RWE

Peartree Hill Solar Farm

Environmental Statement

Volume 2

Chapter 9: Cultural Heritage

Revision 3



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9 Cultural Heritage

9.1 Introduction

- 9.1.1 This chapter presents an assessment of likely significant effects arising from the construction, operation (including maintenance) and decommissioning of the Proposed Development upon cultural heritage. The full description of the Proposed Development is provided within ES Volume 1, Chapter 3: Proposed Development Description [EN010157/APP/6.1].
- 9.1.2 The Proposed Development is located within the 'Order Limits', which set out the maximum extent within which the Proposed Development can be carried out. The land on which the development is proposed is hereafter referred to as 'the Site'.
- 9.1.3 This chapter is supported by the following figures presented in **ES Volume 3** [EN010157/APP/6.3]:
 - Figure 9.1: Cultural Heritage Study Areas
 - Figure 9.2: Assessed Designated Heritage Assets
 - Figure 9.3: Assessed Non-Designated Heritage Assets
- 9.1.4 This chapter is supported by the following appendices presented in **ES Volume 4 [EN010157/APP/6.4]**:
 - Appendix 9.1: Archaeological Desk-Based Assessment
 - Appendix 9.2: Geophysical Survey Report
 - Appendix 9.3: Archaeological Trial Trenching Report
 - Appendix 9.4: Detailed Settings Impact Assessment
- 9.1.5 This chapter should be read in conjunction with the following assessment chapters, figures and appendices:
 - ES Volume 1, Chapter 3: Proposed Development Description [EN010157/APP/6.1]
 - ES Volume 1, Chapter 5: Approach to the EIA [EN010157/APP/6.1]
 - ES Volume 2, Chapter 6: Air Quality [EN010157/APP/6.2]
 - ES Volume 2, Chapter 10: Land, Soil and Groundwater [EN010157/APP/6.2]
 - ES Volume 2, Chapter 11: Landscape and Visual [EN010157/APP/6.2]



- ES Volume 2, Chapter 14: Transport and Access [EN010157/APP/6.2]
- ES Volume 3, Figure 3.1: Indicative Operational Layout Plan [EN010157/APP/6.3]
- ES Volume 3, Figure 3.4: Indicative Environmental Masterplan [EN010157/APP/6.3]
- ES Volume 3, Figure 3.4: Indicative Construction Layout Plan [EN010157/APP/6.3]
- ES Volume 4 Appendix 11.6: Viewpoints and Visualisations [EN010157/APP/6.2]
- 9.1.5 This chapter should be read in conjunction with the following supporting documents:
 - Works Plans [EN010157/APP/008]
 - Draft Development Consent Order [EN010157/APP/017]
 - Design Approach Document [EN010157/APP/5.7]
 - Design Parameters Document [EN010157/APP/5.8]
 - Outline Construction Environmental Management Plan (Outline CEMP) [EN010157/APP/7.2]
 - Outline Decommissioning Environmental Management Plan (Outline DEMP) [EN010157/APP/7.4]
 - Outline Landscape and Ecology Management Plan (Outline LEMP) [EN010157/APP/7.5]
 - Soil Management Plan (SMP) [EN010157/APP/7.8]
 - Archaeological Management Strategy [EN010157/APP/7.11]

9.2 Legislative framework, planning policy and guidance

- 9.2.1 This assessment has been undertaken in accordance with the following legislation, and with regard to the following planning policy and guidance.
- 9.2.2 It should be noted that this chapter does not assess the compliance of the Proposed Development against relevant planning policy. Such an assessment is presented in the **Planning Statement [EN010157/APP/5.5]**.

Legislation

Ancient Monuments and Archaeological Areas Act 1979 [Ref. 9-1];



- Planning (Listed Buildings and Conservation Areas) Act 1990 [Ref. 9-2];
- Treasure Act 1996 [Ref. 9-3];
- Burial Act 1857 [Ref. 9-4];
- Protection of Military Remains Act 1986 [Ref. 9-5];
- The Hedgerows Regulations 1997 [Ref. 9-6];
- Historic Buildings and Ancient Monuments Act 1953 [Ref. 9-7];
- National Heritage Act 1980 (as amended) [Ref. 9-8]; and
- The Infrastructure Planning (Decisions) Regulations 2010 [Ref. 9-9].

National planning policy

- Overarching National Policy Statement for Energy (NPS EN-1) (2023) (designated in January 2024) [Ref. 9-10] – Section 5.9 details the planning policy for the historic environment, including guidance on what constitutes a heritage asset "demonstrated to be of equivalent significance to designated heritage assets of the highest significance" (paragraph 5.9.5), guidance on undertaking the EIA (paragraphs 5.9.9-15), and the approach to be taken to mitigation (paragraphs 5.9.16-21) and that great weight should be given to the conservation of heritage assets, and the more important the asset the greater the weight that should be given (paragraph 5.9.27). This includes noting that substantial harm to or loss of significance of a grade II listed building or grade II registered park or garden should be exceptional and that substantial harm to or loss of significance of assets of the highest significance, including scheduled monuments, protected wreck sites, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens and world heritage sites should be wholly exceptional.
- National Policy Statement for Renewable Energy Infrastructure (NPS EN-3) (2023) (designated in January 2024) [Ref. 9-11] Section 2.10 relates to solar photovoltaic (PV) generation. Paragraphs 2.3.6 and 2.3.8 discuss the requirement for applicants to consider impacts to nationally recognised designations (such as World Heritage Sites and Registered Parks and Gardens) and the historic environment as a whole during the selection and design of a solar PV site, in addition to specific guidance on how these impacts can be identified, assessed and mitigated against. Paragraphs 2.10.107 119 provide details on how the impacts to cultural heritage should be assessed including above ground impacts on the setting of heritage assets (paragraph)



- 2.10.108), the types of ground disturbance activity that might impact on below ground archaeological remains (paragraph 2.10.109) and the potential positive impact of solar PV developments on archaeological assts by removing sites from regular ploughing (paragraph 2.10.110). The potential scope of assessment is set out in paragraphs 2.10.112-115, with paragraph 2.10.115 noting that "The extent of investigative work should be proportionate to the sensitivity of, and extent of, proposed ground disturbance in the associated study area".
- National Policy Statement for Electricity Networks Infrastructure (NPS EN-5) (2023) (designated in January 2024) [Ref. 9-12] Paragraphs 2.2.10, 2.9.19 and 2.9.25 confirm the applicant's responsibility to abide by Schedule 9 of the Electricity Act 1989 (which highlights the desirability of preserving features of archaeological or historic interest), and discuss the requirement for applicants, when siting substations, to seek to avoid their siting within internationally and nationally designated areas of the highest amenity, cultural or scientific value (such as World Heritage Sites, Scheduled Monuments, Registered Battlefields and Listed Buildings) and to protect (as far as reasonably practicable) important landscape features such as historic hedgerows. They also outline the requirement for the Secretary of State to grant the installation of underground cabling over overhead transmission lines if the benefits of doing so clearly outweigh the harm to designated and non-designated heritage assets and their settings.
- The National Planning Policy Framework (NPPF) (2024) [Ref. 9-13] Section 16 'Conserving and enhancing the historic environment' confirms that the historic environment, including archaeological remains, constitutes a material consideration in planning decisions, requiring applicants to describe the significance of heritage assets potentially affected by a development, including any contribution made by their setting, as well as assess impacts on them by a development. NPPF empowers planning authorities to request evaluation fieldwork to inform determination of applications.

Local planning policy



designated, to be conserved. It also confirms East Riding of Yorkshire Council's stance that "where development affecting archaeological sites is acceptable in principle, the Council will seek to ensure mitigation of damage through preservation of the remains in situ as a preferred solution. When in situ preservation is not justified, the developer will be required to make adequate provision for excavation and recording before or during development." [Ref. 9-14].

Guidance

- Design Manual for Roads and Bridges: LA 106 Cultural Heritage Assessment (Highways England, 2020a) [Ref. 9-15];
- Design Manual for Roads and Bridges: LA 104 Environmental assessment and monitoring (Highways England, 2020b) [Ref. 9-16];
- Guidance for commissioning organisations and archaeological contractors and consultants on undertaking archaeological works in relation to solar farm developments in the East Riding of Yorkshire (Newman and Goodyear, 2023) [Ref. 9-17];
- Standard and guidance for historic environment desk-based assessment (Chartered Institute for Archaeologists, 2020) [Ref. 9-18];
- Code of Conduct: professional ethics in archaeology (Chartered Institute for Archaeologists, 2022) [Ref. 9-19];
- The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3 (Historic England, 2017) [Ref. 9-20];
- Statements of Heritage Significance: Analysing Significance in Heritage Assets (Historic England Advice Note 12, 2019) [Ref. 9-21];
- Managing Significance in Decision-Taking in the Historic Environment (Historic England Good Practice Advice in Planning: 2, 2015) [Ref. 9-22]; and
- Principles of Cultural Heritage Impact Assessment in the UK (Institute of Environmental Management and Assessment, Institute of Historic Building Conservation and Chartered Institute for Archaeologists, 2021) [Ref. 9-23].

9.3 Stakeholder engagement

9.3.1 **Table 9-1** provides a summary of the stakeholder engagement activities undertaken by the Applicant in relation to cultural heritage separately from the Environmental Impact Assessment (EIA) scoping, non-statutory consultation, statutory consultation and targeted consultation process in support of the



preparation of this assessment, as well as detailing the matters raised, how such matters have been addressed, and where they have been addressed within the DCO Application documentation.

- 9.3.2 **ES Volume 4, Appendix 5.3: Scoping Opinion Response Matrix [EN010157/APP/6.4]** presents the responses received via the Scoping Opinion and the Applicant's response to each matter raised.
- 9.3.3 The **Consultation Report Appendices [EN010157/APP/5.2]**, which is submitted in support of the DCO Application, sets out the feedback received during non-statutory, statutory and targeted consultation and how the Applicant has had regard to the matters raised by consultees.



Table 9-1: Summary of stakeholder engagement

Consultee	Date of engagement	Summary of matters raised	How this matter has been addressed	Location where this matter is addressed
Historic England	August 2023	Email request to Historic England for pre-application advice regarding settings issues arising from the proximity of the Proposed Development to Meaux Abbey and Meaux Duck Decoy Scheduled Monuments. Historic England responded with a summary of the most salient points to be considered in the settings impacts assessment (Historic England document reference PA01199523, dated 17 August 2023).	Historic England's advice and suggestions have been referenced throughout each stage of assessment of potential impacts to the settings of these heritage assets.	ES Volume 2, Chapter 9: Cultural Heritage [EN010157/APP/6.2] ES Volume 4, Appendix 9.1: Archaeological Desk- Based Assessment [EN010157/APP/6.4] ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4]
Historic England	November 2023	Email request to Historic England for comment on the assessment study area. Historic England responded with a requirement for a 5km study area for designated heritage assets and details of the designated heritage assets that it considered vulnerable to changes in their setting and which it	Assessment of potential impacts to settings has been carried out on all designated heritage assets within a 5 km radius of the Order Limits, as well as the Grade II* Registered Park and Garden NHLE 1000921, Burton Constable.	ES Volume 2, Chapter 9: Cultural Heritage [EN010157/APP/6.2] ES Volume 4, Appendix 9.1: Archaeological Desk-



Date of engagement	Summary of matters raised	How this matter has been addressed	Location where this matter is addressed
	therefore recommended be included for assessment. Historic England also required that Grade II* Registered Park and Garden NHLE 1000921, Burton Constable, be included within the assessment despite lying outside of the 5km study area (Historic England document reference PL00794572, dated 27 November		Based Assessment [EN010157/APP/6.4] ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4]
20 February 2024	The Applicant requested and received Historic Environment Record data containing details of known non-designated heritage assets within the 1km study area	Inclusion of Historic Environment Record data into relevant technical appendices and this assessment	Sections 9.5, 9.8 and 9.9 of ES Volume 2, Chapter 9: Cultural Heritage [EN010157/APP/6.2] ES Volume 4, Appendix 9.1: Archaeological Desk-Based Assessment [EN010157/APP/6.4] ES Volume 4, Appendix 9.4:
	engagement 20 February	therefore recommended be included for assessment. Historic England also required that Grade II* Registered Park and Garden NHLE 1000921, Burton Constable, be included within the assessment despite lying outside of the 5km study area (Historic England document reference PL00794572, dated 27 November 2023). 20 February 2024 The Applicant requested and received Historic Environment Record data containing details of known non-designated heritage	therefore recommended be included for assessment. Historic England also required that Grade II* Registered Park and Garden NHLE 1000921, Burton Constable, be included within the assessment despite lying outside of the 5km study area (Historic England document reference PL00794572, dated 27 November 2023). 20 February 2024 The Applicant requested and received Historic Environment Record data containing details of known non-designated heritage Inclusion of Historic Environment Record data into relevant technical appendices and this assessment



Consultee	Date of engagement	Summary of matters raised	How this matter has been addressed	Location where this matter is addressed
				Impact Assessment [EN010157/APP/6.4]
Historic England	January – February 2024 (MS Teams meeting)	Review of initial draft of the Stage 1 Settings Assessment for potential settings impacts on Scheduled Monuments, Registered Parks and Gardens and Grade I and Grade II* Listed Buildings.	Historic England provided a formal response on 09 February 2024, confirming its broad agreement with the conclusions of the Stage 1 Settings Assessment presented within the Archaeological Desk-Based Assessment and providing further advice as to how to make it as robust as possible (Historic England document reference PL00794572, dated 09 February 2024).	ES Volume 4, Appendix 9.1: Archaeological Desk- Based Assessment [EN010157/APP/6.4] ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4]
Conservation Team Leader for East Riding of Yorkshire Council & Hull City Council	January – February 2024 Undertaken via email and MS Teams meeting (23 February 2024)	Appropriate study area for Grade II listed buildings and Conservation Areas and potential impacts on the settings and therefore significance of designated heritage assets (Grade II listed buildings and Conservation Areas) within the study area.	Agreement on 5km study area for Grade II listed buildings and Conservation Areas. Agreement on assets to be included in the Detailed Settings Impact Assessment, these being: • Meaux Abbey Farm (Grade II Listed Building National Heritage List for England (NHLE) 1103426);	ES Volume 2, Chapter 9: Cultural Heritage [EN010157/APP/6.2] ES Volume 4, Appendix 9.1: Archaeological Desk- Based Assessment [EN010157/APP/6.4]
	,		Wawne Grange (Grade II Listed Building NHLE 1346995); and	ES Volume 4, Appendix 9.4: Detailed Settings



Consultee	Date of engagement	Summary of matters raised	How this matter has been addressed	Location where this matter is addressed
	ongugomom.		Abbey Cottage (Grade II Listed Building (NHLE 1346996).	Impact Assessment [EN010157/APP/6.4]
			However, as discussed in Table 9-3 below, Abbey Cottage (Grade II Listed Building (NHLE 1346996) has subsequently been scoped out of the assessment due to the findings of the Detailed Settings Impact Assessment.	
			Agreement that all Conservation Areas and Grade II Listed Buildings within the study area (except those scoped into the assessment – see above) can be scoped out of the assessment.	
			Agreement on that decommissioning impacts on designated heritage assets can be scoped out of the assessment.	
Development Management Archaeologist for East Riding of	January – February 2024 (MS Teams	Appropriate study area for non- designated heritage assets. Requirement for and high-level scope of archaeological trial	A 1km study area for non-designated heritage assets and the requirement for archaeological trial trenching of certain elements of the Proposed Development was agreed.	Section 9.8 of ES Volume 2, Chapter 9: Cultural Heritage [EN010157/APP/6.2]
Yorkshire Council &	meeting 06 February 2024)	trenching to support ES chapter.	The Applicant confirms that any trial trenching of the solar PV modules and	ES Volume 4, Appendix 9.3: Archaeological Trial



Consultee	Date of	Summary of matters raised	How this matter has been addressed	Location where this
Hull City Council	engagement		underground cable runs will be undertaken as set out in the Archaeological Management Strategy. The detailed scope would be set out in a Written Scheme of Investigation, substantially in line with the Archaeological Management Strategy in accordance with the Requirements in the Draft Development Consent Order (DCO) [EN010157/APP/3.1]. Any pre-submission archaeological trial trenching undertaken to date has been carried out in accordance with the Written Scheme of Investigation for those works.	Trenching Report [EN010157/APP/6.4] Archaeological Management Strategy (AMS) [EN010157/APP/7.11]
Historic England	01 March 2024 (MS Teams meeting)	Discussion on the potential impacts on the settings and therefore significance of designated heritage assets (Scheduled Monuments, Registered Parks and Gardens and Grade I and II* listed buildings) within the study area and which designated heritage assets should therefore be scoped into the assessment.	Agreement on the conclusions of finalised Stage 1 Settings Assessment presented in the Archaeological Desk-Based Assessment, but confirmation of the requirement to include an assessment of: • Grade II* Registered Park and Garden NHLE 1000921, Burton Constable, which lies outside of the 5km study area;	ES Volume 2, Chapter 9: Cultural Heritage [EN010157/APP/6.2] ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4]



Consultee	Date of engagement	Summary of matters raised	How this matter has been addressed	Location where this matter is addressed
			Grade II Listed Buildings of Wood Hall Farmhouse (NHLE 1083415), which lies outside of the 5km study area; Grade II Listed Building of	
			 Grade II Listed Building of Benningholme Hall (NHLE 1161929), which lies within the 5km study area. 	
			However, as discussed in Table 9-3 below, these assets have subsequently been scoped out of the assessment due to the findings of the Detailed Settings Impact Assessment.	
Development Management Archaeologist for East Riding of Yorkshire Council & Hull City Council	April - August 2024	Detailed scope of archaeological trial trenching	Archaeological trial trenching undertaken to date to support the ES has been carried out in accordance with the agreed Written Scheme of Investigation for those works.	ES Volume 4, Appendix 9.3: Archaeological Trial Trenching Report [EN010157/APP/6.4]
Humber Field Archaeology	April 2024 - ongoing	Opportunities for collaboration between the Proposed Development and Humber Field	On the basis of the Scoping Opinion responses provided by Historic England (ES Volume 4, Appendix 5.3: Scoping Opinion Response	ES Volume 4, Appendix 5.3: Scoping Opinion



Consultee	Date of engagement	Summary of matters raised	How this matter has been addressed	Location where this matter is addressed
		Archaeology on a community engagement scheme.	Matrix [EN010157/APP/6.4]), the Applicant has approached Humber Field Archaeology with regards to a community engagement scheme focussed on the historic and current relationship with the local area and sunlight, with particular reference to Scheduled Monuments NHLE 1007843 (Site of Meaux Cistercian Abbey) and NHLE 1015305 (Meaux Duck Decoy, 420m south west of Meaux Decoy Farm).	Response Matrix [EN010157/APP/6.4] ES Volume 2, Chapter 9: Cultural Heritage [EN010157/APP/6.2] (Section 9.13)
Historic England	24 June 2024 (MS Teams meeting)	The scope of the Detailed Settings Impact Assessment (based on the conclusions of the Stage 1 Settings Assessment), impact assessment methodology and the proposed scoping out of the decommissioning phase from the assessment.	Agreement on which Scheduled Monuments and Registered Parks and Gardens should be assessed as part of the Detailed Settings Impact Assessment, namely: Scheduled Monument NHLE 1007843, Site of Meaux Cistercian Abbey; Scheduled Monument NHLE 1008039, Medieval moated tile kiln 250m north-east of North Grange Farm;	ES Volume 2, Chapter 9: Cultural Heritage [EN010157/APP/6.2] ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4]



Consultee	Date of engagement	Summary of matters raised	How this matter has been addressed	Location where this matter is addressed
			 Scheduled Monument NHLE 1015305, Meaux Duck Decoy, 420m south-west of Meaux Decoy Farm; and 	
			 NHLE 1000921, Burton Constable Grade II* Registered Park and Garden. 	
			However, as discussed in Table 9-3 below, NHLE 1000921, Burton Constable Grade II* Registered Park and Garden has subsequently been scoped out of the assessment due to the findings of the Detailed Settings Impact Assessment.	
			Historic England queried the ranking system in relation to asset value, particularly regarding Grade II buildings being assigned 'medium' importance (but acknowledged that this framework follows Design Manual for Roads and Bridges). Historic England suggested that assessments of harm should be done on a case-by-case basis.	



Consultee	Date of engagement	Summary of matters raised	How this matter has been addressed	Location where this matter is addressed
	ongagoment		The Applicant confirmed that detailed settings analysis would be undertaken to address these concerns during the site visit for the Detailed Settings Impact Assessment.	matter is addressed
			Historic England also confirmed its approval of scoping out of decommissioning impacts on designated heritage assets from the assessment.	
Historic England	July 2024	Community heritage project and collaboration with Albanwise Estate.	Following Historic England's Scoping Opinion response (ES Volume 4, Appendix 5.3: Scoping Opinion Response Matrix [EN010157/APP/6.4]), the Applicant notified Historic England that it is considering a community engagement scheme focussed on the historic and current relationship with the local area and sunlight, with particular reference to Scheduled Monuments NHLE 1007843 (Site of Meaux Cistercian Abbey) and NHLE 1015305 (Meaux Duck Decoy, 420m south west of Meaux Decoy Farm) and that is in	Section 9.10 of ES Volume 2, Chapter 9: Cultural Heritage [EN010157/APP/6.2] Design Approach Document [EN010157/APP/5.7]



Consultee	Date of engagement	Summary of matters raised	How this matter has been addressed	Location where this matter is addressed
Development Management Archaeologist for East Riding of Yorkshire Council & Hull City Council	July – August 2024	Whether required archaeological investigation and/or mitigation (such as trial trenching and/or archaeological monitoring) for the following elements due to their proximity to non-designated heritage asset HA3 could be carried out as requirement(s) to the DCO: Construction of new access point/track near Fields F9/F10/F11 Construction of temporary construction compound in Fields F9/F10	discussions with Humber Field Archaeology and Albanwise Estate. The Development Management Archaeologist for East Riding of Yorkshire Council & Hull City Council confirmed that archaeological monitoring of the installation of an access road and temporary compound in Fields F9, F10 and F11 which encroaches into the footprint of heritage asset HA3 can be carried out as a post-consent Requirement of the DCO. The detailed scope would be set out in a Written Scheme of Investigation, substantially in line with the Archaeological Management Strategy in accordance with the Requirements in the Draft DCO [EN010157/APP/3.1].	Section 9.8 of ES Volume 2, Chapter 9: Cultural Heritage [EN010157/APP/6.2] AMS [EN010157/APP/7.11]
Albanwise Estate	October 2024 - ongoing	Opportunities for collaboration between the Applicant and Albanwise Estate on its Leven Carrs Recovery Project.	On the basis of the Scoping Opinion responses provided by Historic England (ES Volume 4, Appendix 5.3: Scoping Opinion Response Matrix [EN010157/APP/6.4]), the Applicant has approached Albanwise Estate with regards to collaboration over its Leven Carrs Recovery Project.	N/A



9.4 Approach to the assessment

Scope of the assessment

- 9.4.1 The scope of this assessment has been established throughout the EIA process and design of the Proposed Development. Further information can be found in ES Volume 1, Chapter 5: Approach to the EIA [EN010157/APP/6.1].
- 9.4.2 This section provides an update to the scope of the assessment from that presented in the EIA Scoping Report which is located in **ES Volume 4**, **Appendix 5.1: Scoping Report [EN010157/APP/6.4]** and re-iterates/updates the evidence base for scoping matters in or out following further iterative assessment.

Receptors/matters scoped into the assessment

9.4.3 **Table 9-2** presents the features/matters that are scoped into the assessment reported within this ES, together with appropriate justification. The locations of these are shown on ES Volume 3, Figure 9.2: Assessed Designated Heritage Assets [EN010157/APP/6.3] and ES Volume 3, Figure 9.3: Assessed Non-Designated Heritage Assets [EN010157/APP/6.3].

Table 9-2: Receptors/matters scoped into the assessment

Receptor/matter	Phase	Justification
Physical and settings impacts on the Site of Meaux Cistercian Abbey (Scheduled Monument NHLE 1007843).	Construction	This matter was proposed to be scoped out of the assessment, as detailed within ES Volume 4, Appendix 5.1: Scoping Report [EN010157/APP/6.4]. In terms of physical impacts, the justification given was that construction activity which may directly impact upon archaeological remains associated with this asset will either be avoided through the establishment of suitable offsets (agreed with the relevant statutory consultees) or mitigated against through a programme of archaeological investigation and recording. In terms of setting impacts, the justification given was that although historically likely to have been deliberately constructed within a



Receptor/matter	Phase	Justification
Receptor/matter	Phase	tranquil area, Meaux Cistercian Abbey is now part of an open modern rural agricultural landscape. To its east lies a modern vehicular road (Meaux Lane) and the working Meaux Abbey Farm borders its boundary to the west. These elements mean that the setting of the asset is already subject to some impact by noise and dust. Construction activity related noise and dust will be controlled through the appropriate anticipated management plans i.e. the Outline CEMP and are thought unlikely to be substantially more severe than the noise and dust impacts currently experienced by Meaux Cistercian Abbey. Potential impacts from construction activity related noise and dust will also be temporary. No significant effects during construction are therefore predicted. However, as set out in ES Volume 4, Appendix 5.2: Scoping Opinion [EN010157/APP/6.4], the Planning Inspectorate advocated its inclusion, citing insufficient evidence to rule out effects, given its proximity to the Site. The ES should therefore fully assess the impacts from construction activities on this receptor and the likelihood of a likely significant effect. Subsequent to ES Volume 4, Appendix 5.1: Scoping Report [EN010157/APP/6.4] being submitted, ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4] identified the potential for significant effects to this asset during construction, arising from changes to the contribution that setting makes to the asset's significance.



Receptor/matter	Phase	Justification
		Therefore, this matter has been
		scoped into the assessment for the
		construction phase.
Settings impacts on	Operation	ES Volume 4, Appendix 9.4: Detailed
the Site of Meaux Cistercian Abbey (Scheduled Monument NHLE 1007843).	(including maintenance)	Settings Impact Assessment [EN010157/APP/6.4] identified the potential for significant effects to this asset during operation (including maintenance), arising from changes to the contribution that setting makes to the asset's significance (specifically paragraph 4.1.9, which notes uncertainty regarding the screening effects of the existing hedgerow during the winter months).
		Therefore, this matter has been scoped into the assessment for the operation (including maintenance) phase.
Physical and settings impacts on Meaux Duck Decoy, 420m South East of Meaux Decoy Farm (Scheduled Monument NHLE 1015305).	Construction	This matter was proposed to be scoped out of the assessment, as detailed within ES Volume 4, Appendix 5.1: Scoping Report [EN010157/APP/6.4]. The justification given was that construction activity which may directly impact upon archaeological remains associated with this asset will either be avoided through the establishment of suitable offsets (agreed with the relevant statutory consultees) or mitigated against through a programme of archaeological investigation and recording. No significant effects during construction are therefore predicted. However, as set out in ES Volume 4, Appendix 5.2: Scoping Opinion [EN010157/APP/6.4], the Planning Inspectorate advocated its inclusion, citing insufficient evidence to rule out effects, given its proximity to the Site. The ES should therefore fully assess the impacts from construction activities



Decenter/metter	Dhaca	luctification
Receptor/matter	Phase	Justification
		on this receptor and the likelihood of a likely significant effect.
		Subsequent to ES Volume 4, Appendix 5.1: Scoping Report [EN010157/APP/6.4] being submitted, ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4] identified the potential for significant effects to this asset during construction, arising from changes to the contribution that setting makes to the asset's significance.
		Therefore, this matter has been scoped into the assessment for the construction phase only.
Physical and settings impacts on Scheduled Monument NHLE 1008039 (Medieval Moated Tile Kiln 250m North East of North Grange Farm).	Construction	This matter was scoped into the assessment for the operation (including maintenance) phase only, as detailed within ES Volume 4, Appendix 5.1: Scoping Report [EN010157/APP/6.4] and confirmed within ES Volume 4, Appendix 5.2: Scoping Opinion [EN010157/APP/6.4].
		However, subsequent to ES Volume 4, Appendix 5.1: Scoping Report [EN010157/APP/6.4] being submitted, ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4] identified the potential for significant effects to this asset during construction, arising from changes to the contribution that setting makes to the asset's significance.
		Therefore, this matter has been scoped in for the construction phase only.
Physical and settings impacts on Meaux Abbey Farm (Grade II	Construction and operation (including maintenance)	This matter was scoped into the assessment for the operation (including maintenance) phase only, as detailed within ES Volume 4 ,



Receptor/matter	Phase	Justification
Listed Building NHLE 1103426).	riidae	Appendix 5.1: Scoping Report [EN010157/APP/6.4] and confirmed within ES Volume 4, Appendix 5.2: Scoping Opinion [EN010157/APP/6.4]. However, subsequent to ES Volume 4, Appendix 5.1: Scoping Report [EN010157/APP/6.4] being submitted, ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4] identified the
		potential for significant effects to this asset during construction, arising from changes to the contribution that setting makes to the asset's significance. Therefore, this matter has been scoped in for the construction and operation (including maintenance) phases.
Physical and settings impacts on Wawne Grange (Grade II Listed Building NHLE 1346995).	Construction and operation (including maintenance)	This matter was scoped into the assessment for the operation (including maintenance) phase only, as detailed within ES Volume 4, Appendix 5.1: Scoping Report [EN010157/APP/6.4] and confirmed within ES Volume 4, Appendix 5.2: Scoping Opinion [EN010157/APP/6.4].
		However, subsequent to ES Volume 4, Appendix 5.1: Scoping Report [EN010157/APP/6.4] being submitted, ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4] identified the potential for significant effects to this asset during construction, arising from changes to the contribution that setting makes to the asset's significance.
		Therefore, this matter has been scoped in for the construction and



Receptor/matter	Phase	Justification
Receptor/matter	riiase	operation (including maintenance)
		phases.
Physical impacts to known non-designated heritage assets within the Order Limits (including non-designated heritage assets at greater than 50m distance from centre line of grid connection cable route but within the Order Limits).	Construction, operation (including maintenance) and decommissioning	This matter is scoped into the assessment, as detailed within ES Volume 4, Appendix 5.1: Scoping Report [EN010157/APP/6.4] and confirmed within ES Volume 4, Appendix 5.2: Scoping Opinion [EN010157/APP/6.4]. It should be noted that physical impacts to non-designated heritage assets at greater than 50m distance from centre line of grid connection cable route but within the Order Limits was scoped out of the assessment, as detailed within ES Volume 4, Appendix 5.1: Scoping Report [EN010157/APP/6.4]. The justification given was that potential physical impacts as a result of the installation of the cable route will be limited to heritage assets which lie within or in the immediate vicinity of the proposed excavation works. The exact width of the cable excavation was noted as yet to be determined but was unlikely to be wider than 30m. Therefore, non-designated heritage assets which lie at greater than 50m distance on either side of the central line of the cable route are highly unlikely to be impacted. No significant effects are therefore predicted. However, as set out in ES Volume 4, Appendix 5.2: Scoping Opinion [EN010157/APP/6.4], the Planning Inspectorate advocated their inclusion, citing limited information being provided on the nature and sensitivity of potentially affected receptors and also the potential impact pathways from excavating activities.



Receptor/matter	Phase	Justification
Recorptor/matter	1 Huse	Therefore, physical impacts to non-
		designated heritage assets at greater than 50m distance from centre line of grid connection cable route but within the Order Limits has been scoped into
		the assessment for the construction, operation (including maintenance) and decommissioning phases.
		It should also be noted that the decommissioning phase for all heritage assets within the study area was scoped out of the assessment, as detailed within ES Volume 4,
		Appendix 5.1: Scoping Report [EN010157/APP/6.4]. The justification given was that decommissioning will
		not result in impacts to any additional heritage assets not affected during construction and operation.
		Decommissioning phase effects resulting from changes in the setting of
		heritage assets in the surrounding area will be no worse than the construction or operation phase effects.
		Decommissioning will reverse any adverse effects resulting from changes
		to the setting of heritage assets during operation. However, as set out in ES Volume 4, Appendix 5.2: Scoping
		Opinion [EN010157/APP/6.4], the Planning Inspectorate advocated its
		inclusion, citing there remains a potential for impacts during the decommissioning phase, particularly to
		buried archaeology as a result of the removal of piles and soil compaction.
		In addition, the potential effects on setting during decommissioning are
		likely to be similar to those experienced during construction.
		Therefore, the decommissioning phase has been scoped into the assessment for these receptors.



Receptor/matter	Phase	Justification
Physical and settings	Construction,	This matter is scoped into the
impacts to currently	operation	assessment, as detailed within ES
unknown below ground	(including	Volume 4, Appendix 5.1: Scoping
archaeological remains	maintenance) and	Report [EN010157/APP/6.4] and
within the Order Limits	decommissioning	confirmed within ES Volume 4,
		Appendix 5.2: Scoping Opinion
		[EN010157/APP/6.4].
		It should be noted that the
		decommissioning phase for all heritage
		assets within the study area was
		scoped out of the assessment, as
		detailed within ES Volume 4, Appendix 5.1: Scoping Report
		[EN010157/APP/6.4]. The justification
		given was that decommissioning will
		not result in impacts to any additional
		heritage assets not affected during
		construction and operation.
		Decommissioning phase effects
		resulting from changes in the setting of
		heritage assets in the surrounding area
		will be no worse than the construction
		or operation phase effects.
		Decommissioning will reverse any
		adverse effects resulting from changes
		to the setting of heritage assets during
		operation. However, as set out in ES
		Volume 4, Appendix 5.2: Scoping
		Opinion [EN010157/APP/6.4] , the Planning Inspectorate advocated its
		inclusion, citing there remains a
		potential for impacts during the
		decommissioning phase, particularly to
		buried archaeology as a result of the
		removal of piles and soil compaction.
		In addition, the potential effects on
		setting during decommissioning are
		likely to be similar to those
		experienced during construction.
		Therefore, the decommissioning phase
		has been scoped into the assessment
		for these receptors.
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Receptors/matters scoped out of the assessment

9.4.4 **Table 9-3** presents the features/matters that are scoped out of the assessment that are therefore not considered as part of this ES, together with appropriate justification.

Table 9-3: Receptors/matters scoped out of the assessment

Receptor/matter	Phase	Justification
Physical impacts to Site of Meaux Cistercian Abbey (Scheduled Monument NHLE 1007843).	Operation (including maintenance)	No operation (including maintenance) activities which could physically impact this asset are proposed. Therefore, no physical impacts to the asset are anticipated. Therefore, this matter has been scoped out of the assessment for the operation (including maintenance) phase.
Physical and settings impacts to Site of Meaux Cistercian Abbey (Scheduled Monument NHLE 1007843).	Decommissioning	It has been agreed with Historic England that impacts on designated heritage assets during decommissioning can be scoped out of the assessment (refer to Table 9-1 above). Therefore, this matter has been scoped out of the assessment for the decommissioning phase.
Physical and settings impacts to Meaux Duck Decoy, 420m South East of Meaux Decoy Farm (Scheduled Monument NHLE 1015305).	Operation (including maintenance) and decommissioning	This matter has been scoped into the assessment for the construction phase only (see Table 9-2 above for justification). No operation (including maintenance) or decommissioning activities which could physically impact this asset are proposed. Therefore, no physical impacts to the asset are anticipated during these phases.
		ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4] concludes no changes to the asset's setting. This equates to no harm to its significance.



Receptor/matter	Phase	Justification
		Regarding the decommissioning phase, it has been agreed with Historic England that impacts on designated heritage assets during decommissioning can be scoped out of the assessment (refer to Table 9-1 above).
		Therefore, this matter has been scoped out of the assessment for the operation (including maintenance) and decommissioning phases.
Physical and settings impacts to Scheduled Monument NHLE 1008039 (Medieval Moated Tile Kiln 250m	Operation (including maintenance) and decommissioning	This matter has been scoped into the assessment for the construction phase only (see Table 9-2 above for justification).
North East of North Grange Farm.		No operation (including maintenance) or decommissioning activities which could physically impact this asset are proposed. Therefore, no physical impacts to the asset are anticipated during these phases.
		ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4] concludes no changes to the asset's setting. This equates to no harm to its significance.
		Regarding the decommissioning phase, it has been agreed with Historic England that impacts on designated heritage assets during decommissioning can be scoped out of the assessment (refer to Table 9-1 above).
		Therefore, this matter has been scoped out of the assessment for the operation (including maintenance) and decommissioning phases.



Receptor/matter	Phase	Justification
Physical and settings impacts to Meaux Abbey Farm (Grade II Listed Building NHLE 1103426)	Decommissioning	This matter has been scoped into the assessment for the construction and operation (including maintenance) phases only (see Table 9-2 above for justification).
		Regarding the decommissioning phase, it has been agreed with the Conservation Team Leader of the East Riding of Yorkshire & Hull City Council that impacts on designated heritage assets during decommissioning can be scoped out of the assessment (refer to Table 9-1 above).
		Therefore, this matter has been scoped out of the assessment for the decommissioning phase.
Physical and settings impacts to Wawne Grange (Grade II Listed Building NHLE 1346995)	Decommissioning	This matter has been scoped into the assessment for the construction and operation (including maintenance) phases only (see Table 9-2 above for justification).
		Regarding the decommissioning phase, it has been agreed with the Conservation Team Leader of the East Riding of Yorkshire & Hull City Council that impacts on designated heritage assets during decommissioning can be scoped out of the assessment (refer to Table 9-1 above).
		Therefore, this matter has been scoped out of the assessment for the decommissioning phase.
Settings impacts to	Construction,	Physical impacts to non-designated
non-designated	operation	heritage assets recorded on the
heritage assets recorded on the	(including maintenance) and	Historic Environment Record within the Order Limits (including non-designated
Historic Environment	decommissioning	heritage assets at greater than 50m
Record within the		distance from centre line of grid
Order Limits (including		connection cable route but within the
non-designated		Order Limits have been scoped into



Receptor/matter	Phase	Justification
heritage assets at greater than 50m distance from centre line of grid connection		the assessment for the construction, operation (including maintenance) and decommissioning phases (see Table 9-2 above for justification).
cable route but within the Order Limits).		Regarding settings impacts, ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4] confirms that either the elements of the settings of the non-designated heritage assets within the Order Limits which are vulnerable to change by the Proposed Development are not key contributors to their significance or, where their settings do contribute to their significance, such changes and therefore harm to their significance would be temporary and fully reversible. This equates to no harm to their significance.
		Therefore, this matter has been scoped out of the assessment for the construction, operation (including maintenance) and decommissioning phases.
Physical and settings impacts on all designated heritage assets (Scheduled Monuments, Registered Parks and Gardens, Listed Buildings and Conservation Areas) outside the Order Limits but within the 5km study area, with the exception of: Site of Meaux Cistercian Abbey (Scheduled	Construction, operation (including maintenance) and decommissioning	The Stage 1 Settings Assessment included in ES Volume 4, Appendix 9.1: Archaeological Desk-Based Assessment [EN010157/APP/6.4] identifies no potential for change to the settings of and therefore no harm to the significance of all but 11 designated heritage assets within the 5km study area (Scheduled Monument NHLE 1007731, Bowl barrow 400m north of Highfield House; Scheduled Monument NHLE 1007843, Site of Meaux Cistercian Abbey; Scheduled Monument NHLE 1015305, Meaux Duck Decoy, 420m South East of Meaux Decoy Farm; Scheduled Monument NHLE 1008039, Medieval



Receptor/matter	Phase	Justification
Receptor/matter Monument NHLE 1007843); Meaux Duck Decoy, 420m South East of Meaux Decoy Farm (Scheduled Monument NHLE 1015305); Scheduled Monument NHLE 1008039 (Medieval Moated Tile Kiln 250m North East of North Grange Farm); Meaux Abbey Farm (Grade II Listed Building NHLE 1103426); and Wawne Grange (Grade II Listed Building NHLE 1346995).	Phase	Moated Tile Kiln 250m North East of North Grange Farm; Scheduled Monument NHLE 1016068, Moated monastic grange site and fishponds in Paradise Wood, 630m north west of Carlam Hill Farm; Grade II* Listed Building NHLE 1160744, Church of All Saints; Grade II Listed Building NHLE 1103426, Meaux Abbey Farm; Grade II Listed Building NHLE 1346995, Wawne Grange; Grade II Listed Building NHLE 1346996, Abbey Cottage, Tippett Lane; Grade II Listed Building NHLE 1310527, White Cross Cottage; and Grade II Listed Building NHLE 1083415, Wood Hall Farmhouse). Following the evolution of the Proposed Development's layout and design and further consideration of the potential for changes to their setting by the Proposed Development (presented in ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4]), the following designated heritage assets are deemed no longer vulnerable to changes in their setting
		by the Proposed Development, and thus at no risk of harm to their significance:
		 Scheduled Monument NHLE 1007731, Bowl barrow 400m north of Highfield House;
		 Scheduled Monument NHLE 1016068, Moated monastic grange site and fishponds in Paradise Wood, 630m north west of Carlam Hill Farm;
		Grade II* Listed Building NHLE 1160744, Church of All Saints; and



Receptor/matter	Phase	Justification
•		Grade II Listed Building NHLE 1310527, White Cross Cottage. This was agreed with Historic England and the Conservation Officer for East Riding of Yorkshire & Hull City Council (see Table 9-1).
		ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4] confirms no changes to the settings and therefore no harm to the significance of the following designated assets during any phase of the Proposed Development:
		 Grade II* Registered Park and Garden NHLE 1000921, Burton Constable;
		 Grade II Listed Building NHLE 1161929, Benningholme Hall;
		 Grade II Listed Building NHLE 1083415, Wood Hall Farmhouse; and
		 Grade II Listed Building NHLE 1346996, Abbey Cottage, Tippett Lane.
		Regarding the decommissioning phase, it has been agreed with the Conservation Team Leader of the East Riding of Yorkshire & Hull City Council that impacts on designated heritage assets during decommissioning can be scoped out of the assessment (refer to Table 9-1 above).
		Therefore, this matter has been scoped out of the assessment for the construction, operation (including maintenance) and decommissioning phases.
Findspots recorded by Humber Historic	Construction, operation	These receptors are scoped out of the assessment, as detailed within ES



Receptor/matter	Phase	Justification
Environment Record within the Order Limits	(including maintenance) and decommissioning	Volume 4, Appendix 5.1: Scoping Report [EN010157/APP/6.4] and confirmed within ES Volume 4, Appendix 5.2: Scoping Opinion [EN010157/APP/6.4].

Study area

- 9.4.5 The study area for designated heritage assets is the area within the Order Limits and up to 5km from the Order Limits. This is in accordance with Historic England's requirements (Letter received from Historic England, Historic England document reference PL00794572, dated 27 November 2023; see **ES Volume 4, Appendix 5.3: Scoping Opinion Response Matrix [EN010157/APP/6.4]**).
- 9.4.6 The study area for non-designated heritage assets is the area within the Order Limits and up to 1km from the Order Limits. This was agreed with the Development Management Archaeologist and Conservation Officer for East Riding of Yorkshire Council and Hull City Council in January 2024 (see **Table 9-1**).
- 9.4.7 In response to Historic England's recommendations regarding Grade II* Registered Park and Garden NHLE 1000921, Burton Constable, and the Grade II Listed Building of Wood Hall Farmhouse (NHLE 1083415), both of which lie outside of the 5km study area (see ES Volume 4, Appendix 9.1: Archaeological Desk-Based Assessment [EN010157/APP/6.4]), the Stage 1 Settings Assessment, included within ES Volume 4, Appendix 9.1: Archaeological Desk-Based Assessment [EN010157/APP/6.4], has included designated heritage assets of all types (excluding Listed Buildings and Conservation Areas) within a 10km radius of the Order Limits. This has been undertaken to ensure complete confidence in the afore-mentioned study area of 5km.
- 9.4.8 The study areas for the cultural heritage assessment are shown on **ES Volume** 3, Figure 9.1: Cultural Heritage Study Areas [EN010157/APP/6.3].

Establishing baseline conditions

Data sources to inform the EIA baseline characterisation

- 9.4.9 The following data sources have been used to understand the existing cultural heritage baseline conditions:
 - Designation data from the National Heritage List for England, downloaded from the Historic England website [Ref. 9-24] on 29th



- February 2024 and descriptions of designated heritage assets viewed on the Historic England website;
- Historic England research records, viewed through the Heritage Gateway website [Ref. 9-25];
- Aerial photographs available to view on Historic England's Aerial Photograph Explorer website [Ref. 9-26] and held by the East Riding of Yorkshire archive;
- Archaeological records and aerial photographs held by the Humber Historic Environment Record [Humber Historic Environment Record reference CHU30295, received 20th February 2024];
- Historic Landscape Characterisation [Humber Historic Environment Record reference CHU30295, received 20 February 2024];
- Historic maps and plans held in the East Riding of Yorkshire archive and the National Archives, Kew;
- Environment Agency Lidar data [Ref. 9-27];
- Geological data available online from the British Geological Survey [Ref. 9-28];
- Portable Antiquities Scheme data [Ref. 9-29];
- Relevant internet sources including the Archaeological Data Service [Ref. 9-30], British History Online [Ref. 9-31], the Yorkshire Archaeological & Historical Society website [Ref. 9-32] and the East Riding Archaeological Society website [Ref. 9-33];
- Readily available published sources and unpublished archaeological reports; and
- Yorkshire Archaeological Research Framework: research agenda [Ref. 9-34].

Site visits/surveys

- 9.4.10 The following site visits/surveys have been undertaken to understand the existing cultural heritage baseline conditions:
 - Site visit as part of the Archaeological Desk-Based Assessment;
 - Geophysical survey;
 - Site Visit for Detailed Settings Impact Assessment; and
 - Archaeological Trial Trenching.

Approach to design flexibility



- 9.4.11 The design parameters, as outlined in **ES Volume 1, Chapter 3: Proposed Development Description [EN010157/APP/6.1]** and **Design Parameters Document [EN010157/APP/5.8]**, set out the reasonable 'worst-case' parameters for the Proposed Development.
- 9.4.12 **ES Volume 1, Chapter 5: Approach to the EIA [EN010157/APP/6.1]** sets out those elements of the Proposed Development for which optionality is present within the design.

Assessment assumptions

- 9.4.13 The assessment is based on the design parameters, as outlined in ES Volume 1, Chapter 3: Proposed Development Description [EN010157/APP/6.1] and Design Parameters Document [EN010157/APP/5.8].
- 9.4.14 It is assumed that groundworks associated with the on-site substations, hybrid packs (including BESS units, inverters, and DC-DC converters), switchgears, temporary and permanent compounds and internal roads will be no more than 300mm in depth; groundworks associated with the installation of the solar PV modules and inverters will be no more than 2m in depth; and groundworks associated with the excavation of the grid connection cable route and interconnecting cabling will be of no more than 1.6m in depth.
- 9.4.15 It is assumed that the installation of the solar PV modules will be through push piling.
- 9.4.16 It is assumed for the purposes of assessment that the internal layout of the Proposed Development will follow the indicative layout shown on Figures 3.1: Indicative Operational Layout Plan, 3.4: Indicative Environmental Masterplan and 3.5: Indicative Construction Layout Plan of ES Volume 3 [EN010157/APP/6.3]. This assumption has also informed the location of the trial trenches excavation during the programme of trial trenching undertaken in support of this application (ES Volume 4, Appendix 9.3: Archaeological Trial Trenching Report [EN010157/APP/6.4]).
- 9.4.17 It is assumed that maintenance activities will not involve the need to break ground, and the size and weight of the maintenance vehicles are unlikely to be of a magnitude that they would compress below-ground archaeological remains.
- 9.4.18 It is anticipated at this stage that underground cabling would be left in-situ during the decommissioning stage.
- 9.4.19 It is assumed that the piles for the solar PV modules would be removed at the same angle as they were installed during the decommissioning phase.



Assessment methodology and criteria

Assessment of heritage asset significance (NPS EN-1)

9.4.20 Paragraph 5.9.10 of the NPS EN-1 states:

"As part of the ES the applicant should provide a description of the significance of the heritage assets affected by the proposed development, including any contribution made by their setting...".

- 9.4.21 In order to comply with NPS EN-1, this assessment has utilised the baseline data in the supporting technical appendices presented in **ES Volume 4** [EN010157/APP/6.4] to identify the significance of each known and currently unknown below-ground and above-ground heritage asset (including what this significance is derived from and the contribution made to this significance by the asset's setting).
- 9.4.22 Within this methodology, the term 'significance of a heritage asset' or 'heritage asset significance', is used to describe the interest of a heritage asset from which the asset derives its significance in the context of the NPS EN-1. The significance of a heritage asset should not be confused with the 'significance of effect' in EIA terms.
- 9.4.23 This assessment has been carried out using professional judgement and taking into account the following:
 - NPS EN-1 [Ref. 9-10];
 - Chartered Institute for Archaeologists' Standard and Guidance for Historic Environment Desk-Based Assessment (2014, revised 2017 and 2020) [Ref. 9-18];
 - Historic England's Historic Environment Good Practice Advice in Planning GPA3, The Setting of Heritage Assets (2017) [Ref. 9-20];
 - Historic England Advice Note 12, Statements of Heritage Significance:
 Analysing Significance in Heritage Assets (2019) [Ref. 9-21];
 - Historic England's Historic Environment Good Practice Advice in Planning GPA2, Managing Significance in Decision-Taking in the Historic Environment (2015) [Ref. 9-22]; and
 - Institute of Environmental Management and Assessment, Institute of Historic Building Conservation and Chartered Institute for Archaeologists, Principles of Cultural Heritage Impact Assessment in the UK (2021) [Ref. 9-23].



- 9.4.24 The staged approach employed in the utilised methodology is largely based on guidance issued by Historic England [Ref. 9-21] and Institute of Environmental Management and Assessment, Institute of Historic Building Conservation and Chartered Institute for Archaeologists [Ref. 9-23], as well as the comments made by Historic England in their Scoping Opinion Response (Table 9-1).
- 9.4.25 The first stage of assessment identified by the Institute of Environmental Management and Assessment, Institute of Historic Building Conservation and Chartered Institute for Archaeologists [Ref. 9-23] is understanding heritage assets. This is defined as:
 - describing the asset (what it is and what is known about it);
 - ascribing significance (a description of the heritage interest of the asset from which the asset derives its significance); and
 - attributing importance (a scaled measure of the degree to which the significance of that asset should be protected).
- 9.4.26 The ascribing of significance within this assessment has been made with reference to the types of heritage interests an asset may have as described by Historic England [Ref. 9-21] (historic, archaeological, architectural and artistic/aesthetic, although it is acknowledged that this list of interests is by no means exhaustive).
- 9.4.27 The second stage of assessment identified by Institute of Environmental Management and Assessment, Institute of Historic Building Conservation and Chartered Institute for Archaeologists [Ref. 9-23] is evaluating the consequence of change. This is undertaken in three separate analytical stages: understanding change (a factual statement of how a proposal would change a heritage asset or its setting, including how it is experienced); assessing impact (a scaled measure of the degree to which any change would impact on the heritage interest of the asset and therefore its significance) and weighting the effect (the measure that brings together the magnitude of the impact and the heritage asset's importance to assess the significance of effect that the change represents).
- 9.4.28 The supporting appendices of this ES chapter (**ES Volume 4 [EN010157/APP/6.4]**) all provide some level of assessment of impact, but this is reiterated and expanded upon within this assessment.
- 9.4.29 The following staged methodology has been employed:
 - Description of the importance of each assessed asset, including what heritage interest its significance is derived from.
 - Description of how the Proposed Development may change this interest and therefore impact on the asset's significance, through both physical and settings impacts.



- Discussion of embedded and/or additional mitigation which may avoid or reduce physical or settings impacts to the asset.
- Assessment of whether the predicted impact(s) following embedded and/or additional mitigation constitutes harm to the significance of the asset, and, if so, the severity of this harm. This is referred to below as 'magnitude of impact'.
- Assessment of the nature and severity of residual effects, obtained through combining the importance of the asset and the magnitude of impact (referred to below as 'significance of effect').

Importance of heritage assets

- 9.4.30 The importance of a heritage asset is a measure of the degree to which the heritage significance of that asset is sought to be protected.
- 9.4.31 The criteria presented in **Table 9-4** will be used to establish the importance of heritage assets. Assessment of importance is based on a combination of designated status or, in the case of undesignated assets, the professional judgement of the assessor. The assignment of the degree of importance is made with reference to regional research priorities (as set out in the Yorkshire Archaeological Research Framework [Ref. 9-34]) and takes into account Historic England's Listing Selection Guides [Ref. 9-35, Ref. 9-36 and Ref. 9-37].
- 9.4.32 It is recognised that, occasionally, sites can have a lower or higher importance than the criteria below would normally indicate. Where this is the case full explanation and justification is given within the assessment.

Table 9-4: Criteria for establishing importance of heritage assets

Importance	Description of receptors
Very High	World heritage sites; assets of acknowledged international importance; assets that can contribute significantly to acknowledged international research objectives; Historic landscapes of international value (designated or not) and extremely well-preserved historic landscapes with exceptional coherence, time depth or other critical factor(s).
High	Scheduled monuments and non-designated assets of schedulable quality and importance; Grade I and II* listed buildings and Grade II listed buildings that can be shown to have exceptional qualities in their fabric or associations; Conservation Areas with exceptional qualities; non-designated structures of clear national importance; designated and non-designated historic landscapes of historic interest; assets that can contribute significantly to acknowledged national research objectives.



Importance	Description of receptors
Medium	Grade II listed buildings; Non-designated assets that contribute to regional research objectives; Locally listed buildings and other historic unlisted buildings that have exceptional qualities; Conservation Areas.
Low	Non-designated assets of local importance including those compromised by poor preservation; assets of limited value but with the potential to contribute to local research objectives; robust non-designated historic landscapes.
Negligible	Assets with very little surviving archaeological interest; buildings of little architectural or historic note; landscapes with little historic interest.

Magnitude of impact

- 9.4.33 The magnitude of impact will reflect the scale of change which would be caused by the Proposed Development and the effect this would have on ability to interpret its heritage significance and to appreciate the heritage asset. Impacts can result either from physical changes to the fabric of a heritage asset or through sensory changes within its setting.
- 9.4.34 An impact may be positive where, for example, as part of a proposed development, an intrusive building or feature is removed or replaced with a more harmonious one; historic features are restored or revealed; a new feature is added which adds to public appreciation; new views are introduced that add to public experience of an asset; or public interpretation or access is improved to an asset or its setting.
- 9.4.35 Impacts may impart major change, for example where groundworks completely destroy important archaeological remains, to minor change to part of a historic assets' setting, leading to a limited impact on our ability to interpret it, or its context.
- 9.4.36 Utilising the key principles for assessing the implications of change outlined above, an assessment of the magnitude of impact has been implemented for each baseline heritage asset using the criteria presented in **Table 9-5** below. These criteria have been adapted from Design Manual for Roads and Bridges LA 104 and LA 106 [Ref. 9-15 and Ref. 9-16] using professional judgement.
- 9.4.37 Conclusions of the assessed magnitude of impacts are a product of the consideration of the elements of an asset and its setting that contribute to its heritage significance and the degree to which the Proposed Development would change these contributing elements.



9.4.38 Where an assessment of the scale of harm is required to be made impacts of major magnitude can be considered to be "substantial harm" whilst impacts of moderate or lower magnitude can be considered to be "less than substantial harm". Where the impact magnitude is "no change" no harm has been identified. This reflects the National Planning Practice Guidance [Ref. 9-1], paragraphs 5.9.28 – 5.9.32.

Table 9-5: Criteria for classifying magnitude of impact

Impact magnitude	Criteria
Major	Change to key historic building elements so that an asset is totally altered; OR change to most/all key archaeological materials such that the resource is totally altered; OR comprehensive change to the setting such that the significance of the asset is severely compromised.
Moderate	Change to many key historic building elements, such that the asset is significantly modified; changes to many key archaeological materials such that the resource is clearly modified; changes to setting of an asset, such that the significance of the asset is compromised.
Minor	Change to key historic building elements, such that the asset is slightly different; changes to key archaeological materials such that the asset is slightly altered; changes to setting of an asset, such that its significance is slightly compromised.
Negligible	Very minor changes to historic building elements, archaeological materials or setting that hardly affect them/it.
No change	No change to fabric, archaeological materials or setting.

Significance of effect

9.4.39 The assessment of the significance of effect is based on a combination of the importance of the asset (receptor) and the magnitude of impact upon that asset (receptor). The significance of effect matrix is presented in **Table 9-6** below and provides a guide to decision-making but is not a substitute for professional judgement and interpretation, particularly where the importance or impact magnitude levels are not clear or are borderline between categories. The significance of effect may be described on a continuous scale from 'no effect' to 'major'. Major and moderate effects are regarded as significant, while minor and negligible effects are not significant. Effects can either be adverse or beneficial.

Table 9-6: Criteria for assessing the significance of effect

Magnitude	Importance						
of impact	Negligible	Low	Medium	High	Very High		
Major	Minor	Moderate	Moderate	Major	Major		
Moderate	Negligible	Minor	Moderate	Moderate	Major		



Magnitude	Importance							
of impact	Negligible	Low	Medium	High	Very High			
Minor	Negligible	Negligible	Minor	Minor	Moderate			
Negligible	Negligible	Negligible	Negligible	Minor	Minor			
No Change	No effect	No effect	No effect	No effect	No effect			

9.5 Environmental baseline

Existing baseline

- 9.5.1 The following section presents a summary of the baseline conditions for the receptors scoped into further assessment, as detailed within the **Table 9-2** above. The full details of the baseline conditions are presented in the following appendices in **ES Volume 4** [**EN010157/APP/6.4**]:
 - Appendix 9.1: Archaeological Desk-Based Assessment
 - Appendix 9.2: Geophysical Survey Report
 - Appendix 9.3: Archaeological Trial Trenching Report
 - Appendix 9.4: Detailed Settings Impact Assessment
- 9.5.2 Drains were constructed throughout the Site and arable cultivation has been practiced within most of the Site throughout the medieval to modern periods. These activities may have truncated, if not entirely destroyed, any below-ground archaeological remains within the footprints of the drains and arable cultivation.
- 9.5.3 Within the 5km study area, there are no known World Heritage Sites or Registered Battlefields, 35 Scheduled Monuments, two Grade II Registered Parks and Gardens, 14 Grade I Listed Buildings, 51 Grade II* Listed Buildings, 574 Grade II Listed Buildings and 26 Conservation Areas. Three of the Scheduled Monuments (Hayholme moated site (NHLE 1008043), Baynard Castle (NHLE 1019823) and Haltemprice Augustinian Priory (NHLE 1019825)), one of the Registered Parks and Gardens (Thwaite Hall, NHLE 1000137), and one of the Conservation Areas (Beverley Road, Hull) are on the Heritage at Risk Register.
- 9.5.4 There are no known designated heritage assets within the Site. The designated heritage assets scoped into further assessment are:
 - Scheduled Monument NHLE 1007843 (Site of Meaux Cistercian Abbey), which borders the Site to the north of Land Area F;
 - Scheduled Monument NHLE 1015305 (Meaux Duck Decoy, 420m South East of Meaux Decoy Farm), which lies between Fields E6, E7 and E9;



- Scheduled Monument NHLE 1008039 (Medieval Moated Tile Kiln 250m North East of North Grange Farm), to the east of Land Area D;
- Grade II Listed Building NHLE 1103426 (Meaux Abbey Farm), which lies c.85m to the north of Field D18; and
- Grade II Listed Building NHLE 1346995 (Wawne Grange), which lies between Fields F9/F10 and F15.
- 9.5.5 The Scheduled Monuments are of **high** (National) importance and derive their significance from their historic and archaeological interest as sources of information about medieval religious beliefs, industry, material culture, resource collection strategies, diet, settlement patterns, economic systems, social hierarchy and technical capability.
- 9.5.6 The Grade II Listed Buildings are of **medium** (Regional) importance and derive their significance from their historic, archaeological and architectural interest as sources of information about post-medieval settlement patterns, agriculture, social hierarchy, economic systems and technical capability.
- 9.5.7 Within the 1km study area but outside the Site, there are 322 non-designated heritage assets (including locally listed assets). There are 41 known non-designated heritage assets within the Site These are:
 - The cropmarks of barrows and enclosures and a possible tumulus (MHU6618 and MHU833) and the findspot of an axe (MHU1521) of Bronze Age date.
 - Four groups of cropmarks of enclosures and field ditches (MHU22248, MHU3591, MHU6706 and MHU6713) of Iron Age to Romano-British date and three pits containing Iron Age - Romano-British pottery found during archaeological trial trenching of the Site (HA17).
 - The site of Meaux Deserted Medieval village (MHU1514) and an area of medieval ridge and furrow (MHU8202).
 - The post-medieval Hull to Scarborough Railway (MHU8811);
 - Four post-medieval demolished or extant bridges (MHU12271, MHU12310, MHU13215 and MHU13242);
 - The sites of one post-medieval sluice (MHU13283), Routh Bar toll gate (MHU13278), a post-medieval 'engine' (HA16), a post-medieval duck decoy (HA10), five probable post-medieval extraction pits or ponds (HA6, HA9, HA11, HA12 and HA14), and a post-medieval fox covert (HA5);



- The route of a probable post-medieval drain (HA15), numerous lost post-medieval field boundaries (HA7), and areas of medieval or postmedieval ridge and furrow agriculture (HA13);
- The site of a World War II searchlight battery (MHU22295).
- Ten singular or groups of enclosures, field and ditch systems and circular features of unknown but likely prehistoric date identified through excavation, aerial photography or geophysical survey of (MHU1498, MHU24331, MHU3590, MHU3593, MHU3595, MHU3597, MHU3628, MHU6600, HA2 and HA3);
- Several discrete or groups of anomalies of unknown but possible archaeological origin and likely prehistoric date identified through geophysical survey throughout the Site (HA4); and
- Six ditches, seven pits and a posthole found during archaeological trial trenching of the Site (HA18).
- 9.5.8 As agenda items in the Yorkshire Archaeological Research Framework: research agenda [Ref. 9-24], the following non-designated heritage assets may be of up to **medium** (Regional or National) importance:
 - Cropmarks of Bronze Age barrows, enclosures and tumuli MHU6618 and MHU833;
 - Enclosures and field ditches MHU22248, MHU6706 and MHU6713, of Iron Age – Romano-British date; and
 - The site of Meaux Deserted Medieval village (MHU1514).
- 9.5.9 These assets derive their significance from their archaeological interest as sources of information about prehistoric and historic monumental building, social hierarchy, settlement patterns, agriculture and technical capability.
- 9.5.10 As types of assets not identified as agenda items in the Yorkshire Archaeological Research Framework: research agenda ([Ref. 9-26]) but assets which may retain the potential to contain new information about the local historic landscape and society, the following non-designated heritage assets are of low (Local) importance:
 - The site of the post-medieval Routh Bar toll gate (MHU13278);
 - The sites of extant or demolished post-medieval sluices and drains (MHU13283 and HA15);
 - The sites of extant of post-medieval extant or demolished bridges (MHU12271, MHU12310, MHU13215 and MHU13242);
 - The extant post-medieval Hull to Scarborough Railway (MHU8811);



- Medieval post-medieval ridge and furrow (MHU8202 and HA13), now-lost post-medieval field boundaries (HA7) and the sites of post-medieval ponds (HA12 and HA14);
- Post-medieval duck decoy HA10;
- The sites of post-medieval fox covert HA5 and engine HA16;
- The sites of probable post-medieval extraction pits HA6, HA9 and HA11;
- Excavated Iron Age Romano-British pits recorded during archaeological trial trenching whose unexcavated elements remain present in situ (HA17); and
- The site of World War II searchlight battery MHU22295.
- 9.5.11 These assets are of primarily archaeological interest as a source of information about historic settlement patterns, water management and land improvement, agriculture, transport infrastructure, small-scale industry, resource exploitation, military infrastructure and technical capability. Assets which include above-ground built remains are also of architectural interest as a source of information about vernacular building construction methods and layout.
- 9.5.12 Findspot MHU1521 is of **negligible** importance as no in situ below-ground remains offering information about the past survive.
- 9.5.13 As features of unknown date, the importance of MHU1498, MHU24331, MHU3590, MHU3591, MHU3593, MHU3595, MHU3628, MHU6600, HA2 HA4 and HA18 is **unknown**. Thus, their significance can only be defined in high-level terms. As below-ground remains, they are of primarily archaeological interest but their possible contribution to the Yorkshire Archaeological Research Framework: research agenda ([Ref. 9-24]) is currently not clear. However, applying the precautionary principle, they may be of up to **medium** (Regional or National) importance.
- 9.5.14 **ES Volume 4, Appendix 9.1: Archaeological Desk-Based Assessment [EN010157/APP/6.4]** assesses the archaeological potential for the Site to be low for the Palaeolithic, Mesolithic, early medieval and modern periods; low medium for the post-medieval period; medium high for the medieval period; and high for the Neolithic Romano-British periods. There is assessed to be high potential for palaeoenvironmental remains of all eras to be present within the Site.
- 9.5.15 Currently unidentified heritage assets within the Site are likely to take the form of either prehistoric or Romano-British cut features and findspots; historic small-scale industrial, occupation or agricultural remains; or paleoenvironmental remains of prehistoric or historic date. Any archaeological prehistoric or Romano-British remains are likely to be of **negligible** (Local) to **medium** (Regional or



National) importance whilst any historic remains are likely to be of **negligible** to **low** (Local) importance. Any palaeoenvironmental remains are likely to be of **low** (Local) to **medium** (Regional or National) importance.

Future baseline in the absence of the Proposed Development

- 9.5.16 In the future, and in the absence of the Proposed Development, the existing cultural heritage conditions of the study area may change in the following ways:
 - New heritage assets may be designated and/or currently designated heritage assets may be delisted;
 - New heritage assets may be identified;
 - Upstanding remains pertaining to built heritage and archaeological heritage assets may be degraded by the impacts of weather and the growth or proliferation of vegetation. This is particularly pertinent for Scheduled Monuments NHLE 1007843 (Site of Meaux Cistercian Abbey), NHLE 1015305 (Meaux Duck Decoy, 420m south west of Meaux Decoy Farm) and NHLE 1008039 (Medieval Moated Tile Kiln 250m North East of North Grange Farm), whose footprints are currently already overgrown;
 - Below-ground archaeological remains may be disturbed or truncated by agricultural activities such as ploughing or the establishment of new tree plantations or may be negatively impacted by changes in soil moisture levels, particularly if flooding occurs within the study area; and
 - The ability to understand and appreciate the Scheduled Monuments of NHLE 1007843 (Site of Meaux Cistercian Abbey), NHLE 1015305 (Meaux Duck Decoy, 420m south west of Meaux Decoy Farm) and NHLE 1008039 (Medieval Moated Tile Kiln 250m North East of North Grange Farm) will continue to be hindered by lack of public access to them and a lack of information boards and/or signage in their vicinities.

9.6 Mitigation embedded into the design

9.6.1 This assessment has been based on the principle that measures have been 'embedded' into the design of the Proposed Development to remove potential significant effects as far as practicable, for example by the considered placement of infrastructure. The **Design Approach Document [EN010157/APP/5.7]** identifies the project design principles and design mitigation that has been embedded into the design of the Proposed Development. The embedded mitigation relevant to this assessment is detailed in **Table 9-7** below.

Table 9-7: Embedded mitigation relevant to cultural heritage



Embedded mitigation	Function	Coouring
measure relevant to	Function	Securing mechanism
		Inechanism
cultural heritage	This was a sum will a sufficient	Marks Diseas
No solar PV modules or other	This measure will contribute	Works Plans
infrastructure will be erected	to protecting the current	[EN010157/APP/2.2]
in Field E6 and parts of	setting of the monument and	
Fields E7 and E9, which	will prevent any physical	
border Meaux Duck Decoy	impacts to the monument or	
Scheduled Monument.	immediately surrounding and	
	associated below-ground	
	archaeological remains that	
	may be present.	
There will be an offset from	This measure will contribute	Works Plans
solar PV development of	to protecting the current	[EN010157/APP/2.2]
100m to the south of Meaux	setting of the monument and	
Abbey Scheduled Monument,	will prevent any physical	
meaning no solar PV	impacts to the monument or	
modules or other	immediately surrounding and	
infrastructure will be erected	associated below-ground	
in the northern parts of Fields	archaeological remains that	
F1, F4, F5 and F6.	may be present.	
No solar PV development will	This measure will prevent	Works Plans
be erected in Field B3, where	physical impacts to any in-	[EN010157/APP/2.2]
non-designated heritage	situ below-ground	
asset HER MHU13283 (site	archaeological remains	
of sluice east of Monk Dike)	pertaining to the heritage	
is located.	asset that may be present.	
No solar PV development will	This measure will prevent	Works Plans
be erected in parts of Fields	physical impacts to any in-	[EN010157/APP/2.2]
B4, B8, F6 and F9-F11,	situ below-ground	
where probable below-	archaeological remains	
ground archaeology is	pertaining to the heritage	
located (HA2, HA3 and HER	assets that may be present.	
MHU3593 (Riston Carr		
House Enclosures)). There		
will also be an offset of 20m		
around the areas of identified		
below-ground remains within		
those aforementioned fields.		
No solar PV development will	This measure will contribute	Works Plans
be erected in Field D18,	to protecting the current	[EN010157/APP/2.2]
where non-designated	setting of the heritage asset	
heritage asset HER	and prevent physical impacts	
MHU1514 (Meaux Deserted	to any in-situ below-ground	
Medieval Village) is located.	archaeological remains	



Embedded mitigation measure relevant to	Function	Securing mechanism
cultural heritage		
	pertaining to the heritage asset that may be present.	
A new hedgerow will be established in the northern part of Fields F1, F4, F5 and F6, creating additional screening between Meaux Abbey Scheduled Monument and the Proposed Development.	This measure will contribute to protecting the current setting of the heritage asset.	Outline Landscape and Ecological management Plan [EN010157/APP/7.5]
The mounting structures will be fixed to the ground by galvanized steel poles which are typically driven into the ground to a maximum depth of 2m. Where further work identifies the need for archaeological protection, an alternative mounting structure will be proposed, in the form of ballast slabs which sit on the surface rather than penetrating the ground.	This measure will prevent physical impacts to known insitu below-ground archaeological remains within the Order Limits.	Design Parameters Document [EN010157/APP/5.8] AMS [EN010157/APP/7.11]
Post-consent trial trenching to target the solar PV modules, underground cable routes and Fields unable to be trenched during predetermination trial trenching, including Field E6, in which bird scrape creation is proposed.	This measure will prevent physical impacts to known insitu below-ground archaeological remains within the Order Limits and any in situ archaeological remains in Field E6 which are associated with Meaux Duck Decoy Scheduled Monument.	AMS [EN010157/APP/7.11]



9.7 Assessment of likely effects (without additional mitigation)

9.7.1 Likely effects on cultural heritage may take the form of physical impacts to in-situ archaeological remains pertaining to or associated with a heritage asset, or changes to attributes of its setting which contribute to its significance.

Construction

- 9.7.2 Physical impacts during this phase of the Proposed Development could include damage arising from construction activities to below- and/or above-ground archaeological remains pertaining to or associated with a known or currently unknown heritage asset, particularly if it lies within the Order Limits, including compression of in situ below-ground remains arising from the movement of construction vehicles or plant within the Order Limits.
- 9.7.3 Settings impacts during this phase of the Proposed Development could take the form of, for example, the temporary loss of a heritage asset's setting attributes such as tranquillity, surrounding undeveloped land or green space between a heritage asset and present day urban occupation and industrial or economic activity arising from increased noise, light and dust associated with groundworks.

Operation (including maintenance)

- 9.7.4 Physical impacts during this phase of the Proposed Development could include damage arising from changes in soil conditions (such as moisture levels) to below- and/or above-ground archaeological remains pertaining to or associated with a known or currently unknown heritage asset, particularly if it lies within the Order Limits, or compression of in situ below-ground remains arising from the movement of maintenance vehicles or plant within the Order Limits.
- 9.7.5 Settings impacts during this phase of the Proposed Development could take the form of the partial or whole loss of a heritage asset's settings attributes of tranquillity, surrounding undeveloped land or green space between a heritage asset and present day urban occupation and industrial or economic activity arising from visual changes to that setting and/or auditory or olfactory impacts from increased local traffic and the movement of solar panel modules.

Decommissioning

9.7.6 Physical impacts during this phase of the Proposed Development could include damage arising from decommissioning activities to below- and/or above-ground



- archaeological remains pertaining to or associated with a known or currently unknown heritage asset, particularly if it lies within the Order Limits.
- 9.7.7 Settings impacts during this phase of the Proposed Development could take the form of, for example, the temporary loss of a heritage asset's setting attributes such as tranquillity, surrounding undeveloped land or green space between a heritage asset and present day urban occupation and industrial or economic activity arising from increased noise, light and dust associated with decommissioning activities.

9.8 Additional mitigation

Construction

- 9.8.1 Measures to manage any potential impacts to archaeological remains arising from soil compaction during and on completion of the construction phase are detailed in and secured by the Outline Construction Environmental Management Plan (Outline CEMP) [EN010157/APP/7.2] and the Outline Soil Management Plan [EN010157/APP/7.8]. These measures are:
 - Avoid undertaking construction works in unsuitable weather conditions;
 - Use of low ground pressure vehicles wherever possible;
 - The installation of access tracks early on to avoid unnecessary trafficking on agricultural soils or the use of track matting where needed in the early stages of construction; and
 - Long-term spoil storage will avoid areas of archaeological sensitivity as defined following the programme of archaeological fieldwork laid out in the AMS [EN010157/APP/7.11]
- 9.8.2 Mitigation measures to control dust and particulates outlined within **ES Volume 2, Chapter 6: Air Quality [EN010157/APP/6.2]** are considered sufficient to avoid or greatly reduce possible impacts from dust to heritage assets during the construction phase.
- 9.8.3 It is envisaged that the mitigation measures to control potential impacts from construction traffic contained within **ES Volume 2**, **Chapter 14**: **Transport and Access [EN010157/APP/6.2]** are sufficient to avoid or greatly reduce possible impacts from this traffic to heritage assets during the construction phase.
- 9.8.4 No part of the Proposed Development is to commence until a Written Scheme of Investigation is prepared by the appointed archaeological contractor and approved by the East Riding of Yorkshire Council. The Written Scheme of Investigation must be in substantial accordance with the **AMS**



[EN010157/APP/7.11]. The AMS [EN010157/APP/7.11] sets out the mitigation measures that will be employed prior to and during the construction activities. The AMS [EN010157/APP/7.11] commits to a programme of preservation by record which will be approved by the Applicant, the Development Management Archaeologist for East Riding of Yorkshire Council & Hull City Council and the archaeological contractor. The AMS [EN010157/APP/7.11] presents the processes, procedures, standards and guidance which should be followed. It provides a high-level scope for further archaeological investigation and mitigation which is believed most likely to be required by the Development Management Archaeologist for East Riding of Yorkshire Council & Hull City Council on the basis of the results of the trial trenching carried out to inform this EIA (ES Volume Archaeological **Appendix** 9.3: Trial Trenching Report [EN010157/APP/6.4]).

9.8.5 Through embedded mitigation detailed in **Table 9-7** and the proposed approach to additional mitigation presented in the **AMS [EN010157/APP/7.11]**, physical impacts to known and currently unknown archaeological remains within the Order Limits will either be avoided or the remains will be characterised and recorded prior to their disturbance.

Operation (including maintenance)

- 9.8.6 Measures to manage any potential impacts to archaeological remains arising from soil compaction during the operation (including maintenance) phase are detailed in and secured by the **Outline Construction Environmental Management Plan (Outline CEMP) [EN010157/APP/7.2]**. These measures are:
 - Long-term spoil storage will avoid areas of archaeological sensitivity as defined following the programme of archaeological fieldwork laid out in the AMS [EN010157/APP/7.11]
- 9.8.7 Mitigation measures to control dust and particulates contained within **ES Volume 2, Chapter 6: Air Quality [EN010157/APP/6.2]** are considered sufficient to avoid or greatly reduce possible impacts from dust to heritage assets during the operation (including maintenance) phase.
- 9.8.8 It is envisaged that the planting regime (such as the planting of shallow-rooting species of low height (such as grasses and meadow species) in environmental mitigation areas) laid out in **ES Volume 2, Chapter 11: Landscape and Visual [EN010157/APP/6.2]** and detailed in and secured by the **Outline Landscape and Ecology Management Plan (Outline LEMP) [EN010157/APP/7.5]** would avoid or greatly reduce possible impacts from changes in land use to the belowground physical remains and settings of heritage assets during the operation (including maintenance) phase.

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Decommissioning

- 9.8.9 Decommissioning activities will be undertaken in accordance with the **Outline Decommissioning Environmental Management Plan (Outline DEMP)** [EN010157/APP/7.4]. It is assumed that this will include measures to reduce or avoid physical impacts to known and potential non-designated heritage assets within the Order Limits by removing the mounting frame for the solar PV modules at the same angle as they were inserted.
- 9.8.10 It is envisaged that the mitigation measures to control potential impacts from construction traffic contained within **ES Volume 2**, **Chapter 14: Transport and Access [EN010157/APP/6.2]** are sufficient to avoid or greatly reduce possible impacts from this traffic to heritage assets during the decommissioning phase.

9.9 Assessment of residual effects (<u>with</u> additional mitigation)

Construction

Designated heritage assets

- 9.9.1 The designated heritage assets scoped in for further assessment in **Table 9-2** are as follows:
 - Site of Meaux Cistercian Abbey (Scheduled Monument NHLE 1007843);
 - Meaux Duck Decoy, 420m South East of Meaux Decoy Farm (Scheduled Monument NHLE 1015305);
 - Scheduled Monument NHLE 1008039 (Medieval Moated Tile Kiln 250m North East of North Grange Farm);
 - Meaux Abbey Farm (Grade II Listed Building NHLE 1103426); and
 - Wawne Grange (Grade II Listed Building NHLE 1346995).
- 9.9.2 The Scheduled Monuments are of **high** importance whilst the Grade II Listed Buildings are of **medium** importance.
- 9.9.3 **ES Volume 4, Appendix 9.1: Archaeological Desk-Based Assessment [EN010157/APP/6.4]** confirms that the significance of these assets arises from their historic, archaeological, architectural and/or aesthetic interest. Meaux Duck Decoy, 420m South East of Meaux Decoy Farm (Scheduled Monument NHLE 1015305), is also of paleoenvironmental interest.



- 9.9.4 The additional mitigation discussed above includes protective measures against dust to be employed (as reasonable and practical) during the construction phase of the Proposed Development which would reduce or avoid physical and settings impacts to the designated heritage assets scoped into this assessment. These measures are detailed in and secured by the **Outline Construction Environmental Management Plan (Outline CEMP) [EN010157/APP/7.2]**.
- 9.9.5 It is recognised that, even with such measures in place, physical and settings impacts may still occur.

Potential physical impacts

- 9.9.6 As the Proposed Development will not physically alter any of the assessed designated heritage assets or disturb below-ground remains pertaining to them, it will not change or decrease their archaeological or palaeoenvironmental interest. Therefore, the Proposed Development will not harm these aspects of the significance of the assets.
- 9.9.7 Physical impacts to the architecture of the built designated heritage assets (Meaux Abbey Farm (Grade II Listed Building NHLE 1103426) and Wawne Grange (Grade II Listed Building NHLE 1346995)) arising primarily from dust created through construction activities (including the movement of construction vehicles along the local road network) remain possible even with the additional mitigation. However, such impacts will be minimal and will not change the architectural or aesthetic interest of these assets. This impact will therefore not cause harm to these aspects of the assets' significance.
- 9.9.8 The importance of the Site of Meaux Cistercian Abbey (Scheduled Monument NHLE 1007843), Meaux Duck Decoy, 420m South East of Meaux Decoy Farm (Scheduled Monument NHLE 1015305) and Scheduled Monument NHLE 1008039 (Medieval Moated Tile Kiln 250m North East of North Grange Farm) is assigned as high. As the potential physical impacts of the Proposed Development will not change the archaeological or palaeoenvironmental interest of these assets, the magnitude of impact to the assets' significance arising from changes to their physical remains would be no change during the construction phase of the Proposed Development. Consequently, the significance of effect would be no effect, which is considered to be not significant. This equates to no harm to the significance of the assets.
- 9.9.9 The importance of Meaux Abbey Farm (Grade II Listed Building NHLE 1103426) and Wawne Grange (Grade II Listed Building NHLE 1346995) is **medium**. As the potential physical impacts of the Proposed Development will not change the archaeological, architectural or aesthetic interest of these assets, the magnitude of impact to the assets' significance arising from changes to their physical remains would be **no change** during the construction phase of the Proposed



Development. Consequently, the significance of effect would be **no effect**, which is considered to be **not significant**. This equates to no harm to the significance of the assets.

Potential settings impacts

- 9.9.10 ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4]) concludes that:
 - The contribution to the significance of the Site of Meaux Cistercian Abbey (Scheduled Monument NHLE 1007843), Meaux Duck Decoy, 420m South East of Meaux Decoy Farm (Scheduled Monument NHLE 1015305) and Scheduled Monument NHLE 1008039 (Medieval Moated Tile Kiln 250m North East of North Grange Farm) made by their settings derives primarily from the knowledge of the assets' existence within the landscape (a concept referred to as 'notional'), rather than the experience of them within the landscape (a concept referred to as 'experiential'). However, the contribution to their significance by their experiential settings is enhanced by the sense of separation from the modern world created by the existing hedgerows bordering the assets.
 - The contribution to the significance of Meaux Abbey Farm (Grade II Listed Building NHLE 1103426) by its setting is primarily experiential.
 - The contribution to the significance of Wawne Grange (Grade II Listed Building NHLE 1346995) by its setting is both experiential and notional.
- 9.9.11 The aspect of the assets' significance which their settings contribute to is their historic and, in the case of Meaux Abbey Farm (Grade II Listed Building NHLE 1103426) and Wawne Grange (Grade II Listed Building NHLE 1346995) only, aesthetic interest.
- 9.9.12 The aspect of the settings of the Site of Meaux Cistercian Abbey (Scheduled Monument NHLE 1007843), Meaux Duck Decoy, 420m South East of Meaux Decoy Farm (Scheduled Monument NHLE 1015305) and NHLE 1008039 (Medieval Moated Tile Kiln 250m North East of North Grange Farm) which contribute to their significance are their notional settings. Although there may be some temporary changes to the experiential settings of the assets during the construction phase, their notional settings will be unaffected. Furthermore, the existing hedgerows which enhance the assets' experiential settings will not be altered. Therefore, the historic interest of the assets which derives from their settings will not be changed by the Proposed Development, and so this aspect of the assets' significance will not be harmed.
- 9.9.13 ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4] has demonstrated that visual changes to the settings of



Meaux Abbey Farm (Grade II Listed Building NHLE 1103426) and Wawne Grange (Grade II Listed Building NHLE 1346995) resulting from the nearby presence of construction vehicles and construction groundworks would, at worst, change certain elements of their wider settings, but would not change their immediate settings. This may change the aesthetic interest of the assets but will not their change their historic interest. These aspects of the assets' significance would therefore be minimally impacted.

- 9.9.14 Any potential settings impacts to assessed designated heritage assts or below ground remains during the construction phase would be temporary and fully reversible.
- 9.9.15 The importance of the Site of Meaux Cistercian Abbey (Scheduled Monument NHLE 1007843), Meaux Duck Decoy, 420m South East of Meaux Decoy Farm (Scheduled Monument NHLE 1015305) and Scheduled Monument NHLE 1008039 (Medieval Moated Tile Kiln 250m North East of North Grange Farm) is assigned as high. The potential settings impacts of the construction phase of the Proposed Development will not change the historic interest of these assets. This results in the magnitude of impact to the assets' significance arising from changes to their settings during the construction phase being categorised as no change. The significance of effect would therefore be no effect, which is considered to be not significant. This equates to no harm to the significance of the assets.
- 9.9.16 The importance of Meaux Abbey Farm (Grade II Listed Building NHLE 1103426) and Wawne Grange (Grade II Listed Building NHLE 1346995) is **medium**. Potential settings impacts to these assets during the construction phase would cause minimal changes to the aesthetic interest of these assets even with additional mitigation, although these impacts would be temporary and fully reversible. The historic interest of the assets would not be changed. The magnitude of impact to the assets' significance arising from changes to their settings during the construction phase is therefore assessed as **minor**. The significance of effect would therefore be **minor adverse**, which is considered to be **not significant**. This equates to much less than substantial harm to the significance of the assets.

Known non-designated heritage assets and currently unknown below ground archaeological remains within the Order Limits

9.9.17 **ES Volume 4, Appendix 9.1: Archaeological Desk-Based Assessment [EN010157/APP/6.4]** confirms that the significance of the 41 known non-designated heritage assets within the Order Limits arises from their archaeological and historic interest. They are of **unknown**, **negligible**, **low** or **medium** importance. The significance of currently unknown heritage assets within the Order Limits is **unknown** but is likely to be comparable to that of the known non-designated heritage assets.



Potential physical impacts

- 9.9.18 Potential physical impacts of the Proposed Development to known and currently unknown non-designated heritage assets would primarily arise from the following construction activities (see **ES Volume 1, Chapter 3: Proposed Development Description [EN010157/APP/6.1]**):
 - Groundworks associated with the installation of the solar PV modules and inverters, anticipated to be no more than 2m in depth.
 - Groundworks associated with the construction of the on-site substations, hybrid packs, BESS units, switchgears, temporary and permanent compounds and internal roads, anticipated to be no more than 0.3m in depth.
 - Groundworks associated with the excavation of the grid connection cable route and interconnecting cabling, anticipated to be no more than 1.6m in depth.
 - Compression of in situ below-ground remains arising from the movement of construction vehicles or plant and the storage of soil within the Order Limits.
- 9.9.19 The programme of archaeological trial trenching carried out in support of this EIA (ES Volume 4, Appendix 9.3: Archaeological Trial Trenching Report [EN010157/APP/6.4]) has demonstrated that the archaeological horizon within the Order Limits (i.e. the depth at which archaeological remains are present) lies at between 0.36m and 0.7m below current ground level. It is therefore unlikely that the construction of the inverters, hybrid packs (including BESS units, inverters, DC-DC converters), switchgears and internal roads, anticipated to be no more than 0.3m in depth, would physically impact known and currently unknown heritage assets within the Order Limits.
- 9.9.20 Notwithstanding the above, the embedded mitigation measures detailed in Table 9-7 and the proposed programme of archaeological investigation and mitigation detailed in the AMS [EN010157/APP/7.11] and the archaeology requirement of the Draft DCO [EN010157/APP/3.1] will allow for the preservation in situ of known and currently unknown heritage assets within the Order Limits or their identification and recording. The preservation in situ, investigation and/or recording of the assets will ensure that their archaeological interest is retained even if their physical remains are disturbed during the construction phase of the Proposed Development. Their historic interest will also not be changed during this phase of the Proposed Development. Therefore, these aspects of the assets' significance will not be harmed.



- 9.9.21 The mitigation measures detailed in the Outline Construction Environmental Management Plan (Outline CEMP) [EN010157/APP/7.2] and the Outline Soil Management Plan [EN010157/APP/7.8] are sufficient to minimise any compaction of archaeological remains during the construction phase to avoid the loss of the archaeological or historic interest of these assets.
- 9.9.22 The importance of known and unknown non-designated heritage assets within the Order Limits is assigned as unknown, negligible, low or medium. As the potential physical impacts of the construction phase of the Proposed Development will not change the archaeological or historic interest of these assets due to the additional measures of preservation in situ or preservation through recording and the additional mitigation measures presented in the Outline Construction Environmental Management Plan (Outline CEMP) [EN010157/APP/7.2] and Outline Soil Management the [EN010157/APP/7.8], the magnitude of impact to the assets' significance arising from changes to their physical remains would be no change during the construction phase of the Proposed Development. Consequently, the significance of effect would be no effect, which is considered to be not significant. This equates to no harm to the significance of the assets.

Potential settings impacts

- 9.9.23 **ES Volume 4, Appendix 9.4: Detail Settings Impact Assessment [EN010157/APP/6.4]** concludes that the contribution to the significance of the known non-designated heritage assets by their settings derives from their experiential and notional settings. The aspect of the assets' significance which their settings contribute to are their historic interest. The experiential settings of these heritage assets are either not key contributors to the understanding and appreciation of them or, if their experiential settings are key contributors, the changes wrought to their settings during the construction phase would be temporary and full reversible. Their notional settings will not be changed during the construction phase of the Proposed Development. Therefore, there will be no harm to this aspect of the significance of the assets.
- 9.9.24 The contribution to the significance of currently unknown non-designated heritage assets by their settings is not known. However, it is most likely that they are comparable to those of the known non-designated heritage assets, and therefore both experiential and notional and contributing to the assets' historic interest. If so, the experiential settings of these heritage assets are most likely to either not be key contributors to the understanding and appreciation of them or, if their experiential settings are key contributors, the changes wrought to their settings during the construction phase would be temporary and full reversible. Their notional settings will not be changed during the construction phase of the Proposed Development. Therefore, there will be no harm to this aspect of the significance of the assets.



9.9.25 The importance of known and unknown non-designated heritage assets within the Order Limits is assigned as **unknown**, **negligible**, **low** or **medium**. As the potential settings impacts of the construction phase of the Proposed Development will not change the historic interest of these assets, the magnitude of impact to the assets' significance arising from changes to their settings would be **no change** during the construction phase of the Proposed Development. Consequently, the significance of effect would be **no effect**, which is considered to be **not significant**. This equates to no harm to the significance of the assets.

Operation (including maintenance)

Designated heritage assets

- 9.9.26 The designated heritage assets scoped in for further assessment in **Table 9-2** are Site of Meaux Cistercian Abbey (Scheduled Monument NHLE 1007843), of **high** importance, and Meaux Abbey Farm (Grade II Listed Building NHLE 1103426) and Wawne Grange (Grade II Listed Building NHLE 1346995), of **medium** importance. These assets derive significance from their historic, archaeological, architectural and aesthetic interest.
- 9.9.27 The additional mitigation discussed in **paragraph 9.8.7** above includes protective measures against dust to be employed (as reasonable and practical) during the operation (including maintenance) phase of the Proposed Development to reduce or avoid physical and settings impacts to the designated heritage assets scoped into this assessment. These measures are detailed in and secured by the **Outline Operational Environmental Management Plan (Outline OEMP)** [EN010157/APP/7.3].
- 9.9.28 It is recognised that, even with such measures in place, physical and settings impacts may still occur.

Potential physical impacts

- 9.9.29 As per **Table 9-3**, physical impacts to Site of Meaux Cistercian Abbey (Scheduled Monument NHLE 1007843) during the operation (including maintenance) phase have been scoped out of the assessment.
- 9.9.30 As the Proposed Development will not physically alter Meaux Abbey Farm (Grade II Listed Building NHLE 1103426) and Wawne Grange (Grade II Listed Building NHLE 1346995) or disturb below-ground remains pertaining to them, it will not change or decrease their archaeological interest. Therefore, there will be no harm to these aspects of the assets' significance.
- 9.9.31 Physical impacts to the architecture of Meaux Abbey Farm (Grade II Listed Building NHLE 1103426) and Wawne Grange (Grade II Listed Building NHLE



1346995)) arising primarily from dust created through operation activities (including the movement of maintenance vehicles along the local road network) remain possible even with the additional mitigation. However, such impacts will be minimal and will not change the architectural or aesthetic interest of these assets. This impact will therefore not cause harm to these aspects of the assets' significance.

- 9.9.32 All physical impacts to these assets during the operation (including maintenance) phase discussed above would be temporary and fully reversible.
- 9.9.33 The importance of Meaux Abbey Farm (Grade II Listed Building NHLE 1103426) and Wawne Grange (Grade II Listed Building NHLE 1346995) is **medium**. As the potential physical impacts of the operation (including maintenance) phase of the Proposed Development will not change the archaeological, architectural or aesthetic interest of these assets, the magnitude of impact to the assets' significance arising from changes to their physical remains would be **no change** during the operation (including maintenance) phase of the Proposed Development. Consequently, the significance of effect would be **no effect**, which is considered to be **not significant**. This equates to no harm to the significance of the assets.

Potential settings impacts

- 9.9.34 The aspect of the assets' significance which their settings contribute to is their historic and aesthetic interest.
- 9.9.35 Settings impacts during the operation (including maintenance) phase of the Proposed Development could arise primarily from visual changes caused by the existence of solar PV modules in Fields F4 F6, F14 and F15, affecting the settings of Site of Meaux Cistercian Abbey (Scheduled Monument NHLE 1007843) and Wawne Grange (Grade II Listed Building NHLE 1346995), and visual changes caused by planting in Field D18, affecting the setting of Meaux Abbey Farm (Grade II Listed Building NHLE 1103426).
- 9.9.36 The embedded mitigation presented in **Table 9.7** includes the establishment of an offset from solar PV development of 100m to the south of Site of Meaux Cistercian Abbey (Scheduled Monument NHLE 1007843) (**ES Volume 3, Figure 3.4**: **Indicative Environmental Masterplan [EN010157/APP/6.3]**). It is considered that the existing hedgerows would create a sufficient screening effect in the winter as well as in the summer. Nonetheless, the inclusion of the 100m offset would ensure that impacts to the asset's setting were avoided during the winter as well as summer months, because the flat landscape surrounding the asset (including Land Area F) causes distance (such as the embedded mitigation of the 100m offset) to compound the screening effects of existing hedgerows.



- 9.9.37 ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4] confirms that Field F14 is the only part of the Order Limits which lies within that part of the setting of the asset which contributes to the asset's significance which will be changed by the Proposed Development. Visual changes would impact this element of Wawne Grange's (Grade II Listed Building NHLE 1346995) setting only (refer to ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4] for a detailed discussion of this).
- 9.9.38 ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4] confirms that Field D18 is the only part of the Order Limits which lies within that part of the setting of the asset which contributes to the asset's significance. Grassland species only will be planted within Field D18, which in terms of height, density and nature are comparable to the agricultural species currently within Field D18 (refer to ES Volume 3, Figure 3.4: Indicative Environmental Masterplan [EN010157/APP/6.3]). Therefore, the generally rural nature of the setting of Meaux Abbey Farm (Grade II Listed Building NHLE 1103426) would be retained and views between the asset and Field D18 would not be obstructed. Thus, the aesthetic and historic interest of the asset that derives from its setting will not be changed, and so this aspect of the asset's significance will not be harmed.
- 9.9.39 All settings impacts to these assets during the operation (including maintenance) phase would be temporary and fully reversible.
- 9.9.40 The importance of Site of Meaux Cistercian Abbey (Scheduled Monument NHLE 1007843) is **high**. Potential settings impacts to this asset during the operation (including maintenance) phase would cause no changes to the aesthetic or historic interest of this asset. The magnitude of impact to the asset's significance arising from changes to its setting during the operation (including maintenance) phase is therefore assessed as **no change**. The significance of effect would therefore be **no effect**, which is considered to be **not significant**. This equates to much less than substantial harm to the significance of this asset.
- 9.9.41 The importance of Meaux Abbey Farm (Grade II Listed Building NHLE 1103426) and Wawne Grange (Grade II Listed Building NHLE 1346995) is **medium**. Potential settings impacts to these assets during the operation (including maintenance) phase would cause minimal changes to the aesthetic interest of these assets although these impacts would be temporary and fully reversible, and no changes are predicted to their historic interest. The magnitude of impact to the assets' significance arising from changes to their settings during the operation (including maintenance) phase is therefore assessed as **minor**. The significance of effect would therefore be **minor adverse**, which is considered to be **not significant**. This equates to much less than substantial harm to the significance of the assets.

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Known non-designated heritage assets and currently unknown below ground archaeological remains within the Order Limits

- 9.9.42 The significance of known non-designated heritage assets and currently unknown heritage assets within the Order Limits arises from their archaeological and historic interest. They are of **unknown**, **negligible**, **low** or **medium** importance.
- 9.9.43 The additional mitigation discussed above includes protective measures against dust to be employed (as reasonable and practical) during the operation (including maintenance) phase of the Proposed Development to reduce or avoid physical and settings impacts to the non-designated heritage assets scoped into this assessment. These measures are detailed in and secured by the **Outline OEMP** [EN010157/APP/7.3].
- 9.9.44 It is recognised that, even with such measures in place, physical and settings impacts may still occur.

Potential physical impacts

- 9.9.45 The main operational activities which could affect currently unknown and non-designated heritage assets within the Order Limits during this phase are the movement of maintenance vehicles and carrying out of maintenance activities within and around the Proposed Development and compression of in situ below-ground remains arising from the long-term storage of soil within the Order Limits. Physical impacts during this phase of the Proposed Development could also include damage arising from changes in soil conditions (such as moisture levels) to below- and/or above-ground archaeological remains pertaining to or associated with a known or currently unknown heritage assets within the Order Limits. This could change the archaeological interest of the assets.
- 9.9.46 It is assumed that maintenance activities will not involve the need to break ground, and the size and weight of the maintenance vehicles are unlikely to be of a magnitude that they would compress below-ground archaeological remains.
- 9.9.47 The mitigation measures detailed in the Outline Construction Environmental Management Plan (Outline CEMP) [EN010157/APP/7.2] and the Outline Soil Management Plan [EN010157/APP/7.8] are sufficient to minimise any compaction of archaeological remains during the operation (including maintenance) phase to avoid the loss of the archaeological or historic interest of these assets.



- 9.9.48 During the operation (including maintenance) phase, no changes to soil conditions which could damage to below- and/or above-ground archaeological remains are therefore anticipated.
- 9.9.49 Therefore, no physical impacts by the Proposed Development to the belowground remains of currently unknown and non-designated heritage assets within the Order Limits during this phase are predicted. Thus, it will not change or decrease the assets' archaeological interest. There will therefore be no harm to this aspect of the assets' significance.
- 9.9.50 The importance of known and unknown non-designated heritage assets within the Order Limits is assigned as **unknown**, **negligible**, **low** or **medium**. As the potential physical impacts of the operation (including maintenance) phase of the Proposed Development will not change the archaeological interest of these assets, the magnitude of impact to the assets' significance arising from changes to their physical remains would be **no change** during the operation (including maintenance) phase of the Proposed Development. Consequently, the significance of effect would be **no effect**, which is considered to be **not significant**. This equates to no harm to the significance of the assets.

Potential settings impacts

- 9.9.51 ES Volume 4, Appendix 9.4: Detail Settings Impact Assessment [EN010157/APP/6.4] concludes that the contribution to the significance of the known non-designated heritage assets by their settings derives from their experiential and notional settings. The aspect of the assets' significance which their settings contribute to are their historic interest. The experiential settings of these heritage assets are either not key contributors to the understanding and appreciation of them or, if their experiential settings are key contributors, the changes wrought to their settings during the operation (including maintenance) phase would be temporary and full reversible. Their notional settings will not be changed during the operation (including maintenance) phase of the Proposed Development. Therefore, there will be no harm to this aspect of the significance of the assets.
- 9.9.52 The contribution to the significance of currently unknown non-designated heritage assets by their settings is not known. However, it is most likely that they are comparable to those of the known non-designated heritage assets, and therefore both experiential and notional and contributing to the assets' historic interest. If so, the experiential settings of these heritage assets are most likely to either not be key contributors to the understanding and appreciation of them or, if their experiential settings are key contributors, the changes wrought to their settings during the operation (including maintenance) phase would be temporary and full reversible. Their notional settings will not be changed during the operation

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(including maintenance) phase of the Proposed Development. Therefore, there will be no harm to this aspect of the significance of the assets.

9.9.53 The importance of known and unknown non-designated heritage assets within the Order Limits is assigned as **unknown**, **negligible**, **low** or **medium**. As the potential settings impacts of the operation (including maintenance) phase of the Proposed Development will not change the historic interest of these assets, the magnitude of impact to the assets' significance arising from changes to their settings would be **no change** during the operation (including maintenance) phase of the Proposed Development. Consequently, the significance of effect would be **no effect**, which is considered to be **not significant**. This equates to no harm to the significance of the assets.

Decommissioning

Known non-designated heritage assets and currently unknown below ground archaeological remains within the Order Limits

9.9.54 The significance of known non-designated heritage assets and currently unknown heritage assets within the Order Limits arises from their archaeological and historic interest. They are of **unknown**, **negligible**, **low** or **medium** importance.

Potential physical impacts

- 9.9.55 Potential physical impacts of the Proposed Development during decommissioning to known and currently unknown non-designated heritage assets would primarily arise from groundworks associated with the removal of solar infrastructure such as solar PV modules and on-site supporting equipment (see ES Volume 1, Chapter 3: Proposed Development Description [EN010157/APP/6.1]) and from subsoiling of ground underneath soil storage bunds. It is anticipated at this stage that underground cabling would be left in-situ to avoid unnecessary ground disturbance.
- 9.9.56 It is assumed that the piles for the solar PV modules would be removed at the same angle as they were installed. Such a method of removal would avoid in situ archaeological remains from being disturbed during the decommissioning process.
- 9.9.57 Any subsoiling to remove soil compaction beneath concrete foundations/plinths or asphalt will have no impact as impacts to any archaeological remains would have been mitigated against during the construction phase.

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9.9.58 The importance of known and unknown non-designated heritage assets within the Order Limits is assigned as **unknown**, **negligible**, **low** or **medium**. As the potential physical impacts of the decommissioning phase of the Proposed Development will not change the archaeological interest of these assets, the magnitude of impact to the assets' significance arising from changes to their physical remains would be **no change** during the decommissioning phase of the Proposed Development. Consequently, the significance of effect would be **no effect**, which is considered to be **not significant**. This equates to no harm to the significance of the assets.

Potential settings impacts

- 9.9.59 **ES Volume 4, Appendix 9.4: Detailed Settings Impact Assessment [EN010157/APP/6.4]** concludes that the contribution to the significance of the known non-designated heritage assets by their settings derives from their experiential and notional settings. The aspect of the assets' significance which their settings contribute to are their historic interest. The experiential settings of these heritage assets are either not key contributors to the understanding and appreciation of them or, if their experiential settings are key contributors, the changes wrought to their settings during the decommissioning phase would be temporary and full reversible. Their notional settings will not be changed during the decommissioning phase of the Proposed Development. Therefore, there will be no harm to this aspect of the significance of the assets.
- 9.9.60 The contribution to the significance of currently unknown non-designated heritage assets by their settings is not known. However, it is most likely that they are comparable to those of the known non-designated heritage assets, and therefore both experiential and notional and contributing to the assets' historic interest. If so, the experiential settings of these heritage assets are most likely to either not be key contributors to the understanding and appreciation of them or, if their experiential settings are key contributors, the changes wrought to their settings during the decommissioning phase would be temporary and full reversible. Their notional settings will not be changed during the decommissioning phase of the Proposed Development. Therefore, there will be no harm to this aspect of the significance of the assets.
- 9.9.61 The importance of known and unknown non-designated heritage assets within the Order Limits is assigned as **unknown**, **negligible**, **low** or **medium**. As the potential settings impacts of the Proposed Development will not change the historic interest of these assets, the magnitude of impact to the assets' significance arising from changes to their settings would be **no change** during the decommissioning phase of the Proposed Development. Consequently, the



significance of effect would be **no effect**, which is considered to be **not significant**. This equates to no harm to the significance of the assets.

9.10 Opportunities for enhancement

- 9.10.1 The Applicant proposes the incorporation of information boards on the heritage of the local area, in the vicinity of, and to allow public access to, Scheduled Monuments NHLE 1007843 (Site of Meaux Cistercian Abbey) and NHLE 1015305 (Meaux Duck Decoy, 420m south west of Meaux Decoy Farm), see ES Volume 3, Figure 3.4: Indicative Environmental Masterplan [EN010157/APP/6.3].
- 9.10.2 Discussions with Historic England, Humber Field Archaeology and Albanwise Estate regarding the potential implementation of a community heritage project focussed on the local population's historic and present relationship to sunlight and wetland landscapes are ongoing.
- 9.10.3 As the heritage significance of an asset is defined in terms of its interest for the whole of society, public access to a heritage asset means that it can be experienced, appreciated and understood by the largest proportion of society. The enhancement opportunities of the Proposed Development discussed in paragraph 9.10.1 and paragraph 9.10.2 above would improve public access, visibility and engagement with the cultural heritage assets, both designated and non-designated, within the vicinity of the Proposed Development. Thus, the enhancement opportunities of the Proposed Development would allow an increased proportion of society to experience, appreciate and understand these assets. This would therefore increase the heritage significance of these assets, which could be considered a direct positive change of the Proposed Development.

9.11 Monitoring requirements

- 9.11.1 Mitigation measures that involve monitoring (e.g. dust monitoring) are detailed in the AMS [EN010157/APP/7.11], Outline LEMP [EN010157/APP/7.5], Outline CEMP [EN010157/APP/7.2], the Outline OEMP [EN010157/APP/7.3] and the Outline DEMP [EN010157/APP/7.4] will avoid or mitigate construction, operation (including maintenance) and decommissioning phase impacts on Scheduled Monuments, Listed Buildings, non-designated heritage assets and currently unknown heritage assets.
- 9.11.2 No requirement for the monitoring of the Scheduled Monuments by Historic England is anticipated.

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9.11.3 Monitoring of measures regarding the protection of the Grade II Listed Buildings and the archaeological mitigation measures would be carried out by the East Riding of Yorkshire Council & Hull City Council Historic Environment Team to ensure that the measures detailed in the AMS [EN010157/APP/7.11] remain appropriate following further investigation, that the Archaeological Written Scheme of Investigation is adhered to and that any post-excavation analysis and reporting is conducted in accordance with the Written Scheme of Investigation (or subsequently agreed amendments to this).



9.12 Difficulties and uncertainties

- 9.12.1 The following difficulties and uncertainties have been encountered in undertaking the cultural heritage assessment:
 - Information held by public data sources is generally considered to be reliable; however, the following general points are noted:
 - Some maps were not available for consultation for the ES Volume 4, Appendix 9.1: Archaeological Desk-Based Assessment [EN010157/APP/6.4];
 - Documentary sources are rare before the medieval period;
 - Whilst it is accepted that historic documents may be biased depending on the author, with content seen through the lens of context, wherever such documentary sources are used in assessing archaeological potential professional judgment is used in their interpretation in that the functionality of the document is considered:
 - Historic Environment Record information can be limited because opportunities for research, fieldwork and discovery depend on the situation of commercial development and occasional research projects, rather than the result of a more structured research framework. A lack of data within the Historic Environment Record does not necessarily equal an absence of archaeology, this lack of data has been addressed through further archaeological investigation (geophysical survey and targeted trenching);
 - Where archaeological sites have been identified solely from aerial imagery without confirmation from archaeological excavation or supporting evidence in the form of find-spots for example, it is possible the interpretation may be revised in the light of further investigation.
 - The significance of sites can be difficult to identify from Historic Environment Record data, depending on the accuracy and reliability of the original source; and
 - There can often be a lack of dating evidence for archaeological sites, reasonable assumptions based on the form of geophysical anomalies / cropmarks, records of previous finds and the results of trenching have addressed this.
 - Any archaeological site visit has inherent limitations, primarily because archaeological remains below ground level may have no surface



indicators. This has been addressed through a geophysical survey and targeted trial trenching of the Land Areas and proposals for further preconstruction trial trenching.

- Magnetometry has limitations in that certain types of sub-surface remains may, under certain circumstances, be more likely to be identified by other survey techniques, such as earth resistance, ground penetrating radar or electro-magnetic methods, which measure different geophysical properties. However, given the success of preceding surveys in the wider area, magnetometry was selected as the best methodology for assessing the Site.
- Trial trenching has been carried out over the areas of likely greatest ground disturbance (on-site substations, hybrid packs, switchgears, BESS, construction compound areas and internal roads). There is therefore potential for currently unknown remains elsewhere within the Site. The strong correlation between the results of the trial trenching that has been carried out to date, and the results of geophysical survey, geoarchaeological and archaeological desk-based assessments indicate that the potential for large scale archaeological remains to have been missed by the geophysical survey is low.
- There remains the potential for below-ground remains relating to currently unknown heritage assets to be present in situ within the Order Limits. As the nature and function of such heritage assets is unknown, their importance and significance are also unknown. Therefore, specific potential physical and settings impacts on currently unknown heritage assets could not be determined in this assessment. However, potential physical and settings impacts on such assets have been identified and assessed in broad terms.

9.13 Summary

9.13.1 A summary of this assessment is presented in **Table 9-8**. The importance of each receptor is identified alongside any relevant embedded mitigation and the potential effects that could arise on those receptors. Any proposed additional mitigation measures are stated, and the magnitude of impact and residual effects then assessed. Finally, any monitoring requirements are stated, where applicable.



Table 9-8: Assessment summary

Receptor/ matter	Phase	Importance of the receptor	Embedded mitigation	Potential effects (without additional mitigation)	Additional mitigation	Magnitude of impact	Residual effect (with additional mitigation)	Monitoring requirement
Key: + = positive	, - = negative, D	= direct, I = indirect	t, ST = short term, MT = m		rm, P = permanent, T = t	emporary		
Site of Meaux Cistercian Abbey (Scheduled Monument NHLE 1007843)	Construction	High	100m offset from solar PV development to the south of Meaux Abbey Scheduled Monument to be implemented	Potential for physical impacts and impacts to the setting of this asset.	AMS [EN010157/APP/7.11] Outline CEMP [EN010157/APP/7.2]	No change	No effect Not significant	Not anticipated to be required.
Meaux Duck Decoy, 420m South East of Meaux Decoy Farm (Scheduled Monument NHLE 1015305)	Construction	High	No solar PV modules or other infrastructure to be erected in Field E6 and parts of Fields E7 and E9	Potential for physical impacts and impacts to the setting of this asset.	AMS [EN010157/APP/7.11] Outline CEMP [EN010157/APP/7.2]	No change	No effect Not significant	Not anticipated to be required.
Medieval Moated Tile Kiln 250m North East of North Grange Farm (Scheduled Monument NHLE 1008039)	Construction	High	None	Potential for physical impacts and impacts to the setting of this asset.	AMS [EN010157/APP/7.11] Outline CEMP [EN010157/APP/7.2]	No change	No effect Not significant	Not anticipated to be required.
Meaux Abbey Farm (Grade II Listed Building NHLE 1103426) Wawne Grange (Grade II Listed Building NHLE 1346995)	Construction	Medium	None	Potential for damage to the elevations of this asset.	AMS [EN010157/APP/7.11] Outline CEMP [EN010157/APP/7.2]	No change	No effect Not significant	Monitoring would be carried out by the Eas Riding of Yorkshire Council & Hull City Council Historic Environment Team to ensure that the measures set out in the AMS [EN010157/APP/7.11 remain appropriate and are adhered to.
Meaux Abbey Farm (Grade II Listed Building NHLE 1103426)	Construction	Medium	None	Potential for changes to the setting of this asset.	AMS [EN010157/APP/7.11]	Minor	Minor adverse (-) (D) (ST) (T)	Monitoring would be carried out by the Eas Riding of Yorkshire Council & Hull City



Receptor/ matter	Phase	Importance of the receptor	Embedded mitigation	Potential effects (without additional mitigation)	Additional mitigation	Magnitude of impact	Residual effect (with additional mitigation)	Monitoring requirement
Wawne Grange (Grade II Listed Building NHLE 1346995)					Outline CEMP [EN010157/APP/7.2]		Not significant	Council Historic Environment Team to ensure that the measures set out in the AMS [EN010157/APP/7.11] remain appropriate and are adhered to.
Meaux Abbey Farm (Grade II Listed Building NHLE 1103426) Wawne Grange (Grade II Listed Building NHLE 1346995)	Operation (including maintenance)	Medium	None	Potential for physical impacts.	AMS [EN010157/APP/7.11] Outline OEMP [EN010157/APP/7.3]	No change	No effect Not significant	Monitoring would be carried out by the East Riding of Yorkshire Council & Hull City Council Historic Environment Team to ensure that the measures set out in the AMS [EN010157/APP/7.11] remain appropriate and are adhered to.
Meaux Abbey Farm (Grade II Listed Building NHLE 1103426) Wawne Grange (Grade II Listed Building NHLE 1346995)	Operation (including maintenance)	Medium	None	Potential for changes to the setting of this asset.	AMS [EN010157/APP/7.11] Outline OEMP [EN010157/APP/7.3]	Minor	Minor adverse (-) (D) (ST) (T) Not significant	Monitoring would be carried out by the East Riding of Yorkshire Council & Hull City Council Historic Environment Team to ensure that the measures set out in the AMS [EN010157/APP/7.11] remain appropriate and are adhered to.
Physical impacts to known non-designated heritage assets within the Order Limits (including non-designated heritage assets at greater than	Construction	Unknown, negligible, low or up to medium	No solar PV development is expected to be erected in Fields B3, B4, B8, D18, F6 and F9 – F11, where non-designated heritage assets Historic Environment Record MHU13283 (site of	Potential damage and disturbance to archaeological remains.	AMS [EN010157/APP/7.11] Outline CEMP [EN010157/APP/7.2]	No change	No effect Not significant	Monitoring would be carried out by the East Riding of Yorkshire Council & Hull City Council Historic Environment Team to ensure that the measures set out in the AMS



Receptor/ matter	Phase	Importance of the receptor	Embedded mitigation	Potential effects (without additional	Additional mitigation	Magnitude of impact	Residual effect (with additional	Monitoring requirement
50m distance			sluice east of Monk	mitigation)			mitigation)	[EN010157/APP/7.11]
from centre line			Dike, HA2, HA3 and					remain appropriate
of grid			Historic Environment					and are adhered to.
connection cable route but within			Record MHU3593					
the Order Limits)			(Riston Carr House					
the Order Limits)			Enclosures) and					
			MHU1514 (Meaux					
			Deserted Medieval					
			Village) are located.					
			20m offset to					
			implemented around HA2, HA3 and Historic					
			Environment Record					
			MHU3593.					
			WII 103393.					
			Where in situ below-					
			ground archaeological					
			remains are known to					
			be present within the					
			footprints of the solar					
			PV modules, an					
			alternative mounting					
			structure would be used,					
			in the form of ballast					
			slabs which sit on the					
			ground's surface rather					
			than penetrating the					
			ground. The specific					
			methodology to be					
			employed would be					
			agreed with the					
			Development					
			Management					
			Archaeologist for the					
			East Riding of Yorkshire					
			Council & Hull City Council.	3				
Physical impacts	Operation	Unknown,	No solar PV	Potential damage and	AMS	No change	No effect	Monitoring would be
to known non-	(including	negligible, low	development is	disturbance to	[EN010157/APP/7.11]	1 NO Change	140 GIIGUL	carried out by the East
designated	maintenance)	or up to	expected to be erected	archaeological remains.	[Not significant	Riding of Yorkshire
heritage assets		medium	in Fields B3, B4, B8,					Council & Hull City



Receptor/ matter	Phase	Importance of the receptor	Embedded mitigation	Potential effects (without additional mitigation)	Additional mitigation	Magnitude of impact	Residual effect (with additional mitigation)	Monitoring requirement
within the Order Limits (including non-designated heritage assets at greater than 50m distance from centre line of grid connection cable route but within the Order Limits)			D18, F6 and F9 – F11, where non-designated heritage assets Historic Environment Record MHU13283 (site of sluice east of Monk Dike, HA2, HA3 and Historic Environment Record MHU3593 (Riston Carr House Enclosures) and MHU1514 (Meaux Deserted Medieval Village) are located. 20m offset to implemented around HA2, HA3 and Historic Environment Record MHU3593		Operational Environmental Management Plan			Council Historic Environment Team to ensure that the measures set out in the AMS [EN010157/APP/7.11] remain appropriate and are adhered to.
Physical impacts to known non-designated heritage assets within the Order Limits (including non-designated heritage assets at greater than 50m distance from centre line of grid connection cable route but within the Order Limits)	Decommissioning	Unknown, negligible, low or up to medium	No solar PV development is expected to be erected in Fields B3, B4, B8, D18, F6 and F9 – F11, where non-designated heritage assets Historic Environment Record MHU13283 (site of sluice east of Monk Dike, HA2, HA3 and Historic Environment Record MHU3593 (Riston Carr House Enclosures) and MHU1514 (Meaux Deserted Medieval Village) are located. 20m offset to implemented around HA2, HA3 and Historic Environment Record MHU3593	Potential damage and disturbance to archaeological remains.	AMS [EN010157/APP/7.11] Outline DEMP [EN010157/APP/7.4]	No change	No effect Not significant	Monitoring would be carried out by the East Riding of Yorkshire Council & Hull City Council Historic Environment Team to ensure that the measures set out in the AMS [EN010157/APP/7.11] remain appropriate and are adhered to.



Receptor/ matter	Phase	Importance of the receptor	Embedded mitigation	Potential effects (without additional mitigation)	Additional mitigation	Magnitude of impact	Residual effect (with additional mitigation)	Monitoring requirement
Physical impacts to currently unknown below ground archaeological remains within the Order Limits	Construction	Unknown, negligible, low or up to medium	None	Potential damage and disturbance to archaeological remains.	AMS [EN010157/APP/7.11] Outline CEMP [EN010157/APP/7.2]	No change	No effect Not significant	Monitoring would be carried out by the East Riding of Yorkshire Council & Hull City Council Historic Environment Team to ensure that the measures set out in the AMS [EN010157/APP/7.11] remain appropriate and are adhered to.
Physical impacts to currently unknown below ground archaeological remains within the Order Limits	Operation (including maintenance)	Unknown, negligible, low or up to medium	None	Potential damage and disturbance to archaeological remains.	AMS [EN010157/APP/7.11] Outline OEMP [EN010157/APP/7.3]	No change	No effect Not significant	Monitoring would be carried out by the East Riding of Yorkshire Council & Hull City Council Historic Environment Team to ensure that the measures set out in the AMS [EN010157/APP/7.11] remain appropriate and are adhered to.
Physical impacts to currently unknown below ground archaeological remains within the Order Limits	Decommissioning	Unknown, negligible, low or up to medium	None	Potential damage and disturbance to archaeological remains.	AMS [EN010157/APP/7.11] Outline DEMP [EN010157/APP/7.4]	No change	No effect Not significant	Monitoring would be carried out by the East Riding of Yorkshire Council & Hull City Council Historic Environment Team to ensure that the measures set out in the AMS [EN010157/APP/7.11] remain appropriate and are adhered to.
Settings impacts to currently unknown below ground	Construction	Unknown, negligible, low or up to medium	None	Potential for changes to the settings of these assets.	AMS [EN010157/APP/7.11]	No change	No effect Not significant	Monitoring would be carried out by the East Riding of Yorkshire Council & Hull City



Receptor/ matter	Phase	Importance of the receptor	Embedded mitigation	Potential effects (without additional mitigation)	Additional mitigation	Magnitude of impact	Residual effect (with additional mitigation)	Monitoring requirement
archaeological remains within the Order Limits					Outline CEMP [EN010157/APP/7.2]			Council Historic Environment Team to ensure that the measures set out in the AMS [EN010157/APP/7.11] remain appropriate and are adhered to.
Settings impacts to currently unknown below ground archaeological remains within the Order Limits	Operation (including maintenance)	Unknown, negligible, low or up to medium	None	Potential for changes to the settings of these assets.	AMS [EN010157/APP/7.11] Outline OEMP [EN010157/APP/7.3]	No change	No effect Not significant	Monitoring would be carried out by the East Riding of Yorkshire Council & Hull City Council Historic Environment Team to ensure that the measures set out in the AMS [EN010157/APP/7.11] remain appropriate and are adhered to.
Settings impacts to currently unknown below ground archaeological remains within the Order Limits	Decommissioning	Unknown, negligible, low or up to medium	None	Potential for changes to the settings of these assets.	AMS [EN010157/APP/7.11] Outline DEMP [EN010157/APP/7.4]	No change	No effect Not significant	Monitoring would be carried out by the East Riding of Yorkshire Council & Hull City Council Historic Environment Team to ensure that the measures set out in the AMS [EN010157/APP/7.11] remain appropriate and are adhered to.





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