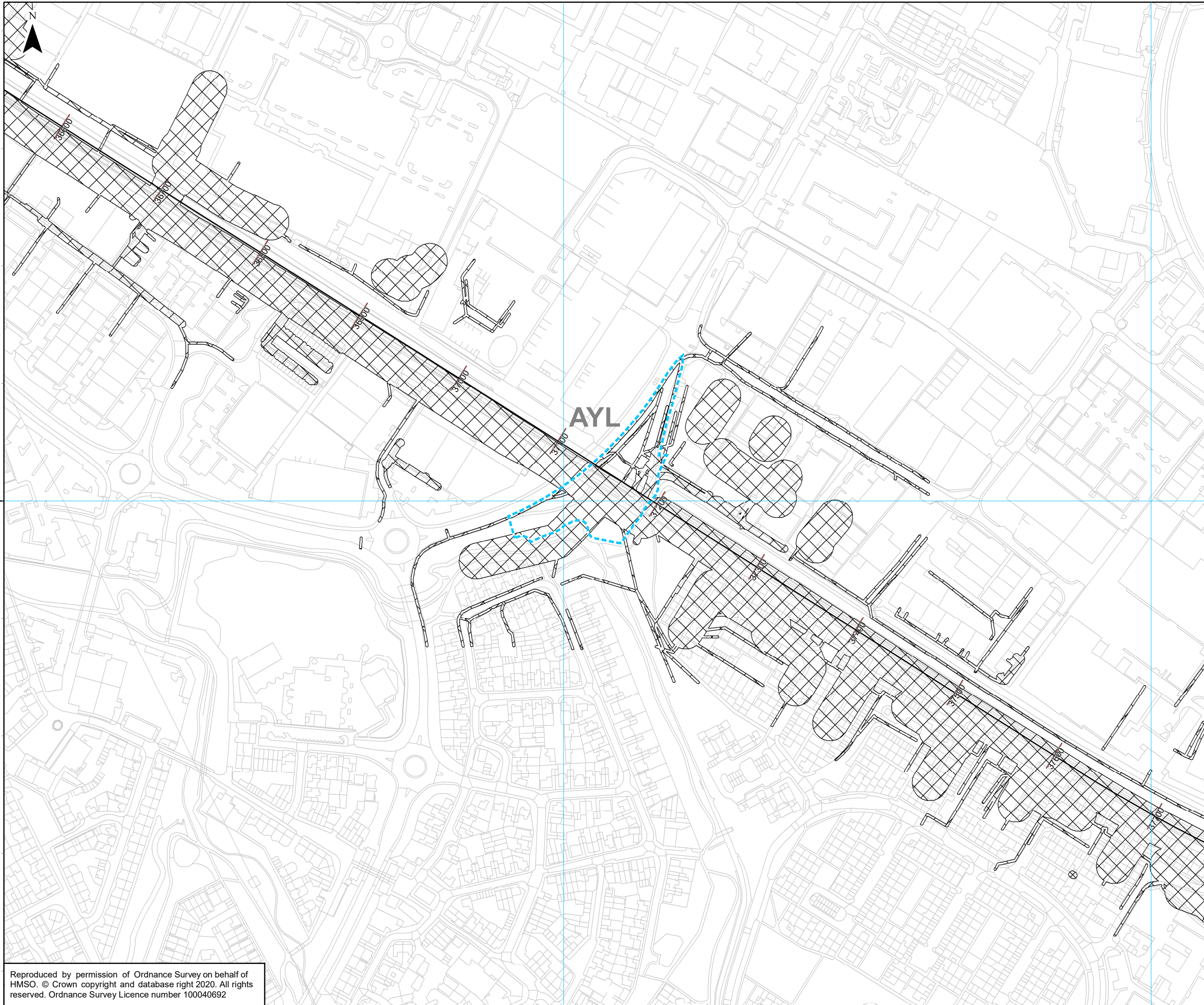
Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **65 of 66**

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010388**

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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2E
- LOCAL AUTHORITY BOUNDARY
- ADJACENT MAP SHEETS
- CHAINAGE
- UTILITIES EXCLUSION ZONE



Rev	Date	Description of Revisions	Dsmd	Chkd	Appr
P05	25/02/20	5TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P04	07/11/19	4TH ISSUE MITIGATION UPDATE	LOC	KS	AFM
P03	10/09/19	3RD ISSUE PROPOSED DEVELOPMENT STAGES	LOC	KS	AFM
P02	28/08/19	2ND ISSUE ARCHAEOLOGICAL WORKS STATUS	LOC	KS	AFM
P01	20/12/18	1ST ISSUE SCHEME BOUNDARY 31/07/2018	LOC	KS	AFM

Status: **PUBLISHED - STAGE APPROVED** Suitability: **A1**



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

Drawing Title: **FIGURE 2BN HERITAGE EVALUATION & MITIGATION - PROJECTED**

Designed	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Drawn	Laura O'Connor	Signed	<i>LA</i>	Date	25/02/2020
Checked	Kelvin Snell	Signed	<i>KRS</i>	Date	25/02/2020
Approved	Amy Farrington McCabe	Signed	<i>AMC</i>	Date	25/02/2020

Scale(s): **1:3,000** ELR & Project Chainage: **N/A**

Design Package Risk Classification: **NORMAL** Sheet: **66 of 66**

Alternative Reference: **Alternative\_Ref** Revision: **P05**

Drawing Number: **133735\_RW-EWR-XX-XX-DR-LH-010389**

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