SUNNICA ENERGY FARM

EN010106

8.79 Detailed Archaeological Mitigation Strategy

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Sunnica Energy Farm

Detailed Archaeological Mitigation Strategy

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PART ONE – OUTLINE ARCHAEOLOGICAL MITIGATION STRATEGY

1 Introduction

1.1 Project background

1.1.1 AECOM (the Consultant) has been commissioned by Sunnica Ltd (the Client) to design the archaeological works in advance of the Sunnica Energy Farm (the Scheme).

1.1.2 The Scheme consists of the construction of an onshore generating station. Associated development and other ancillary works are also proposed as part of the Scheme. The key scheme components, relevant for heritage, are solar photovoltaic (PV) panels and PV module mounting structures; cabling (including high and low voltage cabling); BESS and an onsite substation within Sunnica East Sites A and B and Sunnica West Site A; warehouse buildings; fencing; drainage; internal access roads and car parking; and landscaping including habitat creation areas.

1.1.3 The Scheme is split into three sites: Sunnica East A, Sunnica East B and Sunnica West A. These are connected by a cable corridor between the sites; and between Sunnica West A and the existing Burwell Substation.

1.2 Overview of the document

1.2.1 This Detailed Archaeological Mitigation Strategy (DAMS) includes the scope, guiding principles and methods for the planning and implementation of essential Archaeological Mitigation Areas identified following analysis of the results of desk-based research (REF 1, REF 2, REF 3), geophysical surveys (REF 4) and trial trench evaluation (REF 5, REF 6) undertaken as part of the Scheme.

1.2.2 It details the archaeological mitigation proposed to reduce the effect of the Scheme on the archaeological resource, either by protection/preservation of archaeological remains where possible, or, where remains cannot be preserved, through a structured programme of archaeological investigation in the mitigation areas agreed with Suffolk County Council and Cambridgeshire County Council to mitigate the loss.

1.2.3 Further, this document presents the approach to consultation and approvals, project management, fieldwork methodology, and the post-excavation analysis and publication stages for investigations carried out as part of the advance archaeological works for the Scheme.

1.2.4 This document also summarises (where applicable) the extent of previous investigations, provides the research framework for the Scheme, and describes the proposed mitigation works and methods that will be implemented.

1.2.5 This document should be considered in conjunction with the Outline Heritage Environmental Management Plan (OHEMP) for the Scheme. The OHEMP is included as an appendix within the Outline Landscape Environmental Management Plan (OLEMP).

1.2.6 In summary, the DAMS:

a. Is the control document for the programme of archaeological mitigation undertaken on each site or area of archaeological interest in advance of and as part of the construction phase of the Scheme.

b. Details the principles and methods for the preparation of the Site-Specific Written Scheme(s) of Investigation (SSWSI) for each site.

c. Will be a certified document with its implementation being secured by Requirement 13 in Schedule 2 of the Development Consent Order (DCO.

1.3 Status of this document

1.3.1 This DAMS has been prepared for submission at Planning Deadline 5 (13.01.2023) as a draft document for review and comment by Cambridgeshire County Council, Suffolk County Council and Historic England (the Consultees).

1.3.2 The impact assessment for the Scheme is detailed in Chapter 7, Cultural Heritage of the Environmental Statement [REF 8].

1.4 The strategy of the document

1.4.1 This outline document sets out the scope, guiding principles and methods for the planning and implementation of the required SSWSIs for each Archaeological Mitigation Area (**Appendix D**) to be investigated (as defined/referred in Section 5 of this document, and referred to as 'site' throughout this document).

1.4.2 The SSWSIs are documents that relate to particular elements of archaeological fieldwork and detail specific measures to be applied or adopted as part of the programme of archaeological mitigation works. They will be prepared by the Archaeological Contractor for the Scheme in accordance with the principles and methods set out in this DAMS and will be approved by Suffolk County Council in respect of investigation sites within their area of jurisdiction, and Cambridgeshire County Council in respect of investigation sites within their area of jurisdiction, in each case following consultation with Historic England.

1.4.3 The individual SSWSIs will be prepared by the Archaeological Contractor. Each SSWSI will be prepared prior to the fieldwork for each site (the subject of that SSWSI) commencing and will be designed to answer specific research questions to advance knowledge gain, or to ensure the protection of archaeological features whilst being mindful of public benefit. Approval of the SSSWI must take place before any aspect of archaeological work takes place within the agreed mitigation areas identified in Table 5-1.

1.5 Roles and responsibilities

1.5.1 The following terminology is used throughout this document:

a. The Client – Sunnica Ltd, or their representative (hereafter referred to as the Client's representative).

b. The Principal Contractor (i.e., the construction contractor for the Scheme).

c. Archaeological Clerk of Works (ACoW) (as appointed by the Client).

d. Archaeological Contractor (as appointed by the Client).

e. Consultees – the two local planning authority archaeologists for CCC and SCC, as well as representatives of Historic England (including, but not limited to, the Inspector of Ancient Monuments, the Inspector of Historic Buildings and the Regional Science Advisor).

1.5.2 The draft archaeological mitigation strategy has been produced by AECOM for review by the Consultees.

1.5.3 An Archaeological Contractor will be appointed by the Principal Contractor and will be responsible for the delivery of the archaeological mitigation programme, as set out in this DAMS, including preparation of SSWSIs and reporting and publication. The Archaeological Contractor's Fieldwork Manager will be responsible for oversight of the archaeological mitigation programme and will be the principal point of contact for advisory groups and the Consultees.

1.5.4 An ACoW will be appointed by the Client and will be responsible for monitoring the work undertaken by the Archaeological Contractor to ensure compliance with the DAMS and the SSWSIs. They will also be responsible for liaising with the Principal Contractor to monitor construction activities to ensure compliance with the DAMS and the heritage aspects of the Scheme's Construction Environmental Management Plan approved under the DCO [REF 7]. The ACoW will also organise and attend regular site meetings to be held with the Consultees.

1.5.5 The Consultees will monitor the fieldwork to ensure that it is carried out to the required standard and specification as set out in this DAMS and the SSWSIs and ensure that it will achieve the desired aims and objectives. The relevant Consultees will attend site meetings, to be arranged by the ACoW, to review the progress and results of the fieldwork. These meetings will also be used to inform the sign-off of sites prior to construction. Further detail is provided in Section 7 of this document.

1.6 Policy and guidance

1.6.1 The Strategy conforms with current good practice and takes account of guidance outlined in:

a. National Policy Statement for Energy (NPS-EN1 (and draft revision version for consultation) (REF 9).
b. National Planning Policy Framework (NPPF) (MHCLG, 2021) and National Planning Practice Guidance (REF 10).
c. Management of Research Projects in the Historic Environment (REF 11).
d. Standard and guidance issued by the Chartered Institute for Archaeologists (CIfA): Code of Conduct (REF 12); archaeological excavation (REF 13); archaeological watching brief (REF 14); archaeological field evaluation (REF 15); the creation, compilation, transfer and deposition of archaeological archives (REF 16); and for the collection, documentation, conservation and research of archaeological materials (REF 17).
e. Historic England has also issued a variety of guidance notes for environmental archaeology, human remains, scientific dating, preservation of archaeological remains and archaeological conservation (see **Appendix B**).

1.6.2 A brief is being prepared by the local planning authority Consultees. This is designed to facilitate the production of the SSWSIs by the Archaeological Contractor. The brief will be included as **Appendix C**.

1.7 Structure of document

1.7.1 This document comprises the following three parts.

Part one - the detailed archaeological mitigation strategy

1.7.2 This describes the principles to be applied in undertaking archaeological mitigation on the Scheme and proposed strategies. This section details the relevant archaeological baseline, results of previous surveys and the rationale for mitigation for each of the identified mitigation areas.

1.7.3 For those areas where archaeological investigation and recording is proposed, relevant research themes and period-based questions are indicated. These include, but are not limited to:

a. Research and Archaeology Revisited: a revised framework for the East of England (NB The East of England Regional Research Framework was updated in 2021 and is available online at researchframeworks.org) (REF 18).
b. The review of the Regional Historic Environment Research Framework for the East of England (REF 25).

Part two - the overarching scope of works

1.7.4 In this part, the strategy for each of the mitigation approaches is discussed and outline method statements are presented. These methods statements will form the basis of the works to be detailed in SSWSIs.

1.7.5 The requirements for communication, monitoring and reporting are identified and the procedure for completion of the archaeological works is set out. Assessment, reporting and archiving requirements are outlined.

Part three - appendices

1.7.6 These are as follows:

a. Appendix A Figures
b. Appendix B Standards and Guidance
c. Appendix C Joint Cambridgeshire/Suffolk Brief for a Programme of Archaeological Investigation *(still to be received)*.
d. Appendix D Archaeological Mitigation Action Areas.

2 Document submitted with the Application

2.1 Purpose of document

2.1.1 The purpose of the DAMS is to detail the scope of the fieldwork methodologies and detail the required strategy to mitigate impacts of the Scheme. The strategy for each site is designed to answer specific research questions to advance knowledge gain, or to ensure the protection of archaeological features where they do not need to be excavated.

2.1.2 The archaeological mitigation approach in this DAMS will be developed and implemented through the SSWSIs in line with the following parameters:

a. Observe professional codes, guidance and standards (see **Appendix B**).

b. Consider archaeological and cultural heritage evidence from all periods and its contribution to the understanding of the historic landscape and its use over time.

c. Only undertake extensive intrusive works in areas where there will be a direct impact through development (as identified in the ES [as certified by the DCO]), or where there is a need to consider design changes.

d. Utilise the information provided by other disciplines (for example, geotechnical investigations).

e. All works must take account of all statutory designations.

2.2 Objectives

2.2.1 All those undertaking archaeological work associated with the Scheme will:

a. Ensure a detailed programme of archaeological work is in place to appropriately mitigate impacts on any archaeological remains due to the Scheme.

b. Promote high quality research using intensive excavation methodologies and scientific techniques to explore a transect through the landscape and investigate past settlement patterns, develop new research questions and feed back into the relevant research strategies.

c. The results of archaeological investigation will be published within an appropriate period following assessment and analysis (see Section 11 below for further details). The results of fieldwork interventions should be combined into a single report.

d. Ensure that the results of the investigations (i) are made publicly available in an appropriate format for assimilation into the CCC and SCC Historic Environment Records, (ii) develop an understanding of the historic environment resource of the Scheme by the public at large; and (iii) disseminate in a timely manner via the Online Access to the Index of Archaeological Investigations (OASIS) and the Archaeological Data Service (ADS).

e. Ensure the physical archive (artefacts and ecofacts) is publicly accessible through their deposition at the Cambridgeshire Archaeological Archive Facility and Suffolk County Council Archaeological Archive.

2.3 Aims of specific intervention types

2.3.1 Archaeological mitigation for the Scheme will take several forms, ranging from preservation of a site *in situ* and excavation. Further details of these techniques are contained within Section 5 and Sections 8-10.

Preservation of archaeological sites

2.3.2 Where archaeological sites will not be affected by the Scheme, the principle will be followed that there is no need to excavate them. Preservation of archaeological remains will be undertaken where possible. The aim of preservation is to allow them to survive for future generations. Where remains within the Scheme boundary will be unaffected, proposals to ensure their preservation are presented in Part Two of this document.

2.3.3 The above is in addition to the Ten Archaeological Protection Areas (APAs) detailed in the OHEMP.

Geoarchaeology and palaeoenvironment

2.3.4 The aims of the geoarchaeological and palaeoenvironmental assessment and analysis are to investigate areas of palaeoenvironmental potential, to identify potential remains within or below the deposition sequences, and to extend understanding of the palaeoenvironment where this is associated with archaeological activity. Geoarchaeological assessment will establish the requirement for further analysis and absolute dating of appropriate samples. Specific aims comprise:

a. To collect undisturbed palaeoenvironmental samples for off-site assessment/ analysis.
b. To provide an assessment of the formation processes behind the deposit sequences and their development through time.
c. To produce a geoarchaeological deposit model of the areas in question to detail the sequence and distribution of sub-surface deposits across the area.
d. To assess the potential for archaeological remains associated with buried sediments and archaeological horizons.
e. To determine the location, nature, extent, date, condition, state of preservation, significance and complexity of geoarchaeological and palaeoenvironmental sequences.
f. To provide information, within the limitations of the investigation, about the palaeoenvironment and the palaeotopography and place the results into the context of the wider landscape.

Excavation

2.3.5 The aim of the excavation areas is to mitigate the impact of construction of the Scheme on known archaeological remains, by ensuring that they are fully investigated, recorded and interpreted. More detailed aims are:

a. To make a record of the archaeological resource that will be impacted as a result of the Scheme within each site.
b. To record (where possible) the nature, depth, extent, character and date of archaeological deposits or features encountered in order to successfully fulfil the research aims of the project.
c. To record and recover an adequate sample of the range, quality and quantity of artefactual and environmental evidence present in order to successfully fulfil the research aims of the project.

3 Archaeological Background

3.1 Introduction

3.1.1 The archaeological background of the Scheme has been presented in Chapter 7, Cultural Heritage of the Environmental Statement [REF 8]. This includes the historical and archaeological background of the Scheme within a defined 1km study area and the results of archaeological evaluations undertaken as part of the Scheme. The archaeological background is summarised here.

3.1.2 In preparation of the cultural heritage assessment, desk-based research following the CIfA *Standard and guidance for historic environment desk-based assessment* (REF 23) was undertaken setting out the requirements for the phased archaeological evaluation of the Scheme.

3.1.3 The assessment work included analysis of available aerial photographs and available LiDAR data, geophysical survey and a programme of archaeological evaluation through trenching across the Order Limits.

3.1.4 The site reference numbers in brackets herein are the reference number from the relevant Historic Environment Record (HER) or from the National Heritage List for England.

3.2 Aerial photography and LiDAR

3.2.1 Archaeological Research Services were commissioned to undertake a programme of Aerial Survey Interpretation and Mapping for the Scheme in June 2020 (Archaeological Research Services 2020). Open-source LiDAR imagery has been analysed and the assessment also includes the analysis of oblique and vertical aerial photographs from the Historic England Archive.

3.2.2 Archaeological features mapped within the study area include a total of 53 diffuse earthwork banks visible in LiDAR imagery. These are interpreted as the ploughed remains of furlong boundaries constituting medieval field systems. LiDAR imagery shows that these field systems survive extensively in the vicinity of the Order Limits with particularly good survival of to the east of the village of Burwell, within areas previously proposed as part of Sunnica West Site B.

3.2.3 Within Sunnica West Site A, a network of ditches is visible as earthworks on LiDAR imagery on the north side of the Snailwell/Fordham road adjacent to a watercourse. These features are interpreted as medieval/post-medieval drainage ditches among which is a rectilinear banked enclosure interpreted as a possible medieval/post-medieval livestock pen.

3.2.4 The site of the Second World War RAF Snailwell airfield (MCB15150) has been mapped as structures visible in historic aerial photographs to the south-east of the village of Snailwell. Mapped structures consist of six blast pens, four aircraft hangars and a number of other buildings associated with the airfield, the majority of which lies outside the Order Limits

3.3 Geophysical surveys

3.3.1 Two phases of geophysical surveys have been undertaken to support the archaeological assessment of the Scheme (REF 4). The survey results indicated numerous enclosure features of probable Iron Age or Roman date, as well as later agricultural features of the medieval and post-medieval periods. Features of Bronze Age date, forming probable barrow ring diches, were also recorded.

3.4 Trial trenching evaluation

3.4.1 Two phases of archaeological evaluation trenching were undertaken between January and November 2021 as part of the archaeological evaluations for the Scheme, split between East Sites A & B and West Sites A & B (West Site B now removed from Scheme) (REF 5, REF 6). The scope and extent of the works were

based on the results of the geophysical survey and targeted areas of known archaeological potential as well as areas seemingly empty of archaeological deposits.

3.4.2 The scope of work was developed in consultation with the planning archaeologists for CCC and SCC and presented in two written schemes of investigation (WSIs).

3.4.3 A total of 933 trenches were excavated at Sunnica East Sites A & B. The evaluation located possible Bronze Age barrows, with some limited evidence of other Late Bronze Age activity. Limited Iron Age features were recorded, along with limited evidence of Roman date, which included a long ditch which crossed E17, E18, E20 and E21. Evidence of the fen edge was also located. Artefacts of Bronze Age, Iron Age and Roman date were recovered across the evaluation.

3.4.4 A total of 513 trenches were excavated at Sunnica West Sites A & B (West Site B now removed from Scheme). The earliest evidence was a pit containing Neolithic pottery, and a number of prehistoric linear features, possibly trackways, were located. Iron Age and Roman enclosures were located, and Ditch Way, a probable Roman road, was sampled across the area. Possible pits of Saxon date were recorded. Palaeochannels and alluvium forming part of the River Snail floodplain were also located.

3.5 Archaeological baseline

3.5.1 In outline, the non-designated archaeological assets baseline includes 395 records for Sunnica East Sites A and B and the 1km study area and includes 508 records for Sunnica West Sites A and B (West Site B now removed from Scheme) and the 1km study area.

3.5.2 The following archaeological and historical background summary is summarised from that prepared for the desk-based assessment (REF 1, REF 2, REF 3), and updated HER data received from Suffolk and Cambridgeshire HERs in 2020. This section provides a summary of the historical and archaeological background within the area surrounding the Scheme. Each has been referenced by its originating NHLE and/or Suffolk or Cambridgeshire HER number.

Prehistoric (Up to AD43)

Palaeolithic (to c. 10,000 BC)

3.5.3 Two long blades of the Upper Palaeolithic (40,000–10,000 BC) were recovered during field walking (FRK 032- MSF22165). Bones of hippopotamus, bison, rhinoceros, elephant, lion and horse were unearthed (within a jumbled deposit of angular and rounded flint, rounded chalk and yellowish sand) around Bay Farm (adjacent to Sunnica East Site B and west of the A11) during the construction of the railway cutting in 1886 beyond the northern boundary of Sunnica East Site B (WGN 064 - MSF8021). Other known Palaeolithic assets in the broader region of the Sites include a prolific area for discoveries of Palaeolithic flint artefacts in the north-western part of Suffolk, which comprises the drainage basin of the Great Ouse, and a site at Warren Hill in Mildenhall with over 2000 hand axes dating to the Palaeolithic period, approximately 3.5km to the east of the Order limits (MNL 001 - MSF8742).

3.5.4 The wetland characteristics of the northern and western extents of Sunnica East Site A bounding the River Lark, Lee Brook and River Kennett, have the potential to preserve organic Palaeolithic remains, although investigation in these areas has been limited to date. At the northern extent of the study area, south-east of West Row, excavations into peaty deposits for the construction of a new bridge on the River Lark in 1998 did, however, reveal the horn cores and a complete mandible of a large aurochs (MNL 051- MSF18353).

3.5.5 No Palaeolithic assets have been identified within Sunnica West Sites A or B (West Site B now removed from Scheme). The wetland characteristics of the previously proposed Sunnica West Site B, located between Chippenham Fen and the River Snail, have the potential to preserve organic Palaeolithic remains, although none have been encountered to date.

Mesolithic (c. 10,000 – c. 3500 BC)

3.5.6 Mesolithic finds are poorly represented within the archaeological record of the 1km study area. A microlith (BTM 004- MSF216) was found at the Chalk Hill round barrow (NHLE 1018097) adjacent to Sunnica East Site B, with a small number of other lithics recovered from within Sunnica East Site B and the surrounding 1km study area (WGN 055- MSF31399; WGN 014 -MSF12347). At Chippenham Road, Freckenham, approximately 900m to the south of Sunnica East Site A, a large Mesolithic patinated assemblage of worked flints (FRK 042- MSF17178) was identified during fieldwalking.

3.5.7 To the south of Sunnica East Site A, Mesolithic flints and a working floor were recorded in the central area of the barrows located in Isleham Plantation (NHLE 1015242) (Leaf 1940, 25-68).

3.5.8 No Mesolithic finds are recorded within Sunnica West Sites A or B (West Site B now removed from Scheme). However, a settlement site is recorded at Kennett (MCB9547) within the 1km study area, potentially dating from this period, and flint implements have been recovered at Fordham (MCB8979; MCB8988).

Neolithic (c. 3500 – c. 2000 BC)

3.5.9 Neolithic monuments are rare within Suffolk and Cambridgeshire as a whole due to extensive ploughing, and apparently absent (within the known archaeological resource) from the 1km study area. It is possible that some of the round barrows (and finds from within them such as pottery) described in the following section may date to the Late Neolithic to Early Bronze Age.

3.5.10 The geophysical survey of the Scheme has identified a possible hengiform monument, located adjacent to an area of possible Roman settlement activity, to the south-east of the village of Isleham (within Sunnica East Site A). Hengiform monuments are associated with clusters of contemporary late Neolithic monuments. However, the origin of the anomaly in this instance is uncertain.

3.5.11 No evidence of Neolithic activity has been found within the previously proposed Sunnica West Site B, although one find spot is recorded which consists of a Neolithic axe head in the north of Sunnica West Site A, and five further records fall within the 1km study area, comprising an arrowhead (MCB12141) and flint scatters (MCB12139; MCB12140), as well as a knapping site (MCB9044).

Bronze Age (c. 2000 – c. 700 BC)

3.5.12 Definitive evidence for structural features within the 1km study area emerges during the Bronze Age. Round barrows are a highly prominent feature of Bronze Age archaeology across southern Britain.

3.5.13 Adjacent to Sunnica East Site B, a scheduled bowl barrow exists at Chalk Hill (NHLE 1018097), which is part of a pair or small group of barrows at this location. Other definite examples lie to the south-east of the scheduled monument, on the line of the modern A11 and have been destroyed (BTM 027- MSF18185; BTM 007 - MSF219), while another possible barrow stands 100m to the north-west, within the Sunnica East Site B boundary (BTM 028- MSF18186). The Chalk Hill barrow was subject to excavation in 1923, and although no primary burial was recorded, secondary burials in the form of three contracted inhumations and 11 cremations were excavated from the clay capping layer. On the opposite side of the A11 there are two further undated features tentatively identified as barrows from aerial photograph analysis recorded within the Suffolk HER.

3.5.14 At Lee Farm, adjacent to the eastern edge of Sunnica East Site A, a cored, banded, gold 'ring-money' artefact (not used as money in the modern sense and may have been personal jewellery or clothing accessories) was found during metal detecting (FRK 013- MSF21519). Within the boundary of Sunnica East Site A, east of Lee Farm, the find spot of a Bronze Age lugged chisel (FRK 018- MSF178) is also recorded, having also been found by a metal detectorist. The presence of these two notable metalwork artefacts in this area is indicative of Bronze Age settlement activity.

3.5.15 The geophysical survey for the Scheme identified several further ring ditches, possibly indicative of ploughed out barrows within Sunnica East Site B, to the north and north-west of the Bowl Barrow on Chalk Hill (NHLE 1018097). In the south of the Order limits of Sunnica East Site A, a further circular ring ditch c. 30m in diameter was identified, likely indicative of a barrow, although the line of the former Cambridge and Mildenhall Branch railway cuts directly through the middle the anomaly.

3.5.16 Fieldwalking in the north-western part of Sunnica East Site A recovered Bronze Age worked flints and a bronze awl (FRK 032- MSF22165). A variety of other undated finds and features within the 1km study have the potential to belong to the Bronze Age. Despite the prevalence of funerary evidence within the landscape, little indication of permanent occupation has been found in this area from the Bronze Age.

3.5.17 Within the south-eastern part of Sunnica West Site A, a scheduled group of four barrows (NHLE 1015246) is situated adjacent to the A11 trunk road. This group is part of a larger collection of barrows, the Chippenham Barrow Cemetery (MCB8995), which consists of at least five further barrows straddling the A11, some of which are also scheduled. Aerial photography suggests that until at least 2015 the barrows were situated within ploughed land. There are also records relating to a further barrow (MCB5260) and a flint axe find spot (MCB9032) within Sunnica West Site A, and the 1km study area also includes a ring ditch (MCB10855), several unscheduled barrows (MCB5407; MCB5409; MCB8996) and some artefact scatters including a battle axe (MCB9007) and a bronze sword (MCB9024). A Bronze Age

flint implement has been found at Snailwell (MCB9356) within the previously proposed Sunnica West Site B.

Iron Age (c. 700 BC – AD 43)

3.5.18 To the south of the Mildenhall, north of Sunnica East Site B, a 2008 archaeological excavation recorded evidence for mid-late Iron Age activity, consisting predominantly of pits, ditches and enclosures (BTM 040 - MSF24210.

3.5.19 Monitoring of the site of a demolished post-medieval smock mill on Chippenham Road, to the south of Freckenham (west of Sunnica East Site B) identified evidence of three phases of past activity, including indication of a substantial phase of early Iron Age occupation in the immediate vicinity (FRK 029- MSF12626).

3.5.20 Iron Age pits have been located at Bay Farm (WGN 028- MSF22969) within Sunnica East Site B, while a number of other features have been identified around Freckenham and Barton Mills (e.g. FRK 051- MSF25200; FRK 083- MSF21870; BTM 060- MSF28258). Artefactual discoveries include, most notably, a hoard of around 90 gold Iceni staters found in Freckenham (FRK 002- MSF7972), and a single gold stater (FRK 065- MSF18351) identified at the southern extent of field E05, within Sunnica East Site A.

3.5.21 Iron Age coins have been found within Sunnica West Site A at Foxburrow Plantation (MCB14733), and two pottery scatters (MCB9357; MCB9358) are recorded within the previously proposed Sunnica West Site B. Other records for the Iron Age include evidence of occupation at Low Park Corner (MCB20102) and settlement evidence (MCB15491), and find spots comprising a bronze armlet (MCB10088), a flint and pottery scatter (MCB9545), and further Iron Age coins (MCB14707), recorded in Chippenham; Icenian bronze (MCB9026) and a ring ditch (MCB13045), both at Fordham, as well as a range of find spots yielding pottery (MCB9352), and the Snailwell Warrior Burial (MCB8964) to the west of Sunnica West Site A.

Roman (AD 43 – 410)

3.5.22 The HER does not record any evidence of Roman settlement within Sunnica East Sites A or B. However, a material scatter immediately to the south of Freckenham included hypocaust tile, which, if *in situ*, is indicative of a high-status building (MCB12155), while a concentration of finds around Fort William Plantation suggest another focus of activity (WGN 009- MSF9781). A claim has also been made that a Roman villa, complete with mosaic floors, was discovered in the Chalk Hill quarry and subsequently destroyed, but this is unsubstantiated (BTM 026- MSF17750). Artefactual finds within the 1km study area are more common and support the notion of the landscape of the surrounding area having supported a reasonable level of settlement and agricultural activity. To the north of Freckenham, and immediately south-east of Sunnica East Site A, the find spot of a Roman bronze coin hoard of 595 coins is recorded (FRK 003- MSF7973). At Lee Farm, located in the centre of Sunnica East Site A (although not within the Order Limits), there is a record of a Roman floor, potentially a mosaic, having been disturbed during construction of some of the Lee Farm buildings (FRK 061- MSF17609). Adjacent to the farm, two brooches and hair pins of Roman date (FRK 174- MSF18989) have been recorded through metal detecting. To the west of the boundary of Sunnica East Site A, and to the south of West Row and the River Lark, a Roman artefact scatter, cemetery and

three inhumations (with iron coffin nails) were excavated in the 1930s (FRK 012-MSF7998; ESF14773).

3.5.23 In proximity to Isleham, to the west of Sunnica East Site A, evidence for Roman habitation has been identified to the west of the village, in the form of fragments of pottery, drain tiles, and tesserae (CHER 11661) including some found at the earthwork known as 'The Temple'. This is likely to indicate the location of a villa, possibly associated with a droveway (CHER 11894) identified on Hall Barn Road to the south. To the south of 'The Temple', a Roman pewter hoard was also found (CHER 01592).

3.5.24 Further evidence of Roman activity to the west of the village, includes find spots of a brooch (MCB16203), a saddle quern (CHER 10864), several coins (CHER 07559; CHER 07559a) and a pottery scatter (CHER 10866). Adjacent to Lee Farm, the find spot of a Roman (Julian) coin is also recorded (FRK 067- MSF18856). The Portable Antiquities Scheme (PAS) also records a concentration of Roman finds to the south of Temple Road, Isleham.

3.5.25 The geophysical survey recorded a notable complex of linear trackways and rectilinear anomalies interpreted as a large productive site such as a villa or a farmstead, likely of a Roman origin, to the south-east of the village of Isleham. This is located within Sunnica East Site A.

3.5.26 Two find spots, consisting of pottery (MCB14706) and a votive axe (MCB14737) are recorded within Sunnica West Site A. The 1km study area of previously proposed Sunnica West Site B has a much higher density of recorded Roman finds, including beads, a brooch, coins and pottery sherds (MCB8981) identified at Snailwell Fen near a scheduled villa (NHLE 1006868). The villa site consists of a probable hypocaust as well as a considerable amount of building material, pottery, and painted wall plaster. The villa is located on the western bank of the River Snail, which separates the site from Snailwell Fen, and was only identified through ploughing on the site. Further find spots are recorded within the corresponding 1km study area, including a brooch (MCB14503), a coin hoard (MCB14704) and bronze coins (MCB14703). An earthwork interpreted as a possible Roman building has also been identified at Snailwell (MCB10865), found by ploughing and interpreted as a villa due to its size. Two Roman artefacts are recorded within the overlapping study area between the two Sites, comprising a quern and associated pottery (MCB8986) and an iron spear head find from Snailwell (MCB16680).

3.5.27 The geophysical survey recorded a concentration of activity potentially relating to late prehistoric to Roman land management and settlement within the previously proposed Sunnica West Site B. In the north-western corner of Sunnica West Site A, a possible Roman habitation and production site was identified during the geophysical survey works. In proximity to this, at Low Park Corner, Chippenham, an area of Iron Age to Roman occupation has also been identified (MCB20102). The aggregated Roman activity recorded in this area indicate the presence of a distinct concentration of Roman settlement.

Early Medieval (AD 410 – 1066)

3.5.28 Historical evidence indicates that several of the principal settlements within the surrounding area had their origins in the Saxon period. Freckenham is listed in an Anglo-Saxon charter of AD 895 as 'Frekeham'. In the vicinity of the Scheme, the

villages of Snailwell, Fordham, Badlingham, Chippenham, Worlington and Barton Mills all feature in the Domesday Book. The historic settlement core of the village of Worlington, comprising the linear extent of The Street and Church Lane to the north, is considered to have late Saxon origins, with a foundation of c. AD 850 (WGN 046- MSF25679).

3.5.29 Records suggestive of structural remains include a possible sunken featured building found in association with an early Saxon brooch, pin and pottery, found immediately to the north of Freckenham, less than 100m from Sunnica East Site A (FRK 044- MSF19014). To the south of West Row, and approximately 250m to the east of Sunnica East Site A, a single Saxon hut and artefact scatter are recorded, having been excavated in 1930 (FRK 011- MSF7997). The associated artefact scatter included pottery sherds, bone pins and chalk whorls. Stray finds of Anglo-Saxon coins and other metalwork are also reported within the study area, the date of which ranges between the 6th and 10th centuries. One such notable coin find comprises a hoard dating to the reign of King Edmund (AD 939 – 946), found in batches by metal detectorists in fields at Rectory Farm, north of Worlington and between Sunnica East Site A and B (WGN 023- MSF17827). Metalwork find spots recorded by the PAS are documented across the 1km study area. Features found at Sunnica West may have their origins in the Saxon period.

3.5.30 Historical evidence indicates that several of the principal settlements within the surrounding area of Sunnica West had their origins in the Saxon period. Snailwell, Fordham, Badlingham, Chippenham, Worlington and Barton Mills all feature in the Domesday Book. The scheduled Anglo-Saxon defensive ditch of Devil's Ditch (NHLE 1003262) is located to the west of Burwell, approximately 1.5km to the south-west of the proposed Burwell substation location. The village of Reach was also the site of a hythe (wharf) and inland port, located at the northern end of the Devil's Ditch and in use for the transport of goods into the fen waterway during the Anglo-Saxon period. Features found at Sunnica West may have their origins in the Saxon period.

3.5.31 No evidence from the early medieval period is recorded within Sunnica West Sites A or B (B now removed from Scheme). Isolated pottery find spots (MCB19182; MCB9353), a 9th-century silver hooked tag (MCB14705) and several metalwork find spots recorded by the PAS are documented across the 1km study area.

Medieval (AD 1066 – 1540)

3.5.32 The principal focus in the locality during the medieval period was Freckenham. A motte-and-bailey fortification was established here by the Bishop of Rochester in the later 11th century, strategically positioned near the confluence of the Kennett and Lark rivers. The castle had probably been abandoned by the 14th century, but the manor remained the property of the church until the Reformation. The site, a scheduled monument (NHLE 1006070), survives as a series of earthworks.

3.5.33 Isleham, to the west of Sunnica East Site A, has connections with the Knights Templar, and by 1279 the Templars' had a house at Isleham. Pottery dating to the 14th century was recovered from the rectangular moated earthwork, known as 'The Temple' (CHER 05704a), possibly indicating that it was the site of the Templars' Isleham farmstead. Analysis of aerial photographs for the area demonstrates the presence of a series of enclosures and buildings (CHER 05407; CHER 05704a;

SCB12166; SCB12345), which may relate to the Templar site or the earlier Roman habitation activity. The names of Temple Road and 'The Temple' within the village may be derived from the Templar establishments in this area. The village is also the location of a notable Benedictine Priory (NHLE 1013278).

3.5.34 There is limited archaeological evidence for medieval settlement evidence within the 1km study area (e.g. from the excavations at Freckenham Road, Worlington; WGN 041 - MSF25460; WGN 049 - MSF27508), while the HER data also shows concentrations of isolated artefacts and pottery scatters on the open land around the fringes of all the modern villages. Worlington itself has a historic village core (WGN 046 - MSF25679) in use during the medieval period, and the Grade I listed Church of All Saints has structural and internal features dating to the 12th, 13th and 14th centuries (WGN 007- MSF2680; NHLE 1037585). To the south of the church, and immediately south of The Street (the main medieval thoroughfare of the village), a roughly trapezoidal moat with a possible fishpond on the east side is recorded (WGN 002 - MSF8014). Medieval metalwork finds, dating to the 14th – 15th century, have been recovered from the north-west corner of the site. Adjacent to field E09 at Sunnica East Site A, there is a suggestion of the presence of Beck Hall, a presumed medieval manorial site, identified through field name evidence (FRK 162 - MSF16952; FRK 169 - MSF16542). This is, however, not reflected within the geophysical survey data, although the adjacent route of the Cambridge – Mildenhall Railway (SUF 078 - MSF35054) may have truncated any remains present. Artefact finds also extend into land within Sunnica East Site A, though this is confined to its north-western part, reflecting survey bias. The PAS also records several metalwork find spots across the 1km study area, including a concentration to the south of Temple Road, Isleham, while the metal detector find of three buckles is recorded adjacent to the boundary of Field E05, Sunnica East Site A (FRK 070 - MSF18858).

3.5.35 The principal focus in the locality during the medieval period was Freckenham and its scheduled motte and bailey fortification (NHLE 1006070), while the scheduled Burwell Castle (NHLE 1015596), is located approximately 1km to the south-east of the proposed substation locations at Burwell.

3.5.36 HER data shows furlong boundaries within Sunnica West Site A (MCB12221; MCB12268) and within the corresponding 1km study area (MCB12220; MCB12249). No medieval assets are recorded in the HER within the previously proposed Sunnica West Site B. Three records, comprising a medieval cross base at the edge of woodland in Snailwell (MCB8989), a purse mount (MCB9028) and furlong boundaries (MCB12243) are recorded within the 1km study area. Three medieval HER records are noted within the overlapping study area, comprising the remains of the Manor House in Snailwell (MCB8985), Four Ponds Moat in Snailwell (MCB1533), and further furlong boundaries (MCB12247). The PAS records several metalwork find spots across the 1km study area.

Post-Medieval (AD 1540 – 1900)

3.5.37 Within the 1km study area, archaeological features dating to the earlier parts of the post-medieval period are rare, being confined to an area of former water meadow and ridge and furrow bracketing the river corridor at Freckenham (FRK 023 - MSF10968). Far more prominent is the Cambridge to Mildenhall Railway (SUF 078 - MSF35054), built by the Great Eastern Railway and opened in 1884-5. The line

served a sparsely populated area and was never successful; pre-empting the Beeching cuts, it closed to passengers in 1962 and to freight in 1964-5.

3.5.38 In addition to these features, a small number of contemporary metalwork finds and scatters have been recovered by metal-detecting. The uneven spatial distribution of these finds matches that observed for preceding periods.

3.5.39 The post-medieval period is most strongly represented in the 1km study area by built heritage, principally within the main settlements. The vast majority of historic building stock within the 1km study area rests within these settlements and belongs to this period.

3.5.40 The post-medieval period is not well represented in the archaeological record of Sunnica West Sites A and B (B now removed from the Scheme) or the 1km study area. Stray finds relating to known settlements can nevertheless be expected. However, there is good documentary evidence (in the form of pre-Ordnance Survey (OS) and OS mapping) for Sunnica West Sites A and B (B now removed from the Scheme), and any post-medieval remains within the area are likely to relate to previously recorded sites, or agricultural activity. As part of the intensification of post-medieval drainage of the Fens, beginning in the 17th century, the Burwell Fen Edge (in proximity to the western extent of the Site) would have seen a concentration of industrial activity including the excavation of lodes (artificial watercourses) and the construction of wind pumps and mills. However, there is no specific post-medieval drainage activity recorded within the Site boundary itself.

3.5.41 The Grade II RPG of Chippenham Hall (NHLE 1000615), located to the north-east of Sunnica West Site A, includes an 18th-century landscaped park, including gardens, pleasure grounds and an ornamental canal constructed in the 1790s. The avenue, providing access to the Hall from the south, passes through Sunnica West Site A to the south-east of Snailwell.

Modern (AD 1900 – present)

3.5.42 Archaeological remains of modern date within the 1km study area are sparse. They are confined to a series of possible World War One practice trenches to the north-west of Red Lodge identified through aerial photography (FRK 103 - MSF26854), and several World War Two pillboxes (e.g. FRK 102 - MSF26018; MNL 684 - MSF26311; WGN 044 - MSF25483; WGN 050 - MSF26272; WGN 051 - MSF26273), largely associated with the Jude's Ferry Bridge Stop Line.

3.5.43 The early series of OS maps show the development of the modern landscape of the 1km study area. The majority of the area remained largely unchanged, with a similar road structure to the present day. The land within Sunnica West Sites A and B (B now removed from the Scheme) predominantly comprised agricultural land, with small pockets of woodland.

3.5.44 Modern activity recorded within the study area is limited to the remains of RAF Snailwell (MCB15150), a World War Two airfield, now largely under agriculture and the A14 road. Some built elements of the airfield, in the form of the remains of concrete shelters and storage buildings, survive within a wooded area immediately adjacent to the British Racing School. A World War II crash site (MCB29434) is recorded near the former RAF Snailwell, and a post-War crash of a B50 bomber occurred near Isleham in 1949. The site of the B50 crash crater has been identified

by the geophysical survey for the Scheme and in accordance with Protection of Military Remains Act 1986 measures put in place to protect this location from development impact (please see OHEMP).

Undated

3.5.45 A small pit, possibly an extraction pit or pond, is visible in the field immediately to the north of the Chalk Hill barrow (NHLE 1018097). This may relate to evidence of chalk and gravel extraction in the area, as shown in the 1881 OS 25-inch mapping. In addition, a sub-rectangular wooded area is visible in a field to the south-west of the village of Worlington. This is visible on satellite imagery, with a central mound visible on LiDAR imagery beneath the vegetation. Aerial photographic analysis identified evidence of relict dendritic creek systems across most fields. One potential historical feature is visible in the south-west of Sunnica East Site A, comprising a sub-circular earthwork. This may, however, be further evidence of the drainage channels visible throughout the Scheme.

3.5.46 In the north-east area of Sunnica East Site A, the geophysical survey of the Site (REF 8) identified numerous linear anomalies, some of which appear to form a regular, large field system of unknown date. Further undated ring ditches in this area, likely also comprising barrows of a Bronze Age date, are recorded to the east of the A11, immediately south of the chalk quarry (BTM 012 - MSF223; BTM 013 - MSF224).

3.5.47 The only asset of unknown date recorded on the HER within Sunnica West Site A is a series of earthwork enclosures in the north-west of the site (MCB10819). A single site of unknown date within the previously proposed Sunnica West Site B comprises a series of rectilinear enclosure cropmarks (MCB20063) to the north-east of Snailwell Roman Villa (NHLE 1006868). These were found to coincide with a surface scatter identified during the Fenland Survey, which recorded the presence of Roman and Iron Age artefacts along with a Bronze Age flint implement (ECB5178). The enclosures were also identified within the geophysical survey, which also identified evidence of track/drove ways, clusters of strong discrete anomalies and an obvious enclosed ring ditch in the vicinity, likely indicative of a multi-phase prehistoric/Romano-British settlement.

4 Research agendas

4.1 Introduction

4.1.1 Consideration of research agendas and themes is key to understanding the potential evidential significance of archaeological remains. The broad principles of a number of existing research agendas will be applicable to the works set out in this document.

4.1.2 The research agenda is key to identifying the focus for the archaeological mitigation, and to identify the sites that require further investigation. The purpose is to identify sites which will provide maximum information to answer the research questions set by the relevant frameworks for the Scheme.

4.1.3 The mitigation strategy has taken the research questions into account, utilising information from desk-based studies, and archaeological evaluation. This has resulted in scheme-wide research questions, as well as those specific to each site. The research questions will be reviewed and updated throughout the project – they

are not fixed. For example, excavation at one site may lead to different questions for an adjoining site. The strategy should be flexible, and based on real-time information. The questions will be reviewed during preparation of the SSWSIs, during fieldwork and during preparation of the post-excavation assessment report.

4.1.4 The following section provides an overarching strategy, based primarily on the regional and thematic research agendas. Each site will have specific questions, as detailed in **Appendix D**. It is not expected that each research question detailed in **Appendix D** will be answered fully by any one site but will instead contribute to the overall corpus of knowledge.

4.2 Relevant agendas

4.2.1 The relevant research agendas for the mitigation Strategy are:

a. Research and Archaeology Revisited: a revised framework for the East of England (REF 19). N.B. this updates and supersedes Research and Archaeology: A Framework for the Eastern counties).
b. The review of the Regional Historic Environment Research Framework for the East of England (REF 25), including papers by Cooper; Brudenell; Evans; Hills; Hoggett; Martin; Antrobus & Ayers, and Andrews (NB The East of England Regional Research Framework was updated in 2021 and is available online at researchframeworks.org).

4.3 Overarching themes

4.3.1 The overarching themes of the research questions for the DAMS relate to the following:

a. Neolithic pits.
b. Bronze Age chronologies.
c. Bronze Age settlement patterns.
d. Iron Age settlement and field patterns.
e. Iron Age enclosure types.
f. Iron Age – Roman transition.
g. Interconnectivity of Roman settlements and the role of roads.
h. Roman – early medieval transition and possible settlement continuity.
i. Early medieval settlement and field types and forms.
j. Medieval and post-medieval agricultural systems.

4.4 Research questions by period

4.4.1 As there are no known sites of earlier than Neolithic date, period specific research questions are omitted for the Palaeolithic and Mesolithic periods. Similarly, there is limited opportunity to assess the post-medieval due to the limited nature of the evidence.

Neolithic

4.4.2 Only one site of Neolithic date has been identified within the Order Limits. This was a single Neolithic pit in Field W15.

4.4.3 Priorities for research which the Scheme has the potential to address from the research agendas are identified as follows:

a. What was the original purpose of Neolithic pits and why are their contents so variable? (REF 25, Neo 14).
b. Palaeoenvironmental sampling strategies need to be strengthened in deposits of this antiquity (e.g., 100% flotation of well-sealed Neolithic pits to maximise chances of recovering macrobotanical evidence, particularly of cereals) and routinely executed on sites across the region (REF 18, Neo 4).

Bronze Age

4.4.4 There are a number of sites dated to the Bronze Age within the Order Limits, including possible barrows as well as other settlement activity.

4.4.5 The presence of Bronze Age features can help to refine the chronologies of Bronze Age sites within the East of England. Further dating of Bronze Age settlement is required to refine the understanding of their distribution and chronology in the landscape. Equally, ceramic studies would be enhanced by better cross-referencing between typological methods of dating and scientific methods (E-MBA 09).

4.4.6 The transition between the Bronze Age and the Iron Age is poorly understood. This appears to be a period of marked change, with the abandonment of many late Bronze Age field systems. The scale, rate and nature of these changes are not well documented.

4.4.7 Priorities for research which the Scheme has the potential to address from the research agendas are identified as follows:

- Funerary activity

Patterns of burial practice need further exploration. This should include the relationship between settlement sites and burial, and the development and use of monuments, including burial mounds as key elements in determining and understanding the landscape. later Bronze Age burial practices are now known to be variable, however we do not know why this is the case (REF 18, p. 13).

'How can we characterise Bronze Age monuments?' The shifting contexts of monumentality, from an Early Bronze Age emphasis on circular monuments to the creation of landscape-scale structures in the Middle and Later Bronze Age, require further study and interpretation. An important platform for this process would be a basic synthesis/mapping of key regional monument types (e.g. barrows, ring ditches and so on). Arguments regarding the diversity of Bronze Age funerary monuments and considerations of the chronology of monument building require further consideration within the region (REF 25, E-MBA 24).

'How can we improve our understanding of Late Bronze Age to Middle Iron Age burial practices?' Further work is needed to establish patterns in burial practice

and the treatment of human remains, and the extent to which different burial traditions varied over space and time (REF 25, LBA-MIA 19).

'How can we better understand the nature and extent of Bronze Age cremation?' Further work is needed to understand the nature and extent of unurned cremations. These can no longer be assumed to date from the Middle Bronze Age in Eastern England. These cremations are being found in varying contexts and locations, as isolated burials, small groups, as or as part of larger cemeteries. Further work is needed to understand the nature and extent of this funerary tradition, and the degree of continuity with practices from the Middle Bronze Age. At present, dates achieved for Late Bronze Age cremations appear to cluster between c. 1200–1000 BC, but the chronology requires further resolution. This may allow for the identification of changes in Late Bronze Age cremation practice to be recognised over time. Some Early Iron Age examples have also been recorded suggesting continuity into the earlier 1st millennium BC (REF 25, LBA-MIA 17).

What can we say about the use of grave-goods during the Late Bronze Age to Middle Iron Age? Work is needed to examine grave-goods in more detail. Formal burial of complete bodies often contain grave-goods, particularly items of personal adornment, or, more rarely, pots. There may be patterning in which objects were selected for burial and where we find them. We also need to consider how common the practice was and what might it tell us about the construction of identity and personhood. There may have been a difference between goods used in life and those chosen as grave-goods (REF 25, LBA-MIA 20).

- Settlement activity

Examination of the inter-relationships between settlements, together with variation and changes in settlement types, offers considerable potential to explore the social changes taking place, as well as the interrelationship between settlements and monuments. This, coupled with more extensive palaeoenvironmental evidence, would enable past landscapes and economies to be recreated (REF 18, LBA-MIA 08).

Further analysis is needed to explore the range of settlement forms in the Late Bronze Age to Middle Iron Age, and establish their patterning and distribution. Attempts should be made to correlate patterns with the quantity and range of finds to try and benchmark different types of sites. Is there a correlation between enclosure forms and economic signature from animal bone retrieved, or the ceramic repertoire recovered? Are all types of find found across all types of site, or is there patterning in the content and composition? (REF 24, LBA-MIA 08).

'*What can we infer about the relationship between open and enclosed settlements?*' Excavated Late Bronze Age and Early Iron Age settlement sites are now much more widely recorded across the region. Basic gaps in the settlement record have been filled, with each county having examples of unenclosed settlements. The relationship between these open settlements and settlement types such as ringworks, enclosures and large agglomerated pit-

dominated sites requires further study and may reveal intra-regional differences in the character of settlement geography (REF 25, LBA-MIA 07).

- Dating

The application of Bayesian modelling to radiocarbon dates based on rigorously selected samples will help to refine chronologies. Further dating of monuments would undoubtedly refine our understanding of their role in the landscape. Equally, ceramic studies would be enhanced by better cross referencing between typological methods of dating and scientific methods (REF 18, LBA-MIA 01).

The application of Bayesian modelling to radiocarbon dates based on rigorously selected samples will help to refine chronologies. Ceramic studies would be enhanced by better cross-referencing between typological methods of dating and scientific methods.

Dating of structures (e.g., roundhouses) and settlement enclosures (REF 26, E-MBA 05).

Field system chronologies – accepting the complexities involved in dating Bronze Age land boundaries, teasing out a more refined understanding of specific construction sequences remains important (REF 26, E-MBA 07).

'*How can we refine the chronology of the Early and Middle Bronze Age?*' Strategic radiocarbon dating is necessary, both where it is helpful to generate absolute dates to support typological schema and, in particular, where material culture is lacking (e.g. Early Bronze Age settlement structures, Middle Bronze Age land boundaries and settlement enclosures, burials without grave goods, and so on). The requirement for dating (in particular radiocarbon dating) should be supported in briefs; contingency funds should be made available to cover cost of dating; and dating strategies should be developed on a site-by-site bases, informed by the post-excavation process (REF 25, E-MBA 03).

'*What can be done to refine the chronology of the Late Bronze Age to Middle Iron Age?*' There is a need to improve the dating of the Late Bronze Age to Middle Iron Age. In particular, dating has tended to focus on the Late Bronze Age and Early Iron Age, leaving many outstanding questions about the date of Middle Iron Age sequences and material chronologies. There are gaps in the tree-ring sequence for the Early Iron Age and a plateau in the C14 curve for the Middle Iron Age, both of which are problematic. There is a need to broaden the range of dating methods to include OSL, archaeomagnetism and pottery hydration. Greater chronological refinement might be achieved via the application of Bayesian modelling to radiocarbon dates to help refine chronologies (REF 25, LBA-MIA 01).

- Field Boundaries and Field Systems

Whilst it is now acknowledged that ditch-defined field systems were widely constructed in the region during the Middle Bronze Age, the later history of these features requires further investigation. '*How long did Middle Bronze Age boundary systems continue to structure the organisation of the early to mid-first millennium BC landscapes?*' Further work is also needed to define if, where and

when earlier field systems were actively maintained, or establish whether new systems were constructed (REF 24, LBA-MIA 15).

Iron Age

4.4.8 There is much evidence within the Scheme dating to the Iron Age, with multiple sites identified through desk-based research and evaluation. The major areas of activity are, however, located in Archaeological Protection Areas to ensure they are not impacted.

4.4.9 There is very little evidence for unenclosed settlement. The relationship between open structures and enclosed sites is not well understood.

4.4.10 Some sites continued in use into the Roman period, and examination of the transition will pose a number of research questions about settlement development and the relationship of the native peoples with the Roman incomers.

4.4.11 Evidence of activity in the landscapes between the enclosures is another area where information is lacking. Where unenclosed settlements or field patterns have been identified, further work is proposed.

4.4.12 Priorities for research which the Scheme has the potential to address, identified from the research agendas, are as follows:

a. Settlement types

Distribution, density and dynamics need further study, including zonation of use/internal spaces; location of sites with reference to topography and geology, resources, communication routes, etc.

The character of the wide variety of enclosure types (domestic, agricultural, etc.) is a matter for further research. The extent to which this apparent proliferation is a product of our interpretative frameworks, however, and the tendency to assign a (Late) Iron Age/Roman date to undated rectilinear enclosures and fields primarily on the basis of their morphology, needs further investigation, including ground-truthing. Simultaneously, it is at present almost impossible to distinguish later Iron Age sites from those of Roman date on the basis of morphology alone. There is also great potential for investigating the relationships between field systems and long-distance trackways, and settlements, enclosures and funerary sites (REF 18, pg. 13).

Further analysis is needed to explore the range of settlement forms in the Late Bronze Age to Middle Iron Age, and establish their patterning and distribution. Attempts should be made to correlate patterns with the quantity and range of finds to try and benchmark different types of sites. '*Is there a correlation between enclosure forms and economic signature from animal bone retrieved, or the ceramic repertoire recovered?*' Are all types of finds found across all types of site, or is there patterning in the content and composition? (REF 24, LBA-MIA 11).

In recent years many sites of this type have now been excavated within the region and this is to the point that they soon risk becoming repetitive. In this regard, a number of points warrant notice. First, that too much excavation is strictly focused on their core-area paddocks, with insufficient attention given to

their fields, which after all was the basis of their production. Not only is this true as regards environmental study (e.g. soil micromorphology and pollen), concerning what was actually growing where, but also what processing and stock facilities actually occurred out in the fields. '*With some landscapes so packed with farmsteads, to what degree was the land 'managed' and their practices sustainable?*' Second, it is settlements of this type in which variable methodologies should be applied. Rather than continuing to dig them by just 'standard rote', in the light of their frequency, some could see more minimal recording (e.g. just establishing their plan layout and broad sequence-chronology). In balance, though, others warrant being excavated (and sampled) to a much higher intensity, so that the dynamics of their operation – variously the foci of processing, storage, consumption and middening – can be interrogated and detailed (REF 27, LIA:Rom 13).

What can we infer about the relationship between open and enclosed settlements? Excavated Late Bronze Age and Early Iron Age settlement sites are now much more widely recorded across the region. Basic gaps in the settlement record have been filled, with each county having examples of unenclosed settlements. The relationship between these open settlements and settlement types such as ringworks, enclosures and large agglomerated pit-dominated sites requires further study and may reveal intra-regional differences in the character of settlement geography (REF 25, LBA-MIA 07).

b. Dating

Even in artefact "rich" areas like Wessex and south-east England, we often overlook how dependent the absolute dating is on a few key sequences and diagnostic artefact types. The existing, essentially ceramic-based, chronology relies heavily on the proposition that broadly similar regional assemblages were in use at the same time. The apparent persistence of handmade 'Middle Iron Age' pottery traditions into the Roman period in parts of southern and eastern England, without an intervening 'Late Iron Age' phase defined by wheelmade pottery, affords a good illustration of this point (REF 19). Specific questions include:

B2 Developing dating frameworks

The application of Bayesian theory to radiocarbon dates could help refine the absolute chronology for the region. While radiocarbon dating is an essential tool in the excavation of Iron Age features, what is dated is important. As well as those features that might be important for the sequence of the site, features with good pottery assemblages need to be targeted. Finds of datable metalwork in context — particularly brooches and coins — are of great importance, and need to be clearly correlated with pottery and other material. Finds of early and Middle Iron Age brooches, pins and other metalwork are very rare, and any found in context are of crucial importance (REF 18, LBA-MIA 01).

'*What can be done to refine the chronology of the Late Bronze Age to Middle Iron Age?*' There is a need to improve the dating of the Late Bronze Age to Middle Iron Age. In particular, dating has tended to focus on the Late Bronze Age and Early Iron Age, leaving many outstanding questions about the date of Middle Iron Age sequences and material chronologies. There are gaps in the tree-ring sequence for the Early Iron Age and a plateau in the C14 curve for the

Middle Iron Age, both of which are problematic. There is a need to broaden the range of dating methods to include OSL, archaeomagnetism and pottery hydration. Greater chronological refinement might be achieved via the application of Bayesian modelling to radiocarbon dates to help refine chronologies (REF 25, LBA-MIA 01).

c. The agrarian economy, field systems, and the areas between

If their potential for interpreting life in the Iron Age in new and exciting ways is to be realised, sites excavated ahead of development need to be investigated and analysed according to some stringent and novel guidelines, developed in partnership with Consultees and contractors. Two main areas of innovation are required: first, in relation to sampling fractions as specified in project briefs; and second, regarding the analysis and publication of finds assemblages (REF 19).

Most Iron Age settlements were farmsteads, most Iron Age people were farmers, and farming formed the basis of Iron Age societies. Although archaeobotanical and archaeozoological studies are offering more sophisticated elucidation of Iron Age agricultural regimes and their variation in space and time (e.g. Jones 1996; Hambleton 1999), this work is only loosely articulated with research on other aspects of material culture and society. A more inclusive approach is required, which would transcend the normal separate reports on the animal and plant remains. One answer is to develop an agrarian sociology for the Iron Age (REF 19).

The nature of the agrarian economy needs further study. Is a real understanding of continuity and change emerging? What are the relative proportions of cereals and livestock and is there a changing dynamic throughout the period? A wider understanding is needed of the extent and nature of the palaeoenvironmental resource, in order to target those sites with the greatest potential. Further work is required on recording palaeoenvironmental and faunal data, as well as micromorphological analysis of buried soils and alluvial/colluvial deposits (REF 18, LBA-MIA 03).

Further work is needed to explore the connections between adjacent sites thought to be contemporary. '*How did they relate, physically, socially and economically?*' Beyond proximity, can we trace other physical and material links between these sites? Clues may be found in the details of the content and composition of their artefact repertoires or faunal signatures etc. Are these more alike on adjacent sites than those from those further afield? Equally, differences may be revealing of relative status, or the adoption of different but linked economic strategies (REF 24, LBA-MIA 10).

d. Depositional practices

Clear finds recovery strategies should be established and made explicit in published reports: complex interpretations are unsustainable without well-excavated, quantified data. This needs to operate at various levels. There should also be deliberate targeting of potentially artefact-bearing deposits, for example in the digging of stretches rather than constrained sections of ditches (REF 24).

Deposition and related taphonomic problems have been a popular topic in Iron Age studies for several years now, as ideas of deliberate deposition with ritual

intent have caught on. However, mere identification of ritual is insufficient without an attempt to explain it (REF 24, LBA-MIA 25).

There clearly is a pressing need for site publications to more widely present artefact-category distributional analyses. Without this, it is difficult to appreciate, for example, a settlement's middening patterns or whether finewares clustering occurred adjacent to house compounds, as opposed to animal paddocks. Indeed, not undertaking this kind analysis and visualisation, is to miss one of the main strengths of large-scale/total settlement investigations (REF 27, LIA-Rom 18).

e. Iron Age/Roman transition

On sites of this period, does the evidence suggest a seamless transition or a change in use of the land or farmstead, or continued occupation of the site but a change in building-types or agricultural practice? '*How far is there assimilation of late Iron Age culture into Roman or does acculturation occur? Are religious sites and deities, Roman ways and styles adopted first by the ruling elite and then by the masses? To what extent do indigenous building styles persist? Is there continued use of field systems (with modest adaptation) as late as the early 2nd century?*' (REF 18, pg. 29).

How can we better understand the Late Iron Age to Roman transition? The Iron Age to Roman transition may be incorrectly dated and change to the Romanised form may take place earlier than we thought. It has been suggested that we should be looking at the absorption of indigenous populations and the creation of client kingdoms in centuries prior to the roman conquest. This means that dating settlements is crucial in order to explain the characteristics of their morphology, artefact repertoire and longevity (REF 25).

Roman

4.4.13 A number of the sites with evidence of Roman date located within the Scheme had their origins in the Iron Age. These sites will provide an opportunity to examine the Iron Age to Roman transition.

4.4.14 Other sites are of specific Roman date, with sites ranging from smaller enclosures to much larger scale sites. These will allow research questions pertaining to different settlement types to be addressed.

4.4.15 Priorities for research which the Scheme has the potential to address from the research agendas are identified as follows.

a. Romanisation

Understanding both the continuity of Iron Age into Roman settlement and the 2nd century 'Romanisation', identifying continuity as well as new settlement structure and land use which develops across the region at this time and explanations for this at site, landscape and political levels. Some regions show evidence of re-organisation several decades after the Roman Conquest (REF 19).

b. Rural settlements and landscapes

Many rural sites have been excavated in recent years. Although the data needs collation and analysis, this work raises a number of issues: What forms do the farms take, and is the planned farmstead widespread across the region? What forms of buildings are present and how far can functions be attributed to them? Are there chronological/ regional/ landscape variations in settlement location, density or type? How far can the size and shape of fields be related to the agricultural regimes identified, and what is the relationship between rural and urban sites? How common are aisled buildings within the region, and how are they used? A general impression from fieldwork suggests that far greater numbers of rural sites are present in the late Iron Age and early Roman period than the later Roman period, a pattern recognised elsewhere in Britain, but worth confirming and quantifying in the East of England. Settlement typology should be reviewed across the region to establish consistent terminology and test hierarchical models and consider how and why such hierarchies developed (REF 18, pg. 70, pg. 47).

In recent years many sites of this type have now been excavated within the region and this is to the point that they soon risk becoming repetitive. In this regard, a number of points warrant notice. First, that too much excavation is strictly focused on their core-area paddocks, with insufficient attention given to their fields, which after all was the basis of their production. Not only is this true as regards environmental study (e.g. soil micromorphology and pollen), concerning what was actually growing where, but also what processing and stock facilities actually occurred out in the fields. With some landscapes so packed with farmsteads, '*to what degree was the land 'managed' and their practices sustainable?*' Second, it is settlements of this type in which variable methodologies should be applied. Rather than continuing to dig them by just 'standard rote', in the light of their frequency, some could see more minimal recording (e.g. just establishing their plan layout and broad sequence-chronology). In balance, though, others warrant being excavated (and sampled) to a much higher intensity, so that the dynamics of their operation – variously the foci of processing, storage, consumption and middening – can be interrogated and detailed (REF 27, LIA-Rom 13, LIA-Rom 15).

c. Dating

Where assemblages of material culture are often very limited and where preservation of environmental data are very poor, a better grasp of chronology, drawing on more extensive and rigorous radiocarbon dating, is essential. This can only be resolved by extensive programmes of scientific dating (REF 20).

d. Infrastructure

We are slowly adding to our knowledge of the Roman road network, principally from the results of the National Mapping Programme (NMP), but more archaeological evidence is needed before we can produce a comprehensive synthesis of roads and lesser routeways. Also, as monuments, they are under-studied. '*What variations in structure exist? Are they different in the countryside, and on different terrain? Why did some disappear and others continue in use?*' Those which disappeared were often deliberately cut, e.g., by historic parks, so for what reasons and when? (REF 18, pg. 48).

Can we map the development of Late Iron Age and Roman roads? We need to map Late Iron Age roads, and smaller tracks and lanes. In doing so, we may see the development of road networks earlier than the Roman period. We need to consider the relationship between roads and settlements (REF 25).

e. Finds studies

More synthetic work needs to be undertaken, for instance, are items such as mortaria and samian bowls used differently on rural sites than on urban, as seems to be the case in some areas? A brief survey suggests that puddingstone querns are more common on rural sites than urban where their place is taken by lava querns, does the distribution of other finds show similar variation? Structured deposition is now accepted as being a widespread phenomenon, there is however a need to classify the different forms this takes and critically interpret their meaning. Detailed recording of in situ assemblages would aid understanding (REF 18, pg. 48).

As highlighted in the Reading Project studies, as issues of ceramic trade/supply are coming to the fore it is imperative that relevant specialists are familiar with the full range of major pottery industries so that the scale of their regional distributions can be mapped. Conversely, with 'Early' kilns now being widely found on settlements the context of their production needs to be explored: '*were they strictly local settlement related or were some more widely traded?*' (REF 27, LIA-Rom 24).

Early Medieval and Medieval

4.4.16 Evidence of early medieval date is limited on the Scheme to Sunnica West, where possible Saxon features have been identified.

4.4.17 Other evidence of medieval date is limited to ridge and furrow and other agricultural remains. These may answer questions about the agricultural scheme and landscape patterns.

4.4.18 Priorities for research which the Scheme has the potential to address from the research agendas are identified as follows:

a. Rural settlement

The origins and development of the different rural settlement types need further research, also the dynamics of medieval settlement. Much of the region has primarily a dispersed pattern, not nucleated, and more small hamlets are being discovered all the time. More data will add to our understanding of the way places appear, grow, shift and disappear (REF 18, pg. 70).

How can we improve our understanding of Early Anglo-Saxon agricultural practices? Further advances will come from detailed examination of good faunal and palaeobotanical samples and also from study of the landscape as a whole including the 'gaps' between settlements and cemeteries. We need soil sampling across the region, not just on occupied sites (REF 25).

b. Landscapes

There is huge potential for further research into topics such as field systems, enclosures, or roads and trackways, in particular utilising historic maps and

documents. The use of NMP transcriptions and interpretations for researching settlement might be taken further, for example where it has added significant new information to previously surveyed sites, or has identified physical evidence for sites which were previously known only from documents or surface/metal-detected finds (REF 18, pg. 70).

PART TWO – OVERARCHING SCOPE OF WORKS

5 Mitigation strategy

5.1 Archaeological mitigation requirements

5.1.1 The basic principle for the mitigation strategy is to mitigate impacts on archaeological sites identified as a result of the Scheme. Rather than taking a standard approach of strip, map and record, excavations will instead be targeted upon those sites which maximise information and which have the ability to answer as comprehensively as possible, the Scheme and site-specific research questions. There will be some sites that do not fit this criteria and additional work upon them will not be undertaken. Other sites, although within the Scheme boundary, will be fenced off during construction to ensure they are preserved (refer to Section 10 of this DAMS).

5.1.2 A range of archaeological mitigation requirements are proposed, taking into account the form and significance of archaeological remains or other heritage assets that would be impacted by the Scheme. The principal mitigation techniques to be used are:

a. Excavation.
b. Geoarchaeological assessment.
c. Metal detecting.
d. Preservation of archaeological remains (i.e., fencing).

5.1.3 A total of 19 sites have been identified that require archaeological mitigation. These can be seen on Figure 1.

5.1.4 Sixteen sites are considered to require excavation (Sites E03, E04a, E04b, E05, E10, E17, E18 & 20, E24, E30, , W04, W08, W10, W15 & Cable Route Area 39 & 40). The outline methodology can be seen in Section 8. An SSWSI for each site is to be approved by the relevant county council prior to archaeological works commencing.

5.1.5 Two sites will require palaeoecological or geoarchaeological assessment (Sites E01, E02). The outline methodology can be seen in Section 9. The methodology will be agreed with the Consultees and the Regional Science Advisor for Historic England, and a single Site Specific Written Scheme of Investigation (SSWSI) produced for this investigation for approval by Suffolk and Cambridgeshire Councils.

5.1.6 Five areas of the Cable Route will require excavation (Cable Route Area 10, CR Area 2 & 3, CR Area 37, CR Area 41 & 56 & CR Area 57). The methodology can be seen in Section 8. A SSWSI will be required for the cable route excavations.

5.1.7 One site will require metal detecting (E19). The methodology can be seen in Section 8.3.6.

5.1.8 Five sites have been identified that require preservation of archaeological remains, with three others preserved at ecological mitigation areas (Sites 1, 4, 6, 12, 16, 21, 25 & 40). These sites are referred to as the Archaeological Protection Areas (APA's). The methodology for preservation of archaeological remains and the management of these sites is outlined in the OHEMP.

5.1.9 In addition, six sites have been identified as requiring no further work and are outlined in Table 5-2 below.

5.1.10 The overarching methodologies outlined in Sections 8 to 10 have been compiled taking account of advice provided by the Consultees, guidance provided by the CIfA Code of Conduct (REF 12), the Standard and Guidance for Archaeological Excavation (REF 13), the Standard and Guidance for Archaeological Evaluation (REF 15), and other current and relevant good practice and standards and guidance (refer to **Appendix B**).

5.1.11 Details for each site requiring archaeological mitigation are outlined in Table 5-1 below, and presented in **Appendix D**.

Table 5-1 Archaeological Mitigation Sites

Site Number	Size (Hectares)	Summary of Archaeology	Mitigation Requirements
E01	N/A	Fen edge deposits	Palaeoecological or geoarchaeological assessment
E02	N/A	Fen edge deposits	Palaeoecological or geoarchaeological assessment
E03	6.6	Undated activity.	Excavation
E04a	2.35	Undated activity.	Excavation
E04b	0.3	Possible Roman-British ditch and other features	Excavation
E05	8.1	Prehistoric and Romano-British activity	Excavation
E10	0.8	Possible barrow	Excavation
E17	0.95	Bronze Age pits	Excavation
E18 & 20	6.2	Romano-British boundary and undated pits	Excavation
E19	N/A	Le Tene brooch and a number of coins found during evaluation.	Metal detector survey
E24	0.8	Roman boundary ditch and undated pots	Excavation
E30	2.97	Area of scattered activity.	Excavation
W04	1	Edge of Roman settlement	Excavation
W08	4.7	Rectilinear enclosure, Ditch Way and Boundary 1	Excavation
W10	0.74	Eastern Branch of the Ditch Way	Excavation
W15	1.15	Neolithic pit, with possible further features on geophysical survey	Excavation
CR2&3	5.8	Possible enclosure	Excavation
CR10	1.16	Curvilinear features	Excavation
CR37	0.66	Possible trackway	Excavation
CR39&40	1.86	Enclosure system	Excavation
CR41&56	1.05	Possible ditches	Excavation
CR57	1.65	Possible trackway	Excavation

5.1.12 A number of other areas containing archaeological remains were identified where no further work is warranted, other than those presented in Table 5-1. This is because the remains were poorly preserved or were fully understood from the evaluation. These can be seen in Table 5-2 below.

Table 5-2 Summary of Sites requiring no further work

Site Number	Summary of Archaeology	Reason
E13	Undated ditches, pits and a posthole	Sampled in evaluation. Not considered to contribute to research objectives.
E21	Scatter of undated features	Sampled in evaluation. Not considered to contribute to research objectives.
E28	Undated ditches and pits	Sampled in evaluation. Not considered to contribute to research objectives.
E29	Two undated pits	Sampled in evaluation. No further features evident.
W05	Ditch Way and undated enclosure	Ditch Way investigated in other mitigation areas. Enclosure sampled during evaluation and nothing identified within it. No further information to be gained.
W11	Post-medieval land divisions	No further information to be gained.

5.1.13 Prior to the start of the archaeological works, procedures detailed in the Outline Heritage Environmental Management Plan (OHEMP) **[EN010106/APP/8.75]** will be adopted to ensure the APAs are protected.

5.2 Unexpected finds

5.2.1 If unexpected finds (sites, artefacts, environmental remains or ecofacts, monuments or features) are made during the works, a site consultation meeting(s) will be convened between the Archaeological Contractor, the ACoW, and the relevant Consultees, to consider the significance of the find. Depending on the outcome of the consultation meeting, an addendum to the SSWSI or a new SSWSI will be prepared by the Archaeological Contractor in consultation with the ACoW and the relevant Curator.

5.2.2 The procedure for dealing properly with any unexpected finds during the construction process will be set out in each approved SSWSI. This includes where unexpected features extend outside of the boundary of each mitigation area. Should archaeological features revealed within the mitigation areas continue outside of the area, and are likely to be subject to construction impact, the mitigation area may need to be extended to sufficiently characterise the material. This will only be undertaken following an understanding of the impact and with the agreement of the ACoW and the Principal Contractor, in consultation with the Consultees. No works will be extended beyond the Order Limits.

5.2.3 Any unexpected archaeological discoveries made by the Principal Contractor or their sub-contractors should be reported to the ACoW immediately. It is anticipated that any area of unexpected remains outside of existing mitigation areas will be marked-out on site, and that plant or vehicles shall not be permitted to enter the marked-out area except if given clearance to do so by the ACoW. All construction works within the marked-out area will be suspended until completion of the archaeological investigation in that area.

5.2.4 Any archaeological remains not previously identified which are revealed when carrying out the authorised development must be retained in situ and reported to the Suffolk and/or Cambridgeshire Councils (depending within whose jurisdiction the find is located) as soon as reasonably practicable from the date they are identified.

5.2.5 No construction operations are to take place within 10 metres of the remains for a period of 14 days from the date they are reported to the relevant planning authority unless otherwise agreed in writing by the local planning authority in consultation with Historic England, as applicable.

5.2.6 If the local planning authority determines in writing that the archaeological remains require further investigation, no construction operations are to take place within 10 metres of the remains until provision has been made for the further investigation and recording of the remains in accordance with details to be submitted in writing to, and approved in writing by, the local planning authority in consultation with Historic England, as applicable.

5.3 Site specific written schemes of investigation

5.3.1 SSWSIs will be prepared setting out in detail the mitigation measures for each archaeological site listed in Table 5-1. The SSWSIs will be informed by the strategy described in this document. Existing information and new datasets collected as fieldwork progresses will inform the design of mitigation works in the SSWSIs during the investigations.

5.3.2 The SSWSIs will be produced by the Archaeological Contractor. The information contained within the following sections of this document will guide the Archaeological Contractor when compiling each SSWSI.

5.3.3 Information to be contained within the SSWSIs and the approvals process is detailed in Section 6.

5.3.4 The specification for the archaeological works contained within the SSWSIs will be written in accordance with this DAMS and the current Standard and Guidance for archaeological excavation prepared by the CIfA (REF 14) and the current CifA Code of Conduct (REF 13), and will adhere to current and relevant best practice and standards and guidelines (see **Appendix B**).

5.3.5 Each SSWSI will set out the timing and order of the investigative works and will include details of how the archaeological programme will interact with other construction activities, and the parties undertaking them, at each stage of the archaeological works. Each SSWSI will include a programme for the archaeological work that will be referenced against key milestones/events in the overall design and construction programme.

5.3.6 In areas where archaeological remains or other heritage assets are to be retained (e.g., protected by temporary perimeter fencing, within the APAs, or beneath fill materials, or control measures for plant movements at construction), this will be managed through the OHEMP process.

5.4 Archaeological project team

5.4.1 The Principal Contractor will employ an ACoW who will form part of the site team to, include but not limited to, monitor archaeological site works, liaise with the

Archaeological Contractor and the Principal Contractor, review SSWSIs, and attend regular site meetings to be held with the Consultees.

5.4.2 The archaeological mitigation works will be delivered by one or more Archaeological Contractors, to be appointed the Principal Contractor. The Archaeological Contractor will have prime responsibility for delivery of the full programme of archaeological mitigation as set out in the DAMS, including all on and off site works; outreach activities; technical and non-technical publication and dissemination; and preparation and deposition of the archaeological project archive with the recipient museums and archives.

5.4.3 The Archaeological Contractor will include named key specialists who will either be site-based or have a regular site presence, or who will be on-call at short notice. The Archaeological Contractor and the specialists will have experience of working in the region with the types of geologies, sites and artefacts expected. These will include (as a minimum) the following roles:

a. Project Manager.
b. Environmental archaeology co-ordinator.
c. Environmental archaeology supervisor.
d. A Roman buildings specialist.
e. Archaeobotanist (including palynology).
f. Coleoptera and molluscs specialist.
g. Charcoal specialist.
h. Materials scientist.
i. Finds co-ordinator/processing specialist.
j. Small finds specialist.
k. Lithics specialist with relevant period expertise.
l. Ceramics specialist with relevant period expertise.
m. Ceramic buildings material specialist.
n. Coins specialist.
o. Metalwork specialist.
p. Specialist in wood.
q. Worked stone specialist.
r. Geoarchaeologist.
s. Archaeological surveyor.
t. Digital data co-ordinator/manager (and assistants as required).
u. Human remains specialist.
v. Animal bone specialist.
w. Scientific dating specialist, with expertise in chronological modelling.
x. Specialist in phosphate and lipid analysis.
y. Conservation specialist.

z. Metal-detectorist.

aa. An archives manager.

bb. Geomatics team and illustrators.

cc. Public Archaeology and Community Engagement Team.

5.4.4 The names and qualifications of the individuals fulfilling these roles will be provided to the ACoW for information and comment immediately after appointment of the Archaeological Contractor, with the details passed to the Consultees for information. The post-holders shall be in place at the start of the mitigation programme. Any changes to the named post-holders will be notified to the ACoW who will inform the Consultees.

5.4.5 The specialists appointed to the archaeological team will be integrated into the Archaeological Contractor's project team to actively input to the design of strategies for the SSWSIs, the public archaeology and community engagement elements, and to advise throughout the fieldwork and post-excavation stages. Regular communication between specialist members of the archaeological team and the fieldwork Project Manager and field staff will be ensured through off-site planning meetings, site visits and progress meetings as required.

5.4.6 Archaeological staff (part of the Archaeological Contractor's site team) supervising the investigative works shall be highly experienced in directing machine stripping/ hand stripping of archaeological sites, with direct experience in and knowledge of the archaeological character of the area in general. The staff member(s) shall be familiar with the content of the results of the relevant previous phases of work, including the aerial photograph and LiDAR analysis (REF 1 REF 2, REF 3), geophysical surveys (REF 4) and trial trenching (REF 5 REF 6).

5.5 Iterative development of the mitigation strategy

5.5.1 Where required, an iterative site strategy for excavation, artefact recovery and for sampling will be agreed with the ACoW, the Archaeological Contractor and the Consultees.

5.5.2 The mitigation strategy will (where required), be responsive to the works taking place on site. For example, if a site is not answering the expected research question due to a lack of information, then the extent and scope of works should be reviewed. Similarly, sites producing more environmental evidence could have a more intensive sampling strategy than that previously agreed. Unexpected remains (see Section 5.2 above) will also be considered. Consultation must be undertaken with the Consultees at meetings or onsite discussions.

6 Site specific written schemes of investigation

6.1 Contents

6.1.1 The Archaeological Contractor shall produce a SSWSI for each site requiring intervention, detailing the exact scope of the archaeological fieldwork or protection. Each SSWSI must be agreed by the ACoW prior to it being submitted to the Consultees. Once agreed by the ACoW, it will be sent by the ACoW to the Consultees, who will review the relevant SSWSIs within four weeks of receipt and approve the final document. Approval of the SSSWI must take place before any

aspect of archaeological work takes place within the mitigation areas identified in Table 5-1.

6.1.2 The SSWSI should include the following sections as a minimum (see CIfA 2020a Standard and Guidance for Archaeological Excavation (REF 13) and CIfA 2020 Standard and guidance for the archaeological investigation and recording of standing buildings or structures (REF 65) for further information):

a. A statement on the technical, research and ethical competences of the project team, including relevant professional accreditation.
b. Site location (including map) and descriptions.
c. The event number and accession number for sites in Cambridgeshire or the Museum Accession Number for sites in Suffolk. These should be shown on all records, finds and samples.
d. Context of the site.
e. Geological and topographical background.
f. Archaeological and historical background.
g. General and specific research aims of the site, with reference to the DAMS.
h. Methods.
i. Collection and disposal strategy for artefacts, ecofacts, and all paper, graphic and digital materials.
j. Arrangements for immediate conservation of artefacts.
k. Post-fieldwork assessment and analysis of project data.
l. Report preparation (including details of the section headings). The Archaeological Contractor will be required to prepare reports in time to inform the submission of the DCO application.
m. Publication and dissemination proposals, as required.
n. Copyright.
o. Details of finds storage. The Archaeological Contractor shall include details of how the finds will be packaged for storage.
p. Data Management Plan for digital archiving.
q. Methods for preparation of the physical archive, including accession numbers.
r. Timetable.
s. Staffing. Details on the expertise of the project team is also required. The project manager should be a named Member of the Chartered Institute for Archaeologists (MCIfA) who is adequately qualified to manage the required archaeological work or who can demonstrate an equivalent level of competence. The composition and experience of the project team should be described. Specialists should be identified in line with the list detailed in Section 5.4 (e.g. for finds and environmental work). The availability of the environmental specialists (and laboratory) to do analysis for inclusion within the SSWSI should be stated. Note: Specialists should be able to demonstrate a relevant qualification and track record of at least three years continuous relevant work (or equivalent) and appropriate publication. The laboratory should be ready and

equipped to do analysis on all samples to fulfil the obligations within the timescale. In appropriate circumstances, less experienced staff may conduct work under the supervision of well-established and widely recognised specialists.

t. A statement on compliance with relevant professional ethical and technical standards (including data standards).

u. Health and Safety considerations, including details of relevant insurance.

v. Environmental protection considerations.

7 Monitoring

7.1 Site monitoring

7.1.1 The ACoW will liaise with the Archaeological Contractor and the Principal Contractor (as relevant) to monitor progress and compliance with the requirements of the SSWSIs. This will include (but not be limited to):

a. Monitoring of all aspects of archaeological fieldwork.

b. Monitoring of the installation and removal of protective measures, such as temporary fencing, and at sites where preservation of archaeological remains is required.

7.1.2 The ACoW will act as coordinator in respect of access and monitoring arrangements with the Consultees. This will include oversight of engagement between the Archaeological Contractor and the relevant heritage stakeholders, including the Regional Science Advisor (East of England), to ensure the timely provision of on-site advice to the fieldwork team.

7.1.3 The archaeological mitigation works will be subject to ongoing monitoring by the ACoW, who will have unrestricted access to the sites, site records or any other information as may be required. The work will be inspected to ensure that it is being carried out to the required standard and that it will achieve the desired aims and objectives.

7.1.4 Site meetings will be held as necessary throughout the archaeological programme to allow implementation of the works to be monitored to ensure adherence to approved SSWSIs, effective decision making where required and to support timely ‘sign-off’ of archaeological completion. The Consultees will be invited to attend site meetings in accordance with their roles.

7.1.5 The Consultees will be afforded access to the sites through regular site meetings (see below); specific visits to access site records and any other information will be arranged as necessary and required through the ACoW.

7.1.6 It is anticipated that progress and consultation meetings will be held at least monthly during fieldwork. Additional meetings and site visits will be held as appropriate. The frequency of meetings will be determined by the work taking place on site. The meetings would include on-site monitoring visits to review site progress, review of work in line with the SSWSIs, and the strategy for the following period. This will ensure that programming details and changes are communicated rapidly and efficiently and will ensure that appropriate resources are available and can be

deployed where they are required. Weekly reporting will also be issued (see Section 13.2 below).

7.2 Sign off procedures

7.2.1 It is acknowledged that the programme of works will require authentication of completion and the following approach is proposed.

7.2.2 Each of the sites identified in Table 5-1 has an approach for mitigation. Each site will have a SSWSI prepared by the Archaeological Contractor.

7.2.3 Each SSWSI will include a programme for the required work. Once the Archaeological Contractor determines the fieldwork to be completed, a review will be undertaken. At this time the Archaeological Contractor will make available by site visit or remote presentation (e.g. online video meetings) the results of the work. All parties will have been prepared for this review, by the distribution of a weekly site report on the progress of work (see Section 13.2 below for more detail).

7.2.4 Sites that have been completed (approved by the ACoW and the appropriate Curator) will be subject to a formal signing off procedure. The Archaeological Contractor will submit a completion statement to the ACoW. The ACoW will submit the accepted completion statement to the appropriate Curator for confirmation (in consultation with Historic England where required) that the relevant works have been completed in compliance with the relevant SSWSIs.

7.2.5 In the event of disagreement between the Archaeological Contractor, the ACoW, and the relevant Curator on the progress, strategy or completion of work, a form of arbitration will be proposed.

8 Outline Methodology for excavation

8.1 Introduction

8.1.1 Excavation will be carried out at the locations identified in Table 5-1. All excavation will be carried out in accordance with the SSWSIs, and any further instructions from the ACoW.

8.1.2 Nineteen sites are considered to require excavation or further sampling (Sites E03, E04a, E04b, E05, E10, E17, E18 & 20, E24, E30, W04, W08, W10, W15 & Cable Route Area 39 & 40 – See **Appendix D**).

8.2 Machine excavation

8.2.1 All machine excavation will be undertaken under constant archaeological supervision.

8.2.2 The excavation areas will be set out using electronic survey equipment by the Principal Contractor. The extent of the stripped excavations will be clearly demarcated and secured with appropriate barrier fencing (such as Heras fencing) to ensure that persons or vehicles cannot inadvertently traverse the areas of investigation while archaeological works are in progress. The fencing (to be provided by the Principal Contractor unless otherwise agreed) will be regularly inspected and maintained by the Principal Contractor until archaeological investigations in the area have been completed, inspected, approved and signed off by the Consultees.

8.2.3 No archaeological work should commence without a Permit to Dig from the Principal Contractor. This should include confirmation that the locations of any services are marked, and that any additional safety measures required to ensure that each area is safe prior to commencement of mitigation work are in place.

8.2.4 The machine excavation will be undertaken using an appropriate 360° mechanical excavator fitted with a toothless ditching bucket. A toothed bucket or breaker may only be used temporarily if concrete, tarmac or other hard standing is encountered. A toothless ditching bucket is to be used at all other times.

8.2.5 Upon removal of the topsoil, the underlying subsoil shall be removed by mechanical excavator until either the top of the first archaeological horizon or undisturbed natural deposits are encountered. Particular attention should be paid to achieving a clean and well-defined horizon with the machine. Topsoil and subsoil will be stockpiled separately. The mechanical excavator will not traverse any stripped areas.

8.2.6 The machined surface will be hand cleaned if necessary, and inspected for archaeological features, and all identified features should be marked on the ground to ensure that they are not “lost” during the mapping stage. Pre-excavation planning will be undertaken to record all identified archaeological features. The pre-excavation plan will form the basis for discussion on site to inform the strategy for excavation of the archaeological remains. The pre-excavation plan will be made available to the ACoW and the Consultees.

8.2.7 The Archaeological Contractor shall not excavate any area beyond the mitigation area. Should archaeological features revealed within the excavation area continue outside of the area and are likely to be subject to construction impact, the excavation area may need to be extended to sufficiently characterise the material. This will only be undertaken with the agreement of the ACoW and the Principal Contractor, in consultation with the Consultees; and can only take place within the Order limits.

8.2.8 Hand excavation, recording and sampling will proceed in accordance with the methodology outlined in this Mitigation Strategy and confirmed in the Archaeological Contractor’s SSWSI, in order to meet the aims and objectives of each excavation.

8.2.9 Areas will be recorded on a suitable digital base map/development plan and the stratigraphy and depth of excavation will be recorded. Details on recording procedures where significant archaeology is discovered are detailed in the section below.

8.3 Hand excavation

8.3.1 Archaeological deposits will be excavated and recorded stratigraphically in accordance with a recording system detailed in the Archaeological Contractor’s SSWSI and approved by the Consultees. All relationships between features or deposits will be investigated and recorded in order to achieve suitable preservation by record and to fulfil the aims and objectives of the project.

8.3.2 Hand excavation will be initially focussed to provide information on the form, function and date of the archaeological features. Information on the character, nature, contents and significance of features should also be obtained.

8.3.3 Machine-assisted excavation may be permissible if large deposits are encountered but only after agreement with the relevant Consultees. The Archaeological Contractor will include a sampling strategy for machine-assisted excavation in their SSWSI.

8.3.4 A sufficient sample of deposits/features will be investigated through hand excavation to record the horizontal and vertical extent of the stratigraphic sequence, to the level of undisturbed natural deposits.

8.3.5 All features identified following soil stripping will be scanned by a metal detector. Spoil from the excavated features will also be scanned with a metal detector to locate any metallic objects.

8.3.6 Site E19 should be subject to systematic metal detecting due to the number of metal finds found during the evaluation, where a lack of features does not warrant other archaeological intervention. The use of metal detectors on site to aid the recovery of artefacts should be performed by a named, experienced metal detector user trained in the use of a suitable instrument. The metal detector should not be set to discriminate against iron. Metal detected finds should be plotted on suitable plans within the report.

8.3.7 The Archaeological Contractor will make provision for appropriate archaeological specialists to visit the site or attend meetings upon request in order to advise on the excavation strategy. The Archaeological Contractor will prepare a list of appropriate archaeological specialists with relevant local experience who are likely to be involved in the project and will include this in their SSWSI.

8.3.8 The following outline excavation strategy will be employed unless detailed otherwise in the SSWSI:

a. **Linear features**: A minimum sample in length not less than 1m long, where the depositional sequence is consistent along the length. Linear features with complex variations of fill type will be sampled sufficiently in order to understand the sequence of deposition - a minimum of 25% along the length of features associated with settlement and a minimum of 10% along the length of features associated with field systems. If appropriate all intersections will be investigated to determine the relationships between features. All termini will be investigated.

b. **Discrete features**: Pits, post-holes and other isolated features will normally be half-sectioned. If large pits or deposits (over 1.5m diameter) are encountered then the sample excavated should be sufficient to define the extent and maximum depth of the feature and to achieve the objectives of the sampling, but should not be less than 25%. Stake-holes will be fully excavated but only a reasonable proportion will be sampled.

c. **Structures**: These features should be subject to a minimum of 100% excavation. Each structure will be sampled sufficiently to define the extent, form, stratigraphic complexity and depth of the component features and its associated deposits to achieve the objectives of the evaluation. All intersections will be investigated to determine the relationship(s) between the component features. The remains of all upstanding walls will be hand cleaned sufficient to understand their dimensions, extent, composition, sequence and relationships and must be excavated to 100%.

d. **Special or burnt features:** These features should be the subject of 100% excavation. Such features will be identified during pre-excavation planning to enable the input and advice of appropriate archaeological specialists. Where *in situ* burning is identified no excavation shall take place until the possible recovery of samples for scientific dating has been considered.

e. **Artefact scatters**: These should be the subject of 100% excavation. Where associated with buried land surfaces, *in situ* flint scatters will require hand cleaning and will need to be spatially defined in three-dimension to determine the limits of the scatter within the area of investigation. All lithic artefacts with a Maximum Linear Dimension (MLD) of 10mm will require three-dimensional plotting prior to recovery and individually bagged and recorded as registered finds. Non-tool fragments of less than the MLD should be bagged according to an appropriate spatial recording system consistent with context.

f. **Human remains:** During excavation human remains will be 100% excavated, recorded *in situ* and subsequently lifted, labelled and packed to the standard established by *Excavation and post-excavation treatment of cremated and inhumed human remains* (REF 28) and *Updated guidelines to the standards for recording human remains* (REF 29). Environmental samples will be recovered from grave fills and specific locations such as the abdominal cavity for specialist analysis. Site inspection will be made by a recognised specialist who will advise on the excavation and sampling strategy following guidelines on *The Role of the Human Osteologist in an Archaeological Fieldwork Project* (REF 30). The location of each grave, inhumation/cremation and any associated grave goods will be recorded three dimensionally using metric survey-grade equipment (or its equivalent). The exhumation of any human remains will only be undertaken in accordance with current UK legislation and good practice (refer to **Appendix B**) and any local environmental health requirements. Further detail is contained in paragraph 8.9.1 above.

g. **Tree throws:** Where features are identified as tree throws or hollows a sample will be hand excavated to confirm the interpretation. Features where this interpretation is unclear should be treated as non-structural discrete features and investigated in accordance with the strategy set out above.

h. **Ridge and furrow**: Ridge and furrow will only be recorded during pre-excavation to note its alignment. Excavation of furrows may be required where the relationship with earlier features is unclear, or where they share the alignment of earlier ditches.

8.3.9 Archaeological recording will proceed in accordance with the specification outlined in this mitigation strategy and accepted national, regional and professional standards and guidance (**Appendix B**).

8.4 Recording

8.4.1 All archaeological remains shall be recorded to best practice standards including the CIfA Standard and Guidance for Archaeological Excavation (REF 13).

8.4.2 To minimise the use of paper resources recording would in the first instance be undertaken on a suitable digital device, such as an iPad, using the appropriate software. Recording would be in a format accessible to the relevant parties and will be outlined in the Archaeological Contractor's SSWSI. Where required, hand drawn

plans may be required for detailed drawings of specific features (e.g. human remains, kilns etc.).

8.4.3 Archaeological recording is to include as a minimum:

a. A full written (on appropriate pro-forma recording sheets), drawn and photographic record will be made for each element of the excavation works, even where no archaeological features are identified. Where the stratigraphic sequence or inter-cutting features are complex the relationships between contexts shall also be compiled as 'Harris matrix' diagrams (REF 14).

b. Plans and sections of features will be produced at an appropriate scale (normally 1:20 for plans and 1:10 for sections). All plans and sections will include spot heights relative to Ordnance Datum in metres, correct to two decimal places.

c. Photography will be taken in line with current industry best practice and the requirements of the local authority. In addition to records of archaeological features, a number of general site photographs will also be taken to give an overview of the site including photographs of areas prior to and upon completion of fieldwork. Particular attention should be paid to obtaining shots suitable for displays, exhibitions and other publicity.

d. Indices of context records, drawings, samples and photographs will be maintained and checked. These will form part of the project archive. These indexed registers will be fully cross-referenced.

8.4.4 All photographs of features must include an appropriate scale, a north arrow, and a photo-board. Graduated metric scales of appropriate lengths should be used, ensuring the use of appropriate vertical scales against deep sections in combination with horizontal scales. Photo-boards must be positioned in such a way that the writing is legible and as a minimum include the context number and site code. Photo-boards should also not obscure the archaeological feature that is being recorded. The photographic record must consist of high-quality digital uninterpolated images of at least 10 megapixels taken using a camera with an APS-C or larger sensor. Digital photographs intended for archive purposes must comply with best practice available at the current time – i.e. high quality non-proprietary raw files (DNG) or TIFF images. The incorporation of clear digital images within ensuing reports, to augment the drawn record, is expected. JPG images and images taken using iPads and/or phones must not be used for archiving purposes.

8.4.5 On completion of the field project, the site archive will be consolidated, checked to ensure it is internally consistent and ordered as a permanent archive.

8.4.6 During the course of the fieldwork, the Archaeological Contractor is to make all digital records available to the Principal Contractor, the ACoW and the Consultees, ensuring it is compatible with their systems. The updated digital record will be provided at agreed intervals, the maximum being one month.

8.5 Artefact recovery

8.5.1 Artefacts will be collected, stored and processed in accordance with standard methodologies and national guidelines (refer to **Appendix B**) and in line with the county planning authority requirements for the area in which the site is located. All artefacts recovered on site must be bagged and recorded at the time of recovery to

ensure they are appropriately stored. Bulk finds from feature fills of deposits will be collected and recorded by context. Each 'significant find' will be recorded three dimensionally. Similarly, if artefact scatters are encountered each individual artefact should be recorded three dimensionally and individually bagged and recorded as registered finds.

8.5.2 Except for modern artefacts all finds will be collected and retained. The Archaeological Contractor will clarify in their SSWSI their site-specific Selection Strategy and will ensure that it is in-line with CIfA (REF 13) and local authority guidelines.

8.5.3 Where necessary the artefacts will be stabilised, conserved and stored in accordance with the guidelines of the UKIC (United Kingdom Institute of Conservators) (refer to **Appendix B**). If necessary, a conservator will visit the site to undertake 'first aid' conservation treatment. If waterlogged organic materials are encountered and appropriate cold storage facilities are not available onsite, the project manager will arrange the removal of the finds to nearby suitable facilities.

8.5.4 Artefacts will be stored in appropriate materials and conditions and monitored to minimise further deterioration.

8.6 Environmental sampling

8.6.1 The Archaeological Contractor's environmental specialist will outline an appropriate sampling strategy for the archaeological excavation to be included in their SSWSI, which will need to be agreed with the Consultees and, where appropriate, the Historic England Science Advisor.

8.6.2 Environmental sampling will be targeted to answer the questions laid out in the Site specific aims and the regional research agendas.

8.6.3 Provision will also be made for the recovery of material suitable for scientific dating. An appropriate dating specialist with a background in chronological modelling will be consulted in advance of and throughout the fieldwork and will be available to advise on the ongoing strategy.

8.6.4 Any samples taken must come from securely stratified deposits using the methodologies outlined by Historic England in *Environmental Archaeology; A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation* (REF 32).

8.6.5 Any samples should be taken during feature excavation from appropriately cleaned surfaces, be collected with clean tools and be placed in clean containers. They will be adequately recorded and labelled, and a register of all samples will be kept. Once the samples have been obtained, they should be stored appropriately in a secure location prior to being sent to the appropriate specialist. All samples will be processed by the Archaeological Contractors environmental team unless otherwise agreed with the ACoW and the Consultees.

8.6.6 Provision will be made for the ongoing processing and initial assessment of sampled material in order to provide timely feedback regarding the quality of preservation and the significance of specific deposits during the excavation and to inform the ongoing strategy. As a consequence, consideration must be given to processing on site, or in

a nearby compound/facility, of environmental samples to provide dynamic feedback on the environmental content of features, to enable additional processing to be undertaken.

8.6.7 Samples will be taken from stratified, dateable deposits, with a low risk of contamination.

8.6.8 A provisional sampling strategy is proposed in Table 8-1.

Table 8-1: Provisional environmental sampling strategy for archaeological excavation

Potential data	Method	Context type	Sample size (ltr)	Excavated feature sample
CPR	Bulk	Structural/occupation features	40	100%
		Pits (prehistoric)	40	50%
		Pits (Roman)	40	50%
		Pits (medieval)	40+	50%
		Pits (post-medieval)	40	50%
		Gully/ditch (settlement)	40	10%
		Gully/ditch (outfield)	40	5-10%
Waterlogged and organic remains	Bulk	All contexts	10-20	Layer (N/A)
Small bones	Bulk	All contexts	40	50
Molluscs	Incremental	Deposit sequence	As advised by specialist	N/A
Pollen	Monolith	Deposit sequence	As advised by specialist	N/A

8.6.9 If large deposits of animal bone are encountered, the advice of the project specialist will be sought regarding recording and sampling. Animal bone groups (i.e. articulated animal remains) will be assigned a number and documented using a suitable animal bone group sheet following Historic England guidance (REF 33) and will be fully excavated as far as is practicable. Assessment of biological remains will follow standard assessment procedures as laid out in Historic England guidance (REF 30; REF 53; REF 33).

8.6.10 The finds and samples will be processed (cleaned and marked) as appropriate. Each category of find or environmental/industrial material will be examined by a suitably qualified archaeologist or specialist and the results incorporated into the fieldwork report.

8.7 Finds processing

8.7.1 Initial processing of finds (and if appropriate other samples) will be carried out concurrent with the fieldwork. The Archaeological Contractor should consider the option of initial processing to be undertaken on site or in a nearby compound/facility. Finds suitable for pop-up displays or posting on social media should be identified during excavation. Finds which may contain residues should be retained unwashed until analysis is complete. In addition, the Cambridgeshire Archaeological Archive Facility and the Suffolk County Council Archaeological Archive should be consulted during finds processing.

8.7.2 The CIfA finds Toolkit (REF 38) should be utilised to develop a selection strategy. This strategy should be developed for each site to ensure the appropriate methodology is applied to each site. This will follow the strategy to be agreed with both the Cambridgeshire Archaeological Archive Facility and the Suffolk County Council Archaeological Archive and should be advised by the specialists.

8.7.3 The processing of finds will be finished shortly after completion of the investigations, the finds will be retained (according to the Selection Strategy), washed, marked, bagged and logged on a MS Access or GIS database (or equivalent), together with their locations according to the requirements set out in the Collection Policy (e.g. 'significant finds' will be recorded on the OS National Grid (eastings, northings) and Ordnance Datum (height) to two decimal places).

8.7.4 The finds assemblage will be treated, labelled and stored in accordance with the appropriate Historic England guidance documents, local authority guidelines (if appropriate) and the Institute of Conservation guidelines (refer to **Appendix B**). The Archaeological Contractor will ensure that the processing of the assemblage is in accordance with the requirements of the recipient museum.

8.7.5 If appropriate, each category of find or each material type will be examined by a suitably qualified archaeologist or specialist and the results incorporated into the fieldwork report.

8.7.6 All finds will be retained unless otherwise agreed with the ACoW and the Consultees for further analysis during the reporting phase of the archaeological mitigation of the main construction phase.

8.8 Human remains

8.8.1 If human remains are discovered during the course of the fieldwork the remains shall provisionally, in accordance with current best practice, be covered and protected and left *in situ*. The removal of human remains will only take place in accordance with the procedure set out in article 15 of the Development Consent Order **[APP-019],**. In the event of the discovery of human remains the Archaeological Contractor will contact H.M. Coroner.

8.8.2 Excavation of human remains will be undertaken as per the strategy outlined in Section 8.3.7f. The requirement for a Ministry of Justice licence will be laid out in the SSWSIs.

8.9 Treasure

8.9.1 Any artefacts which are recovered that fall within the scope of the *Treasure Act 1996 and Treasure (Designation) Order 2002* (REF 35, REF 36) will be reported to the ACoW and the Principal Contractor immediately. The Consultees and the relevant Portable Antiquities Scheme Finds Liaison Officer will also be informed. A treasure reporting process is available for Cambridgeshire (https://www.cambridgeshire.gov.uk/asset-library/guidance-for-completing-treasure-receipts-for-archaeological-treasure-ca.pdf). Further details will be contained within the Brief in **Appendix C**. Artefacts that are defined as Treasure according to the above legislation will be vested in the franchisee (e.g. The Duke of Cornwall is franchisee for Cornwall), or if none, the Crown. The Archaeological Contractor will contact H.M. Coroner, and will ensure that the Treasure regulations are enforced and that all the relevant parties are kept informed. A list of finds that have been collected that fall under the Treasure Act and related legislation will be included in the fieldwork report.

8.9.2 Artefacts that are classified as 'treasure' will be removed to a safe place but where removal cannot be achieved on the same working day as the discovery, suitable security measures must be taken to protect the finds from damage or unauthorised removal.

9 Geoarchaeological Assessment

9.1 Introduction

9.1.1 Three sites have been identified as requiring geoarchaeological assessment. These are at Sites E01, E02 & W01b. This will focus on fen edge deposits, alluvium and palaeochannels. Other sites may also require geoarchaeological and palaeoenvironmental analysis and assessment.

9.1.2 The sites requiring geoarchaeological assessment are outlined in Table 5-1 and each site is detailed in **Appendix D**.

9.2 General methodology

9.2.1 Each area requiring geoarchaeological or palaeoenvironmental assessment should have an array of boreholes or cores, designed in a grid or transects as appropriate to ensure full evaluation across the area. This design should be undertaken by the Archaeological Contractor, who must, as detailed in Section 5.4, have a geoarchaeologist and environmental specialists as part of the project team. The borehole design must take into account the results of the evaluation excavations (REF 3, REF 4, REF 5) and any geotechnical boreholes in the vicinity to maximise data recovery. The methodology, design and any revised or site specific aims must be detailed in a SSWSI to be prepared by the Archaeological Contractor, such a SSWSI to cover all three sites.

9.2.2 Each borehole column will be recovered using a windowless sampling rig (for example a Terrier Drilling Rig, Dando Rig or for shallower deposits a power auger) that will be provided by the Principal Contractor and under the supervision of the Archaeological Contractor. The diameter of the borehole shall be approximately 100mm and the core shall be recovered in plastic tubes (or an appropriate substitute).

9.2.3 The location of the borehole will be set out by the Archaeological Contractor's surveyors and shall be surveyed and levelled in three dimensions to Ordnance Survey Grid and Ordnance Datum (OD).

9.2.4 A suitably experienced geoarchaeologist shall be present at all times during the preparatory ground disturbance and during rig drilling. This is to ensure that a proper record is made of the depth of deposits and to ensure that samples are collected and labelled appropriately.

9.2.5 The Archaeological Contractor should make allowance for the excavation of a starter pit prior to drilling in order to confirm that no buried services, land drains or other subsurface obstructions are present.

9.2.6 Made ground deposits need not be described in detail unless it is relevant to the understanding of site formation processes. The surface of each deposit/the contact between deposits must be levelled and the height recorded to OD.

9.2.7 The core will be exposed and the sequence of sediments from the borehole shall be described/logged on site (character and depths of deposits). If possible, a record shall be made of the depth of any water table at the borehole location.

9.2.8 Upon completion of the borehole and the recovery of the core, the void left by the sampling rig shall be backfilled by the operator with a suitable material.

9.2.9 The core sample shall be sealed, labelled, transported as soon as possible and stored securely and in appropriate controlled conditions either on site (temporary) or off-site at the assessment stage. It may be necessary to store the core long-term if it is likely to contribute to any future analyses.

9.2.10 Where warranted, areas identified for geoarchaeological assessment may be stripped to reveal archaeological features sealed by the alluvium. The requirement will be dependent upon the results of the boreholes and further focus of stripping can be achieved by controlled broad transect samples (2m+). The results of this approach will guide the requirement for removal of overlying deposits by machine, which may need to be undertaken in stages for the exposure of contemporary surfaces and features over a wide area. The hand-excavated transects should be orientated perpendicular to the course of the streams in question, so that they capture in section sedimentary processes. In all cases, the requirement for work should be guided by the Archaeological Contractor's geoarchaeologist.

9.2.11 All work must be taken in line with Historic England guidance on Geoarchaeology (REF 53) and Environmental Archaeology (REF 32).

9.3 Assessment report

9.3.1 A preliminary interpretation of the soil and sediment characteristics of the core will be made, including a summary of the stratigraphy that will characterise the deposit sequence and identify soil/sediment formation processes. The description of each deposit will include sediment type, inclusions, colour, bedding and nature of contacts to overlying and underlying units. The report will also include appropriate lithological diagrams.

9.3.2 If suitable organic sediment is recovered from the core, samples will be taken for radiocarbon dating, in order to provide a dating framework for the stratigraphic sequence. Where appropriate, other dating techniques, such as archaeomagnetic dating or dendrochronology should also be considered. The Archaeological Contractor shall make provision for submitting a justified proposal and number of samples for radiocarbon and other dating.

9.3.3 If suitable deposits exist, samples will be submitted for specialist assessment (pollen, diatom/foraminifera) to identify the potential for past environmental reconstruction.

9.3.4 An interim summary assessment report will be produced shortly after completion of the fieldwork in order to inform the design of any subsequent archaeological mitigation.

9.3.5 A final geoarchaeological assessment report shall be prepared and will include a complete lithological description, following standard sedimentary conventions and the Troels-Smith system (REF 37) and incorporating the results of specialist assessment and dating.

9.3.6 The final geoarchaeological assessment report will illustrate the sub-surface topography and shall characterise the sediments present on the site and indicate the potential of the core sample taken for environmental reconstruction. If appropriate, it will include a fully justified and costed proposal for analysis and publication to be discussed with Suffolk and Cambridgeshire Councils.

9.3.7 The geoarchaeological assessment will be placed within the context of any previous investigations and assessment work undertaken in the vicinity of each site to aid the interpretation of the deposit sequence.

10 Reporting

10.1 Introduction

10.1.1 Following the completion of the fieldwork, all finds and samples will be processed (cleaned and marked). Each category of find or environmental/industrial material will be examined by a suitably qualified specialist so that the results can be included in the Post-Excavation Assessment Report (PEAR) to be produced at the end of the investigations.

10.2 Weekly reports

10.2.1 Weekly written progress reports will be provided by the Archaeological Contractor and submitted to the ACoW during each phase of fieldwork (as established through an approved SSWSI), to be issued via e-mail each Friday. This should include details of each area where archaeological work has taken place in the previous week, along with details of any archaeological features located, highlighting significant finds and discoveries and progress against the programme. In addition, the Principal Contractor and Archaeological Contractor will inform the ACoW on the progress of the fieldwork verbally upon request. The ACoW will e-mail the weekly reports to the relevant Consultees.

10.2.2 It is anticipated that regular progress meetings will be held on site with the Consultees during the course of the fieldwork. If appropriate, the Historic England Regional Science Advisor, shall be invited to attend. These meetings will be arranged by the ACoW; monitoring meetings will also be held during the post-excavation phase of the project if appropriate. A programme of monitoring visits/meetings will be agreed prior to the commencement of fieldwork.

10.2.3 Use should be made of GIS systems as an interactive tool during site monitoring and as part of the reporting process.

10.3 Interim statements

10.3.1 Interim statements will be prepared and submitted by the Archaeological Contractor to the ACoW. The ACoW will submit these interim statements to the relevant Consultees by way of update. The purpose of each interim statement is to provide a basic account of the results of the investigations at each site to inform the progress meetings. Interim statements will be prepared within a set time frame following completion of fieldwork at the relevant site. This time frame will be decided by the ACoW, the Client and the Archaeological Contractor prior to the commencement of the post-excavation work. The interim statement will include:

a. A brief summary of the results.
b. A draft or preliminary site plan of each archaeological area or site.
c. A quantification of the primary archive including finds and samples.
d. Identify any issues that have arisen during the course of the fieldwork to ensure that there is integration across the Scheme between sites and phases.
e. A programme of work and schedule for the completion of the PEAR.

10.4 Post-Excavation Assessment

10.4.1 The Archaeological Contractor will meet the set time frames in order that the post-excavation assessment, analysis and publication phases can be programmed and resourced properly, and so that the completion date for all construction and post-excavation works can be met. It is envisaged that the final publication report will be submitted by the date the Scheme has been completed. The final programme for the post-excavation work shall be agreed between the Archaeological Contractor, ACoW and the Client, in consultation with the Consultees.

10.4.2 While each individual site will have its own post-excavation assessment, the results from all fieldwork interventions will be combined and treated as one project for the purposes of the updated project design for the archaeological project. The results from earlier investigations (including the evaluation surveys) will also be assessed/reviewed by the Archaeological Contractor where it contributes to an understanding of the site and addresses the research questions set out in this DAMS and aims and objectives of the SSWSIs. The assessment reports should also reflect the previous archaeological work at nearby sites, so that lessons learnt regarding the usefulness of specific techniques can be applied. Following the completion of the post-excavation assessment, the original project objectives will be reviewed to determine the scope of any analysis and publication.

10.4.3 The preparation of the project archive, post-excavation assessments and subsequent analysis and publication phases will be undertaken in accordance with

the SSWSIs and Historic England guidelines (REF 11), and other relevant archaeological standards and national guidelines (see **Appendix B**). The different phases will be completed within a set time frame following completion of fieldwork, as agreed between the Archaeological Contractor, ACoW and the Client in consultation with the Consultees.

10.4.4 The precise format of the reports is dependent upon the findings of the investigations, but the post-excavation assessment reports will contain the following:

a. A non-technical summary.
b. Site location.
c. Brief archaeological, historical and project background.
d. Methodology.
e. Aims and objectives.
f. Results – factual data statements (stratigraphic, artefactual, environmental, initial scientific dating results).
g. Statements of potential (stratigraphic, artefactual, environmental).
h. Statements regarding immediate and long-term storage and curation.
i. Review of original aims and objectives.
j. Statement of the significance of the results in their local, regional, national and international context.
k. Archaeological Research Design (ARD) that sets out how the research aims and objectives of the SSWSIs can be addressed at the analysis stage.
l. Post-excavation analysis method statements.
m. Recommendations for analysis, reporting and publication (including a synopsis of the proposed contents).
n. Proposed resources and programming for those recommendations (task list linked to key personnel, time required, cost and key research questions that the task will answer or facilitate and programme cascade chart).
o. General and detailed plans showing the location of the investigation areas accurately positioned on an OS base with grid co-ordinates and a plan of the identified archaeological remains (to a known scale).
p. Detailed plans and sections/profiles, deposit models etc., to support the narrative.
q. Detailed stratigraphic matrix for each area excavated and how the areas interlink.
r. Photographs and illustrations, including any 3D models.
s. Bibliography.
t. A cross-referenced index to the project archive and summary of contexts.
u. Appendices containing specialist reports.

10.4.5 The post-excavation assessment reports and Updated Project Design (UPD) for the archaeological project will be submitted to the ACoW and the Client for review and comment. The Archaeological Contractor will address any comments that they may

have. The ACoW will issue the revised draft report to the Consultees for comment. In finalising the report, the Archaeological Contractor will take account of the comments of the Consultees.

10.4.6 The scope of the analysis and publication report will be dependent upon the assessment and future discussions to be held with the ACoW, the Client and the Consultees. The analysis stage will be undertaken in accordance with the UPD and will lead to the compilation of a research archive and the production of integrated report texts and illustrations for publication.

10.5 Outline publication and dissemination proposals

10.5.1 A comprehensive publication and dissemination programme that also considers the international context of the investigations will be developed in parallel with the strategy for Public Archaeology and Community Engagement (see Section 14 below).

10.5.2 The format and structure of the publication (headings, word counts, figures and photographs) will be informed by the post-excavation assessment and will be decided by the Archaeological Contractor in consultation with the ACoW and the relevant Consultees and Historic England. It is envisaged that interim reporting related to mitigation will be published on the Archaeology Data Service archive.

10.5.3 Fieldwork updates would be published annually in fieldwork roundups in appropriate local and period journals. Fieldwork data would be fed into the Cambridgeshire and Suffolk Historic Environment Records. Discussions should be held with the relevant HER officers to ensure all relevant data is provided.

10.5.4 The Cambridgeshire Archaeological Archive Facility and the Suffolk County Council Archaeological Archive should be consulted during the publication and dissemination phases of the Scheme, as recipients of the project archive.

10.5.5 It is anticipated that academic publications would take the form of either a multi-period monograph, a series of thematic or chronological monographs, with further reports in the Archaeological Data Service, and/or topic-, theme-, period-, or object-specific articles in appropriate journals, depending on the results of the PEAR. Popular booklets may be produced by the Archaeological Contractor in tandem with formal assessment and analytical reporting.

10.5.6 The final scope and publication outlet/format for the popular and academic publications associated with the Scheme have not yet been decided. However, it is anticipated that these would be print publications also accessible online as open-access publications and would be discussed with the Consultees at the appropriate time. Digital publication, dissemination and stable online archiving via the Archaeology Data Service archive would be prepared/arranged by the Archaeological Contractor.

11 Archives

11.1 Archive security and storage

11.1.1 Archaeological material recovered from fieldwork is irreplaceable. The finds, records and data generated by the fieldwork will be removed from site at the end of each

working day and will be kept secure at all stages of the project (REF 40; and **Appendix B**). The Archaeological Contractor will be responsible for the care of the site archive (records and finds) in their possession and should ensure that adequate resources are in place prior at the start of the fieldwork, including the materials necessary for long-term storage and access to an archaeological conservator. Arrangements should be made for the proper cataloguing and storage of the archive during the project life-cycle (it may be appropriate to liaise with an archive specialist).

11.1.2 Specialist data and reports will clearly state the research potential of the collections, highlighting these for the accessioning museum, as this will ensure that the potential of the collections can be promoted to researchers following deposition.

11.2 Archive consolidation

11.2.1 The Archaeological Contractor should compile a Data Management Plan in line with CIfA guidelines (REF 17) and include details within their SSWSIs. Cambridgeshire Archaeological Archive Facility and the Suffolk County Council Archaeological Archive are stakeholders in this process and should be consulted during the creation of the Data Management Plan.

11.2.2 The Site records and assemblages (list of fieldwork interventions, notebooks/ diaries, context records (including digital records), feature records, structure records, site geomatics (drawings), photographs and films, finds records and associated data files) will constitute the primary Site archive. This is the key archive of the fieldwork project and the raw data upon which all subsequent assessment and analysis and future interpretation will be based. The archive will therefore not be altered or compromised and the Archaeological Contractor is expected to show due diligence and compliance with the digitisation of data.

11.2.3 The Site archive should be quantified, ordered, indexed and made internally consistent, and in line with current good practice (refer to **Appendix B**). All finds and coarse-sieved, and flotation samples will have been processed and stored under appropriate conditions. The archive will also contain a site matrix, a summary of key findings and descriptions of artefactual and environmental assemblages. The content of an outline structure for a fieldwork archive is presented in MoRPHE, Appendix 1, Product P1 and Product P3 (REF 11).

11.2.4 The Archaeological Contractor will, prior to the start of fieldwork, liaise with the Cambridgeshire and Suffolk Historic Environment Record offices to obtain agreement in principle to accept the physical, documentary, digital and photographic archive for long-term storage. This will include the agreement of a retention and disposal policy that is consistent and compliant with both archives. The Archaeological Contractor will be responsible for identifying any specific requirements, archiving costs or policies of the recipient repository in respect of the archive, and for adhering to those requirements.

11.2.5 Discussions are currently ongoing with the Consultees and receiving museums archive officers for the process for the deposition of a digital archive via ADS. This is not yet resolved, but pertains to a non-paper archive of records from sites. Consideration must be given by the Archaeological Contractor as to how the digital archive will be dealt with.

11.2.6 Each archaeological mitigation area will have its own unique accession number, which will be obtained from the CHER and SCC office by the Archaeological Contractor in advance of the fieldwork, to ensure that the project is recorded in accordance with the requirements of the local authority. The unique accession number will be recorded in the Archaeological Contractor's SSWSIs.

11.2.7 The archive of finds and records generated during the fieldwork will be removed from the Site at the end of each day and kept secure at all stages of the project until it is deposited with the Cambridgeshire Archaeological Archive Facility and Suffolk County Council Archaeological Archive. The archive will be produced to current national standards (refer to **Appendix B**) and in line with the *Deposition of archaeological archives in Cambridgeshire* (REF 41) and in line with deposition guidance from the Cambridgeshire Archaeological Archive Facility and Suffolk County Council Archaeological Archive.

11.2.8 The deposition of the archive forms the final stage of this project. The Archaeological Contractor shall provide the ACoW with copies of communication with the accredited repository and written confirmation of the deposition of the archive.

12 Health and safety

12.1.1 The works fall within the definition of Construction Work as defined under the Construction Design and Management (CDM) Regulations. The Archaeological Contractor will be appointed by the Principal Contractor who will act as Principal Contractor at all stages of the archaeological site works.

12.1.2 All staff employed by the Archaeological Contractor shall attend the Principal Contractor's site induction. The Archaeological Contractor will prepare Risk Assessment(s), and a project specific Health and Safety Plan and submit these to the Principal Contractor for approval prior to starting on site.

12.1.3 The Archaeological Contractor's site supervisor will be qualified to Site Managers Safety Training Scheme (SMSTS) level. All other staff involved in the fieldwork should hold the applicable Construction Skills Certification Scheme (CSCS) qualification and be qualified to a minimum standard of 'Archaeologist Technician'. Staff CVs should include SMSTS and CSCS qualifications and expiry dates.

12.1.4 The Principal Contractor will provide the Archaeological Contractor with the results of recently conducted service and utility searches. No archaeological works should commence without a Permit to Dig. This should include confirmation that the locations of any services are marked, and that any additional safety measures required to ensure that each area is safe prior to commencement of mitigation work are in place.

12.1.5 The Archaeological Contractor will utilise a CAT and Genny as required to be operated by personnel with a CAT4+ qualification.

12.1.6 The Archaeological Contractor shall at all times maintain a safe working distance from the overhead and buried services/utilities. In addition, the Archaeological Contractor shall be responsible for any requirements with regard to work in the vicinity of watercourses.

12.1.7 The Archaeological Contractor's Risk Assessment(s) and project Health and Safety Plan shall make reference to relevant guidance and good practice (for example: Health and Safety Executive SEGS6 - Avoidance of Danger from Overhead Lines; HS(G)47 - Avoiding Danger from Underground Services; Energy Networks Association The Safe Use of Mechanical Plant in the Vicinity of Electricity Overhead Lines; PAS 128 – Specification for underground utility detection, verification and location; and Model Procedures for the Management of Land Contamination, CLR 11).

12.1.8 The Archaeological Contractor's site supervisor will maintain a record of site attendance and attend the Principal Contractor's daily briefing at the start of work for each day.

12.1.9 All site personnel will wear personal protective equipment (PPE) as defined by the Archaeological Contractor's approved risk assessment undertaken in accordance with mandatory requirements. Any visitors to the investigations will require a site induction in accordance with the Principal Contractor's Health and Safety requirements and will have read the appropriate Archaeological Contractor's site-specific Risk Assessment and Method Statement. All equipment that is used in the course of the fieldwork must be 'fit for purpose' and be maintained in a sound working condition that complies with all relevant Health and Safety regulations and recommendations.

12.1.10 As a minimum, PPE shall consist of a hard hat, steel toe-capped boots with mid-sole protection, a high visibility jacket or vest with sleeves, high visibility trousers, safety glasses and gloves. Additional PPE will be issued by the Archaeological Contractor as required, e.g. ear defenders, masks etc. In addition, site personnel will ensure that any visitors to the excavation are equipped with suitable PPE prior to entry to the site.

12.1.11 The Archaeological Contractor will assure the provision and maintenance of adequate, suitable and sufficient welfare and sanitary facilities at appropriate locations for the duration of the works. The locations for the temporary site welfare facilities and vehicle parking will be agreed with the Principal Contractor prior to the start of the works. Facilities, roles and responsibilities shall adhere to the provisions of The Construction (Design and Management) Regulations 2015 and related Health and Safety Executive guidance.

12.1.12 All staff and visitors involved in the fieldwork should be suitably qualified. Visitors to the site (including, but not limited to, the Consultees, specialists etc) must abide by the Principal Contractor's visitor protocols and induction process. All regular visitors to the site must have undertaken the full induction process or access to site will not be permitted.

12.1.13 All site personnel will familiarise themselves with the following:

a. Site emergency and evacuation procedures.
b. The site's health & safety coordinator.
c. The first aider.
d. The location of the nearest hospital and doctor's surgery.

e. The supervisor will maintain a record of site attendance for each day that there is a team in the field.

13 Public archaeology and community engagement

13.1 Introduction

13.1.1 This Public Archaeology and Community Engagement (PACE) Strategy presents the overarching strategy for the outreach and engagement programme associated with the Scheme.

13.1.2 The Strategy includes site-based activities, initiatives to be undertaken while site work is ongoing, and activities to be undertaken throughout the post-excavation phase.

13.1.3 The initiatives aim to maximise the potential influence and learning opportunities resulting from the archaeological works, providing information to the widest variety of audiences, ranging from members of the public living in the vicinity of the Scheme to visitors to the area.

13.1.4 It is acknowledged that the events and activities proposed often attract the same group of people every time, generally including those who would frequent local museums and heritage attractions. The Strategy set out below is intended to also reach those who would not usually engage with archaeology or community heritage in the wider area, to create a lasting legacy to the archaeological and other heritage works undertaken as part of the Scheme.

13.1.5 The post-excavation phase will focus on making information available in more permanent formats, such as exhibitions, printed and pdf format booklets and web-based media. Lectures could be provided to groups with a specific interest in the archaeology of the area during this phase, though it is noted that this form of outreach is self-selecting and not especially effective in reaching significant audiences: resources are better focused on more general information provision.

13.2 Aims and objectives

13.2.1 Key research objectives have been identified for the mitigation phase of the Scheme to ensure that research is focused on the principal questions that the Scheme should answer. The evidence from these sites also has wider implications for the archaeology of the UK as a whole.

13.2.2 The aim of the PACE Strategy will be to raise awareness of the significance of the archaeological landscape, to provide a lasting legacy of the archaeological works, and to encourage the enjoyment, interaction and engagement with the archaeological process and discoveries arising from the mitigation works undertaken along the Scheme.

13.2.3 The objectives of the PACE programme will be:

a. Engagement and appreciation: Encouraging engagement with and appreciation of the archaeological landscape.

b. Provide a sense of place: Encouraging a connection to the area for local residents and visitors.

c. Knowledge about archaeology along the Scheme corridor: Advancing public understanding and stimulating interest and public curiosity about archaeology across the Scheme.

d. Public understanding of developer-led archaeology: Making the archaeological process more understandable for the public, explaining why the sites selected for investigation have been chosen.

e. Accessible learning: Creating accessible learning opportunities for people to be involved in actively discovering more about their past.

f. Disseminating fieldwork information: Disseminating information about the archaeology of the Scheme to schools, the local community, local societies and groups with a keen interest in history and archaeology, and the academic community via a variety of platforms.

g. Sharing research: Showcasing the research impact of development-led archaeological fieldwork and how it can inform our understanding of the past with local and national audiences, including academic interest.

h. Inclusive participation: Encouraging engagement with those that may not normally engage with archaeology or local history.

13.3 Audience mapping

13.3.1 A successful PACE Strategy must consider both who the audience is and the activities they want to partake in. The Strategy should be tailored to meet the needs of the identified audience, and provide engaging activities to add enjoyment. Outreach has traditionally been focused on a similar range of activities, such as public talks and site tours, but consideration should be given to other activities to widen the audience.

13.3.2 A recent report on *Heritage, Health and Wellbeing* from the Heritage Alliance (REF 42) states that the intended audience should be engaged with from the outset. They state: “Your target audience is likely to know what will work for them. By engaging with them from the very beginning, you can shape your project to suit their needs most appropriately.”

13.3.3 This was reflected in the lessons learnt from the A14 Cambridge to Huntingdon Scheme (REF 43). This scheme found that implementing the community engagement at an earlier point in the project would have allowed for communication with local community groups to identify their “needs or desires”.

13.3.4 The activities presented in the Suggested Activities section below are just that – suggestions. The audience mapping will dictate the requirements of the identified audiences and the types of activities they will engage with and will be set out in the PACE Strategy.

13.3.5 To undertake the audience mapping, the Archaeological Contractor should utilise existing datasets available in relation to audiences in the region, then liaise with relevant groups to identify their needs.

13.3.6 The initial analysis will inform the key proposals for engagement activities and themes which should be refined through consultation with the groups identified. The limitations of COVID-19 at the time these activities take place must also be

considered. All outreach activities should be provided in a manner that is COVID secure and safe.

13.3.7 The PACE Strategy is likely to predominantly focus on those communities directly impacted by the Scheme, or in its immediate vicinity, specifically those people living and working adjacent to the Scheme. The academic community at relevant universities may also be targeted, through activities such as presentations at conferences, along with the promotion of events or exhibits that may engage with or encourage those who do not normally engage with those targeted by these sorts of events. This will increase the impact of the outreach and the overall project legacy.

13.3.8 Audiences could comprise:

a. Local communities, particularly those in villages close to the Scheme.
b. Primary and secondary school pupils and teachers.
c. Local history groups, both within the Scheme area and the wider area, including history groups in other villages in the wider area.
d. Members of local archaeology, history and civic societies.
e. Council for British Archaeology (CBA) Young Archaeology Clubs, CBA regional groups.
f. Higher education students, including archaeology students.
g. Academic archaeologists and members of subject and period specialist societies.
h. Relevant elected members.
i. Interest-focused and period-focused archaeological research groups.
j. Visitors to the area and people travelling through the landscape.

13.3.9 Other groups should not be discounted at this stage.

13.4 Suggested activities

13.4.1 A range of outreach and public archaeology activities should be proposed. These need to be tailored to the wants and needs of the differing audiences to maximise benefit. The audience mapping will be key to developing this.

13.4.2 Activities should be split across the different phases of archaeological work, including excavation and post-excavation. Later phases of work will provide different types of activity, although there will be some overlap (such as talks to local groups).

13.4.3 The lessons learnt from the A14 Cambridge to Huntingdon (REF 43) should be considered when planning events. That document includes detailed information and feedback on the activities that took place.

13.4.4 The following list of suggested activities may not all take place, and other activity types may be more appropriate. As stated above, the audience mapping will determine the exact requirements.

13.4.5 At all stages the research questions of the Scheme as set out in this DAMS should be considered, to ensure that the knowledge gained from the Scheme is disseminated to the public.

13.4.6 Activities that could be considered are as followed. Please note that this list is not exhaustive, and it is possible that following audience mapping some activities may not be wanted by the target audiences, and that other activities could be identified:

a. A series of presentations to local groups and communities post-excavation.
b. Site tours during excavations.
c. Liaison with local schools, including educational events, talks and finds handling, continuing to participate in STEM (Science, technology, engineering, and mathematics) events as well as the provision of teaching materials.
d. Provision of information via social media platforms.
e. Attendance at local history, archaeology or other heritage events.
f. Production of one or more popular publications, on the Scheme as a whole, or covering thematic topics. A booklet for children should be considered.
g. Contribution to academic and professional conferences (such as CIfA) and publication of papers.
h. Artefact handling sessions.
i. Volunteer involvement in off-site post-excavation, such as finds cleaning, processing and recording, subject to regulations regarding the use of volunteers on development-led archaeological projects.

13.5 Measuring impact

13.5.1 The impact of the outreach and public engagement activities shall be measured to identify the change of participant's perceptions of heritage, as well as to identify any benefits to wellbeing, sense of place, social interaction, provision of creative and cultural opportunities and understanding of archaeology and the Scheme.

13.5.2 Data will need to be collated prior to the start of the PACE activities to provide a baseline against which to measure. Ongoing data collection will be required to allow change to be assessed. Feedback survey forms should be provided at events to allow the procurement of data, or 'exit surveys' undertaken at events.

13.5.3 All survey and feedback information (hard copy, social media analytics and visitor comments) should be collated and presented in an accessible, distilled format within a report that describes the intended and actual outcomes of the programme. This should also consider lessons learnt from the PACE activities from the Scheme.

14 References

REF 1	Environmental Statement - Appendix 7D - Sunnica West Site Archaeological Desk Based Assessment
REF 2	Environmental Statement - Appendix 7C - Sunnica East Site Archaeological Desk Based Assessment
REF 3	Environmental Statement - Appendix 7E - Burwell Substation Extension and Cable Route Archaeological Desk Based Assessment
REF 4	Appendix 7F - Sunnica East and West Geophysical Survey Report
REF 5	Environmental Statement - Appendix 7I - Sunnica West Sites A and B Archaeological Trial Trenching Report
REF 6	Environmental Statement - Appendix 7H - Interim Sunnica East Sites A and B Archaeological Trial Trenching Report
REF 7	Environmental Statement - Appendix 16C - Framework Construction Environmental Management Plan
REF 8	Environmental Statement - Chapter 7 - Cultural Heritage
REF 9	Current Overarching National Policy Statement for Energy (EN-1) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf Draft for Consultation Department for Business, Energy & Industrial Strategy (2021) Draft Overarching National Policy Statement for Energy (EN-1). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015233/en-1-draft-for-consultation.pdf.
REF 10	National Planning Policy Framework https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf
REF 11	Historic England (2015a) Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide. [redacted]
REF 12	Chartered Institute for Archaeologists (CIfA) (2021) Code of Conduct. [redacted]
REF 13	Chartered Institute for Archaeologists (CIfA) (2020a) Standard and guidance for archaeological excavation. [redacted]
REF 14	Chartered Institute for Archaeologists (CIfA) (2020b) Standard and guidance for an archaeological watching brief. [redacted]
REF 15	Chartered Institute for Archaeologists (CIfA) (2020c) Standard and guidance for archaeological field evaluation. [redacted]
REF 16	Chartered Institute for Archaeologists (CIfA) (2020d) Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives.

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REF 18	Medlycott, M. 2011. 'Research and Archaeology Revisited: a revised framework for the East of England'. East Anglian Archaeology, Occasional Paper No.24. Association of Local Government Archaeological Officers East of England.
REF 19	Haselgrove, C., Armit, I., Champion, T., Creighton, J., Gwilt, A., Hill, J. D., Hunter, F. and Woodward, A. (2001) Understanding the British Iron Age: an agenda for action. A Report for the Iron Age Research Seminar and the Council of the Prehistoric Society.
REF 20	Smith, A., Allen, Martyn, Brindle, T. & Fulford, M. (2016) The Rural Settlement of Roman Britain Britannia Monograph Series No. 29, published by the Society for the Promotion of Roman Studies.
REF 21	Highways England (2019) A303 Amesbury to Berwick Down: Final Detailed Archaeological Mitigation Strategy (DAMS). TR010025
REF 22	High Speed Two (HS2) Limited (2017) Historic Environment Research and Delivery Strategy Phase One. [redacted]
REF 23	Chartered Institute for Archaeologists (2020f) Standard and guidance for historic environment desk-based assessment. [redacted]
REF 24	Brudenell, M. 2018. Late Bronze Age to Middle Iron Age, c.1150–100BC. In East Anglian Archaeology Regional Research Framework Review Draft Summary. [redacted]
REF 25	Association of Local Government Archaeological Officers (ALGAO) Review of the Regional Historic Environment Research Framework for the East of England. [redacted]
REF 26	Cooper, A. (2019) Early to Middle Bronze Age 2500 – 1150 BC. Review of the Regional Historic Environment Research Framework for the East of England. [redacted]
REF 27	Evans, C. (2019) Late Iron Age & Roman. Regional Research Framework, draft frameworks for the East of England.
REF 28	McKinley, J. (1993) by Excavation and post-excavation treatment of cremated and inhumed human remains. Institute of Field Archaeologists.
REF 29	Mitchell, P. D and Brickley, M (2017) Updated guidelines to the standards for recording human remains. Chartered Institute for Archaeologists.
REF 30	Historic England (2018) The Role of the Human Osteologist in an Archaeological Fieldwork Project. [redacted]
REF 31	Historic England (2015) Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record. [redacted]
REF 32	Historic England (2011) Environmental Archaeology; A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation. [redacted]

REF 33	Historic England (2011) Animal Bones and Archaeology: Recovery to archive. [redacted]
REF 34	The Stationery Office, Burial Act (1857).
REF 35	The Stationery Office, Treasure Act (1996)
REF 36	The Stationery Office, Treasure (Designation) Order (2002)
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REF 38	Chartered Institute for Archaeologists (2019) Toolkit for Selecting Archaeological Archives. [redacted]
REF 39	Chartered Institute for Archaeologists (2014) Standard and guidance for the archaeological investigation and recording of standing buildings or structures. [redacted]
REF 40	Brown, D, H, 2011 Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation, Second edition, Archaeological Archives Forum.
REF 41	Cambridgeshire County Council (2020) Deposition of archaeological archives in Cambridgeshire. https://www.cambridgeshire.gov.uk/asset-library/Guidelines-for-the-deposition-of-archaeological-archives-in-Cambridgeshire-v5-2020.pdf
REF 42	Heritage Alliance (2020) Heritage, Health and Wellbeing: A Heritage Alliance Report, [redacted]
REF 43	MHI (2019) A14 Community Archaeology Final Report, Unpublished document

Appendix A Figures

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THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

LEGEND

- The Order Limits
- Archaeological Mitigations Area
- Developable Area

Sheet Layout

Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
SUNNICA LTD

Project Title
sunnica energy farm

Drawing Title
FIGURE 1 OVERVIEW OF SCHEME ARCHAEOLOGICAL MITIGATION AREAS

Drawn	Checked	Approved	Date
HW	LL	NC	10/01/2023

AECOM Internal Project No.	Scale @ A3
60589004	1:42,000

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Rev: 0

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LEGEND

- The Order Limits
- Archaeological Mitigation Area
- Developable Area

Sheet Layout

Purpose of Issue

DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client

SUNNICA LTD

Project Title

Drawing Title

FIGURE 2 OVERVIEW OF SUNNICA EAST ARCHAEOLOGICAL MITIGATION AREAS

Drawn	Checked	Approved	Date
HW	LL	NC	09/01/2023

AECOM Internal Project No.	Scale @ A3
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Rev: 0

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LEGEND

- The Order
- Archaeological Mitigations Area
- Developable Area

Sheet Layout

Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
SUNNICA LTD

Project Title
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Drawing Title
FIGURE 3 OVERVIEW OF SUNNICA WEST ARCHAEOLOGICAL MITIGATION AREAS

Drawn	Checked	Approved	Date
HW	LL	NC	09/01/2023

AECOM Internal Project No.	Scale @ A3
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LEGEND

- The Order Limits
- Geophysical Interpretation (Line)
- Trench
- Developable Area
- Proposed Woodland (new planting or infilling of existing vegetation)
- Retained Woodland
- SEF_MAG_Geophysical_In...
- Geophysical Interpretation (Area)
- Archaeological Feature
- Deposits
- Modern Features

Sheet Layout

Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
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Project Title
sunnica energy farm

Drawing Title
FIGURE 4 E01 AND E02
ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
HW	LL	NC	16/12/2022

AECOM Internal Project No.	Scale @ A3
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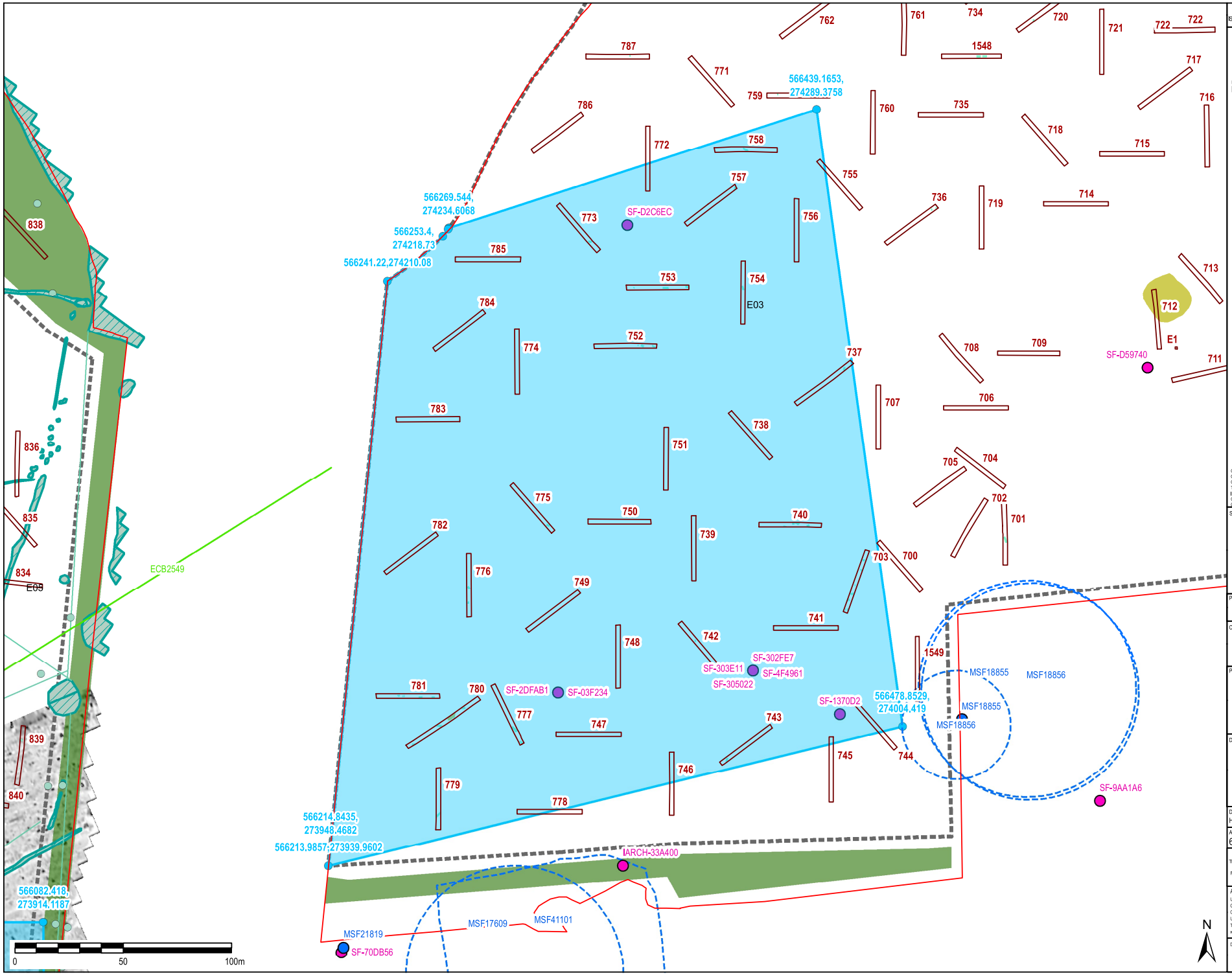

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LEGEND

- The Order
- 2km Area of Search
- Archaeological Mitigation
- Developable Area
- Trench
- Geophysical Interpretation
- Geophysical Interpretation
- Geophysical Interpretation
- Deposits
- Interventions
- HER Event - Line
- HER Monument - Point
- HER Monument - Area
- PAS Find -
- Proposed Woodland (new planting or infilling of existing vegetation)

Sheet Layout

Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
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Project Title
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Drawing Title
FIGURE 5 E01
ARCHAEOLOGICAL MITIGATION AREA

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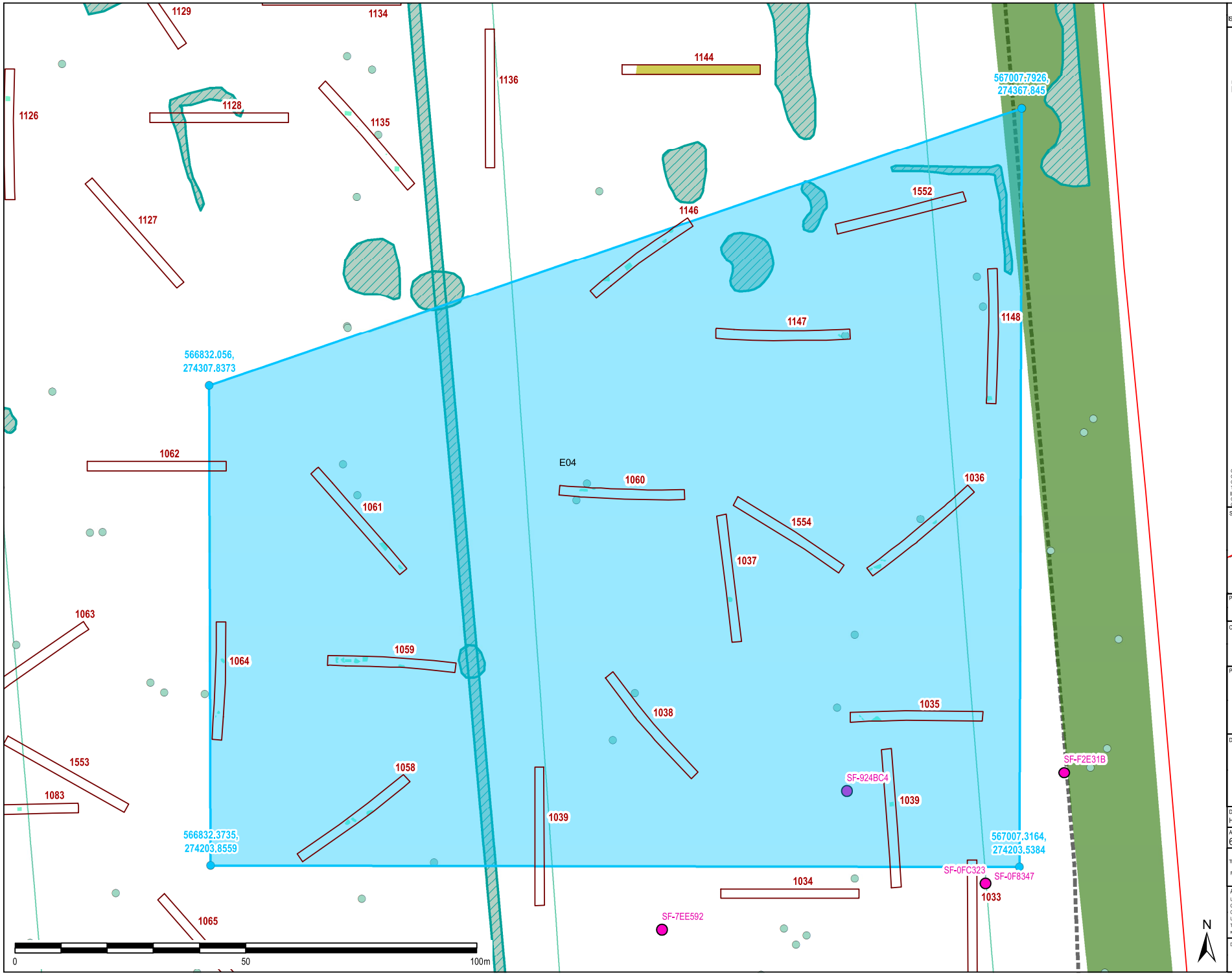

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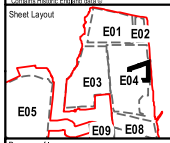
LEGEND

- The Order
- 2km Area of Search
- Archaeological Mitigation
- Developable Area
- Trench
- Geophysical Interpretation
- Geophysical Interpretation
- Geophysical Interpretation
- Deposits
- Interventions
- PAS Find -
- Proposed Woodland (new planting or infilling of existing vegetation)

Sheet Layout



Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
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Project Title
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Drawing Title
FIGURE 6 E04A ARCHAEOLOGICAL MITIGATION AREA

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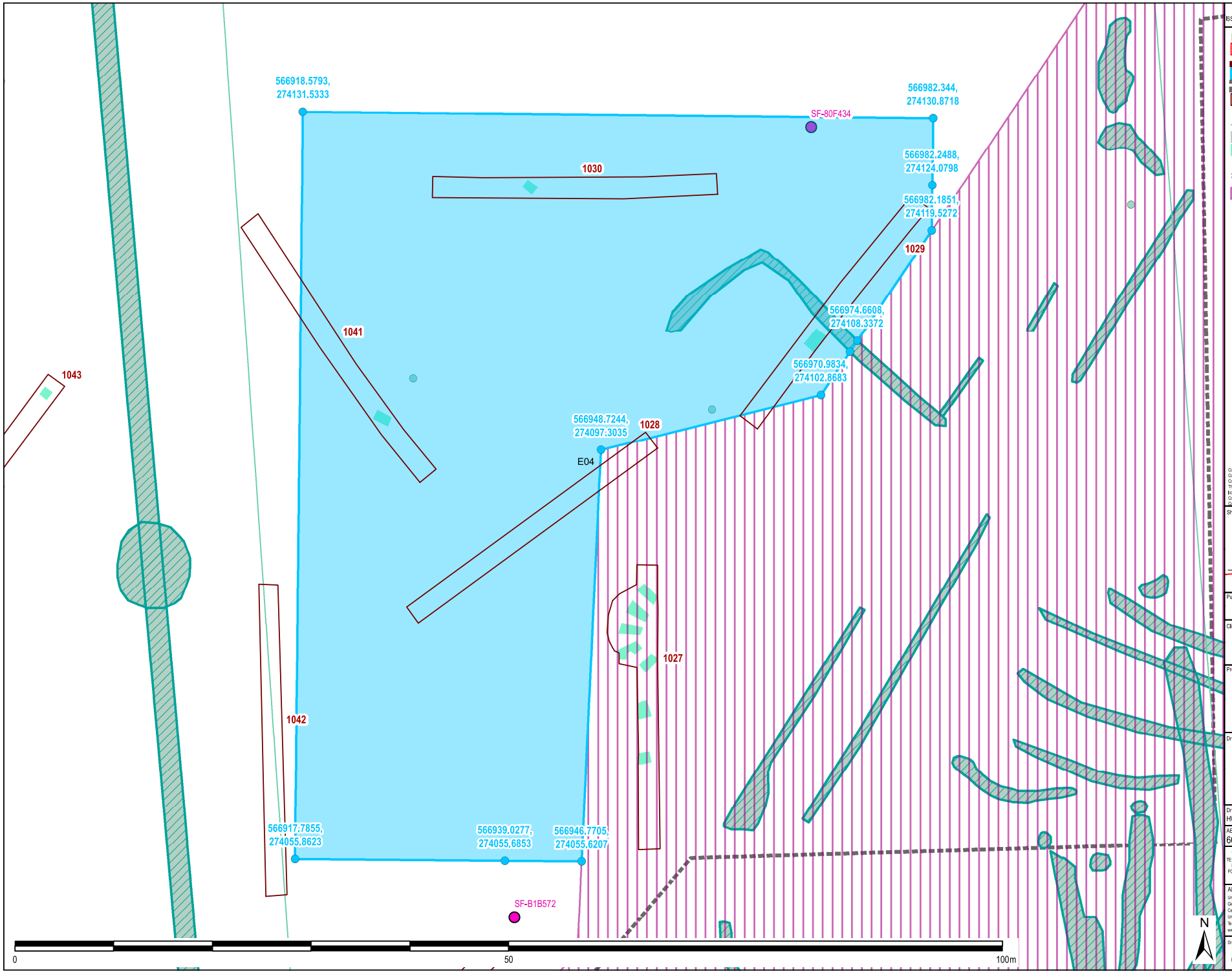

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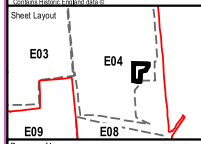
LEGEND

- The Order Limits
- 2km Area of Search
- Archaeological Mitigation
- Developable Area'
- Trench
- Geophysical Interpretation (Point)
- Geophysical Interpretation (Line)
- Geophysical Interpretation (Area)
- Interventions
- PAS Find - Point

Strategic Environmental Plan

- Native Grassland Planting within Archaeological Mitigation Areas

Sheet Layout



Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
SUNNICA LTD

Project Title
sunnica energy farm

Drawing Title
FIGURE 7 E04B ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
HW	LL	HM	16/12/2022

AECOM Internal Project No.	Scale @ A3
60589004	1:350

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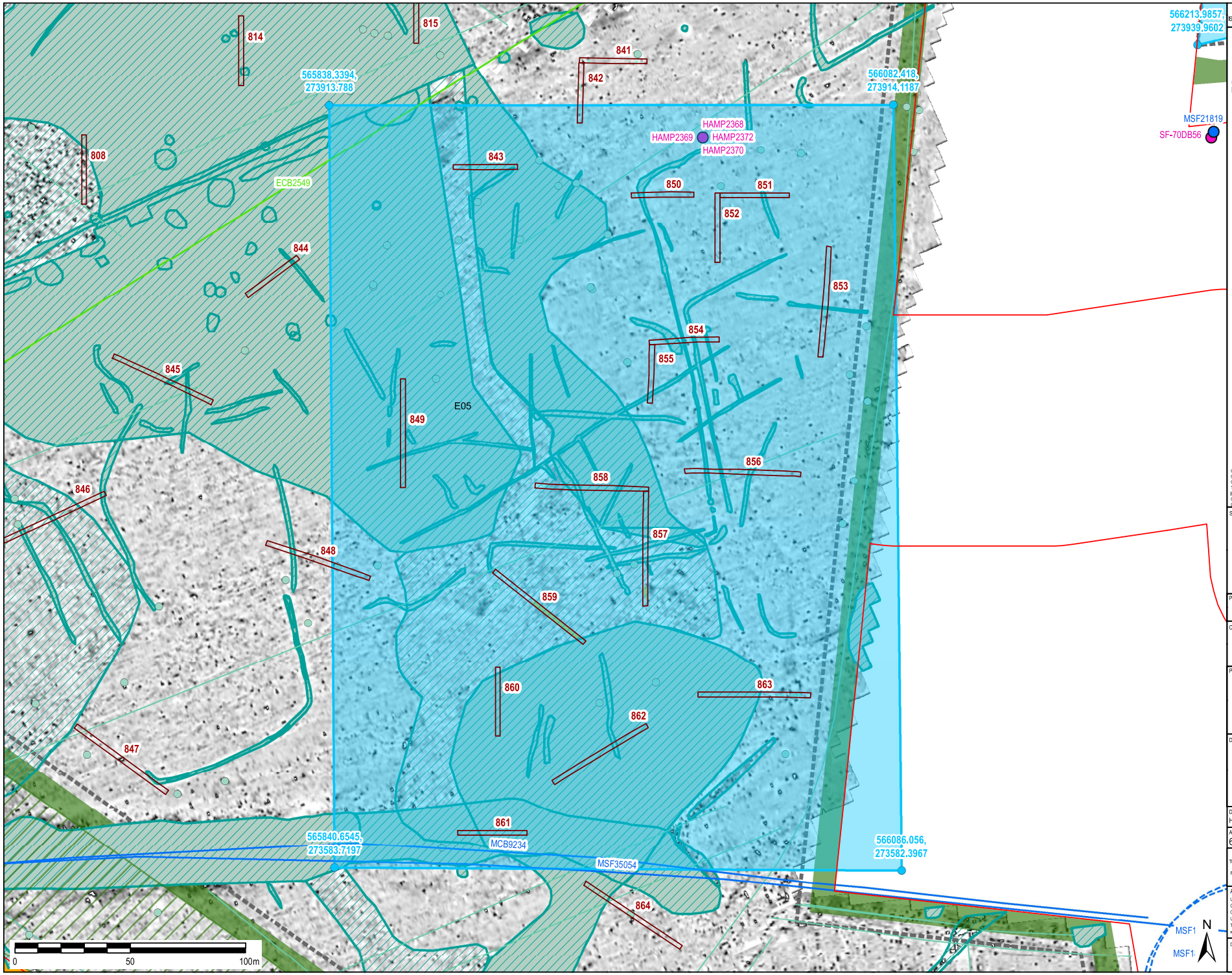

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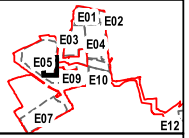
LEGEND

- The Order Limits
- 2km Area of Search
- Archaeological Mitigation
- Developable Area
- Trench
- Public Highway within Scheme
- Geophysical Interpretation (Point)
- Geophysical Interpretation (Line)
- Geophysical Interpretation (Area)
- Deposits
- Interventions
- HER Event - Line
- HER Monument - Point
- HER Monument - Line
- HER Monument - Area
- PAS Find - Point

Strategic Environmental Plan

- Native Grassland Planting
- Proposed Woodland (new planting or infilling of existing vegetation)

Sheet Layout



Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
SUNNICA LTD

Project Title
sunnica energy farm

Drawing Title
FIGURE 8 E05 ARCHAEOLOGICAL MITIGATION AREA

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HW	LL	HM	16/12/2022

AECOM Internal Project No.	Scale @ A3
60589004	1:1,500

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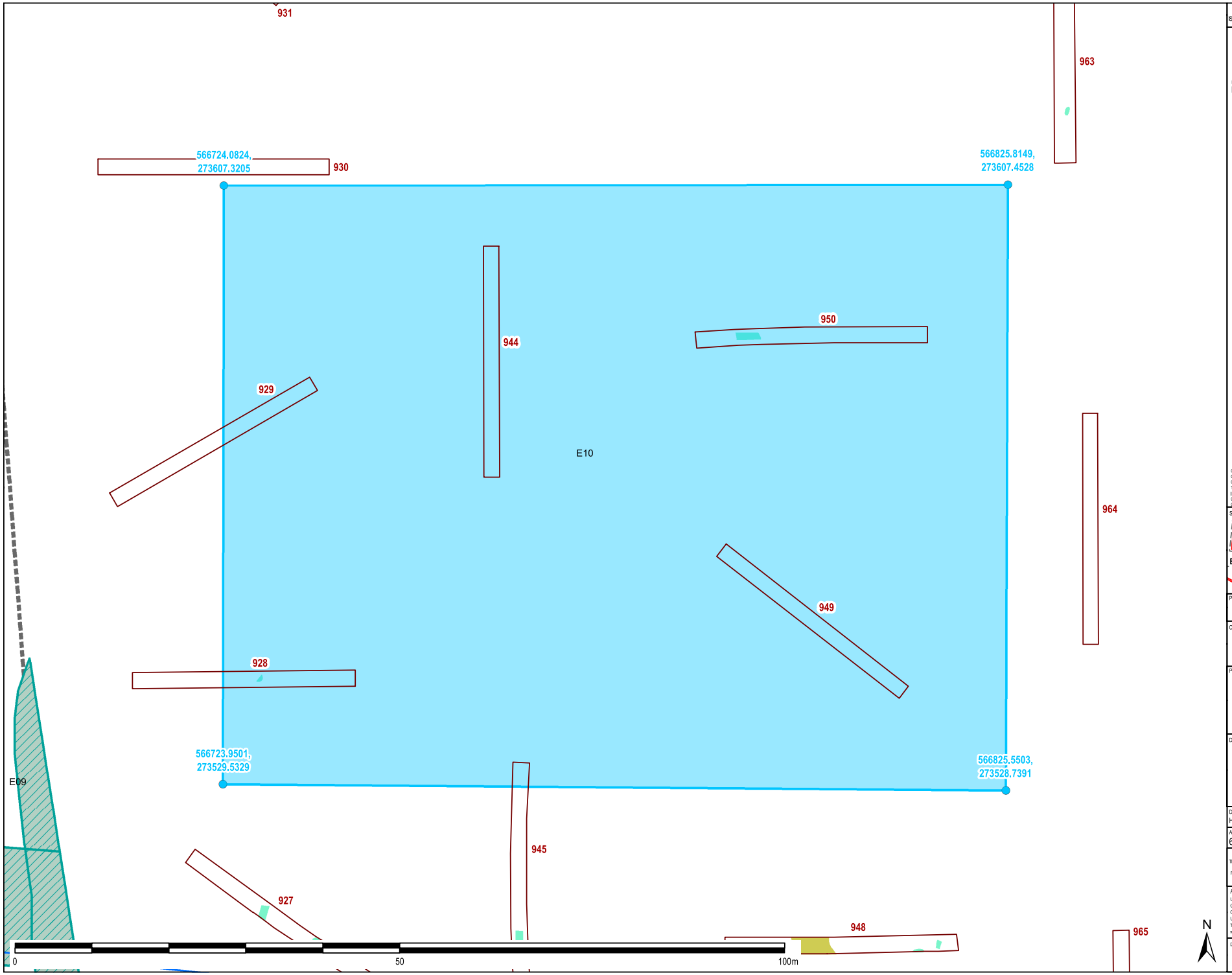

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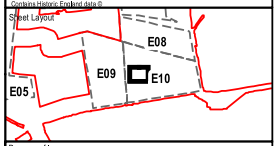
LEGEND

- The Order Limits
- 2km Area of Search
- Archaeological Mitigation
- Developable Area
- Trench
- Geophysical Interpretation
- Deposits
- Interventions
- HER Monument - Line

Sheet Layout



Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
SUNNICA LTD

Project Title
sunnica energy farm

Drawing Title
FIGURE 9 E10 ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
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AECOM Internal Project No.	Scale @ A3
60589004	1:450

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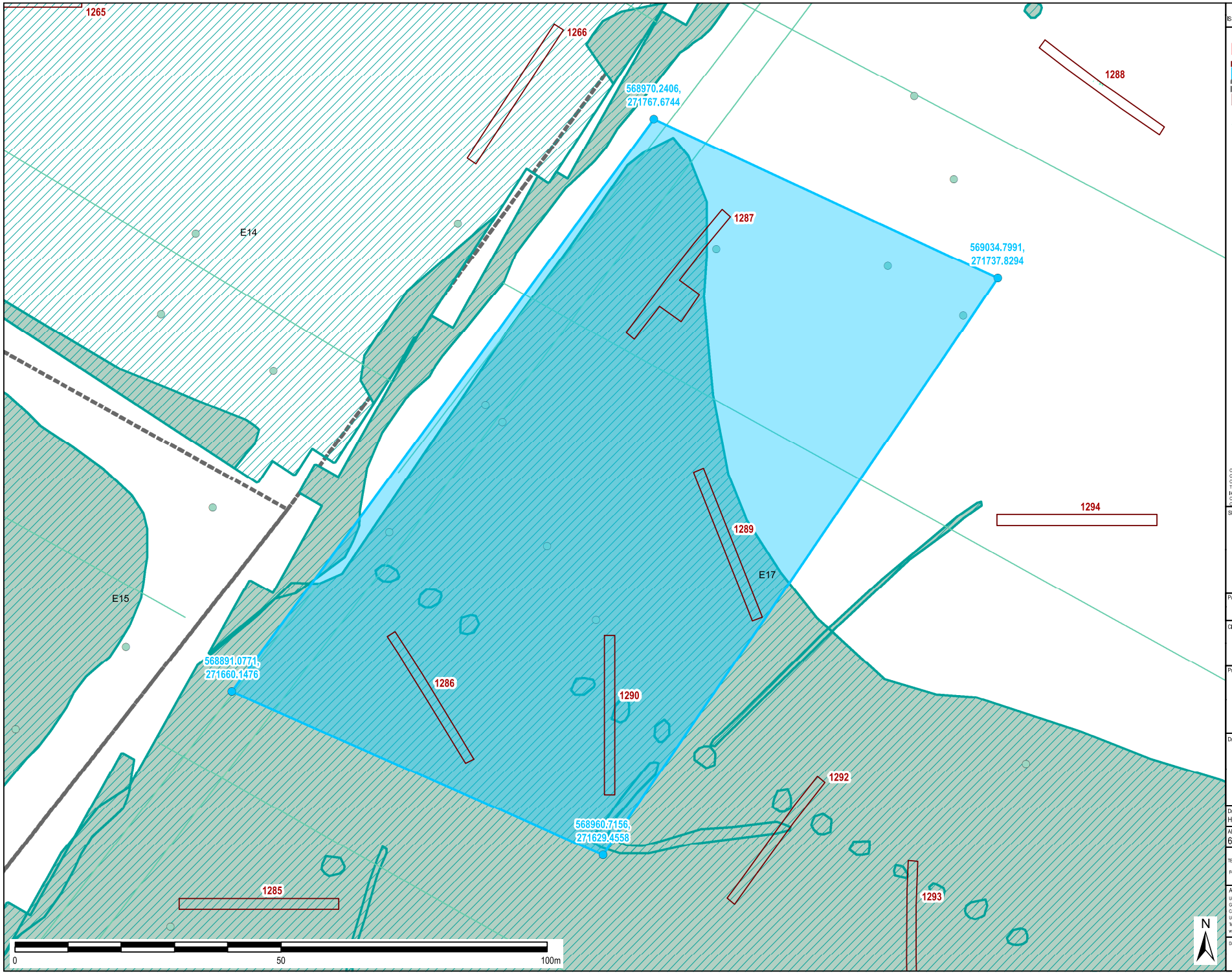
File Name:C:\Users\WaggonH\Documents\01_Projects\221212_Sunnica_Andrew_New\221214_SunnicaEnergyFarm_DAMS\221214_SunnicaEnergyFarm_ArchaeologicalMitigationAreas_DDP_DAMS1.mxd



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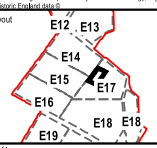
LEGEND

- The Order
- 2km Area of Search
- Archaeological Mitigation
- Developable Area
- Trench
- Geophysical Interpretation
- Geophysical Interpretation
- Geophysical Interpretation

Sheet Layout



Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
SUNNICA LTD

Project Title
sunnica energy farm

Drawing Title
FIGURE 10 E17 ARCHAEOLOGICAL MITIGATION AREA

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AECOM Internal Project No.	Scale @ A3
60589004	1:650

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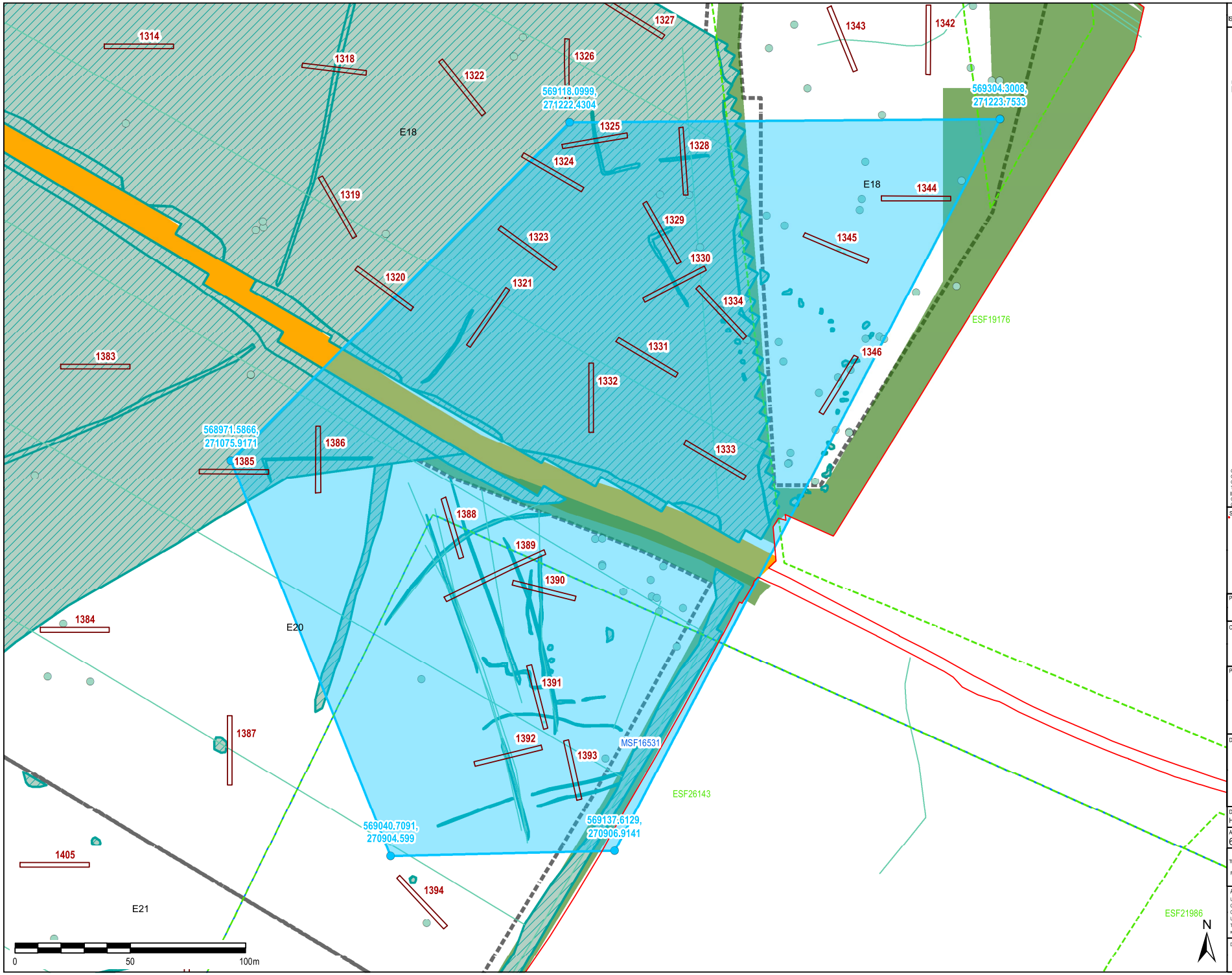

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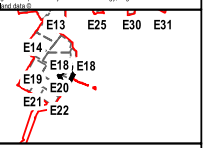
LEGEND

- The Order
- 2km Area of Search
- Archaeological Mitigation
- Developable Area
- Trench
- Public Highway within Scheme
- Geophysical Interpretation
- Geophysical Interpretation
- Geophysical Interpretation
- HER Event - Area
- HER Monument - Area
- Proposed Woodland (new planting or infilling of existing vegetation)

Sheet Layout



Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
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Project Title
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Drawing Title
FIGURE 11 E18 AND E20 ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
HW	LL	HM	16/12/2022

AECOM Internal Project No.	Scale @ A3
60589004	1:1,500

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LEGEND

- The Order Limits
- Geophysical Interpretation (Line)
- Trench
- Developable Area
- Proposed Woodland (new planting or infilling of existing vegetation)
- Retained Woodland
- SEF_MAG_Geophysical_In...
- Geophysical Interpretation (Area)
- Archaeological Feature
- Deposits
- Modern Features

Sheet Layout

Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
SUNNICA LTD

Project Title
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Drawing Title
FIGURE 12 E19
ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
HW	LL	NC	16/12/2022

AECOM Internal Project No.	Scale @ A3
60589004	1:2,528

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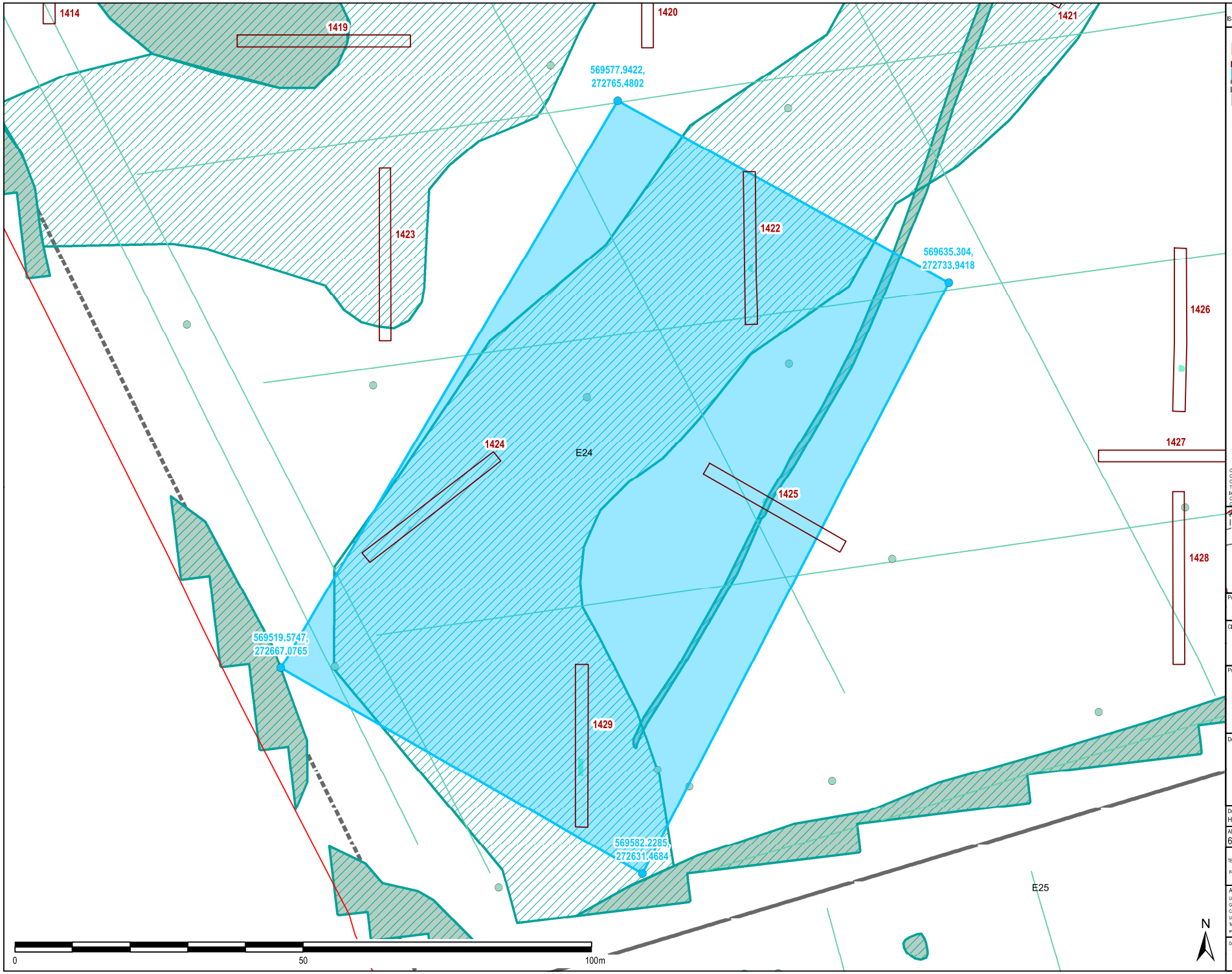
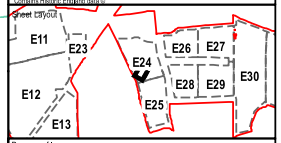


LEGEND

- The Order Limits
- 2km Area of Search
- Archaeological Mitigation
- Developable Area
- Trench
- Geophysical Interpretation (Point)
- Geophysical Interpretation (Line)
- Geophysical Interpretation (Area)
- Interventions

Sheet Layout



Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
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Project Title
sunnica energy farm

Drawing Title
FIGURE 13 E24 ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
HW	LL	HM	16/12/2022

AECOM Internal Project No.	Scale @ A3
60589004	1:600

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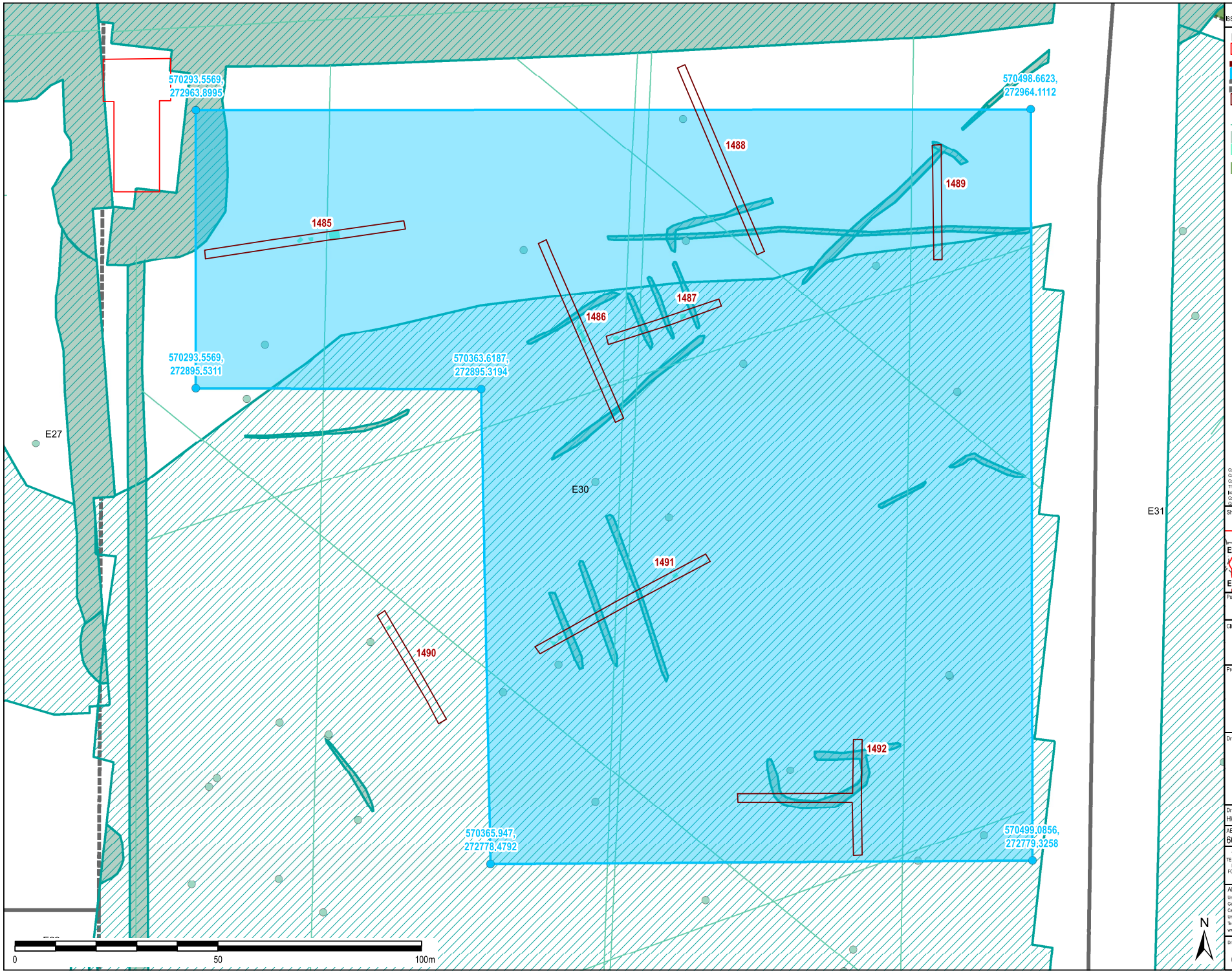

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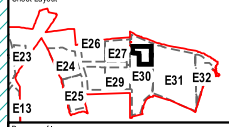
LEGEND

- The Order Limits
- 2km Area of Search
- Archaeological Mitigation
- Developable Area
- Trench
- Geophysical Interpretation
- Geophysical Interpretation
- Geophysical Interpretation
- Interventions
- Proposed Woodland (new planting or infilling of existing vegetation)

Sheet Layout



Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
SUNNICA LTD

Project Title
sunnica energy farm

Drawing Title
FIGURE 14 E30 ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
HW	LL	HM	16/12/2022

AECOM Internal Project No.	Scale @ A3
60589004	1:850

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60589004_DCO_GPHS_009	0

File Name:C:\Users\WaggornH\Documents\01_Projects\221212_Sunnica_Andrew_New\221214_SunnicaEnergyFarm_DAMS\221214_SunnicaEnergyFarm_ArchaeologicalMitigationAreas_DDP_DAMS1.mxd

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LEGEND

- The Order Limits
- Trench
- Archaeological Mitigation Area

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563806, 269078

563455, 268947

563765, 268950

563836, 268954

563,481, 268835

564262, 268824

564419, 268872

564499, 268681

565023, 268256

564946, 268170

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N

Sheet Layout

Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
SUNNICA LTD

Project Title
sunnica energy farm

Drawing Title
FIGURE 15 W01 CABLE CORRIDOR ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
HW	LL	NC	16/12/2022

AECOM Internal Project No.	Scale @ A3
60589004	1:5,000

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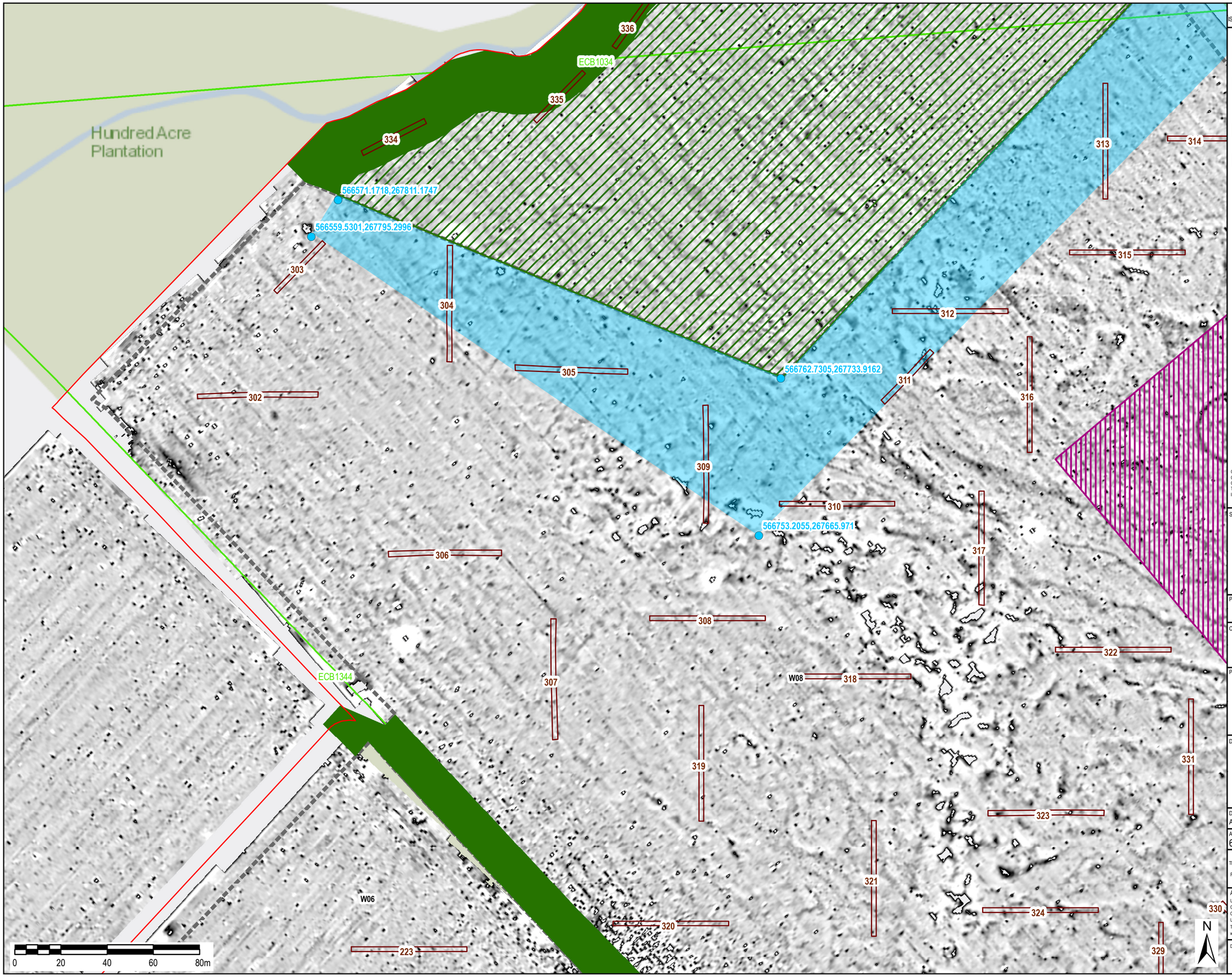
File Name:\\eu.aecomnet.com\UKUKCBG1\Jobs\PR.334327_Sunnica_Energy_Farm\400_Technical\434_Technical Disciplines\17. GIS\Layout\DCO\03_Archaeological_Mitigation_Areas\Maps\230104_SunnicaEnergyFarm_DAMS\221213_SunnicaEnergyFarm_WestB.mxd



THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

LEGEND

- The Order Limits
- HER Event - Line
- Trench
- Archaeological Mitigation Area
- Native Grassland Planting
- Native Grassland Planting within Archaeological Mitigation Areas
- Proposed Woodland (new planting or infilling of existing vegetation)
- Retained Woodland

Sheet Layout

Purpose of Issue: DCO

Client: SUNNICA LTD

Project Title: sunnica energy farm

Drawing Title: FIGURE 16 W08 ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
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AECOM Internal Project No.	Scale @ A3
60589004	1:1,500

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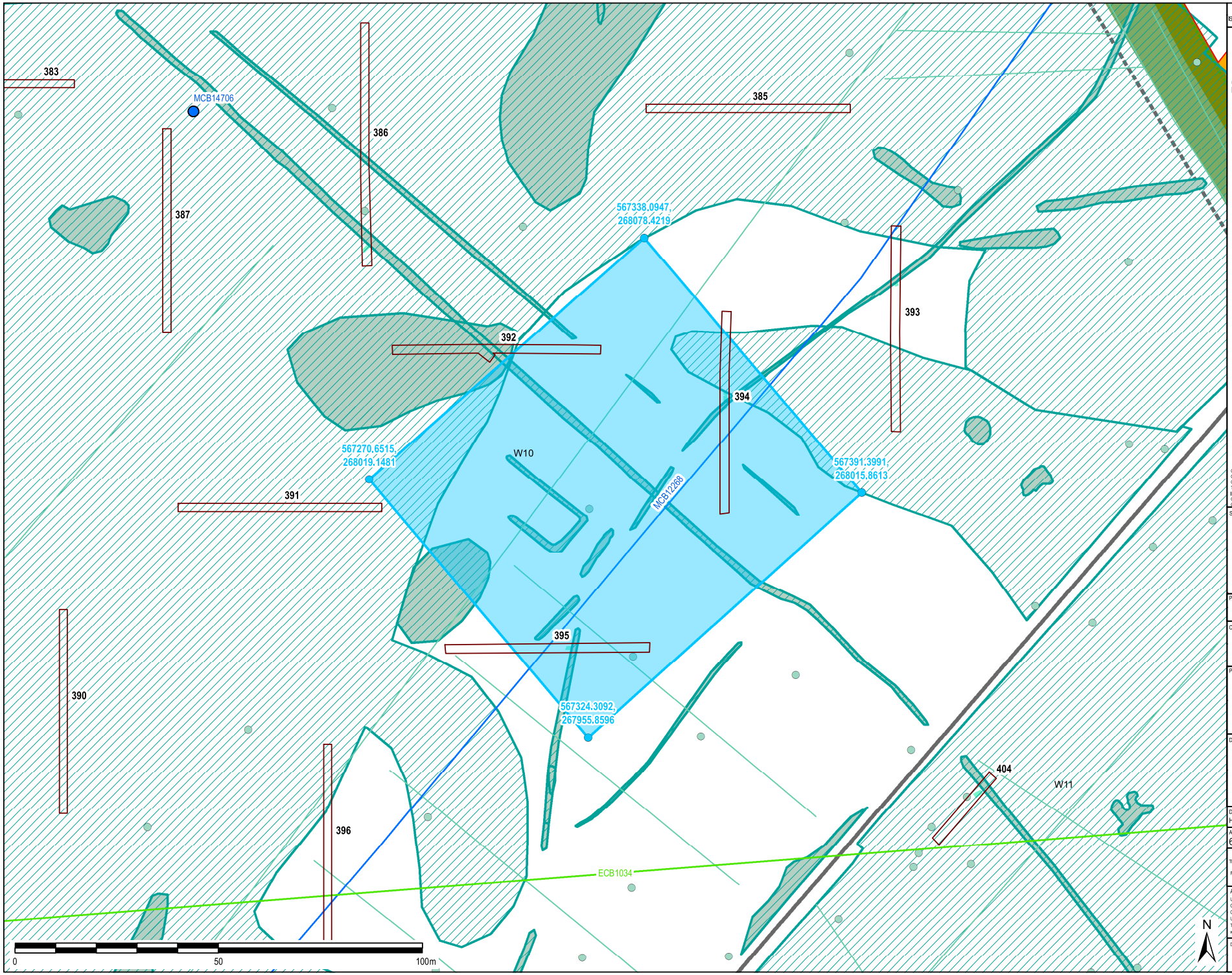

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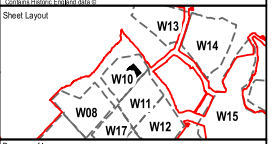
LEGEND

- The Order Limits
- 2km Area of Search
- Archaeological Mitigation
- Developable Area
- Proposed Hedgerow (new planting or infilling of existing vegetation)
- Public Highway within Scheme
- Geophysical Interpretation (Point)
- Geophysical Interpretation (Line)
- Geophysical Interpretation (Area)
- Interventions
- HER Event - Line
- HER Monument - Point
- HER Monument - Line
- Proposed Woodland (new planting or infilling of existing vegetation)

Sheet Layout



Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
SUNNICA LTD

Project Title
sunnica energy farm

Drawing Title
FIGURE 17 W10 ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
HW	LL	HM	16/12/2022

AECOM Internal Project No.	Scale @ A3
60589004	1:850

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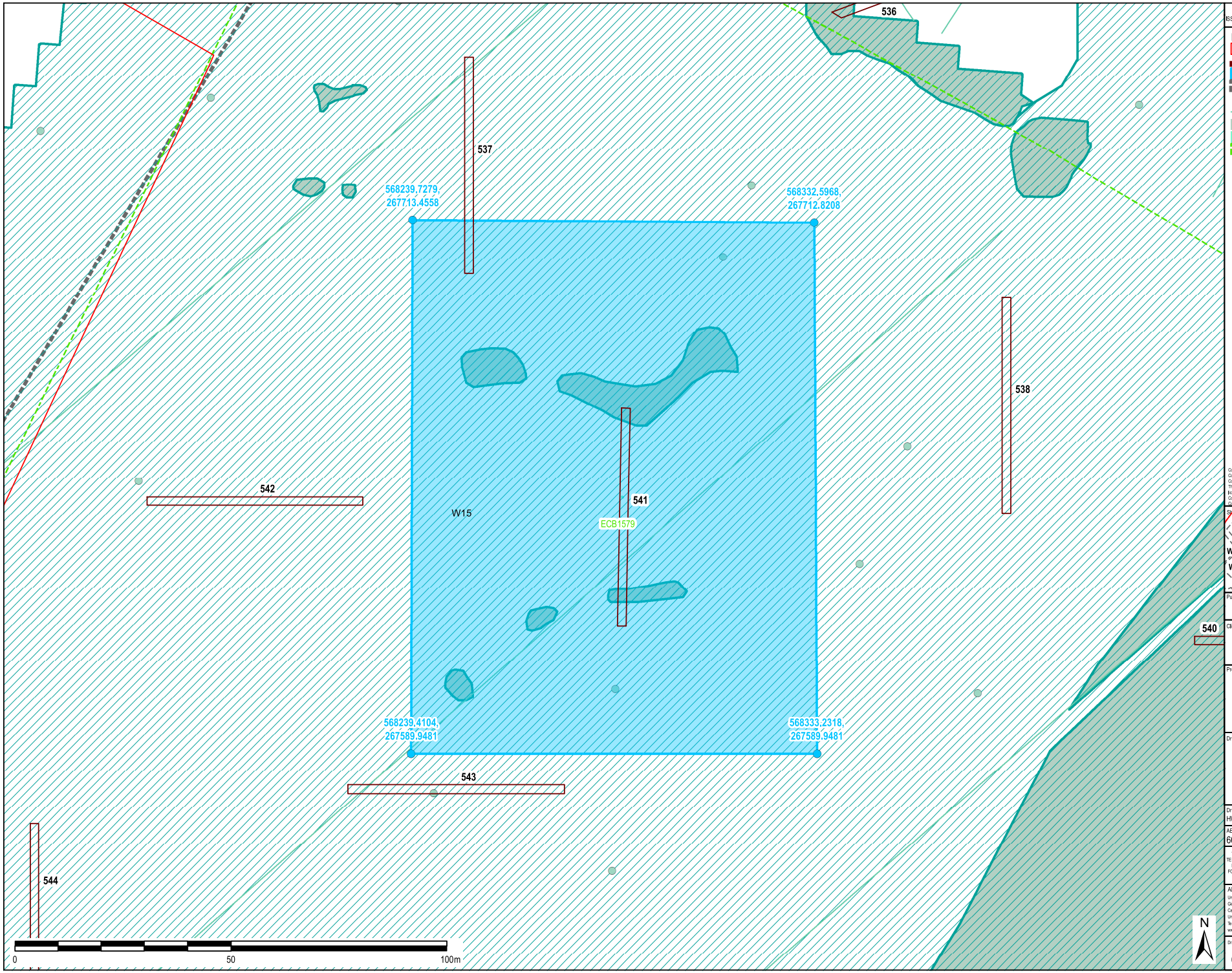

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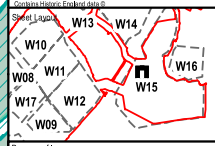
LEGEND

- The Order
- 2km Area of Search
- Archaeological Mitigation
- Developable Area
- Geophysical Interpretation
- Geophysical Interpretation
- Geophysical Interpretation
- Interventions
- HER Event - Area

Sheet Layout



Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
SUNNICA LTD

Project Title
sunnica energy farm

Drawing Title
FIGURE 18 W15 ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
HW	LL	HM	16/12/2022

AECOM Internal Project No.	Scale @ A3
60589004	1:800

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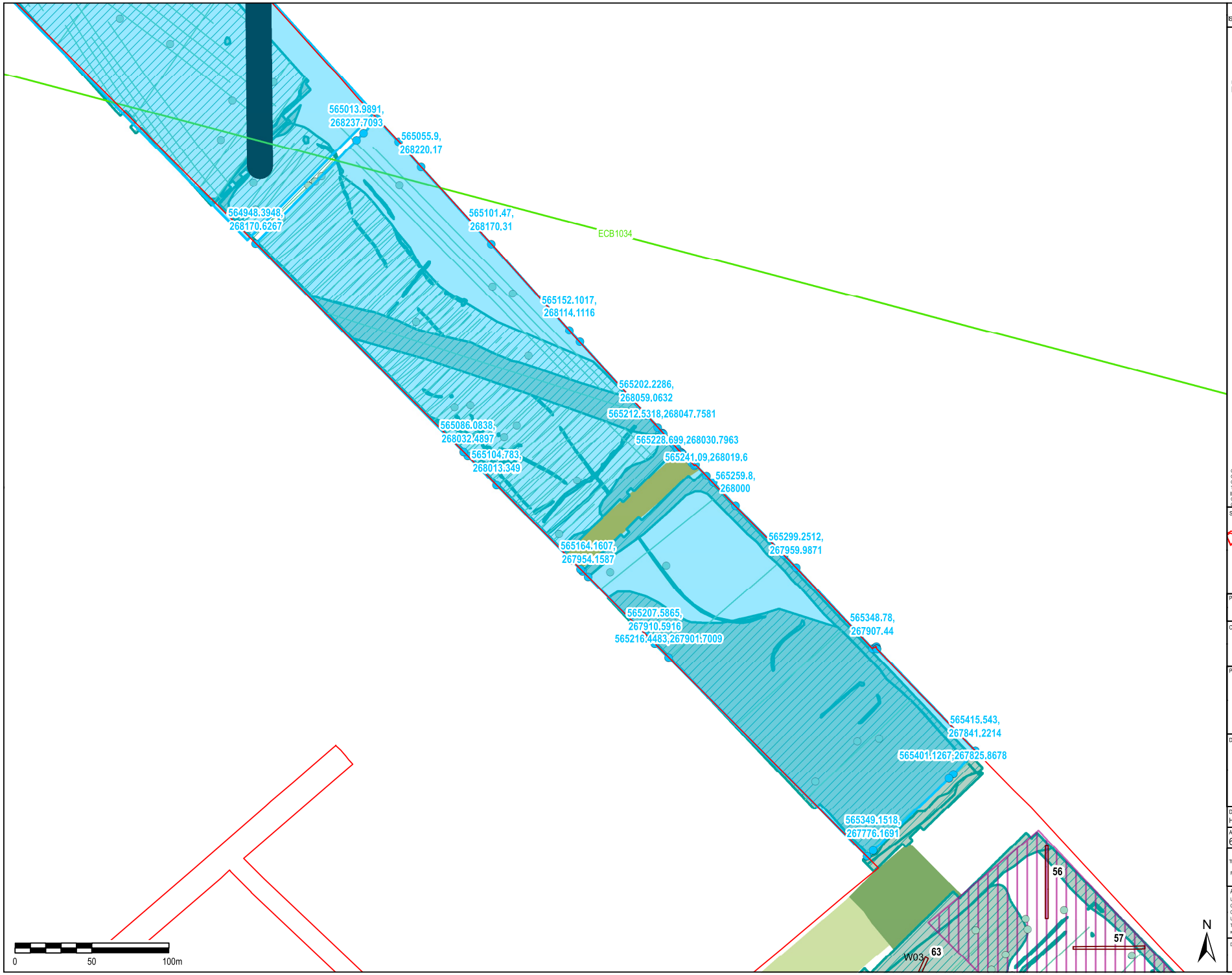

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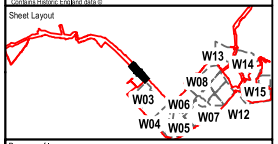
LEGEND

- The Order
- 2km Area of Search
- Archaeological Mitigation
- Developable Area
- Public Highway within Scheme
- Geophysical Interpretation
- Geophysical Interpretation
- Geophysical Interpretation
- Interventions
- HER Event - Line

Strategic Environmental

- Native Grassland Planting within Archaeological Mitigation Areas
- Proposed Woodland (new planting or infilling of existing vegetation)
- Retained

Sheet Layout



Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
SUNNICA LTD

Project Title
sunnica energy farm

Drawing Title
FIGURE 19 CR 2 AND 3 ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
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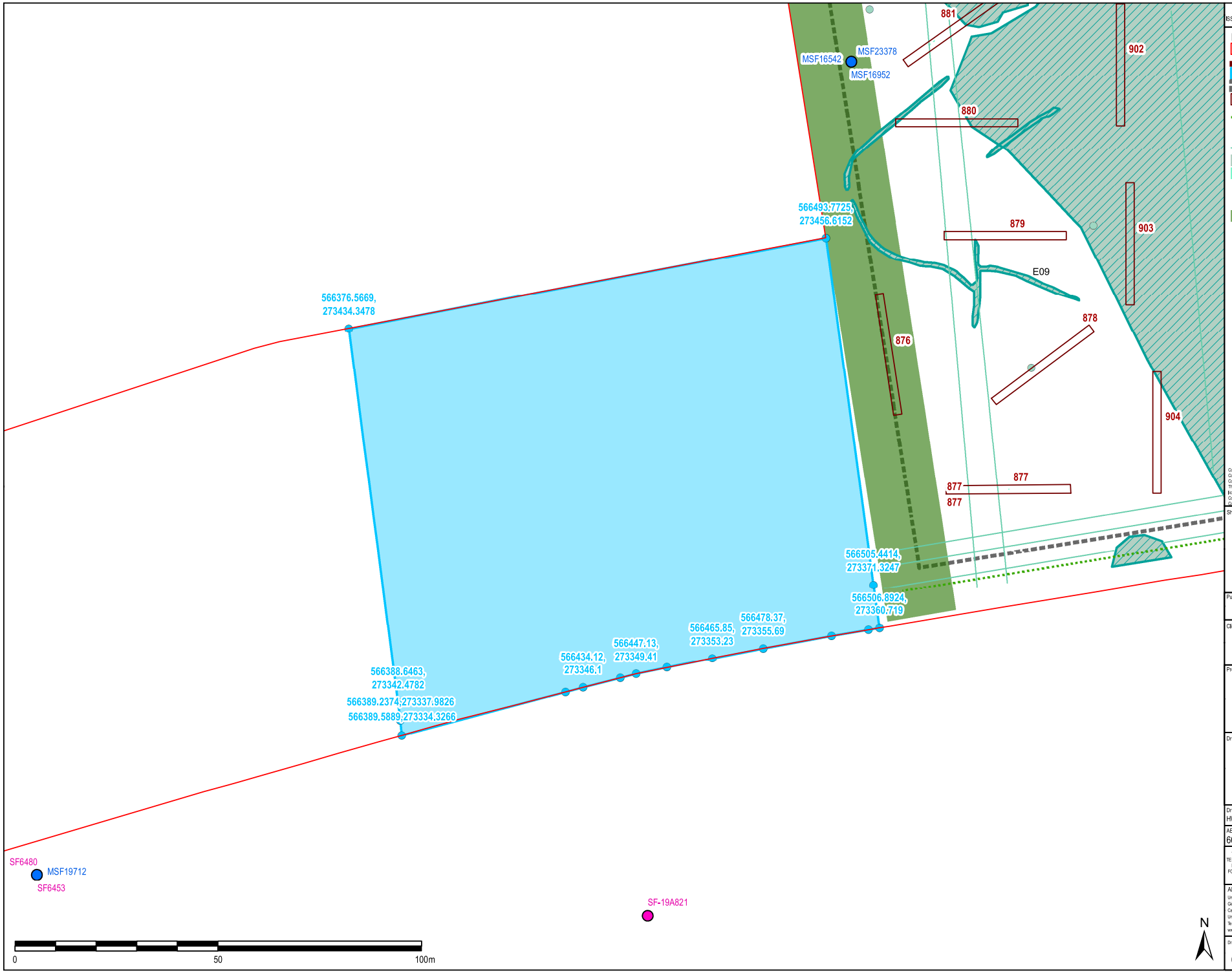

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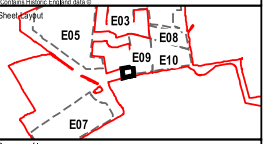
LEGEND

- The Order
- 2km Area of Search
- Archaeological Mitigation
- Developable Area
- Trench
- Proposed Hedgerow (new planting or infilling of existing vegetation)
- Geophysical Interpretation
- Geophysical Interpretation
- Geophysical Interpretation
- HER Monument - Point
- PAS Find -
- Proposed Woodland (new planting or infilling of existing vegetation)

Sheet Layout



Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
SUNNICA LTD

Project Title
sunnica energy farm

Drawing Title
FIGURE 20 CR 10 ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
HW	LL	HM	16/12/2022

AECOM Internal Project No.	Scale @ A3
60589004	1:850

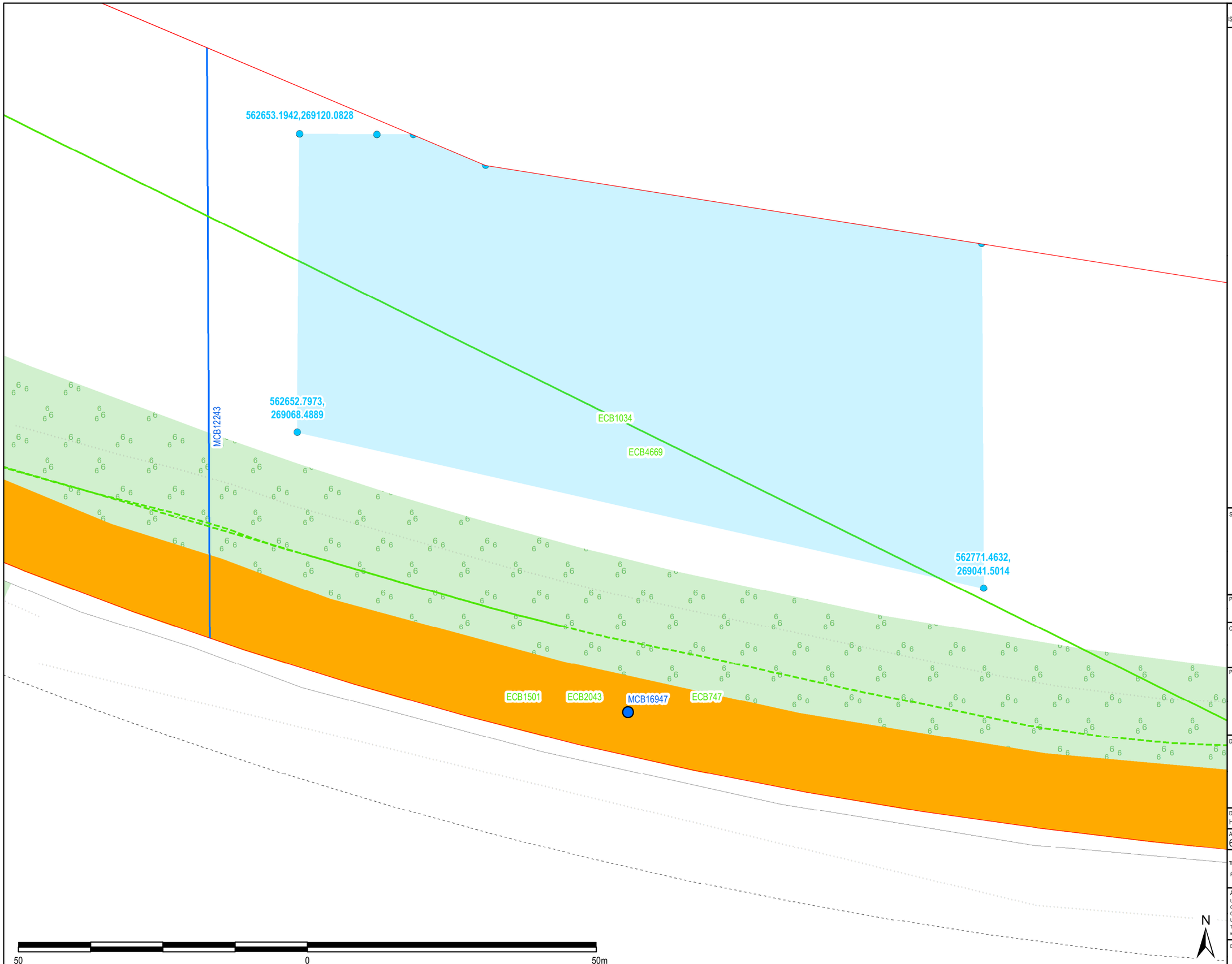
AECOM
Unit 1 Wellbrook Court,
Girton,
Cambridge, CB3 0NA
United Kingdom
Telephone (01223) 488000
www.aecom.com

AECOM

Drawing Number
60589004_DCO_GPHS_016

Rev
0

File Name:C:\Users\WaggornH\Documents\01_Projects\221212_Sunnica_Andrew_New\221214_SunnicaEnergyFarm_DAMS\221214_SunnicaEnergyFarm_ArchaeologicalMitigationAreas_DDP_DAMS1.mxd



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THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

LEGEND

- The Order Limits
- Archaeological Mitigation Areas
- HER Event - Line
- HER Monument - Line
- Trench
- HER Monument - Area
- Proposed Woodland (new planting or infilling of existing vegetation)
- Retained Woodland
- Registered Park and Garden
- Native Grassland Planting
- Native Grassland Planting within Archaeological Mitigation Areas
- Native Grassland/Wetland
- Heritage Offset with additional planting along The Avenue

Sheet Layout

Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
SUNNICA LTD

Project Title
sunnica energy farm

Drawing Title
FIGURE 21 CR37 ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
HW	LL	NC	04/01/2023

AECOM Internal Project No.	Scale @ A3
60589004	1:600

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Unit 1 Wellbrook Court,
Girton,
Cambridge, CB3 0NA
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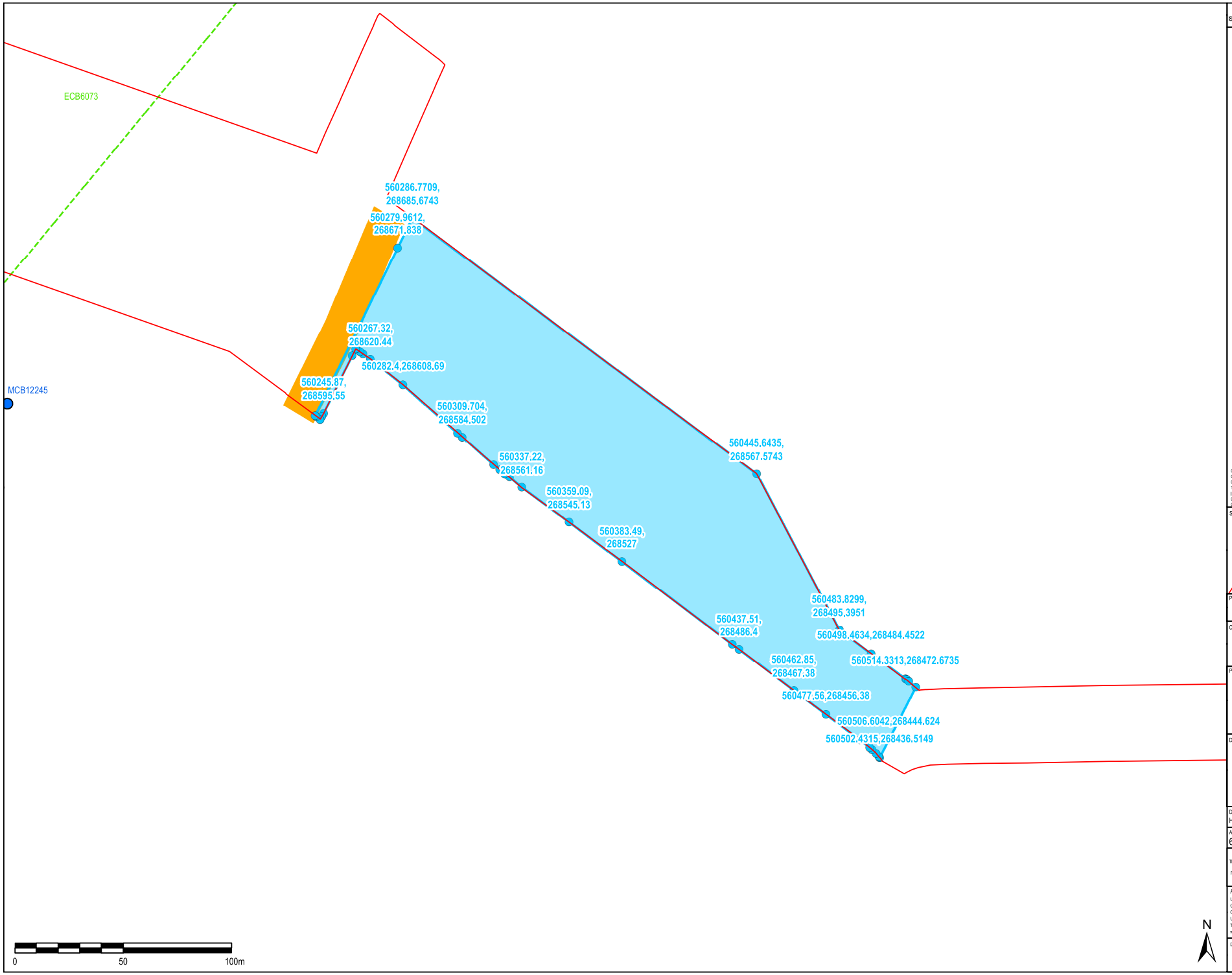
Drawing Number	Rev
60589004_DAMS_SA_003	0



THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

LEGEND

- The Order Limits
- 2km Area of Search
- Archaeological Mitigation
- Public Highway within Scheme
- HER Event - Area
- HER Monument - Point

Sheet Layout

Purpose of Issue
DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client
SUNNICA LTD

Project Title
sunnica energy farm

Drawing Title
FIGURE 22 CR 39 AND 40 ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
HW	LL	HM	16/12/2022

AECOM Internal Project No.	Scale @ A3
60589004	1:1,600

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Drawing Number
60589004_DCO_GPHS_0.20

Rev
0

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MCB8084

559658.1035, 268775.0053

ECB6073

559741.6841, 268727.4028

50 0 50m

N

LEGEND

- The Order Limits
- Archaeological Mitigation Area
- HER Event - Line
- HER Monument - Line
- Trench
- HER Monument - Area
- Proposed Woodland (new planting or infilling of existing vegetation)
- Retained Woodland
- Registered Park and Garden
- Native Grassland Planting
- Native Grassland Planting within Archaeological Mitigation Areas
- Native Grassland/Wetland
- Heritage Offset with additional planting along The Avenue

Sheet Layout

Purpose of Issue

DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY

Client

SUNNICA LTD

Project Title

sunnica energy farm

Drawing Title

FIGURE 23 CR 41 AND 56
ARCHAEOLOGICAL MITIGATION AREA

Drawn	Checked	Approved	Date
HW	LL	NC	04/01/2023

AECOM Internal Project No.	Scale @ A3
60589004	1:1,250

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Drawing Number	Rev
60589004_DAMS_SA_003	0

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Appendix B Standards and guidance

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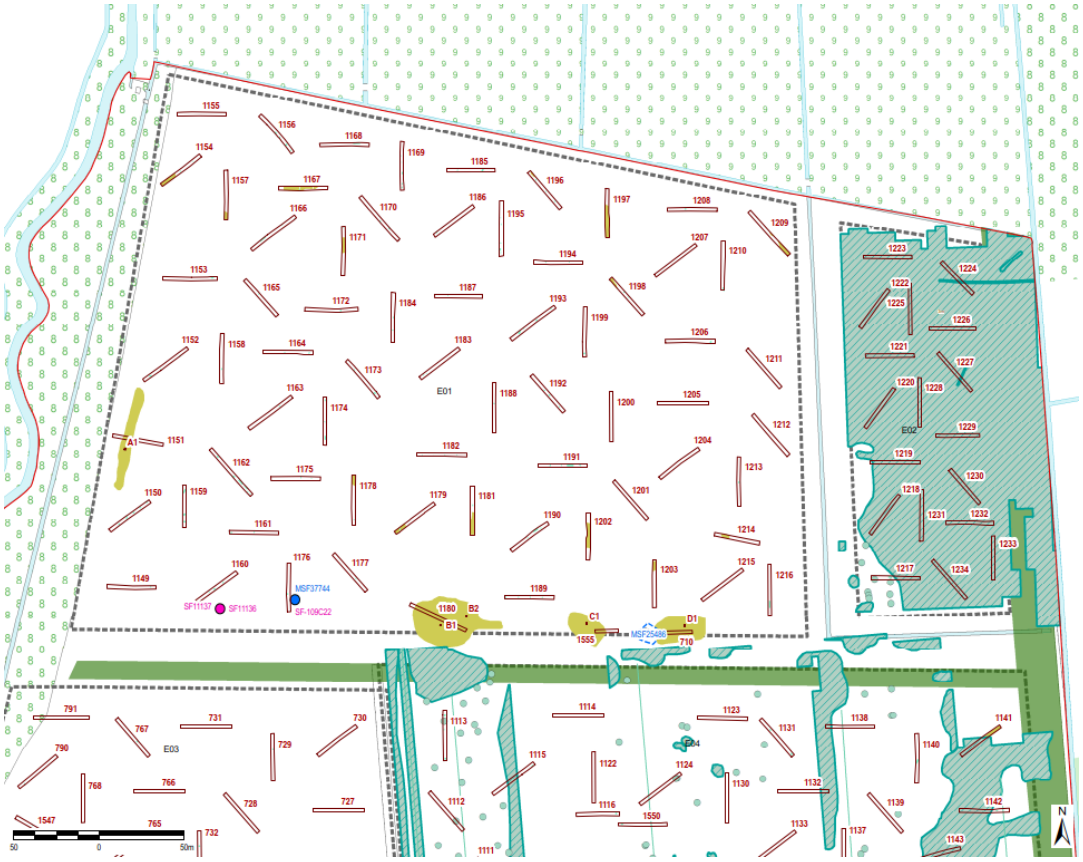
Appendix C Joint Cambridgeshire/Suffolk brief for a programme of archaeological investigation

Awaiting joint Brief from the Councils.

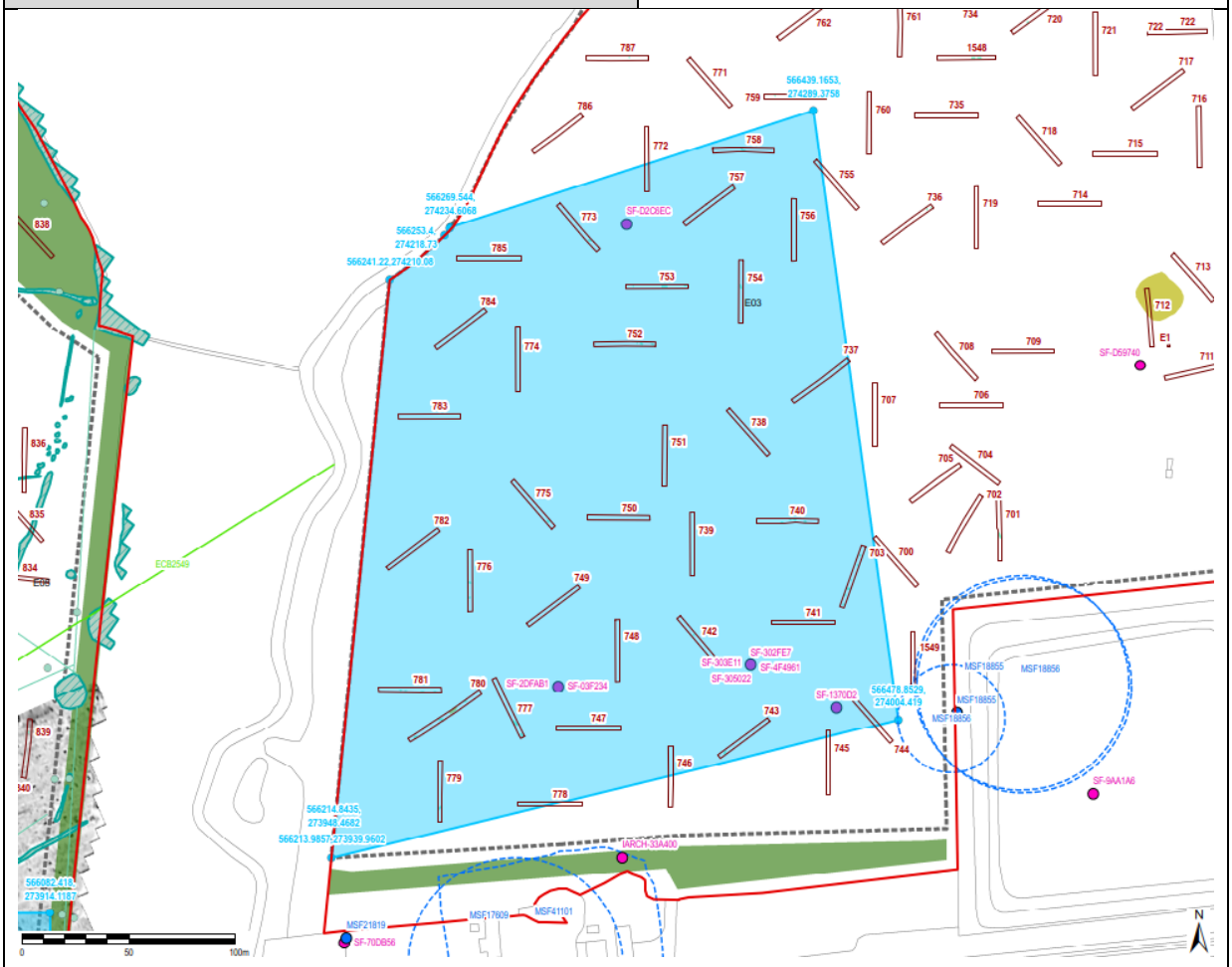
Appendix D Archaeological mitigation areas

Site E01 and E02	
Designation:	Non-designated
Field Number:	E01
Reference IDs:	N/A
Location (NGR):	
Site area (approximate):	N/A



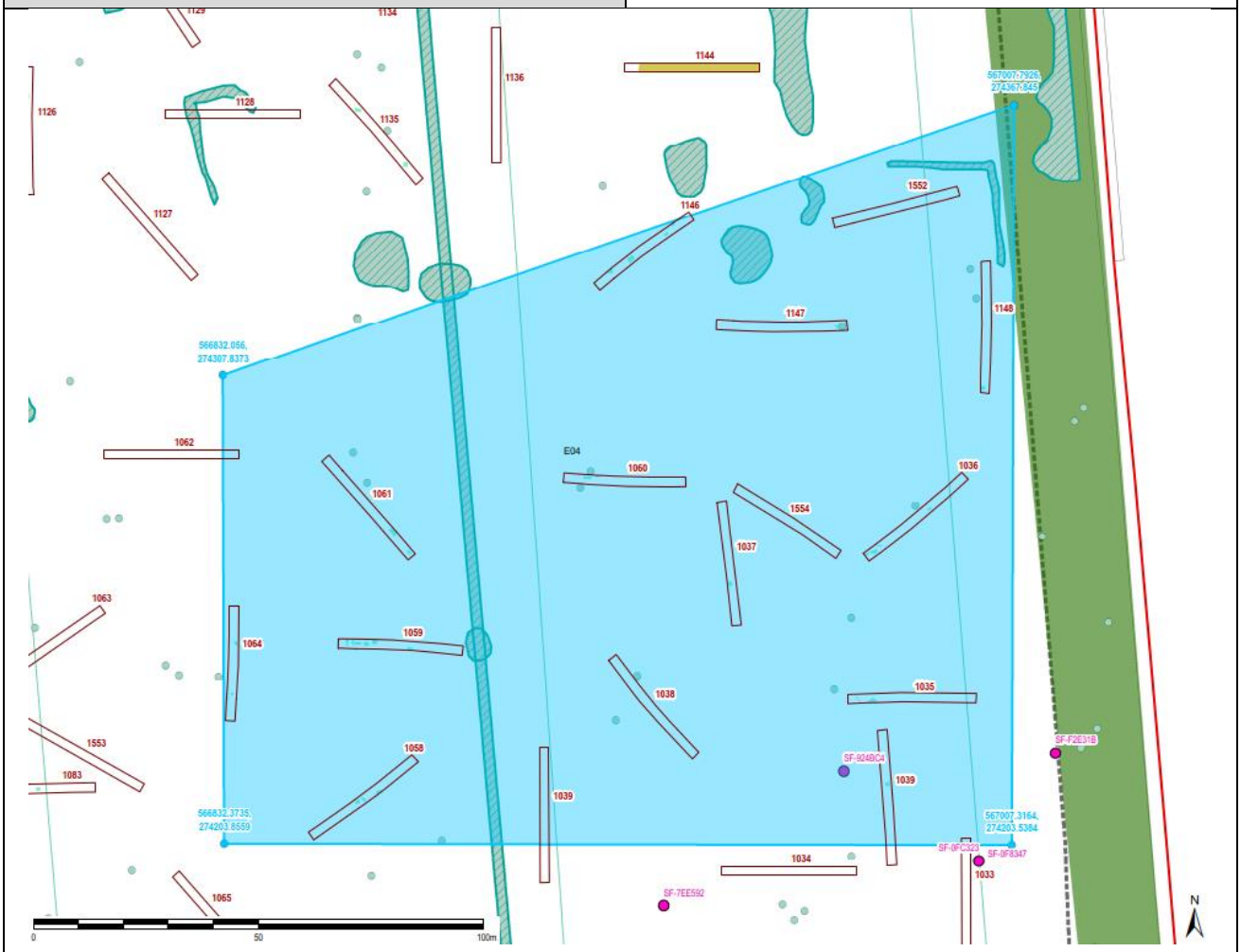
Description
Fen edge deposits along northern edge of field.
Scheme impact
Solar PV Array
Mitigation
Palaeoecological or geoarchaeological assessment
Research objectives
TBA with Local Planning Authority Archaeological Advisors/Regional Science Advisor for Historic England and included in SSWSI

Site E03	
Designation:	Non-designated
Field Number:	E03
Reference IDs:	MSF18855 – Lee Farm, Iron Age
Location (NGR):	
Site area (approximate):	6.6ha



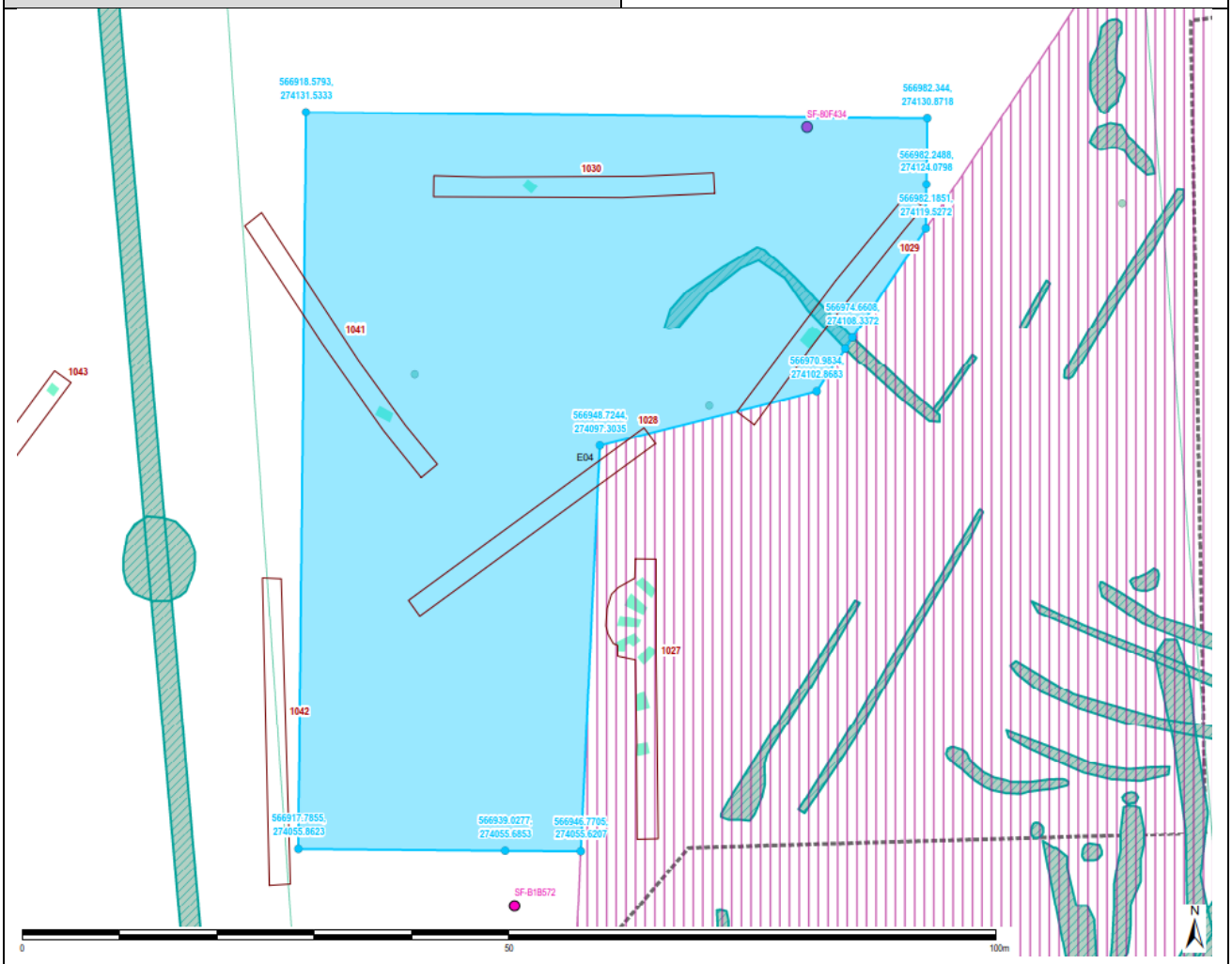
Description
Undated activity around Trenches 703, 740, 752-754; 775-777, 780, 781; 703, 740.
Scheme impact
Solar PV Array
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

Site E04a	
Designation:	Non-designated
Field Number:	E04a
Reference IDs:	N/A
Location (NGR):	See Plan
Site area (approximate):	2.35ha

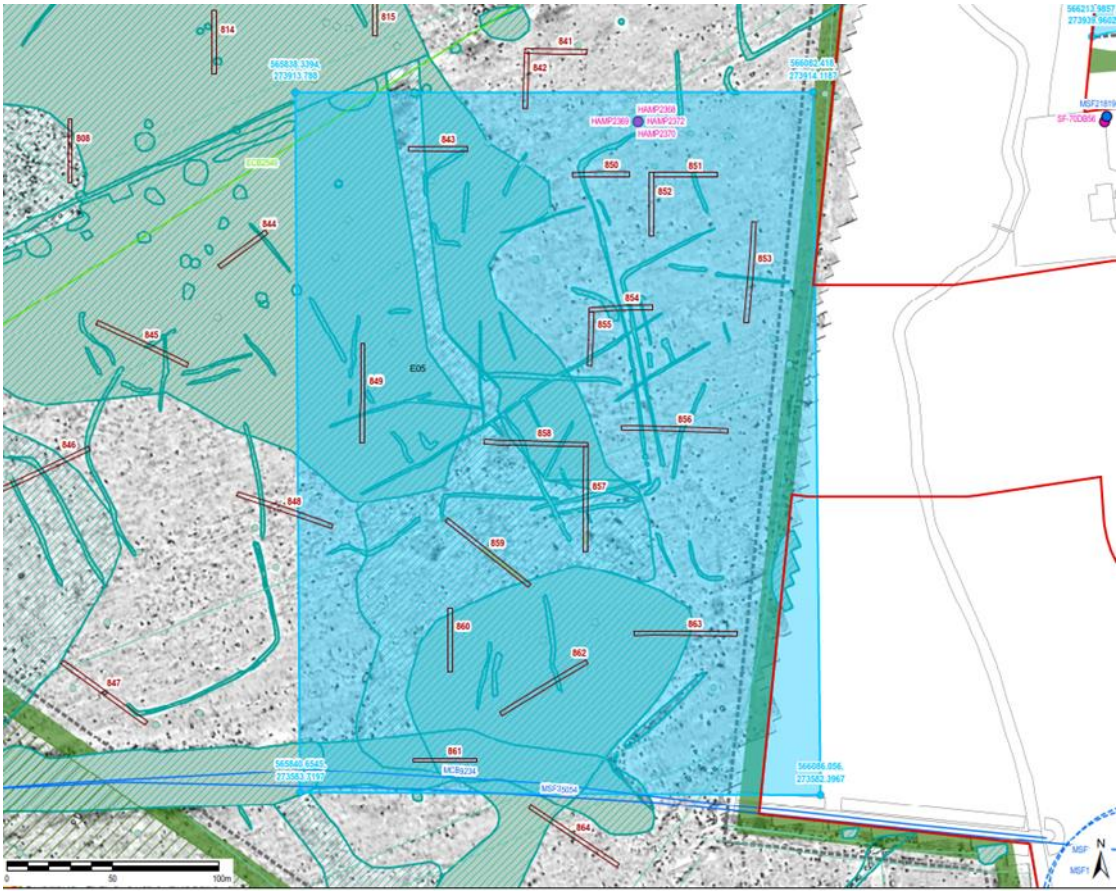


Description
Undated activity
Scheme impact
Solar PV Array
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

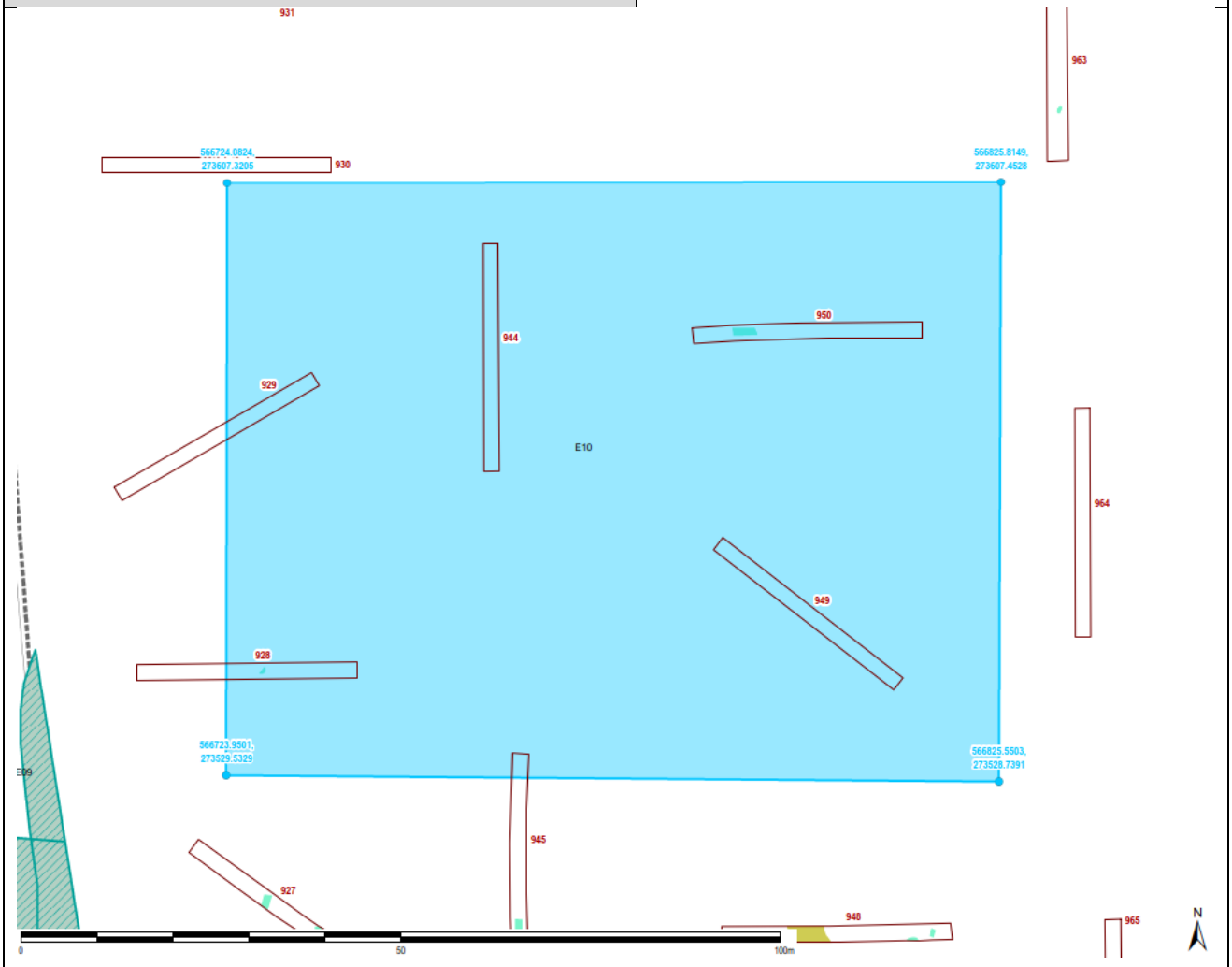
Site E04b	
Designation:	Non-designated
Field Number:	E04b
Reference IDs:	N/A
Location (NGR):	See Plan
Site area (approximate):	0.3ha



Description
Possible Romano-British ditch and other features
Scheme impact
BESS and substation
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

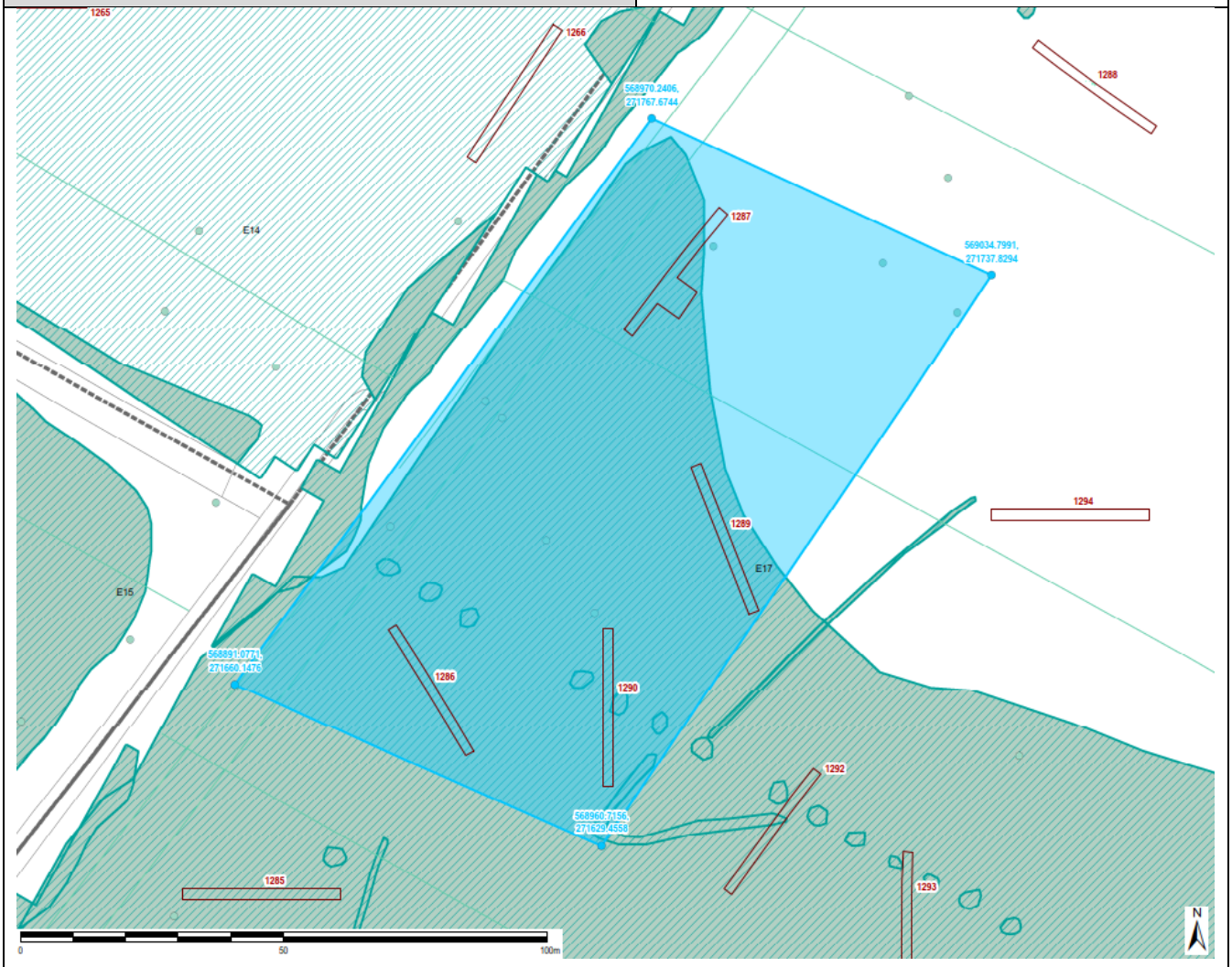
Site E05	
Designation:	Non-designated
Field Number:	E05
Reference IDs:	MCB27641 – Undated enclosures, MSF19024 – Beck Common (medieval), MSF35054
Location (NGR):	See Plan
Site area (approximate):	8.1ha 
Description	
Possible Romano-British ditch and other features	
Scheme impact	
BESS and substation	
Mitigation	
Excavation	
Research objectives	
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI	

Site E10	
Designation:	Non-designated
Field Number:	E10
Reference IDs:	MSF35054
Location (NGR):	
Site area (approximate):	0.8ha



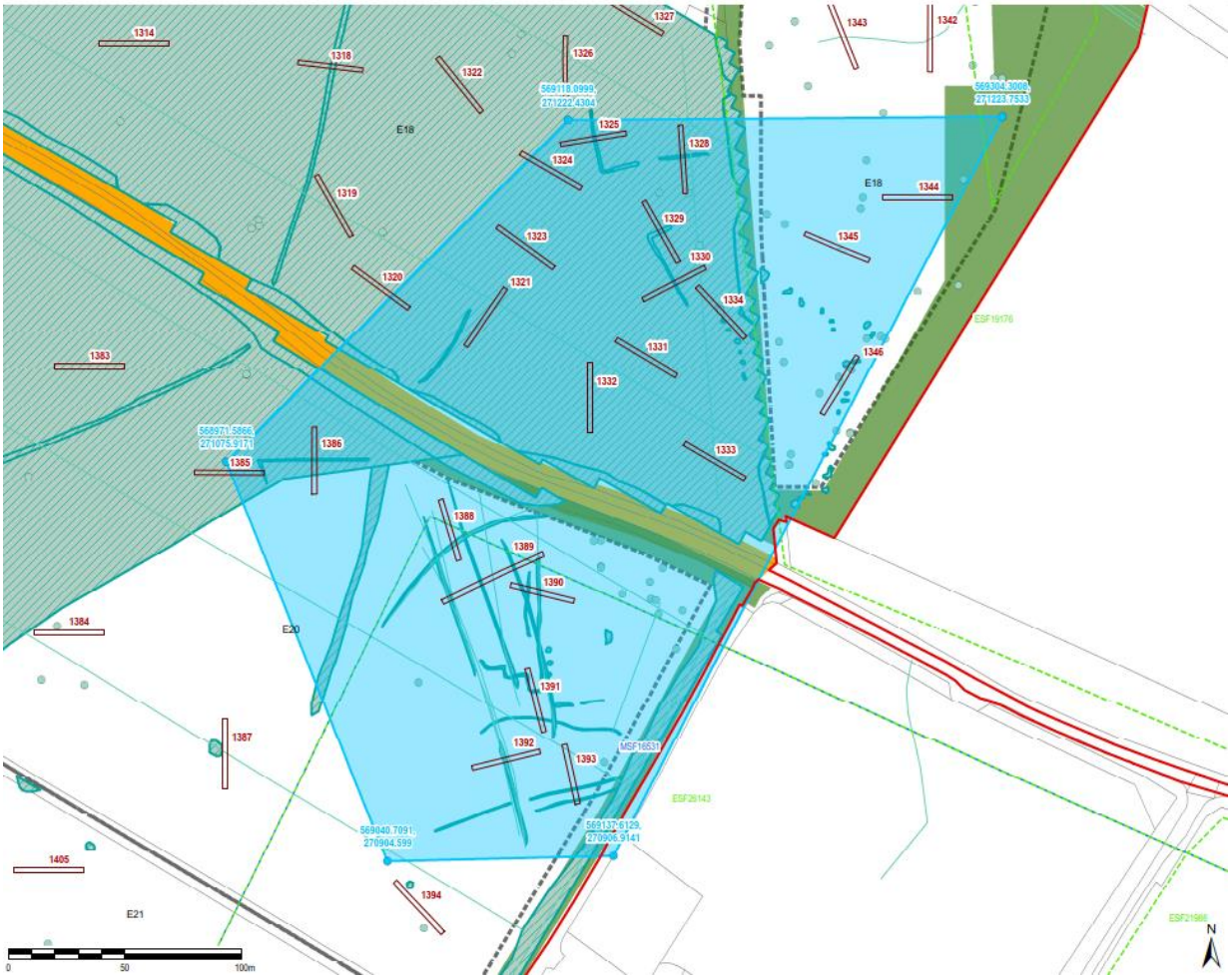
Description
Possible barrow
Scheme impact
Solar PV Array
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

Site E17	
Designation:	Non-designated
Field Number:	E17
Reference IDs:	N/A
Location (NGR):	
Site area (approximate):	0.95ha



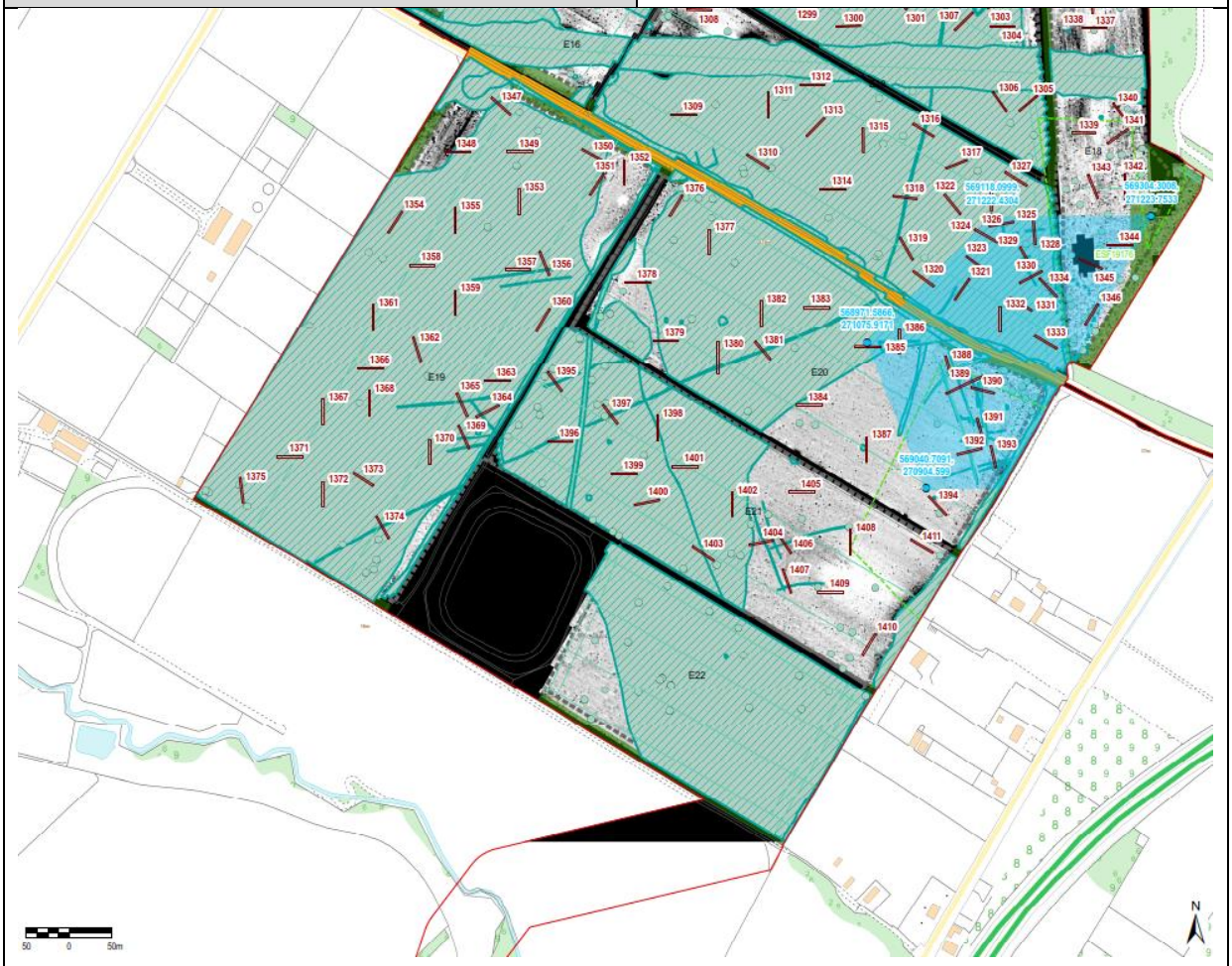
Description
Bronze Age pits
Scheme impact
Solar PV Array
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

Site E18 & E20	
Designation:	Non-designated
Field Number:	E18 & E20
Reference IDs:	N/A
Location (NGR):	
Site area (approximate):	6.2ha



Description
Romano-British boundary ditch and undated pits and ditches.
Scheme impact
Solar PV Array and BESS and Substation
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

Site E19	
Designation:	Non-designated
Field Number:	E19
Reference IDs:	N/A
Location (NGR):	
Site area (approximate):	N/A

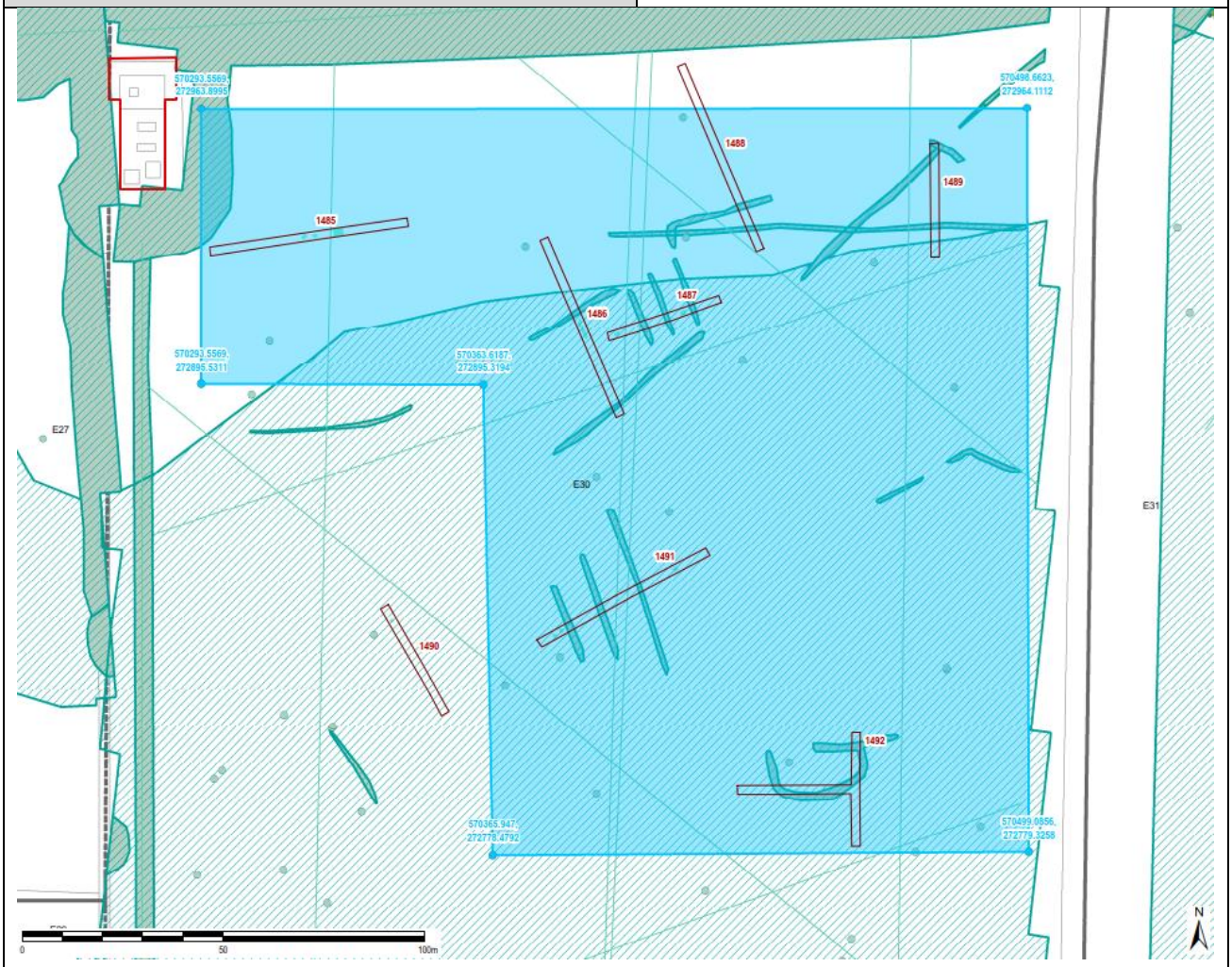


Description
La Tene brooch and a number of coins found during evaluation.
Scheme impact
Solar PV Array
Mitigation
Metal detector survey
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

Site E24	
Designation:	Non-designated
Field Number:	E24
Reference IDs:	N/A
Location (NGR):	
Site area (approximate):	0.8ha

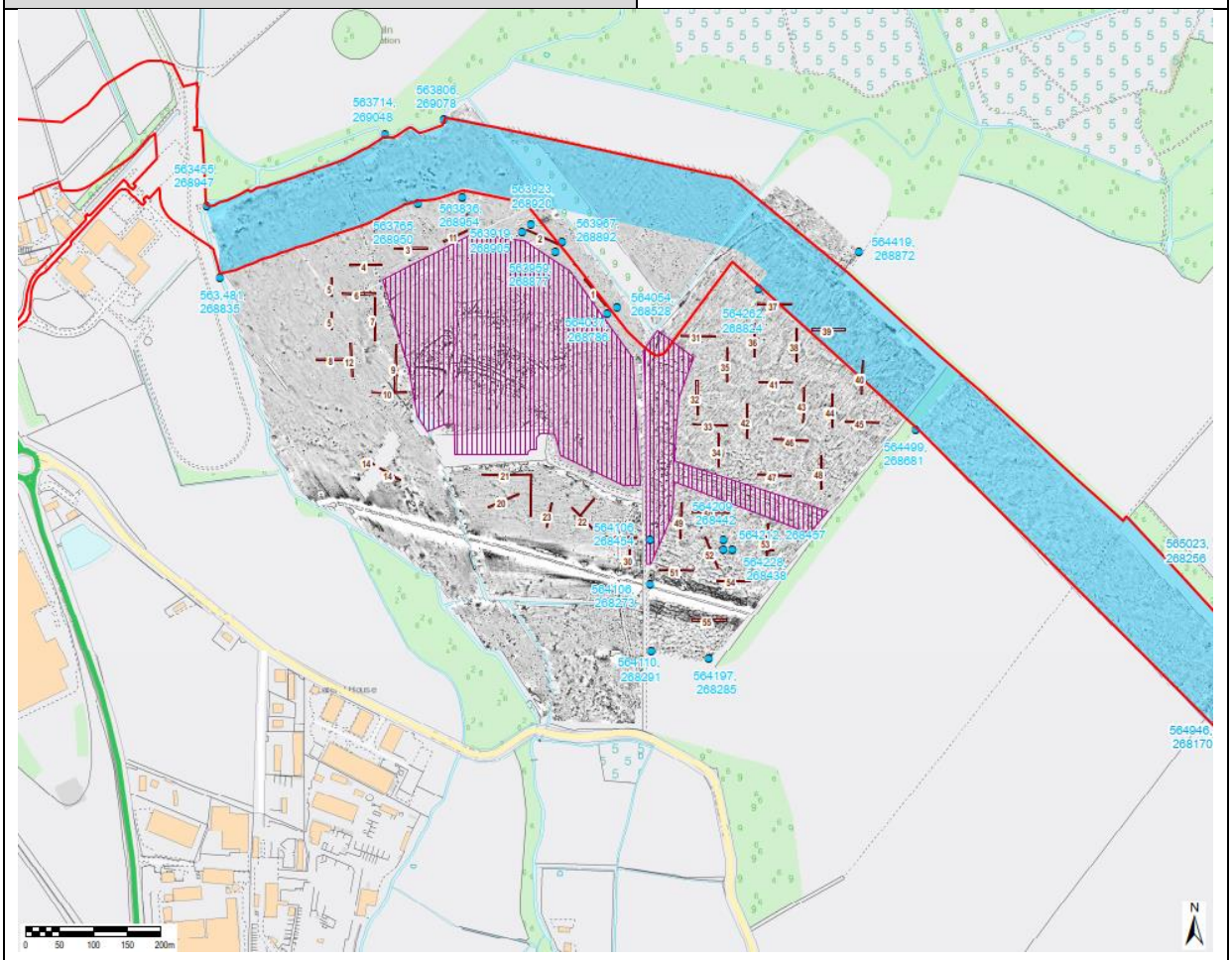
Description
Roman boundary ditch and cluster of undated pits and a posthole
Scheme impact
Solar PV Array
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

Site E30	
Designation:	Non-designated
Field Number:	E30
Reference IDs:	
Location (NGR):	
Site area (approximate):	2.97ha



Description
Area of undated scattered activity
Scheme impact
Solar PV Array
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

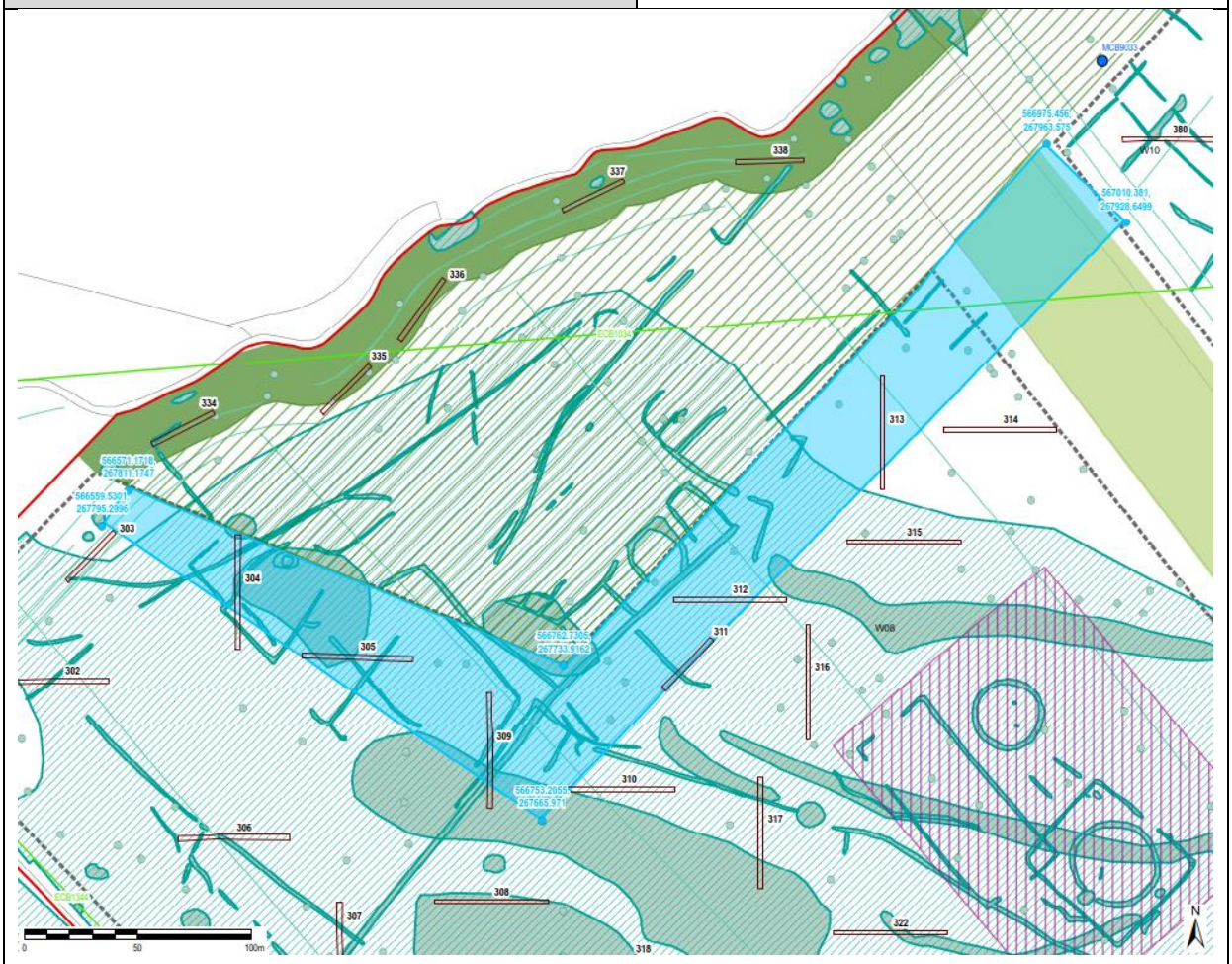
Site W01a Cable Corridor Only	
Designation:	Non-designated
Field Number:	W01a Cable Corridor
Reference IDs:	MCB9358 – Iron Age and Roman pottery scatter, Snailwell Fen
Location (NGR):	
Site area (approximate):	0.3ha



Description
Edge of a complex area of multi-phase activity, comprising rectilinear enclosures, track/droveways, pits and an obvious enclosed ring ditch. The results are suggestive of a multi-phase prehistoric/Romano-British settlement.
Scheme impact
Solar PV Array
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

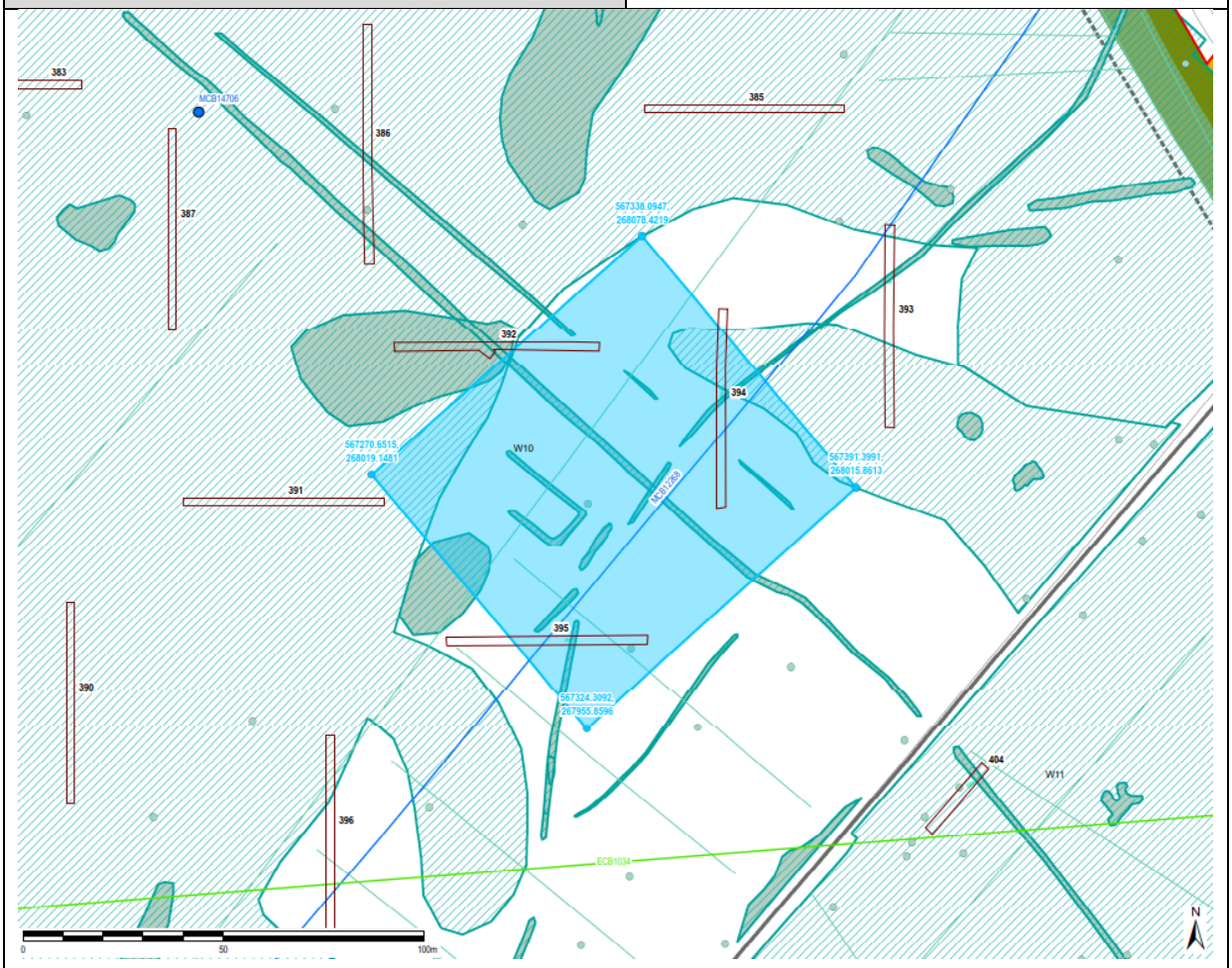
Site W01b	
Designation:	Non-designated
Field Number:	W01b North Cable corridor only
Reference IDs:	MCB9358 – Iron Age and Roman pottery scatter, Snailwell Fen
Location (NGR):	
Site area (approximate):	N/A
Description	
Alluvium and palaeochannels of River Snail	
Scheme impact	
Solar PV Array	
Mitigation	
Palaeoecological or geoarchaeological assessment	
Research objectives	
TBA with Local Planning Authority Archaeological Advisors/Regional Science Advisor for Historic England and included in SSWSI	

Site W08	
Designation:	Non-designated
Field Number:	W08
Reference IDs:	
Location (NGR):	See plan
Site area (approximate):	4.7ha



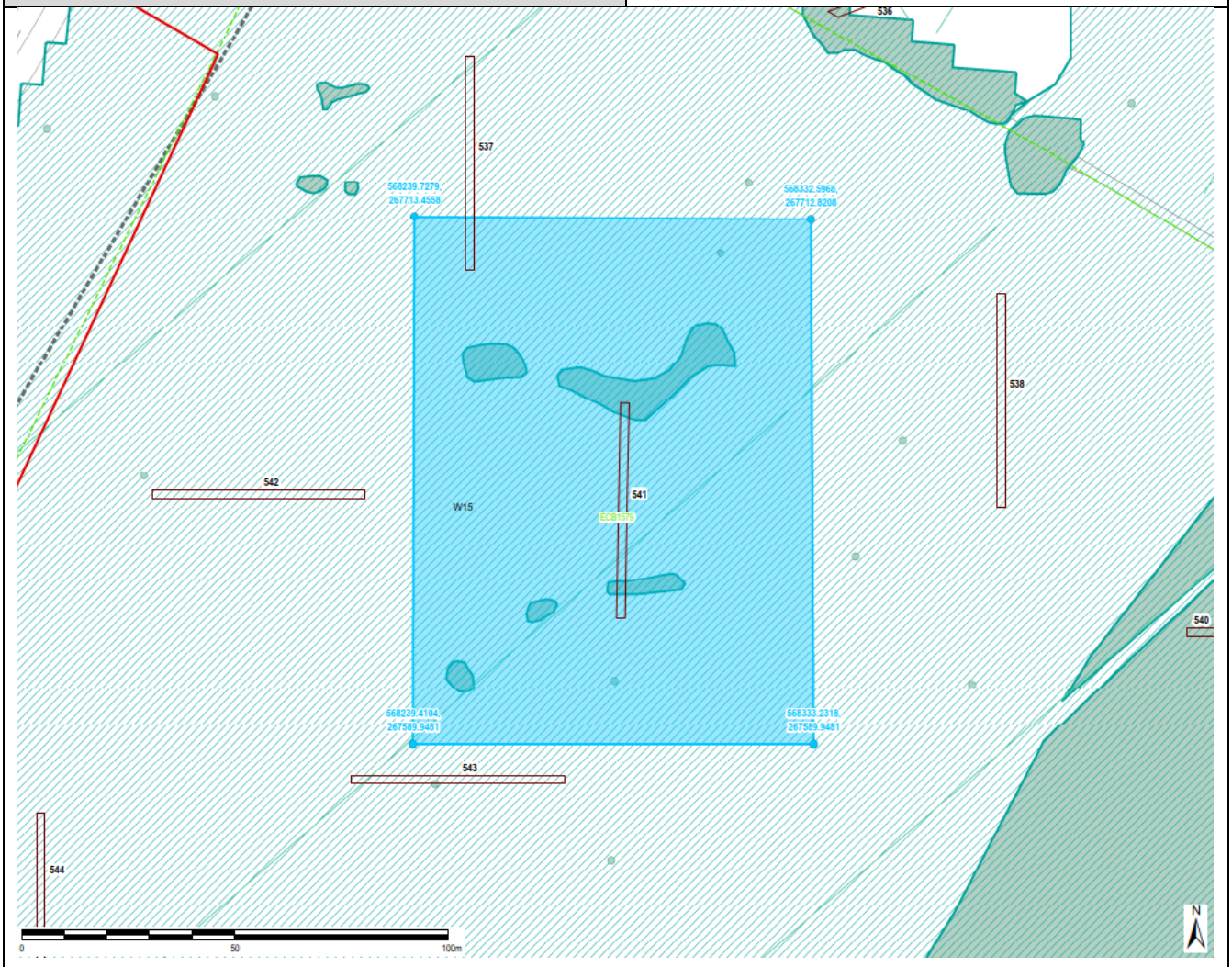
Description
Rectilinear enclosure system, Ditch Way and Boundary 1
Scheme impact
Solar PV Array
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

Site W10	
Designation:	Non-designated
Field Number:	W10
Reference IDs:	MCB9033 – Neolithic axe head, Chippenham, MCB12268, MCB14706 – Roman pottery, Chippenham
Location (NGR):	See plan
Site area (approximate):	0.74ha



Description
Eastern branch of the Ditch Way and its relationship to a post-medieval enclosure.
Scheme impact
Solar PV Array
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

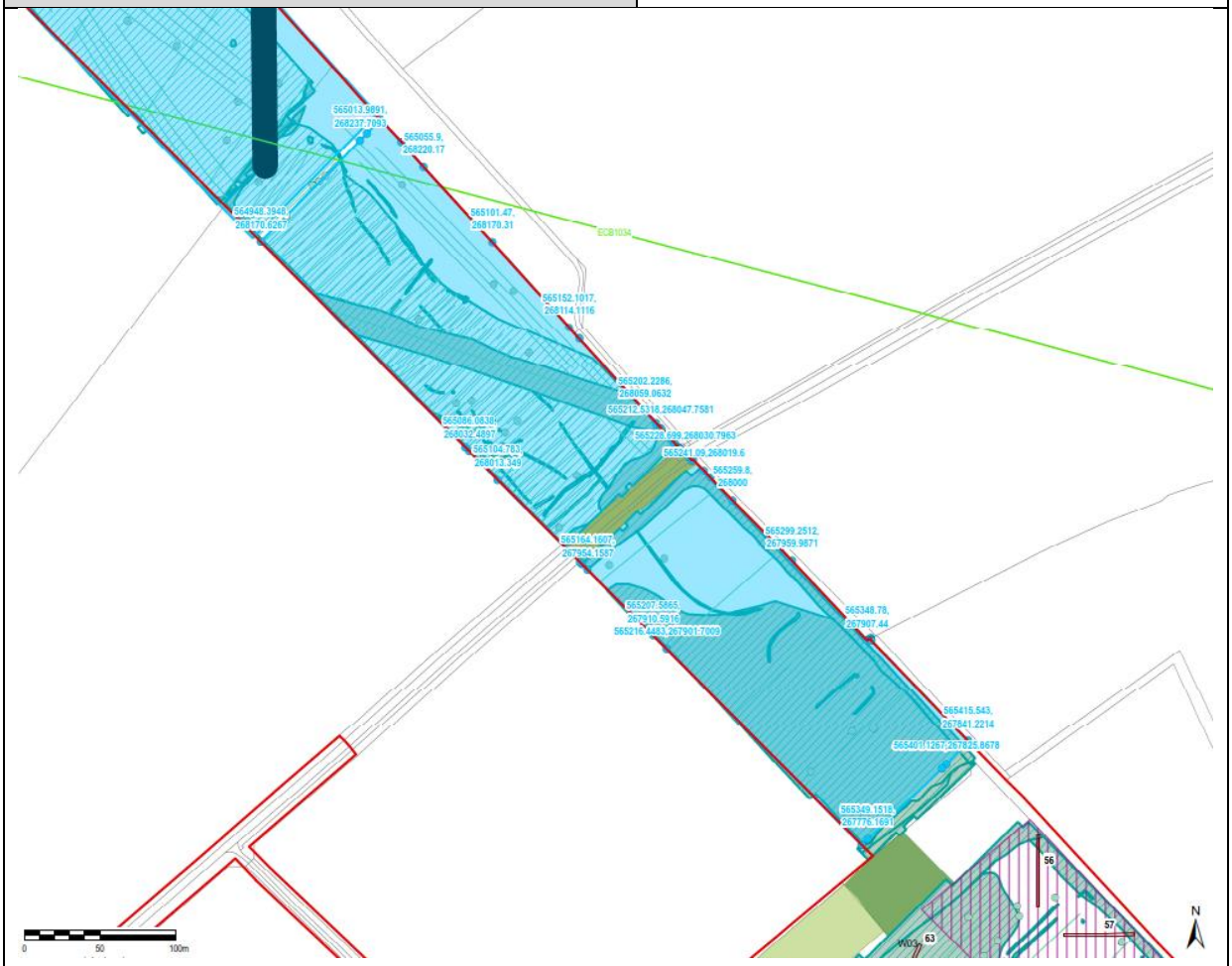
Site W15	
Designation:	Non-designated
Field Number:	W15
Reference IDs:	MCB9546 – Possible barrow, Kennett, MCB12182 – Prehistoric flints, Chippenham, MCB23370 – Sand Pit, Kennett, MCB9044 – Neolithic- Bronze Age flint knapping site, Dane Hill, Kennett, MCB9547 – Prehistoric settlement site, Kennett
Location (NGR):	See plan
Site area (approximate):	1.15ha



Description
Neolithic pit, with possible further features on geophysical survey
Scheme impact
Solar PV Array
Mitigation
Excavation

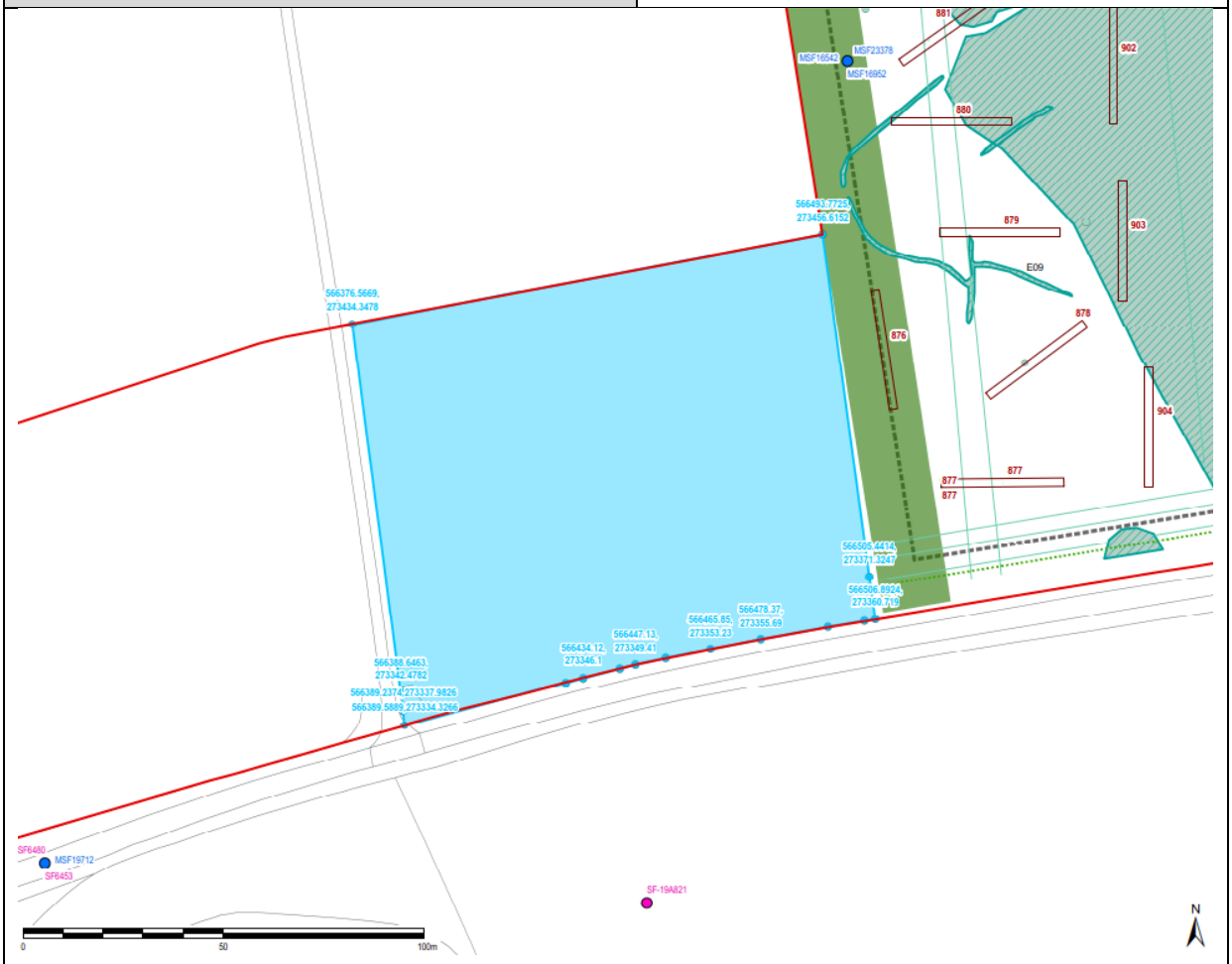
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

Site CR2 & 3	
Designation:	Non-designated
Field Number:	CR2 & 3
Reference IDs:	N/A
Location (NGR):	
Site area (approximate):	5.8ha



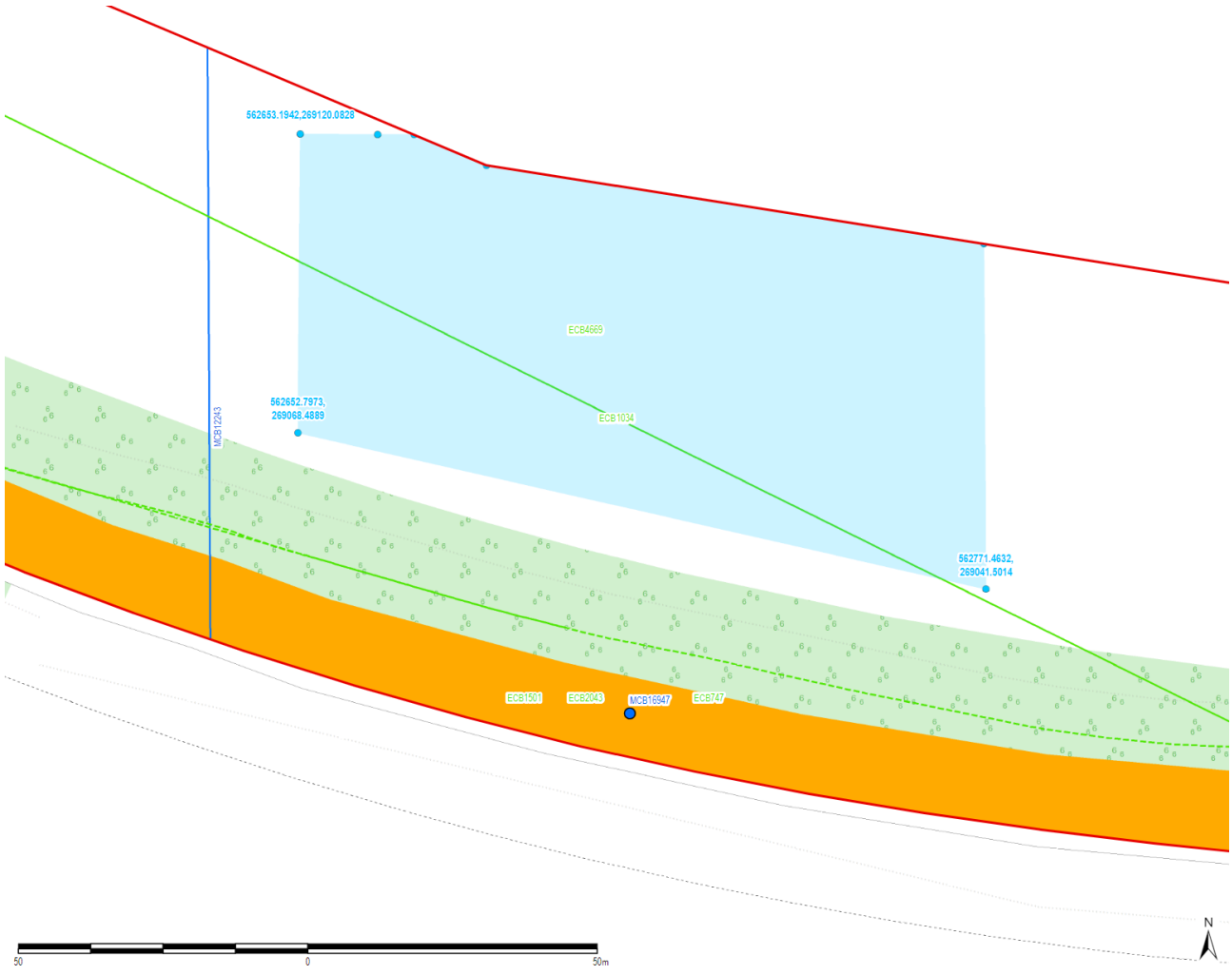
Description
Possible enclosure
Scheme impact
132kV cable connecting to Burwell substation
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

Site CR10	
Designation:	Non-designated
Field Number:	CR10
Reference IDs:	
Location (NGR):	
Site area (approximate):	1.16ha



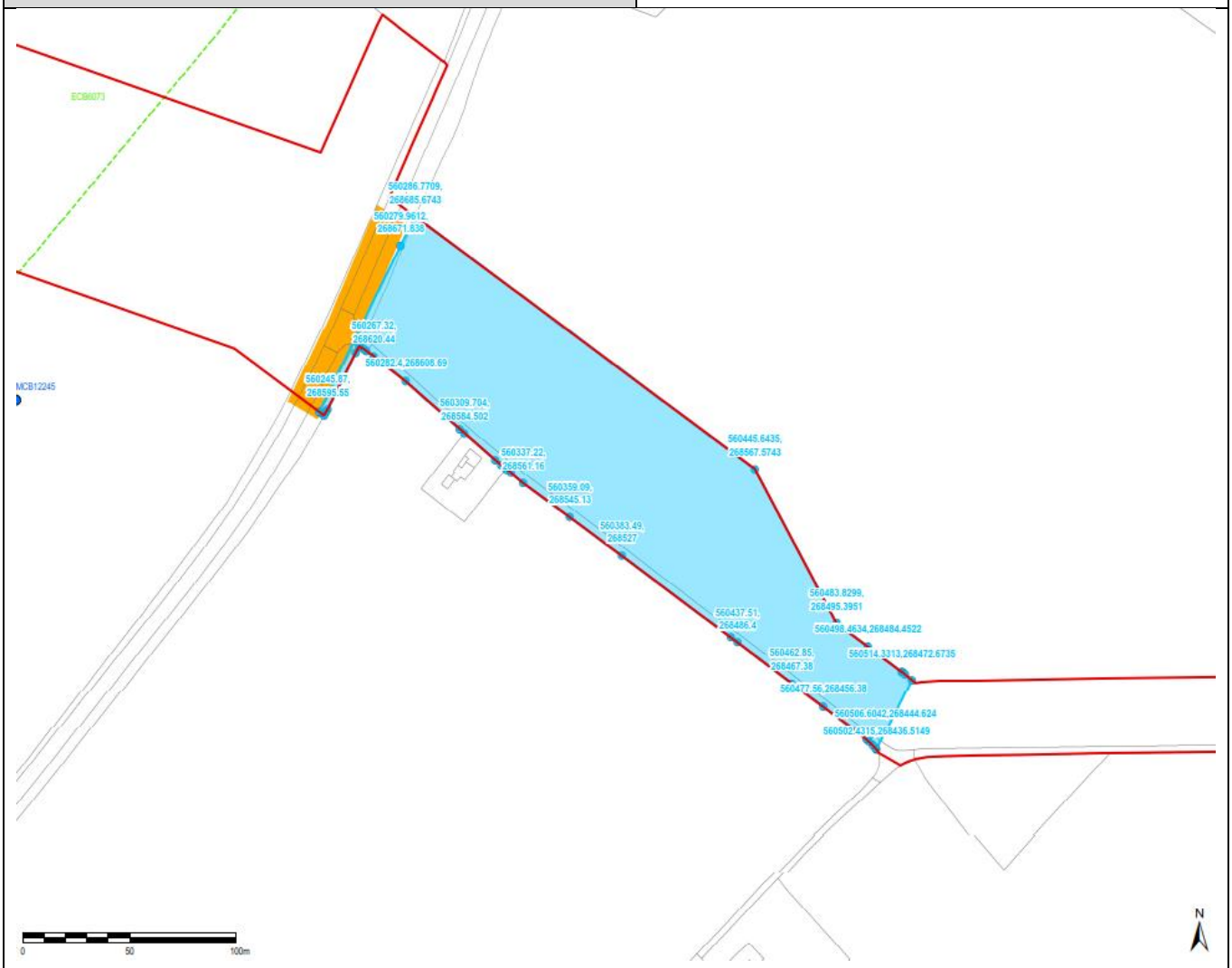
Description
Curvilinear features
Scheme impact
132kV cable connecting to Burwell substation
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

Site CR 37	
Designation:	Non-designated
Field Number:	CR37
Reference IDs:	
Location (NGR):	See plan
Site area (approximate):	0.66ha



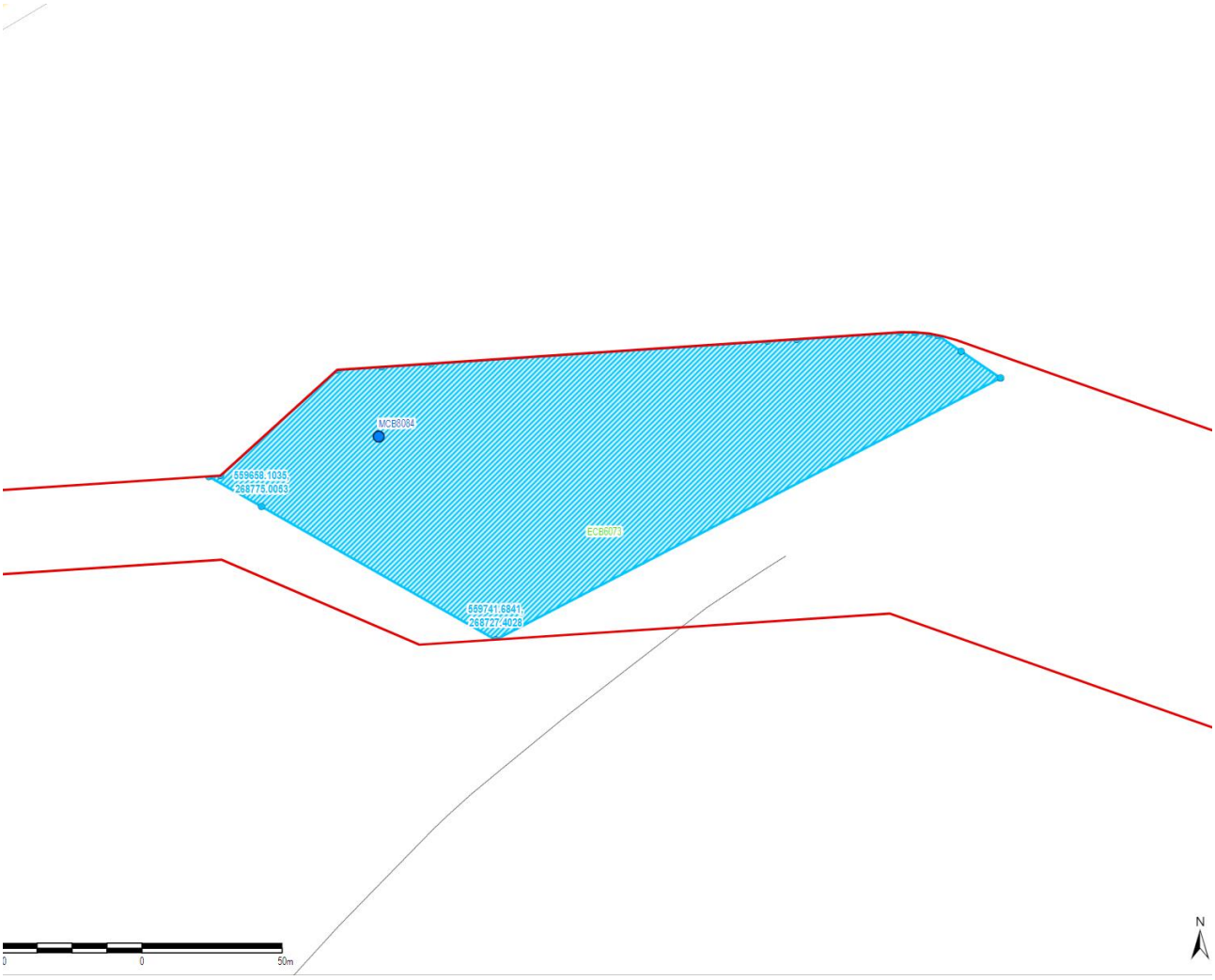
Description
Possible trackway
Scheme impact
132kV cable connecting to Burwell substation
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

Site CR39 & 40	
Designation:	Non-designated
Field Number:	CR39 & 40
Reference IDs:	
Location (NGR):	See plan
Site area (approximate):	1.86ha



Description
Enclosure system
Scheme impact
132kV cable connecting to Burwell substation
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI

Site CR41 & 56	
Designation:	Non-designated
Field Number:	CR41 & 56
Reference IDs:	
Location (NGR):	See plan
Site area (approximate):	1.05ha



Description
Possible ditches
Scheme impact
132kV cable connecting to Burwell substation
Mitigation
Excavation
Research objectives
TBA with Local Planning Authority Archaeological Advisors and included in each SSWSI