



# The Sizewell C Project

## 6.9 Volume 8 Freight Management Facility Chapter 9 Terrestrial Historic Environment

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## 9 Terrestrial Historic Environment

### 9.1 Introduction

9.1.1 This chapter of **Volume 8** of the **Environmental Statement (ES)** presents an assessment of the terrestrial historic environment effects arising from the construction, operation, and removal and reinstatement of the Freight Management Facility (referred to throughout this volume as 'the proposed development'). This includes an assessment of potential impacts, the significance of effects, the requirements for mitigation, and the residual effects.

9.1.2 Detailed descriptions of the Freight Management Facility site (referred to throughout this volume as the 'site'), the proposed development, and the different phases of development are provided in **Chapters 1** and **2** of this volume of the **ES**. A glossary of terms and list of abbreviations used in this chapter is provided in **Volume 1, Appendix 1A** of the **ES**.

9.1.3 This assessment has been informed by data from other assessments as following:

- **Chapter 4** of this volume: Noise Assessment; and
- **Chapter 6** of this volume: Landscape and Visual.

9.1.4 This assessment has been undertaken in accordance with or informed by data presented in the following technical appendices:

- **Appendix 9A** of this volume: Gazetteer of heritage assets.
- **Appendix 9B** of this volume: Sizewell C Freight Management Facility Archaeological Desk Based Assessment.
- **Appendix 9C** of this volume: Interim Fieldwork Summary.
- **Volume 1, Annex 6L.1** of the **ES**: UK EPR Sizewell C - Historic Environment - Settings Assessment Scoping Recommendations Update, 2019.

9.1.5 Please note that the red line boundary used in the figures within the appendices was amended after these documents were finalised, and therefore does not reflect the boundaries in respect of which development consent has been sought in this application. However, the amendment to the red line boundary does not have any impact on the findings set out in this document and all other information remains correct.

## 9.2 Legislation, policy and guidance

9.2.1 **Volume 1, Appendix 6L** of the **ES** identifies and describes legislation, policy and guidance of relevance to the assessment of the potential terrestrial historic environment impacts associated with the Sizewell C Project across all ES volumes.

9.2.2 This section provides an overview of the specific legislation, policy and guidance of relevance to the assessment of the proposed development.

### a) International

9.2.3 There is no international legislation or policy that is relevant to the terrestrial historic environment assessment of the proposed development.

### b) National

#### i. Legislation

9.2.4 National legislation relating to the terrestrial historic environment assessment includes:

- The Ancient Monuments and Archaeological Areas Act 1979 (Ref. 9.1);
- The Planning (Listed Buildings and Conservation Areas) Act 1990 (Ref. 9.2);
- The Infrastructure (Decisions) Regulations 2010 (Ref. 9.3);
- The Hedgerow Regulations 1997 (Ref, 9.4); and
- The Protection of Military Remains Act 1986 (Ref. 9.5).

9.2.5 The requirements of these, as relevant to the terrestrial historic environment assessment, are set out in **Volume 1, Appendix 6L** of the **ES**.

#### ii. Policies

9.2.6 The National Policy Statement (NPS) 2011 sets out the national policy for energy infrastructure. The overarching NPS for Energy (EN-1) (Ref. 9.6) and NPS for Nuclear Power Generation (EN-6) (Ref. 9.7) provide the primary policy framework within which the development will be considered. A summary of the relevant planning policy and heritage legislation together with consideration of how the advice has been taken into account is provided in **Volume 1, Appendix 6L** of the **ES** with requirements specific to this site set out in **Table 9.1**.

**Table 9.1: Requirements of the National Policy Statements**

Ref.	NPS topic requirement	How the requirement has been addressed
EN-1 p5.8.9	“Where proposed development will affect the setting of a heritage asset, representative visualisations may be necessary to explain the impact.”	The magnitude and nature of the change to setting of designated heritage assets in the vicinity of the proposed development site is not anticipated to give rise to significant adverse effects. Therefore specific heritage visualisations would not be pertinent to the assessment.

c) **Regional**

9.2.7 There is no regional legislation or policy that is relevant to the terrestrial historic environment assessment of the proposed development.

d) **Local**

9.2.8 Local policies relating to the terrestrial historic environment assessment include:

- Suffolk Coastal District Council Local Plan Core Strategy and Development Management Policies (Ref. 9.8):
  - Development Management Policy (DMP) DM21
  - Strategic Policy SP15
- Suffolk Coastal District Council Final Draft Local Plan (Ref. 9.9):
  - Policy SCLP11.3
  - Policy SCLP11.4;
  - Policy SCLP11.5;
  - Policy SCLP11.6;
  - Policy SCLP11.7;
  - Policy SCLP11.8; and
  - Policy SCLP11.9.
- Supplementary Planning Guidance (SPG) 6 Historic Parks and Gardens (Ref. 9.10).

9.2.9 The requirements of these, as relevant to the terrestrial historic environment assessment, are set out in **Volume 1, Appendix 6L** of the **ES**.

### e) Guidance

9.2.10 This assessment has been undertaken in accordance with the following guidance documents:

- Good Practice Advice in Planning Note 2: Managing Significance in decision-taking in the Historic Environment. Historic England, 2015 (Ref. 9.11);
- Conservation Principles, Policies and Guidance. Historic England (Ref. 9.12);
- Good Practice Advice in Planning Note 3: The Setting of Heritage Assets Historic England, 2017 (Ref. 9.13);
- Research and Archaeology: Framework for the East of England (2000, 2011 and draft updates 2018-19) (Refs. 9.14; 9.15; 9.16; 9.17); and
- National and Local Archaeological Standards and Guidance (Refs.9.18; 9.19; 9.20; 9.21; 9.22; 9.23; 9.24; 9.25).

9.2.11 The requirements of these, as relevant to the terrestrial historic environment assessment, are set out in **Volume 1, Appendix 6L** of the **ES**.

## 9.3 Methodology

### a) Scope of the assessment

9.3.1 The generic Environmental Impact Assessment (EIA) methodology is detailed in **Volume 1, Chapter 6** of the **ES**.

9.3.2 The full method of assessment for terrestrial historic environment that has been applied for the Sizewell C Project is included in **Volume 1, Appendix 6L** of the **ES**.

9.3.3 This section provides specific details of the terrestrial historic environment methodology applied to the assessment of the proposed development and a summary of the general approach to provide appropriate context for the assessment that follows. The scope of assessment considers the impacts of the construction, operation, and removal and reinstatement of the proposed development.

9.3.4 The scope of this assessment has been established through a formal EIA scoping process undertaken with the Planning Inspectorate. A request for an EIA scoping opinion was initially issued to the Planning Inspectorate in 2014, with an updated request issued in 2019 (see **Volume 1, Appendix 6A** of the **ES**).

9.3.5 Comments raised in the EIA scoping opinion received in 2014 and 2019 have been taken into account in the development of the assessment methodology. These are detailed in **Volume 1, Appendices 6A to 6C** of the **ES**.

b) Consultation

9.3.6 The scope of the assessment has also been informed by ongoing consultation and engagement with statutory consultees throughout the design and assessment process. A summary of the comments raised and SZC Co’s responses are detailed in **Table 9.2**.

9.3.7 Consultation was undertaken with Historic England and Suffolk County Council Archaeological Service (SCCAS) with regards to the suitability of the study area for the data search. Confirmation that the assessment and information was adequate was received from SCCAS, Historic England and East Suffolk Council in the responses to Stage 3 consultation and within the 2019 EIA scoping opinion.

9.3.8 The Settings Assessment Scoping Report (see **Volume 1, Annex 6L.1** of the **ES**) was also consulted on with SCCAS, Historic England and ESC and the results of that consultation have been incorporated into this assessment.

**Table 9.2: Summary of consultation responses that have informed the scope and methodology of the terrestrial historic environment assessment**

Consultee	Date	Comment	SZC Co response
SCCAS Meeting	13th June 2019	Discussions held around fieldwork priorities and land access. If there is only a short period of time to access the land, evaluation trenching would be a more effective approach than geophysical survey.	No Geophysical survey to be undertaken due to limited crop window for survey. Evaluation trenching at 5% has been undertaken.

c) Study area

9.3.9 The site and study area are illustrated in **Figures 9.1 to 9.3**.

9.3.10 The geographical extent of the study area comprises:

- the site;
- 500 metres (m) from the site boundary (referred to throughout this chapter as the ‘study area’) for non-designated assets; and

- a wider 1-kilometre (km) study area from the site boundary for designated heritage assets, the ‘settings study area’.

9.3.11 To inform the development of the scope of assessment of effects arising through change to setting, heritage assets which could be subject to significant adverse effects were considered in the Settings Assessment Scoping Report provided in **Volume 1, Annex 6L.1** of the **ES** which was agreed with Historic England, SCCAS and ESC.

d) **Assessment scenarios**

9.3.12 The terrestrial historic environment assessment comprises the assessment of the entire construction, operation, and removal and reinstatement phases of the proposed development, rather than specific assessment years.

e) **Assessment criteria**

9.3.13 As described in **Volume 1, Chapter 6** of the **ES**, the EIA methodology considers whether impacts of the proposed development would have an effect on any resources or receptors. Assessments broadly consider the magnitude of impacts and value/sensitivity of resources/receptors that could be affected in order to classify effects.

9.3.14 A detailed description of the assessment methodology used to assess the potential effects on the terrestrial historic environment arising from the proposed development is provided in **Volume 1, Appendix 6L** of the **ES**. A summary of the assessment criteria used in this assessment is presented in the following sub-sections.

i. **Sensitivity (heritage significance)**

9.3.15 Heritage assets that may be affected by the proposed development have been assigned a level of heritage significance (value) in accordance with the definitions set out in **Volume 1, Appendix 6L** of the **ES**. Heritage significance is rated within the range of high-medium-low-very low. The assessment of assigning the levels of sensitivity to receptors is set out in **Table 9.3**.

**Table 9.3: Assessment of the value or sensitivity of receptors for Terrestrial Historic Environment**

Heritage Significance (sensitivity)	Summary Rationale	Example Asset Class
High	Asset has significance for an outstanding level of archaeological, architectural, historic and/or artistic	All designated heritage assets or non-designated assets of demonstrably schedulable quality.

Heritage Significance (sensitivity)	Summary Rationale	Example Asset Class
	interest.	
<b>Medium</b>	Asset has significance for a high level of archaeological, architectural, historic and/or artistic interest.	Locally listed buildings and buildings of merit. Regionally significant non-designated archaeological sites.
<b>Low</b>	Asset has significance for elements of archaeological architectural, historic or artistic interest.	Locally-significant archaeological site.
<b>Very Low</b>	Due to its nature/ form / condition / survival, cannot be considered as an asset in its own right.	Non-extant HER record.

ii. Magnitude

9.3.16 The magnitude of impact is based on the consequences that the proposed development would have on the heritage significance of the historic environment resource/receptor and has been considered in terms of high-medium-low-very low (as set out in **Table 9.4**).

9.3.17 Potential changes have also been considered in terms of duration, whether the impact is permanent, temporary, reversible, adverse (negative) or beneficial (positive), and whether the change is likely to give rise to cumulative effects. Although it is recognised that, save for the widening of Felixstowe Road, the proposed development described in this assessment is temporary, any potential loss of heritage significance resulting from disturbance of buried archaeological remains associated with construction activity would be irreversible and therefore permanent.

9.3.18 The criteria for the assessment of magnitude of impact are shown in **Table 9.4**.

**Table 9.4: Assessment of magnitude of impact for terrestrial historic environment**

Magnitude	Summary Rationale (negative)	Summary Rationale (positive)
<b>High</b>	Loss of significance of an order of magnitude that would result from irreversible total or substantial demolition/disturbance of a heritage asset or from the disassociation of an asset from its setting. This would generally be considered substantial harm.	Sympathetic restoration of an at-risk or otherwise degraded heritage asset and/or its setting and bringing into sustainable use with robust long-term management secured.

Magnitude	Summary Rationale (negative)	Summary Rationale (positive)
<b>Medium</b>	<p>Loss of significance arising from partial disturbance or inappropriate alteration of asset which will adversely affect its importance. Change to the key characteristics of an asset's setting, which gives rise to lasting harm to the significance of the asset but which still allows its archaeological, architectural or historic interest to be appreciated.</p> <p>Impacts of this magnitude would generally be considered less than substantial harm on the heritage significance of an asset.</p>	<p>Appropriate stabilisation and/or enhancement of a heritage asset and/or its setting that better reveal the significance of the asset or contribute to a long-term sustainable use or management regime.</p>
<b>Low</b>	<p>Minor loss to or alteration of an asset which leave its current significance largely intact. Minor and/or short term<sup>1</sup> changes to setting which do not affect the key characteristics and in which the historical context remains substantially intact.</p> <p>Impacts of this magnitude would generally be considered less than substantial harm on the heritage significance of an asset.</p>	<p>Minor enhancements to a heritage asset and/or its setting that that better reveal its significance or contribute to sustainable use and management.</p>
<b>Very Low</b>	<p>Minor alteration of an asset which does not affect its significance in any discernible way. Minor and/or short term or reversible change to setting which does not affect the significance of the asset.</p> <p>Impacts of this magnitude would generally be considered of limited harm to heritage significance.</p>	<p>Minor alteration of an asset which does not affect its significance in any discernible way. Minor and/or short term or reversible change to setting which does not affect the significance of the asset.</p>

iii. **Effect definitions**

**9.3.19** The classification of the effect is judged on the basis of the magnitude of impact to the assessed heritage significance of the resource/receptor, and a narrative explanation is then given to support the conclusion. These effects may be adverse or beneficial.

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<sup>1</sup> Short term is defined within this project and technical discipline as being of less than approximately 2 years' duration, medium term of 2-10 years and long-term of 10-25 years duration. Any effects anticipated to persist for over 25 years would normally be considered permanent.

9.3.20 The definitions of effect for the terrestrial historic environment are shown in **Table 9.5**.

**Table 9.5: Classification of effects**

		Heritage Significance (sensitivity)			
		Very Low	Low	Medium	High
Magnitude	Very Low	Negligible	Negligible	Minor	Minor
	Low	Negligible	Minor	Minor	Moderate
	Medium	Minor	Minor	Moderate	Major
	High	Minor	Moderate	Major	Major

9.3.21 Following the classification of an effect as presented in **Table 9.5**, a clear statement is provided as to whether the effect is 'significant' or 'not significant'. As a general rule, major and moderate effects are considered to be significant and minor and negligible effects are considered to be not significant. However, professional judgement is also applied where appropriate.

9.3.22 The assessment of the predicted significance of the effects is reported following incorporation of environmental measures embedded within design, as set out within **section 9.5** of this chapter.

f) [Assessment methodology](#)

9.3.23 Heritage assets were identified through:

- a search of the records held at the National Record of the Historic Environment (NHRE), and the Suffolk County Council (SCC) HER. The data search also included Portable Antiquities Scheme (PAS) information, which are only referred to in broad terms given their sensitive nature. These searches were conducted in August 2018;
- a search of the National Heritage List for England (NHLE), which contains designated data for England. An initial search was carried out in August 2018, and updated in January 2019;
- analysis of the Historic Land Characterisation (HLC) data for Suffolk, conducted in August 2018;

- a review of the two available Suffolk National Mapping Project (NMP<sup>2</sup>) data sets which had already been amalgamated into the Suffolk HER (August 2018);
- a review of the available Light Detecting and Ranging (LiDAR) data from Environment Agency Geomatics (August 2018); and
- a search of historical maps and documentation at the Ipswich branch of the Suffolk Record Office, conducted in August 2018.

9.3.24 Following desk-based research, site investigations were carried out at the site in order to identify both known and previously unrecorded heritage assets (e.g. historic landscape features, extant earthworks). These surveys included:

- Site visit (described within the DBA) (**Appendix 9B** of this volume) and
- Evaluation trenching (**Appendix 9C** of this volume).

9.3.25 The full list of archaeological and historical sites, features, and finds identified within the study area is presented in the gazetteer provided in **Appendix 9A** of this volume and illustrated on **Figures 9.1** and **9.2**.

9.3.26 Direct effects on heritage assets are those which result from physical damage or disturbance which give rise to a loss of heritage significance. Consequently, it is only those assets which might be physically disturbed by (i.e. are within the footprint of) the site which are potentially subject to direct effects. As archaeological features are not always evident, a DBA provided in **Appendix 9B** of this volume was undertaken to examine archaeological heritage assets up to 500m from the site boundary. This provides contextual information for understanding the potential locations of heritage assets within the site and to ascertain the potential for heritage assets to be directly affected.

9.3.27 Indirect effects on heritage assets are those which result in change to heritage significance but do not give rise to physical damage or disturbance to the asset. In this context, these effects will generally arise through change to the settings of heritage assets. Historic England guidance sets out a methodology for considering any effects on the significance of heritage assets arising from change to setting. This is provided in **Volume 1, Appendix 6L** of the **ES**.

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<sup>2</sup> Project comprising large area archaeological survey, which maps and records archaeological features using aerial photographs and airborne laser scanning (LiDAR) as the main sources.

9.3.28 The heritage assets identified within the data search comprise a number of different asset types with differing characteristics. The Settings Assessment Scoping Report provided in **Volume 1, Annex 6L.1** of the **ES** has regard to the specific nature of each asset's setting and considers factors such as visibility of the proposed development in views of and from heritage assets as well as other potential perceptual changes such as increased traffic movements and noise.

g) **Assumptions and limitations**

9.3.29 The following limitations have been identified:

- The assessment development within the site parameters as set out in the description of development at **Section 2.3** of **Chapter 2** of this volume and as illustrated in **Figure 2.1** of this volume;
- desk-based assessment is a predictive tool and relies on a series of assumptions and extrapolations to develop an understanding of the potential extent and character of archaeological remains within the site; and
- evaluation trenching, which tests inferences made on the basis of desk-based assessment. While this approach considers a sample area of a site, it allows a clear understanding of the location, nature and significance of heritage assets which is considered robust.

## 9.4 **Baseline environment**

9.4.1 This section presents a description of the baseline environmental characteristics within the site and in the study area.

9.4.2 Further detail can be found in **Appendices 9A** to **9C** of this volume.

a) **Current baseline**

9.4.3 The baseline environmental information is drawn from the DBA and subsequent evaluation trenching.

9.4.4 The full list of archaeological and historical sites, features, and finds identified within the study area is presented in **Appendix 9A** of this volume (gazetteer). The gazetteer refers to heritage assets by their HER parish number or a National Heritage List for England number.

9.4.5 Heritage records for the study area are illustrated on **Figures 9.1** and **9.2**.

### i. Site Description and Topography

- 9.4.6 The site is located immediately north of the Felixstowe Road and south of the A14 and comprises two agricultural fields separated by a central hedgerow. This encloses an area of approximately 9.4 hectares (ha). The land is under arable cultivation. The topography of the site rises slightly from the A14 southward.
- 9.4.7 The site is situated upon bedrock geology comprising sand of the ‘Crag Group’. These sediments were formed in the Quaternary and Neogene periods, up to 5 million years ago when the local environment was dominated by shallow seas.
- 9.4.8 The superficial geology of the study area is complex and comprises large areas of sand and gravel of the Kesgrave Catchment Subgroup, deposited in fluvial (river) environments up to 3 million years ago in the Quaternary Period around the site and study areas. These superficial deposits decline to the north and south, where the Rivers Orwell and Deben, and their respective tributaries, have scoured gravel away exposing the bedrock beneath.
- 9.4.9 The British Geological Survey records Kesgrave Catchment Subgroup deposits completely underlying the site and associated study areas. The soils comprise freely draining slightly acidic loamy soils (Ref. 9.26).

### ii. Designated Heritage Assets

- 9.4.10 There are no designated heritage assets within the site.
- 9.4.11 There are three scheduled monuments within the study area (SM 1011342, SM 1011343, SM 1011344), the closest of which is located 110m south-east of the site boundary (SM 1011344). These are elements of a larger round barrow cemetery which extends up to 1km to the west of the site boundary and includes a further three scheduled monuments (SM 1011339, SM 1011340, SM 1011341). These monuments all relate to evidence of a Bronze Age round barrow/bowl barrow cemetery on Levington Heath. The majority of the scheduled monuments comprise individual bowl barrows in varying states of preservation and the largest, 650m east of the site boundary (SM 1011340), covers three bowl barrows and a ring ditch. All scheduled monuments are designated assets of high heritage significance.
- 9.4.12 The Grade II listed Decoy Cottage (LB 1183186) is located in woodland approximately 900m south-west of the site.
- 9.4.13 Designated assets are listed in the gazetteer in **Appendix 9A** of this volume and illustrated on **Figure 9.1**.

### iii. Non-designated heritage records

- 9.4.14 Four HER records are located within the site. These are two Bronze Age ring ditches indicative of bowl barrows (LVT 024 and LVT 025; part of an observed complex of four barrows identified through aerial photography), one small natural mound (LVT 026) and a linear ditch interpreted as a land boundary of unknown date (LVT 010).
- 9.4.15 A further 38 HER records are located within the study area. These records comprise a variety of heritage features, most pertinently further ring-ditches indicative of barrows 310m south of the site boundary (LVT 051), 380m south of the site boundary (LVT 052), 215m south-west of the site boundary (LVT 029), 210m west of the site boundary (LVT 037) and 115m west of the site boundary (LVT 023). Five archaeological events have been recorded within the HER including an evaluation recording an area of prehistoric occupation 300m north of the site boundary (ESF18928).
- 9.4.16 Details of four findspots recorded under the PAS were also received from the SCC HER.
- 9.4.17 Non-designated assets, and previous archaeological events are listed in the gazetteer in **Appendix 9A** of this volume and illustrated on **Figure 9.2**.

### iv. Historic landscape character

- 9.4.18 The majority of the site is recorded within the Suffolk HLC as being *Post-18th Century Enclosure sub-type 2.1*, referring to common arable or heathland, with the remainder (a small amount of land in the north-west extent) categorised as *Communications sub-type 14.1 (major road)*. This characterisation represents late Heathland enclosure and is of low heritage significance. The A14 passes to the north of the site, and Felixstowe Road runs to the south. These roads are classified as *Communications*, along with the railway passing to the south. These character types are of low heritage significance, forming part of a larger transport network.
- 9.4.19 Hedgerows which could be considered of historic interest are present along the site boundaries, and within the centre of the site. These hedgerows are also shown to be located along the site boundary on historic Ordnance Survey mapping. They contribute to the overall historic landscape character. These hedgerows are best considered of low heritage significance as relict elements of the historic landscape.
- 9.4.20 The HLC areas are illustrated on **Figure 9.3**.

## v. Archaeological and Historical Background

### Prehistoric (Neolithic, Bronze Age and Iron Age)

- 9.4.21 Two prehistoric monuments are marked within the site by the SCC HER (LVT 024 and LVT 025). These are ring ditches indicating Bronze Age barrows, both observed on aerial photography and excavated prior to the construction of the Ipswich Southern Bypass/A14 in 1978. A smaller mound within the site resembling a barrow was also excavated (LVT 026) but was revealed to be natural in origin. A linear ditch feature (LVT 010), visible within the site as a crop-mark, is undated but appears to respect the location of the above noted ring ditches. Both prehistoric ring ditches within the site, on excavation, contained Bronze Age pottery. The latter of the two ring ditches (LVT 025) contained the remains of a cremation beneath an inverted collared urn.
- 9.4.22 These ring ditches were not investigated in the 2019 evaluation trenching provided in **Appendix 9C** of this volume at the request of SCCAS as they had previously been excavated in 1978. The cropmarks of a third possible ring ditch were investigated and a curvilinear ditch, consistent with those cropmarks was observed. Prehistoric activity uncovered at the site mainly comprised scattered charcoal-rich pits. Extensive truncation of the site during modern cultivation is believed to have occurred and is likely to have removed a large number of archaeological features from the site, leaving the bases of larger pits and ditches in relative isolation.
- 9.4.23 The features observed on the site appear to be related to the group of scheduled and non-designated bowl barrows located to the east and south-east, comprising the scheduled monuments noted above (SM 1011339, SM 1011341, SM 1011342, SM 1011343, SM 1011344, SM 1011340) and further non-designated cropmarks recorded 310m south of the site (LVT 051), 380m south of the site (LVT 052), 215m south-west of the site boundary (LVT 029), and 210m west of the site (LVT 037).
- 9.4.24 A ring ditch located 115m north-west of the site (LVT 023) was also excavated as part of the investigations in 1978. Bronze Age pottery was recorded here in addition to Iron Age and Romano-British pottery in the upper levels of the excavated ditch. Four metres to the east of this third ring, the excavation recorded the remains of a cremation outside the barrow ditch, indicating that further funerary remains could survive outside of the extent of the known monuments.
- 9.4.25 300m north of the site, the monitoring of works on the laying of a pipeline between Alton Water and Bucklesham (no parish number recorded) recorded an area of apparent prehistoric occupation indicated by the

presence of prehistoric pottery sherds associated with a large enclosure ditch and other structural remains including postholes, ditches and burnt clay resembling a hearth. Previous observations of prehistoric evidence throughout the study area comprise the observation of aerial photographs, with the presence of ring-ditches indicating barrows noted throughout the study area.

- 9.4.26 The potential for further coherent remains of the prehistoric settlement and funerary landscape within the site is considered to be low, resulting from extensive truncation by modern cultivation. The limited preservation of the three confirmed and possible ring ditches observed in the site means that there is limited potential of archaeological investigation to add to the state of understanding of these features. This results from modern truncation having disturbed any associated burials and mound material, and from previous archaeological investigation. These features are also not readily discernible and therefore do not hold historic interest which depends on the viewer's ability to perceive and interact with features. By forming part of a wider group, however, their significance is reinforced and these features are consequently of medium heritage significance.

#### Romano-British

- 9.4.27 At present, no records dating to the Romano-British period are known from within the site boundary. Within the study area, two chance finds dating to the Romano-British period are recorded, in the form of a denarius of Vespasian and bronze enamelled plate (LVT 032). Field systems, trackways and enclosures observed in aerial photography have been interpreted as of prehistoric-Roman period date (SNH 005, LVT 013, BUC 015).
- 9.4.28 No evidence for archaeological activity of this date was observed in the evaluation trenching provided in **Appendix 9D** of this volume, although a shallow pit in one of the trenches contained a first century Roman brooch. No other features or finds were associated with it, and the potential for further remains to be present within the site is considered to be low.

#### Early-medieval

- 9.4.29 No finds or features dating to the early-medieval period are currently recorded on the HER within the site. While the site is located within the parish of Levington where pre-conquest landholdings are recorded, early-medieval evidence from the study area is limited to chance finds of a brooch, recorded through metal detection 345m west of the site (LVT 031) and Ipswich ware pottery, found 45m south-west of the site (LVT 036)

- 9.4.30 No evidence for archaeological remains of this date were observed in the evaluation trenching.

#### Medieval

- 9.4.31 No finds or sites dating to the medieval period are currently known within the site. A field system visible as cropmarks 390m north-east of the site has been interpreted as of medieval date (BUC 013), and medieval ditches were also recorded in aerial photographs and archaeological evaluation 345m south-west of the site (LVT 036).

- 9.4.32 Some heavily truncated ditches containing small fragments of medieval pottery were observed during the evaluation trenching, but it is not clear whether these ditches were of medieval date or whether the pottery observed was intrusive. These remains are of very low significance for archaeological interest.

#### Post-medieval and modern

- 9.4.33 The site is located immediately north of the Felixstowe Road. During the 19th century this road appears to have been the major route between the two towns, running parallel to the Ipswich-Felixstowe Railway following the latter's construction in the 1870s.

- 9.4.34 The site was located in a band of heathland prior to a private Act of Enclosure in 1803 which divided 760 acres of heath into rectangular fields (Ref. 9.27). This correlates with the HLC, which defines the area as *post-18th century enclosed land*. The SCC HER records cropmarks of field boundaries (LVT 011, LVT 054, LVT 058 and SNH 001) and a quarry pit (LVT 053) within the study area.

- 9.4.35 The modern period is represented by WWI practice trenches (LVT 011), and WWII bombing decoys (BUC 061) and anti-glider ditch and barbed wire fence (LVT 048). The major late-20th century changes on the fringes of the site centre on the construction of the A14 in the late 1970s/early 1980s, including attenuation ponds immediately north of the site boundary.

- 9.4.36 A modern ditch was observed during the trial trenching provided in **Appendix 9C** of this volume. This feature does not hold heritage interest.

#### vi. Previous impacts

- 9.4.37 The site has been in agricultural use for some time, probably since at least the medieval period. The site remains in arable cultivation except where it includes part of the unclassified Felixstowe Road. Long-term ploughing in

this area has demonstrably affected the survival of any below ground archaeology.

vii. [Archaeological heritage assets within the site subject to potential direct effects](#)

9.4.38 The DBA, and evaluation trenching confirm that buried archaeological remains of three confirmed or probable Bronze Age funerary monuments, which would be of medium heritage significance, are located within the site boundary.

viii. [Heritage assets subject to potential indirect effects](#)

9.4.39 The following asset group subject to potential indirect effects were scoped into the assessment and the Settings Assessment Scoping Report following discussion with consultees provided in **Volume 1, Annex 6L.1** of the **ES**:

[Scheduled bowl barrows and ring ditch south-west of Redhouse Farm \(SM 1011339, 1011340, 1011341, 1011342, 1011343, 1011344\): heritage significance and contribution of setting](#)

9.4.40 The six scheduled monuments form a group covering a total of eight bowl-barrows and a ring-ditch within 1km of the site. All of these features, as nationally designated heritage assets, are of high heritage significance for archaeological interest.

9.4.41 The scheduled monuments extend in a line south-east to north-west, along the line of the A14 at this location. The monuments lie in a fairly open landscape on a low-lying ridge of land between two rivers (the Orwell to the south and Deben to the north-east). The monuments themselves retain a presence in the landscape and appear as either low-lying earthen mounds or as cropmarks. The most well-preserved at surface level (SM 1011339) is recorded as a low mound of 2.5m height, 875m south-east of the site boundary. The remaining barrows vary between 0.25m and 0.6m in height, having been damaged by ploughing. The closest barrow to the site boundary (SM 1011344) is recorded as surviving to a height of 0.6m and is located 100m south-east of the site, separated from the other scheduled monuments by the A14 as it runs through Levington Heath to the north. The monuments' location also forms part of the parish boundary between Levington and Nacton to the south, and Bucklesham and Foxhall to the north.

9.4.42 Each individual scheduled monument forms part of a barrow cemetery on Levington Heath. Funerary monuments of this type date from the Late Neolithic Period to the Late Bronze Age, and often occupy prominent locations within the landscape. Assets of this type are of importance due to

their contribution to an understanding of the belief systems and social organisation among early prehistoric communities.

- 9.4.43 The proximity of the assets to one another, and their wider landscape, provides a context from which their archaeological and historical interests as funerary monuments can be understood and appreciated. This includes the presence of two non-designated round barrows recorded within the site - an additional non-designated round barrow 70m to the west of the site (LVT 022) and a possible round barrow 275m to the south of the site (LVT 051), although both are only visible as crop marks, and therefore have a limited physical contribution to the setting of the scheduled monument group. The presence of later field boundaries, farm buildings and modern transport infrastructure in the form of the A14 partially truncates the setting of these assets in aesthetic/historical terms. This is done by affecting movement and views between the monuments, most of which are not immediately perceptible. The monuments' location along the parish line suggests a continuity of use of the landscape that is not fully understood, and extends the historic interest to the wider landscape and different historical periods through providing an illustration of how past cultures recycled and responded to earlier sites and features. This contributes to the historic interests of these assets. This makes a moderate contribution to their current heritage significance.

b) **Future baseline**

- 9.4.44 There are no committed development(s) or forecasted changes that would materially alter the baseline conditions during the construction, operation and removal and reinstatement phases of the proposed development.

## 9.5 **Environmental design and mitigation**

- 9.5.1 As detailed in **Volume 1, Chapter 6** of the **ES**, a number of primary mitigation measures have been identified through the iterative EIA process and have been incorporated into the design and construction planning of the proposed development. Tertiary mitigation measures are legal requirements or are standard practices that would be implemented as part of the proposed development.
- 9.5.2 The assessment of likely significant effects of the proposed development assumes that primary and tertiary mitigation measures are in place. For the terrestrial historic environment, these measures are identified below, with a summary provided on how the measures contribute to the mitigation and management of potentially significant environmental effects.

#### a) Primary mitigation

9.5.3 Primary mitigation is often referred to as ‘embedded mitigation’ and includes modifications to the location or design to mitigate impacts, these measures become an inherent part of the proposed development.

9.5.4 Change to setting arising from visibility of the proposed development can give rise to loss of or harm to historic and architectural interests and perceptual change to existing field boundaries, and land use can give rise to harm to historic landscape character.

9.5.5 A number of mitigation measures have been identified and incorporated into the design for both the construction and operation phases of the proposed development, which will help to manage and reduce potential environmental effects. These are set out within **Chapter 2**, and include the following:

- existing boundary vegetation would be retained where possible, and all species-rich hedgerows would be retained. However, an existing hedgerow through the centre of the site would be removed for the duration of the construction and operation phases before being reinstated;
- A 10m buffer zone is proposed around the north, east and west boundaries of the site. There would be additional planting around all boundaries of the site, to supplement the existing boundary vegetation. Where agreed with landowners, this enhanced planting would be retained as permanent.
- three landscape bunds are proposed within the site; two on the western boundary and another on the eastern boundary. The bunds would be a maximum of 3m high and would provide a visual screen between the site and surrounding roads and rights of way users; and
- planting would also be provided within and around the parking areas to create visual breaks. This would likely include areas of shrub planting as well as individual trees, subject to final layout in detailed design.

#### b) Tertiary mitigation

9.5.6 Tertiary mitigation will be required regardless of any EIA assessment, as it is imposed, for example, as a result of legislative requirements and/or standard sectoral practices.

9.5.7 The **Code of Construction Practice (CoCP)** (Doc Ref. 8.11) sets out best-practice measures for the reduction of potential impacts from construction activities on setting. These include measures identified in **Chapters 4 and 6** of this volume to minimise noise, lighting and visual impacts. These have been considered as tertiary mitigation where appropriate.

9.5.8 NPS EN-1 requires mitigation of any loss of archaeological interest through development. Consequently, archaeological mitigation may be required in cases where effects are assessed as less than significant. However, for the purposes of this assessment, all archaeological mitigation is considered as secondary mitigation, and discussed within **section 9.7** of this chapter. The effects of any loss of archaeological significance presented in **section 9.6** of this chapter are considered in the absence of mitigation.

## 9.6 Assessment

### a) Introduction

9.6.1 This section presents the findings of the terrestrial historic environment assessment for the construction, operation and removal and reinstatement of the proposed development.

9.6.2 This section identifies any likely significant effects that are predicted to occur and **section 9.7** of this chapter then highlights any secondary mitigation and monitoring measures that are proposed to minimise any adverse significant effects (if required).

### b) Construction

#### i. Direct effects on heritage assets

9.6.3 Intrusive groundworks would take place across the site, including topsoil stripping, sub-soil disturbance and excavation of the swale and attenuation tanks. In addition, a hedgerow would be removed from the centre of the site. Invasive works of this nature would adversely affect any surviving sub-surface archaeological remains, reducing or removing their ability to be further interpreted, resulting in a loss of archaeological interest.

9.6.4 The HER records previous evaluation exercises within the site, which have established the presence of prehistoric remains. Aerial photography and archaeological excavation have confirmed the presence of previously unrecorded archaeological remains on the site that are part of remains of a group of Bronze Age bowl barrows and cremation remains which are of high significance for archaeological interest.

9.6.5 Any surviving archaeological remains within the site would be substantially disturbed, if not removed entirely, by the proposed development. This would result in a high magnitude of impact on an asset of medium heritage significance, resulting in a major adverse effect, which would be **significant**.

ii. Effects arising through change to the setting of heritage assets

Scheduled bowl barrows and ring ditch south-west of Redhouse Farm (SM 1011339, 1011340, 1011341, 1011342, 1011343, 1011344)

*Predicted change*

9.6.6 The construction of the proposed development would result in the complete removal or disturbance of surviving archaeological remains within the site, including the surviving remains of recorded barrows (LVT 024, LVT 025) and the probable barrow observed during the evaluation trenching. However, these features are poorly preserved, are not readily visible above ground and do not contribute to the current visible landscape context in which the monuments sit.

9.6.7 The construction of the proposed development would take place over a 12-18-month period. This would introduce a new visible element into the wider landscape.

9.6.8 Visibility of the proposed development would vary in views from the asset group, with the views and perceptual change to setting being clearest from the barrow to the south of the A14 (SM 1011344). Visibility of the construction of the proposed development from the assets to the north of the A14 would be limited, if not entirely precluded, by the existing planting on both sides of the A14.

9.6.9 The presence of the construction activity would not affect the ability to understand the monuments, nor their wider landscape, and would be broadly consistent with proximity of the site to the existing road network. The proposed development incorporates landscaping measures in design, including screening via planting along existing hedgerows and landscape bunds at the eastern, northern and western boundaries.

*Significance of effect*

9.6.10 Visibility of the proposed development would be precluded by intervening planting in views from the bowl barrow 820m south-west of Redhouse Farm (SM 1011339), which is also separated from the site by the existing A14. The potential loss of related archaeological remains within the site would

not discernibly affect the perceptual elements of setting that contribute to heritage significance and no effect would arise.

9.6.11 Visibility of the proposed development would be all but precluded by intervening planting in views from the three bowl barrows and a ring ditch, 700m south-west of Redhouse Farm (SM 1011340), which is also separated from the site by the existing A14. The potential loss of related archaeological remains within the site would not discernibly affect the perceptual elements of setting that contribute to heritage significance and no effect would arise.

9.6.12 Visibility of the proposed development would be all but precluded by intervening planting in views from the bowl barrow 750m south-west of Redhouse Farm (SM 1011341), which is also separated from the site by the existing A14. The potential loss of related archaeological remains within the site would not discernibly affect the perceptual elements of setting that contribute to heritage significance and no effect would arise.

9.6.13 There is clear visibility of the proposed site across the A14 from the bowl barrow 900m south-west of Redhouse Farm (SM 1011342) and the bowl barrow 980m south-west of Redhouse Farm (SM 1011343). These barrows are not readily discernible to the viewer, however, and these views make a limited contribution to their setting. Loss of related archaeological remains within the site would give rise to limited harm to the archaeological interests of this asset, though this would be restricted by the poor preservation of these remains. The impact would be of very low magnitude on a high significance receptor, resulting in a minor adverse effect that would be **not significant**.

9.6.14 The bowl barrow 1200m south-west of Redhouse Farm (SM 1011344) is not readily discernible, but would be located very close to the proposed site and construction works would be prominently visible. Loss of related archaeological remains within the site would give rise to limited harm to the archaeological interests of this asset, though this would be restricted by the poor preservation of these remains. This would be a low magnitude impact on a high significance receptor, resulting in a moderate adverse effect, which would be **significant** in the absence of mitigation.

### iii. Effects arising from change to historic landscape character

9.6.15 The construction of the proposed development would alter the historic landscape character of the site and its immediate surroundings. This alteration would result from moving the site out of agricultural use and altering its form through the necessary removal of a hedgerow in the centre of the field and the construction of a large parking area, thus removing

evidence of the enclosed agricultural landscape. The proposed planting at the eastern, northern and western borders of the site would effectively keep the change to existing landscape character internal to the field, containing the change.

- 9.6.16 The construction phase would result in a low magnitude impact on a low significance receptor, resulting in a minor adverse effect, which would be **not significant**.

iv. Inter-relationship effects

- 9.6.17 The archaeological remains on the site are not sensitive to changes predicted within this **ES** other than the direct disturbance considered above and consequently no inter-relationship effects are anticipated.

- 9.6.18 Effects including landscape and visual and noise and vibration have been considered within the settings assessment. Therefore, the consideration of inter-relationship effects forms an inherent part of the assessment presented within this chapter and no further inter-relationship effects are anticipated.

c) Operation

i. Direct effects on heritage assets

- 9.6.19 Any disturbance and or removal of archaeological heritage assets within the site would have occurred during the construction of the proposed development. No further effects are anticipated during the operation of the proposed development.

ii. Effects arising through change to the setting of heritage assets

Scheduled bowl barrows and ring ditch south-west of Redhouse Farm (SM 1011339, 1011340, 1011341, 1011342, 1011343, 1011344)

*Predicted change*

- 9.6.20 The presence of the proposed development would persist although the provision of additional planting in existing hedgerows and the landscape bund on the eastern boundary would mean that any sense of intrusion would be reduced from that experienced during construction. The increase in heavy goods traffic along the A14 and Felixstowe Road predicted in the Transport Assessment provided in **Volume 2, Chapter 10** of the **ES** would be insufficient to give rise to any qualitative change in the perception of these heritage assets.

- 9.6.21 Effects on archaeological remains within the site which are associated with the scheduled monuments will have occurred during the construction phase and no further effects are anticipated as a result of the operation of the proposed development.

*Significance of effect*

- 9.6.22 The proposed development would remain screened by intervening planting in views from the bowl barrow 820m south-west of Redhouse Farm (SM 1011339), the three bowl barrows and a ring ditch, 700m southwest of Redhouse Farm (SM 1011340) and the bowl barrow 750m southwest of Redhouse Farm (SM 1011341). No further disturbance of related remains would arise and no effect would arise as a result of the operation of the proposed development.

- 9.6.23 There would be clear visibility of the operation of the proposed site across the A14 from the bowl barrow 900m south-west of Redhouse Farm (SM 1011342) and the bowl barrow 980m south-west of Redhouse Farm (SM 1011343) with minimal screening. No further disturbance of related remains would arise. This visibility would give rise to limited harm to heritage significance and the impact would remain of very low magnitude on an asset of high heritage significance, resulting in a minor adverse effect that would be **not significant**.

- 9.6.24 There would be visibility of the operation of the proposed site from the Bowl barrow 1200m south-west of Redhouse Farm (SM 1011344), although this would be partially screened by planting and bunding, although the bunding would itself form an intrusive visual element. This visibility would give rise to limited harm to heritage significance and the impact would remain of very low magnitude on an asset of high heritage significance, resulting in a minor effect that would be **not significant**.

iii. *Effects arising from change to historic landscape character*

- 9.6.25 The operation of the proposed development would detract from the historic landscape character, which is of low heritage significance, of surrounding enclosed agricultural fields, while adding to the communications landscape character to the north and south of the site. The landscaping strategy set out for the site would involve the retention of existing boundary vegetation and a 10m buffer zone around the north, east and west site boundaries. The addition of two grassed landscape bunds utilising spoil on the western site boundary and another on the eastern boundary would add to a visual screen in these areas, closing the operational facility off from the rest of the agricultural landscape.

9.6.26 This would be a medium magnitude impact on a low sensitivity receptor, resulting in a minor adverse effect, which would be **not significant**.

iv. *Inter-relationship effects*

9.6.27 Effects including noise, and landscape and visual have been considered within the settings assessment. Therefore, the consideration of inter-relationship effects forms an inherent part of the assessment presented within this chapter.

d) *Removal and reinstatement*

i. *Direct effects on heritage assets*

9.6.28 Any disturbance and or removal of archaeological heritage assets within the site would have occurred during the construction of the proposed development. No further effects are anticipated during removal and reinstatement.

ii. *Effects arising through change to the setting of heritage assets*

*Scheduled bowl barrows and ring ditch south-west of Redhouse Farm (SM 1011339, 1011340, 1011341, 1011342, 1011343, 1011344)*

*Predicted change*

9.6.29 While construction-related activity may be visible or potentially audible at times during removal and reinstatement, works would mostly take place within the screening bunds and screening planting, with progressive removal of the bunding during the return of the site to agricultural use. These works would be perceived as the progressive removal of the development, presenting a short-term and temporary change in setting that would not diminish heritage significance. The return of the site to agricultural use and the restoration of sections of hedgerows which were removed at construction would effectively reverse any perceptual change to setting of the scheduled monuments.

*Significance of effect*

9.6.30 The limited duration of the removal and reinstatement works would represent the progressive return of the site to agricultural use and the removal of visual elements associated with the operating facility would result in no change from the baseline condition. No effect would arise.

### iii. Effects arising from change to historic landscape character

- 9.6.31 The removal and reinstatement phase would see a return to the existing landscape character of the site through a return to agricultural use and replanting of the central hedgerow, which would serve to restore the former enclosed arrangement of the fields within the site. The return of the site to agricultural use and the restoration of sections of hedgerows which were removed at construction would effectively reverse any perceptual change in the historic landscape resulting in no change from the baseline condition. No effect would arise.

### iv. Inter-relationship effects

Any visual effects would arise as a result of effects on valued views which represent a subset of the changes already considered within the assessments of effects arising as a result of change to setting and historic landscape character. Therefore, the consideration of inter-relationship effects forms an inherent part of the assessment presented within this chapter and no further inter-relationship effects would arise.

## 9.7 Mitigation and monitoring

### a) Introduction

- 9.7.1 Primary and tertiary mitigation measures which have been accounted for as part of the assessment are summarised in **section 9.5** of this chapter. Where required, secondary mitigation measures have been proposed.

- 9.7.2 This section describes the proposed secondary mitigation measures for terrestrial historic environment as well as describes any monitoring required of specific receptors/resources or for the effectiveness of a mitigation measure.

### b) Mitigation

- 9.7.3 It has been established that there is a potential for further remains dating to the Bronze Age period within the site, which could be of medium heritage significance and in the absence of further mitigation would be subject to a significant adverse effect.

- 9.7.4 Secondary mitigation in this case would comprise the adoption of an agreed scheme of archaeological investigation to ensure that the archaeological interest of any significant deposits and features within the site could be appropriately investigated, recorded, and disseminated in order to preserve the archaeological interest of these remains. This would ensure that the magnitude of the impact on buried archaeological remains from the

proposed development would be reduced to low, resulting in a minor adverse effect, which would be **not significant**.

- 9.7.5 This secondary mitigation would also allow information to be derived from investigation of any archaeological remains within the site which are associated with the group of scheduled barrows. This would provide useful information that would support interpretation, management and understanding of the scheduled asset group. Consequently, the low magnitude of adverse impact on the bowl barrow 1200m south-west of Redhouse Farm (SM 1011344) arising through the change to setting would be reduced to very low as a result of the enhanced understanding of the relationships which are lost through disturbance. The residual impact on this asset of high heritage significance would be very low, a minor adverse effect that would be **not significant**.
- 9.7.6 An overarching archaeological written scheme of investigation (WSI) has been produced for the Sizewell C Project provided in **Appendix 16H** of **Volume 2** of the **ES**. An individual site-specific WSI would be produced and agreed with SCCAS to set out specific mitigation proposals for this site.
- 9.7.7 Publication and popular dissemination of the results, including publication of the results of the mitigation fieldwork to provide an understanding of these ring ditches in their wider context would allow any informative and historic value to be fully realised, and details would be set out within the WSIs.

#### c) Monitoring

- 9.7.8 Monitoring of the agreed scheme of archaeological investigation would be carried out by SCCAS during its implementation. The details of such monitoring would be set out within the WSIs.

### 9.8 Residual effects

- 9.8.1 **Tables 9.6, 9.7 and 9.8** present a summary of the terrestrial historic environment assessment. They identify the receptor/s likely to be impacted, the level of effect and, where the effect is deemed to be significant, the tables include the mitigation proposed and the resulting residual effect.
- 9.8.2 In general, mitigation through recording would be effective in retaining much of the archaeological interest of a heritage asset. However, to reflect the basic principle, acknowledged in NPS EN-1, that a retained record is not as valuable as archaeological interest retained in an asset which is actively conserved, this mitigation would serve as partial mitigation, reducing the magnitude of any adverse effect to low. In all cases identified in this assessment, this mitigation would be sufficient to ensure that no

residual significant adverse effects would arise as a result of disturbance of archaeological remains.

**Table 9.6: Summary of effects for the construction phase**

Receptor	Impact	Primary or Tertiary Mitigation	Assessment of effects	Additional Mitigation	Residual Effects
Archaeological remains within the site	Loss of archaeological interest through material disturbance.	None	Major adverse effect ( <b>significant</b> )	Agreed scheme of archaeological investigation.	Minor adverse effect ( <b>not significant</b> )
Bowl barrow 820m south-west of Redhouse Farm (SM 1011339)	Potential loss of heritage significance through change to setting.	None	No effect	None required	No effect
Three bowl barrows and a ring ditch, 700m south-west of Redhouse Farm (SM 1011340)	Potential loss of heritage significance through change to setting.	None	No effect	None required	No effect
Bowl barrow 750m south-west of Redhouse Farm (SM 1011341)	Potential loss of heritage significance through change to setting.	None	No effect	None required	No effect
Bowl barrow 900m south-west of Redhouse Farm (SM 1011342)	Potential loss of heritage significance through change to setting.	None	Minor adverse effect ( <b>not significant</b> )	Publication of the results of the mitigation fieldwork to enhance understanding of these ring ditches in their wider context.	Minor adverse effect ( <b>not significant</b> )
Bowl barrow 980m south-west of Redhouse Farm (SM 1011343)	Potential loss of heritage significance through change to setting.	None	Minor adverse effect ( <b>not significant</b> )	Publication of the results of the mitigation fieldwork to enhance understanding of these ring	Minor adverse effect ( <b>not significant</b> )

Receptor	Impact	Primary or Tertiary Mitigation	Assessment of effects	Additional Mitigation	Residual Effects
				ditches in their wider context.	
Bowl barrow 1200m south-west of Redhouse Farm (SM 1011344)	Potential loss of heritage significance through change to setting.	None	Moderate adverse effect ( <b>significant</b> )	Publication of the results of the mitigation fieldwork to enhance understanding of these ring ditches in their wider context.	Minor adverse effect ( <b>not significant</b> )
Historic landscape character	Potential loss of heritage significance through change to use of site.	Design measures including planting and maintenance of hedgerows of site boundary. Selection of site close to existing trunk road. Retention of boundary hedgerows.	Minor adverse effect ( <b>not significant</b> )	None required	Minor adverse effect ( <b>not significant</b> )

**Table 9.7: Summary of effects for the operational phase**

Receptor	Impact	Primary or Tertiary Mitigation	Assessment of effects	Additional Mitigation	Residual Effects
Archaeological remains within the site	No impact.	None	No further effects.	None required	No further effects.
Bowl barrow 820m south-west of Redhouse Farm (SM 1011339)	Potential loss of heritage significance through change to setting.	Provision of bunding and planting to screen visibility of the proposed scheme.	No effect	None required	No effect
Three bowl barrows and a ring ditch,	Potential loss of heritage significance	Provision of bunding and planting to	No effect	None required	No effect

Receptor	Impact	Primary or Tertiary Mitigation	Assessment of effects	Additional Mitigation	Residual Effects
700m south-west of Redhouse Farm (SM 1011340)	through change to setting.	screen visibility of the proposed scheme.			
Bowl barrow 750m south-west of Redhouse Farm (SM 1011341)	Potential loss of heritage significance through change to setting.	Provision of bunding and planting to screen visibility of the proposed scheme.	No effect	None required	No effect
Bowl barrow 900m south-west of Redhouse Farm (SM 1011342)	Potential loss of heritage significance through change to setting.	Provision of bunding and planting to screen visibility of the proposed scheme.	Minor adverse effect ( <b>not significant</b> )	None required	Minor adverse effect ( <b>not significant</b> )
Bowl barrow 980m south-west of Redhouse Farm (SM 1011343)	Potential loss of heritage significance through change to setting.	Provision of bunding and planting to screen visibility of the proposed scheme.	Minor adverse effect ( <b>not significant</b> )	None required	Minor adverse effect ( <b>not significant</b> )
Bowl barrow 1200m south-west of Redhouse Farm (SM 1011344)	Potential loss of heritage significance through change to setting.	Provision of bunding and planting to screen visibility of the proposed scheme.	Minor adverse effect ( <b>not significant</b> )	None required	Minor adverse effect ( <b>not significant</b> )
Historic landscape character	Potential loss of heritage significance through change to use of site and interaction with surroundings.	Design measures including planting and maintenance of hedgerows of site boundary.	Minor adverse effect ( <b>not significant</b> )	None required	Minor adverse effect ( <b>not significant</b> )

**Table 9.8: Summary of effects for the removal and reinstatement phase**

Receptor	Impact	Primary or Tertiary Mitigation	Assessment of effects	Additional Mitigation	Residual Effects
Archaeological remains within the site	No impact.	None	No further effects	None required	No further effects
Bowl barrow 820m south-west of Redhouse Farm (SM 1011339)	Potential loss of heritage significance through change to setting.	None	No effect	None required	No effect
Three bowl barrows and a ring ditch, 700m south-west of Redhouse Farm (SM 1011340)	Potential loss of heritage significance through change to setting.	None	No effect	None required	No effect
Bowl barrow 750m south-west of Redhouse Farm (SM 1011341)	Potential loss of heritage significance through change to setting.	None	No effect	None required	No effect
Bowl barrow 900m south-west of Redhouse Farm (SM 1011342)	Potential loss of heritage significance through change to setting.	None	No effect	None required	No effect
Bowl barrow 980m south-west of Redhouse Farm (SM 1011343)	Potential loss of heritage significance through change to setting.	None	No effect	None required	No effect
Bowl barrow 1200m south-west of Redhouse Farm (SM 1011344)	Potential loss of heritage significance through change to setting.	None	No effect	None required	No effect
Historic landscape character	Change would represent reversal of any	None	No effect	None required	No effect

Receptor	Impact	Primary or Tertiary Mitigation	Assessment of effects	Additional Mitigation	Residual Effects
	operational effect.				

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