REPORT

Boston Alternative Energy Facility – Environmental Statement

Chapter 8 Cultural Heritage

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Executive Summary

This chapter considers the impact of the proposed Boston Alternative Energy Facility ('the Facility') upon cultural heritage within a 3 km study area. The baseline data was used to assess the significance of heritage assets within the area, how their setting affects their significance and how the Facility may impact upon these assets or their setting.

The chapter is supported by a Cultural Heritage Technical Report (**Appendix 8.1 Cultural Heritage Desk Based Assessment**) which provides all relevant baseline information regarding the heritage assets, their setting and predicted impacts. The chapter discusses both temporary and permanent effects deemed significant under The Infrastructure Planning (Environmental Impact Assessment (EIA)) Regulations 2017.

The baseline data indicated that the surrounding environs to the Application Site consist of thick alluvial clay deposits formed by water inundation throughout prehistoric and historic periods. There is evidence that these deposits can seal organic remains (peat) of early prehistoric date as well as enabling the preservation of other organic remains (e.g. wood, cloth, vegetation) which may have been deposited within the clay.

The chapter is also supported by a Cultural Heritage Technical Geophysical Survey Report (**Appendix 8.2 Geophysical Survey Report: Boston Alternative Energy Facility**), which provides all the relevant information and figures for the geophysical survey that was conducted in August 2020.

The DCO application is accompanied by the **Outline Written Scheme of Investigation** (OWSI) (document reference 7.3) which is a separate standalone document that sets out the proposed approaches and commitments to archaeological survey and investigation to be put in place for the Facility.

There are no designated assets within the Application Site. A total of six Listed Buildings are located within 1 km, whilst four Scheduled Monuments and a further 22 Grade II* and I Listed structures are found within 3 km. Non-designated assets within 1 km are predominantly medieval to modern in date, mostly in the form of buried deposits associated with farmsteads. The most notable non-designated asset is the 'Roman Bank'. This extant earthwork passes through the centre of the Principal Application Site, consisting of a c.2 m high earthen flood bank, currently undated, although research suggests it could be of Anglo-Saxon origin. A Public Right of Way (PRoW) follows the length of the bank through the Principal Application Site.

The site walkover results suggested that there are no (visible) wrecks within the section of The Haven to be affected by the Facility. Some foreshore structures were evident on

the northern bank, but none on the proposed wharf-side. This does not preclude their survival deeper within the mud bank and will be considered further post-consent as part of the archaeological mitigation set out in the OWSI. This methodology will be informed by the clarification of the subsurface deposits as part of geoarchaeological investigations.

The significance of effects upon identified assets by the Facility was identified as **negligible** or **minor** following mitigation. These effects were mostly in the form of changes of setting for designated assets, whilst a direct effect will be made upon a short section of the 'Roman Bank', and upon potential buried preserved organic remains and archaeological deposits within the central Principal Application Site and within / adjacent to The Haven.

Proposed mitigation measures are mostly related to the construction phase and consist of archaeological evaluation and monitoring works to ensure any potential archaeological remains are preserved by record.

8 Cultural Heritage

8.1 Introduction

8.1.1 This chapter of the Environmental Statement (ES) describes the existing environment in relation to Cultural Heritage and provides the assessment of the potential impacts during the construction, operation and decommissioning phases of the Boston Alternative Energy Facility ('the Facility'). Mitigation measures are specified, and where potential significant impacts were identified, a discussion of the likely residual impacts following mitigation are provided.

8.1.2 This chapter summarises the findings of the Cultural Heritage Desk Based Assessment (DBA) (**Appendix 8.1 Cultural Heritage Desk Based Assessment**), which compiles all baseline data and assesses how the setting of identified heritage assets affect their significance, along with what impact may be made upon the asset and its setting. The DBA is a point in time document written prior to amendments to the scheme design (as described in **Table 4-1** in **Chapter 4 Site Selection and Alternatives**), although the study area and the baseline is the same. As there is no material change to the significance of the impacts with respect to the updated scheme design, the DBA has not been updated. This chapter summarises the baseline data results in the DBA and details potentially significant impacts to heritage assets as a result of the scheme design. The conclusions of the impact assessment have not changed apart from the slight amendments to the Roman Bank as a result of the amendments to the scheme design.

8.1.3 The DCO application is accompanied by the **Outline Written Scheme of Investigation** (OWSI) (document reference 7.3) which is a separate standalone document that sets out the proposed approaches and commitments to archaeological survey and investigation to be put in place for the Facility.

8.1.4 The geophysical survey carried out in August 2020 after the DBA was completed supports the conclusions of the DBA, with the addition of the geophysical survey results indicating the presence of a probable palaeochannel, a possible medieval earthwork or natural slight rise in topography, a possible enclosure ditch, and two locations of possible burning or production activity. Whilst the overall conclusion was that the results do not suggest the presence of significant or extensive archaeological features, there are areas of potential interest. The geophysical survey report, results and figures are presented in **Appendix 8.2 Geophysical Survey Report: Boston Alternative Energy Facility**.

8.2 Legislation, Policy and Guidance

Legislation

8.2.1 The following are the national legislative requirements relevant to the Facility regarding the protection of nationally important heritage assets.

Ancient Monument and Archaeological Areas Act 1979

8.2.2 Under the terms of this Act, an archaeological site or historic building of national importance can be designated as a Scheduled Monument and is registered with the Department of Culture, Media and Sport (DCMS). Any development that might affect either the Scheduled Monument or its setting is subject to the granting of Scheduled Monument Consent. This act is further supported by a Scheduled Monuments & Nationally important but non-scheduled monuments Policy Statement (DCMS, 2013) which sets out the Government's current policy on the identification, protection, conservation and investigation of nationally important ancient monuments.

Historic Buildings and Ancient Monuments Act 1953

8.2.3 This act makes provision for the compilation of a register of gardens and other land which is considered to be of special historic interest. The Act covers the designation of Registered Parks and Gardens and Registered Battlefields.

Planning (Listed Building and Conservation Areas) Act 1990

8.2.4 Statutory protection for Listed Buildings and Conservation Areas, and their setting, is provided under this Act. A Listed Building is that which is seen to be of special architectural or historic interest and a Conservation Area comprises an area of special architectural or historic interest, the character or appearance of which is desirable to preserve or enhance.

8.2.5 A Listed Building may not be demolished, altered or extended in any manner which would affect its character without Listed Building Consent being granted. There are three grades of listing (in descending order of importance):

- Grade I: buildings of exceptional interest;
- Grade II*: particularly important buildings of more than special interest; and
- Grade II: buildings of special interest, warranting every effort to preserve them.

8.2.6 Other legislation relevant to the historic environment is:

- The Treasure Act 1996;
- The Burial Act 1857; and
- The Hedgerow Regulations 1997.

8.2.7 However, the latter two pieces of legislation are unlikely to be of relevance to the Facility, because there are no historic hedgerows identified within the Application Site and there is considered to be very low potential for human skeletal remains to be found. The Treasure Act could come into effect if there is a chance find of artefacts of significant value during archaeological mitigation works, but this is also considered a very low probability.

National Policy

National Policy Statement (NPS) for Energy

8.2.8 This policy (specifically EN-1 Overarching NPS for Energy (Department of Energy and Climate Change (DECC), 2011a) and EN-3 NPS for Renewable Energy Infrastructure (DECC, 2011b)) sets out the Government's policy for the delivery of nationally significant energy infrastructure. EN-1 Section 5.8 sets out the Government's stance on protecting the historic environment and assessing the impact of any new energy infrastructure. It states that in considering the impact of a proposed development on any heritage assets, the Planning Inspectorate should take into account the nature and significance of the assets and the value they hold. EN-3 Section 2.5.34 also states that when considering any impact on the historic environment, the Planning Inspectorate should take into account the positive role that large-scale renewable projects play in the mitigation of climate change and delivery of energy security.

National Planning Policy Framework (NPPF)

8.2.9 The NPPF (MHCLG, 2019) considers the importance of the historic environment in planning and development and sets out the Government's policies regarding development that affects the historic environment and informs the decision-making progress for planning authorities. It requires that proposals are fully assessed to help inform decision making. Provision for the historic environment is given principally in Section 16 'Conserving and enhancing the historic environment' (paragraphs 184-202), which directs local planning authorities to set out "*a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats*" (paragraph 185). In doing so, they should recognise that heritage assets are "*an irreplaceable resource and should be conserved in a manner*

appropriate to their significance" (paragraph 184).

Local Planning Policy

8.2.10 The South-East Lincolnshire Local Plan 2011-2036 was adopted on 8th March 2019 (South East Lincolnshire Joint Strategic Planning Committee, 2019). The historic environment section (Section 7.3) sets out the planning policies in place to protect and enhance the area's heritage. Specifically, Policy 29 states:

> *"To respect the historical legacy, varied character and appearance of South East Lincolnshire's historic environment, development proposals will conserve and enhance the character and appearance of designated and non-designated heritage assets, such as important known archaeology or that found during development, historic buildings, conservation areas, scheduled monuments, street patterns, streetscapes, landscapes, parks (including Registered Parks and Gardens), river frontages, structures and their settings through high-quality sensitive design."*

8.2.11 Similarly, the policy states that development proposals will only be permitted where they will:

- Not materially harm the heritage value of an asset or its setting;
- Avoid detrimental fragmentation of management of the asset; and
- Secure long-term future of the place.

8.2.12 Where a development proposal would affect the significance of a heritage asset (designated or non-designated), including any contribution made to its setting, it should be informed by proportionate historic environment assessment and evaluation.

8.2.13 Of note from the previous local plan (Boston Borough Council (BBC), 1999), no longer in use, is the requirement that there be no impediment of the view of St Botolph's church, known as 'Boston Stump':

> *"Planning permission will be granted for development provided it will not obstruct a public view of St Botolph's church, Boston or challenge the visual dominance of the church."*

8.2.14 This is not part of the newly adopted Local Plan, but is still considered relevant for the Facility, due to the Stump's visual dominance within the local area.

Guidance

8.2.15 The following guidance (**Table 8-1**) was used to inform this chapter and associated Cultural Heritage DBA (**Appendix 8.1**). The work was undertaken following guidance set out by the Chartered Institute for Archaeologists' (CIfA) *Standard and guidance for historic environment desk-based assessment* (CIfA, 2017).

Table 8-1 Historic Environment Guidance Referred to in the Production of this Chapter

Guidance	Relevance to assessment
The Historic Environment in Local Plans Historic Environment Good Practice Advice in Planning 1 (Historic England, 2015a)	This document details the procedures involved in the decision-making process for the historic environment at a local planning level, providing guidance for implementing the NPPF requirements in respect of the historic environment. Despite this being a Development Consent Order (DCO) project, guidance within the document is relevant to ensuring data and documentation for the historic environment is of the standard required.
Managing Significance in Decision-Taking in the Historic Environment Historic Environment Good Practice Advice in Planning 2 (Historic England, 2015b)	This document provides advice and guidance on the assessing of significance for heritage assets, and how to understand the nature, extent and level of significance. It provides guidance on how to understand the impact of a proposed development on that significance and how to identify ways to avoid, minimise or mitigate that impact which meets the objectives of the NPPF.
The Setting of Heritage Assets Historic Environment Good Practice Advice in Planning 3 (Historic England, 2017)	This document provides guidance on setting and development management, including on assessing the implications of development proposals. This industry-standard guidance document recommends a stepped (stage-based) approach for assessing the heritage setting implications of development proposals, as follows: Step 1: identify those heritage assets whose setting might be affected; Step 2: assess whether, how and to what degree setting makes a positive contribution to the value of those heritage assets; Step 3: assess the effect of the proposed development on the significance of those assets as a result of changes to setting; Step 4: maximise enhancement and minimise harm; and Step 5: make and document decisions and monitor outcomes.

8.3 Consultation

8.3.1 Consultation undertaken throughout the pre-application phase informed the approach and the information provided in this chapter. A summary of the consultation relevant to cultural heritage is detailed in **Table 8-2**.

Table 8-2 Consultation and Responses

Consultee and Date	Response	Chapter Section Where Consultation Comment is Addressed
The Planning Inspectorate Scoping Opinion July 2018	**Direct impacts on buried archaeological remains during operation:** The Scoping Report states that no physical impacts would occur on buried archaeological remains during operation. It is not clear from the information provided if this includes impacts from changes to groundwater, soils, or vibration associated with operation, should assets remain in situ following construction. The Inspectorate considers that there remains the potential for significant effects during operation of the Proposed Development if assets are retained in situ and does not agree to scope this matter out. Therefore, the ES should include an assessment of likely significant effects on retained buried remains during operation, if applicable.	**Section 8.8** Impact 1
	Direct Impacts on above ground assets during operation: There is insufficient information regarding the baseline and the predicted impacts of the Proposed Development in the Scoping Report to support a decision to scope this matter out. The ES should include an assessment of likely significant effects on above ground assets during operation where they occur.	**Section 8.8** Impact 3
	Baseline Data: The baseline assessment in the ES should be established using relevant data, to provide a robust basis for the assessment. Information should be sought from relevant consultation bodies where it is available, and the ES should clearly set out the baseline against which the assessment of effects has been made.	**Section 8.5**, **Section 8.6** and **Appendix 8.1**
	Sensitive Receptors:	**Figure 8.1** and **Appendix 8.1** and

Consultee and Date	Response	Chapter Section Where Consultation Comment is Addressed
	The Scoping Report identifies three key heritage constraints. The assessment in the ES should assess impacts to all relevant cultural heritage receptors where significant effects are likely to occur. The Applicant should make effort to agree the relevant cultural heritage receptors to include in the assessment with relevant consultation bodies. To aid the reader the ES should contain a figure depicting the location of the relevant cultural heritage receptors	**Section 8.7** (Impact Assessment Summary).
	EIA Approaches, Surveys: The Inspectorate considers that surveys may be required to understand the significance of cultural heritage assets and fully assess the potential for significant effects. These may include geophysical surveys, foreshore inspection, and photography of views. The Applicant should make effort to agree the details of such survey with relevant consultation bodies and the approach to the assessment and methods applied should be fully described in the ES.	**Section 8.6**, **Appendix 8.1 and Chapter 9 Landscape and Visual Impact Assessment**
	Mitigation measures: The ES must clearly describe the mitigation measures which form part of the Proposed Development and which address significant effects. The ES must set out the extent to which measures will be effective and how they are/will be secured in the DCO.	**Section 8.8** and **Appendix 8.1 Section 11.** The WSI (based on the OWSI) is secured as a requirement of the DCO.
	Study Area: The Scoping Report does not clearly state what the proposed study area is for the Proposed Development. The study area should be defined and justified in the ES. The study area should be sufficient to encompass the extent of the predicted likely significant effects, including those resulting from impacts to the setting of heritage assets i.e. by the use of an appropriate Zone of Theoretical Visibility. The Applicant should make effort to agree the study area with relevant consultation bodies. The study area should be depicted on a figure/figures within the ES.	The Study Area is defined and justified in **Section 8.5, paragraph 8.5.3.**

Consultee and Date	Response	Chapter Section Where Consultation Comment is Addressed
Historic England Scoping Response 4th July 2018	We […] consider it essential that the EIA process is sufficiently detailed for it to assist in identifying how the proposed [works] might be delivered sustainably without having serious adverse effects on designated heritage assets.	**Section 8.7** and **Appendix 8.1**
	EIA documentation to contain a thorough assessment of the likely effects which development might have upon those elements which contribute to the significance of heritage assets.	**Appendix 8.1**
Denise Drury, Senior Historic Environment Officer, Heritage Trust of Lincolnshire, Pre-PEIR Email discussions	Generally happy with the project's approach to Historic Environment. Further detail provided in following Heritage project meeting (see below).	Noted.
Section 42 Consultation Response – Historic England, 10th July 2019	Our previous pre-application advice is well reflected within the Preliminary Environmental Information Report. The scope of archaeological impacts to be considered is well framed although we should add that there may be additional scope for remains of historic vessels repurposed to form backside revetments or wharfs to exist.	Noted.
	In weighing applications that directly affect non-designated heritage assets, the NPPF requires a balanced judgement which has regard to the scale of any harm or loss of the heritage asset (paragraph 197). Part of this balance should be to, where possible, avoid or minimise the impact on heritage assets and then where avoidance is not possible mitigate. The current Preliminary Environmental Information Report does not fully examine the options for reducing the harm arising from the development which may include the repositioning of a development or its elements, or changes to its design i.e. can redesign remove the need to remove a section of the Roman Bank or reduce the length of the section which needs to be removed, or can the reposition of taller elements of the development reduce the impact on views to the Parish Church of St Nicholas. For some developments, the design of a development may not be capable of sufficient adjustment to	Heritage input into the masterplan has aimed to avoid or minimise harm to the historic environment wherever possible. This input is presented in **Section 8.7**.

Consultee and Date	Response	Chapter Section Where Consultation Comment is Addressed
	avoid or significantly reduce the harm, however the works which have led to this conclusion should be demonstrated.	
	As this application may also require a marine licence, Historic England would recommend that when it is submitted, the marine licence application is supported by the agreed WSI, and sufficient cultural heritage information (e.g. the cultural heritage chapter of the ES). This will allow Historic England staff (who are a statutory consultee to the Maritime Management Organisation licence process) to rapidly respond to this application. The absence of this information is likely to lead to delays.	An OWSI is provided as part of this application which presents the proposed further work for the Facility. A Deemed Marine Licence forms part of the DCO and as such there will not be a separate licence application.
	We also strongly recommend that you involve the Conservation Officers of the relevant local authorities and the archaeological staff at Lincolnshire County Council in the development of this assessment. They are best placed to advise on: local historic environment issues and priorities; how the proposal can be tailored to avoid and minimise potential adverse impacts on the historic environment; the nature and design of any required mitigation measures; and opportunities for securing wider benefits for the future conservation and management of heritage assets.	Local authority advice has been sought as part of the EIA process. A meeting was held between Historic England, LPA archaeological advisors and Royal HaskoningDHV heritage specialists to identify future programme of evaluation and mitigation (see below, **Section 8.15** and **the OWSI**).
Section 42 Consultation Response – Lincolnshire County Council (LCC), 1st August 2019	This site has not been subject to evaluation and the site-specific archaeological potential has not been determined. There is currently insufficient information to allow for an informed planning recommendation to be made.	Desk-based assessment has identified the surrounding geology is one of thick alluvial clays (**Appendix 8.1**). As

Consultee and Date	Response	Chapter Section Where Consultation Comment is Addressed
		such, professional experience and judgement identified that standard evaluation approaches are not as valuable as a phase of geoarchaeological assessment, which will be undertaken as set out in the OWSI.
	The desk-based assessment (Appendix 8.1) assesses the potential as low to moderate (A1.1.6) but no site-specific field evaluation has been undertaken to inform such a statement, nor is this lack of evaluation results included in the Assumptions and Limitations section. Without evaluation there is no evidence base information sufficient to inform the identification of significant deposits or to ascertain their extent. The absence of site evaluation means there is no evidence base for Chapter Cultural Heritage's Summary statement that the potential impacts on heritage assets are "negligible to minor adverse". (p40)	Professional experience and judgement identified this level. This has been supported by the geophysical survey and any impacts will be addressed through the proposed mitigation measures are presented in **Section 8.8** and **Appendix 8.1 Section 11,** and also summarised in **Table 8-11.**
	The proposed mitigation (A8.11.65 and Table A8.1.14, carried over to Table 8.11 in Chapter 8 Cultural Heritage) deals only with currently known archaeology and offers very limited and reactive mitigation measures – which include evaluation only in the event that archaeology is encountered during geotechnical works. This is entirely inappropriate and insufficient.	The proposed mitigation works are presented to be undertaken prior to construction and allow for time for further mitigation works. The mitigation covers potential

Consultee and Date	Response	Chapter Section Where Consultation Comment is Addressed
		archaeology and geoarchaeological assessment of geotechnical work is considered evaluation – trial trenching is considered of limited value. This work is presented in the OWSI and was discussed with stakeholders during the heritage project meeting.
	It would be expected that the EIA to contain sufficient information on the archaeological potential to inform a reasonable evaluation strategy to identify the depth, extent and significance of the archaeological deposits which will be impacted by the development. The results of these are required in order to inform mitigation in a meaningful way to produce a fit for purpose strategy which will identify what measures are to be taken to minimise the impact of the proposal on archaeological remains.	The DBA provides substantial evidence for the current archaeological potential of the local area and professional experience would suggest limited potential. However, the identified evaluation strategy as agreed with stakeholders will provide further detail. This work is presented in the OWSI.
	As it stands the supporting documents are not in accordance with the requirements of the NPPF or EIA Regulations. The National Planning Policy Framework states that 'Where site on which development is proposed includes or has the potential	A requirement for intrusive evaluation work is identified within the impact

Consultee and Date	Response	Chapter Section Where Consultation Comment is Addressed
	to include heritage assets with archaeological interest, local planning authorities should require developers submit an appropriate desk-based assessment and, where necessary, a field evaluation (para 189).	assessment (see **Section 8.7**) and the OWSI**.**
	The Environment Impact Assessment should include a reasonable and appropriate level of evaluation to allow sufficient understanding of the archaeological potential which will be impacted by the proposal in order to allow for an informed planning recommendation to be made.	
Historic England Response, following Heritage Stakeholder Meeting, Email discussions (October 2019)	Following the Heritage Stakeholders meeting on 4th October 2019, the proposed mitigation pre-consent is to include geophysical survey, namely in the form of magnetic survey, and followed by low-frequency electromagnetic methods. These methods are suggested due to the alluviated conditions of the proposed Facility site. The magnetometry is proposed to result in the identification of the old river channel and any shallow subsurface remains, as well as any rich 'peaty' areas or pockets within the upper clays of the site, with the electromagnetic survey potentially providing more depth to the results and identify possible buried land surfaces below the alluvium, as well as some broad depth information for the deposits.	A requirement for intrusive evaluation work is identified within the ES and the OWSI. The results of the geophysical survey that was conducted in August 2020 is discussed in **Section 8.7** of the ES.
Historic England Response, Consultation advice – 24th October 2019	Following the PEIR Consultation, Historic England were contacted in response to their PEIR consultation comments. The response stated their concerns over the visual impact of a new structure to the background of 'the Boston Stump' - St Botolph's Church and would have an impact on the long-distance appreciation of the dominance of the Stump. It was suggested that further long-distance photomontages are provided from Tattersall Castle to the north of Boston (approximately 20km), and similar points on the higher ground to the north/north-west.	The change in a wide landscape view from the castle towards Boston would not be noticeable. The setting of St Botolph's Church is discussed in **Section 8.8** and **Section 8.9**.
Historic England Response, Consultation advice – 20th August 2020	Historic England were contacted to provide further advice on the Boston Alternative Energy Facility, with the response stating they do not wish to offer any further comments at this stage, and that it is not necessary for Historic England to be consulted on the application again, unless there are material changes to the proposals.	Point noted.

8.4 Assessment Methodology

8.4.1 The following methodology for the Cultural Heritage Impact Assessment is applicable to the assessment of the construction, operational and decommissioning phases of the Facility. Parts of this approach differ from the methodology detailed in **Chapter 6 Approach to EIA** and are therefore described in detail below.

Sensitivity

8.4.2 The first stage of an impact assessment for the historic environment is to identify the key heritage assets which may be impacted. This is done initially through a desk-based baseline assessment (undertaken within the Cultural Heritage DBA; **Appendix 8.1**). Following further consideration, including site visits and surveys, these assets are then given a sensitivity (or heritage significance/importance value), assigned broadly based on definitions and examples such as those tabulated below (**Table 8-3**).

8.4.3 Defining the significance (or importance) of a heritage asset is achieved by the perceived magnitude of the effect on the asset, assessment and qualified by professional judgment of its local, regional, national and international context, as well as considering the sum of all the values that make the asset important. This can be established by incorporating the evidential, archaeological, historic, aesthetic, architectural and communal heritage values of an asset. The evidence for some heritage assets, particularly non-designated buried archaeological remains, is often an incomplete picture due a lack of data on the remains (i.e. from a lack of intrusive investigations, ground truthing and associated reporting). Thus, the categories and definitions of importance (incorporating heritage significance) do not necessarily reflect a definitive level of importance of an asset. Where uncertainty occurs, the precautionary approach is to assign high importance (or significance); this is good practice in impact assessments which reduces the potential for impacts to be under-estimated. Judgements on heritage significance, therefore, should be regarded as providing a preliminary significance level based on available information.

Table 8-3 Definitions of Sensitivity (Importance), incorporating Heritage Significance

Sensitivity (Importance), incorporating Heritage Significance	
High (perceived International / National Importance)	For example: World Heritage Sites; Scheduled Monuments; Grade I, II* and II Listed Buildings or structures; Designated historic landscapes of outstanding interest; and Conservation Areas containing very important buildings. Assets of acknowledged international / national importance. Assets that can contribute significantly to acknowledged international / national research objectives.

Sensitivity (Importance), incorporating Heritage Significance	
	Significance is related to an outstanding level of evidential, archaeological, historic, aesthetic, architectural and communal heritage interest, or combination of these values.
Medium (perceived Regional Importance)	For example: 'Locally Listed' buildings or structures; Conservation Areas containing buildings that contribute significantly to its historic character; and Designated historic landscapes of special interest. Assets that contribute to regional research objectives. Assets with regional value, educational interest or cultural appreciation. Significance is related to a high level of evidential, archaeological, historic, aesthetic, architectural and communal heritage interest, or combination of these values.
Low (perceived Local Importance)	For example: Assets that contribute to local research objectives Assets with local value, educational interest or cultural appreciation. Assets that may be heavily compromised by poor preservation and/or poor contextual associations. Significance is related to a certain level of evidential, archaeological, historic, aesthetic, architectural and communal heritage interest, or combination of these values.
Negligible	For example: The nature, form, level of survival, condition or ability to appreciate the asset or similar, means that it cannot be assigned heritage asset status in its own right. Assets with no significant value or archaeological / historical interest.

Magnitude

8.4.4 The classification of the magnitude of effect (**Table 8-4**) on known heritage assets takes account of such factors as:

- The physical scale and nature of the anticipated impact; and
- Whether specific features or evidence would be lost that are fundamental to the historic character and integrity of a given asset, and its understanding and appreciation.

8.4.5 The finite nature of archaeological remains means that physical impacts are almost always adverse, permanent and irreversible; the 'fabric' of the asset and, hence, its potential to inform our historical understanding, will be removed.

Table 8-4 Definitions of Magnitude

Magnitude	Definition
High	Total loss of or substantial harm to an asset.
Medium	Partial loss of, harm to or alteration of an asset which will affect its significance.
Low	Minor loss of or alteration to an asset which leave its current significance largely intact.
Negligible	Minor alteration to an asset which does not affect its significance in any notable way.
None / Nil	No alteration to an asset.

Impact Significance

8.4.6 Based on the sensitivity of the receptor and magnitude of the potential impact, the significance of effect is determined according to the matrix presented in **Table 6-1** of **Chapter 6 Approach to EIA**.

8.4.7 The significant effects in EIA terms are those that are of **major**, **major / moderate** and **moderate adverse** significance. All other outcomes are not considered significant for the purpose of EIA assessment. In addition, whilst **minor** effects are not significant in their own right, it is important to distinguish these from other non-significant (**negligible**) effects as they may contribute to significant effects cumulatively or through interactions between heritage assets or elements of the historic environment (or historic landscape).

8.4.8 Both direct physical and indirect non-physical (e.g. visual or setting) effects on heritage assets are relevant and are assessed. Effects can be either adverse or beneficial to an asset, whilst the effect can be temporary and/or reversible or permanent and/or irreversible.

8.4.9 The potential for positive (beneficial) effects regarding the historic environment relates to the public value of the asset. Benefits can be in improving access to an asset or improving its setting. Similarly, benefits can occur through data gathering involved in the project which would increase public appreciation or understanding of the asset.

Cumulative Impact Assessment (CIA)

8.4.10 For a general introduction to the methodology used for the CIA, please refer to **Chapter 6 Approach to EIA**. This chapter will focus on those cumulative impacts that are specific to cultural heritage.

8.4.11 The CIA has taken account of current development taking place within the study area, as advised by the Planning Inspectorate within the Scoping Opinion. The CIA has considered proposed developments within the local area which were

identified by BBC.

8.4.12 This section of the assessment will concentrate on any interactions between the Facility and these other developments.

Transboundary Impact Assessment

8.4.13 As the Facility is not located near to an international boundary, Transboundary Impact Assessment is not relevant to this chapter and not considered further.

8.5 Scope

Study Area

8.5.1 The study area is illustrated on **Figure 8.1**. For the purposes of this chapter, all grades of Listed Building and all non-designated heritage assets (findspots, known buried remains from previous archaeological works, non-Listed Buildings of historical merit) were assessed within a 1 km study area of the Facility.

8.5.2 All Scheduled Monuments, Grade I and II* Listed Buildings and Conservation Areas within 3 km of the Facility have been chosen for inclusion, as this gives the opportunity to easily identify any significant impacts the Facility may have on these major heritage assets (chiefly how setting and viewpoints to / from may be affected). Attention has been paid to assets of significant vertical dominance, as these will be more likely to have potential to 'compete' visually with the Facility.

8.5.3 These study areas were selected as it allowed for the impact upon non-designated heritage assets to be assessed, whilst also allowing for the nationally significance heritage assets within the wider environment (e.g. St Botolph's church), to be included with the Settings and Impact Assessments.

8.5.4 The Zone of Theoretical Visibility (ZTV) results presented in **Chapter 9 Landscape and Visual Impact Assessment** were used to help inform which heritage assets may be affected. The ZTV results indicate the Facility would have no significant visual effects beyond 2 km with any notable visual effects being within 1 km. The ZTV figure was used to identify which heritage assets would have potential visibility of the Facility. These were then selected to take forward for setting assessment.

Data Sources

8.5.5 The assessment was undertaken with reference to several sources provided in **Table 8-5**. These sources include data on designated heritage assets (Listed Buildings, Scheduled Monuments, designated wrecks), non-designated heritage assets (archaeological features, findspots, Conservation Areas, recorded ship

losses and other wrecks) as well as information on previous archaeological mitigation works (archaeological surveys, watching briefs, evaluations and excavations).

Table 8-5 Key Information Sources

Data Source	Details
Records of non-designated heritage assets from the Lincolnshire Historic Environment Record (LHER)	Data as pdf. Reports and GIS files obtained from Lincolnshire County Council (LCC)
National Heritage List for England (NHLE)	Accessible at: https://historicengland.org.uk/listing/the-list/
Records of heritage assets and archaeological works from ARCHSEARCH Online	Accessible at: http://archaeologydataservice.ac.uk/archsearch/basic.xhtml
The Lincolnshire Historic Landscape Characterisation	https://www.lincolnshire.gov.uk/residents/environment-and-planning/conservation/archaeology/lincolnshire-historic-landscape-characterisation-project/70142.article
Historic Mapping	Accessible at: https://maps.nls.uk/

Baseline Conditions

8.5.6 The baseline data forming part of this chapter (i.e. as detailed in the Cultural Heritage DBA, **Appendix 8.1**) were compiled through collation of data within a 3 km buffer of the Facility, identified from the sources described in **Table 8-5**. All data were mapped in GIS and a gazetteer of all heritage assets within the study area was produced, as well as Figures mapped with all known heritage assets (**Figure 8.1**, **Figure A8.1** and **Figure A8.2**). These data include all known designated and non-designated assets, as well as potential assets that may be within the Application Site (e.g. buried archaeological remains).

Walkover Survey

8.5.7 Following the compilation of the historical and archaeological baseline, a site walkover covering the Principal Application Site was conducted on 9th October 2018 to assess for any visible evidence of unknown heritage assets within the Principal Application Site, as well as any modern disturbance that may have impacted the area. Furthermore, heritage assets identified as possibly being impacted were also visited to assess their setting and identify if the construction and operation of the Facility would impact on these assets or their setting.

Assumptions and Limitations

8.5.8 The LHER is not a complete record because it relies on non-designated assets

being recorded and reported. The amount of records within the LHER depends upon how much archaeological work and surveys have been done in an area and whether findspots have been reported. Similarly, unknown heritage assets are being found regularly, during new developments or from new local research. As such, the LHER is not a final record and does not preclude further assets being found in the future.

8.5.9 Where the extent of archaeological deposits is unknown, impact was assessed on the potential for well-preserved deposits. This was based on appraisal of the site conditions for preservation, evidence from previous surveys in the area and evidence within the baseline assessment of other similar locations within the vicinity.

8.5.10 Assessing the potential impacts upon views or setting of an asset was not undertaken from The Haven, instead being assessed from the banks of the river.

8.5.11 Heritage stakeholders consulted as part of the scoping process were in agreement with the assessment methodology adopted, notwithstanding the above limitations (**Section 8.3**).

8.6 Baseline Conditions

8.6.1 This section summarises the baseline conditions against which impacts were assessed. A full assessment of baseline data, all heritage assets and assessment of the key heritage assets' setting can be found in **Appendix 8.1**. The below section describes the heritage assets which were identified as key assets for the Facility.

Topography and Geology

8.6.2 The Application Site is situated in Skirbeck Quarter, 2.3 km to the south-east of Boston's historic core, directly west of the tidal stretch of the River Witham (known as The Haven) and south of the Port of Boston. The Principal Application Site is situated at approximately 3 m above Ordnance Datum (AOD) and the British Geological Survey (BGS) (BGS, 2018) records Upper Jurassic Ampthill clay overlain by glacial till deposits within the area. This till is in turn overlain by thick alluvial clays, formed by marine inundations prior to fenland reclamation in the medieval period. Peat layers dated to the middle Neolithic period were found at a depth of 5 to 11 m below the current ground surface, overlain by and interleaved in these alluvial deposits (**Appendix 8.1**).

Key Heritage Assets

8.6.3 The following is a summary of the key heritage assets (**Figure 8.1**) that were

identified as having the greatest potential to be impacted by the Facility. This was done through a comparison of the ZTV and the location of designated heritage assets, as well as identification of potential or known non-designated heritage assets in the vicinity. Again, a comprehensive assessment of the assets and their setting is found in the supporting Cultural Heritage DBA (**Appendix 8.1**).

8.6.4 No designated heritage assets are within the Application Site. A total of six Listed Buildings are within 1 km, whilst four Scheduled Monuments and a further 22 Grade II* and I listed structures are found within 3 km. Non-designated assets within 1 km are predominantly medieval to modern in date, in the form of buried deposits associated with farmsteads. The most significant non-designated asset in terms of the development is the 'Roman Bank'. This extant, currently poorly dated (through documentary evidence), earthwork passes through the centre of the Principal Application Site, consisting of a c.2 m high earthen flood bank. Documentary research suggests it could be of Anglo-Saxon origin, although no archaeological evidence has been found for this within the local area. A Public Right of Way (PRoW) follows the top of Roman Bank. The 12 key designated and non-designated assets that are identified as having the greatest potential to be impacted by the Facility are described further below.

8.6.5 **Wybert's Castle** (Reference RHDHV01 in **Appendix 8.1**): This Scheduled Monument consists of a medieval moated site covering approximately 200 m^2. The central island inside the moat is raised above the surrounding land. Excavations in 1959-60 found evidence for 12th to 13th century occupation. As a Scheduled Monument with significant research value, this asset is deemed to be of **high** value.

8.6.6 **St Botolph's Church** (RHDHV26): This Grade I Listed church is a landmark for the region, dominating views in the vast fenland surrounding Boston. The church tower is the tallest parish church tower in England and was built in the 14th century. The tower is known as the 'Boston Stump' and is of significant local and regional historical importance. As a Grade I Listed Building of regional and national importance, this asset is deemed to be of **high** value.

8.6.7 **Church of St Nicholas, Skirbeck** (RHDHV07): This Grade II* Listed church has 13th century origins. It is at a prominent position on the northern bank of The Haven, at its junction with Maud Foster Drain. The church can be seen from some distance along the banks of The Haven. It is probable that it would have been a navigation marker in the past, used in conjunction with St Botolph's Church tower (RHDHV26). Due to it being a historical landmark and of architectural interest, the significance of this asset is deemed to be **high**.

8.6.8 **Skirbeck Conservation Area** (RHDHV31): Designated in 1969, the area covers St Nicholas' Church and churchyard, Skirbeck Hall and grounds, 80-86 Fishtoft Road, and extends to The Haven's foreshore, including Maud Foster Sluice (RHDHV07). Modern developments in and around Skirbeck Hall have reduced the area's historic character, with the residential development not being particularly sensitive to the historic architecture. Views out of the Conservation Area across The Haven are limited by tree cover along Fishtoft Road, although wide-reaching views can be made from behind the church. Due to the impacts of modern development upon the character of the Conservation Area, this is a **medium** value asset.

8.6.9 **Maud Foster Sluice** (RHDHV06): This mid-19th century sluice is located at the southern end of Maud Foster Drain, which exits into The Haven. It is constructed of Gritstone with three elliptical archways. The structure is Grade II Listed. Due to this designation and its location within Skirbeck Conservation Area, it is deemed to be of **high** significance.

8.6.10 **Slippery Gowt Sluice** (RHDHV05): this is a well-preserved example of an early modern sluice that is Grade II Listed, designating it as a structure of special architectural and historical significance and so deemed to be of **high** significance. The Sluice was constructed in the mid-18th century, for the Court of Sewers, and built of red brick. It is currently situated south of the historic Boston landfill, with views southwards across open farmland.

8.6.11 **Wyberton Conservation Area** (RHDHV33): The Church of St Leodegar and Wyberton Park fall within the Wyberton Conservation Area. This area has a distinctly English country village characteristic, with a focal point of the church and lack of major development within the core adding to an appreciable historic setting. It is deemed to be of **medium** significance.

8.6.12 **The Roman Bank** (RHDHV65): This long running section of earthwork survives for approximately 4 km, heading south-eastwards from Boston and passes through the Principal Application Site. The bank is also associated with a known bank that can be traced extending into Norfolk, forming an early sea wall. A section of comparable bank is also evident on the northern side of The Haven. This asset is non-designated and considered to be of local historical and archaeological interest. The asset's date of origin is currently unclear, although if an Anglo-Saxon or medieval date could be confirmed it may be a significant heritage asset for the local region and provide further information for these poorly understood early flood defences. It is also known as 'Sea Bank'. As a non-

designated upstanding earthwork, it is deemed to be of **medium** significance.

8.6.13 **Prehistoric peat and historic alluvium** (RHDHV66): Evidence for prehistoric peat deposits was identified within the vicinity, during works for the Boston Barrier project. These were found at approximately 8 m below the current ground surface, overlain by alluvial clay deposits deposited over the past five millennia through marine inundation. These alluvial deposits were also encountered during archaeological evaluation for the adjacent Biomass UK No. 3 facility. No remains of archaeological significance have currently been identified within the alluvium, but this does not preclude their presence. This alluvial build up is evident throughout the local area, seen within the deposit mapping undertaken as part of the technical report (**Appendix 8.1**, **Section 7**), where all boreholes reviewed showed the local geology is made up of anywhere from 5 m to 11 m of alluvium. It is evident that these deposits could be within the Principal Application Site and they could contain preserved archaeological remains (RHDHV96, see below). This asset has a potentially **high** significance.

8.6.14 **The Haven mud banks** (RHDHV90): These mudbanks were noted on either side of The Haven's channel during low tide and are far reaching, continuing along The Haven towards the Wash. They form an integral part to the channel, and the wider area's historic landscape character. No foreshore remains (RHDHV91, see below) were seen during the site visit on the southern bank, but the anaerobic conditions of the banks would aid in the preservation of organic remains, similar to the known alluvial deposits within the area (RHDHV66). This asset has a **low** significance although has the potential to contain foreshore remains (RHDHV91) of **high** significance.

8.6.15 **Potential foreshore remains** (RHDHV91): The only foreshore remains identified during the site visit were a grouping of stakes within the mudbanks on The Haven's southern bank. A date for these remains is unknown, although a brief visual inspection indicated they were not of particular age. It is evidence for the preservation quality of the mudbanks however, suggesting that it is possible that remains of archaeological merit could survive within the lower layers of The Haven's mudbanks and the lower alluvial deposits. As part of these potential remains, remains of historic vessels repurposed to form backside revetments or wharfs could exist, although no evidence for these was seen on-site. These potential assets are of potentially **high** significance.

8.6.16 **Buried archaeological remains** (RHDHV96): This 'asset' encompasses a number of possible archaeological remains that could be found within the Application Site, and cross-references with the prehistoric peat deposits, historic alluvial deposits and foreshore remains (RHDHV66 and RHDHV91). Any possible

buried remains within the Application Site, in the form of either preserved material within the alluvium, or features cut into the alluvium, such as infilled ditches, could be impacted by piling or open-cut excavation of a depth deeper than the overlying topsoil. The remains potentially within alluvial deposits could range from natural organic remains of geoarchaeological interest (peat deposits, natural wood, etc.) to the remains of any hulks that could survive in the original route of The Haven. This asset has potentially **high** significance.

Anticipated Evolution of the Baseline Condition

8.6.17 If no development was to take place, it is expected that potential archaeological remains within the Application Site would stay in a stable preservation state. Erosion of The Haven tidal mud flats would continue to occur through scouring, which may result in erosion of deposits and finds of archaeological significance within the channel.

8.6.18 The geophysical survey was conducted by Magnitude Surveys Ltd and comprised of both a fluxgate magnetometer survey and an electromagnetic survey. As identified during consultation with the heritage stakeholders, a geophysical survey was conducted on specific areas within the Principal Application Site: the areas of the lightweight aggregate (LWA) plant within the east of the site (Area 1), the area of the main thermal treatment plant within the south (Area 2), and the laydown areas within the west (Area 3 and 4). The magnetic survey commenced on 11th August 2020 for two days and the electromagnetic survey commenced on 17th August 2020 for two days, with the objective to assess the subsurface archaeological potential of the survey area. The geophysical survey report, results and figures are presented in **Appendix 8.2 Geophysical Survey: Boston Alternative Energy Facility** and are summarised below.

8.6.19 The magnetic survey was affected by a highly magnetically contrasted topsoil, related to the soil and water chemistry of the survey environment, however anomalies of anthropogenic origin could be identified. These include a possible enclosure ditch (**Appendix 8.2: Figure 10**) and two locations of possible burning or production activity (**Appendix 8.2: Figure 7**). The location of these anomalies being close to the field edges, and the strongly contrasted background of the survey area made it difficult to suggest a possible date, and therefore degree of possible archaeological significance.

8.6.20 Other anomalies interpreted as ditches and made ground have corresponding anomalies within the electromagnetic data and are more secure in their interpretation.

8.6.21 The electromagnetic data also allowed the identification of a probable

palaeochannel in the underlying sediments within the southern half of Area 2 (**Appendix 8.2: Figures 13**, **15** and **17**). Cutting across the north-east corner of the Principal Application Site, passing through Areas 1, 3 and 4 (**Appendix 8.2: Figure 2**), a potential spur or unmapped extension of a known medieval earthwork or a natural slight rise in the topography that was exploited to build this (**Appendix 8.2: Figures 12**, **14** and **16**). Bisecting Area 2 (**Appendix 8.2: Figure 13**) from east to west, there is a strong linear anomaly interpreted as a canalised or ploughed-out drainage ditch or stream. Lastly, only one of the linear anomalies is interpreted as a service (**Appendix 8.2: Figure 17**), thought to carry water or another liquid rather than cabling, carried within plastic or concrete piping.

8.6.22 Overall, the results of the geophysical survey do not suggest the presence of 'significant' or extensive archaeological features given that we do not know the significance to the surrounding area, however there are areas of potential interest.

8.7 Impact Assessment Summary

8.7.1 The sections below summarise the identified potential impacts on designated and non-designated heritage assets as a result of the Facility. For a full assessment and discussion of each identified key heritage asset's setting, significance and impacts upon them please see the Cultural Heritage Technical Report (**Appendix 8.1**).

8.7.2 The identified impacts for the Facility are:

- **Impact 1**: Direct impact to potential buried archaeological remains;
- **Impact 2**: Indirect impact upon setting of designated heritage assets;
- **Impact 3**: Direct impact upon above ground heritage assets; and
- **Impact 4**: Indirect impact upon setting of recorded non-designated assets.

8.7.3 Potential impacts as a result of changes to physical process (e.g. changes in sedimentation/erosion within The Haven) were assessed and correlated with **Chapter 16 Estuarine Processes**. No impact/change in the baseline was identified in **Chapter 16 Estuarine Processes**, due to the current estuarine environment, and so is not considered further in this chapter (this is further discussed in Impact 1B in **Section 8.8**).

8.7.4 The identified impacts are discussed below, asset by asset, in detail for construction phase, with additional assessment of operation and decommissioning also identified. All predicted impacts upon each asset are summarised within **Table 8-10** at the end of this chapter.

Embedded Mitigation

8.7.5 As part of the Facility's design, several embedded mitigation measures have been proposed to reduce potential impacts on cultural heritage. These measures are considered standard industry practice for this type of the development.

8.7.6 The design of the Facility indicates that the structure's visual impact will be reduced through the use of standard profile cladding on external walls, with a muted colour palette. All potentially odorous elements taking place within the Facility buildings will operate under negative pressure, reducing any impact by odour on the setting of any assets. Furthermore, lighting within the grounds of the Facility will be designed to a specification which will minimise the visual impact of the Facility during the evening and night (see **Chapter 5 Project Description**). This will be confirmed as part of the final detailed design, in consultation with stakeholders. In accordance with requirements 9 and 10 of the DCO, best practice construction methodology will be applied to minimise noise and ensure limited impact during the construction phase, in accordance with British Standard (BS):5228 'Code of Practice for Noise and Vibration Control on Construction and Open Sites' (see **Chapter 10 Noise and Vibration**).

8.7.7 Heritage input into the design of the layout of the Facility has been provided, to ensure avoidance of impact to the historic environment where possible. This input includes advice on the embedded mitigation described above and in **Chapter 5 Project Description** has been designed with historic environment in mind, particularly in minimising any potential impacts to the setting of nearby heritage assets.

Worst Case

8.7.8 This section establishes the Worst Case Scenario (WCS) for the construction, operation and decommissioning of the wharf and Facility, forming the basis for the subsequent impact assessment.

8.7.9 Full details of the range of development options being considered are provided within **Chapter 5 Project Description**.

8.7.10 For the purpose of this chapter, only those design parameters with the potential to influence the impact of known and potential heritage assets are identified. Therefore, if the design parameter is not described below in **Table 8-6**, it is not considered to have a material bearing on the outcome of this assessment.

Table 8-6 Worst Case Assumptions

Impact	Parameter
Construction	
Impacts related to proposed wharf	• Earthworks relating to wharf construction (approximately 400 m). Involves excavation and replacement of The Haven's flood bank and dredging of the waterway to create the berthing pocket for the wharf. • Construction of c.300 piles to 15-20 m deep. • Dredging of The Haven to create a berthing pocket.
Impacts related to main Facility	• Construction of piles c.15-20 m deep. • Construction of refused derived fuel (RDF) Storage Areas. • Groundwork for conveyor belt. • Construction of three chimney stacks for the Energy from Waste (EfW) and two for the lightweight aggregate (LWA) facility currently with a working height of 80 m. • Site Application footprint of 25.3 hectares (ha).
Impacts related to infrastructure	• Groundworks for installation of further buildings, roads and associated services. • Temporary work areas (compounds).
Impacts related to the Habitat Mitigation Area	• Groundworks for the creation of up to x4 shallow pools (max 15 cm deep) and re-profiling of existing pools and bank. Use of x1 long arm excavator on site for a period of up to 1 week.
Operation	
Wharf	• Potential scouring/silting and associated protection. • Additional lighting during evening/night. • Noise. • Increased shipping traffic. • Maintenance dredging of the Haven around wharf. • Changes in water table from piling affecting preservation of organic remains.
Facility	• Additional lighting during evening/night. • Noise. • Changes in water table from piling affecting preservation of organic remains.
Decommissioning	
Demolition of Facility	• Demolition and associated ground works. • Change of viewpoints within area. • Removal of piles, disturbance of surrounding deposits.

8.8 Potential Impacts during Construction

Impact 1: Direct Impact on (Permanent Change to) Potential Buried Archaeological Remains

8.8.1 These remains consist of the prehistoric peat and historic alluvial deposits, tidal mudflats, potential foreshore remains (RHDHV66, RHDHV90 and RHDHV91

Figure 8.1) and potential buried archaeological remains (RHDHV96). Without further investigation, these potential archaeological remains should be regarded as being of high heritage importance (as a WCS), as a precautionary approach which is standard practice for impact assessments.

8.8.2 The construction of the Facility may result in impacts on buried remains, if present, through their removal via groundworks and installation of piles associated with the wharf, Habitat Mitigation Works and Principal Application Site. A professional judgement on the likely sensitivity (heritage significance) of the potential buried archaeology is based on the DBA work undertaken to-date. However, until such remains are encountered their actual heritage significance is unknown and, therefore, there is the potential for the heritage significance to change (increase or decrease) following any pre-construction evaluation works which will provide further detail on the significance of any buried archaeological remains, if present. These updates to significance, and therefore potential adverse impacts, will be presented within any reports which detail the results of the evaluation. The mitigation presented in the OWSI is based upon the worst case scenario that major adverse impacts are possible, for example in the event that buried archaeology of high heritage significance is encountered.

8.8.3 Mitigation is discussed for each heritage asset separately, but an overall mitigation strategy for the Facility is discussed within the Cultural Heritage DBA and summarised in **Table 8-11**. Methodologies for this work are detailed within the OWSI covering all archaeological works (onshore and marine), which has been produced following consultation with stakeholders from LCC, Heritage Lincolnshire and Historic England. Any marine archaeology works will follow standards and Model Clauses associated with Marine Archaeology WSI's (Wessex Archaeology, 2010).

Impact 1A. Prehistoric Peat Deposits and Historic Alluvium (RHDHV66): Non-Designated Asset, 500 m North-West

8.8.4 Evidence for prehistoric peat deposits was identified within the locality during works for the Boston Barrier project. These were found at approximately 8 m below the current ground surface, overlain by alluvial clay deposits deposited over the past five millennia through marine inundation. These alluvial deposits were also encountered during archaeological evaluation as part of Biomass UK No. 3 facility. No remains of archaeological significance have currently been identified within the alluvium, but this does not preclude their presence. This alluvial build up is evident throughout the local area, seen within the deposit mapping undertaken as part of the Cultural Heritage DBA (**Appendix 8.1**, **Section A8.7**), where all boreholes reviewed showed the local geology is made up of anywhere

from 5 m to 11 m of alluvium. There is high potential, therefore, for these deposits to also be present within the Facility footprint and that these deposits could contain preserved palaeoenvironmental remains (RHDHV96, see below).

8.8.5 Impact upon these potential palaeoenvironmental remains could be made during the construction of the Facility and wharf, through the installation of piles to form the foundations for both. The current depth of these piles is estimated to be 15 to 20 m deep. These piles will have a limited footprint relative to the spread and depth of the alluvial deposits and any possible peat, but there is still potential for impact. A further possible impact may arise due to changes in water level as a result of piling. Piling can cause changes to site hydrology, potentially lowering the water table and damaging waterlogged deposits. Changes to hydrogeology were assessed in **Chapter 11 Contaminated Land, Land Use and Hydrogeology** (Impact 3: Impact on Groundwater Quantity), which also identified mitigation measures.

Magnitude of Impact

8.8.6 It is deemed that the Facility could result in a **high** magnitude of impact upon any palaeoenvironmental remains which may be present within these deposits. This is due to the damage and/or disturbance that could be caused through piling and changes in hydrogeology causing changes in preservation of the remains. This impact would be mostly localised around the piles and pile caps.

Heritage Significance (Sensitivity)

8.8.7 These palaeoenvironmental remains have the potential to be of **high** significance, with the potential to contribute to an understanding of the development of prehistoric and historic environments around Boston.

Significance of Effect

8.8.8 Based on professional judgement, as the remains may be permanently destroyed or damaged, it is deemed that the development could have a **major adverse** effect upon palaeoenvironmental remains which may be present within these deposits.

Mitigation Measures

8.8.9 Proposed mitigation measures for buried remains of geoarchaeological interest will consist of phases of on-site monitoring and archaeological recording. These will be undertaken from the design phase of the Facility onwards:

- Geoarchaeological assessment of any ground investigation works undertaken as part of the development;

- Dependant on the results of geoarchaeological assessment, a phase of archaeological trial trenching should be implemented across the site; and
- Archaeological monitoring of piling, or excavation of pile caps should be employed to record any further remains revealed during the works.

Residual Effects

8.8.10 Following the implementation of the mitigation, any potential geoarchaeological remains will be preserved by record and thus the residual effect would be **minor adverse (not significant)**, whilst furthering understanding of Boston's history can be seen as beneficial.

Impact 1B. The Haven Mudbanks (RHDHV90): Non-Designated Asset

8.8.11 These mudbanks were noted on either side of The Haven's channel during low tide and are far reaching, continuing along The Haven towards The Wash. They form an integral part to the channel, and the wider area's historic landscape character. No foreshore remains (RHDHV91: see below) were seen during the site visit on the southern bank, but the anaerobic conditions of the banks could aid in the preservation of palaeoenvironmental remains and organic archaeological material, similar to the potential alluvial deposits within the area (RHDHV66). These mudbanks change over time, increasing in depth and also being eroded by the fluvial action of water released from the Maud Foster Sluice, Black Sluice and Grand Sluice.

8.8.12 A c.400 m section of the mudbanks on the southern bank of The Haven may be removed/dredged during the construction of the berthing pocket for the wharf. Similarly, there is potential for changes to sediment transport during the construction of the wharf which could affect preservation of remains within the mudbanks. However, it is identified in **Chapter 16 Estuarine Processes** that there will be no impact from scouring due to current baseline estuarine processes and so this impact is not considered further.

Magnitude of Impact

8.8.13 The development could have a **high** magnitude of impact upon geoarchaeological or archaeological remains within the mudbanks, due to the potential dredging and/or excavation of a 400 m section for construction of the wharf.

Heritage Significance (Sensitivity)

8.8.14 These mudbanks form an integral part of The Haven's historic character, but do not add to our particular understanding of the local area's history, and as such are of **low** significance, although potential archaeological remains preserved within

them could be of **high** significance (see Impact 1C, below).

Significance of Effect

8.8.15 The predicted impact of the Facility, given the magnitude of the impact and the significance of the asset, is deemed to be of **moderate adverse** significance due to the removal of the mudbanks within the wharf area. Impacts upon preserved archaeological remains within the mudbanks would, however, be **major adverse** (see Impacts 1C and 1D, below).

Mitigation Measures

8.8.16 Mitigation measures for this asset will also correlate with measures taken for the other (potential) buried remains. These are:

- Mitigation in the form of recording any preserved foreshore remains (RHDHV91, see below) would also record depths of mudbank material that is preserving them.

Residual Effects

8.8.17 Following implementation of the mitigation (preservation by record), the residual effect can be considered **minor adverse (not significant)**.

Impact 1C. Foreshore Remains (RHDHV91): Non-Designated Asset

8.8.18 The only foreshore remains identified during the site visit were a grouping of stakes within the mudbanks on The Haven's northern bank. A date for these remains is unknown, although a brief visual inspection indicated they were not of significant age. It is evidence for the preservation quality of the mudbanks however, suggesting possible remains of archaeological merit could survive within the lower layers of The Haven's mudbanks and the lower alluvial deposits, such as hulk wrecks or posts relating to earlier quays. These may have to be removed during construction of the wharf.

Magnitude of Impact

8.8.19 The Facility may have a **high** magnitude of impact upon these potential remains, with construction works around the wharf removing them if they are present, either partially or wholly.

Heritage Significance (Sensitivity)

8.8.20 Any potential foreshore remains could have a **high** significance, particularly if associated with the remains of a wreck.

Significance of Effect

8.8.21 Judging the heritage significance and magnitude of impact, the effect of the development could be **major adverse** to these potential remains.

Mitigation Measures

8.8.22 Mitigation measures for these remains would take the form of ensuring archaeological recording of them prior to removal. Initially this would require:

- Archaeological assessment of any geophysical survey undertaken of The Haven; and
- Archaeological monitoring of wharf construction, allowing for any remains that are found to be recorded *in-situ*, undertaken as specified in the agreed WSI. A report would be produced, allowing dissemination of the results.

Residual Effects

8.8.23 As any potential foreshore remains will have been preserved by record through the proposed mitigation, it is deemed that the residual effect is **minor adverse (not significant)**.

Impact 1D. Buried Archaeological Features (RHDHV96): Non-Designated Asset

8.8.24 This entry encompasses potential archaeological remains that could be found within the Application Site, and cross-references with the prehistoric peat deposits, historic alluvial deposits and foreshore remains (RHDHV66 and RHDHV91).

8.8.25 Any possible buried remains within the Application Site, in the form of either preserved material within the alluvium, or features cut into the alluvium, such as infilled ditches, may be impacted by piling or open-cut excavation of a depth deeper than the overlying topsoil. The remains, potentially within alluvial deposits, could range from natural organic remains of geoarchaeological interest (peat deposits, natural wood *etc*.) to chance finds or the remains of any hulks that could survive in the original route of the river. Again, these remains may be impacted by piling during construction, and any deeper open-cuts that excavate through the alluvium.

8.8.26 The results of the geophysical survey conducted in August 2020 indicated the presence of a probable palaeochannel, a possible medieval earthwork or natural slight rise in topography, a possible enclosure ditch, and two locations of possible burning or production activity. Whilst the overall conclusion was that the results do not suggest the presence of significant or extensive archaeological features, there are areas of potential interest.

Magnitude of Impact

8.8.27 The Facility may have a **high** magnitude of impact upon these deposits, with groundworks impacting on any potential buried deposits in the form of chance finds, archaeological features (ditches, pits, etc.) or any other features or finds potentially buried within the area.

Heritage Significance (Sensitivity)

8.8.28 These buried remains have the potential to be of **high** significance, dependant on their form and preservation.

Significance of Effect

8.8.29 The significance of impact is expected to be a **major adverse** effect upon the potential buried remains.

Mitigation Measures

8.8.30 The design for the Facility indicates that the land may have to be built up by c.0.5 m prior to construction. Topsoil is likely to be stripped before this raising of the surface, but once built up, any archaeological remains would be preserved *in-situ*.

8.8.31 Several phases of archaeological evaluation, excavation and recording could be implemented to evaluate if any remains are present and record them prior to potential damage. These phases would be:

- Geoarchaeological monitoring and analysis of any ground investigation works undertaken as part of this project;
- Dependant on the results of geoarchaeological analysis, a phase of archaeological trial trenching, followed by excavation, if required, could be undertaken;
- Public dissemination of the results of the archaeological works would inform the general public about the findings and improve their knowledge of their local area's history; and
- Archaeological monitoring of the Habitat Mitigation Works, piling, or excavation of pile caps could be employed to record any further remains revealed during excavation or piling.

Residual Effects

8.8.32 As any potential archaeological remains would be identified, excavated and recorded through the identified mitigation measures and so preserved by record, it is deemed that the residual effect is **minor adverse (not significant).**

Impact 2: Indirect Impact upon Setting of Designated Heritage Assets

8.8.33 Potential indirect impacts upon each identified key asset are outlined and discussed separately, below. In summary, these impacts are in the form of view-change which may affect appreciation of certain assets, although many of the views and setting are already impacted by the current industrial units within the vicinity of the Facility. Overall, the construction phase could result in a temporary **negligible** or **minor adverse** effect upon the setting of the key designated heritage assets identified as part of the baseline assessment.

Impact 2A. Wybert's Castle (RHDHV01): Scheduled Monument, 1.2 km south-west

8.8.34 This monument consists of a medieval moated site, east of Wyberton's historic core. Occupation was during the 12th and 13th centuries and the surviving remains consist of a moat and internal island which stands proud of the surrounding landscape. No direct physical impact will be made upon the monument, but an indirect impact could be made upon its setting, with views from the monument changing during construction. Similarly, increases in noise are potentially an issue also affecting its setting.

Magnitude of Impact

8.8.35 The development could have a **negligible** magnitude of impact upon the asset, principally due to changes in its setting through view-changes and additional potential noise.

Heritage Significance (Sensitivity)

8.8.36 The monument is a well-preserved example of a large moated manor site, and has a moderate presence within the wider, flat, landscape and is of **high** heritage significance.

Significance of Effect

8.8.37 The significance of effect is expected to be a **minor adverse** effect upon the setting of this asset.

Mitigation Measures

8.8.38 Construction work undertaken to best practices employed by contractors on-site and use of core working hours will reduce potential noise issues within the area.

Residual Effects

8.8.39 With good construction practices in place, effects on the asset's setting will stay **minor adverse (not significant)**.

Impact 2B. St Botolph's Church, Boston (RHDHV26): Grade I Listed Building, 2.5 km north-west

8.8.40 St Botolph's Church is located in central Boston, at quite some distance from the Facility. This asset is Grade I designated and is a landmark for the region, visible from great distance, and used as a landmark from the Wash. Similarly, views from the top of the tower, which is the tallest parish church tower in the country, are far reaching.

Magnitude of Impact

8.8.41 The development may have a **negligible** impact upon the asset, principally due to a minor change to views from the top of the tower. The location of the Facility is barely visible, with the eye drawn to the large pylons within the area, which are located in the mid-ground of the wide panoramic views of Boston. No views were found where any of the development construction would completely block views to the church tower. Similarly, groundworks would not be especially visible from the top of the tower.

Heritage Significance (Sensitivity)

8.8.42 St Botolph's Church is a building with major historical and architectural significance for the region, forming one of the main landmarks within Boston. Because of this, the church is of **high** heritage significance.

Significance of Effect

8.8.43 The potential change in views from the top of the tower are deemed to be a temporary **minor adverse** effect upon the asset.

Mitigation Measures

8.8.44 Construction work undertaken to best practices and maintaining core working hours will ensure limited impact during construction works.

Residual Effects

8.8.45 The residual impact of the development when mitigation measures are considered is deemed to be **minor adverse (not significant)** and temporary.

Impact 2C. Parish Church of St Nicholas, Skirbeck (RHDHV07): Grade II* Listed Building, 900 m North-East

8.8.46 The Church of St Nicholas is located north-east of the Facility, on the northern bank of The Haven. It is a Grade II* Listed Building and is within Skirbeck Conservation Area. The church's setting is quite tightly confined within its churchyard, although arguably when you exit the churchyard to the south onto

The Haven's northern bank you are still within its influence and also have views downriver.

Magnitude of Impact

8.8.47 The Facility may have a **negligible** impact upon the asset, with changes in views from the south of it affecting its setting and the potential for additional noise during construction.

Heritage Significance (Sensitivity)

8.8.48 This church forms the centre of Skirbeck's historic core and Conservation Area, and its setting adds to its significance. It is deemed to be of **high** heritage significance.

Significance of Effect

8.8.49 The change in views from the southern side of the church and potential for increased noise is deemed to be a **minor adverse** significance upon the church and its setting.

Mitigation Measures

8.8.50 Construction work undertaken to best practices will reduce the impact of change to the church's setting. Similarly, maintaining core working hours will reduce changes to the church's setting outside of these working hours.

Residual Effects

8.8.51 The effect of the impact upon the setting of the church, deemed to stay at **minor adverse (not significant)**, due to the restricted visibility of the wharf construction from within the setting of the church.

Impact 2D. Maud Foster Sluice (RHDHV06): Grade II Listed Building 700 m South-East

8.8.52 This mid-19th century Sluice is located at the southern end of Maud Foster Drain, which exits into The Haven. It is constructed of Gritstone with three elliptical archways.

Magnitude of Impact

8.8.53 It is possible that construction works would be visible from the sluice, although the current setting would suggest there can be little appreciation of the asset gained. Because of this it is deemed there could be a **negligible** impact upon this asset.

Heritage Significance (Sensitivity)

8.8.54 The structure is Grade II and a good example of early modern water management. As such it is of **high** heritage significance.

Significance of Effect

8.8.55 The effect upon the heritage asset's setting is deemed to be of **minor adverse** significance.

Mitigation Measures

8.8.56 Construction work undertaken to best practices and maintaining core working hours will reduce any impact upon appreciation of the asset and its setting. Embedded mitigation in the construction design will also mitigate the impact.

Residual Effects

8.8.57 Impact upon the setting of the asset, when mitigation measures are taken into account, is deemed to be a **minor adverse (not significant)** effect.

Impact 2E. Slippery Gowt Sluice (RHDHV05): Grade II Listed Building, 700 m South-East

8.8.58 This asset is a well-preserved example of an early modern sluice that is Grade II Listed, designating it as a structure of special architectural and historical significance. The Sluice was constructed in the mid-18th century, for the Court of Sewers, and built of red brick.

Magnitude of Impact

8.8.59 The possible impact upon this asset's setting is predicted to be **negligible**, with a change in views and potential for construction noise when walking down the footpath after leaving the asset. No change to views from the asset itself will be affected.

Heritage Significance (Sensitivity)

8.8.60 Due to it being an important part of Boston's early modern history, this asset is deemed to be of **high** significance.

Significance of Effect

8.8.61 The effect upon the heritage asset's setting is deemed to be of **minor adverse** significance.

Mitigation Measures

8.8.62 Again, construction work undertaken to best practices and working to core hours (reducing impact outside of these hours) will reduce any impact to the asset and its setting.

Residual Effects

8.8.63 Impact upon the setting of the asset, when mitigation measures are taken into account, is deemed to be a **minor adverse (not significant)** effect.

Impact 2F. Skirbeck Conservation Area (RHDHV31), 900 m North-East

8.8.64 This Conservation Area's (RHDHV31) current character and setting is centred around St Nicholas' Church, and is quite tightly defined. Several issues have been identified which are detrimental to the Conservation Area's wider setting and character (unsympathetic modern building and infrastructure designs, as identified in Appendix 8.1).

Magnitude of Impact

8.8.65 Any possible impact upon the Conservation Area is principally from a change in views; views which are the same as those identified as part of the St Nicholas' Church impact assessment. In correlation with that assessment, it is deemed there may be a **low** magnitude impact upon its setting due to a lack of intervisibility between the Conservation Area's historic buildings and the Facility. Similarly, significant tree cover along Fishtoft Road masks viewpoints to the Application Site whilst travelling along the road. The views toward the Application Site will only be noted when on the southern side of the Conservation Area, along the footpath next to the Haven, south of St Nicholas' Church.

Heritage Significance (Sensitivity)

8.8.66 As the Conservation Area's character has been altered by modern development, the heritage asset is perceived as being of **medium** significance.

Significance of Effect

8.8.67 The change in views from the southern side of the Conservation Area are considered to be a **minor adverse** effect upon the church and its setting.

Mitigation Measures

8.8.68 Core working hours and construction work undertaken to best practices will reduce any impact upon the Conservation Area.

Residual Effects

8.8.69 Impact upon the Conservation Area, when mitigation measures are taken into account, is deemed to be a **minor adverse (not significant)** effect, due to the lack of visibility of the wharf construction from within the Conservation Area.

Impact 2G. Wyberton Conservation Area (RHDHV33), 1.8 km South-West

8.8.70 Currently the Conservation Area has a particularly 'quaint English village' character, whilst dense and mature foliage, particularly along Church Lane, adds to a sense of age and character to the area, whilst simultaneously limiting views of the designated heritage assets which would add to the character. When leaving the Conservation Area, heading eastwards, views of Boston Stump are apparent, although partially masked by tree cover throughout the landscape. Views towards where the Facility would be were not apparent, although the Biomass UK No. 3 Ltd stack was visible on the horizon.

Magnitude of Impact

8.8.71 Due to the particularly limited views to the Facility, there would be a **negligible** impact upon the Conservation Area's setting.

Heritage Significance (Sensitivity)

8.8.72 As a Conservation Area, it is identified as having a **medium** heritage significance.

Significance of Effect

8.8.73 The change in views from the southern side of the Conservation Area are deemed to be a **minor adverse** effect upon the church and its setting.

Mitigation Measures

8.8.74 Construction work undertaken to best practices and core working hours will reduce any minor impact upon the Conservation Area.

Residual Effects

8.8.75 With the embedded mitigation, there will be a **minor adverse (not significant)** effect upon the asset.

Impact 3: Direct Impact Upon Above Ground Heritage Assets

8.8.76 The Facility might have a permanent direct physical impact upon the Roman Bank (RHDHV65), a non-designated heritage asset. Currently there is a gap in the Bank due to the road, with the previous design plan being to route pedestrians down across the gap across a site road leading from the main EfW plant to the LWA plant and returning up the Bank. The design of the Facility includes the installation of a footbridge over the gap in the bank. The footbridge and supporting steelwork would be pre-built on-site and lifted onto the Roman Bank using a Self-Propelled Mobile Platform (SPMP) that will be located under the footbridge and will lower the bridge into position from the road.

8.8.77 This asset is a long-running earthwork and forms part of early sea defences that can be traced as far as North Norfolk. The section of interest is on the southern bank of The Haven and runs through the centre of the Principal Application Site. Currently, the earthwork stands at approximately 2 m in height, following a sinuous route that mirrors the original route of the river prior to its canalisation in the early 19th century. Currently, the asset has been impacted in parts along its length, with a new road being constructed over it directly north of the Facility and 2 m high barrier fencing being installed along the top of certain sections of the bank, where it forms the boundary to modern industrial plots. A PRoW follows the top of the bank.

8.8.78 The width of the bank that would need to be removed will be confirmed through finalisation of the design of the footbridge, however it is currently proposed that a depth of 6 m, 2.6 m wide section either side of the existing Roman Bank will be modified for the construction of the footbridge support and subsequently backfilled and compacted after the construction of the bridge.

Magnitude of Impact

8.8.79 The potential change to the asset is deemed to be a **medium impact** to its current preservation and setting.

Heritage Significance (Sensitivity)

8.8.80 The asset is a long running extant earthwork, approximately 2 m high, with a local significance in terms of cultural appreciation and interest and as an extant earthwork is deemed to be of **medium** heritage significance. Its significance is degraded by the heavily compromised character and poor context (setting) this section of the earthwork is currently in.

Significance of Effect

8.8.81 The overall significance of effect is identified as being **minor adverse**, due to the installation of the footbridge across the gap.

Mitigation Measures

8.8.82 Mitigation regarding ‘The Roman Bank’ will consist of archaeological fieldwork, along with enhancements to the surviving remains to improve public appreciation. The proposed mitigation measures are:

- Archaeological monitoring of the section of bank to be modified for the installation of the footbridge, undertaken in compliance with the WSI;
- Production of an archive report for the works, and dependant on results an article within a regional journal; and

- Finally, a public information board would be produced detailing the results of the work (and any associated archaeological results from the Facility) which would then be installed near to the Roman Bank, where accessible to the public. This would aid in informing the local residents of the bank's history and value.

Residual Effects

8.8.83 The removal of the section of earthwork would be undertaken under archaeological supervision, allowing for recording of the asset and furthering current understanding of it. Following this mitigation work and introduction of a public information board, it is predicted that there will be a **minor adverse (not significant)** effect upon the heritage asset.

Impact 4: Indirect Impact Upon Setting of Recorded Non-Designated Assets

8.8.84 The setting of the Roman Bank (RHDHV65) may be affected by the Facility, with additional industrial activity bounding the asset. Cumulatively, this asset has already been greatly impacted within the area, with numerous other industrial units and the general activity within its vicinity causing a degradation in ability to appreciate the asset.

Magnitude of Impact

8.8.85 This change is deemed to be a **medium** change to its baseline condition. This is due to the introduction of construction activity and associated noise within the setting of the earthwork.

Heritage Significance (Sensitivity)

8.8.86 The asset is a long running extant earthwork, approximately 2 m high, with **medium** significance in terms of cultural appreciation and interest. This significance is degraded by the heavily compromised character and poor context (setting) this section of earthwork is currently in.

Significance of Effect

8.8.87 The overall significance of effect is identified as being **moderate adverse**.

Mitigation Measures

8.8.88 Mitigation against this temporary change in setting is difficult, with a lack of achievable changes due to the overall setting of the asset. Any potential public information board or engagement detailing the bank's history, undertaken following the archaeological fieldwork prior to construction, would aid in appreciation of the asset. Furthermore, as the footpath will form the main PRoW

following closure of part of the Coast Path if the Facility is built, the Facility will improve access to and along the footpath (further information on the PRoW diversion is within **Chapter 5 Project Description**). These improvements include the potential to remove some of the intrusive metal fencing from the top of the bank to its base and removal and management of the intrusive vegetation along the footpath.

Residual Effects

8.8.89 Due to the potential to increase current understanding of the heritage asset following archaeological works on the Roman Bank, along with the potential for better public access along the heritage asset, it is considered that the residual effect upon the asset would be reduced to **minor adverse (not significant)**.

8.9 Potential Impacts during Operation

8.9.1 The operation of the Facility has been deemed to have a **minor adverse (not significant)** on all assets outside of the key heritage assets as assessed in **Appendix 8.1**. Operation of the Facility will not cause further impacts for Impact 1: Direct Impact on (Permanent Change to) potential buried archaeological remains, or Impact 3: Direct impact upon above ground heritage assets as impacts associated with these aspects are limited to the construction phase only. This results in no further direct impacts during operation for the following key assets:

- The Roman Bank (RHDHV65)
- Prehistoric Peat deposits and historic alluvium (RHDHV66);
- The Haven mudbanks (RHDHV90);
- Potential Foreshore remains (RHDHV91); and
- Potential buried archaeological remains (RHDHV96).

8.9.2 This is due to the mitigation undertaken during the construction of the Facility ensuring any potential archaeological remains are preserved by record.

8.9.3 All effects during operation are detailed within **Table 8-10** and summarised below.

Impact 2: Indirect Impact upon Setting of Designated Heritage Assets

8.9.4 Operational impacts upon other key assets may arise from changes to their setting.

8.9.5 The sensitivity of these key assets remains as per construction (of high / moderate heritage significance).

8.9.6 The visual effect of the Facility will result in impacts of a similar nature as during construction, with an expected lower magnitude as embedded mitigation measures built into the design of the facility (e.g. muted colours) would decrease the visibility of the Facility from the assets.

8.9.7 The significance of effect for these impacts are identified as being **minor**. The assets that could be affected are:

- Wybert's Castle (RHDHV01) (**minor adverse**);
- Slippery Gowt Sluice (RHDHV05) (**minor adverse**);
- Maud Foster Sluice (RHDHV06) (**minor adverse**);
- Parish Church of St Nicholas (RHDHV07) (**minor adverse**);
- Skirbeck Conservation Area (RHDHV31) (**minor adverse**); and
- Wyberton Conservation Area (RHDHV33) (**minor adverse**).

8.9.8 As previously mentioned in **Section 8.3**, Historic England were contacted in response to their PEIR consultation comments, of which the response stated their concerns over the visual impact of a new structure to the background of St Botolph's Church (RHDV26), and the impact on the long-distance appreciation of the Church. The Facility would be visible from the top of St Botolph's Church tower (RHDHV26). This change in view is deemed to be **minor adverse**, due to the distance between the assets. Similarly, other modern developments within the locality of the Facility already draw the eye significantly (e.g. the electricity pylons), as discussed within the Cultural Heritage DBA (**Appendix 8.1**, **Section A8.10**). There is also the consideration of the Port and associated buildings, including the Frontier Building, that sit south of St Botolph's Church tower, alongside the electricity pylons at the sub-station to the north of the industrial estate, and the nearby Biomass UK No. 3 Ltd facility that is already present. With these features already present within the landscape, the addition of the Facility will have a **minor adverse** significance of effect due to the already numerous modern industrial developments that limits the intervisibility of the landscape between the asset and the Facility. This is also further strengthened by the ZTV analysis (**Chapter 9 Landscape and Visual Impact**, **Figure 9.5**), which confirms the limited intervisibility between the main buildings of the Facility, and St Botolph's Church tower.

8.9.9 There is no additional mitigation that could be specified to reduce visual setting effects any further than those which comprise embedded mitigation and with use of standard construction hours and practices. As such, the residual effects are as presented above, all of which are considered to be **not significant**.

Impact 4: Indirect Impact upon Setting of Recorded Non-Designated Assets

8.9.10 Similarly, as for construction, there is potential for a change in setting for The Roman Bank (RHDHV65) due to the Facility. The Facility will be visible from the earthwork, whilst additional noise may reduce the ability to appreciate the asset. As the setting is already one that includes heavy industrial activity and noise, the change is considered to be **minor adverse** (**not significant**).

8.10 Potential Impacts during Decommissioning

8.10.1 It is anticipated that the impacts during decommissioning will be similar to those of construction, as discussed within the Cultural Heritage DBA (**Appendix 8.1**).

8.10.2 The heritage assets that may be affected are:

- Prehistoric Peat deposits and historic alluvium (RHDHV66);
- The Haven mudbanks (RHDHV90);
- Potential Foreshore remains (RHDHV91); and
- Potential buried archaeological remains (RHDHV96).

8.10.3 Impacts to these assets will have been mitigated previously from preservation by record of the remains prior to construction, therefore there will be no additional effects during decommissioning.

8.10.4 Following the decommissioning of the Facility, there could be a **negligible** or **minor beneficial** effect on the setting of other key assets (**Table 8-10**). Impacts that were continuing through from the construction and operational phase regarding setting would be removed.

8.11 Cumulative Impacts

8.11.1 **Table 8-7** below assesses the potential for cumulative impacts to occur, relative to the four impacts identified as part of this impact assessment. The cumulative impacts would apply to both during construction and operation, and as such have been assessed in the table below for both.

Table 8-7 Potential Cumulative Impacts

Impact	Potential for cumulative impact	Data confidence	Rationale
1: Direct impact to potential buried archaeological remains	No	Medium	The potential buried remains would be located within the footprint of the Facility.

Impact	Potential for cumulative impact	Data confidence	Rationale
2: Indirect impact upon setting of designated heritage assets	Yes	Medium	Other developments could also result in a change to setting of nearby designated heritage assets also affected by this Facility.
3: Direct impact upon above ground heritage assets	Yes	High	The above ground asset (the Roman Bank) runs for some distance within the local area and has already been impacted by other developments.
4: Indirect impact upon setting of recorded non-designated heritage assets	Yes	High	Similar to impact 3, further developments within the industrial estate may affect the setting of the Roman Bank.

8.11.2 Of the projects assessed for cumulative impact (**Table 8-8**), the main issue identified would be any cumulative change to heritage assets occurring due to a change to their setting which could affect their heritage significance. The Boston Barrier will introduce a new structure into the landscape which, in combination with the Facility, has the potential to further affect the setting of Maud Foster Sluice (RHDHV06), St Nicholas Church (RHDHV07) and the Skirbeck Conservation Area (RHDHV31) during operation. This is due to the increase in height of the current flood bank along The Haven, and the Boston Barrier's height, which may work together the reduce visibility between heritage assets. However, based on the latest Boston Barrier timescales, the scheme is determined to be complete by Summer 2020, ahead of the planned earliest start date of construction of the Facility, resulting in the Barrier forming part of the baseline of the landscape. The impacts of the Barrier is also considered further in **Chapter 9 Landscape and Visual Impact Assessment**. Overall, this is considered to result in a non-significant impact, particularly when considering the beneficial results of the Boston Barrier Project (a lowering of flood risk to heritage assets).

8.11.3 Of the other projects assessed, no significant cumulative impact is identified, due to the minor works involved (e.g. Battery Energy Storage Plant on Marsh Lane), or the limited intervisibility between the projects resulting in no identified indirect impacts (e.g. The Quadrant Mixed-use development and Stephenson Close Residential Development).

Table 8-8 Summary of Projects Considered for the CIA in Relation to the Topic

Project	Status	Development Period	Distance from the Application Site	Project Definition	Project Data Status	Included in CIA	Rationale
Boston Barrier Flood Defence	Transport and Works Act Order consented	2017 – ongoing (completed August 2021)	Boston Barrier at closest point to the Application Site is 500 m.	ES	Complete / high	No	Whilst the boundaries are adjacent (the Boston Barrier flood defence is within the Haven) there are no overlap in boundaries, so no potential for overlap in archaeological remains, therefore no cumulative impact. The Boston Barrier will introduce a new structure into the landscape, along with the Facility, however overall, this is considered to result in a non-significant impact, particularly when considering the beneficial results of the Boston Barrier Project (a lowering of flood risk to heritage assets). See also **Chapter 9 Landscape and Visual Impact Assessment.**

Project	Status	Development Period	Distance from the Application Site	Project Definition	Project Data Status	Included in CIA	Rationale
Battery Energy Storage Plant (Marsh Lane) B/17/0467	Application approved	2017 - ongoing	Beeston Farm less than 10 m from the Application Site	Detailed application	Incomplete / low	No	Whilst the boundaries are adjacent (the Battery Energy Storage Plant is to the adjacent north-west), there are no overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact. The geophysical survey conducted as part of this project included the field to the direct south of Beeston Farm (the western area/Area 1 of the geophysical survey). The Battery energy Storage Plant will introduce a new structure into the landscape, along with the Facility, however overall, this is considered to result in a non-significant impact.

Project	Status	Development Period	Distance from the Application Site	Project Definition	Project Data Status	Included in CIA	Rationale
							See also **Chapter 9 Landscape and Visual Impact Assessment.**
The Quadrant Mixed-use development of 502 dwellings and commercial/ leisure uses B/14/0165	Application approved Construction started	2014 - ongoing	Quadrant 1 1.2 km from the Application Site	Details within ES	Quadrant 1 – Complete/ high Quadrant 2 - Incomplete/ low	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**
Land to the west of Stephenson Close Residential Development of up to 85 dwellings B/17/0515	Application not yet determined	2017 - ongoing	From the most eastern part of the Scheme to the Application Site is 550 m.	Outline only	Incomplete/ low	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**
Triton Knoll Offshore Wind Farm	DCO consented	2008 - ongoing	Onshore cable corridor and Construction compound at Langrick 9.7 km from the	ES	Complete/ high	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact.

Project	Status	Development Period	Distance from the Application Site	Project Definition	Project Data Status	Included in CIA	Rationale
			Application Site				See also **Chapter 9 Landscape and Visual Impact Assessment.**
Viking Link Interconnector B/17/0340	Application approved	2014 - 2023	Bicker Fen substation 14.4 km from the Application Site	ES	Incomplete / low	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**
Sutterton Garage and adjacent land, Station Road, Sutterton, Boston, Lincolnshire PE20 2JH B/15/0084	Application approved	2015 – ongoing	10.3km south (following A16 and B1397) of the Application Site	Outline only	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**
Land west of Boston Road, Kirton, Boston, Lincolnshire, PE20 1ES B/15/0266	Application approved	2015 – ongoing	4km south-west of the Application Site	Approval of reserved matters	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact.

Project	Status	Development Period	Distance from the Application Site	Project Definition	Project Data Status	Included in CIA	Rationale
							See also **Chapter 9 Landscape and Visual Impact Assessment.**
Land adjacent to London Road/Drainside South, Kirton, Boston, Lincolnshire, PE20 1JH	Application approved	2015 – ongoing	6km south-west of the Application Site	Outline only	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**
Land south of Endeavour Way, PE20 0JA Erection of 14,655sq.m Class B2 (general industrial) floor space B/15/0506	Application Approved	2015 – ongoing	10km south-west of the Application Site	Detailed application	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**
Land off Station Road, PE20 3NX Erection of 63 no. residential	Application approved	2016 – ongoing	8km west of the Application Site	Detailed application	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains,

Project	Status	Development Period	Distance from the Application Site	Project Definition	Project Data Status	Included in CIA	Rationale
dwellings with associated infrastructure B/16/0052							therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**
The Junction Community Hall, PE20 1QJ Construction of community building B/16/0062	Application approved	2016 – ongoing	4km south-west of the Application Site	Detailed application	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**
Yew Lodge, PE20 2EE Demolition of outbuildings and the construction of 14 no. dwellings B/16/0313	Application approved	2016 – ongoing	8km south-west of the Application Site	Outline application with some matters reserved for later approval	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**
Land at Station Road, PE20 2JH	Application approved	2016 – ongoing	8km south-west of the Application Site	Detailed application	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains,

Project	Status	Development Period	Distance from the Application Site	Project Definition	Project Data Status	Included in CIA	Rationale
Erection of 21 dwellings, new vehicular access, private access road and associated works B/16/0409							therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**
Land west of Boston Road, Kirton B/17/0171	Application approved	2017 - ongoing	3km south-west of the Application Site	Detailed application	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**
Woods Nurseries Site, Swineshead, Boston Proposed residential development of 41 market and affordable dwellings B/17/0244	Application approved	2017 – ongoing	9km west of the Application Site	Outline application	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**

Project	Status	Development Period	Distance from the Application Site	Project Definition	Project Data Status	Included in CIA	Rationale
Land to the rear of Westminster Terrace, Swineshead, Boston Construction of 18 dwellings B/17/0396	Application approved	2017 – ongoing	8km west of the Application Site	Detailed application	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**
Land adjacent to Avalon Road, PE20 1QR Construction of 4 no. detached buildings comprising 16 no. industrial units B/18/0057	Application approved	2018 – ongoing	6km south-west of the Application Site	Detailed application	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**
Land to the north and west of Coles Lane, PE20 3NS Change in site boundary of planning	Application approved	2018 – ongoing	8km west of the Application Site	Detailed application	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact.

Project	Status	Development Period	Distance from the Application Site	Project Definition	Project Data Status	Included in CIA	Rationale
permission B/17/0404 B/18/0382							See also **Chapter 9 Landscape and Visual Impact Assessment.**
Plots C and D, The Quadrant, Land adjacent to A16, Wyberton, Boston For approval of reserved matters (appearance, layout and scale) for the construction of hotel, public restaurant and drive-thru B/18/0413	Application approved	2018 – ongoing	1km south-west of the Application Site	Application for approval of reserved matters	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**
The Quadrant, PE21 7HT Application for approval of reserved matters from application B/14/0165	Application approved	2018 – ongoing	1km south-west of the Application Site	Application for approval of reserved matters	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact.

Project	Status	Development Period	Distance from the Application Site	Project Definition	Project Data Status	Included in CIA	Rationale
(roads 6, 7 and 8) B/19/0027							See also **Chapter 9 Landscape and Visual Impact Assessment.**
Wash Road/ Station Road. Kirton Demolition of dwelling and erection of 30 dwellings. B/15/0503	Application approved at appeal	2015 – ongoing	4km south-west of the Application Site	Application for demolition, outline application for erection of dwellings and matters reserved for later consideration	Complete / high	No	No overlap in the boundaries so no potential for overlap in archaeological remains, therefore no cumulative impact. See also **Chapter 9 Landscape and Visual Impact Assessment.**

8.12 Transboundary Impacts

8.12.1 As there is no international border near to the Facility, there are no transboundary impacts related to cultural heritage for the Facility.

8.13 Inter-Relationships with Other Topics

8.13.1 There is an inter-relationship between cultural heritage and the following topics:

- **Chapter 9 Landscape and Visual Impact Assessment**;
- **Chapter 10 Noise and Vibration**;
- **Chapter 11 Contaminated Land, Land Use and Hydrogeology**; and
- **Chapter 16 Estuarine Processes**.

8.13.2 These are discussed as part of the impact assessment (**Section 8.8**).

8.14 Interactions

8.14.1 The impacts identified and assessed in this chapter have the potential to interact with each other, which could give rise to synergistic impacts because of that interaction. The worst case impacts assessed within the chapter take these interactions into account and for the impact assessments are considered conservative and robust. For clarity, the areas of interaction between impacts are presented in **Table 8-9**, along with an indication as to whether the interaction may give rise to synergistic impacts.

Table 8-9 Interaction Between Impacts

Potential Interaction between Impacts				
Construction				
	1 Direct impact to potential buried archaeological remains	2 Indirect Impact upon setting of designated heritage assets	3 Direct impact upon above ground heritage assets	4 Indirect impact upon setting of recorded non-designated assets
1 Direct impact to potential buried archaeological remains	-	No	Yes	No

Potential Interaction between Impacts				
2 Indirect Impact upon setting of designated heritage assets	No	-	Yes	Yes
3 Direct impact upon above ground heritage assets	Yes	No	-	Yes
4 Indirect impact upon setting of recorded non-designated assets	No	Yes	Yes	-
Operation				
	1 Direct impact to potential buried archaeological remains	2 Indirect Impact upon setting of designated heritage assets	3 Direct impact upon above ground heritage assets	4 Indirect impact upon setting of recorded non-designated assets
1 Direct impact to potential buried archaeological remains	-	No	Yes	No
2 Indirect Impact upon setting of designated heritage assets	No	-	Yes	Yes
3 Direct impact upon above ground heritage assets	No	Yes	-	Yes
4 Indirect impact upon setting of recorded non-designated assets	No	Yes	Yes	-
Decommissioning				
It is anticipated that the decommissioning impacts will be similar in nature to those of construction.				

8.15 Next Steps

8.15.1 Following submission of this DCO application and prior to construction works commencing, it is proposed that further pre-construction archaeological evaluation work takes place on-site to fully inform on the potential for buried

archaeological remains to survive within the Facility area.

8.15.2 The proposed evaluation methodology has been produced in consultation with LCCs archaeological advisor, BBCs archaeological advisors (Heritage Lincolnshire) and Historic England's Midlands Science Advisor. The proposed evaluation methodology is presented within the OWSI.

8.15.3 The evaluation works proposed include geoarchaeological monitoring of ground investigation works and geoarchaeological assessment of cores taken during the monitoring.

8.15.1 Due to the geology of the area (alluvial clays) it is considered that the likelihood of shallow sub-surface archaeological remains (ditches, pits, postholes, etc.) to be low. The results of the geophysical survey conducted in August 2020 indicated the presence of a probable palaeochannel, a possible medieval earthwork or natural slight rise in topography, a possible enclosure ditch, and two locations of possible burning or production activity. Whilst the overall conclusion was that the results do not suggest the presence of significant or extensive archaeological features, there are areas of potential interest.

8.15.2 Similarly, the geology in the area means that geoarchaeological assessment of cores will provide more "useful" geoarchaeological data than traditional trial trenching could. If the geoarchaeological assessment identifies areas which could represent natural geology which could preserve sub-surface archaeological remains, trial trenching would take place.

8.15.3 A summary of the proposed mitigation is presented in **Table 8-11**.

8.16 Summary

8.16.1 This chapter identifies that potential impacts upon heritage assets, once mitigation is taken into account, are **minor adverse** (i.e. not significant in EIA terms). The impacts through construction, operation and decommissioning are summarised below in **Table 8-10**.

Table 8-10 Impact Summary

Potential Impact	Receptor	Value/ Sensitivity	Magnitude	Significance	Mitigation	Residual Effect
Construction						
1: Direct impact to potential buried archaeological remains.	66: Prehistoric peat deposits and historic alluvium	High	High	Major adverse	Archaeological evaluation and recording.	Minor adverse (not significant)
	90: The Haven Mudbanks	Low	High	Major adverse	Archaeological evaluation and recording.	Minor adverse (not significant)
	91: Foreshore remains	High	High	Major adverse	Archaeological evaluation and recording.	Minor adverse (not significant)
	96: Buried archaeological features	High	High	Major adverse	Archaeological evaluation and recording.	Minor adverse (not significant)
2: Indirect impact upon setting of	1: Wybert's Castle	High	Negligible	Minor adverse	Standard construction hours & practices	Minor adverse (not significant)

Potential Impact	Receptor	Value/ Sensitivity	Magnitude	Significance	Mitigation	Residual Effect
designated heritage assets	5: Slippery Gowt Sluice	High	Negligible	Minor adverse	Standard construction hours & practices	Minor adverse (not significant)
	6: Maud Foster Sluice	High	Negligible	Minor adverse	Standard construction hours & practices	Minor adverse (not significant)
	7: Parish Church of St Nicholas	High	Negligible	Minor adverse	Standard construction hours & practices	Minor adverse (not significant)
	26: St Botolph's Church	High	Negligible	Minor adverse	Standard construction hours & practices	Minor adverse (not significant)
	31: Skirbeck Conservation Area	Medium	Low	Minor adverse	Standard construction hours & practices	Minor adverse (not significant)
	33: Wyberton Conservation Area	Medium	Negligible	Minor adverse	Standard construction hours & practices	Minor adverse (not significant)
3: Direct impact upon above ground heritage	65: The 'Roman Bank'	Medium	Medium	Minor adverse	Archaeological monitoring	Minor adverse (not significant)

Potential Impact	Receptor	Value/ Sensitivity	Magnitude	Significance	Mitigation	Residual Effect
asset						
4: Indirect impact upon setting of recorded non-designated assets	65: The 'Roman Bank'	Medium	Medium	Moderate adverse	Public information board (enhancement)	Minor adverse (not significant)
Operation						
1: Direct impact to potential buried archaeological remains.	No further impact					
2: Indirect impact upon setting of designated heritage assets	1: Wybert's Castle	High	Negligible	Minor adverse	n/a	Minor adverse (not significant)
	5: Slippery Gowt Sluice	High	Negligible	Minor adverse	n/a	Minor adverse (not significant)
	6: Maud Foster Sluice	High	Negligible	Minor adverse	n/a	Minor adverse (not significant)
	7: Parish Church of St Nicholas	High	Negligible	Minor adverse	n/a	Minor adverse (not significant)
	26: St Botolph's	High	Negligible	Minor adverse	n/a	Minor adverse (not significant)

Potential Impact	Receptor	Value/ Sensitivity	Magnitude	Significance	Mitigation	Residual Effect
	Church					
	31: Skirbeck Conservation Area	Medium	Low	Minor adverse	n/a	Minor adverse (not significant)
	33: Wyberton Conservation Area	Medium	Negligible	Negligible adverse	n/a	Minor adverse (not significant)
3: Direct impact upon above ground heritage asset	No further impact					
4: Indirect impact upon setting of recorded non-designated assets	65: The 'Roman Bank'	Medium	Medium	Moderate adverse	Public information board (enhancement)	Minor adverse (not significant)
Decommissioning						
1: Direct impact to potential buried	66: Prehistoric peat deposits	High	Negligible	Minor adverse	Previous works during construction will have mitigated	Minor adverse (not significant)

Potential Impact	Receptor	Value/ Sensitivity	Magnitude	Significance	Mitigation	Residual Effect
archaeological remains.	and historic alluvium					
	90: The Haven Mudbanks	High	Negligible	Minor adverse	Previous works during construction will have mitigated	Minor adverse (not significant)
	91: Foreshore remains	High	Negligible	Minor adverse	Previous works during construction will have mitigated	Minor adverse (not significant)
	96: Buried archaeological features	High	Negligible	Minor adverse	Previous works during construction will have mitigated	Minor adverse (not significant)
2: Indirect impact upon setting of designated heritage assets	1: Wybert's Castle	High	Low (positive)	Minor beneficial	n/a	Minor beneficial
	5: Slippery Gowt Sluice	High	Negligible (positive)	Negligible beneficial	n/a	Negligible beneficial
	6: Maud Foster Sluice	High	Low (positive)	Minor beneficial	n/a	Minor beneficial
	7: Parish Church of St Nicholas	High	Low (positive)	Negligible beneficial	n/a	Negligible beneficial
	26: St Botolph's	High	Low (positive)	Negligible beneficial	n/a	Negligible beneficial

Potential Impact	Receptor	Value/ Sensitivity	Magnitude	Significance	Mitigation	Residual Effect
	Church					
	31: Skirbeck Conservation Area	Medium	Low (positive)	Negligible beneficial	n/a	Negligible beneficial
	33: Wyberton Conservation Area	Medium	Low (positive)	Negligible beneficial	n/a	Negligible beneficial
3: Direct impact upon above ground heritage asset	No effect					
4: Indirect impact upon setting of recorded non-designated assets	65: The 'Roman Bank'	Medium	Low (positive)	Minor beneficial	n/a	Minor beneficial

Table 8-11 Summary of Potential Mitigation

Mitigation No.	Name	Description	Affected Assets
Embedded Mitigation			
1	Noise reduction (sound insulation)	Design of Facility would include similar noise restrictions to Biomass UK No. 3 Ltd via implementation of conditions associated with the environmental permit for the Facility – reducing noise impact on the surrounding area.	Wybert's Castle Parish Church of St Nicholas Maud Foster Sluice Slippery Gowt Sluice Skirbeck Conservation Area Wyberton Conservation Area
2	Muted colours on cladding	A muted colour palette on outer cladding, reducing the visual impact of the Facility.	Wybert's Castle St Botolph's Church Parish Church of St Nicholas Maud Foster Sluice Slippery Gowt Sluice Skirbeck Conservation Area Wyberton Conservation Area The 'Roman Bank'
3	Timed lighting	Lights within the grounds of the Facility will be on timers and motion sensors, to ensure limited visual impact upon the setting of assets within the vicinity during the evening and night.	Wybert's Castle St Botolph's Church Parish Church of St Nicholas Maud Foster Sluice Slippery Gowt Sluice Skirbeck Conservation Area Wyberton Conservation Area The 'Roman Bank'

Mitigation No.	Name	Description	Affected Assets
Pre-works Mitigation			
4	The Roman Bank Survey/evaluation	A phase of archaeological monitoring on the section of the Roman Bank requiring removal will be undertaken. This will follow the methodology detailed within the agreed WSI and a separate method statement.	The Roman Bank Buried archaeological features
5	Monitoring of geotechnical works	Geoarchaeological monitoring and assessment of boreholes and geotechnical test pits associated with the wharf and main facility will be undertaken. This will ensure any buried deposits of geoarchaeological interest (e.g. peat layers and historic alluvium) will be identified and reported upon. Further geoarchaeological analysis and fieldwork could take place dependant on initial results. The work would follow the methodology detailed within the WSI and a separate method statement.	Buried archaeological features Prehistoric peat deposits & historic alluvium
6	Archaeological evaluation	If areas of archaeological interest are identified during the monitoring and assessment of geotechnical works, a phase of archaeological trial trenching could be undertaken across the area(s) of interest. Geophysical Survey has been carried out across the area(s) of interest.	Buried archaeological features
7	Monitoring of piling	Monitoring of the wharf and Facility piling to allow for identification of any remains or deposits of archaeological interest, following the methodology detailed in the agreed WSI. If foreshore remains are identified during the monitoring, excavation during low tide would be possible, detailed within the agreed WSI.	Prehistoric peat deposits & historic alluvium The Haven mudbanks Foreshore remains
8	Monitoring of dredging	Monitoring of the dredging of The Haven will be undertaken to the specification set out in the agreed WSI.	Prehistoric peat deposits & historic alluvium The Haven mudbanks Foreshore remains

Mitigation No.	Name	Description	Affected Assets
Enhancements			
9	Public Information Board	A public information board can be produced, detailing results of the Roman Bank and any other results of archaeological interest. This would be placed on a footpath, allowing residents to appreciate the significance of the Roman Bank.	The Roman Bank Foreshore remains Prehistoric peat deposits & historic alluvium Buried archaeological features
10	Public outreach	Public outreach would be undertaken by Royal HaskoningDHV or the appointed archaeological subcontractors to present the results to local groups and schools.	The Roman Bank Foreshore remains Prehistoric peat deposits & historic alluvium Buried archaeological features

8.17 References

Boston Borough Council (BBC) (1999). Local Plan. Available at: http://www.boston.gov.uk/CHttpHandler.ashx?id=5506&p=0 [Accessed 02/10/18]

British Geological Survey (BGS) (2018). *Geology of Britain Viewer*. Available at: http://mapapps.bgs.ac.uk/geologyofbritain/home.html

Burial Act (1857). Available at URL: https://www.legislation.gov.uk/ukpga/Vict/20-21/81/contents

Chartered Institute for Archaeologists' (CIfA) (2017). Standard and guidance for historic environment desk-based assessment. Available at: https://www.archaeologists.net/sites/default/files/CIfAS&GDBA_2.pdf

Department for Culture, Media & Sport (DCMS) (2013). Scheduled Monuments & Nationally important but non-scheduled monuments. Policy Statement. Available at: https://assets.publishing.service.gov.uk /government/uploads/system/uploads/attachment_data/file/249695/SM_policy_statement_10-2013__2 _.pdf

Department of Energy and Climate Change (DECC) (2011a). Overarching National Policy Statement for Energy (EN-1). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf

DECC (2011b). National Policy Statement for Renewable Energy Infrastructure. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/37048/1940-nps-renewable-energy-en3.pdf

Her Majesty's Stationary Office (HMSO) (1979). Ancient Monuments and Archaeology Act 1979 Chapter 46. Available at: https://www.legislation.gov.uk/ukpga/1979/46

HMSO (1990). Planning (Listed Buildings and Conservation Areas) Act 1990. Available at: https://www.legislation.gov.uk/ukpga/1990/9/contents

HMSO (1996). Treasure Act 1996. Available at: https://www.legislation.gov.uk/ukpga/1996/24/contents

HMSO (1997). Statutory Instrument 1997 No. 1160 Countryside, The Hedgerow Regulations 1997. Available at: http://www.legislation.gov.uk/uksi/1997/1160/contents/made

Historic England (2015a). *The Historic Environment in Local Plans. Historic Environment Good Practice Advice in Planning: 1*. Available at: https://historicengland.org.uk/images-books/publications/gpa1-historic-environment-local-plans/gpa1/

Historic England (2015b). *Making Significance in Decision-Taking in the Historic Environment*. *Historic Environment Good Practice Advice in Planning: 2*. Available at: https://historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking/gpa2/

Historic England (2017). *The Setting of Heritage Assets (2nd Edition). Historic Environment Good Practice Advice in Planning: 3.* Available at: https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets

Lincolnshire County Council (2017). Lincolnshire Minerals and Waste Local Plan Site Locations. Available at: https://www.lincolnshire.gov.uk/directory-record/63740/site-locations

Ministry of Housing, Communities & Local Government (MHCLG) (2019). National Planning Policy Framework: Chapter 16 – Conserving and enhancing the historic environment. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/740506/National_Planning_Policy_Framework_print_version.pdf [Accessed 02/10/2018].

South East Lincolnshire Joint Strategic Planning Committee (2019). South East Lincolnshire Local Plan 2011-2036. Available at: http://www.southeastlincslocalplan.org/adopted-plan/

Wessex Archaeology (2010). *Model Clauses for Archaeological Written Schemes of Investigation. Offshore Renewables Projects*. Wessex Archaeology Document ref. 73340.05. Available at: https://www.wessexarch.co.uk/sites/default/files/field_file/4_WSI%20Renewables.pdf