



The Great Grid Upgrade

Sea Link

Sea Link

Volume 6: Environmental Statement

Document : 6.2.3.3
Part 3 Kent
Chapter 3
Cultural Heritage

Planning Inspectorate Reference: EN020026

Version: A
March 2025

Infrastructure Planning (Applications: Prescribed Forms and
Procedure) Regulations 2009 Regulation 5(2)(a)

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3. Cultural Heritage

3.1 Introduction

- 3.1.1 This chapter of the Environmental Statement (ES) presents the assessment of the likely significant cultural heritage effects that could result from the Proposed Project (as described in **Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project**). It specifically identifies and proposes mitigation measures to address the potential impacts and likely significant effects of the Proposed Project on cultural heritage associated with the Kent Onshore Scheme, during the construction, operation and maintenance, and decommissioning of the Proposed Project.
- 3.1.2 The Order Limits, which illustrate the boundary of the Proposed Project, are shown on **Application Document 2.2.1 Overall Location Plan** and the Kent Onshore Scheme Boundary is illustrated on **Application Document 2.2.3 Kent Location Plan**.
- 3.1.3 This chapter should be read in conjunction with:
- **Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project;**
 - **Application Document 6.2.1.5 Part 1 Introduction Chapter 5 EIA Approach and Methodology;**
 - **Application Document 6.2.1.6 Part 1 Introduction Chapter 6 Scoping Opinion and EIA Consultation;** and
 - **Application Document 6.2.3.1 Part 3 Kent Chapter 1 Landscape and Visual.**
- 3.1.4 This chapter is supported by the following figures:
- **Application Document 6.4.3.3 Cultural Heritage;** and
 - **Application Document 6.4.3.1.8 Representative Viewpoint Visualisations (Landscape and Visual)** and **Application Document 6.4.3.3.8 Representative Viewpoint Visualisations (Cultural Heritage).**
- 3.1.5 This chapter is supported by the following appendices:
- **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report;**
 - **Application Document 6.3.3.3.B Appendix 3.3.B Cultural Heritage Gazetteers;**
 - **Application Document 6.3.3.3.C Appendix 3.3.C Site Photos;**
 - **Application Document 6.3.3.3.D Appendix 3.3.D Geophysical Survey Report;**
 - **Application Document 6.3.3.3.E Appendix 3.3.E Aerial Photographic and LiDAR Report;**
 - **Application Document 6.3.3.3.F Appendix 3.3.F Archaeological Evaluation Trenching Report (Draft);** and

- **Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological Desk-Based Assessment.**

3.1.6 This chapter is supported by the following application documents:

- **Application Document 7.5.4.2 Kent Outline Onshore Overarching Written Scheme of Investigation (Draft);**
- **Application Document 7.5.3 Outline Onshore Construction Environmental Management Plan (CEMP);**
- **Application Document 7.5.3.1 CEMP Appendix A Outline Code of Construction Practice; and**
- **Application Document 7.5.3.2 CEMP Appendix B Register of Environmental Actions and Commitments (REAC).**

3.2 Regulatory and Planning Context

3.2.1 This section sets out the legislation and planning policy that is relevant to the cultural heritage effects assessment. A full review of compliance with relevant national and local planning policy is provided within the **Application Document 7.1 Planning Statement** submitted as part of the application for Development Consent.

3.2.2 Policy generally seeks to minimise cultural heritage effects from development and to avoid significant adverse effects. This applies particularly to physical impacts on assets, as well as permanent impacts arising from change to the setting of heritage assets.

Legislation

3.2.3 Legislation that has been considered in this chapter includes:

- The Ancient Monuments and Archaeological Areas Act 1979 (The Ancient Monuments and Archaeological Areas Act 1979, 2024);
- The Planning (Listed Buildings and Conservation Areas) Act 1990 (Planning (Listed Buildings and Conservation Areas) Act 1990, 2024); and
- The Hedgerows Regulations 1997 (The Hedgerows Regulations, 1997).

Ancient Monuments and Archaeological Area Act 1979

3.2.4 The Ancient Monument and Archaeological Areas Act (1979) ('the Act') is the central piece of legislation for the protection of the archaeological resource (The Ancient Monuments and Archaeological Areas Act 1979, 2024). The first section of the Act requires the Secretary of State to maintain a schedule of nationally important sites. For the purpose of the Act, a monument is defined as:

“a) any building, structure or work, whether above or below the surface of the land, and any cave or excavation;

b) any site comprising the remains of any such building, structure or work or of any cave or excavation; and

c) any site comprising, or comprising the remains of, any vehicle, vessel, aircraft or other moveable structure or part thereof which neither constitutes nor forms part of any work which is a monument as defined within paragraph a) above; d) and any machinery

attached to a monument shall be regarded as part of the monument if it could not be detached without being dismantled’ (Section 61 (7)).”

- 3.2.5 The Act further defines an ancient monument as: *“any Scheduled Monument; and any other monument which in the opinion of the Secretary of State is of public interest by reason of the historic, architectural, traditional, artistic or archaeological interest attaching to it’ (Section 61 (12)).”*
- 3.2.6 A set of criteria, defined as survival/condition, period, rarity, fragility/vulnerability, diversity, documentation, group value and potential, (Annex A, Scheduled Monuments & nationally important but non-scheduled monuments, Department for Culture Media & Sport, October 2013) assist in the decision-making process as to whether an asset is deemed of national importance and best managed by scheduling.

The Planning (Listed Buildings and Conservation Areas Act) 1990

- 3.2.7 The Listed Buildings and Conservation Areas Act (‘LBCA Act’) sets out the principal statutory provisions which must be considered in the determination of any application affecting either listed buildings or conservation areas (Planning (Listed Buildings and Conservation Areas) Act 1990, 2024).
- 3.2.8 Section 66 of the LBCA Act states that in considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.
- 3.2.9 Section 72 of the LBCA Act establishes that special attention be paid to the desirability of preserving or enhancing the character or appearance of a Conservation Area.

The Hedgerow Regulations 1997

- 3.2.10 The Hedgerows Regulations 1997 specify the criteria for identifying whether a hedgerow could be classed as important and, if identified as such, permission is required from the local authority to remove it. The criteria for establishing importance, as set out in Section 4 of the Regulations, and Part II of Scheduled I, includes if a hedgerow marks a pre-1850 parish or town boundary, incorporates any archaeological features, is part of or associated with a pre-1600 estate or manor, or forms an integral part of a pre-Parliamentary enclosure field system.

National Policy

National Policy Statements

- 3.2.11 National Policy Statements (NPS) set out the primary policy tests against which the application for a Development Consent Order (DCO) for the Proposed Project would be considered. Table 3.1 and Table 3.2 below provides details of the elements of the NPS for Energy (EN-1) and the NPS for Electricity Networks Infrastructure (EN-5) that are relevant to this chapter. The assessment has had regard to all the policies relevant to cultural heritage and not just those listed in the table below. NPS EN-3 Renewable Energy Infrastructure has relevance to the Proposed Project, but only in respect of the offshore elements. As such it has no relevance to the assessment presented in this chapter.

Table 3.1 NPS EN-1 requirements relevant to cultural heritage

NPS EN-1 section	Where this is covered in the ES
<p>5.9.6 <i>“Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to Scheduled Monuments or Protected Wreck Sites should be considered subject to the policies for designated heritage assets.”</i></p>	<p>A review of previously recorded non-designated heritage assets, as well as assets identified as part of the assessment process, has been undertaken with the result synthesised in the Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report.</p> <p>Consultation with stakeholders, as well as the results from previous archaeological excavations and evaluation excavations for the Proposed Project, identified that remains of a multi-period site on the Ebbsfleet Peninsula are considered to be of national significance and of schedulable quality. As a result, they have been assessed as such in Section 3.9 of this chapter.</p>
<p>5.9.7 <i>“The Secretary of State should also consider the impacts on other non-designated heritage assets (as identified either through the development plan making process by plan-making bodies, including ‘local listing’, or through the application, examination and decision-making process). This is on the basis of clear evidence that such heritage assets have a significance that merits consideration in that process, even though those assets are of lesser significance than designated heritage assets.”</i></p>	<p>Non-designated assets within the Study Area have been used to inform the baseline, and these are synthesised in the Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report, with the supporting documents provided in: Application Document 6.3.3.3.B Appendix 3.3.B Cultural Heritage Gazetteers; Application Document 6.3.3.3.C Appendix 3.3.C Site Photos; Application Document 6.3.3.3.D Appendix 3.3.D Geophysical Survey Report; Application Document 6.3.3.3.E Appendix 3.3.E Aerial Photographic and LiDAR Report; Application Document 6.3.3.3.F Appendix 3.3.F Draft Archaeological Evaluation Trenching Report; and Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological Desk-Based Assessment.</p> <p>Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report, Section 6, provides an overview of each asset within the Order Limits, with their sensitivity (value) provided.</p>

NPS EN-1 section	Where this is covered in the ES
<p>5.9.9 <i>“The applicant should undertake an assessment of any likely significant heritage impacts of the proposed development as part of the EIA, and describe these along with how the mitigation hierarchy has been applied in the ES (see Section 4.3). This should include consideration of heritage assets above, at, and below the surface of the ground. Consideration will also need to be given to the possible impacts, including cumulative, on the wider historic environment. The assessment should include reference to any historic landscape or seascape character assessment and associated studies as a means of assessing impacts relevant to the proposed project.”</i></p>	<p>An assessment of assets potentially affected by the Proposed Project has been undertaken, and this is detailed in Section 3.9 of this chapter.</p> <p>A proportionate assessment of potential impacts, both physical and on setting, to above and below ground heritage assets, has been undertaken. The assessment includes potential impacts to historic landscape features.</p> <p>This can be found in Section 3.9 of this chapter.</p> <p>Intra-Project and Inter-Project cumulative effects to heritage assets have been assessed with the results presented in Application Document 6.2.3.12 Part 3 Kent Chapter 12 Kent Onshore Scheme Intra-Project Cumulative Effects and Application Document 6.2.3.13 Part 3 Kent Chapter 13 Kent Onshore Scheme Inter-Project Cumulative Effects.</p>
<p>5.9.10 <i>“...the applicant should provide a description of the significance of the heritage assets affected by the proposed development, including any contribution made by their setting. The level of detail should be proportionate to the importance of the heritage assets and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum, the applicant should have consulted the relevant Historic Environment Record (or, where the development is in English or Welsh waters, Historic England or Cadw) and assessed the heritage assets themselves using expertise where necessary according to the proposed development’s impact.”</i></p>	<p>In line with the requirements of the policy, a number of data sources, including the relevant Historic Environment Record, were consulted as part of the cultural heritage assessment. These are synthesised in the Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report, which also includes a section detailing the significance of the designated and non-designated assets. The supporting documents which were used to inform the baseline, as well as assigning significance, are provided in Application Document 6.3.3.3.B Appendix 3.3.B Cultural Heritage Gazetteers; Application Document 6.3.3.3.C Appendix 3.3.C Site Photos; Application Document 6.3.3.3.D Appendix 3.3.D Geophysical Survey Report; Application Document 6.3.3.3.E Appendix 3.3.E Aerial Photographic and LiDAR Report; Application Document 6.3.3.3.F Appendix 3.3.F Draft Archaeological Evaluation Trenching Report; and Application Document 6.3.3.3.G</p>

NPS EN-1 section	Where this is covered in the ES
<p>5.9.11 <i>“Where a site on which development is proposed includes, or the available evidence suggests it has the potential to include, heritage assets with an archaeological interest, the applicant should carry out appropriate desk-based assessment and, where such desk-based research is insufficient to properly assess the interest, a field evaluation. Where proposed development will affect the setting of a heritage asset, representative visualisations may be necessary to explain the impact.”</i></p>	<p>Appendix 3.3.G Geo-archaeological Desk-Based Assessment.</p> <p>An assessment of assets potentially affected by the Proposed Project has been undertaken, and this is detailed in Section 3.9 of this chapter.</p> <p>A desk-based assessment has been undertaken with the result provided in Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report. Full details of works undertaken, including a review of LiDAR data and aerial photographs, geophysical survey, and evaluation trenches, is provided in Application Document 6.3.3.3.C Appendix 3.3.C Site Photos; Application Document 6.3.3.3.D Appendix 3.3.D Geophysical Survey Report; Application Document 6.3.3.3.E Appendix 3.3.E Aerial Photographic and LiDAR Report; Application Document 6.3.3.3.F Appendix 3.3.F Draft Archaeological Evaluation Trenching Report; and Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological Desk-Based Assessment.</p> <p>Visualisations have also been produced to support the setting assessment and are provided in Application Document 6.4.3.1.8 Representative Viewpoint Visualisations (Landscape and Visual) and Application Document 6.4.3.3.8 Representative Viewpoint Visualisations (Cultural Heritage).</p>
<p>5.9.12 <i>“The applicant should ensure that the extent of the impact of the proposed development on the significance of any heritage assets affected can be adequately understood from the application and supporting documents. Studies will be required on those heritage assets affected by noise, vibration, light and indirect impacts, the extent and detail of these studies will be proportionate to the significance of the heritage asset affected.”</i></p>	<p>A holistic approach has been taken to the assessment, with the potential for impacts from aspects such as noise, vibration and lighting considered.</p> <p>The detailed assessment is provided in Section 3.9 of this chapter.</p>
<p>5.9.13 <i>“The applicant is encouraged, where opportunities exist, to prepare proposals which can make a positive contribution to the historic</i></p>	<p>An assessment of effect on heritage assets, and impacts arising from changes to their setting, including visual</p>

NPS EN-1 section	Where this is covered in the ES
<p><i>environment, and to consider how their scheme takes account of the significance of heritage assets affected. This can include, where possible:</i></p> <ul style="list-style-type: none"> <i>enhancing, through a range of measures such a sensitive design, the significance of heritage assets or setting affected</i> <i>considering where required the development of archive capacity which could deliver significant public benefits</i> <i>considering how visual or noise impacts can affect heritage assets, and whether there may be opportunities to enhance access to, or interpretation, understanding and appreciation of, the heritage assets affected by the scheme.”</i> 	<p>change, has been undertaken. The assessment is based on the significance of the asset, as described in the baseline report (Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report), with the assessment provided in Section 3.9 of this chapter.</p>
<p>5.9.14 <i>“Careful consideration in preparing the scheme will be required on whether the impacts on the historic environment will be direct or indirect, temporary, or permanent”.</i></p>	<p>In line with the requirements of the policy, Section 3.8 of this chapter details how the Kent Onshore Scheme has been carefully considered to avoid, reduce or mitigate likely significant effects on cultural heritage assets. Where impacts are assessed, consideration is given to the direct, indirect, temporary or permanent nature of the impact, as set out in Section 3.4 of this chapter.</p>
<p>5.9.16 <i>“A documentary record of our past is not as valuable as retaining the heritage asset, and therefore the ability to record evidence of the asset should not be a factor in deciding whether such loss should be permitted, and whether or not consent should be given”.</i></p>	<p>Noted. The assessment of impacts is provided in Section 3.9 of this chapter, and this details where an assets will be totally lost, or partially lost as part of the assessment.</p>
<p>5.9.17 <i>“Where the loss of the whole or part of a heritage asset’s significance is justified, the Secretary of State will require the applicant to record and advance understanding of the significance of the heritage asset before it is lost (wholly or in part). The extent of the requirement should be proportionate to the asset’s importance and significance and the impact. The applicant should be required to publish this evidence and to deposit copies of the reports with the relevant Historic Environmental Record. They should also be required to deposit the archive generated in a local museum or other public repository willing to receive it.”</i></p>	<p>A programme of archaeological mitigation which sets out the requirements for the recording of heritage assets that will be lost as a result of the Proposed Project is detailed in Application Document 7.5.4.2 Kent Outline Onshore Overarching Written Scheme of Investigation. The Outline Onshore Overarching Written Scheme of Investigation includes requirements for impacted heritage assets to be recorded and published and for copies of the reports to be submitted to the relevant HER, and also requires agreement to be made with the relevant local museum to receive the archive.</p>

NPS EN-1 section	Where this is covered in the ES
<p>5.9.27 <i>“When considering the impact of a proposed development on the significance of a designated heritage asset, the Secretary of State should give great weight to the asset’s conservation. The more important the asset, the greater the weight should be. This is irrespective of whether any potential harm amounts to substantial harm, total loss, or less than substantial harm to its significance.”</i></p>	<p>Where feasible, the Proposed Project has been designed to avoid impacts to heritage assets. This has been informed by the geophysical survey and the evaluation trenching, as well as other surveys such as the walkover survey.</p> <p>Where impacts cannot be avoided, they have been assessed in Section 3.9 of this chapter, while additional mitigation is provided in Section 3.10 of this chapter.</p> <p>Provisional information regarding mitigation proposed is also provided in Application Document 7.5.4.2 Kent Outline Onshore Overarching Written Scheme of Investigation.</p>
<p>5.9.28 <i>“The Secretary of State should give considerable importance and weight to the desirability of preserving all heritage assets. Any harm or loss of significance of a designated heritage asset (from its alteration or destruction, or from development within its setting) should require clear and convincing justification.”</i></p>	<p>Noted. An assessment of impact to the heritage significance of assets is included in Section 3.9 of this chapter. A Heritage Statement which confirms there would be no substantial harm to the scheduled monument assessed in this chapter is presented in Application Document 7.1 Planning Statement.</p>
<p>5.9.29 <i>“Substantial harm to or loss of significance of a grade II Listed Building or a grade II Registered Park or Garden should be exceptional.”</i></p>	<p>The assessment (Section 3.9) has confirmed that there would be no substantial harm or loss of significance to any grade II Listed Building or a grade II Registered Park or Garden.</p>
<p>5.9.30 <i>“Substantial harm to or loss of significance of assets of the highest significance, including Scheduled Monuments; Protected Wreck Sites; Registered Battlefields; grade I and II* Listed Buildings; grade I and II* Registered Parks and Gardens; and World Heritage Sites, should be wholly exceptional.”</i></p>	<p>The assessment (Section 3.9) has confirmed that there would be no substantial harm or loss of significance to Scheduled Monuments; Protected Wreck Sites; Registered Battlefields; grade I and II* Listed Buildings; grade I and II* Registered Parks and Gardens; and World Heritage Sites.</p>
<p>5.9.31 <i>“Where the proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset the Secretary of State should refuse consent unless it can be demonstrated that the substantial harm to, or loss of, significance is necessary to achieve substantial public benefits that outweigh that harm or loss, or all the following apply:</i></p> <ul style="list-style-type: none"> <i>• the nature of the heritage asset prevents all reasonable uses of the site;</i> 	<p>A Heritage Statement which confirms there would be no substantial harm or total loss of significance to designated heritage assets is presented in Application Document 7.1 Planning Statement.</p>

NPS EN-1 section	Where this is covered in the ES
<ul style="list-style-type: none"> • <i>no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation;</i> • <i>conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and</i> • <i>the harm or loss is outweighed by the benefit of bringing the site back into use.”</i> 	
<p>5.9.36 “When considering applications for development affecting the setting of a designated heritage asset, the Secretary of State should give appropriate weight to the desirability of preserving the setting such assets and treat favourably applications that preserve those elements of the setting that make a positive contribution to, or better reveal the significance of, the asset. When considering applications that do not do this, the Secretary of State should give great weight to any negative effects, when weighing them against the wider benefits of the application. The greater the negative impact on the significance of the designated heritage asset, the greater the benefits that will be needed to justify approval.”</p>	<p>Impacts to designated heritage assets arising from setting change from the operational phase of the Proposed Project are assessed in Section 3.9.</p> <p>A Heritage Statement, presented in Application Document 7.1 Planning Statement, confirms there would be no substantial harm or total loss of significance to designated heritage assets as a result of setting change.</p>

Table 3.2 NPS EN-5 requirements relevant to cultural heritage

NPS EN-5 section	Where this is covered in the ES
<p>2.2.10 “As well as having duties under Section 9 of the Electricity Act 1989, (in relation to developing and maintaining an economical and efficient network), applicants must take into account Schedule 9 to the Electricity Act 1989, which places a duty on all transmission and distribution licence holders, in formulating proposals for new electricity networks infrastructure, to “have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and ...do what [they] reasonably can to mitigate any effect which the proposals would have on the</p>	<p>In line with the requirements of the policy, Section 3.8 of this chapter details how the Kent Onshore Scheme has been designed with careful regard to cultural heritage assets, with embedded mitigation measures used to avoid or reduce impacts where practicable.</p>

natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.”

With regard to underground and subsea cables, 2.9.24 of the policy states the Secretary of State must weigh the feasibility, cost, and any harm of underground or subsea options against aspects such as the adverse implications of overhead line options, the cost and feasibility of re-routing overhead line options and mitigation proposals, as well as the cost and feasibility of the reconfiguration, rationalisation, and/or reuse of underground cabling of proximate existing or proposed electricity network infrastructure. It goes on, in 2.9.25 of the policy, to state *“the Secretary of State should only grant development consent for underground or subsea sections of a proposed line over an overhead alternative if they are satisfied that the benefits accruing from the former proposal clearly outweigh any extra economic, social, or environmental impacts that it presents, the mitigation hierarchy has been followed, and that any technical obstacles associated with it are surmountable”*. And in this context the Secretary of State should consider, *the additional cost of the proposed underground or sub-sea alternatives, including their significantly higher lifetime cost of repair and later uprating*, and *“the potentially very disruptive effects of undergrounding on local communities, habitats, archaeological and heritage assets, marine environments, soil (including peat soils), hydrology, geology, and, for a substantial time after construction, landscape and visual amenity. (Undergrounding an overhead line will mean digging a trench along the length of the route, and so such works will often be disruptive – albeit temporarily – to the receptors listed above than would an overhead line of equivalent rating)”*.

The assessment of impacts relating to cultural heritage is covered in Section 3.9, while mitigation is covered in Sections 3.8 and 3.10.

The use of alternative technologies (OHL versus underground cable) was considered at the strategic options stage as reported within **Application Document 6.2.1.3 Part 1 Introduction Chapter 3 Main Alternative Considered**. It should be noted that an overhead line alternative would have the potential to result in larger impacts to heritage assets, as the presence of the above ground infrastructure may introduce highly visible change into the setting of heritage assets. Conversely, overhead lines may result in fewer impacts to buried heritage assets as cable trenches would not need to be excavated.

National Planning Policy Framework

- 3.2.12 The National Planning Policy Framework (NPPF) as revised in December 2024 (Ministry of Housing, Communities, and Local Government, 2024) sets out national planning policies that reflect priorities of the Government for operation of the planning system and the economic, social, and environmental aspects of the development and use of land. The NPPF has a strong emphasis on sustainable development, with a presumption in favour of such development. The NPPF has the potential to be considered important and relevant to the Secretary of State (SoS) consideration of the Proposed Project.

3.2.13 Table 3.3 below provides details of the elements of the NPPF that are relevant to this chapter, and how and where they are covered in the ES.

Table 3.3 NPPF requirements relevant to cultural heritage

NPPF section	Where this is covered in the ES
<p>Section 16 of the NPPF deals specifically with the historic environment. Where changes are proposed, the NPPF sets out a clear framework to ensure that heritage assets are conserved, and where appropriate enhanced, in a manner that is consistent with their significance.</p>	<p>An assessment of heritage value, as well as the setting of assets, has been undertaken as part of the assessment and is set out in Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report as well as the assessment which is covered in Section 3.9 of this chapter.</p>
<p>The NPPF sets out the importance of being able to assess the significance of heritage assets that may be affected by a development. Significance is defined in Annex 2 of the NPPF as being the <i>“value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic”</i>. Significance is not only derived from an asset's physical presence, but also from its setting. The setting of a heritage asset is defined in Annex 2 as <i>“the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve”</i>.</p>	<p>An assessment of heritage value, as well as the setting of assets, has been undertaken as part of the assessment and is set out in Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report as well as the assessment which is covered in Section 3.9 of this chapter.</p>
<p>Paragraph 207 of the NPPF states that <i>“in determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected including any contribution made by their setting. The level of detail should be proportionate to the asset’s importance and no more than is sufficient to understand the potential impact of the proposal on their significance”</i>. Similarly, paragraph 208 includes a requirement on local planning authorities, having assessed the particular significance of any heritage asset that may be affected by a proposal, to take this into account when considering the impact of a proposal on a heritage asset.</p>	<p>An assessment of heritage value, as well as the setting of assets, has been undertaken as part of the assessment and is set out in Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report as well as the assessment which is covered in Section 3.9 of this chapter.</p>
<p>Paragraphs 212 to 216 of the NPPF introduce the concept that heritage assets can be harmed or lost through alteration, destruction or development within their setting. This harm ranges from less than substantial through to substantial. With regard to designated assets, paragraph 212 states that</p>	<p>Based on the design, there are no physical impacts predicted on designated assets.</p>

NPPF section	Where this is covered in the ES
<p>great weight should be placed on its conservation, irrespective of whether any potential harm is considered to be substantial or less than substantial. The paragraph goes further to say that the more important the asset, the greater the weight should be on its conservation. In paragraph 213, a distinction is made in respect of those assets of the highest significance (e.g., scheduled monuments, Grade I and Grade II* listed buildings) where substantial harm to or loss should be wholly exceptional.</p>	
<p>Paragraph 214 states that in instances where development would cause substantial harm to or total loss of significance of a designated asset, consent should be refused unless it can be demonstrated that it is necessary to achieve substantial public benefits that outweigh that harm or loss.</p> <p>Paragraph 215 says in instances where development would cause less than substantial harm to the significance of a designated asset, the harm should be weighed against the public benefits of the proposal to provide a balanced judgement.</p>	<p>Based on the design, there are no physical or setting impacts predicted on designated assets, or situations where the Proposed Project would result in substantial or less than substantial harm. Potential impacts to the setting of the designated assets are detailed in Section 3.9 of this chapter and also in the Heritage Statement presented in Appendix E Heritage Statement to Application Document 7.1 Planning Statement).</p> <p>To inform the planning balance, the benefits of the Proposed Project are detailed in Application Document 7.1 Planning Statement.</p>
<p>With regard to non-designated assets, paragraph 216 states that the effect of the application on the significance of the asset should be considered in determining the application. A balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.</p>	<p>An assessment of significance, as well as the setting of assets, has been undertaken as part of the assessment process. The full detailed impact assessment is provided in Section 3.9 of this chapter.</p>

National Planning Practice Guidance

- 3.2.14 The Planning Practice Guidance (PPG) provides further advice and guidance that expands the policy outlined in the NPPF. It expands on terms such as ‘significance’ and its importance in decision making. The PPG clarifies that being able to properly assess the nature, extent and the importance of the significance of the heritage asset and the contribution of its setting, is crucial to understanding the potential impact and acceptability of development proposals (paragraph 007 Reference ID: 18a-007-20190723).
- 3.2.15 The PPG states that, in relation to setting, a thorough assessment of the impact on setting needs to take in to account, and be proportionate to, the significance of the heritage asset under consideration and the degree to which proposed changes enhance

or detract from that significance and the ability to appreciate it (paragraph 013; Reference ID: 18a-013-20190723).

- 3.2.16 The PPG discusses how to assess if there is substantial harm. It states that what matters in assessing if a proposal causes substantial harm is the impact on the significance of the asset. It is the degree of harm to the asset's significance rather than the scale of the development that is to be assessed (paragraph 018; Reference ID: 18a-018-20190723).
- 3.2.17 The NPPF indicates that where development would result in substantial harm, it is necessary to achieve substantial public benefits that outweigh that harm. Where less than substantial harm is identified, the degree of harm should be considered alongside any public benefits that can be delivered by development. The PPG states that these benefits should flow from the proposed development and should be of a nature and scale to be of benefit to the public and not just a private benefit and would include securing the optimum viable use of an asset in support of its long-term conservation (paragraph 020; Reference ID: 18a-020-20190723).

Local Planning Policy

- 3.2.18 The Kent Onshore Scheme (refer to **Application Document 2.2.3 Kent Location Plan**) lies within the jurisdiction of Kent County Council (KCC), Thanet District Council (TDC) and Dover District Council (DDC). County and district planning policy and guidance which is relevant to a study of cultural heritage and has informed the assessment of preliminary effects in this chapter are as follows:
- Kent Heritage Conservation Strategy (Kent County Council, 2022);
 - Thanet Local Plan (Adopted 2020) (Thanet District Council, 2020); and
 - Dover District Local Plan (Dover District Council, 2024).
- 3.2.19 The majority of the Kent Onshore Scheme lies within the jurisdiction of Thanet District Council (TDC). Thanet Local Plan policies which are relevant to the cultural heritage assessment are detailed in Table 3.4.

Table 3.4 Local planning policies relevant to cultural heritage - Thanet Local Plan

Thanet Local Plan - Policy	Where this is covered in the ES
<p>SP36: Conservation and Enhancement of Thanet's Historic Environment</p> <p>This overarching policy notes the Councils commitment to support, value, and have regard for the historic environment through protecting sites, offering guidance relating to heritage, and supporting development where appropriate.</p>	<p>An assessment of significance, as well as the setting of assets, has been undertaken as part of the assessment process (Section 3.9). This has been informed through the desk-based assessment (Application Document 6.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report) and associated fieldwork which has provided additional information relating to the cultural heritage of the Thanet landscape. Full details are provided in</p>

Thanet Local Plan - Policy	Where this is covered in the ES
	<p>the following appendices Application Document 6.3.3.3.B Appendix 3.3.B Cultural Heritage Gazetteers; Application Document 6.3.3.3.C Appendix 3.3.C Site Photos; Application Document 6.3.3.3.D Appendix 3.3.D Geophysical Survey Report; Application Document 6.3.3.3.E Appendix 3.3.E Aerial Photographic and LiDAR Report; Application Document 6.3.3.3.F Appendix 3.3.F Draft Archaeological Evaluation Trenching Report; and Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological Desk-Based Assessment. Where possible, input into design has been used to avoid impacts and preserve cultural heritage assets, and mitigation is being developed in line with the OSWI where impacts cannot be avoided.</p>
<p>HE01: Archaeology</p> <p>The policy recognises the need to protect and enhance the archaeological record through research and developer lead archaeology. It also notes the need to undertake adequate levels of heritage assessment and for works to be completed by a suitably qualified individual.</p>	<p>An assessment of significance, as well as the setting of assets, has been undertaken as part of the assessment process (Section 3.9). This has been informed through the desk-based assessment (Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report) and associated fieldwork provided in the following appendices: Application Document 6.3.3.3.B Appendix 3.3.B Cultural Heritage Gazetteers; Application Document 6.3.3.3.C Appendix 3.3.C Site Photos; Application Document 6.3.3.3.D Appendix 3.3.D Geophysical Survey Report; Application Document 6.3.3.3.E Appendix 3.3.E Aerial Photographic and LiDAR Report; Application Document 6.3.3.3.F Appendix 3.3.F Draft Archaeological Evaluation Trenching Report; and Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological Desk-Based Assessment. The works undertaken to date have enhanced the understanding of the Thanet landscape, with aspects such as the geophysical survey and evaluation trenching adding</p>

Thanet Local Plan - Policy	Where this is covered in the ES
	to the archaeological record. As noted above, reports detailing the results of these works have been included in the DCO submission and have also been supplied to stakeholders.
<p>HE02: Development in Conservation Areas</p> <p>The policy deals with the development within, and around, Conservation Areas.</p>	<p>While significant impacts on Conservation Areas are not predicted, an assessment of the potential impacts on Conservation Areas has been undertaken as part of the assessment process. This is detailed in the desk-based assessment (Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report).</p>
<p>HE03: Heritage Assets</p> <p>The policy considers the need to preserve and enhance heritage assets, both designated and non-designated, where possible.</p>	<p>An assessment of significance, as well as the setting of assets, has been undertaken as part of the assessment process (Section 3.9). This has been informed through the desk-based assessment (Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report) and associated fieldwork provided in the following appendices: Application Document 6.3.3.3.B Appendix 3.3.B Cultural Heritage Gazetteers; Application Document 6.3.3.3.C Appendix 3.3.C Site Photos; Application Document 6.3.3.3.D Appendix 3.3.D Geophysical Survey Report; Application Document 6.3.3.3.E Appendix 3.3.E Aerial Photographic and LiDAR Report; Application Document 6.3.3.3.F Appendix 3.3.F Draft Archaeological Evaluation Trenching Report; and Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological Desk-Based Assessment.</p> <p>Where possible, the information collected during the baseline preparation has been used to inform design and avoid assets where possible.</p>

3.2.20 Parts of the Kent Onshore Scheme lie within the jurisdiction of Dover District Council (DCC). Local planning policy for DDC consists of the Dover District Local Plan (Dover District Council, 2024) Local Plan policies which are relevant to cultural heritage matters are identified in Table 3.5.

Table 3.5 Local planning policies relevant to cultural heritage – Dover District Local Plan

Dover District Local Plan - Policy	Where this is covered in the ES
<p>Strategic Policy 15: Protecting the District's Historic Environment</p> <p>Recognises that the heritage assets of the District are an irreplaceable resource and therefore should be conserved and enhanced in a manner appropriate to their significance.</p>	<p>Where possible, information collected as part of the evaluation and assessment works have been used to inform design and avoid impacts through conserving and preserving remains <i>in situ</i>. Potential impacts, both direct and indirect, on designated and non-designated heritage assets are considered in Section 3.9 of this chapter.</p>
<p>HE1: Designated and Non-designated Heritage Assets</p> <p>Overarching policy dealing with the protection of designated and non-designated assets, and potential impacts arising from development.</p>	<p>As there are no designated assets within the Order Limits, physical impacts on designated assets have been scoped out. Potential impacts on the setting of designated assets are considered in Section 3.9 of this chapter. Both direct and indirect impacts on non-designated assets are also considered in Section 3.9 of this chapter.</p>
<p>HE3: Archaeology</p> <p>This overarching policy considers the need for the protection of designated and non-designated archaeological remains, and the management of potential impacts resulting from development.</p>	<p>Potential impacts, both direct and indirect, on designated and non-designated assets, including archaeological remains, are considered in Section 3.9 of this chapter. This has been informed through the desk-based assessment (Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report) and associated fieldwork provided in the following appendices: Application Document 6.3.3.3.B Appendix 3.3.B Cultural Heritage Gazetteers; Application Document 6.3.3.3.C Appendix 3.3.C Site Photos; Application Document 6.3.3.3.D Appendix 3.3.D Geophysical Survey Report; Application Document 6.3.3.3.E Appendix 3.3.E Aerial Photographic and LiDAR Report; Application Document 6.3.3.3.F Appendix 3.3.F Draft Archaeological Evaluation Trenching Report; and Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological Desk-Based Assessment.</p>

3.3 Scoping Opinion and Consultation

Scoping

- 3.3.1 A Scoping Report for the Proposed Project was issued to the Planning Inspectorate (PINS) on 24 October 2022 (**Application Document 6.14 Environmental Scoping Report 2022**) and a Scoping Opinion was received from the SoS on 1 December 2022 (**Application Document 6.15 Scoping Opinion 2022**). Table 3.6 sets out the comments raised in the Scoping Opinion and how these have been addressed in this ES. The Scoping Opinion takes account of responses from prescribed consultees as appropriate. **Application Document 6.3.1.6.A Appendix 1.6.A Response to Scoping Opinion** provides responses to the comments made by the prescribed consultees at scoping stage and how each comment has been considered.

Table 3.6 Comments raised in the Scoping Opinion

ID	Inspectorate's comments	Response
4.3.1	<p><i>[Physical impacts on non-designated assets (construction, maintenance and decommissioning)]</i></p> <p>The ES should clearly state the approach to non-designated assets encountered during construction, such as whether preservation in-situ is proposed, and confirm where non-designated assets have been preserved in situ. The ES should consider the potential for effects on non-designated assets during the maintenance and decommissioning stage, where likely significant effects could occur.</p>	<p>Noted. Potential impacts on non-designated assets, including previously unrecorded assets that might be identified during construction, have been examined in Section 3.9 of this chapter, with additional mitigation measures detailed in Section 3.10. Potential impacts to heritage assets during the maintenance and decommissioning stages are also considered in this chapter.</p>
4.3.2	<p><i>[Temporary impacts on the setting of heritage assets resulting from plant/machinery (maintenance and decommissioning)]</i></p> <p>The Inspectorate agrees that significant setting effects on heritage assets arising from the presence of plant and machinery during the maintenance phase are unlikely. The ES should explain the likely number of machinery/plant required for decommissioning or the likely duration of decommissioning activities to demonstrate why such effects would not be significant.</p>	<p>There would be no significant effects to heritage assets arising from temporary changes to their setting during the maintenance and decommissioning phase. A rationale for the scoping out of heritage assets from construction phases is provided in Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report. Detailed information relating to the Proposed Project is set out in Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project.</p>
4.3.3	<p><i>[Temporary impacts on the setting of heritage assets from construction]</i></p>	<p>There would be no significant effects to heritage assets arising from temporary changes to their setting during</p>

ID	Inspectorate's comments	Response
	<p><i>compounds introducing light and noise pollution (decommissioning)]</i></p> <p>The Inspectorate agrees that significant setting effects on heritage assets arising from light and noise are unlikely. The ES should outline the mitigation measures required for decommissioning and the likely duration of decommissioning activities to demonstrate why such effects would not be significant.</p>	<p>decommissioning due to the small scale and temporary nature of decommissioning work. A rationale for the scoping out of heritage assets is provided in Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report.</p>
4.3.4	<p><i>[Sources of construction impacts - groundwater, and assessment methodology]</i></p> <p>See also comments 3.3.6 and 3.3.7 above made in respect to the Suffolk Onshore Scheme, which equally apply to the Kent Onshore Scheme.</p> <p>[3.3.6 Sources of construction impacts - Groundwater - The ES should consider and assess effects to archaeological receptors resulting from impacts to groundwater levels from the Proposed Development, where likely significant effects could occur. The ES should include suitable cross-references between the Cultural Heritage and the Geology and Hydrogeology aspect chapter]</p> <p>[3.3.7 Proposed assessment methodology - The Inspectorate notes that the need for any additional survey work will be determined following the desk-based assessment (DBA).</p> <p>Investigative works should be accompanied by a Written Scheme of Investigation (WSI), it is recommended that a draft WSI be provided with the ES. The Applicant is advised to seek to agree the scope of the site investigations and WSI with relevant consultation bodies, including the Local Authority and Historic England.]</p>	<p>Potential impacts arising from changes to groundwater levels are assessed in Section 3.9 of this chapter, specifically impacts to the Wantsum Channel and associated geo-archaeological deposits.</p> <p>Additional survey work was undertaken (Application Document 6.3.3.3.G Appendix 3.3.G Geoarchaeological Desk-Based Assessment), which informed the baseline (Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report) that has been carried out for the Proposed Project. The results of the additional survey work are included as appendices to the ES and are listed in paragraph 3.1.5 of this chapter. A Written Scheme of Investigation for additional mitigation is provided as Application Document 7.5.4.2 Kent Outline Onshore Overarching Written Scheme of Investigation.</p>
4.3.5	<p><i>[Heritage receptors – schedule monument]</i></p> <p>The ES should consider likely effects on the setting of the scheduled monument 'A Saxon Shore fort, Roman port and associated remains at Richborough'</p>	<p>Potential impacts to a Saxon Shore fort, Roman port and associated remains at Richborough scheduled monument (NHLE 1014642) are assessed in Section 3.9 of this chapter. Cross reference to the LVIA ZTV and</p>

ID	Inspectorate's comments	Response
	(1014642), where likely significant effects could occur. Although this scheduled monument is located beyond the 2 km study area, the Inspectorate notes the settings assessment will be informed by the ZTV and the statement that some assets beyond the ZTV and 2 km study area may also be considered. Cross-referencing to relevant information in the LVIA aspect chapter and/or supporting appendices should be included.	heritage-related visualisations are provided in Section 3.9 where relevant to the assessment.
4.3.6	<p><i>[Impacts scoped in]</i></p> <p>Table 3.4.6 does not include all of the impacts identified as scoped in within Tables 3.4.1, namely temporary impacts on the settings of designated assets during construction. For the avoidance of doubt, the ES should include an assessment of these effects.</p>	<p>Potential effects on designated heritage assets during construction have been scoped out of this chapter due to the temporary nature of works, which mean that significant effects are unlikely to occur. A rationale for the scoping out of heritage assets from construction phases is provided in Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report. The scoping out of heritage assets was agreed with heritage consultees following statutory consultation and during further consultation, as detailed in Table 3.7 and Table 3.8 of this chapter.</p>
4.3.7	<p><i>[Wantsum Sea Channel]</i></p> <p>Kent County Council (at Appendix 2 to this Opinion) have identified Wantsum Sea Channel as a heritage asset that should be included in the assessment but is not identified in Scoping Report Chapter 3.4 or in Appendix 3.4.A. The Applicant should seek to agree the heritage receptors to be included within the heritage assessment with relevant consultation bodies and include an assessment on this receptor where significant effects are likely to occur.</p>	<p>A geo-archaeological report has been produced to examine geo-archaeological data collected as part of the Kent Onshore Scheme GI works as well as other relevant schemes in the area (including the Richborough Connection and Weaterlees Pumping Station). This is supplied as Application Document 6.3.3.3.G Appendix 3.3.G Geo-Archaeological Desk-Based Assessment.</p> <p>The scope of this assessment was agreed with the relevant heritage consultees during pre-application discussions and engagement. Potential impacts to Wantsum Channel are assessed in Section 3.9 of this chapter.</p>

Statutory Consultation

- 3.3.2 Statutory Consultation for the Proposed Project took place between 24 October and 18 December 2023. A further Targeted Consultation exercise on the main changes to the Proposed Project introduced after the 2023 statutory consultation, was undertaken between 8 July and 11 August 2024. In addition, a project update and a local engagement exercise took place between 22 November 2024 and 12 January 2025, focusing on design amendments made following Targeted Consultation. A summary of relevant feedback received during statutory consultation relating to cultural heritage is provided below. Further details on how consultation responses have informed the assessment can be found in **Application Document 5.1 Consultation Report** and **Application Document 5.1.9 Appendix H Summary 2023 Response**.
- 3.3.3 Key feedback raised during statutory consultation is detailed in Table 3.7.

Table 3.7 Key topics raised at the statutory consultation and applicant responses

Stakeholder	Key topics raised by stakeholder	Summary of response from National Grid
Historic England	Acknowledge that archaeological survey and investigations (including evaluation trenching) are being undertaken, and that results will be provided in the ES.	<p>The results of all surveys undertaken to date have been synthesised in the baseline (Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report), with the full reports also included in the following appendices: Application Document 6.3.3.3.D Appendix 3.3.D Geophysical Survey Report; Application Document 6.3.3.3.E Appendix 3.3.E Aerial Photographic and LiDAR Report; Application Document 6.3.3.3.F Appendix 3.3.F Archaeological Evaluation Trenching Report (Draft); and Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological Desk-Based Assessment.</p> <p>The data from these has been used to complete the assessment within this chapter.</p>
Historic England	Note that the Order Limits have been reduced in a number of areas. While this may reduce the potential for physical impacts on	The results of the cultural heritage survey have continued to inform design with micro-siting of the Order Limits and Limits of

Stakeholder	Key topics raised by stakeholder	Summary of response from National Grid
	archaeological remains, it may also remove the opportunity to mitigate impacts through avoiding assets as the reduced Order Limits will allow less flexibility.	Deviation (LoD) altered where feasible. Where avoidance has not been feasible, a mitigation strategy has been developed. Further details relating to this have been provided in Section 3.10 of this chapter, while an Overarching WSI has been prepared (Application Document 7.5.4.2 Kent Outline Onshore Overarching Written Scheme of Investigation).
Historic England	The increased height of the Converter Station, as well as the increase in the ground level in this area, has the potential to result in a new significant effects and as such visualisations will be required from specific heritage viewpoints as part of the assessment.	As assessment of impacts resulting from the construction and operation of the Minster Converter Station and Substation, as well as the Overhead Line (OHL) and permanent access is provided in Section 3.9 of this ES chapter. Viewpoints have been agreed with heritage consultees (refer to Table 3.8) and visualisations are provided in Application Document 6.4.3.1.8 Representative Viewpoint Visualisations (Landscape and Visual) and Application Document 6.4.3.3.8 Representative Viewpoint Visualisations (Cultural Heritage).

Further Engagement

- 3.3.4 A process of ongoing engagement has been undertaken with the Archaeological Advisor at KCC as well as the Inspector of Ancient Monuments at Historic England, to ensure, as far as practicable, that heritage issues are identified and potential impacts to heritage assets are included in the assessment. This has included thematic group meetings as well as discussion relating to geophysical survey, archaeological evaluation trenching, a geoarchaeological assessment, and mitigation.
- 3.3.5 Table 3.8 below provides a summary of engagement with relevant stakeholders undertaken to inform the assessment.

Table 3.8 Consultation summary

Stakeholder	Date	Subjects Discussed	Where this is covered in the ES
KCC Archaeological Advisor	July 2022	<p>Discussion via email regarding the scope of archaeological monitoring required for proposed Ground Investigations (GI) works required for input into the design of the Kent Onshore Scheme.</p> <p>Discussions also included a review of GI locations with some works micro-siting to avoid heritage assets.</p>	<p>Monitoring of the GI works, where required, was undertaken by Headland Archaeology in line with a Written Scheme of Investigation approved by the KCC Archaeological Advisor. Data collected as part of the archaeological monitoring was captured in the GI factual report (Application Document 6.3.3.5.C Appendix 3.5.C Ground Investigation Report – Kent and Application Document 6.3.3.5.D Appendix 3.5.D Generic Quantitative Risk Assessment - Kent). Results also considered in Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report, and Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological Desk-Based Assessment.</p>
KCC Archaeological Advisor and Historic England	January 2023	<p>Site visit to examine Proposed Project. Archaeological Advisor provided information relating to features recorded on the Ebbsfleet Peninsula including draft geophysical survey data collected as part of a research project.</p> <p>Some discussion on potential photomontage locations required for the setting assessment, and discussions about surveys</p>	<p>Results of the geophysical survey and archaeological evaluation trenching are provided in Application Document 6.3.3.3.D Appendix 3.3.D Geophysical Survey Report and Application Document 6.3.3.3.F Appendix 3.3.F Archaeological Evaluation Trenching Report (Draft) respectively. These are discussed in Application Document 6.3.3.3.A</p>

Stakeholder	Date	Subjects Discussed	Where this is covered in the ES
		and evaluation works that would be required.	Appendix 3.3.A Cultural Heritage Baseline Report. Visualisations are provided in Application Document 6.4.3.1.8 Representative Viewpoint Visualisations (Landscape and Visual) and Application Document 6.4.3.3.8 Representative Viewpoint Visualisations (Cultural Heritage).
KCC Archaeological Advisor and Historic England	January and February 2023	Discussions relating to the location of photomontages required for the assessment of impacts on setting. Agreed on three photomontages from Richborough Fort, and two from the multi-period complex on Ebbsfleet Peninsula.	The setting assessment is included within Section 3.9 of this chapter. Visualisations from Richborough Fort, and Ebbsfleet Peninsula are provided in Application Document 6.4.3.3.8 Representative Viewpoint Visualisations.
KCC Archaeological Advisor	May 2023	Draft WSI supplied by the archaeological contractor undertaking the monitoring of the GI works. WSI approved by Archaeological Advisor for KCC.	Data collected as part of the archaeological monitoring was captured in the GI factual report (Application Document 6.3.3.5.C Appendix 3.5.C Ground Investigation Report – Kent and Application Document 6.3.3.5.D Appendix 3.5.D Generic Quantitative Risk Assessment - Kent). Results are also considered in the Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report , and Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological

Stakeholder	Date	Subjects Discussed	Where this is covered in the ES
			Desk-Based Assessment.
KCC Archaeological Advisor	July 2023	Update on the scope of works associated with the GI works being undertaken for the Kent Onshore Scheme. Changes in the GI methodology being adopted resulted in suitable samples for geoarchaeological assessment not being collected as part of the GI works. As a result, the requirement for geoarchaeological monitoring of these works scoped out.	Data collected as part of the archaeological monitoring was captured in the GI factual report (Application Document 6.3.3.5.C Appendix 3.5.C Ground Investigation Report – Kent and Application Document 6.3.3.5.D Appendix 3.5.D Generic Quantitative Risk Assessment - Kent). Results are also considered in the Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report , and Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological Desk-Based Assessment.
KCC Archaeological Advisor	September 2023	Geophysical survey extent agreed and WSI submitted for approval. WSI approved.	Results of Geophysical Survey provided in Application Document 6.3.3.3.D Appendix 3.3.D Geophysical Survey Report and discussed in Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report and this chapter.
KCC Archaeological Advisor	January to March 2024	Location of archaeological evaluation trenches agreed.	The location of archaeological evaluation trenches was agreed with the KCC Archaeological Advisor, with works undertaken in Summer 2024. The draft report detailing the result of this work is provided in Application Document 6.3.3.3.F Appendix 3.3.F

Stakeholder	Date	Subjects Discussed	Where this is covered in the ES
			Archaeological Evaluation Trenching Report (Draft).
KCC Archaeological Advisor and Historic England	October 2024	Email discussion to agree alignment/direction of photomontages.	Agreed with KCC Archaeological Advisor and Historic England that visualisations should be focused on the proposed Minster Substation and Converter Station. Cultural heritage visualisations are provided in Application Document 6.4.3.3.8 Representative Viewpoint Visualisations , with further visualisations provided in Application Document 6.4.3.1.8 Representative Viewpoint Visualisations (Landscape and Visual).
KCC Archaeological Advisor and Historic England	September/October 2024	Discussion to agree scope of geo-archaeological report.	Scope agreed and report supplied to the KCC Archaeological Advisor (although no comments had been received at the time of submission) as well as submitted as Application Document 6.3.3.3.G Appendix 3.3.G Geo-Archaeological Desk-Based Assessment . Data also incorporated in Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report and used to assess potential impacts on the Wantsum Channel.

Summary of Scope of Assessment

- 3.3.6 This section details what aspects have been scoped in and scoped out of the assessment through the scoping process and consultation with stakeholders.

Aspects scoped into the assessment

- 3.3.7 The scope of this assessment covers potential permanent impacts to heritage assets during the construction stage of the Kent Onshore Scheme. The assessment also considers potential longer term and permanent effects, arising from change to the setting of heritage assets from the physical presence of the permanent operational infrastructure.
- 3.3.8 Potential effects to heritage assets arising from decommissioning activities are also considered in this assessment.
- 3.3.9 A further additional element was scoped into the ES as a result of feedback from heritage consultees during the engagement process discussed above. This was a geo-archaeological assessment in the area of the Minster Marshes due to the proposed construction methods being adopted for the Minster Converter Station and Substation, as well as the OHL works. The results of this work are detailed in **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report** with the full report provided in **Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological Desk-Based Assessment**.

Aspects scoped out of the assessment

- 3.3.10 Temporary impacts on the setting of heritage assets during construction have been scoped out of the assessment as discussed above.

3.4 Approach and Methodology

- 3.4.1 **Application Document 6.2.1.5 Part 1 Introduction Chapter 5 EIA Approach and Methodology** sets out the overarching approach which has been used in developing the ES. This section describes the technical methods used to determine the baseline conditions, sensitivity of the receptors and magnitude of effects and sets out the significance criteria that have been used for the cultural heritage assessment.

Guidance Specific to the Cultural Heritage Assessment

- 3.4.2 Guidance that has been considered comprises:
- Historic England. Good Practice Advice (GPA) Note 2: Managing Significance in Decision-taking (Historic England, 2017);
 - Historic England. GPA3. The Setting of Heritage Assets (Historic England, 2017);
 - Historic England. Advice Note 12 Statements of Heritage Significance (Historic England, 2019);
 - Standards and Guidance for Historic Environment Desk-based Assessments (Chartered Institute for Archaeologists, 2020); and
 - Principles of Cultural Heritage Impact Assessment in the UK (IEMA, IHBC, and CIfA, 2021).

Baseline Data Gathering and Forecasting Methods

- 3.4.3 **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report** has been undertaken in accordance with guidance published by the Chartered Institute

for Archaeologists, specifically the Standard and Guidance for Historic Environment Desk-based Assessment (Chartered Institute for Archaeologists, 2020) and guidance published by Historic England (Historic England, 2017) (Historic England, 2019).

- 3.4.4 **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report**, identifies all known designated and non-designated heritage assets within the Order Limits and Study Area. The report describes the cultural heritage baseline conditions, describes heritage assets and the contribution their setting makes to their heritage value, and also articulates the setting of heritage assets through supplementary photographs where kinetic views are relevant to their experience. The report also assesses the archaeological potential of the land within the Order Limits and identifies the key heritage considerations.

Data sources

- 3.4.5 The following sources of information have been used to establish the cultural heritage baseline conditions:

- A programme of archaeological geophysical survey within the Order limits undertaken as part of the assessment. The results of the survey are summarised in Section 4.7 of **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report** and have been used to inform this ES chapter. The geophysical survey report is submitted with this ES as **Application Document 6.3.3.3.D Appendix 3.3.D Geophysical Survey Report**.
- A review of aerial photographs and LiDAR data has also been undertaken for the Study Area. The results are summarised in **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report**, with the full report presented as **Application Document 6.3.3.3.E Appendix 3.3.E Aerial Photographic and LiDAR Report**.
- A programme of archaeological evaluation trenching has been undertaken, with the works focused on the main areas of disturbance (i.e. the Minster Converter Station and Substation, as well as the cable corridor and the main construction compounds). The results of the survey are summarised in **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report** and have been used to inform this ES chapter. The draft evaluation trenching report is submitted with this ES as **Application Document 6.3.3.3.F Appendix 3.3.F Draft Archaeological Evaluation Trenching Report**.
- The geo-archaeological assessment report has been undertaken to assess the potential for the presence of archaeological deposits that may contain palaeoenvironmental data. A summary of the results is presented in **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report** and the report is submitted with this ES as **Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological Desk-Based Assessment**.
- KCC Historic Environment Record (HER) data (data acquired 2022, with a revised search undertaken in September 2024) for information relating to non-designated heritage assets, historic landscape and previous fieldwork events.
- Published and unpublished literature, including a detailed review of reports for previous fieldwork carried out within the proximity to the Order limits (all references are fully cited in the text and are provided in the bibliography).

- Documentary, cartographic and other resources available online and as deposited within the local archives.
- Local authority websites for information about conservation areas and buildings on the local list.
- National Heritage List for England for data relating to designated heritage assets (Historic England, 2024)(data downloaded September 2024).
- Various online resources including the British Geological Survey (BGS) Geology of Britain Viewer (British Geological Survey, 2024).
- Heritage Gateway for former National Monuments Record and excavation index data (Historic England, ALGAO and IHBC, 2024).
- National Library of Scotland for historic Ordnance Survey mapping and other historic cartographic sources (National Library of Scotland, 2024).
- Archaeology Data Service for information on previous cultural heritage assessments and fieldwork surveys (Archaeology Data Service, 2024).
- Defence of Britain Archive database (Council for British Archaeology, 2006).

Site walkover

- 3.4.6 The baseline has been further informed by site walkover surveys, carried out between 9 and 11 May 2022, the 20 and 21 January 2024, and the 14 and 15 October 2024. The site walkovers comprised visual inspections of fields within the Order Limits to identify known and previously unknown heritage assets. The site visits also assessed the settings of heritage assets within the Order Limits and the Study Area and assessed the importance of views in the appreciation of heritage assets and how these changed as the viewer moved through the landscape. The results of the walkover surveys are detailed in **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report**.

Archaeological surveys

- 3.4.7 As referenced above, a review of aerial photography and LiDAR data, plus a programme of archaeological geophysical survey has been carried out for the Kent Onshore Scheme. Where the results have identified potential archaeological sites within the Order limits, these have been identified as potential buried archaeological remains and included in the impact assessment in Section 3.9 of this chapter. The aerial photography and LiDAR review is submitted as **Application Document 6.3.3.3.E Appendix 3.3.E Aerial Photographic and LiDAR Report** and the geophysical survey report is submitted as **Application Document 6.3.3.3.D Appendix 3.3.D Geophysical Survey Report**.
- 3.4.8 Archaeological trial trench evaluation has been carried out for the Kent Onshore Scheme and potential impacts to buried archaeological features confirmed as being present within the Order Limits by the trial trenching are assessed in this chapter. The trial trenching report is submitted as **Application Document 6.3.3.3.F Appendix 3.3.F Draft Archaeological Evaluation Trenching Report**.
- 3.4.9 A geo-archaeological report has been undertaken to assess the potential for the presence of archaeological deposits that may contain palaeoenvironmental data. A summary of the results is presented in **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report** and the report is submitted with this ES as

Assessment Criteria

- 3.4.10 This section presents the methodology used for determining the significance of effect to heritage assets as a result of the construction, operation, and decommissioning of the Kent Onshore Scheme.
- 3.4.11 Determining the heritage significance of a heritage asset uses a different assessment process to that used to ascribe a value score. Heritage significance is guided by an asset's designated status but, in line with Annex 2: Glossary of the NPPF, is derived primarily from an asset's archaeological, architectural, artistic and historic interest along with elements of its setting, where applicable. Determining heritage significance therefore follows the NPPF and guidance published by Historic England (Historic England, 2019) (Historic England, 2017).
- 3.4.12 The significance of heritage assets and how this derives from their interests and elements of their setting, is described in Section 3.9. The method and criteria used in Table 3.9 to ascribe a value score to a heritage asset is based upon the degree to which the heritage significance of the asset is protected through legislation and planning policy, and follows guidance for cultural heritage impact assessment (IEMA, IHBC, and ClfA, 2021). In addition, when assigning a value score to a heritage asset, a professional judgement is made regarding the merits of each asset.
- 3.4.13 The principles of impact assessment methodology rest upon independently evaluating the value of heritage assets and the magnitude of impact upon that value. By combining the value of the heritage asset with the predicted magnitude of impact, the classification and significance of the effect arising from the Kent Onshore Scheme can be determined. The effect can be beneficial or adverse.
- 3.4.14 The cultural heritage impact assessment considers landscape planting proposals, as detailed in **Application Document 7.5.7.2 Outline Landscape and Ecological Management Plan – Kent**, and **Application Document 7.5.7.2.1 Minster Converter Station and Substation Outline Landscape Mitigation**, to be additional mitigation measures. Adopting the principles of the 'Rochdale Envelope', this approach recognises that at year 1 operation, the growth of advanced planting would not be of a sufficient height to have a material change in views and, where it is intended to do so, would not sufficiently screen the built components of the Kent Onshore Scheme from heritage assets. As such, to identify the worst-case scenario for impacts to heritage assets through setting change, Section 3.9 assesses potential impacts at year 1 operation of the Kent Onshore Scheme. Year 15 operation, when the landscape planting has achieved its full height, is regarded as additional mitigation and is taken into account when assessing the residual effects of the Kent Onshore Scheme.

Determining the value of heritage assets

- 3.4.15 Each identified heritage asset can be assigned a value in accordance with the criteria set out in Table 3.9. Professional judgement and the results of consultation and engagement with statutory consultees and stakeholders also contribute to the assessment of value. Regional variations, contribution to regional research agenda and individual qualities of heritage assets are also taken into account where applicable.

- 3.4.16 Whilst it is recognised that listed buildings are designated due to an architectural or historic interest considered to be of national importance, for the purpose of this assessment a distinction in value is made in Table 3.9 between Grade I and Grade II* listed buildings and Grade II listed buildings. This reflects the separation of the grades in paragraph 213 of the NPPF which makes a distinction between Grade II listed buildings and registered parks and gardens, and assets which it considers to be of ‘the highest significance’, notably scheduled monuments, Grade I and II* listed buildings and Grade I and II* registered parks and gardens.

Table 3.9 Criteria for determining the value of a heritage asset

Asset Value	Description
High	<p>World Heritage Sites;</p> <p>Scheduled Monuments;</p> <p>Grade I and II* listed buildings;</p> <p>Registered battlefields;</p> <p>Grade I and II* registered parks and gardens;</p> <p>Conservation areas of demonstrable high value (i.e., high number of Grade I and II* buildings; diverse and high-quality buildings);</p> <p>Non-designated heritage assets (archaeological sites, historic buildings, monuments, parks, gardens or landscapes) that can be shown to have demonstrable national or international importance; and</p> <p>Well preserved historic landscape character areas, exhibiting considerable coherence, time-depth or other critical factor(s).</p>
Medium	<p>Grade II listed buildings;</p> <p>Grade II registered parks and gardens;</p> <p>Conservation areas (majority Grade II buildings displaying, predominantly, local characteristics and styles);</p> <p>Non-designated heritage assets (archaeological sites, historic buildings, monuments, park, gardens or landscapes) that can be shown to have demonstrable regional importance;</p> <p>Averagely preserved historic landscape character areas, exhibiting reasonable coherence, time-depth or other critical factor(s); and</p> <p>Historic townscapes with historic integrity in that the assets that constitute their make-up are clearly legible.</p>
Low	<p>Locally listed buildings;</p> <p>Non-designated heritage assets (archaeological sites, historic buildings, monuments, park, gardens or landscapes) that can be shown to have demonstrable local importance;</p> <p>Assets whose values are compromised by poor preservation or survival of contextual associations to justify inclusion into a higher grade; and</p> <p>Historic landscape character areas whose value is limited by poor preservation and/ or poor survival of contextual associations.</p>

Asset Value	Description
Negligible	Assets identified on national or regional databases, but which have no archaeological, architectural, artistic or historic value; Assets whose values are compromised by poor preservation or survival of contextual associations to justify inclusion into a higher grade; and Landscape with no or little significant historical merit.

Magnitude of cultural heritage impacts

- 3.4.17 The method for determining the magnitude of impact to heritage assets is set out in Table 3.10.
- 3.4.18 Impacts may arise during construction, operation, or decommissioning and can be temporary, reversible, or permanent. Impacts can occur to the physical fabric of a heritage asset or result in changes that affect its setting. The magnitude of impact arising from the Kent Onshore Scheme takes into account mitigation measures which have been embedded as part of the design development process. In line with guidance set out in Principles of Cultural Heritage Impact Assessment in the UK (IEMA, IHBC, and ClfA, 2021) a scale of impact from large to negligible has been used to articulate the magnitude of change and impact to heritage significance.

Table 3.10 Criteria for determining the magnitude of impact

Magnitude of impact	Description of impact
Large	Changes such that the value of the asset is totally altered or destroyed. Comprehensive change to, or total loss of, elements of setting that would result in harm to the asset and our ability to understand and appreciate its value.
Medium	Change such that the value of the asset is significantly altered or modified. Changes such that the setting of the asset is noticeably different, affecting significance and resulting in changes in our ability to understand and appreciate the value of the asset.
Small	Changes such that the value of the asset is slightly affected. Changes to the setting that have a slight impact on its value resulting in changes in our ability to understand and appreciate the value of the asset.
Negligible	Changes to the asset that hardly affect its value. Changes to the setting of an asset that have little effect on its value and no real change in our ability to understand and appreciate the value of the asset.

Classification and significance of effects

- 3.4.19 An assessment to classify the effect, having taken into consideration any embedded mitigation, is determined using the matrix at Table 3.11. In line guidance set out in Principles of Cultural Heritage Impact Assessment in the UK (IEMA, IHBC, and ClfA,

2021) this uses a graded scale of effects. The significance of effect table includes a 'no impact' category to record where the Proposed Project would result in no impact and no effect to a heritage asset.

Table 3.11 Criteria for determining the significance of effect

Value	Magnitude of impact				
	Large	Medium	Small	Negligible	No Impact
High	Major	Major	Moderate	Minor	No effect
Medium	Major	Moderate	Minor	Negligible	No effect
Low	Moderate	Minor	Negligible	Negligible	No effect
Negligible	Minor	Negligible	Negligible	Negligible	No effect

- 3.4.20 The effect is determined by cross-referencing the value of the heritage asset with the magnitude of impact. As set out in **Application Document 6.2.1.5 Part 1 Introduction Chapter 5 EIA Approach and Methodology**, major and moderate effects are considered to be significant. If significant effects are assessed and, if appropriate, additional mitigation is proposed, as set out in Section 3.10 of this chapter. Additional mitigation does not reduce the magnitude of the impact, particularly where the impact relates to the physical loss of a heritage asset, but it may reduce the effect if used to offset or compensate for an adverse effect. This scenario is a recognition that some additional mitigation measures, for example archaeological excavation and recording, whilst not being a benefit of development, is a better outcome when compared to the loss of a heritage asset without recording it.
- 3.4.21 Within the NPPF, Section 16 Paragraphs 212–216, and NPS EN-1 (Department for Energy Security and Net Zero, 2023), Section 5.9, impacts affecting the value of heritage assets are considered in terms of harm, and there is a requirement to determine whether the level of harm amounts to 'substantial harm' or 'less than substantial harm'.
- 3.4.22 There is no direct correlation between the significance of effect as reported in the ES and the level of harm caused to heritage significance. Harm to heritage significance more readily correlates with the magnitude of impact reported in the ES, as the level of harm to heritage significance is not dependent upon the degree of significance an asset holds. A high or medium magnitude of impact on a heritage asset would, more often, be the basis by which a decision maker would determine that the level of harm to the significance of the asset would be substantial. A low magnitude of impact is unlikely to meet the test of substantial harm and would, more often, be the basis by which a decision maker would determine that the level of harm to the heritage significance of the asset would be less than substantial. A very low magnitude of impact is also likely to amount to less than substantial harm. In all cases determining the level of harm to the significance of the asset arising from a development impact is one of professional judgement.
- 3.4.23 A Heritage Statement of Harm is presented in **Application Document 7.1 Planning Statement**.

Assumptions and Limitations

- 3.4.24 This assessment is based on the Kent Onshore Scheme design described in **Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project** and shown on **Application Document 2.5.2 Work Plans – Kent** and **Application Document 2.14.2 General Arrangements Plans – Kent**.
- 3.4.25 The assessment has been undertaken adopting the principles of the ‘Rochdale Envelope’. This involves assessing the maximum (and where relevant, minimum) parameters for the Kent Onshore Scheme considered to be the likely worst-case scenario to determine the significance of effect.
- 3.4.26 The assessment depends on the accuracy of data provided by third parties (e.g. HER data). It had been assumed that data provided by third parties is accurate.
- 3.4.27 Where data has been gathered or provided for the assessment, checks have been undertaken to ensure it has remained valid and up-to-date during the course of the work. Ongoing consultation with archaeological advisors at KCC and Historic England has also ensured that should any new findings from other works, undertaken during the course of the assessment, be relevant to the Kent Onshore Scheme, such findings could be included and the assessment updated.
- 3.4.28 Archaeological evaluation trenching has been completed for most areas of the Kent Onshore Scheme that would be subject to significant surface works as a result of the Proposed Project, with the areas not subject to trenching limited to temporary access tracks, new pylons/OHL works, and compounds whose designs were not fixed at the time of the evaluation trenching. These areas will be evaluated following determination of the DCO as part of a phased programme of archaeological works. The deferral of these elements of trenching has been agreed with the Archaeological Advisor for KCC and is detailed in **Application Document 7.5.4.2 Kent Onshore Outline Overarching Written Scheme of Investigation (Draft)**. The deferred trial trenching is not considered to result in meaningful limitations to the assessment.
- 3.4.29 The impacts and additional mitigation requirements in these areas is adequately understood based on the information provided in the baseline report supplied in **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report** and the results of additional surveys carried out for the Proposed Project, comprising:
- **Application Document 6.3.3.3.D Appendix 3.3.D Geophysical Survey Report;**
 - **Application Document 6.3.3.3.E Appendix 3.3.E Aerial Photographic and LiDAR Report;**
 - **Application Document 6.3.3.3.F Appendix 3.3.F Draft Archaeological Evaluation Trenching Report;** and
 - **Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological Desk-Based Assessment.**
- 3.4.30 The evaluation works that have been undertaken largely confirmed the results of the geophysical survey and identified a number of areas of archaeological remains, which all principally relate to Iron Age and/or Romano-British settlement of the landscape. The evaluation information relating to these features, such as their spatial extent, will inform the Proposed Project’s final design, and has informed additional archaeological evaluation and mitigation which is detailed in **Application Document 7.5.4.2 Kent Onshore Overarching Written Scheme of Investigation (Draft)**.

- 3.4.31 As stated in **Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project**, the design life of the Proposed Project is anticipated to be 40 years. Furthermore, the conclusions of this chapter are not affected by the timing or phasing of construction or decommissioning, should they occur later or be carried out over a longer duration than that outlined in **Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project**. This is a result of the physical impacts to heritage assets resulting from the extent of construction works and not the timing/duration of construction works, while temporary impacts on the setting of assets during construction have been scoped out.
- 3.4.32 A number of areas of the Kent Onshore Scheme comprise grassland as part of additional ecological mitigation measures, most of which are located to the south of the River Stour in the Minster Marshes. There would be no physical impact to these areas as a result of the construction, operation or decommissioning of the Kent Onshore Scheme where they do not correspond spatially with components of the Kent Onshore Scheme, such as access tracks. As such, while included in the geophysical survey, these areas have not been included in the trial trench evaluation as there would be no impact to buried heritage assets that may be present.

3.5 Basis of Assessment

- 3.5.1 This section sets out the assumptions that have been made in respect of design flexibility maintained within the Proposed Project and the consideration that has been given to alternative scenarios and the sensitivity of the assessment to changes in the construction commencement year.
- 3.5.2 Details of the available flexibility and assessment scenarios are presented in **Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project** and **Application Document 6.2.1.5 Part 1 Introduction Chapter 5 EIA Approach and Methodology**.

Flexibility Assumptions

- 3.5.3 The environmental assessments have been undertaken based on the description of the Proposed Project provided in **Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project**. To take account of the flexibility allowed in the Proposed Project, consideration has been given to the potential for effects to be of greater or different significance should any of the permanent or temporary infrastructure elements be moved within the LoD or Order Limits.
- 3.5.4 The assumptions made regarding the use of flexibility for the main assessment are set out in Table 3.12 below.

Table 3.12 Flexibility assumptions

Element of flexibility	How it has been considered within the assessment
Lateral LoD HVDC/HVAC cables	The assumption that the cables have the potential to be laid anywhere within the lateral LoD has been considered for the assessment. In order to assess the reasonable worst-case

	scenario on land take required, the maximum design parameters have been selected to inform the assessment.
Lateral LoD Minster Converter Station and Minster Substation	The assumption considered within this assessment is that Minster Converter Station and Minster Substation are to be constructed anywhere within the lateral LoD footprint as shown in Application Document 2.5.2 Work Plans - Kent . Minster Converter Station and Minster Substation could be In order to assess the reasonable worst-case scenario on land take required during the construction and operation phase, the maximum design parameters have been selected to inform the assessment.
Vertical LoD Minster Converter Station and Minster Substation	The assumption considered within the assessment is that there is a 28 m above existing ground level maximum vertical LoD for Minster Converter Station and 20 m above existing ground level maximum vertical LoD for Minster Substation as explained in Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project . In order to assess the reasonable worst-case scenario, the maximum design parameters have been selected to inform the assessment.
Lateral LoD overhead line	The assumption considered within this assessment is that overhead line options are to be built anywhere within the lateral LoD as shown in Application Document 2.5.2 Work Plans - Kent . In order to assess the reasonable worst-case scenario on land take required during the construction and operation phase, the maximum design parameters have been selected to inform the assessment.
Vertical LoD overhead line	The assumption considered within this assessment is that the overhead line options are to be built up to the the maximum vertical LoD as described in Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project . In order to assess the reasonable worst-case scenario, the maximum potential height of the OHL have been selected to inform the assessment.

Order Limits – temporary construction works	The assessment has considered the possibility of construction impacts happening anywhere within the Order Limits.
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Sensitivity Test

- 3.5.5 It is likely that under the terms of the draft DCO, construction could commence in any year up to five years from the granting of the DCO which is assumed to be 2026. Consideration has been given to whether the effects reported would be any different if the works were to commence in any year up to year five. Where there is a difference, this is reported in Section 3.12.

3.6 Study Area

- 3.6.1 The Study Area for designated and non-designated heritage assets is 500 m from the Order limits, while a second wider Study Area of 2 km from the main permanent above ground infrastructure (i.e. the Minster Converter Station, Minster Substation, and OHL) has been adopted for impacts on the setting of designated assets. The rationale for the Study Area is detailed in **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report**. The Study Area allows cultural heritage assets to be set within their wider context, in line with the guidance for desk-based assessment, and allows for the assessment of archaeological potential within the Order limits, and assessment of the setting of heritage assets within the Order limits and the surrounding landscape.
- 3.6.2 Both the 500 m Study Area adopted to inform the baseline and the wider 2 km Study Area used to assess impacts arising from setting change were agreed with the Archaeological Advisor at KCC and the Inspector of Ancient Monuments at Historic England at the EIA scoping stage.

3.7 Baseline Conditions

- 3.7.1 This section presents a summary of the existing baseline and predicted future baseline conditions for cultural heritage assets relevant to the assessment presented in this ES chapter.

Existing Baseline

- 3.7.2 Key heritage assets which have the potential to be impacted by the Kent Onshore Scheme are identified in this ES chapter and their values detailed such that the potential impacts can be proportionally assessed. The archaeological potential of the Order limits is likewise described to enable the impacts upon archaeological remains and deposits therein to be proportionally assessed.
- 3.7.3 A detailed baseline is set out in the DBA and presented in **Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project**. A gazetteer of heritage assets is provided in **Application Document 6.3.3.3.B Appendix 3.3.B Cultural Heritage Gazetteers**. The location of heritage assets, previous archaeological events and indicative illustrations of historic landscape character are

presented in **Application Document 6.4.3.3 Cultural Heritage (Application Documents 6.4.3.3.2 to 6.4.3.3.7)**.

Geology and Topography

- 3.7.4 The Kent Onshore Scheme is located on land that was formally a marine environment on the southern edge of the Isle of Thanet, with the Kent Onshore Scheme running from Pegwell Bay in the east (NGR TR 34517 63625) to the Converter Station and Substation in Minster Marshes in the west (NGR TR 32224 63035). In the east, the Study Area lies between sea level and 5 m above Ordnance Datum (AOD) as it rises out of Pegwell Bay to the Sandwich Road area, from where it rises to a maximum height of approximately 15 m AOD as it crosses the line of the A256 on the Ebbsfleet Peninsula near Cottingham Hill. The Study Area then drops again as it heads west towards the Minster Marshes where the average ground level is approximately 3 m AOD.
- 3.7.5 While the solid geology of the land to the north consist of chalk (Andrews, Booth, Fitzpatrick, & Walsh, 2015), the solid geology of the Order Limits consists of Thanet Formation deposits comprising sand, silt, and clay laid down in the Palaeogene Period between 59.2 and 56 million years ago (British Geological Survey, 2024). The drift geology at the eastern end of the Study Area consists of Beach and Tidal Flat Deposits of sand, silts, and clays formed between 2.588 million years ago and the present, while the western end consists of Tidal Flat Deposits of clay and silt laid down over the last 11,000 years during the silting up of the Wantsum Channel and formation of the Minster Marshes. The drift geology of the central area, where the land rises to form the headland known as the Ebbsfleet Peninsula along which the A256 now runs, is formed by Thanet Sands dating to the late Paleocene.
- 3.7.6 Land use within the Study Area is almost entirely agricultural, with the higher ground of the Ebbsfleet Peninsula dominated by arable agriculture, while the lower land of the Minster Marshes used for arable and pastoral activities. The land to the east, where the Study Area falls away towards Pegwell Bay, includes a mix of arable land as well as a large area used for recreation (two golf courses are located in the area). The varying topography has been key in determining land use in earlier periods, with the higher ground of the Ebbsfleet Peninsula representing a spur on the south side of the Isle of Thanet surrounded by a marine environment from the early prehistoric period though to the medieval period. This consisted of the Wantsum Channel to the west and south, which cut the Isle of Thanet off from the rest of Kent, and the North Sea/English Channel to the east.
- 3.7.7 Historic Landscape Characterisation data provided by KCC shows the Study Area falling into three categories. The elevated area of the Ebbsfleet Peninsula consists of 'Field Patterns Type 1.14: Fields Predominantly Bounded by Tracks, Roads, and Other Rights of Way'. To the south and west, the Ebbsfleet Peninsula drops away to land defined as 'Reclaimed Marshland Type 5.4: Rectilinear Enclosures', while to the east the land is defined as 'Reclaimed Marshland Type 5.3: Small Rectilinear Enclosures'. The eastern end of the Order Limits, near the coastline, are categorised as 'Coastal Type 8.9: Dunes' and 'Coastal Type 8.7: Mud Flats', with other types within the Study Area limited to small pockets of 'Extractive and Other Industry Type 12.5: Reservoirs and Water Treatment' and 'Recreation Type 11.2: Golf Courses'.

Designated Assets

- 3.7.8 There are no designated heritage assets located within the Order Limits.

- 3.7.9 There are no World Heritage Sites, Registered Parks and Gardens, Registered Battlefields, or Protected Wrecks located within the Study Area.
- 3.7.10 A total of three scheduled monuments and 40 listed buildings were recorded within the 500 m Study Area.
- 3.7.11 Two scheduled monuments and 45 listed buildings were recorded within the 2 km Study Area from the above ground infrastructure adopted for assessing impacts on setting.

Scheduled Monuments

- 3.7.12 All Scheduled Monuments are deemed to be of high value as nationally important heritage assets.
- 3.7.13 There are three scheduled monuments within the 500m Study Area comprising of:
- Richborough Saxon Shore Fort, Roman Port, and Associated Remains (NHLE 1014642). Located approximately 0.15 km south of the Order Limits.
 - Monastic Grange and Pre-Conquest Nunnery at Minster (NHLE 1016850). Located approximately 0.21 km north of the Order Limits.
 - Anglo Saxon Cemetery south of Ozengell Grange (NHLE 1004228). Located approximately 0.45 km northeast of the Order Limits.
- 3.7.14 There are two scheduled monuments within the 2 km Study Area from the above ground infrastructure adopted for setting impacts. These consist of:
- Richborough Saxon Shore Fort, Roman Port, and Associated Remains (NHLE 1014642). Located approximately 1.58 km south of the OHL connection works.
 - Monastic Grange and Pre-Conquest Nunnery at Minster (NHLE 1016850). Located approximately 1.45 km north of the proposed Minster Substation and Minster Converter Station.

Listed Buildings

- 3.7.15 A total of 40 listed buildings were recorded within the 500 m Study Area, of which three are Grade I listed, and 37 are Grade II listed.
- 3.7.16 A total of 45 listed buildings were recorded within the 2 km Study Area from the main permanent above ground infrastructure (i.e. the proposed Minster Converter Station and Substation) adopted for assessing impacts on setting. These consisted of two Grade I listed buildings, one Grade II* listed building, and 42 Grade II listed buildings.
- 3.7.17 The Grade I listed buildings comprise the Church of St Mary (NHLE 1224116) and Minster Abbey (NHLE 1223807), both of which have origins in the medieval period, and the Grade II* listed building comprises Wayborough Manor (NHLE 1224593) which dates to the post-medieval period. The Grade II listed buildings date predominantly to the post-medieval period and include town houses, farmhouses and agricultural buildings, which are indicative of the area's agricultural heritage. Modern buildings that re Grade II listed include structures associated with Second World War defences including, for example, anti-tank cylinders and a pillbox at Pegwell Bay (NHLE 1413803).
- 3.7.18 The Grade I and Grade II* listed buildings are all of high value due to their exceptional architectural, historical, archaeological and/or artistic interest.

- 3.7.19 The Grade II listed buildings are all of medium value due to their special architectural, historical, archaeological and/or artistic interest.

Non-Designated Assets

- 3.7.20 A review of previously recorded assets on the Kent HER recorded a total of 72 assets within the Order Limits. The majority of these are features relating to the complex multiperiod site recorded on the Ebbsfleet Peninsula that was partially excavated as part of the East Kent Access 2 (EKA2) scheme, with the geophysical survey and evaluation trenching undertaken for the Kent Onshore Scheme demonstrating that the features excavated for the construction of the A256 continue on the eastern and western side of the road. However, other previously recorded assets within the Order Limits include remains of features associated with medieval and post-medieval reclamation and land management in the former Wantsum Channel, agricultural activities, chance finds from various periods, and 20th century military remains.
- 3.7.21 Previously recorded non-designated assets within the Order Limits consist of (from east to west):
- Second World War beach scaffolding (MWX43182);
 - Second World War wire entanglements (MWX43183);
 - Second World War anti-tank pimples (TR 36 SW 280);
 - Second World War anti-tank blocks (MWX43185);
 - Second World War probable stop line (MWX43387);
 - The Boarded Groin (TR SW 203);
 - Second World War anti-aircraft battery at St Augustine's Golf Course (MWX43192);
 - Multi period complex on the Ebbsfleet Peninsula straddling the A256;
 - Weatherlees Sidings and Richborough Port (TR 36 SW 414; MWX43282; MWX43195);
 - Probable Second World War Stop Line (Minster Marshes) (MWX43372);
 - Second World War Enhanced Drainage, Minster Marshes (MWX43342);
 - Abbot's Walls (TR 26 SE 148);
 - Possible Flood Bank, Ash Levels (MWX43343);
 - Enclosure and Boundary Features, Ash Levels (MWX43368, MWX43373);
 - Second World War Enhanced Drainage, Ash Levels (MWX43337);
 - Stack Stances, Ash Levels (MWX43344; MWX43352; MWX43356; MWX43357; MWX43359; MWX43360; MWX43363; MWX43364; MWX43376; MWX43377; MWX43378; MWX43381); and
 - Former Wantsum Channel and Associated Geo-Archaeological Deposits.
- 3.7.22 The largest concentration of non-designated assets identified are on the Ebbsfleet Peninsula, with a multi-phase complex straddling the A256. As noted above, these features were previously recorded during the works associated with the construction of the A256, and additional surveys undertaken as part of the Proposed Project, including

geophysical survey and evaluation trenching, confirmed that the multi-period site continued on both sides of the A256 and into the Order Limits. These remains, which included continuations of trackways, ditches, and enclosures, as well as Bronze Age burial mounds and later inhumations, confirmed the survival of remains throughout the Ebbsfleet Peninsula area. While these remains are not designated, stakeholders have highlighted they are considered to be of schedulable quality and as such they are deemed to be of high value (sensitivity) for this assessment.

- 3.7.23 Features in the Minster Marshes were less evident on the geophysical survey, and the evaluation trenching also identified limited evidence of activity with the deposits encountered largely associated with depositional processes linked to the reclamation of the former Wantsum Channel. The majority of previously recorded assets in this area date to the medieval and post-medieval periods, and include drainage works such as the Abbot's Wall (TR 26 SE 148), and possible flood banks in the Ash Levels (MWX43343). In the majority of cases, the full extent and original form of these features is not well understood due to a lack of fieldwork or intrusive investigations. Furthermore, many appear to have been subject to later remodeling and enhancement as part of the ongoing process of drainage and protection of the agricultural land in the Minster Marshes and Ash Levels from flooding. However, consultation with stakeholders has noted that they are considered to be of regional importance and as such they considered to be medium heritage value.
- 3.7.24 Evidence of post-medieval agricultural land use includes field boundaries (MWX43368) as well as haystack stances (MWX43335; MWX43344; MWX43352; MWX43353; MWX43356; MWX43357; MWX43359; MWX43360; MWX43363; MWX43364; MWX43376; MWX43377; MWX43378; MWX43381), suggesting a mixture of arable and pastoral activities taking place. While these features represent an important part of the history and development of land use in the area, they are considered to be of local importance and therefore of low heritage value.
- 3.7.25 The later post-medieval development of the area's infrastructure, as well as the conflicts of the 20th century, are also well represented within the Order Limits. Remains linked to the area's infrastructure include the Deal Branch Line (TR 35 NW 800) which are still operational, and runs through the Minster Marshes area. Other assets include the later 20th century hoverport terminal site, which is located on the coast near Pegwell Bay (TR 36 SE 714). These assets are considered to be of low heritage value.
- 3.7.26 Remains associated with the conflicts of the 20th century include a number of defensive features, as well as the Richborough Port complex, and remains associated with bombing. Previously recorded assets on the coastline around Pegwell Bay include beach scaffolding (MWX43182), as well as anti-tank obstacles (MWX43185), a possible stop line (MWX43387), and remains of an anti-aircraft battery (MWX43192). Further evidence of military defences have been recorded inland in the Minster Marshes and Ash Levels and include areas of enhanced drainage (MWX43337; MWX43342) and possible 'stop lines' (MWX43372), all of which appear to have been relatively short-lived features and backfilled at the end of the Second World War.
- 3.7.27 The military assets associated with the early 20th century military infrastructure include the northern limits of the Richborough Port complex (TR 36 SW 414), with a small element of the former Weatherlees Railway Siding falling within the Order Limits (MWX43282), while other features from the Second World War include backfilled bomb craters recorded on aerial photographs (MWX43355).
- 3.7.28 While a limited number of Second World War defences in the wider landscape have been listed due to their rarity, including anti-tank pimples and cylinders at Pegwell Bay

(HNLE 1413803), the features that have been recorded within the Order Limits are either poorly preserved or of a type frequently found in the area. As a result, the military remains within the Order Limits are considered to be of low or medium heritage value.

Surveys Carried out for the Kent Onshore Scheme

- 3.7.29 As part of the evaluation and assessment process of the Kent Onshore Scheme, a number of surveys were undertaken within the Order Limits. These are fully discussed in **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report**, and the full reports are submitted as appendices to this chapter.

Site Walkover Surveys

- 3.7.30 A number of site visits were conducted covering the Order Limits as well as the Study Area and surrounding landscape as part of the setting assessment, with visits undertaken on the 9 and 11 May 2022, the 20 and 21 January 2024, and the 14 and 15 October 2024. These visits did not identify any new assets, and also noted that a number of the previously recorded assets, including features such as Second World War defences recorded from wartime period aerial photography, had been lost or filled in. Observations in the Minster Marshes and Ash Levels also noted that many of the possible features linked to flood defences and drainage are being enhanced as part of the active land management of the area, with material for works such as ditch clearance use to enlarge banks, or banks used as trackways. Full details of the walkover surveys are supplied in **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report**, while site photos are included in **Application Document 6.3.3.3.C Appendix 3.3.C Site Photos**.

Geophysical Survey

- 3.7.31 A geophysical survey was undertaken in 2023, with an additional area on the Ebbsfleet Peninsula surveyed in October 2024. The survey focused on the areas of the Order Limits that would be subject to surface works/disturbance, and as a result did not include the area where trenchless techniques would be employed (i.e. the landfall). Geophysical survey is not generally undertaken along trenchless routes as the trenchless technique is assumed to go below any archaeological features.
- 3.7.32 The survey provided additional information relating to the complex multi-period site previously recorded straddling the A256 on the Ebbsfleet Peninsula. Information from the lower lying Minster Marshes was limited with some possible drainage features identified. Full details of the geophysical survey are included in **Application Document 6.3.3.3.D Appendix 3.3.D Geophysical Survey Report**.

Aerial Photographic and LiDAR Review

- 3.7.33 A review of aerial photographs as well as LiDAR data was undertaken for the Order Limits as well as the Study Area. This confirmed the presence of a number of previously recorded assets including banks and ditches within the Minster Marshes area, thereby enhancing the information held on the area. Full details of the aerial photographic and LiDAR review can be found in the report reproduced in **Application Document 6.3.3.3.E Appendix 3.3.E Aerial Photographic and LiDAR Report**.

Archaeological Evaluation Trenching

- 3.7.34 A programme of archaeological evaluation trenching was undertaken, and included targeted trenching designed to investigate features recorded by geophysical survey and aerial photography. Areas that appeared blank/free from archaeological features in the Minster Marshes were also tested, with the trenching focusing on the areas of greatest potential physical impact arising from the Kent Onshore Scheme (i.e. the Ebbsfleet Peninsula area for the HDD starter pits, cable route, compounds, and permanent access, as well as the cable route, compounds, substations, and converter station in the Minster Marshes area). The proposed temporary access roads and overhead line works south of the River Stour were not subject to evaluation trenching due to the limited disturbance predicted from these works, and the low archaeological potential for the area.
- 3.7.35 The evaluation trenching confirmed that the data collected during the geophysical survey was accurate and a good representation of the buried archaeological remains in the area. Trenching on the Ebbsfleet Peninsular confirmed the distribution of features, the character of the remains, and also provided some dating evidence. This included confirming a series of ring ditches across the ridge were Bronze Age round barrows, and a number of enclosures on the eastern side of the A256 contained late Iron Age/Romano-British burials.
- 3.7.36 The trenching also noted that current agricultural practices were actively damaging some buried archaeological features, with truncation resulting from ploughing visible, while a limited number of new features were observed on the eastern side of the A256 were colluvium/alluvium had masked them on the geophysical survey.
- 3.7.37 Trenching in the Minster Marshes did not record any significant features, with trenches targeting the areas on the western side of Field 224.1, where the Ebbsfleet Peninsula drops into the former Wantsum Channel/Minster Marshes, failing to record any former riverside remains linked to a possible Roman waterfront. While most trenches in the Minster Marshes were limited in depth to 1 m, a number of deeper trenches were excavated to a depth of 2 m to provide additional information on the geoarchaeological potential in the upper deposits, specifically in the area of the possible former shoreline. These, again, did not identify any archaeological features. Full details of the archaeological evaluation are included in **Application Document 6.3.3.3.F Appendix 3.3.F Draft Archaeological Evaluation Trenching Report**.

Geo-archaeological Desk-Based Assessment

- 3.7.38 A geo-archaeological desk-based assessment was undertaken to assess the geo-archaeological/paleoenvironmental potential for the Kent Onshore Scheme, and the report was submitted to Kent County Council, although feedback had not been received at the time of writing. This was focused on the low-lying areas of the Minster Marshes which had previously been a marine environment known as the Wantsum Channel. The study also focused on the areas of work which were most likely to result in impacts on deep deposits, namely the Converter Station and Substation, as well as the tower locations which will also require piled foundations.
- 3.7.39 A review of the GI data collected as part of the Proposed Development identified alluvial type deposits characteristics of a marine environment that subsequently silted up throughout the area of the Substation and Converter Station. A review was also undertaken of recent geo-archaeological works carried out as part of the Richborough Connection and the Weatherlees Pumping Station schemes. This noted that while the

study of deposits in this area of the former Wantsum Channel had provided further information regarding the previous environment, with dateable samples recovered, no structural remains or features such as wrecks have been recorded. It also noted that no large organic deposits, such as peat beds, had been reported during previous works.

- 3.7.40 The report concluded that the deposits in the area had the potential to provide information relating to past environments as well as the silting and reclamation of the Wantsum Channel. However, it also noted that the deposits in the Kent Onshore Scheme represented a small element of a much larger feature, and concluded that based on current knowledge they were considered to be of local or regional significance (although any wrecks or structural remains that might exist would likely be of higher value). Full details of the archaeological evaluation are included in **Application Document 6.3.3.3.G Appendix 3.3.G Geo-Archaeological Desk-Based Assessment**.

Future Baseline

- 3.7.41 This section considers changes to the baseline conditions described above that might occur in the absence of the Proposed Project, and during the period over which the Proposed Project would have been in place.
- 3.7.42 Based on available information, there are no reasons to expect that there would be any marked change in the cultural heritage baseline in the absence of the Proposed Project.
- 3.7.43 In the absence of the Proposed Project, land within the Order limits is anticipated to continue as agricultural land with the majority of the land used as arable, with the existing settings of built heritage assets retained. In addition, it is not considered likely that significant numbers of designated built heritage assets will be added to the baseline during the lifespan of the Kent Onshore Scheme.
- 3.7.44 Changes to buried archaeological remains which might occur during the lifespan of the Proposed Project, in the absence of the Proposed Project, would be minimal and limited to typical taphonomic processes such as erosions, especially resulting from arable cultivation. There is also the potential that areas of archaeological remains on the Ebbsfleet Peninsula might be scheduled due to their significance.

3.8 Proposed Project Design and Embedded Mitigation

- 3.8.1 The Proposed Project has been designed, as far as possible, following the mitigation hierarchy in order to, in the first instance, avoid or reduce cultural heritage impacts and effects through the process of design development, and by embedding measures into the design of the Proposed Project.
- 3.8.2 As set out in **Application Document 6.2.1.5 Part 1 Introduction Chapter 5 EIA Approach and Methodology**, mitigation measures typically fall into one of three categories: embedded measures; control and management measures; and mitigation measures. Embedded, and control and management measures are set out below. Additional mitigation measures are discussed in Section 3.10.

Embedded Measures

- 3.8.3 Embedded measures have been integral in reducing, and where possible avoiding, the cultural heritage effects of the Proposed Project. Measures that have been incorporated are:

- Sensitive routeing and siting of infrastructure and temporary works as set out in the paragraph below; and
- Commitments made within **Application Document 7.5.3.2 CEMP Appendix B Register of Environmental Actions and Commitments (REAC)**.

3.8.4 The Kent Onshore Scheme has been carefully considered to avoid, reduce or mitigate likely significant effects on cultural heritage assets. Cultural heritage mitigation measures which have been embedded into the design of the Kent Onshore Scheme include:

- **Avoidance** – where practicable, cultural heritage assets have been avoided in order to reduce or remove potential impacts upon them. Refinement of the proposals has taken place in a staged, iterative manner as the potential impacts of the Proposed Project are understood (for example following site investigations as noted below). The permanent access in Field 224.1 has also been carefully designed to avoid the introduction of elements such as fence lines, hedgerows, and trees which are not in character with the landscape (H04).
- **Investigation** – a programme of archaeological evaluation surveys has been undertaken. This has identified areas of archaeological interest that have been set out as heritage buffer areas within the Kent Onshore Scheme design to enable preservation in-situ and protection of these remains. This includes the exclusion from the Order Limits of land on the Ebbsfleet Peninsula where a geophysical survey and evaluation trenching identified a concentration of Bronze Age barrows, as well as the large Late Iron Age/Roman enclosure previously recorded at the southern end of the Ebbsfleet Peninsula. It also includes avoidance of any stripping of topsoil in Field 346 on the eastern side of the A256 to avoid physical impacts of a series of Late Iron Age and Roman enclosures (including mortuary enclosures), as well as repositioning a proposed construction access track into an area of previously disturbed ground, to avoid physical impacts (H04).

Control and Management Measures

3.8.5 Measures relevant to the control and management of impacts during construction have been included within **Application Document 7.5.3.1 CEMP Appendix A Outline Code of Construction Practice (CoCP)**. The following measures have been taken into account in assessing the cultural heritage effects of the Proposed Project:

- H01: construction of the Proposed Project would employ the use of track matting for construction plant, where practicable, as opposed to topsoil stripping for the creation of haul roads. This measure would avoid permanent impacts to buried archaeological remains that may be present.
- H02: To minimise change to the setting of heritage assets, land used temporarily will be reinstated to its pre-construction condition and use, where practicable, unless agreed otherwise. Hedgerows, fences and walls (including associated earthworks and boundary features) will be reinstated to a similar style and quality to those that were removed where possible, with landowner consultation, through CoCP measure GG07. This is subject to the DCO provisions on reinstatement.
- H03: To minimise light intrusion into the setting of heritage assets, construction lighting will be of the lowest levels necessary to safely perform each task. It will be designed, positioned and directed to reduce light spill and intrusion, through CoCP measure GG21.

3.9 Assessment of Impacts and Likely Significant Effects

- 3.9.1 The assessment of the likely significant effects of the Kent Onshore Scheme on cultural heritage receptors described in this section considers the embedded and control and management measures described in Section 3.8 of this chapter.
- 3.9.2 The following provides a proportionate assessment of likely significant effects on cultural heritage. As such, only those assets which are considered likely to be impacted by the Kent Onshore Scheme, as informed by the desk-based research, evaluation surveys and professional judgement, are discussed. Those assets which would not experience an impact, either physically or through changes to their setting, are omitted. Details of assets within the Order Limits, but not impacted by the Proposed Project are provided in **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report**.

Heritage Assets Scoped into the Assessment

- 3.9.3 The cultural heritage baseline assessment presented in **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report** has identified the potential for impacts to designated and non-designated heritage assets within the Order Limits and Study Areas as a result of the Kent Onshore Scheme. Plot numbers mentioned in Section 3.9 of this ES chapter are shown on **Application Document 6.4.3.3.1**.
- 3.9.4 Designated heritage assets scoped into further assessment comprise:
- Richborough Fort.
- 3.9.5 Non-designated heritage assets scoped into further assessment comprise:
- Multi period complex on the Ebbsfleet Peninsula straddling the A256;
 - Weatherlees Sidings and Richborough Port (TR 36 SW 414 and MWX43282);
 - Former sheep dip (AECOMK002);
 - Bridge and former sheep dip (AECOMK006);
 - Probable Second World War Stop Line (Minster Marshes) (MWX43372);
 - Second World War Enhanced Drainage, Minster Marshes (MWX43342);
 - Abbot's Walls (TR 26 SE 148);
 - Possible Flood Bank, Ash Levels (MWX43343);
 - Enclosure and Boundary Features, Ash Levels (MWX43368, MWX43373);
 - Second World War Enhanced Drainage, Ash Levels (MWX43337); and
 - Former Wantsum Channel and Associated Geo-Archaeological Deposits.

Construction Phase

- 3.9.6 This section identifies the potential impacts and resulting likely significant effects, from the construction phase of the Kent Onshore Scheme.

- 3.9.7 As stated in Section 3.3 of this ES chapter, due to the low potential for significant effects to arise, the assessment of impact arising from temporary changes to setting during the construction phase of the Proposed Project is scoped out of this assessment.
- 3.9.8 However, permanent and irreversible long-term (for the lifespan of the Kent Onshore Scheme) impacts lasting beyond the construction phase may arise as a result of the following activity:
- Any below ground activities, including but not limited to groundworks, planting, earth-moving operations, topsoil removal for haul road or compound locations, trenches for cabling, the construction of above ground infrastructure including the Minster Substation, Minster Converter Station and new OHL, and associated infrastructure, that are required for the construction of the Proposed Project, as described in **Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project**. This is because all of these Proposed Project components, either entirely or in part, would entail impacts to the existing ground surface, resulting in the physical disturbance, truncation or removal of archaeological remains that may be present.
 - Construction activities such as site clearance, resulting in the partial or total loss of important elements of the historical landscape including hedgerows through physical impacts.
 - Impacts through change to the setting of heritage assets as a result of the introduction of the physical form and appearance of the Proposed Project within their setting (long-term for the lifespan of the Proposed Project, but reversible at decommissioning).

Designated Assets

- 3.9.9 There are no designated heritage assets located within the Order Limits and as such there would be no physical impacts on designated assets resulting from the Kent Onshore Scheme. Further to this, and as stated in Section 3.3 of this chapter, impacts on the setting of heritage assets during construction phase of the Proposed Project have been scoped out due to the limited potential for significant effects, and the temporary nature of the potential impacts.

Non-Designated Assets

- 3.9.10 There are 13 non-designated heritage assets, or groupings of assets, within the Order Limits which could be physically impacted by the Kent Onshore Scheme, resulting in permanent effects. Plot numbers mentioned in the assessment are shown on **Application Document 6.4.3.3.1 Plot numbers within the Kent Study Area**.
- 3.9.11 Temporary effects, arising from temporary change to the setting of non-designated heritage assets during the construction phase on the Proposed Project have been scoped out of the assessment due to the unlikelihood for significant effects to occur.
- 3.9.12 The scope of the impact assessment and the unlikelihood for significant effects to occur from temporary construction impacts has been further informed by the results of surveys undertaken for the ES and reported in other technical chapters, including **Application Document 6.2.3.1 Part 3 Kent Chapter 1 Landscape and Visual**, **Application Document 6.2.3.7 Part 3 Kent Chapter 7 Traffic and Transport** and **Application Document 6.2.3.9 Part 3 Kent Chapter 9 Noise and Vibration**.

Ebbsfleet Peninsula Multi-Period Complex Straddling the A256

- 3.9.13 A complex multi-period site has been recorded covering a large area of the Ebbsfleet Peninsula in Plots 244.1, 316, 336, and 346. Originally identified during works for the EKA2 scheme, parts of the complex were excavated during the construction of the A256, with a subsequent research project undertaking further geophysical survey and some limited excavation. Remains encountered date from the Neolithic through to the Post-Medieval period, however, the most significant remains include the remains of Bronze Age burial mounds, Iron Age enclosures, trackways and field systems, and a large Late Iron Age/Romano-British enclosure with associated features.
- 3.9.14 A geophysical survey undertaken as part of the Proposed Project provided further information relating to the area covered by the complex, and subsequent evaluation trenching provided information relating to the date and character of the remains, as well as their level of survival. This has included confirming a Bronze Age date for a number of ring ditches, and identifying burials in a number of enclosures.
- 3.9.15 The value (sensitivity) of these assets derives largely from their archaeological interest, and the information they could provide relating to the history and development of land use in the area, and they are considered to be of schedulable quality. As a result, they are of high value as they are of national importance. Embedded mitigation in the form of avoidance and redesign has been employed to avoid the majority of features, with large areas of the complex falling outside of the Order Limits, while other remains fall outside of the LoD. Furthermore, works on the eastern side of the A256 required to lay out cables would not require stripping and would use track matting to avoid physical impacts, while an access track required in the same field would use an area of land previously disturbed during utilities work to avoid further impacts.
- 3.9.16 However, a number of elements of the Kent Onshore Scheme would be required within the complex, or on the fringes of the complex. On the eastern side of the A256 these works consist of an excavation pit (for trenchless installation) in Field 346 and a temporary construction compound in Field 316, both of which are on the fringes of the complex. On the western side of the A256 the works include a temporary compound and excavation pit (for trenchless installation) in Field 316, and the permanent access and cable route in Field 224.1.
- 3.9.17 The Kent Onshore Scheme would therefore result in direct physical impacts on parts of the complex, although as they have been designed so that the best preserved and most sensitive remains (i.e. the main Late Iron Age/Early Roman enclosure and known Bronze Age and Roman burials) would be avoided, they would not totally affect our ability to understand the heritage interests of the assets. Furthermore, the physical impacts will be limited to a relatively small percentage of the complex, as it is currently understood. Therefore, the magnitude of impact is considered to be medium. On an asset of high value, this would result in a **major adverse** effect which is considered to be significant.

Weatherlees Sidings and Richborough Port (TR 36 SW 414 and MWX43282)

- 3.9.18 The former Richborough Port, which includes the former Weatherlees railway sidings, was originally constructed during the First World War as part of a complex to aid the movement of troops and supplies to Europe. The sidings were decommissioned after the armistice, but were commissioned again during the Second World War with most activity linked to the preparations for D-Day. Decommissioned in the post-war period, no obvious traces of the railway sidings survive with the exception of slight earthwork

embankments on the eastern side of the asset, outside of the Order Limits, while remains linked to the overall port site are also limited.

- 3.9.19 The value (sensitivity) of these assets derives largely from their archaeological interests, and the information they could provide relating to the history and development of the railway sidings during the First and Second World Wars. The complex also has historic interest due to the information it contains linked to the infrastructure that supported the military in the First and Second World War. While the wider complex may be of regional interest and therefore of medium value, the small element that survives within and adjacent to the Order Limits represents a short-lived site with little or no remains surviving. As such, the railway sidings are considered to be of local importance and therefore of low value.
- 3.9.20 Works that form part of the Kent Onshore Scheme and have the potential to result in physical impacts on the assets include a small area of an attenuation pond and associated outfall into an existing drain. The limited nature of these works on a very large asset that retains very little of its original features/elements would result in a negligible magnitude of impact. On an asset of low value, this would result in a **negligible** effect which is not considered to be significant.

Former Sheep Dip (AECOMK002)

- 3.9.21 The site of a former sheep dip has been recorded in the Minster Marshes in Plot 244.4 on historic mapping from at least the 19th century, although no traces survive as above ground remains. The approximate area was subject to geophysical survey which did not record any traces of the feature, while evaluation trenching in the approximate area also failed to locate any remains. As the field is now used for pasture it is assumed all traces have been removed.
- 3.9.22 The value (sensitivity) of the asset derives largely from its archaeological interest, and the information any surviving remain might provide relating to post-medieval agriculture. It also has some historic significance associated to the part the feature played in agricultural land use. However, they are of a type found commonly throughout the area as well as large parts of the United Kingdom, and as such they are considered to be of negligible value due to their limited level of survival/preservation.
- 3.9.23 Works that form part of the Kent Onshore Scheme and have the potential to result in a physical impact on the assets include construction of a temporary compound. The impact on any buried remains that might survive would result in a large magnitude of impact, as it is assumed that any remains that might survive would be completely removed. On an asset of negligible value, this would result in a **minor** effect which is not considered to be significant.

Bridge and Former Sheep Dip (AECOMK006)

- 3.9.24 The site of a former sheep dip and adjacent bridge has been recorded in the Minster Marshes in Plot 244.10 on historic mapping from at least the 19th century. Although no traces of the sheep dip survive as above ground remains, the bridge still forms an access across a drain in this area. The approximate area of the sheep dip was subject to geophysical survey which did not record any traces of the feature, while evaluation trenching in the approximate area also failed to locate any remains (although the trenching was set back from the area to avoid impacts on the bridge). As the field is now used for pasture it is assumed all traces of the sheep dip have been removed by ploughing.

- 3.9.25 The value (sensitivity) of the assets derives largely from their archaeological interest, and the information any surviving remain might provide relating to post-medieval agriculture. They also have some historic significance associated with their role in agricultural land use, land management, and access. However, they are of a type found commonly throughout the area, as well as large parts of the United Kingdom, and as such they are considered to be of negligible value due to their limited level of survival/preservation.
- 3.9.26 Works that form part of the Kent Onshore Scheme and have the potential to result in a physical impact on the assets include construction of the proposed Minster Converter Station and Substation, and associated accesses. The impact on any buried remains that might survive would result in a large magnitude of impact, as it is assumed that any remains that might survive would be completely removed, and it is also assumed that the bridge would be removed. On an asset of negligible value, this would result in a **minor** effect which is not considered to be significant.

Probable Second World War Stop Line, Minster Marshes (MWX43372; MWX43387)

- 3.9.27 A probable Second World War stop line has been recorded through 1940s aerial photography showing freshly cut earth banks to fortify a stream on the north bank of the River Stour, with a second section running from the River Stour to Pegwell Bay. Later aerial photographs show that the earth banks were levelled and no traces survive today.
- 3.9.28 The value (sensitivity) of the asset derives largely from its archaeological interest, and the information it may provide relating to early defences created rapidly at the start of the Second World War. It also has some historic significance associated to the part the features played in the defence of the area during the Second World War. However, they are of a type found commonly throughout the area as well as large parts of the United Kingdom, and as such they are considered to be of low value due to their limited level of survival/preservation.
- 3.9.29 Works that form part of the Kent Onshore Scheme and have the potential to result in a physical impact on the assets include construction of two sections of temporary haul road that cross the feature at right angles, as well as three areas of temporary drainage works that would feed into the existing drain/stream in the area of the asset, and an attenuation pond. The limited nature of these works on a large linear asset (the stop line originally extended from Cliffs End to Minster, a distance of some 5 km) that retains very little of its original features/elements would result in a negligible magnitude of impact. On an asset of low value, this would result in a **negligible** effect which is not considered to be significant.

Second World War Enhanced Drainage, Minster Marshes (MWX43342)

- 3.9.30 An element of a probable Second World War stop line known as 'enhanced drainage' has been recorded through 1940s aerial photography. This shows freshly cut earth banks designed to help fortify a stream on the north bank of the River Stour through digging out, or enhancing, existing drainage. Wartime aerial photos also show similar works on the south side of the River Stour in the Ashe Levels, and in both instances later aerial photographs show that the earth banks were leveled with no clear traces surviving today.
- 3.9.31 The value (sensitivity) of the asset derives largely from its archaeological interest, and the information it may provide relating to early defences created rapidly by enhancing existing drainage at the start of the Second World War. They also have some historic

interest due to the information they contain associated with the defence of the area in the Second World War. They are considered to be of local importance and therefore of low value due to their limited level of survival/preservation.

- 3.9.32 Works that form part of the Kent Onshore Scheme and have the potential to result in a physical impact on the assets include construction of two sections of temporary haul road that cross the feature at right angles, as well as three areas of temporary drainage works that would feed into the existing drain/stream in the area of the asset. The limited nature of these works on a large linear asset (the stop line originally extended from Cliffs End to Minster, a distance of some 5 km) that retains very little of its original features/elements would result in a negligible magnitude of impact. On an asset of low value, this would result in a **negligible** effect which is not considered to be significant.

Abbot's Walls (TR 26 SE 148)

- 3.9.33 The Abbot's Wall is an earth bank and associated ditch which is assumed to have originally been constructed in the medieval period by the Abbot of St Augustine as part of the efforts to reclaim and protect the Minster Marshes area from the former Wantsum Channel. Running for a distance of at least 7 km, the feature is thought to originally date to the late 13th century, although it has been modified and consolidated over time.
- 3.9.34 The value (sensitivity) of the asset derives from its archaeological interest, and the information it could provide relating to the history of land reclamation and management in the Wantsum Channel/Minster Marshes area. However, the bank and ditch also have some historic interest due to their role in the reclamation and ongoing flood protection in the Minster Marshes. Its setting also contributes to its significance as it remains a visible earthwork in the largely flat and open Minster Marshes landscape. It is considered to be of regional importance and as such is deemed to be of medium value.
- 3.9.35 Works that form part of the Kent Onshore Scheme that have the potential to result in a physical impact on the asset include construction of a temporary haul road that crosses the feature at a right angle, as well as temporary drainage works that would feed into the existing drain/stream in the area of the asset. These works are positioned in an area where the earthwork element of the asset has been partially removed and an existing farm access exists thereby limiting potential impacts. Furthermore, the impacts would be limited to a small localised area of the asset which runs for approximately 7 km. As a result, the magnitude of impact is considered to be negligible. On an asset of medium value, this would result in a **negligible** effect which is not considered to be significant.

Possible Flood Bank, Ash Levels (MWX43343)

- 3.9.36 This is a large flood bank, assumed to be part of flood defences or associated with the reclamation of the Wantsum Channel/Minster Marshes. Originally recorded on 1940s aerial photography, the feature does not follow the 19th century field systems and is assumed to be medieval or post-medieval in date. However, the feature was destroyed by ploughing in the second half of the 20th century, and it is unclear if any remains survive with no clear evidence of the feature in the geophysical survey data.
- 3.9.37 The value (sensitivity) of the asset derives largely from its archaeological interest, and the information it may provide relating to early efforts to reclaim the Wantsum Channel/Minster Marshes area, as well as subsequent drainage and flood protection activities. It is considered to be of local interest and therefore of low value.

- 3.9.38 Works that form part of the Kent Onshore Scheme that have the potential to result in physical impacts on the asset includes construction of a temporary haul road that would cross the feature at a right angle, as well as a temporary OHL structure. These works would be limited to a small localised area of the asset, which has been ploughed out, but which originally extended for approximately 1.5 km. As a result, the magnitude of impact is considered to be negligible. On an asset of low value, this would result in a **negligible** effect which is not considered to be significant.

Enclosure and Boundary Features, Ash Levels (MWX43368, MWX43373)

- 3.9.39 A series of banks along with a possible enclosure were identified through a review of 1940s aerial photography. The alignment of the banks respect the layout of field systems recorded on 19th century mapping, and as such are assumed to form part of the post-medieval field and flood defence system. However, 1960s aerial photographs show they had largely been ploughed out in the post-war period, and only limited traces now survive above ground in some areas.
- 3.9.40 The value of the asset derives largely from its archaeological interest, and the information it may provide relating to efforts to drain/protect the Ash Levels area, as well as agriculture in the area. It is considered to be of local importance and therefore of low value due to its limited survival/ploughed out nature.
- 3.9.41 Works that form part of the Kent Onshore Scheme that have the potential to result in a physical impact on the asset includes construction of a temporary haul road that would cross the feature at a right angle. These works would be limited to a small localised area of the asset which has been ploughed out. As a result, the magnitude of impact is considered to be negligible. On an asset of low value, this would result in a **negligible** effect which is not considered to be significant.

Second World War Enhanced Drainage, Ash Levels (MWX43337)

- 3.9.42 An element of a probable Second World War stop line known as 'enhanced drainage' has been recorded through 1940s aerial photography. This shows freshly cut earth banks designed to help fortify existing drainage on the south bank of the River Stour through digging out, or enhancing, existing drainage. Wartime aerial photos also show similar works on the north side of the River Stour in the Minster Marshes, and in both instances later aerial photographs show that the earth banks were leveled in most areas with limited traces surviving today. Observations made during the walkover survey also noted that these features, where they survive, continue to be enhanced as drainage ditches are cleared and the overburden used to build banks up.
- 3.9.43 The value of the asset derives largely from its archaeological interest, and the information it may provide relating to early defences created rapidly by enhancing existing drainage at the start of the Second World War. It also has some historic importance due to its role in the defence of the area during the Second World War. The asset is considered to be of local importance and therefore of low value due to its limited level of survival/preservation.
- 3.9.44 Works that form part of the Kent Onshore Scheme and have the potential to result in a physical impact on the asset includes construction of the temporary haul road that would cross the feature at right angles, as well as areas of temporary drainage works that would feed into the existing drain/stream in the area of the asset. The limited nature of these works on a large grid shaped asset that retains very little of its original features/elements is assessed to constitute a negligible magnitude of impact. On an

asset of low value, this would result in a **negligible** effect which is not considered to be significant.

Former Pillbox (TR 36 SE 465)

- 3.9.45 The site of a former Second World War pillbox line has been recorded through 1940s aerial photography to the south of the sandwich Road Junction, although no traces survive today.
- 3.9.46 The value (sensitivity) of the asset derives largely from its archaeological interest, and the information it may provide relating to defences created rapidly during the Second World War. It also has some historic significance associated to the part the features played in the defence of the area during the Second World War. However, it is of a type found commonly throughout the area as well as large parts of the United Kingdom, and it also appears to have been completely removed. As such, it is considered to be of negligible value due to its limited level of survival/preservation.
- 3.9.47 Works that form part of the Kent Onshore Scheme and have the potential to result in a physical impact on any remains that might survive consist of the construction of a temporary compound. Works would potentially result in the total loss of any remains that might survive, resulting in a large magnitude of impact. On an asset of negligible value, this would result in a **minor** effect which is not considered to be significant.

Circular Feature (AECOMK007)

- 3.9.48 A circular feature has been recorded through aerial photography to the south of the sandwich Road Junction. Transcribed as part of the Thanet Mapping Programme, the feature could represent a prehistoric roundhouse or burial. However, a Second World War pillbox has also been recorded slightly to the south (TR 36 SE 465), and it is possible that the cropmark is linked to the former wartime structure.
- 3.9.49 The value (sensitivity) of the asset derives largely from its archaeological interest, and the information it may provide relating to prehistoric activity if found to be prehistoric. However, if a round house or burial, it represents a type of features found commonly throughout the area as well as large parts of the United Kingdom. As such, it is considered to be of local importance and therefore of low value due to its limited level of survival/preservation.
- 3.9.50 Works that form part of the Kent Onshore Scheme and have the potential to result in a physical impact on any remains that might survive consist of the construction of a temporary compound. Works would potentially result in the total loss of any remains that might survive, resulting in a large magnitude of impact. On an asset of low value, this would result in a **moderate** effect which is considered to be significant

Former Wantsum Channel and Associated Geo-Archaeological Deposits

- 3.9.51 A review of GI data collected for engineering purposes as part of the Kent Onshore Scheme was reviewed and this noted the alluvial deposits surviving across the Minster Marshes area up to 20 m deep. This review was undertaken in association with a review of geo-archaeological works undertaken in the immediate surroundings as part of the Richborough Connection Project and the Weatherlees Pumping Station Project, which also identified similar deposits (**Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological Desk-Based Assessment**).

- 3.9.52 Both the Richborough Connection and Weatherlees Pumping Station works noted that the deposits encountered had the potential to provide information relating to past environments, although no deep organic deposits were encountered (i.e. peat). Furthermore, no traces of wrecks or structural features such as timber trackways were noted.
- 3.9.53 The upper palaeo-environmental remains were also observed as part of the evaluation trenching, although in most cases only the very upper deposits were observed as most trenches did not go deeper than 1.5 m. However, these trenches also failed to identify any structural remains.
- 3.9.54 The value of the deposits derive largely from their archaeological interest, and the information they may provide relating to earlier environmental conditions, as well as the reclamation of the Wantsum Channel. In general, the deposits are considered to be of regional importance and therefore of medium value. However, it is recognised that the value of any structural remains such as wrecks, trackways, or features associated with water management could be higher.
- 3.9.55 Works that form part of the Kent Onshore Scheme and have the potential to result in a physical impact on the deposits include the construction of the proposed Minster Converter Station and Substation, as well as the new pylons of the OHL connection. The piling for the Minster Converter Station and Substation represents the most significant impacts and it is assumed that all deposits in the footprint of the proposed works will be lost. However, it is assumed deposits of a similar nature survive in the surrounding area at the eastern end of the Wantsum Channel, and they are also highly likely to survive along the length of the former channel which runs for approximately 11.5 km. As a result, the physical impacts from the Kent Onshore Scheme represent a relatively small loss of what is a large area of deposits. As such, the magnitude of impact is considered to be small. On an asset of medium value, this would result in a **minor** effect which is not considered to be significant.

Operation and Maintenance Phase

- 3.9.56 Taking into account the embedded mitigation measures in Section 3.8 of this chapter, the following provides an assessment of the likely significant effects arising from the operation and maintenance phase of the Kent Onshore Scheme.
- 3.9.57 Temporary or permanent operation impacts lasting for all or part of the operation and maintenance phase of the Proposed Project potentially comprises the following:
- Impacts on the setting of assets resulting from the addition of new above ground infrastructure associated with the Kent Onshore Scheme.
- 3.9.58 The impact of the introduction of the physical form and appearance of the Kent Onshore Scheme during construction would result in a continued effect on the setting of heritage assets through the operation and maintenance phase. The presence of infrastructure or plant screening during the lifespan of the Kent Onshore Scheme, after the active construction phase has been completed, may cause changes or alterations to the setting of heritage assets, which may be beneficial or adverse. These impacts are long-term in respect of infrastructure, for the operation and maintenance duration of the Proposed Project, but are reversible upon decommissioning. Planting is assessed as permanent but not reversible, however the planting proposed is not considered to result in adverse impacts to heritage assets through changes to their setting.

- 3.9.59 Once operational, the underground components of the Kent Oshore Scheme, such as the HVDC underground cables, would not result in any changes to the setting of heritage assets. It is not expected that the operation and maintenance of the above ground infrastructure (i.e. the Minster Converter Station, Minster Substation, and OHL works) would result in any further intrusive activities and, as such, no impact to below ground archaeological remains is anticipated during this phase.
- 3.9.60 Designated assets within 2 km of the proposed above ground infrastructure have been reviewed in combination with Zone of Theoretical Visibility (ZTV) data produced for the Kent Onshore Scheme (**Application Document 6.4.3.3.6** and **Application Document 6.3.3.3.A Appendix 3.3.A Cultural Heritage Baseline Report**). This review examined how the setting of an asset contributes to its heritage value and included if there are any key views of or towards the asset that contributed to its value.
- 3.9.61 Only a limited number of designated assets have been recorded within the 2 km Study Area used for the above ground elements of the Kent Onshore Scheme (i.e. the Minster Substation, Minster Converter Station, and alterations to the overhead connection). Most of these are Grade II listed buildings, and the majority are located in the historic core of Minster located to the northwest of the Minster Converter Station. All listed buildings have been scoped out at the preliminary assessment stage after discussions with Historic England and KCC as they either fall outside of the ZTV, they are screened or have limited views, or the land within the Order Limits was assessed to not contribute to their setting and their heritage value. This includes the assets within the historic core of Minster, as well as a small number of listed buildings in Cliffsend to the northeast.
- 3.9.62 Consultation with stakeholders, including Historic England and KCC, identified that there was the potential for impacts on the Roman site of Richborough Castle and associated settlement (SM1014642/LB1363256). The scheduled monument occupies a prominent position in an elevated location on the south side of the Wantsum Channel. Furthermore, it is possible that the fort was designed to be intervisible with the potential Roman port which forms part of the multi-period complex on the Ebbsfleet Peninsula on the north side of the Wantsum Channel. As such, impacts on the setting of both Richborough Fort and the Ebbsfleet Peninsula multi-period complex are assessed.

Richborough Saxon Shore Fort Scheduled Monument and Grade I listed buildings (NHLE1014642/NHLE1363256)

- 3.9.63 Richborough Saxon Shore Fort stands in an elevated position on the south side of an area formerly occupied by the Wantsum Channel. The earliest Roman remains recorded at the site date to 43 AD when an initial phase of ditches were constructed, and over the following two hundred years the site developed with a settlement established before the large defensive walls were constructed in the late 3rd century (Wilmott, 2018).
- 3.9.64 While the fort now stands inland, the coastline in the Roman period meant that the fort was on an island, or at the very least a peninsular, projecting into the Wantsum Channel and represented a key gateway to Roman Britain.
- 3.9.65 Located on the opposite side of the Wantsum Channel, some 3.1 km to the north-northeast, was a large enclosure at the southern end of the Ebbsfleet Peninsula (TR 36 SW 448) dating to the late Iron Age/Early Roman period. While it is not clear if the two sites were garrisoned by troops at the same time, it seems likely that there would have been views across the Wantsum Channel between the two.

- 3.9.66 The value of this asset derives its archaeological interest, and the information it could provide relating to the history and development of the Roman military in the area, as well as the associated civilian settlement. It also has some architectural value from the above ground remains that survive. As a scheduled monument it is considered to be of high value.
- 3.9.67 While the southern extent of the Order Limits are only approximately 0.5 km from the scheduled area, the works in this area are limited to minor upgrades to existing tracks which would not result in alterations to the setting of the asset. The assessment is focused on the main above ground infrastructure, including the Minster Converter Station, Minster Substation, and overhead connection, of which the overhead connection works are located approximately 1.58 km to the northwest, while the Minster Substation and Minster Converter Station are located approximately 2.6 km to the north.
- 3.9.68 The setting of the fort was originally coastal, and both natural processes and human reclamation of the land has resulted in the fort being positioned some 3.5 km from the coastline. The former coastal setting of the fort is harder to understand due to the later 20th and early 21st century development located on its eastern side, and while its surviving walls remain impressive, they are not a dominant feature when viewed from the north. This includes views from the Ebbsfleet Peninsula enclosure as well as the former Wantsum Channel area.
- 3.9.69 While the Minster Substation and Minster Converter Station would represent new elements in the landscape to the north and northwest of the fort, these would be limited to a small element of the vista as demonstrated by the year 1 operation visualisations in **Application Document 6.4.3.3.8-A** (view to the north) and **Application Document 6.4.3.3.8-B** (view to the north-west).
- 3.9.70 This would be further reduced as a result of the distance between the Minster Substation and Minster Converter Station and the fort. Furthermore, the alterations to the overhead lines and the new pylons required to accommodate the new overhead connection would not result in a significant change to the existing wirescape of the Minster Marshes when viewed from the fort. Finally, as the above ground infrastructure is located to the north and northwest, while the Ebbsfleet enclosure is located to the north-northeast, the Kent Onshore Scheme would not sever any views that that may have existed, or been significant, between the fort and the large enclosure on the Ebbsfleet Peninsula.
- 3.9.71 Views from the civilian settlement associated with the fort have also been examined, with a visualisation created from near the amphitheatre to the southwest (**Application Document 6.4.3.3.8-B Representative Viewpoint Visualisations**). This shows that views of the proposed above ground infrastructure are limited, and they would not detract from the views from the civilian settlement to the fort.
- 3.9.72 As such, the magnitude of impact is considered to be negligible. On an asset of high value this would result in a **minor adverse** effect which is not considered significant.

Ebbsfleet Peninsula Multi-Period Complex Straddling the A256

- 3.9.73 A complex multi-period site has been recorded covering a large area of the Ebbsfleet Peninsula in Plots 244.1, 316, 336, and 346 (See **Application Document 6.4.3.3.1 Plot numbers within the Kent Study Area** for plot numbers), which includes a large Late Iron Age/Romano-British enclosure at the southern end of the peninsula. It has been postulated that this may be linked to Caesar's invasion of the United Kingdom, and possibly associated with a port, although evidence for the link to Caesar is limited and

no trace of a port has been located to date. Dating for the enclosure would, however, suggest that it was occupied at the same time as Richborough Fort on the southern side of the Wantsum Channel, although it is not clear if this was by a military garrison and if the two sites were related.

- 3.9.74 While it would have originally commanded a prominent position on the Ebbsfleet Peninsula overlooking the Wantsum Channel, this land was later reclaimed and is now known as the Minster Marshes thus removing the asset from its original 'coastal' setting. Furthermore, the site has also been leveled by ploughing and only survives as buried remains. The value of the enclosure, as well as the features associated with it, derive largely from their archaeological interest, and the information they could provide relating to the history and development of land use in the area. This includes information linked to Early Roman activity in the area. As they are deemed to be of schedulable and of national importance, they are considered to be of high value. The introduction of the Minster Substation and Minster Converter Station would introduce new elements into the landscape of the Minster Marshes to west of the Ebbsfleet Peninsula enclosure, while the new permanent access would cross the landscape to the north of the enclosure as it drops down to the marshes. These introductions would, however, not significantly change the visitor's ability to understand the asset, or alter its value which is derived largely from its archaeological interest, which is supported by the visualisations from Ebbsfleet Woodland and Ebbsfleet Lane presented in **Application Document 6.4.3.3.8-C Representative Viewpoint Visualisations** and **Application Document 6.4.3.3.8-D Representative Viewpoint Visualisations**. As such, the magnitude of impact is considered to be negligible. On an asset of high value this would result in a **minor adverse** effect which is not considered significant.

Decommissioning Phase

- 3.9.75 Following the decommissioning of the Kent Onshore Scheme, it is considered that elements of infrastructure would be removed in accordance with the relevant statutory process at that time. It is expected that the selected method of decommissioning would have due regard to health and safety, environmental impact and benefits, and economic aspects which would be set out in a written scheme of decommissioning which would be submitted for approval to the relevant planning authority prior to any decommissioning works taking place. Any future maintenance, decommissioning and/or reinstatement works would be subject to prevailing legislation, guidance and permitting regimes. Restoration and remediation to suitable surfaces would be undertaken. Depending upon the proposed restoration state this could result in the restoration of the rural landscape. A well-designed decommissioning scheme would not have any impact beyond the already-disturbed footprint of the Kent Onshore Scheme, with elements such as compounds assumed to be located in the same location as those used for construction, where possible.
- 3.9.76 It is assumed for the purposes of this assessment that there would be no additional permanent effects on below ground archaeological remains during decommissioning activities. Decommissioning would be undertaken within the same footprint used during construction and therefore any impact to buried archaeological remains would have occurred, and would have been mitigated, during the construction phase.
- 3.9.77 There would be temporary effects to the setting of designated assets in the Study Area during decommissioning, resulting from the use of machinery to dismantle the Kent Onshore Scheme. Effects arising from decommissioning activities would be temporary and the duration would be shorter than potential effects during construction. As such, as

temporary effects to heritage assets have been scoped out of the construction phase due to significant effects being unlikely to arise, it follows that significant effects during decommissioning are also unlikely.

- 3.9.78 All long-term (for the lifespan of the Proposed Project) 'reversible' adverse effects reported in the cultural heritage chapter would be removed during the decommissioning phase. The removal of the cause of this effect, by means of the removal of any above ground element of the Proposed Project during decommissioning, would result in no effect to cultural heritage assets.

3.10 Additional Mitigation and Enhancement Measures

- 3.10.1 Additional topic and site-specific mitigation measures that have been applied to mitigate or offset any likely significant effects are included in **Application Document 7.5.3.2 CEMP Appendix B Register of Environmental Actions and Commitments (REAC)**.

- 3.10.2 Mitigation measures that are relevant to cultural heritage and which are covered in further detail within **Application Document 7.5.4.2 Kent Outline Onshore Overarching Written Scheme of Investigation** include the following:

- H11 – Locations of known archaeological interest/value to be preserved *in situ*, or areas where archaeological work is planned, would be signposted/fenced off to avoid unintentional damage.
- H12 – Where a previously unknown heritage asset is discovered, or a known heritage asset proves to be more significant than predicted at the time of application for Development Consent, then the Archaeology Advisor for Kent County Council should be informed and a solution agreed that protects the significance of the new discovery, so far as is practicable, within the Proposed Project parameters.
- H13 – Archaeological excavation, recording, and publication to be undertaken where archaeological features cannot be avoided. Scope of works to be agreed with the Archaeology Advisor for Kent County Council, and any other relevant heritage stakeholders, prior to works commencing in the relevant area and detailed in the **Kent Outline Onshore Overarching Written Scheme of Investigation** or a site specific WSI.
- H14 – Archaeological Strip, Map, and Record, to be undertaken in pre-agreed areas of archaeological potential/features. Scope of works to be agreed with the Archaeology Advisor for KCC, and any other relevant heritage stakeholders prior to works in the relevant area commencing and detailed in the **Kent Outline Onshore Overarching Written Scheme of Investigation** or a site specific WSI.
- H15 – Archaeological Watching Brief to be undertaken in pre-agreed areas of archaeological potential/features. Scope of works to be agreed with the Archaeology Advisor for KCC, and any other relevant heritage stakeholders prior to works commencing in the relevant area and detailed in the **Kent Outline Onshore Overarching Written Scheme of Investigation** or a site specific WSI.
- H16 – Geoarchaeological modelling/profiling in areas of potential. Scope of works to be agreed with the Archaeology Advisor for KCC, and any other relevant heritage stakeholders prior to works commencing and detailed in the **Kent Outline Onshore Overarching Written Scheme of Investigation** or a site specific WSI.

- 3.10.3 Potential direct impacts on buried archaeological remains would be managed through a programme of additional mitigation which includes preservation in situ, archaeological

investigation and recording, and a protocol for dealing with unexpected archaeological discoveries during construction. The guiding principles and methodology for the planning and implementation of the archaeological mitigation are set out in the **Application Document 7.5.4.2 Kent Outline Onshore Overarching Written Scheme of Investigation** to be agreed with the Archaeology Advisor at KCC as part of the DCO process.

- 3.10.4 **Application Document 7.5.4.2 Kent Outline Onshore Overarching Written Scheme of Investigation** includes a requirement for site-specific WSI to be produced by National Grid's Archaeological Contractor to achieve the mitigation measures. The site-specific WSI would be agreed with the Archaeology Advisor for KCC, and any other relevant heritage stakeholders prior to the commencement of the archaeological works.
- 3.10.5 Archaeological mitigation works would focus primarily on the areas of buried archaeological remains identified and characterised during the geophysical survey and archaeological trial trenching undertaken for the Proposed Project on the Ebbsfleet Peninsula, as well as palaeoenvironmental remains in the Minster Marshes.
- 3.10.6 Significant effects have been identified on known buried archaeological remains within the Ebbsfleet Lane multi-period complex which straddles the A256. While the fieldwork report for the trial trench evaluation is required in order to confirm the heritage value and spatial extent of the remains that would be impacted, the assessment and outline mitigation measures have been based on current information from the draft report submitted as **Application Document 6.3.3.3.F Appendix 3.3.F Archaeological Evaluation Trenching Report (Draft)** as well as the data from previously excavated areas under the A256.
- 3.10.7 Preservation of the archaeological remains where works are not required within the Order Limits would require protective measures, such as fencing, during construction, operation and decommissioning activities to avoid unintentional damage (**H11**). Potential impacts to buried archaeological remains that cannot be avoided by design can be mitigated through a proportionate programme of archaeological investigation, recording and reporting, such as open area archaeological excavation in advance of construction, archaeological monitoring during intrusive activities, and further assessment and analysis of existing samples/finds retrieved during previous evaluation surveys, which would form additional mitigation (**H13**). This would not result in a reduction in the physical impacts to archaeological remains but would compensate for their loss as it would provide greater understanding and appreciation of the evidential value of archaeological remains.
- 3.10.8 Based on the current information, archaeological excavation, recording, and publication (**H13**) may be required for the trenchless installation excavation pits and the joint bays in Fields 206.2, 346.4, and 206.3; as well as the temporary construction compound in Field 206.3; the HVDC underground cable routes, and the permanent access in Field 244.1. Further details are provided in the **Application Document 7.5.4.2 Kent Outline Onshore Overarching Written Scheme of Investigation**. Following receipt of the final fieldwork report for the trial trench evaluation, the scope and type of mitigation to be applied to each area would be set out in an updated Kent Onshore Overarching Written Scheme of Investigation, which would be agreed with the Archaeological Advisor at KCC and submitted during Examination as the final version.
- 3.10.9 There is also the potential for impacts on palaeo-environmental remains/deposits in the area of the former Wantsum Channel. A geo-archaeological desk based assessment was undertaken in relation to these deposits and is included as **Application Document 6.3.3.3.G Appendix 3.3.G Geo-archaeological Desk-Based Assessment**. Mitigation

measures will include sampling and deposit modelling in the area of the Minster Marshes where impacts are predicted on the Wantsum Channel (H16). The detail will be agreed with the Archaeological Advisor at KCC and updated in **Application Document 7.5.4.2 Kent Outline Onshore Overarching Written Scheme of Investigation**.

- 3.10.10 While significant effects are not predicted on other non-designated assets in the Minster Marshes and Ash Levels area, archaeological best practice would require a programme of mitigation to be developed to minimise impacts. This would include, but not be limited to, archaeological strip, map, and record (H14), archaeological monitoring/watching brief (H15), and earthwork recording. Further details are provided in the **Application Document 7.5.4.2 Kent Outline Onshore Overarching Written Scheme of Investigation** which will be further refined and updated in the Kent Onshore Overarching Written Scheme of Investigation which would be agreed with the Archaeological Advisor at KCC.
- 3.10.11 Landscape planting proposals, as detailed in **Application Document 7.5.7.2 Outline Landscape and Ecological Management Plan – Kent**, and **Application Document 7.5.7.2.1 Minster Converter Station and Substation Outline Landscape Mitigation**, are considered to be additional mitigation measures in this chapter. This recognises that at year 1 operation, the growth of any proposed planting would not be of a sufficient height to have a material change in views and, where additional mitigation was assessed to be a suitable response to setting change, it would not sufficiently mitigate visual impacts of the Kent Onshore Scheme from heritage assets. As such, the worst-case scenario for impacts to heritage assets through setting change is year 1 operation, and additional mitigation comprises the visual effect of the proposed planting at year 15 operation, when the landscape planting will have achieved its full height.

3.11 Residual Effects and Conclusions

- 3.11.1 Table 3.13 and Table 3.14 summarise the residual effects of the Proposed Project on cultural heritage receptors following the implementation, where necessary, of additional mitigation measures outlined in Section 3.10.

Table 3.13 Summary of residual cultural heritage (Construction)

Receptor	Value	Description of Impact	Likely Significant Effect		Additional Mitigation Measures	Residual Effect	
			Magnitude	Significance		Magnitude	Significance
Ebbsfleet Peninsula Complex	High	Physical Impacts (permanent)	Medium	Major adverse	A programme of archaeological excavation and recording in line with the approved Kent Onshore Overarching WSI.	Minor adverse	Not Significant
Weatherlees Sidings and Richborough Port (TR 36 SW 414 and MWX43282)	Low	Physical Impacts (permanent)	Negligible	Negligible	None required to mitigate significant effect. However, following 'best practice' mitigation will be agreed in line with the Kent Onshore OWSI and is likely to include H11, H15.	Negligible	Not Significant

Receptor	Value	Description of Impact	Likely Significant Effect		Additional Mitigation Measures	Residual Effect	
			Magnitude	Significance		Magnitude	Significance
Former sheep dip (AECOMK002)	Negligible	Physical Impacts (permanent)	Large	Minor	None required to mitigate significant effect. However, following 'best practice' mitigation will be agreed in line with the Kent OWSI and is likely to include H11, H15.	Negligible	Not Significant
Bridge and former sheep dip (AECOMK006)	Negligible	Physical Impacts (permanent)	Large	Minor	None required to mitigate significant effect. However, following 'best practice' mitigation will be agreed in line with the Kent OWSI and is likely to include H11, H15.	Negligible	Not Significant

Receptor	Value	Description of Impact	Likely Significant Effect		Additional Mitigation Measures	Residual Effect	
			Magnitude	Significance		Magnitude	Significance
Possible Second World War Stop Line (MWX43372)	Low	Physical Impacts (permanent)	Negligible	Negligible	None required to mitigate significant effect. However, following 'best practice' mitigation will be agreed in line with the Kent OWSI and is likely to include H11, H15.	Negligible	Not Significant
Second World War Enhanced Drainage, Minster Marshes (MWX43342)	Low	Physical Impacts (permanent)	Negligible	Negligible	None required to mitigate significant effect. However, following 'best practice' mitigation will be agreed in line with the Kent OWSI and is likely to include H11, H15.	Negligible	Not Significant

Receptor	Value	Description of Impact	Likely Significant Effect		Additional Mitigation Measures	Residual Effect	
			Magnitude	Significance		Magnitude	Significance
Abbot's Walls (TR 26 SE 148)	Medium	Physical Impacts (permanent)	Negligible	Negligible	None required to mitigate significant effect. However, following 'best practice' mitigation will be agreed in line with the Kent OWSI and is likely to include H11, H15.	Negligible	Not Significant
Possible Flood Bank (MWX43343)	Low	Physical Impacts (permanent)	Negligible	Negligible	None required to mitigate significant effect. However, following 'best practice' mitigation will be agreed in line with the Kent OWSI and is likely to include H11, H15.	Negligible	Not Significant

Receptor	Value	Description of Impact	Likely Significant Effect		Additional Mitigation Measures	Residual Effect	
			Magnitude	Significance		Magnitude	Significance
Enclosure and Boundary Features (MWX43368 and MWX43373)	Low	Physical Impacts (permanent)	Negligible	Negligible	None required to mitigate significant effect. However, following 'best practice' mitigation will be agreed in line with the Kent OWSI and is likely to include H11, H15.	Negligible	Not Significant
Second World War Enhanced Drainage, Ash Levels (MWX43337)	Low	Physical Impacts (permanent)	Negligible	Negligible	None required to mitigate significant effect. However, following 'best practice' mitigation will be agreed in line with the Kent OWSI and is likely to include H11, H15.	Negligible	Not Significant

Receptor	Value	Description of Impact	Likely Significant Effect		Additional Mitigation Measures	Residual Effect	
			Magnitude	Significance		Magnitude	Significance
Former Pillbox (TR 36 SE 465)	Negligible	Physical Impacts (permanent)	Large	Minor	Mitigation will be agreed in line with the Kent OWSI and is likely to include H15.	Negligible	Not Significant
Circular Feature (AECOMK007)	Low	Physical Impacts (permanent)	Large	Moderate	Mitigation will be agreed in line with the Kent OWSI and is likely to include H14	Minor	Not Significant
Palaeoenvironmental Remains	Medium	Physical Impacts (permanent)	Small	Minor	Mitigation will be agreed in line with the Kent OWSI and is likely to include H16.	Negligible	Not Significant

Table 3.14 Summary of residual cultural heritage effects (Operation and Maintenance)

Receptor	Value	Description of Impact	Likely Significant Effect		Additional Mitigation Measures	Residual Effect	
			Magnitude	Significance		Magnitude	Significance
Richborough Fort	High	Change to setting. Duration of	Negligible	Minor adverse	None required	Minor adverse	Not Significant

Receptor	Value	Description of Impact	Likely Significant Effect		Additional Mitigation Measures	Residual Effect	
			Magnitude	Significance		Magnitude	Significance
		Operational Phase.					
Ebbsfleet Peninsula Complex	High	Change to setting. Duration of Operational Phase.	Negligible	Minor adverse	None required	Minor adverse	Not Significant

Construction

- 3.11.2 At construction it is assessed there is potential for the following non-designated heritage assets to experience significant effects:
- Ebbsfleet Peninsula Complex, comprising archaeological remains of high value which would experience a major adverse effect; and
 - Circular feature AECOMK007, comprising archaeological remains of low value which would experience a moderate adverse effect.
- 3.11.3 Additional mitigation measures detailed within **Application Document 7.5.4.2 Kent Outline Onshore Overarching Written Scheme of Investigation** and also in Section 3.10 of this chapter will be implemented to either protect, and preserve the remains *in situ*, or to excavate the remains and record them archaeologically. The successful completion of the additional mitigation will reduce the effect to minor adverse for both heritage assets, which is not significant.

Operation and Maintenance

- 3.11.4 There are no significant effects to heritage assets during operation and maintenance and additional mitigation is not required. As such, the effects would be as reported in Section 3.9 of this chapter.

Decommissioning

- 3.11.5 As assessed in Section 3.9 of this chapter, there would be no effects to heritage assets from decommissioning of the Kent Onshore Scheme.

3.12 Sensitivity Testing

- 3.12.1 Under the terms of the DCO, construction could commence in any year up to five years from the granting of the DCO, which is assumed to be 2026. The assessment results reported in this ES chapter would not change if the works were to commence in any year up to and including year five.

3.13 References

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