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15. Cultural Heritage

15.1. Introduction

- 15.1.1. This chapter of the Environmental Statement (ES) presents the findings of an assessment of the likely significant effects on cultural heritage as a result of the Proposed Development.
- 15.1.2. This chapter identifies and proposes measures to address the potential impacts and likely significant effects on cultural heritage during the construction and operation (including maintenance) and decommissioning phases of the Proposed Development.
- 15.1.3. The chapter considers potential impacts on the following:
- designated heritage assets, including Scheduled Monuments, listed buildings, registered parks and gardens and conservation areas; and
 - non-designated heritage assets, including below ground archaeological remains, historic buildings and the historic landscape.
- 15.1.4. This chapter aims to:
- detail the requirements of key legislative and policy requirements and describe how the Proposed Development will consider them;
 - explain how information on the existing and future environment has been collected (through desk-based studies, survey work and stakeholder consultation);
 - describe the understanding of the existing and future environment, based on the baseline information;
 - explain any further information to be obtained through further consultation, desk-based studies, or surveys;
 - describe the potential effects of the Proposed Development on cultural heritage; and
 - describe potential mitigation measures.
- 15.1.5. This chapter is supported by the following figures in **ES Volume III (Application Document Ref. 6.4)**:
- **Figure 15.1:** Locations of Designated Heritage Assets; and
 - **Figure 15.2:** Locations of Non-designated Heritage Assets.

- 15.1.6. Detailed baseline information is provided in **ES Volume I Appendix 15A: Cultural Heritage Desk-based Assessment (Application Document Ref. 6.2)**, which includes **Figures 15A-1a – 15A-5** and a gazetteer of heritage assets (Annex A).
- 15.1.7. An assessment of cumulative effects on cultural heritage assets associated with the Proposed Development and other committed developments in the vicinity are described in **ES Volume I Chapter 19: Cumulative and Combined Effects (Application Document Ref. 6.2)**.

15.2. Legislation

- 15.2.1. A full overview of the legislative and policy context that is relevant to the Proposed Development is provided within **ES Volume I Chapter 7: Legislative Context and Planning Policy (Application Document Ref. 6.2)**.
- 15.2.2. Legislation, planning policy and guidance of most relevance to cultural heritage and pertinent to the Proposed Development is set out below.

[The Ancient Monuments and Archaeological Areas Act 1979](#)
- 15.2.3. The Ancient Monuments and Archaeological Areas Act 1979 (HMSO) imposes a requirement for Scheduled Monument Consent for any works of demolition, repair, and alteration that might affect a designated Scheduled Monument.

[The Planning \(Listed Buildings and Conservation Areas\) Act 1990](#)
- 15.2.4. The Planning (Listed Buildings and Conservation Areas) Act 1990 (the Act) (HMSO) sets out the principal statutory provisions that must be considered in the determination of any application affecting listed buildings and conservation areas.
- 15.2.5. Section 66 of the 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. By virtue of Section

1(5) of the Act a listed building includes any object or structure within its curtilage.

- 15.2.6. Section 72 of the Act establishes a general duty on a local planning authority or the Secretary of State with respect to any buildings or other land in a Conservation Area to pay special attention to the desirability of preserving or enhancing the character or appearance of a Conservation Area.

Planning Policy Context

Overarching National Policy Statement EN-1

- 15.2.7. The National Policy Statement (NPS) EN-1 (Department for Energy and Climate Change, DECC, 2024) sets out the government's overarching policy statement for energy. With regard to the Historic Environment, the NPS provides a series of requirements and recommendations for the appropriate level of assessment of energy proposals that have the potential to impact upon the historic environment, and decision-making policies. These accord with the policies outlined in the NPPF.
- 15.2.8. NPS EN-1 (paragraph 5.9.1) recognises that the construction, operation and decommissioning of energy infrastructure has the potential to result in adverse impacts on the historic environment and sets out principles for assessing such impacts.
- 15.2.9. EN-1 states (paragraph 5.9.2) that the historic environment results from the interaction between people and places through time, and includes all surviving physical remains of past human activity. EN-1 (paragraph 5.9.3) defines a heritage asset as an element of the historic environment that is of value to present and future generations because of its historic, archaeological, architectural or artistic interest. The sum of these interests is referred to as its significance. Significance derives not only from a heritage assets physical presence, but also from its setting.
- 15.2.10. EN-1 (paragraph 5.9.4) recognises that some heritage assets have a level of significance that warrants official designation, including World Heritage Sites, Scheduled Monuments, Protected Wreck Sites, Protected Military Remains, Listed Buildings, Registered Parks and Gardens, Registered Battlefields and Conservation Areas. The EN-1 also recognises that there are non-designated heritage assets that are demonstrably of equivalent significance to Scheduled Monuments (paragraph 5.9.45, and if the evidence suggests that such an asset

may be affected by a proposed development, it should be considered subject to the policies for designated heritage assets (paragraph 5.9.6).

- 15.2.11. EN-1 (paragraph 5.9.7) states that impacts on other non-designated heritage assets should be considered on the basis of clear evidence that they have a heritage significance that merits such consideration, even though the assets are of lesser value than designated heritage assets.

- 15.2.12. EN-1 (paragraph 5.9.9) states that the applicant should undertake an assessment of any likely significant impacts of the proposed development as part of the EIA and should include consideration of heritage assets above, at, and below the surface of the ground.

- 15.2.13. EN-1 (paragraph 5.9.10) states that, as part of its assessment, the applicant should provide a description of the significance of the heritage assets affected by the development and the contribution of their setting to that significance. The level of detail should be proportionate to the importance of the heritage asset and no more than is sufficient to understand the potential on the heritage asset. As a minimum, the applicant should consult the relevant Historic Environment Record (HER).

- 15.2.14. Where a development site includes, or has the potential to include, heritage assets of archaeological interest, the applicant should carry out a desk-based assessment and if necessary, a field evaluation in order to properly assess the interest (paragraph 5.9.11). Ultimately, the applicant should ensure that the extent of the impact of the proposed development on the heritage assets can be adequately understood from the application and supporting documents (paragraph 5.9.12).

- 15.2.15. EN-1 (paragraph 5.9.24) states that the significance of the heritage asset and the value that they hold for this and future generations should be taken into account when considering the impact of a proposed development. The desirability of sustaining or enhancing the significance of heritage assets should also be taken into account (paragraph 5.9.25), along with the desirability of new development making a positive contribution to the character and distinctiveness of the historic environment (paragraph 5.9.26).

- 15.2.16. EN-1 (paragraph 5.9.27) states there should be a presumption in favour of the conservation of designated heritage assets, and loss of significance to any designated heritage asset should require clear and convincing justification. Substantial harm to or loss of a Grade II listed

building, park or garden should be exceptional (paragraph 5.9.29). Substantial harm to or loss of designated assets of the highest significance, including Scheduled Monuments; registered battlefields; Grade I and II* Listed Buildings; Grade I and II* registered parks and gardens; and World Heritage Sites, should be wholly exceptional (paragraph 5.9.30). Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of the development (paragraph 5.9.31).

- 15.2.17. Paragraph 5.9.36 notes that ‘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 of 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 weighting 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’.

- 15.2.18. Paragraph 5.9.17 states that where 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. Where appropriate, such work should be carried out in accordance with a Written Scheme of Investigation (WSI) that has been agreed in writing with the local authority (paragraph 5.9.18).

- 15.2.19. EN-1 (paragraph 5.9.19) states that where loss of significance of any heritage asset is justified on the merits of the new development, the Secretary of State should consider imposing a condition on the consent or requiring the applicant to enter into an obligation that will prevent the loss occurring until it is reasonably certain that the relevant part of the development is to proceed (paragraph 5.9.20).

- 15.2.20. Paragraph 5.9.21 states that ‘Where there is a high probability that a development site may include as yet undiscovered heritage assets with archaeological interest, the Secretary of State will consider requirements to ensure that appropriate procedures are in place for the

identification and treatment of such assets discovered during construction’.

- 15.2.21. On 24 April 2025, DESNZ published a consultation on revisions to the NPS. Consultation on the amendments concluded on 29 May 2025. The Consultation is not anticipated to result in changes which would materially alter the conclusions as set out in this Chapter.
- 15.2.22. Table 15.1 provides a summary of relevant NPS advice and signposting to where matters are considered within this chapter.

Table 15.1: Summary of relevant NPS requirements relevant to Cultural Heritage

Summary of NPS	Consideration within the Chapter
NPS EN-1	
Paragraph 5.9.10 states: “As part of the ES the applicant should provide a description of the significance of the heritage assets affected by the proposed development and the contribution of their setting to that significance. 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 the significance of the heritage asset. As a minimum the applicant should have consulted the relevant Historic Environment Record (or, where the development is in English or Welsh waters, English Heritage or Cadw) and assessed the heritage assets themselves using expertise where necessary according to the proposed development’s impact.”	<p>A description of the value (heritage significance) of heritage assets, including the contribution to value made by setting, is set out in Section 5 of the desk-based assessment presented in ES Volume II Appendix 15A: Cultural Heritage Desk-based Assessment (Application Document Ref. 6.3), and is also within Section 15.7 of this Chapter.</p> <p>Data sources are stated in section 3.1 of ES Volume II Appendix 15A: Cultural Heritage Desk-based Assessment (Application Document Ref. 6.3) and paragraph 15.3.9 of this Chapter and include reference to the relevant local authority Historic Environment Record.</p>

Summary of NPS	Consideration within the Chapter
<p>Paragraph 5.9.11 states: “Where a development site 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.”</p>	<p>A desk-based assessment is presented in ES Volume II Appendix 15A: Cultural Heritage Desk Based Assessment (Application Document Ref. 6.3).</p> <p>Visualisations (wirelines) have been produced as ES Volume III Figures 14.19 – 14.24 (Application Document Ref. 6.4).</p>
<p>Paragraph 5.9.12 states: “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 document”.</p>	<p>A preliminary assessment of the impact of the Proposed Development on the value (heritage significance) of heritage assets is discussed in Section 15.7 of this Chapter.</p>

National Planning Policy Framework

- 15.2.23.

The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government (MHCLG), 2024) sets out the Government’s planning policies for England. While the NPPF does not set specific policies for NSIP, its policies may be of relevance to decision making.
- 15.2.24.

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.

- 15.2.25. 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 as being the *'value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic'. 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, *'the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve'*.
- 15.2.26. Paragraph 207 of the NPPF states that 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 assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. Similarly, there is 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 (paragraph 208).
- 15.2.27. Paragraphs –212 to 215 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 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.
- 15.2.28. 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 (paragraph 214). 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 (paragraph 215).

- 15.2.29. With regard to non-designated assets, paragraph 216 states that the effect of the application on the significance of the asset should be taken into account 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.
- 15.2.30. Paragraph 218 of the NPPF states that, 'Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part), in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, 'the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.

Planning Practice Guidance (PPG)

- 15.2.31. The Planning Practice Guidance (PPG) (MHCLG, 2019) provides further advice and guidance to accompany policies in the NPPF. It expands on terms such as 'significance' and its importance in decision making. In particular, paragraph 008 states that *'understanding the significance of a heritage asset and its setting from an early stage in the design process can help to inform the development of proposals which avoid or minimise harm. Analysis of relevant information can generate a clear understanding of the affected asset, the heritage interests represented in it, and their relative importance'* (Paragraph 008, Ref. ID: 18a-008-20190723, Revision date: 23 07 2019).
- 15.2.32. 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 very important to understanding the potential impact and acceptability of development proposals. This information should be proportionate to the asset's importance and no more than is sufficient to understand the potential impact of the proposal on its significance (Paragraph: 009, Ref. ID: 18a-009-20190723, Revision date: 23 07 2019). Setting is also discussed in paragraph 013 which stresses that setting is not only visual but can be influenced by historic or aesthetic considerations. Paragraph 013 also recognises that the contribution that setting makes to the significance of the heritage asset does not depend on there being public rights to access it or the ability to experience that setting. When assessing any application for development which may affect the setting of a heritage asset, local planning authorities may need to consider the implications

of cumulative change. (Paragraph 013, Ref. ID: 18a-013-20190723, Revision date: 23 07 2019).

- 15.2.33. When considering impacts to a heritage asset, the PPG discusses how to assess whether harm is caused noting that there may be no harm, less than substantial harm, or substantial harm. Paragraph 018 identified that a proposed development asset may have no impact on its significance or may enhance its significance and therefore cause no harm. Where potential harm to designated heritage assets is identified, it needs to be categorised as either less than substantial harm or substantial harm. The guidance goes on to state that *'within each category of harm (which category applies should be explicitly identified), the extent of the harm may vary and should be clearly articulated'* (Paragraph: 018 Ref. ID: 18a-018-20190723, Revision date: 23 07 2019).
- 15.2.34. Ultimately, whether a proposal causes substantial harm will be a judgment for the decision-maker. However, the PPG acknowledges that substantial harm is a high test so may not arise in many cases. A key consideration when assessing whether there is an adverse impact on a listed building is whether the adverse impact seriously affects a key element of its special architectural or historic interest. 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, Revision date: 23 07 19).
- 15.2.35. The NPPF indicates that the degree of harm should be considered alongside any public benefits that can be delivered by development. The PPG states that these benefits should follow 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. However, benefits do not always have to be visible or accessible to the public in order to be of public benefit. Public benefits may include heritage benefits, such as:
- sustaining or enhancing the significance of a heritage asset and the contribution of its setting;
 - reducing or removing risks to a heritage asset; and
 - securing the optimum viable use of a heritage asset in support of its long-term conservation. (Paragraph: 020 Ref. ID: 18a-020-20190723, Revision date: 23 07 2019).

Local Planning Policy

15.2.36. The Site lies entirely within the administrative area of North Lincolnshire Council. The statutory development plan for the area currently comprises the following documents:

- North Lincolnshire Core Strategy (NLC, 2011a) - adopted June 2011;

15.2.37. Saved Policies of the North Lincolnshire Local Plan (Local Development Frameworks Government Office for Yorkshire and The Humber, 2007) - adopted May 2003, saved September 2007 North Lincolnshire historic environment planning policies relevant to the Proposed Development include the following saved policies from the 2003 Local Plan:

- Policy HE5: Development affecting Listed Buildings. The policy states that *'proposals which damage the setting of a listed building will be resisted'*.
- Policy HE8: Ancient Monuments. The policy states that proposals that would result in an adverse effect on the setting of a 'Scheduled Ancient Monument' will not be permitted.
- Policy HE9: Archaeological Excavation. The policy states:

'Where development proposals affect sites of known or suspected archaeological importance, an archaeological assessment to be submitted prior to the determination of a planning application will be required. Planning permission will not be granted without adequate assessment of the nature, extent and significance of the remains present and the degree to which the proposed development is likely to affect them.'

Sites of known archaeological importance will be protected. When development affecting such sites is acceptable in principle, mitigation of damage must be ensured and the preservation of the remains in situ is a preferred solution. When in situ preservation is not justified, the developer will be required to make adequate provision for excavation and recording before and during development.'

- Policy LC14: Area of Special Historic Interest. The policy states that development within the Isle of Axholme Area of Special Historic Landscape Interest will not be permitted if development will destroy, damage or adversely affect the character, appearance or setting of the historic landscape, or any of its features.

15.2.38. The North Lincolnshire Core Strategy includes Policy CS6 Historic Environment stating the following [extract]:

‘The council will promote the effective management of North Lincolnshire’s historic assets through:

- safeguarding the nationally significant medieval landscapes of the Isle of Axholme (notably the open strip fields and turbaries); and
- preserving and enhancing the rich archaeological heritage of North Lincolnshire.

The council will seek to protect, conserve and enhance North Lincolnshire’s historic environment, as well as the character and setting of areas of acknowledged importance including historic buildings, conservation areas, listed buildings (both statutory and locally listed), registered parks and gardens, Scheduled ancient Monuments and archaeological remains.

All new development must respect and enhance the local character and distinctiveness of the area in which it would be situated, particularly in areas with high heritage value.

Development proposals should provide archaeological assessments where appropriate’.

15.2.39. North Lincolnshire Council is currently preparing a new single Local Plan for North Lincolnshire. Once formally adopted, this will replace the existing North Lincolnshire Local Plan and Core Strategy. Policy HE1p of the emerging plan states the following:

‘Development proposals affecting archaeological remains, whether known or potential, designated or undesignated, should take every practical and reasonable step to protect and, where possible, enhance their significance.

Planning applications for such development must be accompanied by an appropriate and proportionate desk based assessment to understand the potential for and significance of remains, and the impact of development upon them.

If desk based assessment does not provide sufficient information, developers will be required to undertake field evaluation in advance of determination of the application. This may include a range of

techniques for both intrusive and non-intrusive evaluation, as appropriate to the site. All archaeological work should be undertaken by a suitably qualified party in accordance with professional standards and guidance published by Historic England and the Chartered Institute for Archaeology.

Wherever possible and appropriate, mitigation strategies should ensure the preservation of archaeological remains in-situ. Where this is either not possible or not desirable, the developer will be required to make adequate provision for preservation by record according to a written scheme of investigation submitted by the developer and approved by the planning authority.

Any work undertaken as part of the planning process must be appropriately archived in a way agreed with the local planning authority. The written scheme of investigation should be submitted in advance of determination of the application and its implementation will be secured by condition' (North Lincolnshire Council 2020, Policy HE1p).'

15.2.40. Policy HE2p of the emerging plan states the following:

'The Isle of Axholme is designated as an area of Special Historic Landscape Interest.

Within this area, development will not be permitted which would destroy, damage or adversely affect the character, appearance or setting of the historic landscape, or any of its features.'

Guidance

Historic England

15.2.41. Historic England has published a series of Good Practice Advice (GPA) of which those of most relevance to this appraisal are GPA2 - Managing Significance in Decision-taking (March 2015), GPA3 - The Setting of Heritage Assets (2nd Edition) (December 2017), and Advice Note 12 Statements of Heritage Significance (October 2019).

15.2.42. GPA2 (Historic England, 2015) emphasises the importance of having a knowledge and understanding of the significance of heritage assets likely to be affected by the development and that the *'first step for all applicants is to understand the significance of any affected heritage asset and, if relevant the contribution of its setting to its significance'* (paragraph 4). Early knowledge of this information is also useful to a

local planning authority in pre-application engagement with an applicant and ultimately in decision making (paragraph 7).

15.2.43. GPA3 (Historic England, 2017) provides advice on the setting of heritage assets. Setting is as defined in the NPPF and comprises the surroundings in which a heritage asset is experienced. Elements of a setting can make positive or negative contributions to the significance of an asset and affect the ways in which it is experienced. Historic England state that setting does not have a boundary and what comprises an asset's setting may change as the asset and its surrounding evolve. Setting can be extensive and particularly in urban areas or extensive landscapes can overlap with other assets. The contribution of setting to the significance of an asset is often expressed by reference to views and the GPA in paragraph 11 identifies those views such as those that were designed or those that were intended, that contribute to understanding the significance of assets.

15.2.44. Advice Note 12 (Historic England, 2019) outlines a recommended approach to assessing the significance of heritage assets in line with the requirements of NPPF. It includes a suggested reporting structure for a '*Statement of Heritage Significance*', as well as guidance on creating a statement that is proportionate to the asset's significance and the potential degree of impact of a proposed development. The Advice Note also offers an interpretation of the various forms of heritage interest that an asset can possess, based on the terms provided in the NPPF Glossary (MHCLG, 2019a); namely archaeological, architectural and artistic, and historic.

Chartered Institute for Archaeologists

15.2.45. The baseline study presented in **ES Volume II Appendix 15A: Cultural Heritage Desk Based Assessment (Application Document Ref. 6.3)** has been undertaken in accordance with guidance published by the Chartered Institute for Archaeologists (CIfA), specifically the standard and guidance for historic environment desk-based assessment (CIfA, 2020).

Lincolnshire County Council

15.2.46. The baseline study presented in **ES Volume II Appendix 15A: Cultural Heritage Desk Based Assessment (Application Document Ref. 6.3)**

has also been undertaken in accordance with guidance published in the Lincolnshire County Council Archaeology Handbook (Jennings, 2019).

15.3. Assessment Methodology

Consultation

- 15.3.1. A Scoping Report was submitted to the Planning Inspectorate on 30 April 2024 and scoping responses were received 10 June 2024. A copy of the Scoping Report and Scoping Opinion are provided within **ES Volume II Appendix 1A and 1B (Application Document Ref. 6.3)** respectively.
- 15.3.2. The consultation undertaken with statutory consultees to inform this chapter, including a summary of comments raised via the formal Scoping Opinion and in response to pre-application engagement is summarised in Table 15.2.

Table 15.2: Consultation Summary Table

Consultee or organisation approached	Date and Nature of consultation	Summary of consultee response	How comments have been addressed in this chapter
The Planning Inspectorate	Scoping Opinion 10 June 2024	Item 6.8.1 refers to the Identification of receptors and states that relevant ES figures should identify both designated and non-designated heritage assets	Designated heritage assets are presented on ES Volume II Figure 15-1 and Non-designated heritage assets are presented on Figure 15-2 (Application Document ref. 6.4) that accompany this ES chapter.
The Planning Inspectorate	Scoping Opinion 10 June 2024	Item 6.8.2 states that the Inspectorate considers that the study area for non-designated assets used for the assessment should encompass the (non-designated) Isle of Axholme area of Special Historic Landscape Interest.	The study area for non-designated heritage assets has been extended to encompass the Isle of Axholme area of Special Historic Landscape Interest and this is presented on Figure 15A-1d which has been prepared for the DBA (Appendix 15-A).
The Planning Inspectorate	Scoping Opinion 10 June 2024	Item 6.8.2 sets out that evidence for agreement reached with North Lincolnshire Council with regards to the requirement for no further archaeological	Engagement with the HEO for NLC has confirmed that no additional on-site evaluation

Consultee or organisation approached	Date and Nature of consultation	Summary of consultee response	How comments have been addressed in this chapter
		evaluation surveys being required within the site should be included with the ES.	surveys are required. This is set out in this table of consultation.
Canal and River Trust	Scoping Opinion 10 June 2024	Section 6.8 states that the scope of the assessment should include an assessment of impacts on the setting of Keadby Lock scheduled monument.	An assessment of significance of all heritage assets that have the potential to be affected by the Proposed Development is set out in Section 4.9 of the DBA and an assessment of the likely impacts and effects on heritage assets, including Keadby Lock, is set out in Section 15.7 of this ES chapter.
Historic England	Scoping Opinion 10 June 2024	<p>Historic England state that their advice would appear to be unchanged from that provided for Keadby CCS Power Station and refer to the reader to the Scoping advice provided for Keadby CCS Power Station.</p> <ol style="list-style-type: none"> 1. Within that advice, they recommended structured assessment of the visual (fixed point and kinetic) impacts of the proposed installation on the Scheduled and listed 	<ol style="list-style-type: none"> 1. The assessment of the impact of the Proposed Development on the Scheduled Monument and listed building of Keadby Lock is presented in Section 15.7. It draws on the setting assessment and viewpoints provided in ES Volume I Chapter 14:

The Keadby Next Generation Power Station Project

Environmental Statement

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Consultee or organisation approached	Date and Nature of consultation	Summary of consultee response	How comments have been addressed in this chapter
		<p>Keadby Lock and associated waterways are essential and should include metric visualisation, (alongside work in relation to other designated assets) as necessary to understand how the new installation would group with the existing power stations and infrastructure and what additional impacts would be likely / how these might be reduced eliminated. Advised that physical (construction risks) to the Scheduled lock and its environs must be considered and mitigated through design and protection measures.</p> <p>2. The Keadby CCS Power Station scoping opinion also refers to impacts on below ground archaeological remains and defers advice on this to the North Lincolnshire Council archaeological specialist advisor.</p>	<p>Landscape and Visual Amenity (Application Document Ref. 6.2) to draw conclusions regarding the impact of the Proposed Development upon the setting and significance of the asset. This includes consideration of how the Proposed Development will appear in combination with existing infrastructure and in fixed point and kinetic views. The assessment presented in Section 15.7 of this chapter includes consideration of physical impacts to Keadby Lock as a result of the Proposed Development.</p> <p>2. Consultation has been undertaken with the HEO</p>

Consultee or organisation approached	Date and Nature of consultation	Summary of consultee response	How comments have been addressed in this chapter
			<p>for NLC with regards to impacts on below ground archaeological remains. The HEO for NLC has confirmed that there is no requirement for further archaeological field evaluation as extensive field evaluation has been undertaken as part of the Keadby CCS Power Station DCO application, the results of which are incorporated into the DBA and this ES chapter. Any mitigation requirements will be agreed with the HEO for NLC and set out in a</p>

Consultee or organisation approached	Date and Nature of consultation	Summary of consultee response	How comments have been addressed in this chapter
			mitigation strategy to be submitted with the ES.
North Lincolnshire Council	Scoping Opinion 10 June 2024	<p>A late response from North Lincolnshire Council was included in the Scoping Opinion and set out the response for Cultural Heritage.</p> <p>Page 2 noted that “<i>the ES chapter on cultural heritage should comprise the following:</i></p> <ol style="list-style-type: none"> <i>1. Desk-based research including consultation of the Historic Environment Record and other sources.</i> <i>2. Results of pre-application archaeological field evaluation as appropriate.</i> <i>3. Assessment of significance of all heritage assets affected by the development.”</i> 	<ol style="list-style-type: none"> 1. A Desk-based Assessment (DBA) has been compiled and provided as ES Volume II Appendix 15A (Application Document Ref. 6.3) to this ES Chapter. Data sources utilised to prepare the DBA are set out in Paragraph 15.3.9 of this chapter and Section 3.1 of the DBA and includes a formal search of the Historic Environment Record. 2. Consultation with the HEO for NLC has confirmed that there is no requirement for further archaeological field evaluation as extensive

Consultee or organisation approached	Date and Nature of consultation	Summary of consultee response	How comments have been addressed in this chapter
			<p>field evaluation has been undertaken as part of the Keadby CCS Power Station DCO application, the results of which are incorporated into the DBA and this ES chapter.</p> <p>3. An assessment of significance of all heritage assets that have the potential to be affected by the Proposed Development is set out in Section 4.9 of the DBA and an assessment of the likely impacts and effects on heritage assets is set out in Section 15.6 of this ES chapter.</p>

Consultee or organisation approached	Date and Nature of consultation	Summary of consultee response	How comments have been addressed in this chapter
North Lincolnshire Council	Scoping Opinion 10 June 2024	<p>A late response from North Lincolnshire Council was included in the Scoping Opinion and set out the response for Cultural Heritage.</p> <p>Page 2 refers to archaeology and sets out that a <i>“Heritage and Archaeological Mitigation Strategy should be submitted with the ES”</i>.</p> <p>It also notes that <i>“the mitigation strategy agreed for the consented Keadby CCS Power Station main site comprises a program of archaeological monitoring and recording during construction groundworks, geoarchaeological deposit modelling and palaeoenvironmental analysis of retained samples.”</i></p>	<p>Section 15.8 of this ES chapter sets out the mitigation requirements that may be applicable, as previously set out for the Keadby CCS Power Station DCO application.</p> <p>An Outline Written Scheme of Investigation (OWSI) (Application Document Ref. 7.7) setting out the mitigation strategies relevant to cultural heritage has been compiled and agreed with the HEO for NLC and submitted with the ES.</p>
North Lincolnshire Council	Scoping Opinion 10 June 2024	<p>A late response from North Lincolnshire Council was included in the Scoping Opinion and set out the response for Cultural Heritage.</p> <p>Page 3 notes that <i>“with regards assessment of built heritage assets, it is considered the approach proposed for assessment would be acceptable and sufficient to inform the decision-making process. The assessment of significance undertaken as part of the</i></p>	<p>An assessment of significance of all heritage assets that have the potential to be affected by the Proposed Development is set out in Section 4.9 of the DBA and an assessment of the likely impacts and effects on heritage assets is</p>

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Consultee or organisation approached	Date and Nature of consultation	Summary of consultee response	How comments have been addressed in this chapter
		<i>EIA should be utilised to inform the design process to ensure the setting of built heritage assets affected by the proposals are preserved in line with relevant legislation, as well as national and local planning policy through mitigation etc.”</i>	<p>set out in Section 15.7 of this ES chapter.</p> <p>Mitigation measures will be applied through detailed design. Matters including ‘siting, layout, scale and external appearance, including the colour, materials and surface finishes of all new permanent buildings and structures’ are proposed to be secured by a requirement of the draft DCO. It is therefore considered that appropriate mitigation measures will be devised to minimise harm to heritage assets through development within their settings.</p>
North Lincolnshire Council Historic	Online meeting 28 August 2024	Consultation was undertaken with the North Lincolnshire Council Historic Environment Officer on 28 August 2024 via an online meeting for matters relating to below ground archaeological remains. The	A summary of the results of all previous archaeological evaluations surveys relevant to

Consultee or organisation approached	Date and Nature of consultation	Summary of consultee response	How comments have been addressed in this chapter
Environment Officer		<p>meeting included a discussion for the requirement of archaeological evaluation surveys within the Site and mitigation requirements which have been set out as part of the Keadby CCS Power Station DCO application and are applicable to this DCO application.</p> <p>The HEO for NLC confirmed that there is no requirement for further evaluation surveys within the site, due to the extensive evaluation surveys already undertaken as part of the Keadby CCS Power Station DCO application as well as the footprint of this application not extending beyond the footprint of the Keadby CCS Power Station DCO application and therefore not introducing new impacts to buried archaeological remains.</p> <p>The HEO for NLC also confirmed that the mitigation requirements set out in the agreed mitigation strategy for the Keadby CCS Power Station DCO application would be applicable to this application and would need to be set out in a mitigation strategy to be submitted alongside the ES.</p>	<p>the assessment are set out in Section 4.5 of the DBA.</p> <p>An Outline Written Scheme of Investigation (OWSI) (Application Document Ref. 7.7) setting out the mitigation strategies relevant to cultural heritage has been compiled and agreed with the HEO for NLC and submitted with the ES .</p>

Consultee or organisation approached	Date and Nature of consultation	Summary of consultee response	How comments have been addressed in this chapter
North Lincolnshire Council Historic Environment Officer	Online meeting 12 February 2025	Consultation was undertaken with the North Lincolnshire Council Historic Environment Officer on 12 February 2025 via an online meeting for matters relating to below ground archaeological remains. Following on from the previous meeting where the HEO for NLC confirmed that the mitigation requirements for the Keadby 3 DCO would apply to this DCO, the HEO for NLC confirmed that this would include a requirement for geoarchaeological analysis and reporting, as well as archaeological monitoring during construction activities within specified areas of the Proposed Development.	The areas requiring archaeological monitoring are set out within the OWSI (Application Document Ref. 7.7) which has been agreed with the HEO for NLC. The scope and programme for the geoarchaeological analysis and reporting has been agreed with the HEO for NLC and is set out within the OWSI.
Historic England	Statutory Consultation PEIR Response 17 February 2025	Historic England confirmed that issues raised within the Statutory EIA Scoping response have been largely addressed in the PEIR, and as such refer to the expertise of the North Lincolnshire Council Historic Environment Officer for matters relating to archaeology going forward.	Noted. Consultation with the NLC HEO has been undertaken with regards to matters relating to archaeology.

Consultee or organisation approached	Date and Nature of consultation	Summary of consultee response	How comments have been addressed in this chapter
Canal and River Trust	Statutory Consultation PEIR Response 18 February 2025	<p>We have no significant issue with the conclusions of the PEIR with regards to the impact of the scheme on the character and setting of the area and significance and setting of Keadby Lock.</p> <p>The Trust own and manage Keadby Lock and understand that the scheme is not proposing direct alterations to the lock (which is a scheduled monument), as it lies outside the red line boundary of the scheme. We do note that to facilitate abstraction, alterations to the lock may be required, which would require scheduled monument consent. We understand this would be carried out as part of a separate application if required.</p>	Noted.
North Lincolnshire Council	Statutory Consultation PEIR Response 19 February 2025	Chapter 15 Cultural Heritage of the PEI Report refers to Appendix 15A Cultural Heritage Desk Based Assessment (PEI Report Vol II) which includes Figures 15A-1a – 15A-5 and a gazetteer of heritage assets (Annex A) (15.1.6; Table 15.2 Consultation Summary Table).	The areas requiring archaeological monitoring are set out within the OWSI (Application Document Ref. 7.7) which has been agreed with the HEO for NLC.

Consultee or organisation approached	Date and Nature of consultation	Summary of consultee response	How comments have been addressed in this chapter
		<p>Appendix 15A was not available on the project website during this consultation and I can offer no further comment on the desk based assessment at this stage.</p> <p>Summary information of below-ground archaeological remains is presented in the PEIR Chapter (15.7.3-15) and of the historic landscape (15.7.27-28).</p> <p>Consultation is ongoing with the applicant's archaeological consultant to agree an appropriate mitigation strategy to be submitted with the ES once further construction details are known.</p> <p>Mitigation measures for below-ground archaeological remains are set out in the PEIR Chapter (15.8).</p> <p>As agreed with this office, the archaeological mitigation strategy will be based on the previously agreed mitigation strategy for the Keadby CCS Power Station DCO application.</p>	<p>The scope and programme for the geoarchaeological analysis and reporting has been agreed with the HEO for NLC and is set out within the OWSI.</p>

Methodology for Determining Heritage Baseline

Desk-based Assessment

- 15.3.3. A desk-based assessment (**ES Volume II Appendix 15A (Application Document Ref. 6.3)**) has been undertaken in order to identify the known cultural heritage resource within defined study areas and the potential for as yet unknown archaeological remains to be present at the Site. The desk-based assessment has built on and updated work carried out for previous studies at the Keadby Power Station site and Keadby Windfarm site, to the immediate north of the Site.

Study Area

- 15.3.4. The study area for the identification of designated heritage assets is defined as 3km from the boundary of the Site, with an extension to 5km for designated assets of the highest value (namely, World Heritage Sites, Scheduled Monuments and Grade I and II* listed buildings).
- 15.3.5. The study area for the identification of non-designated heritage assets is defined as 1km from the boundary of the Site. This study area has been determined on the basis of professional judgement to provide the context of, and potential for, surviving archaeological remains within the Site given the nature of the Proposed Development and its location. The study area was extended to include the Isle of Axholme Area of Special Historic Interest.
- 15.3.6. The study areas were determined using professional judgement and in consultation with statutory consultees in order to assess the archaeological potential of the Site, and to identify key constraints in the surrounding landscape. It places the Site within its wider heritage context.
- 15.3.7. The study areas are illustrated on **ES Volume III Figure 15.1: Locations of Designated Heritage Assets** and **Figure 15.2: Locations of Non-Designated Heritage Assets (Application Document Ref. 6.3)**.

Sources of Information - Desktop Research

- 15.3.8. The following sources of information that define the Site have been reviewed and form the basis of the assessment of likely significant effects on Cultural Heritage:
- North Lincolnshire Historic Environment Record (HER) (report dated 27 August 2024);

- National Heritage List for England (NHLE) for designated heritage assets datasets;
- Historic maps and local history information as deposited with the local archives;
- National Library of Scotland for historic Ordnance Survey mapping (<https://maps.nls.uk/>);
- Available 1m and 2m spatial resolution LiDAR data published by the Environment Agency;
- Archaeology Data Service (<https://archaeologydataservice.ac.uk>) for information on previous cultural heritage assessments and fieldwork surveys;
- British Geological Survey (BGS) online (<https://www.bgs.ac.uk/geoindex/>) for information on geology and topography, including historic borehole data;
- the results of previous archaeological assessment and investigations undertaken for previous developments within the Proposed Development Site (reported herein);
- the results of previous geotechnical investigations undertaken within the Proposed Development Site (reported herein); and
- local authority data including conservation area appraisals.
- Aerial photographs viewed online via the National Collection for Aerial Photographs (NCAP) (<http://ncap.org.uk/>) and Britain From Above (<http://www.britainfromabove.org.uk>).

Site Walkover Survey

15.3.9. A number of site walkover surveys and visual appraisals of heritage assets within the study area have been undertaken. These have:

- identified known archaeological sites within the Site;
- identified historic buildings and related assets including listed buildings, conservation areas and locally listed buildings within the Site and its surrounding study area;
- identified areas with the potential to contain any previously unidentified archaeological or historical remains;
- identified and assessed the setting of heritage assets within the study area; and
- identified the location, extent and severity of modern ground disturbance and previous construction impacts.

Archaeological Evaluation

- 15.3.10. Due to the archaeological evaluation surveys already undertaken as part of the Keadby CCS Power Station DCO application, and following engagement with the HEO for NLC, no further archaeological evaluation surveys are required within the Site. The HEO for NLC has confirmed that the mitigation requirements applicable to the Keadby CCS Power Station DCO application will also be applicable to this DCO application which includes a requirement for geoarchaeological analysis and reporting, as well as archaeological monitoring during construction activities within specified areas of the Proposed Development. The scope of these works are set out within the OWSI (**Application Document Ref. 7.7**).

15.3.11.

Methodology for Determining Effects and their Significance

Impact Assessment Methodology

- 15.3.12. The principles of the impact methodology rest upon independently evaluating the value (heritage significance) of the cultural heritage resources and the magnitude of impact upon that value. By combining the value of the cultural heritage resource with the predicted magnitude of impact, the significance of the effect can be determined, which can be beneficial or adverse.

Assessment of Value (Heritage Significance)

- 15.3.13. For the purpose of this assessment, the significance of a heritage asset, as defined by Annex 2 of the NPPF, is referred to as its 'value'.
- 15.3.14. The value of a heritage asset is guided by its designated status, but is derived also from its heritage interest, which may be archaeological, architectural, artistic or historic (NPPF Annex 2, Glossary). The setting of a heritage asset can also contribute to its value.
- 15.3.15. Taking these criteria into account, each identified heritage asset can be assigned a value in accordance with the criteria set out in Table 15.3. Using professional judgement and the results of consultation, heritage assets are assessed on an individual basis and regional variations and individual qualities are taken into account where applicable.

Table 15.3: Criteria for Determining the Value of Heritage Assets

Value	Criteria
High	<p>World Heritage Sites</p> <p>Scheduled Monuments</p> <p>Grade I and II* listed buildings.</p> <p>Grade I and II* registered parks and gardens.</p> <p>Registered battlefields</p> <p>Conservation areas of demonstrable high value</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.</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>Conservation areas (as appropriate)</p> <p>Grade II registered parks and gardens</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>Less-well preserved historic landscape character areas, exhibiting reasonable coherence, time-depth or other critical factor(s).</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 as recorded on a local authority list.</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.</p> <p>Historic landscape character areas whose value is limited</p>

Value	Criteria
	by poor preservation and/ or poor survival of contextual associations.
Negligible	<p>Assets identified on national or regional databases, but which have no archaeological, architectural, artistic or historic value.</p> <p>Assets whose values are compromised by poor preservation or survival of contextual associations to justify inclusion into a higher grade.</p> <p>The site of a former asset removed from its place, such as a find spot, with no potential for surviving contextual associations.</p> <p>Historic landscape with no or little significant historical merit.</p>

Magnitude of Impact

- 15.3.16. Having identified the value of the heritage asset, the next stage in the assessment is to identify the level and degree of impact to an asset arising from the Proposed Development. Potential impacts are defined as a change resulting from the Proposed Development which affects a heritage asset. The impacts of a development upon heritage assets can be positive or negative; direct or indirect; long term or temporary and/or cumulative. Impacts may arise during construction, operation or decommissioning and can be temporary or permanent. Impacts can occur to the physical fabric of the asset or affect its setting.
- 15.3.17. The level and degree of impact (impact rating) is assigned by reference to a four-point scale as set out in Table 15.4 below. The level of impact considers mitigation measures which have been embedded within the Proposed Development as part of the design development process (embedded mitigation).

Table 15.4: Criteria for Determining the Magnitude of Impact on Heritage Assets

Magnitude of Impact	Description of Impact
High	<p>Changes to most or all key components of the asset through physical impact, such that it is totally altered or destroyed, resulting in a comprehensive impact upon its overall value; and/or</p> <p>Comprehensive alteration, including the total loss or complete restoration, of elements of an asset's setting that cause a fundamental change in our ability to understand and appreciate its heritage interests; thereby resulting in a comprehensive impact upon its overall value.</p>
Medium	<p>Changes to many key components of the asset through physical impact, such that it is significantly altered or modified, resulting in a noticeable impact upon its overall value; and/or</p> <p>Changes to the setting of an asset which noticeably affect our ability to understand and appreciate its heritage interests, resulting in a noticeable impact upon its overall value.</p>
Low	<p>Changes to some key components of the asset through physical impact, such that it is slightly altered, resulting in a slight impact on its overall value; and/or</p> <p>Changes to the setting of an asset that slightly alter our ability to understand and appreciate its heritage interests, resulting in a slight impact upon its overall value.</p>

Magnitude of Impact	Description of Impact
Very low	<p>Very minor changes to key components of an asset through physical impact, resulting in no real change upon its overall value; and/or</p> <p>Changes to the setting of an asset that have little effect on our ability to understand and appreciate its heritage interests, resulting in no real change upon its overall value.</p>
No Change	No physical impacts upon the asset and/or no alteration or change to the asset's setting.

Significance of Effect

- 15.3.18. An assessment to classify the effect, having taken into consideration any embedded mitigation, is determined using the matrix at Table 15.5 which takes account of the value of the asset (Table 15.3) and the magnitude of impact (Table 15.2). Effects can be neutral, adverse or beneficial.

Table 15.5: Criteria for determining the Significance of Effect

Value	Magnitude of Impact			
	High	Medium	Low	Very Low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Minor
Low	Moderate	Minor	Minor	Negligible
Negligible	Neutral	Neutral	Neutral	Neutral

- 15.3.19. This chapter considers that major or moderate effects are significant for the purposes of the EIA Regulations, in accordance with standard EIA practice. Once the effect has been identified, additional mitigation can be used to offset, reduce or compensate for any significant adverse effects.

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Reassessing the significance of the effect after applying additional mitigation allows the level of residual effect to be assessed.

- 15.3.20. Within the NPPF (MHCLG, 2024), impacts affecting the value of heritage assets are considered in terms of harm. There is a requirement to determine whether the level of harm amounts to ‘substantial harm’ or ‘less than substantial harm’. There is no direct correlation between the significance of effects identified in this EIA chapter and the level of harm caused to heritage significance, as harm more readily relates to the magnitude of impact, than it does to the significance of effect. The assessment of harm arising from the impact of the Proposed Development is also determined using professional judgement, and with regard to the following considerations:
- a high impact on a heritage asset would more often be the basis by which to determine that the level of harm to the significance of the asset would be substantial;
 - a medium impact is unlikely to meet the test of substantial harm and would therefore more often be the basis by which to determine that the level of harm to the significance of the asset would be less than substantial;
 - low and very low impacts would still cause harm to the asset and would therefore more often be the basis by which to determine that the level of harm to the significance of the asset would be less than substantial; and
 - an impact of ‘no change’ would not result in any harm to the heritage asset.

15.4. Use of the Rochdale Envelope

- 15.4.1. The Proposed Development is described in detail in **ES Volume I Chapter 4: Proposed Development (Application Document Ref. 6.2.4)**. Flexibility in the design needs to be retained for some components of the Proposed Development, such as building dimensions, and as such, a Rochdale Envelope approach has been applied.
- 15.4.2. This ES chapter presents a reasonable worst-case assessment of the potential impacts of the Proposed Development on the setting of cultural heritage assets. A worst-case is assessed in terms of building/ structure dimensions and heights of stack(s) using the parameters in Table 4-1 of **ES Volume I Chapter 4: The Proposed Development (Application Document Ref. 6.2.4)**. It is considered that the overall conclusions of the

assessment presented in this chapter would not be materially affected by the positioning of the buildings and structures within these limits.

- 15.4.3. It is assumed that the majority of the Main Site (refer to **ES Volume III Figure 3.3 (Application Document Ref. 6.4)**) with the exception of areas of vegetation that are to be retained and protected, would be cleared and subject to some below ground disturbance, including piling during construction, no matter what the final sizing and layout of the buildings and structures is. The Rochdale Envelope parameters (i.e. the maximum parameters for the Proposed Development and in particular its main buildings and structures) therefore do not affect the construction assessment of impacts on below ground cultural heritage assets.
- 15.4.4. The following general assumptions have been used to assess impacts to heritage assets:
- All structures associated with the CCGT located on the Main Site will require piling. Piling options would only be fully defined on conclusion of a specific ground investigation at detailed design stage;
 - The preparation of temporary construction laydown areas will comprise levelling of the ground to provide an even surface;
 - Access to the Site will be improved which will include replacement of an existing private bridge near the site entrance on the A18 (Mabey Bridge), maintenance and improvement of existing private access roads, and construction of new internal access roads;
 - A new gatehouse will be provided off the A18 junction. This structure would be developed within the parameters presented in Table 4-1 of **ES Volume I Chapter 4: The Proposed Development (Application Document Ref. 6.2)**;
 - The creation of an emergency access route comprising the maintenance and improvement of an existing private track running between the Main Site and Chapel Lane, and a new private bridge crossing over the ditch bordering the north of the Main Site;
 - The retention and utilisation of the existing Keadby 2 temporary haul road between the Waterborne Transport Offloading Area and the Keadby Power Station site;
 - Temporary crane(s) at the Waterborne Transport Offloading Area adjacent to Keadby Lock will be used to transfer components into the Proposed Development via the haul route.
 - The Water Discharge Corridor will utilise existing pipelines associated with Keadby 1 and Keadby 2 Power Stations, the new development will

connect to the existing pipework at a location north of Keadby 2 Power Station within the Applicant's land ownership;

- The Water Abstraction point on the Stainforth and Keadby Canal would be located adjacent to the Keadby 2 Power Station cooling water abstraction point situated on the bank of the canal.

15.5. Baseline Conditions

- 15.5.1. The desk-based assessment provided in **ES Volume II Appendix 15A: Cultural Heritage Desk Based Assessment (Application Document Ref. 6.3)** sets out the cultural heritage baseline for the Proposed Development and has identified the potential for impacts to designated and non-designated assets located within the Site and defined study areas as a result of the Proposed Development.
- 15.5.2. A number of designated and non-designated assets were scoped out of further assessment in the baseline study due to the lack of potential for impacts resulting from the Proposed Development. A rationale for scoping out these assets is provided in **ES Volume II Appendix 15A: Cultural Heritage Desk-Based Assessment (Application Document Ref. 6.3)**. The following assets are those where it is considered that there is the potential for impact and are therefore assessed in this chapter.
- 15.5.3. The assets scoped in to the assessment are:
- Keadby Lock [NHLE1005204; NHLE1342734] (scheduled monument and grade II);
 - Keadby Bridge [NHLE1067725] (grade II);
 - 94 Old Village Street [NHLE1346862] (grade II);
 - Church of St Oswald, Althorpe [NHLE1083258] (grade I);
 - Isle of Axholme Area of Special Historic Landscape Interest (locally designated);
 - Wesleyan Methodist Chapel, Keadby [MLS21604] (non-designated);
 - North Pilfrey Farm [MLS25266] (non-designated);
 - Ealand Warpings [MLS25267] (non-designated);
 - Ealand Grange [MLS25268] (non-designated); and
 - Salisbury House [MLS25440] (non-designated).
 - Keadby Grange [MLS25539] (non-designated).
 - Stainforth and Keadby Canal [MLS9485] (non-designated);
 - Possible Romano-British settlement site [MLS17311];

- peat horizons that contain evidence of past environments [MLS22432] and [MLS27193] and potential earlier land surfaces [MLS27196];
- a palaeochannel [MLS22755];
- medieval / post-medieval ridge and furrow earthworks [MLS27050];
- post-medieval land improvement drains (including warping channels) [MLS21639], [MLS24691], [MLS27049], [MLS27195] and [MLS26761];
- potential palaeoenvironmental remains; and
- potential archaeological remains dating to the Roman and post-medieval periods.

Future Baseline

15.5.4. This section considers those changes to the baseline conditions, as set out in **ES Volume II Appendix 15A: Cultural Heritage Desk-based Assessment (Application Document Ref. 6.3)** that might occur in the absence of the Proposed Development, and during the time period over which the Proposed Development would have been in place.

15.5.5. The future baseline scenarios are set out in **ES Volume I Chapter 2: Assessment Methodology (Application Document Ref. 6.2)** and described in the context of cultural heritage below.

No Development

15.5.6. 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 Development. Land within the Site is anticipated to continue as it currently is, which would retain the existing settings of built heritage assets and impacts to buried archaeological remains would be minimal and limited to typical taphonomic (i.e., erosion, degradation, corrosion, etc.) processes and is not considered likely to alter the values of heritage assets.

Future Baseline for Operation (2030)

15.5.7. As described in **ES Volume I Chapter 2: Assessment Methodology (Application Document Ref. 6.2)** it is recognised that Keadby 1 and 2 Power Stations could be in operation concurrently during the operational

phase of the Proposed Development. This scenario is assessed in the Operational effects section of this chapter.

Future Baseline for Decommissioning (from 2055)

- 15.5.8. In order to ensure relevant worst-case assessments of built heritage assets in this ES, in the future baseline for decommissioning it is anticipated that Keadby 1 Power Station would no longer be operational.

15.6. Development Design and Impact Avoidance

Below Ground Archaeological Remains

- 15.6.1. The siting of the Proposed Development in close proximity to the existing Keadby 1 Power Station and Keadby 2 Power Station infrastructure reduces the impact of the Proposed Development on below ground archaeological remains and reduces the requirement for new infrastructure in the surrounding landscape and the potential effects on below ground archaeology and settings of heritage assets.

Built Heritage

- 15.6.2. The Proposed Development is located adjacent to the existing Keadby 1 Power Station and Keadby 2 Power Station. Visually, whilst locating the Proposed Development adjacent to existing development results in a concentration of this type of development in one place, it also focuses impacts in that one place. This limits the potential for new impacts through change to the setting of heritage assets in the local area that may currently be unaffected by the existing development.
- 15.6.3. As described in **ES Volume I Chapter 4: The Proposed Development (Application Document Ref. 6.2)**, the proposed hybrid cooling towers are specifically designed to minimise the formation of visible plumes, although some may occur dependent on the ambient weather conditions.

15.7. Likely Impacts and Effects

Construction

- 15.7.1. The Proposed Development is currently at an early stage of design. In order to identify and assess likely impacts and effects, a number of

assumptions have been made, listed in Section 15.4 (Rochdale Envelope and Basis of Assessment).

- 15.7.2. Construction of the Proposed Development has the potential to affect heritage assets in the following ways:
- partial or total removal of below ground archaeological remains;
 - compaction of below ground archaeological remains by construction traffic, land raising and structures;
 - changes to local hydrology that could dry out underlying peat deposits and effect preservation levels of heritage assets;
 - vibration effects during construction and/ or operation of the Proposed Development; and
 - adverse effects on the setting of heritage assets as a result of, for example visual intrusion, noise, severance, access and amenity.

Below Ground Archaeological Remains

- 15.7.3. The baseline assessment presented in **ES Volume II Appendix 15A: Cultural Heritage Desk Based Assessment (Application Document Ref. 6.3)** has identified the known below ground archaeological remains that are likely to be affected during the construction phase of the Proposed Development.
- 15.7.4. Impacts to below ground archaeological remains are likely to derive from the following construction works:
- piles, pile caps, ground beams and floor slabs;
 - any required ground remediation;
 - levelling of surfaces for temporary construction laydown areas;
 - Land raising;
 - installation of any below ground structures; and
 - burial of pipes and cables.
- 15.7.5. The following assets are those where it is considered that there is the potential for impacts as a result of the Proposed Development.
- 15.7.6. A large rectangular enclosure [MLS21639] measuring approximately 80m across has been identified through cropmarks at the southern end of the Site access road. The cropmarks suggest the enclosure is a post-medieval warping compartment which is a feature associated with systems to control flooding of land in order to trap fluvial silts. The value of the asset derives from its archaeological interest and potential to enhance

archaeological recording of warping systems and processes which could contribute to local research. The asset is assessed to be of low value. The Proposed Development in this area comprises the use of the existing access road. No intrusive works are proposed in the location of the asset and there will be no change to its setting. No impact to the asset's heritage value is anticipated as a result of the Proposed Development, resulting in no change.

- 15.7.7. Geoarchaeological works in the location of Compound 3 of Keadby Wind Farm identified the presence of wood peat, ranging between 0.22m and 2.43m thick [MLS22432] (refer to Figure 15-2). The value of the asset derives from its archaeological interest and potential to contain well-preserved palaeoenvironmental data and artefacts which could contribute to local and regional research. The asset is assessed to be of medium value. The Proposed Development in this area comprises temporary construction laydown areas which will require ground levelling. This will result in permanent ground disturbance and has the potential to impact the upper-most horizons of this deposit, or completely removing it where the deposit is thinnest. However, the area of potential disturbance is comparatively limited and the palaeoenvironmental asset forms part of a larger landscape of peat deposits, therefore the impact is likely to result in the removal of a small proportion of the asset. This would result in a slight change to the asset but would not reduce its value. This would constitute a low magnitude of impact, resulting in a minor adverse effect, which is **not significant**.
- 15.7.8. The archaeological surveys undertaken to support the Keadby CCS Power Station DCO application identified further organic (peaty) deposits [MLS27193] measuring up to 0.3m thick, as well as a potential earlier land surface below the peat deposit [MLS27196] across the Main Site and the proposed construction laydown area. The value of these assets derives from their archaeological interest and the potential for the deposits to contain well-preserved palaeoenvironmental data and artefacts which could contribute to local and regional research. The assets are assessed to be of medium value. The Proposed Development in these areas will result in permanent ground disturbance due to ground levelling, land raising, piling and installation of below ground structures and pipework. The asset forms part of a larger landscape of similar deposits, however the wider extent of ground disturbance within these areas of the Site is likely to result in the removal or truncation of a greater proportion of the assets, due to their relative thinness. This would constitute a medium

magnitude of impact, resulting in a moderate adverse effect, which is **significant**.

- 15.7.9. A possible prehistoric palaeochannel [MLS22755] has been mapped from aerial photographs in 2003, at the far north-eastern end of the Water Connection Corridor. The value of the asset derives from its archaeological interest and the potential for the asset to contain well-preserved palaeoenvironmental data and artefacts which could contribute to local and regional research. The asset is assessed to be of medium value. The Proposed Development in this area comprises the use of the existing outfall and associated pipework for the discharge of treated effluent. No intrusive works are proposed in the location of the asset and there will be no change to its setting. No impact to the asset's heritage value is anticipated as a result of the Proposed Development, resulting in no change.
- 15.7.10. Cropmarks have been mapped from aerial photographs and interpreted as post-medieval warping drains [MLS24691] and [MLS27049]. The assets extend into the Water Connection Corridor. The value of the assets derives from their archaeological interest and potential to enhance archaeological recording of post-medieval warping systems and processes which could contribute to local research. The assets are assessed to be of low value. The Proposed Development in this area comprises the use of the existing outfall and associated pipework for the discharge of treated effluent. No intrusive works are proposed in the location of these assets and there will be no change to their setting. No impact to the assets' heritage value is anticipated as a result of the Proposed Development, resulting in no change.
- 15.7.11. A small block of medieval / post-medieval ridge and furrow has been identified from aerial photograph analysis [MLS27050] which extend partially into Water Connection Corridor. The value of the asset derives from its archaeological interest and potential to enhance archaeological recording of historic land-use which could contribute to local research. The assets is assessed to be of low value. The Proposed Development in this area comprises the use of the existing outfall and associated pipework for the discharge of treated effluent. No intrusive works are proposed in the location of the assets and there will be no change to its setting. No impact to the asset's heritage value is anticipated as a result of the Proposed Development, resulting in no change.
- 15.7.12. The geophysical survey and trial trenching also identified a number of warping drains [MLS27195; MLS26761] (refer to Figure 15-2) of post-medieval date. The assets are located entirely within the Main Site and construction laydown areas. The value of this asset derives from its

archaeological interest and potential to enhance archaeological recording of post-medieval warping systems and processes which could contribute to local research. The asset is assessed to be of low value. The Proposed Development in this area will result in permanent ground disturbance due to ground levelling. The asset forms part of a larger landscape of warping systems and the ground disturbance is likely to result in the removal of a small proportion of the asset. This would result in a slight change to the asset but would not reduce its value. This would constitute a low magnitude of impact, resulting in a minor adverse effect, which is **not significant**.

- 15.7.13. The assessment identified a high potential for palaeoenvironmental remains to survive within the Main Site and Construction Laydown Area south of the Stainforth and Keadby Canal. An assessment of the impact on potential palaeoenvironmental remains is provided as part of the assessment of asset [MLS27193; MLS27196] above, as any further remains identified would form part of the same deposit. Any such remains would likely be of medium value, and should they be impacted by the Proposed Development, this is not considered to be greater than a medium magnitude of impact, which would result in a moderate adverse effect which is **significant**.
- 15.7.14. The assessment also identified a high potential for archaeological remains dating to the post-medieval period to survive within the Main Site, Construction Laydown Area south of the Stainforth and Keadby Canal and Potential Biodiversity Mitigation and Enhancement Area. An assessment of the impact on potential post-medieval remains is provided as part of the assets [MLS24691; MLS27049; MLS27195; MLS26761] as any further remains identified would form part of the same system of post-medieval land management. Any such remains would likely be of low value, and should they be impacted by the proposed development, this is not considered to be greater than a medium magnitude of impact, which would result in a minor adverse effect, which is **not significant**.
- 15.7.15. In addition, the assessment identified a medium potential for archaeological remains dating to the Roman period to survive within the Potential Biodiversity Mitigation and Enhancement Area due to the existence of the possible Romano-British settlement site [MLS17311] recorded on the HER located within this area. Works proposed within this area are not expected to reach depths greater than 0.4m below ground level (bgl) and as such, may expose the top of upper post-medieval warp/alluvial deposits, but would not reach deposits below this. Any archaeological remains dating to the Roman period which may be encountered are likely to be stray finds that have been brought up to the upper horizons through ploughing. The proposed works may disturb or

remove any stray finds encountered within the topsoil; however this would not reduce the value of any such remains. This would constitute a very low magnitude of impact, which on assets of potential medium value, would result in a minor adverse effect, which is **not significant**.

Built Heritage

- 15.7.16. The baseline study presented in **ES Volume II Appendix 15A: Cultural Heritage Desk Based Assessment (Application Document Ref. 6.3)** has identified the potential for impacts to designated and non-designated built heritage assets within the study area as a result of change to their settings during construction. These impacts derive from construction-related activities such as noise, lighting and vehicle movements, together with the presence of the Proposed Development within an asset's setting.
- 15.7.17. The following assets are those where it is considered that there is potential for impacts as a result of the Proposed Development.
- 15.7.18. The Scheduled Monument and Grade II listed building of Keadby Lock [NHLE1005204; NHLE1342734] is an asset of **high value**. The asset's value lies in its historic and architectural interest as part of the British canal network and as an example of late-18th century canal engineering and technical innovation. It is likely that works will be required to the lock gates on this asset to heighten the retained water level in the canal upstream of the lock, and allow the additional capacity required for third-party abstraction for use in Proposed Development. Whilst these works would be required to support the DCO, permission for these works is not being sought within the DCO and, if required, this would be subject to separate Scheduled Monument Consent. The works would comprise the fitting of an additional plank, of 300mm width, to the upstream face of the top lock gates (which date to 2005/6). The plank would be green oak, to match as closely as possible to the existing gates once weathered, and the fixings would be heavy-gauge square-section nails to match the existing fixings. The works would be limited to alteration of modern lock gates, and with a sensitive visual design, so no potential for impact to Scheduled Monument is identified as a result.
- 15.7.19. The view from Keadby Lock towards the Proposed Development is represented by Viewpoint 3 of the landscape and visual impact assessment (LVIA) presented in **ES Volume I Chapter 14: Landscape and Visual Amenity Assessment (Application Document Ref. 6.3)**. The setting of the asset is defined by its relationship to the wider canal network and the River Trent, and to associated structures immediately adjacent. The canal was a semi-industrial feature of the landscape, although its character is now more associated with leisure and the appreciation of views of the open landscape when travelling along it. In the immediate

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vicinity of the lock, this semi-industrial character is more apparent with views across the river featuring the industrial landscape of Gunness and views west featuring the existing Keadby 1 and 2 Power Stations and Keadby Windfarm. The extent of works for the Proposed Development in the immediate vicinity of the lock involve the perpetuation of use of an existing area (Railway Wharf) for the receipt and transport of abnormal indivisible loads (AIL) from the River Trent during construction of the Proposed Development. This will take place outside the extent of the Scheduled area and listed building in an area of hardstanding to the north of the asset. This area is currently in use as a port facility and has recently been used for the construction of Keadby 2 Power Station, with a temporary crane in place (crane removed at time of this assessment). Use of mobile cranes will continue throughout the construction of the Proposed Development for the offload of AIL for circa 1 year. This aspect of the construction of the Proposed Development is therefore assessed as having no further impact on the setting and significance of the Scheduled Monument and listed building.

- 15.7.20. In terms of views of the Proposed Development in combination with the lock, kinetic views when travelling along the canal will feature views of the Proposed Development and its associated infrastructure, together with the existing Keadby 1 Power Station and Keadby 2 Power Station. This concentration of development in the landscape immediately north of the canal will be a dominating feature of views, particularly when traveling west to east along the canal towards the asset. Nevertheless, the asset is not one that is appreciated through distant views and when travelling in this direction, by the time the viewer reaches the lock they are past the area of impact and views are more focused on the asset and its relationship with the River Trent beyond. In views from the asset towards the Site, some elements of the Proposed Development may be visible in the view behind Keadby 1 Power Station, but it is considered that the change would be minimal. In consideration of this, a cautious assessment of the magnitude of impact to Keadby Lock would be very low, resulting from the continuation of this type of large-scale development within its setting, resulting in a minor adverse significance of effect, which is **not significant**.
- 15.7.21. The Grade II listed Keadby Bridge [NHLE1067725] is an asset of medium value. The asset's value lies in its historical and architectural interest as an early-20th century piece of technical engineering, that was the first and largest of its kind in Britain. The structure has an industrial character that is matched by its surroundings in the industrial development of the Trent riverside in Gunness and by the presence of Keadby 1 and 2 Power Stations and Keadby Windfarm on the west side of the River Trent. As these industrial features of the asset's setting are considered to contribute to the asset's context, the addition of the Proposed Development into this

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setting is not considered to result in adverse impacts on the asset's significance, either through any increased traffic on the road or river during construction, or through the presence of the Proposed Development in views from the asset. Such views will be possible from the footbridge added to the asset's north elevation which already features the aforementioned industrialised landscape of Keadby and Gunness. No impact to the asset's heritage value is anticipated as a result of the Proposed Development, resulting in a neutral effect, which is **not significant**.

- 15.7.22. The Grade II listed 94 Old Village Street [NHLE1346862] is an asset of **medium value**. Its value lies in its historical and architectural value as an example of a moderately wealthy house of the late-18th to early-19th century located in a rural village. The setting assessment of the house noted its important relationship with Old Village Street as it winds through the settlement of Gunness, lined with historic buildings. A view across the River Trent from Old Village Street on approach to the asset featured views of Keadby 1 and 2 Power Stations and Keadby Windfarm. This view of out of character development was determined to fall within the asset's setting, although it has only a small role to play in terms of the asset's significance. The addition of the Proposed Development behind Keadby 1 and 2 Power Stations will perpetuate this existing view of out of character development on approach to the listed building, northwards along Old Village Street. A cautious assessment of the impact of the Proposed Development is that it would experience a very low magnitude of impact, resulting in a minor adverse effect, which is **not significant**.
- 15.7.23. The Grade I listed Church of St Oswald [NHLE1083258] in Althorpe is an asset of high value. Its value lies in its historical, archaeological and architectural value as a medieval church at the centre of its settlement and community. The view from the settlement towards the Proposed Development is represented by Viewpoint 6 in **ES Volume I Chapter 14: Landscape and Visual Amenity (Application Document Ref. 6.3)**. The setting assessment of the church noted that it is visible in a key view looking towards the settlement of Althorpe from the south-west. Also present in this view, to the west of the church tower and settlement, is the existing Keadby 1 and 2 Power Stations and Keadby Windfarm. This existing development is a distracting feature of the wider landscape around the settlement and in this view towards the church tower, although it does not interfere with the view of the actual tower and settlement or compete directly with the church tower in the view. The addition of the Proposed Development will perpetuate this existing distracting feature, although it will also concentrate this type of development in one location, limiting the spread of this type of development across the view. A cautious assessment of the impact of the Proposed Development therefore

determines that it will experience a very low magnitude of impact, resulting in a minor adverse effect, which is **not significant**.

- 15.7.24. The non-designated isolated farmsteads at North Pilfrey Farm [MLS25266], Ealand Warpings [MLS25267], Ealand Grange [MLS25268] and Keadby Grange [MLS25539] are assessed to be of low value. The heritage value of these assets lies in the historic interest of the surviving 19th century farm buildings and farmhouses that illustrate the agricultural history of the area, while architectural interest derives from the appreciation of the local vernacular style and materials. They are likely to be adversely affected by the construction of the Proposed Development, due to their rural setting that extends to the Site. The agricultural landscape within the study area includes views of the existing Keadby 1 and 2 Power Stations and associated infrastructure, and Keadby Windfarm. These prominent features alter the visual character of the surrounding landscape and detract from the significance of the non-designated farmsteads through erosion of understanding of their agricultural context and removal of parts of their working farmland. This detracting characteristic of the assets' settings will be exacerbated by the construction and presence of the Proposed Development, adding a further detracting feature into their settings, although in the case of the proposed construction (and operational) access, this proposes to use the existing access for Keadby 2 Power Station limiting the introduction of new features into the landscape adjacent to North Pilfrey Farm [MLS25266]. Therefore, despite this intrusion, the siting of the Site minimises harm through concentrating these detracting features in one location, alongside the existing Keadby 1 Power Station and Keadby 2 Power Station and reusing their existing infrastructure. The magnitude of impact on these assets is expected to be medium, resulting in a minor adverse effect, which is **not significant**.
- 15.7.25. The non-designated Salisbury House [MLS25440] is also a farmhouse and farmstead of low value. As with those described above, it has architectural and historical interest as a surviving 19th century irregular farm complex, located within a settlement. Its setting differs from those discussed above because it is located within the settlement of Keadby and adjacent to the River Trent. The setting assessment noted that the asset's agricultural context does survive to the west of the asset, contributing to its significance. The Proposed Development will be present in views west from the asset and its surroundings alongside the existing Keadby 1 Power Station and Keadby 2 Power Station. Due to the proximity of the

Proposed Development to the asset, the predicted impact is expected to be medium, resulting in a minor adverse effect, which is **not significant**.

- 15.7.26. Another non-designated asset located within the settlement of Keadby is the Wesleyan Methodist Chapel [MLS21604]. This asset is assessed to be of negligible value as a locally important asset that has undergone significant change, that erodes understanding of its purpose and historic and architectural interest. It is considered that there are other examples of non-conformist chapels in the locality that are in better condition with less alteration than this example. The setting assessment noted the asset's place within the settlement containing 19th century housing that provides its functional context as part of the growth of the settlement related to nearby industry. The Proposed Development will be present in views of the asset in its surroundings. These views already feature the existing Keadby 1 and 2 Power Stations and associated infrastructure. Due to the proximity of the Proposed Development to the asset, the predicted impact is expected to be medium, resulting in a neutral effect, which is **not significant**.
- 15.7.27. The non-designated Stainforth and Keadby Canal [MLS9485] is a late 18th – early 19th century canal linking the Rivers Don and Trent. This asset is assessed to be of medium value. The value of the asset derives from its historic and architectural interest as part of the British canal network and as an example of late-18th century canal engineering and technical innovation. The Proposed Development includes abstracting water from the canal as a source of cooling water. This would comprise the construction of an intake structure within the canal with ecological impact avoidance measures which are likely to include eel screens, baffles and fish returns, together with intake pipework, a wet well pumping station and chlorination plant. This could impact a small proportion of the original fabric associated with the construction of the canal. This would result in a slight change to the asset but would not reduce its value. This would constitute a low magnitude of impact, resulting in a minor adverse effect, which is **not significant**. It is not anticipated that there will be any physical impact upon any designated heritage assets during construction.

Historic Landscape

- 15.7.28. The Isle of Axholme Area of Special Historic Landscape Interest is a locally designated (i.e. non-designated) asset of high value. The heritage value of the landscape lies in its historic and archaeological interest as a rare survival of open-field strip-cultivation and turbaries. The setting assessment noted that the Main Site lies c.2km north of the northern extent of the Area, where views are available across the flat landscape

towards the Site. These feature distant views of the existing Keadby 1 and 2 Power Stations and Keadby Windfarm and associated pylons routes.

- 15.7.29. The assessment of landscape character within the Site noted that it is defined as modern derelict industrial land and industrial works, and Recently Enclosed Land. Whilst it was concluded within the desk-based assessment **ES Volume II Appendix 15A: Cultural Heritage Desk Based Assessment (Application Document Ref. 6.3)** that this landscape character within the Site was of low sensitivity to change, the significance of the Isle of Axholme Area places importance on the Site as falling within its setting. The presence of the Proposed Development will perpetuate a form of development in the setting of the Isle of Axholme Area of Special Historic Landscape Interest that is out of character with the defining characteristics of the core area. Nevertheless, the Proposed Development will take place within an area already changed through development of a similar type and scale, which will minimise harm caused through the introduction of this type of development into the landscape. This is considered to result in a very low magnitude of impact on the asset through the presence of the Proposed Development within its setting. This results in a minor adverse effect, which is **not significant**.

Operation

- 15.7.30. There will be no additional physical impacts to below ground archaeological remains that could result in effects beyond those that have been assessed for construction impacts, during operation of the Proposed Development.
- 15.7.31. As described in **Chapter 2: Assessment Methodology (Application Document Ref. 6.2.2)** it is recognised that Keadby 1 and 2 Power Stations could be in operation concurrently during the operational phase of the Proposed Development
- 15.7.32. Potential impacts related to operation of the Proposed Development could include operational noise and vehicle movements for staff access; however, these are not considered to result in any change to the assessed levels of impact resulting from construction of the Proposed Development and its physical presence within the setting of heritage assets, that are considered permanent construction phase effects that continue throughout operation. Therefore, no additional impacts to assets through changes to

their setting are predicted as a result of operation of the Proposed Development for this scenario.

Decommissioning

- 15.7.33. It is envisaged that the Proposed Development would have an operational life of up to c. 25 years or more, therefore decommissioning activities are currently anticipated to commence after 2055. Likely decommissioning activities are described in **ES Volume I Chapter 4: The Proposed Development (Application Document Ref. 6.2.4)**, including removal or dismantling of plant and equipment to ground level and leaving hard standing and sealed concrete areas in-situ. Any areas of the Site that are below ground level would be backfilled to ground level to leave a levelled area. It is anticipated that Keadby 1 would no longer be operational at this time, therefore only Keadby 2 and the Proposed Development would be operating simultaneously.
- 15.7.34. There would be no additional physical impacts to buried archaeological remains during decommissioning of the Proposed Development, as any impact upon archaeological remains would have been mitigated at the construction phase.
- 15.7.35. There would be temporary impacts to the setting of designated assets in the wider study area during decommissioning, resulting from the use of machinery to dismantle the plant. Decommissioning is likely to affect the setting of those heritage assets described for the construction and operation phases above. Although Keadby 1 no longer being operational may reduce noise and vehicle movements, it is not considered that this would result in any perceived reduction in the overall noises and vehicle movements that will remain as part of Keadby 2 and the Proposed Development, and it is not considered to result in any change to the assessed levels of impact resulting from the construction of the Proposed Development and its physical presence in the setting of heritage assets. Impacts would be no greater than those assessed during construction and operation, and would therefore be **not significant**.

15.8. Mitigation, Monitoring and Enhancement Measures

- 15.8.1. This section describes the mitigation measures identified as a result of the assessment which are proposed in addition to those already considered to be in place as described in Section 15.6. These mitigation measures are

proposed in order to reduce or mitigate the effects on cultural heritage as a result of the Proposed Development.

Below Ground Archaeological Remains

- 15.8.2. The following assets have been identified as having the potential to experience significant adverse effects during the construction phase:
- Organic (peaty) deposits [MLS27193] and earlier buried land surfaces [MLS27196]; and
 - Potential palaeoenvironmental remains located within the Main Site and Construction Laydown Area south of the Stainforth and Keadby Canal.
- 15.8.3. Design measures to enable preservation in-situ of archaeological remains would be considered in the first instance. However, where preservation in-situ is not viable, potential impacts to archaeological remains can be mitigated through a proportionate programme of archaeological investigation, recording and reporting. 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.
- 15.8.4. As outlined within the consultation responses presented in Table 15-2, following the results of previous stages of archaeological evaluation undertaken for Keadby CCS Power Station DCO and the haul road planning application, mitigation in the form of geoarchaeological analysis and reporting, and archaeological monitoring during groundworks within specified areas of the Proposed Development has been agreed.
- 15.8.5. The scope of the geoarchaeological analysis and reporting, and archaeological monitoring have been agreed with the HEO for NLC and are set out within the OWSI (**Application Document Ref. 7.7**).

Built Heritage

- 15.8.6. The impacts of the Proposed Development on the setting of heritage assets, will be mitigated as far as reasonably practicable through detailed design. Matters including 'siting, layout, scale and external appearance, including the colour, materials and surface finishes of all new permanent buildings and structures' are proposed to be secured by a requirement of the **Draft DCO (Application Document Ref. 3.1)**. It is therefore considered that appropriate mitigation measures will be devised to

minimise harm to heritage assets through development within their settings.

- 15.8.7. No monitoring is required in relation to effects arising from changes to the setting of heritage assets.

15.9. Limitations or Difficulties

- 15.9.1. The desk-based assessment and identification of the cultural heritage baseline is based on information available at the time of writing.

15.10. Summary of Likely Significant Residual Effects

Below Ground Archaeological Remains

- 15.10.1. The magnitude of impact on organic (peaty) deposits [MLS27193], the earlier buried land surfaces [MLS27196] and potential palaeoenvironmental remains as a consequence of the Proposed Development has been assessed as medium, resulting in a moderate adverse effect, which in the absence of mitigation would be significant.
- 15.10.2. The mitigation measures described in Section 15.8 comprising a programme of geoarchaeological analysis and reporting; and archaeological monitoring during construction, would not minimise the physical impact to individual heritage assets, as the archaeological evidence would still be removed, but would compensate for their loss by preserving them by record. This would reduce the magnitude of impact on individual assets, resulting in a residual minor adverse effect, which is **not significant**.

Built Heritage

- 15.10.3. Due to the scale of the Proposed Development, it is envisaged that opportunities to provide effective landscape screening will be limited. Therefore, the residual effects of the Proposed Development in relation to impacts resulting from change to the setting of designated and non-designated heritage assets will be the same as those reported under construction phase effects for the majority of assets. These effects are **not significant**.

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