Springwell Solar Farm

Environmental Statement

Volume 1 Chapter 9: Cultural Heritage (Clean)

EN010149/APP/6.1.2 Revision 2 January 2025 Springwell Energyfarm Ltd APFP Regulation 5(2)(a)
Planning Act 2008
Infrastructure Planning

(Applications: Prescribed Forms and Procedure) Regulations 2009

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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 [EN010149/APP/6.1].
- 9.1.2. This chapter is supported by the following figures presented in **ES Volume 2** [**EN010149/APP/6.2**]:
 - Figure 9.1: Cultural Heritage Study Area;
 - Figure 9.2: Assets within the Site;
 - Figure 9.3: Assets within the Study Area;
 - Figure 9.4: Assets Included in the Assessment;
 - Figure 9.5: Assets Identified from Geophysical Survey;
 - Figure 9.6: Assets Identified from Aerial Investigation and Mapping;
 - Figure 9.7: Relative Density of Archaeological Features; and
 - Figure 9.8: Indicative Archaeological Mitigation Areas.
- 9.1.3. This chapter is supported by the following appendices presented in **ES Volume 3 [EN010149/APP/6.3]**:
 - Appendix 9.1: Archaeological Desk-Based Assessment and Stage 1 Setting Assessment;
 - Appendix 9.2: Geoarchaeological Deposit Modelling Report;
 - Appendix 9.3: Aerial Investigation Report;
 - Appendix 9.4: Geophysical Survey Report; and
 - Appendix 9.5: Archaeological Trial Trenching Report.
- 9.1.4. This chapter should be read in conjunction with the following assessment chapters in **ES Volume 1 [EN010149/APP/6.1]**:
 - Chapter 10: Landscape and Visual;
 - Chapter 11: Land, Soil and Groundwater; and
 - Chapter 14: Traffic and Transport.



- 9.2. Legislative framework, planning policy and guidance
- 9.2.1. This assessment has been undertaken with regard to the following legislation, 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** [EN010149/APP/7.2].

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];
- Hedgerows Regulations 1997 [Ref. 9-6];
- Historic Buildings and Ancient Monuments Act 1953 [Ref. 9-7];
- National Heritage Act 1980, amended 1983 & 1997, 2002 [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) [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 Environmental Impact Assessment (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. The methodology used for this assessment (Section 9.15) has taken account of this guidance;
- National Policy Statement for Renewable Energy Infrastructure (NPS EN-3) (2023) [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". The methodology used for this assessment has taken account of this guidance, ES Volume 3, Appendix 9.4: Geophysical Survey Report [EN010149/APP/6.3], Appendix 9.2: Geoarchaeological Deposit Modelling Report [EN010149/APP/6.3], and Appendix 9.5: Archaeological Trial Trenching Report [EN010149/APP/6.3]. The assessment has been carried out in a proportionate manner in order to understand the likely significant effects of the Proposed Development;

- National Policy Statement for Electricity Networks Infrastructure (NPS EN-5) (2023) [Ref. 9-12] Paragraphs 2.2.10, 2.9.19 and 2.9.25. These paragraphs 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 design of the proposed development including siting of the project substation has taken account of this guidance; and
- The National Planning Policy Framework (NPPF) (2023) [Ref. 9-13] Section 16 'Conserving and enhancing the historic environment'. This section 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. ES Volume 3, Appendix 9.1: Archaeological Desk-Based Assessment and Stage 1 Setting Assessment [EN010149/APP/6.3] has described the significance of the heritage assets potentially affected by the proposed development (including those affected by alterations in their setting) proportionally to the impacts, those where significant effects are predicted have been included within this assessment. Archaeological field evaluation in the form of ES Volume 3, Appendix 9.4: Geophysical Survey Report and Appendix 9.5: Archaeological Trial Trenching [EN010149/APP/6.3] have been carried out to inform the assessment. Consultation on the proposed reform to the NPPF ended on the 24 September 2024. The Planning Statement [EN010149/APP/7.2] considers both the current and consulted NPPF.

Local Planning Policy

- Central Lincolnshire Local Plan (2018 2040) adopted 13 April 2023 [Ref. 9-14], which includes Policy S57: The Historic Environment; and
- Scopwick and Kirkby Green Neighbourhood Plan 2021 2036 [Ref. 9-15]. Which includes Policy 10: Protecting Heritage Assets. This states that:
- "1. The effect of a proposal on the significance of a non-designated heritage asset, including their setting, will be taken into consideration when determining planning applications. 2. Gardens and open spaces form part of the special interest of the Conservation Areas. Development will only be permitted on gardens and open spaces between buildings within the Conservation Areas where it can be demonstrated that the proposals shall not harm the character and appearance of the Conservation Area."

Guidance

- Chartered Institute for Archaeologists (2022) Code of Conduct: professional ethics in archaeology [Ref. 9-16];
- Chartered Institute for Archaeologists (CIfA) (2020) Standard and guidance for historic environment desk-based assessment [Ref. 9-17];
- Historic England (2017) The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning: 3 (Second Edition) (GPA3) [Ref. 9-18];
- Historic England (2019) Statements of Heritage Significance: Analysing Significance in Heritage Assets (Historic England Advice Note 12 (HEAN12) [Ref. 9-19]; and



- Institute of Environmental Management and Assessment (IEMA), ClfA and Institute of Historic Building Conservation (IHBC) (2021) Principles of Cultural Heritage Impact Assessment [Ref. 9-20].
- Lincolnshire County Council (2024) Archaeology Handbook [Ref. 9-21]

9.3. Stakeholder engagement

- 9.3.1. **Table 9.1** provides a summary of the stakeholder engagement activities undertaken separately from the 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 in the Environmental Statement (ES).
- 9.3.2. **ES Volume 3, Appendix 5.3: Scoping Opinion Response Matrix [EN010149/APP/6.3]** presents the responses received via the Scoping Opinion and the Applicant's response to each matter raised.
- 9.3.3. Appendix A-4, J-1, J-2 and K-3 of the Consultation Report [EN010149/APP/5.1], which is submitted in support of the Development Consent Order (DCO) Application, sets out the feedback received during non-statutory, statutory and targeted consultation and how regard has been afforded by the Applicant to each matter raised.



Table 9.1 Summary of stakeholder engagement

Consultee	Date of engagement	Summary of matters raised	How this matter has been addressed	Location of where this matter is addressed in the ES
Lincolnshire County Council Heritage Team– email correspondence	11 October 2022	Written Scheme of Investigation (WSI) for geophysical survey sent for comment.	WSI for geophysical survey agreed and geophysical survey completed.	ES Volume 3, Appendix 9.4: Geophysical Survey Report [EN010149/APP/6.3]
Lincolnshire County Council Heritage Team and Heritage Lincolnshire – email correspondence and virtual meeting	15 September 2023	Emailed the proposed evaluation strategy along with the Archaeological Desk-Based Assessment and Stage 1 Setting Assessment, Aerial Investigation and Mapping report and Geophysical Survey results. Maintained request for trial trenching across entire Site without targeting for greatest potential ground impact.	Trial trenching of areas of greatest potential ground impact completed in line with WSI submitted to Lincolnshire County Council on 8 November 2023 and approved (for methodology) following revisions on 15 July 2024. Trial trenching has targeted areas of fixed infrastructure (substations, collector compounds) to confirm the archaeological potential. Other areas	ES Volume 3, Appendix 9.5: Trial Trenching Report [EN010149/APP/6.3] oWSI [EN010149/APP/7.15]



Consultee	Date of engagement	Summary of matters raised	How this matter has been addressed	Location of where this matter is addressed in the ES
			where the geophysical survey indicates a high potential for archaeological remains and where the detailed design cannot avoid impacts will be investigated at detailed design stage through a programme of archaeological work in accordance with the Outline Written Scheme of Investigation (oWSI) [EN010149/APP/7.15] to be secured by a requirement to the DCO.	
Historic England – virtual meeting	20 June 2023	Introduced project, work carried out so far including summary geophysical survey results. Historic England recommended producing a deposit model to map the distribution of	A geoarchaeological assessment and deposit model has been completed.	ES Volume 3, Appendix 9.2: Geoarchaeological Deposit Modelling Report [EN010149/APP/6.3]



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Consultee	Date of engagement	Summary of matters raised	How this matter has been addressed	Location of where this matter is addressed in the ES
		buried deposits of archaeological interest across the Site and investigate the reasons for differences in the distribution of geophysical anomalies of likely archaeological origin across the Site.		
North Kesteven Conservation Officer – virtual meeting	18 March 2024	Discussed initial baseline setting assessment and response to the Scoping Report and Preliminary Environmental Information Report. More detailed setting assessment to be provided to justify scoping out of assets.	Further setting assessment information included in ES Volume 3, Appendix 9.1: Archaeological Desk-Based Assessment and Stage 1 Setting Assessment [EN010149/APP/6.3]; with reference to revised Zone of Theoretical Visibility (ZTV).	ES Volume 3, Appendix 9.1: Archaeological Desk-Based Assessment and Stage 1 Setting Assessment [EN010149/APP/6.3]
Lincolnshire County Council Heritage Team	23rd January 2024 to 13th June 2024	Monitoring visits to the trial trenching and remote sign off of trenches as completed.	Trial trenching was completed in accordance with the approved Written Scheme of Investigation	ES Volume 3, Appendix 9.5: Trial Trenching Report [EN010149/APP/6.3]



9.4. Approach to the assessment

Study area

- 9.4.1. Overlapping study areas conditions (ES Volume 2, Figure 9.1: Study Areas Used in Cultural Heritage Assessment [EN010149/APP/6.2]) have been used for this assessment as follows:
 - a 2 kilometres (km) buffer from the Site for non-designated assets within which the archaeological and historical development of the Site and surrounding area has been considered to inform the baseline and to identify non-designated heritage assets with potential for effects resulting from changes in their setting (ES Volume 3, Appendix 9.1: Archaeological Desk-Based Assessment and Stage 1 Setting Assessment [EN010149/APP/6.3])
 - a 5km buffer for designated assets to identify those with potential for effects resulting from changes in their setting (ES Volume 3, Appendix 9.1: Archaeological Desk-Based Assessment and Stage 1 Setting Assessment, Annex 12 [EN010149/APP/6.3]).

Scope of the assessment

- 9.4.2. 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 [EN010149/APP/6.1].
- 9.4.3. 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 3**, **Appendix 5.1: Scoping Report [EN010149/APP/6.3]** and reiterates/updates the evidence base for scoping matters in or out following further iterative assessment.

Receptors/matters scoped into the assessment

9.4.4. **Table 9.2** presents the receptors/matters that are scoped into the assessment reported within this ES, together with appropriate justification.

Table 9.2 Receptors/matters scoped into the assessment

Receptor/matter	Phase	Justification
Physical impacts to Milepost 20 metres (m) south of Ashby Lodge Farm, Grade II Listed Building (National Heritage List for England (NHLE) Ref: 1061824)	operation (including maintenance)	The milepost is located within the Site. Activity during construction, operation (including maintenance) and decommissioning may therefore result in unintended direct



Receptor/matter	Phase	Justification
		impacts on this asset, with potential for significant effects to occur without mitigation.
		This matter is therefore scoped in, although it had been agreed for operational (including maintenance) phase effects to be scoped out, as detailed within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] and confirmed within ES Volume 3, Appendix 5.2: Scoping Opinion [EN010149/APP/6.3].
Physical impacts to Avro Lancaster crash site (Lincolnshire County Council Historic Environment Record (HER) Ref: MLI25416)	Construction, operation (including maintenance) and decommissioning	Military crash sites are protected by legislation. The crash site is recorded within the Site. Construction activity would directly impact on this asset, with potential for significant effects to occur without mitigation. This approach is detailed within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] and confirmed within ES Volume 3, Appendix 5.2: Scoping Opinion [EN010149/APP/6.3].
		Operation (including maintenance) and decommissioning activity may result in unintended direct impacts on this asset, with potential for significant effects to occur without mitigation. It is therefore scoped into the assessment. This is in line with the recommendations made within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3].
Physical impacts to Hawker Hurricane crash site	Construction, operation	Military crash sites are protected by legislation. The crash site is



Receptor/matter	Phase	Justification
(Lincolnshire County Council HER Ref: MLI25417)	(including maintenance) and decommissioning	recorded within the Site. Construction activity would directly impact on this asset, with potential for significant effects to occur without mitigation. This approach is detailed within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] and confirmed within ES Volume 3, Appendix 5.2: Scoping Opinion [EN010149/APP/6.3].
		Operation (including maintenance) and decommissioning activity may result in unintended direct impacts on this asset, with potential for significant effects to occur without mitigation. It is therefore scoped into the assessment. This is in line with the recommendations made within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3].
Scheduled remains of former village of Brauncewell (NHLE 1018397)	Construction and operation (including maintenance)	Part of this designated heritage asset lies within the Site – where a permissive footpath is proposed. Significant effects could occur through construction and use of this footpath without mitigation. The setting of this asset contributes to its significance and the character of this setting could be altered by the presence of the Proposed Development within the wider surroundings, significant effects could occur due to the importance of this asset. This matter was not considered within ES Volume 3, Appendix 5.1: Scoping Report



Receptor/matter	Phase	Justification
		[EN010149/APP/6.3] and has been scoped into the assessment following the extension of the Order Limits to provide a permissive footpath into Brauncewell village.
Currently unknown heritage assets within the Site	Construction, operation (including maintenance) and decommissioning	There remains potential for currently unknown remains to be present within the Site which could be impacted by the Proposed Development. The contribution of setting to the heritage significance of these assets could be impacted by the presence of the Proposed Development over or in proximity to them. This matter was proposed to be scoped in for construction and operation (including maintenance) within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] and confirmed within ES Volume 3, Appendix 5.2: Scoping Opinion [EN010149/APP/6.3]. Decommissioning activity may result in unintended direct impacts to currently unknown remains, with potential for significant effects to occur without mitigation. This matter is therefore scoped into the assessment. This is in line with the recommendations made within ES Volume 3, Appendix 5.2: Scoping Opinion [EN010149/APP/6.3].
Effects of dust and noise/vibration on heritage assets within or adjacent to construction, operation (including maintenance) and	Construction, operation (including maintenance)	Construction, operation (including maintenance) and decommissioning activity in proximity to heritage assets could result in a loss of the setting



Receptor/matter	Phase	Justification
decommissioning working areas/access routes.	and decommissioning	quality of "tranquillity" through increased noise; and has potential to result in dust which might affect the fabric of built heritage assets. Significant effects could occur without mitigation. This matter was not considered within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] and has been scoped into the assessment as there is the potential for significant effects to occur.
Physical impacts to areas of high density archaeological remains within the Ground Mounted Solar PV Generating Station (Lincolnshire County Council HER references MLI87449, MLI87423, MLI87445, Nondesignated heritage assets: AA60, AA63, AA55, AA56, and AA42) - see ES Volume 2, Figure 9.7: Relative Density of Archaeological Features [EN010149/APP/6.2].	Construction, operation (including maintenance) and decommissioning	Construction activity (piled foundations, excavation for cables, foundations of inverter stations) could impact on these below-ground archaeological remains. Significant effects could occur without mitigation. Operation (including maintenance) and decommissioning activity could result in unintended impacts to these assets. Without mitigation significant effects could occur. This matter was not considered within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] and has been scoped into the assessment as there is the potential for significant effects to occur.
Physical impacts to areas of high density archaeological remains within cable route areas (Lincolnshire County Council HER References: MLI87417, MLI90983, MLI87414, MLI86753, MLI961987, MLI90995, MLI90993, Nondesignated heritage assets:	Construction, operation (including maintenance) and decommissioning	Excavation for the cables between Springwell East and Springwell Central, between Springwell Central and Springwell West and between Springwell Substation and the National Grid Navenby Substation will damage these below-ground archaeological



Receptor/matter	Phase	Justification
AA31, AA36, AA42, AA44, and AA51) - see ES Volume 2, Figure 9.7: Relative Density of Archaeological Features [EN010149/APP/6.2].		remains. Significant effects could occur without mitigation. Operation (including maintenance) and decommissioning activity could result in unintended impacts to these assets. Without mitigation significant effects could occur. This matter was not considered within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] and has been scoped into the assessment as there is the potential for significant effects to occur.
Physical impacts to areas of low density archaeological remains within the Ground Mounted Solar PV Generating Station and cable route areas (except those scoped out below, see Table 9.3) - see ES Volume 2, Figure 9.7: Relative Density of Archaeological Features [EN010149/APP/6.2].	Construction, operation (including maintenance) and decommissioning	Construction activity could impact on these below-ground archaeological remains and significant effects could occur without mitigation. Operation (including maintenance) and decommissioning activity could result in unintended impacts to these assets. Without mitigation significant effects could occur. This matter was not considered within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] and has been scoped into the assessment as there is the potential for significant effects to occur.

Receptors/matters scoped out of the assessment

9.4.5. **Table 9.3** presents the receptors/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 Receptor/matters scoped out the assessment

Receptor/matter	Phase	Justification
Impacts resulting from changes to the setting of Milepost 20 metres south of Ashby Lodge Farm, Grade II Listed Building (NHLE Ref: 1061824)	Construction, operation (including maintenance), decommissioning	The contribution of setting to the significance of the milepost will be unaltered and this matter remains scoped out, as detailed within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] and confirmed within ES Volume 3, Appendix 5.2: Scoping Opinion [EN010149/APP/6.3].
Effects of operational lighting on heritage assets	Operation (including maintenance)	CCTV lighting will be infrared (not visible) and lighting for the Springwell Substation, Battery Energy Storage System (BESS) and Satellite Collector Compounds will be manually operated, directional and only operated in case of emergency or when maintenance is required to be undertaken during hours of darkness. There will be no permanent lighting at night. No assets have been identified for which such temporary increases in nighttime illumination would affect the contribution of setting to their significance. This matter was not considered within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] and has been scoped out of the assessment as no significant effects are anticipated.
Effects on heritage assets outside the ZTV – see ES Volume 2, Figures 10.5 - 10.9 [EN010149/APP/6.2]	Construction, operation (including maintenance) and decommissioning	No physical impacts are predicted as these assets are outside the Site. Potential physical impacts as a result of construction, operation (including maintenance) and decommissioning traffic would be avoided through standard



Receptor/matter	Phase	Justification
		traffic control measures set out in the Outline Construction Environmental Management Plan (oCEMP) [EN010149/APP/7.7], Outline Operational Environmental Management Plan (oOEMP) [EN010149/APP/7.10] and Outline Decommissioning Environmental Management Plan (oDEMP) [EN010149/APP/7.13]
		There will be no changes to the setting of these heritage assets during operation and therefore No Effect. Changes to the setting of heritage assets beyond the Order Limits as a result of construction, operation (including maintenance) and decommissioning traffic would be short term and temporary and are not considered to result in significant effects.
Findspots recorded by Lincolnshire County Council HER (see Table A8.3 in ES Volume 3, Appendix 9.4: Geophysical Survey Report [EN010149/APP/6.3] for details)	Construction and operation (including maintenance) and decommissioning	As findspots, these have already been removed from the Site and the heritage significance of their former locations will not be harmed by the Proposed Development, their presence is accounted for in the assessment of archaeological potential. This matter is scoped out of the assessment, as detailed within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] and confirmed within ES Volume 3, Appendix 5.2: Scoping Opinion [EN010149/APP/6.3].
Effects resulting from changes to the setting of	Construction, operation	The significance of this asset does not draw on its wider



Receptor/matter	Phase	Justification
Avro Lancaster crash site (Lincolnshire County Council HER Ref: MLI25416)	(including maintenance) and decommissioning	surroundings. This matter is scoped out of the assessment, as detailed within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] and confirmed within ES Volume 3, Appendix 5.2: Scoping Opinion [EN010149/APP/6.3].
Effects resulting from changes to the setting of Hawker Hurricane crash site (Lincolnshire County Council HER Ref: MLI25417)	Construction, operation (including maintenance) and decommissioning	The significance of this asset does not draw on its wider surroundings. This matter is scoped out of the assessment, as detailed within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] and confirmed within ES Volume 3, Appendix 5.2: Scoping Opinion [EN010149/APP/6.3].
Scheduled remains of former village of Brauncewell (NHLE 1018397)	Decommissioning	This matter was not considered within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] however as no intrusive work is anticipated within the scheduled monument during decommissioning there would be no likely significant effects.
Effects resulting from changes to the setting of areas of high density archaeological remains within the Ground Mounted Solar PV Generating Station (Lincolnshire County Council HER references MLI87449, MLI87443, MLI87444, MLI87445, Non-	Construction, operation (including maintenance) and decommissioning	This matter was not considered within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] however as below-ground assets the current surroundings make a negligible contribution to their significance and the construction, operational (including maintenance) and decommissioning phases of the



Receptor/matter	Phase	Justification
designated heritage assets: AA60, AA63, AA55, AA56, and AA42) - see ES Volume 2, Figure 9.7: Relative Density of Archaeological Features [EN010149/APP/6.2]		development will not result in significant effects.
Effects resulting from changes to the setting of areas of high density archaeological remains within cable route areas (Lincolnshire County Council HER References: MLI87417, MLI90983, MLI87414, MLI84711, MLI86753, MLI961987, MLI90995, MLI90993, Non-designated heritage assets: AA31, AA36, AA42, AA44, and AA51) - see ES Volume 2, Figure 9.7: Relative Density of Archaeological Features [EN010149/APP/6.2]	Construction, operation (including maintenance) and decommissioning	This matter was not considered within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] however as below-ground assets the current surroundings make a negligible contribution to their significance and the construction, operational (including maintenance) and decommissioning phases of the development will not result in significant effects.
Effects resulting from changes to the setting of areas of low density archaeological remains within the Ground Mounted Solar PV Generating Station and cable route areas (except those scoped in above, see Table 9.2) - see ES Volume 2, Figure 9.7: Relative Density of Archaeological Features [EN010149/APP/6.2]	Construction, operation (including maintenance) and decommissioning	This matter was not considered within ES Volume 3, Appendix 5.1: Scoping Report [EN010149/APP/6.3] however as below-ground assets the current surroundings make a negligible contribution to their significance and the construction, operational (including maintenance) and decommissioning phases of the development will not result in significant effects.
Scopwick and Blankney Conservation Areas	Construction, operation	Mitigation measures documented within and secured



Receptor/matter	Phase	Justification
	(including maintenance) and decommissioning	by the Outline Construction Traffic Management Plan (oCTMP) [EN010149/APP/7.8] and the oCEMP [EN010149/APP/7.7], oOEMP [EN010149/APP/7.10] and oDEMP [EN010149/APP/7.13] will ensure that physical impacts on the conservation areas will be avoided.
		Visibility of the Proposed Development within the wider rural surroundings of the conservation areas would result in a minor reduction in the heritage significance of the conservation areas. This impact would be reduced by proposed planting to screen the development in views from the conservation areas. This planting is detailed in ES Volume 2, Figure 3.3: Green Infrastructure Parameter Plan [EN010149/APP/6.2] and will be secured within the Outline Landscape and Ecology Management Plan [EN010149/APP/7.9]. ES Volume 3, Appendix 5.2: Scoping Opinion [EN010149/APP/6.3] requested for this matter to be scoped in where significant effects are likely to occur; however, these potential effects are not considered to be significant and are therefore not considered further in this assessment.
Areas of archaeological remains identified by geophysical survey outside the Site (except	Construction, operation (including	No physical impacts will occur to these assets and there will be no construction or decommissioning phase effects.



Receptor/matter	Phase	Justification
those scoped in above, see Table 9.2)	maintenance) and decommissioning	As below-ground assets the current surroundings make a negligible contribution to their significance. This matter was not considered at Scoping, howeverthe construction, operational (including maintenance) and decommissioning phases of the development are considered to result in no likely significant effects and this matter is therefore not considered further in this assessment.
Pit alignment (Lincolnshire County Council HER Ref: MLI90986) visible as cropmark and identified through geophysical survey	Construction, operation (including maintenance) and decommissioning	The access into the Site from the A15 will cross this feature. The limited extent of disturbance (comprising topsoil removal and possible deeper excavation of a c. 20m wide section of the c. 800m long feature) means that the effect will not be significant, the majority of this asset will remain undisturbed and the magnitude of impact on the asset's significance will be at most minor. The effects are therefore not considered to be significant and are therefore not considered further in this assessment. The effects could be adequately mitigated through a programme of archaeological investigation and recording in line with the owsi [EN010149/APP/7.15] which is be secured by a requirement to the DCO. As a below-ground asset the current surroundings make a negligible contribution to its significance and operational (including maintenance) phase



Receptor/matter	Phase	Justification
		of the development will not result in significant effects.
Potential prehistoric cropmark enclosure, north of Scopwick Low Field Farm (Lincolnshire County Council HER Ref: MLI87448)	Construction and operation (including maintenance) and decommissioning	This asset is within an area which will be retained as agricultural land (see ES Volume 2, Figure 3.1: Zonal Masterplan [EN010149/APP/6.2]). Cables may be routed through this field and excavation for the cables could impact on this asset, however as design principles will ensure that impacts on this asset are minimized through the detailed design the impacts will be of at most minor magnitude and the effects will not be significant.
		The construction and operational (including maintenance) phase effects of the Proposed Development will therefore be no different to the future baseline scenario.
		As a below-ground asset the current surroundings make a negligible contribution to its significance and operational (including maintenance) phase of the development will not result in significant effects.
Blankney Park (Lincolnshire County Council HER Ref: MLI82759)	Construction and operation (including maintenance) and decommissioning	The public right of way into the Site from the B1188 south of Blankney passes through the southern extent of the area recorded as the park associated with Blankney Hall. As no works are required to widen this for construction no physical impacts will occur to this asset. As a below-ground asset the current surroundings make a



Receptor/matter	Phase	Justification
		negligible contribution to its significance and operational (including maintenance) phase of the development will not result in significant effects.
Former quarry, south of 'The Firs', Scopwick (Lincolnshire County Council HER Ref: MLI87402)	Construction, operation (including maintenance) and decommissioning	The cable route between Springwell East and Springwell Central may cross this asset. As detailed in ES Volume 3, Appendix 9.1: Archaeological Desk-Based Assessment and Stage 1 Setting Assessment [EN010149/APP/6.3], as a post- medieval quarry the importance of this asset is negligible and significant effects are therefore not predicted.
Projected line of Roman Road, continuation of Mareham Lane, north of Sleaford, along Bloxholm Lane (Lincolnshire County Council HER Ref: MLI60813)	Construction, operation (including maintenance) and decommissioning	Construction activity (piled foundations, excavation for cables, foundations of central inverter stations) could impact on these below-ground archaeological remains. The extent of disturbance to this asset will be negligible as a maximum of 500m (of the c. 25km long asset is located within the Order Limits and piling, cables and inverter stations would not result in disturbance of this full extent; significant effects are therefore not predicted.
		As a below-ground asset the current surroundings make a negligible contribution to its significance and operational (including maintenance) phase of the development will not result in significant effects.
Possible prehistoric cropmark pit alignment,	Construction, operation	Construction activity (piled foundations, excavation for



Receptor/matter	Phase	Justification
Ashby de la Launde (Lincolnshire County Council HER Ref: MLI88357) and Cropmark pit alignment, Ashby de la Launde and Bloxholm (Lincolnshire County Council HER Ref: MLI84452)	(including maintenance) and decommissioning	cables, foundations of central inverter stations) could impact on these below-ground archaeological remains. The geophysical survey has shown that these two HER records relate to parts of the same feature, a pit alignment that extends for over 3km. The extent of disturbance to this asset will be negligible as the number of potential interactions between the heritage asset and the piled foundations, cables and inverter stations and the footprint of these interactions will be small; significant effects are therefore not predicted. As a below-ground asset the current surroundings make a negligible contribution to its significance and operational (including maintenance) phase of the development will not result in significant effects.
Roman Road, continuation of Mareham Lane, north of Sleaford, along the present A15 (Lincolnshire County Council HER Ref: MLI86228)	Construction, operation (including maintenance) and decommissioning	The Roman road is now the A15, limited works are proposed to the road to allow access into the Site, impacts on belowground remains of the Roman road will be negligible as disturbance through topsoil stripping and excavation to form the access into the Site will result in disturbance of a maximum of 20m of this c. 20km long asset; significant effects are therefore not predicted. The setting of the road makes a negligible contribution to its significance and the visual change to the surroundings will not result in a significant effect.



Receptor/matter	Phase	Justification
Linear ditch system west of A15, Dunsby (Lincolnshire County Council HER Ref: MLI81837)	Construction, operation (including maintenance) and decommissioning	Construction activity (piled foundations, excavation for cables, foundations of central inverter stations) over the portion of this asset west of the A15 could impact on these below-ground archaeological remains. The portion of this asset east of the A15 lies outside of the areas of proposed solar arrays and would be used for habitat creation. The extent of disturbance to this asset will be negligible as the number of potential interactions between the heritage asset and the piled foundations, cables and inverter stations and the footprint of these interactions will be small; significant effects are therefore not predicted. As a below-ground asset the current surroundings make a negligible contribution to its significance and operational (including maintenance) phase of the development will not result in significant effects.
Prehistoric cropmarks, near Long Plantation Lincolnshire County Council HER Ref: (MLI83188)	Construction, operation (including maintenance) and decommissioning	This asset is within an area which ES Volume 2, Figure 3.3: Green Infrastructure Parameter Plan [EN010149/APP/6.2] proposes as grassland habitat. There will be no physical impact to this asset and No Effect. As a below-ground asset the current surroundings make a negligible contribution to its significance and operational (including maintenance) phase of the development will not result in significant effects.



Receptor/matter	Phase	Justification
Site of former extractive pit, Ashby de la Launde and Bloxholm (Lincolnshire County Council HER Ref: MLI89158); Site of former extractive pit, Asby de la Launde and Bloxholm (Lincolnshire County Council HER Ref: MLI89204); and Site of former extractive pit, Ashby de la Launde and Bloxholm (Lincolnshire County Council HER Ref: MLI89157)	Construction, operation (including maintenance) and decommissioning	These assets are located within fields proposed for the Solar PV modules. As noted in ES Volume 3, Appendix 9.1: Archaeological Desk-Based Assessment and Stage 1 Setting Assessment [EN010149/APP/6.3], as post-medieval extractive pits which will contain little of archaeological interest the importance of these assets is negligible. Significant effects are therefore not predicted.
Old Quarry, near the junction of Sleaford Road and Gorse Hill Lane, Temple Bruer (Lincolnshire County Council HER Ref: MLI86694)	Construction, operation (including maintenance) and decommissioning	This asset is located within the siting zone for a temporary construction compound. As noted in ES Volume 3, Appendix 9.1: Archaeological Desk-Based Assessment and Stage 1 Setting Assessment [EN010149/APP/6.3], as a post-medieval quarry which will contain little of archaeological interest the importance of this asset is negligible and significant effects are therefore not predicted.
Old Quarry, near the junction of Sleaford Road and Gorse Hill Lane, Temple Bruer (Lincolnshire County Council HER Ref: MLI86695)	Construction, operation (including maintenance) and decommissioning	This asset is within the Grid Connection Corridor to the National Grid Navenby Substation. As noted in ES Volume 3, Appendix 9.1: Archaeological Desk-Based Assessment and Stage 1 Setting Assessment [EN010149/APP/6.3], as a post- medieval quarry which will contain little of archaeological interest the importance of this asset is negligible and



Receptor/matter	Phase	Justification
		significant effects are therefore not predicted.
Effects resulting from changes to the setting of non-designated heritage assets identified from cropmarks and geophysical survey (Lincolnshire County Council HER Refs: MLI87449, MLI87443, MLI87444, MLI87445, MLI20843, MLI87414, MLI90983, MLI86753, MLI90993; Non-designated heritage assets: AA01 to AA70)	Construction, operation (including maintenance) and decommissioning	As below-ground heritage assets the surrounding landscape makes a negligible contribution to their significance and the construction, operational (including maintenance) and decommissioning phases of the development will not result in significant effects.
Cropmark of undated linear feature (Lincolnshire County Council HER Ref: MLI90983)	Construction, operation (including maintenance) and decommissioning	The cable route between Springwell Central and Springwell East may cross this feature depending on the final layout. The extent of disturbance to this asset will be at most minor and significant effects are therefore not predicted.
		As a below-ground heritage asset the surrounding landscape makes a negligible contribution to its significance and the construction, operational (including maintenance) and decommissioning phases of the development will not result in significant effects.
Unnamed Farmstead Lincolnshire County Council HER Ref: (MLI20843)	Construction, operation (including maintenance) and decommissioning	This area of below-ground archaeological remains is considered to be of low importance for its archaeological interest. As a post-medieval farmstead it is not considered to contribute to regional research



Receptor/matter	Phase	Justification
		aims and is of local importance. The farmstead remains are within an area proposed for the Solar PV modules. The impact of piling on these remains is considered to be at most minor, but if an Inverter Transformer Station (ITS) were sited in this location the remains would be destroyed resulting in an impact of major magnitude which would result in an effect of slight significance and not significant.
		The agricultural land use around the asset contributes to its significance as the site of a former farmstead. However as the asset is of low importance the change in its setting will not result in a significant effect.
Bloxholm Conservation Area	Construction, operation	No physical impacts will occur to the conservation area.
	(including maintenance) and decommissioning	A small part of the conservation area is predicted to have visibility of the Proposed Development, however at this range (over 1.3km) the Proposed Development is not expected to materially alter the contribution that setting makes to the significance of the asset and significant effects are not anticipated.
Lychgate To St Oswald's Church (NHLE 1205442);	Construction, operation	There will be no physical impacts to these assets.
The Old School (NHLE 1205521); Church Of All Saints (NHLE 1254135); Church Of St James And St John (NHLE 1254085)	(including maintenance) and decommissioning	The contribution of setting to the significance of these assets will not be altered and there will be No Effect.
2133 (22 123 1330)		ES Volume 3, Appendix 5.2: Scoping Opinion [EN010149/APP/6.3] agreed



Receptor/matter	Phase	Justification
		with this matter being scoped out for operational (including maintenance). The other assets have been included in the stage 1 setting assessment within ES Volume 3, Appendix 9.1: Archaeological Desk-Based Assessment and Stage 1 Setting Assessment [EN010149/APP/6.3].
Church Of St Oswald (NHLE 1064285)	Construction, operation	There will be no physical impacts to this asset.
	(including maintenance) and decommissioning	Key views of the church which contribute to significance (including views from the Spires and Steeples Trail within the Site) will not be altered and there will be No Effect.
Church Of St Clement (NHLE 1064293)	Construction, operation (including maintenance) and decommissioning	There will be no physical impacts to this asset.
		Key views of the church which contribute to significance will not be altered and there will be No Effect.
Thorpe Tilney Hall (NHLE 1205610)	Construction, operation	There will be no physical impacts to this asset.
	(including maintenance) and decommissioning	The designed view to the southwest is over 5km from Springwell West and at this range change to the setting is not predicted to result in material change to significance and there will be No Effect.
Home Farmhouse (NHLE 1061825); Kennel House (NHLE 1064290); Wright's Farmhouse (NHLE 1064291); Kirkby Green Mill (NHLE 1064295); Farmyard To The North Of	Construction, operation (including maintenance) and decommissioning	There will be no physical impacts to these assets. The impact on heritage significance of the change in wider rural setting will be minor and therefore will not result in significant effects.



Receptor/matter **Justification Phase** Number 10 (The Manor House) (NHLE 1064296); 37 And 39, Main Street (NHLE 1064297); 97-103, Main Street (NHLE 1064300); High House (NHLE 1064301)Stable Block At Blankney Hall (NHLE 1205446); Cottage To West Of Kirkby Green Mill (NHLE 1205538); Thompson's Bottom Farmhouse (NHLE 1254329); Stables And Coach House At Thompson's Bottom Farmhouse (NHLE 1254407); Brauncewell Lodge (NHLE 1261461); Rowston Manor (NHLE 1280659); Farmyard To North Of The Firs (NHLE 1280661); Kirkby Green Millhouse (NHLE 1280667); Scopwick Mill (NHLE 1280676); The Manor House (NHLE 1359366); Evans Farmhouse (NHLE 1359368); Walled Garden north of Ashby Hall (NHLE 1487810) Areas of ridge and furrow The importance of these Construction. identified from cropmarks extensive remains is at most low operation and geophysical survey (including and impacts from construction, operational (including maintenance) and decommissioning maintenance) and

decommissioning activity will be at most minor; the effects will therefore be slight and not

significant.



Receptor/matter	Phase	Justification
Impacts on heritage assets through changes in their setting	Decommissioning	The effects of decommissioning activities on the setting of heritage assets will result in a negligible impact on the heritage significance of the assets, will be temporary and short term and will reverse the operational (including maintenance) phase setting effects. No likely significant effects are therefore predicted.
Impacts on below ground archaeological remains within the Site (except those scoped in above, see Table 9.2)	Decommissioning	There will be no impacts from decommissioning on belowground archaeological remains. The archaeological remains within the construction footprint for the Springwell Substation, BESS, cable routes and transformer stations would have been removed (and mitigated for) during construction. Archaeological remains within the solar array areas would either be preserved in situ through non-intrusive construction methods or would have been disturbed during the construction phase and decommissioning should not result in additional disturbance. Although the precise decommissioning methodology is not yet known, provisions in the oDEMP [EN010149/APP/7.13] will secure no additional disturbance to archaeological remains. No new infrastructure is expected to be required within the Site during the decommissioning phase. No physical impacts to known or potential heritage assets are therefore anticipated to arise from this.



Establishing baseline conditions

Data sources to inform the EIA baseline characterisation

- 9.4.6. The following data sources have been used to understand the existing cultural heritage baseline conditions following the relevant CIfA Standards and Guidance:
 - Designation data from the NHLE, downloaded from the Historic England website on 24 August 2022 and 2 February 2024 and descriptions of designated heritage assets viewed on the Historic England website;
 - Archaeological and architectural records from the National Record of the Historic Environment, viewed through the Heritage Gateway website;
 - Aerial photographs in the Historic England Archive and other readily available sources:
 - National Mapping Programme;
 - Archaeological records held by Lincolnshire HER;
 - Historic Landscape Characterisation;
 - Historic maps and plans held in the Lincolnshire archive;
 - · Environment Agency Lidar data;
 - Geological data available online from the British Geological Survey;
 - Portable Antiquities Scheme data;
 - Relevant internet sources:
 - Readily available published sources and unpublished archaeological reports;
 - A geoarchaeological desk-based assessment (ES Volume 3, Appendix 9.2: Geoarchaeological Deposit Modelling Report [EN010149/APP/6.3]);
 - Geophysical surveys of the Site (ES Volume 3, Appendix 9.4: Geophysical Survey Report [EN010149/APP/6.3]); and
 - Report on targeted trial trenching within the Site (ES Volume 3, Appendix 9.5: Archaeological Trial Trenching Report [EN010149/APP/6.3]).

Site visits/surveys

- 9.4.7. The following site visits/surveys have been undertaken to understand the existing cultural heritage baseline conditions.
- 9.4.8. A site visit was undertaken on 5-6 September 2022, during which notes were made regarding site characteristics, any visible archaeology and



- geographical/geological features which may have a bearing on previous land use and archaeological survival, as well as those which may constrain subsequent archaeological investigation.
- 9.4.9. Records were made regarding extant archaeological features, such as earthworks or structural remains, local topography and aspect, exposed geology, soils, watercourses, health and safety considerations, surface finds, and any other relevant information.
- 9.4.10. Additional site visits were carried out on 30 October 2022 and 24-25 March 2023 to examine features identified during the aerial investigation and mapping report, and to examine the baseline setting of designated heritage assets in the study area.
- 9.4.11. A geophysical survey was undertaken between 17 October 2022 and 12 May 2023. This used magnetometry to further assess the potential for subsurface archaeological deposits.
- 9.4.12. Trial trenching was undertaken between 23 January 2024 and 13 June 2024 to confirm the results of the geophysical survey within the proposed location of the Springwell Substation, BESS and Satellite Collector Compounds.

Approach to design flexibility

- 9.4.13. The Project Parameters, as outlined in **ES Volume 1, Chapter 3:**Proposed Development Description [EN010149/APP/6.1], ES Volume
 3, Appendix 3.1: Project Parameters [EN010149/APP/6.3] and the parameter plans presented in **ES Volume 2, Figures 3.1 3.4**[EN010149/APP/6.2], set out the reasonable 'worst-case' parameters for the Proposed Development.
 - **ES Volume 1, Chapter 5: Approach to the EIA [EN010149/APP/6.1]** sets out those elements of the Proposed Development for which optionality is present within the design. The reasonable 'worst-case' scenario that has been assessed in this cultural heritage chapter for each element of the Proposed Development where optionality is present within the design is outlined within **Table 9.4**.



Table 9.4 Reasonable worst-case scenario assessed for cultural heritage

Project element	Reasonable worst-case scenario that has been assessed	
BESS	This assessment assumes that the BESS would be located in the south-western extent of Field Tb2 as this would be the most visible from surrounding heritage assets.	
Springwell Substation and Main Collector Compound	This assessment assumes that the Springwell Substation and Main Collector Compound would be located in the northern extent of Field Tb2 as this would be most visible from surrounding heritage assets.	
Inverters	Central inverters have been assessed for this assessment as this is considered a 'worst-case' for impacts on below-ground archaeological remains as they will require additional foundations and additional cabling from the Solar PV modules to the inverters. Central inverters co-located with transformer stations in enclosed units may be more visible from the surroundings would represent a worst-case for impacts on heritage assets through change in their setting.	
Balance of Solar System	Independent Outdoor Equipment has been assessed for this assessment as this will require groundworks over a larger area than containerised ITS and therefore represents a realistic 'worst-case' for impacts on below-ground archaeological remains.	
Construction Compounds	Reasonable worst-case working location for each of the fields suitable for the location of the primary and secondary construction compounds as outlined on ES Volume 2, Figure 3.10: Primary and Secondary Construction Compounds [EN010149/APP/6.2] based on each activity occurring at the closest point in that area to the sensitive receptor.	
Satellite Collector Compounds	The siting zones for the Satellite Collector Compounds avoid areas of known archaeology. The siting zone for the Satellite Collector Compound in Springwell East has been evaluated through trial trenching which confirmed the potential for fragmentary remains of the World War II (WWII) aircraft within this field. The siting zones for the compounds in Springwell Central and Springwell West still have potential for currently	



Project element	Reasonable worst-case scenario that has been assessed	
	unknown remains. The assessment has assumed that any currently unknown remains would be of high importance as this represents a worst-case for significance of effect.	
Cable routes	The assessment has assumed that the cable route into the National Grid Navenby Substation and the internal cable routes between Springwell East, Springwell Central and Springwell West would be located within the retained agricultural land rather than the highway verges and would pass through areas of archaeological remains identified in the geophysical survey (rather than be routed to avoid these) as this represents a reasonable 'worst-case' for potential effects on known and currently unknown heritage assets.	
Internal tracks	The assessment has assumed that these would require topsoil removal and installation of hardstanding for all internal tracks. This represents a reasonable 'worst-case' for construction effects on archaeological remains.	
Solar PV modules	This assessment assumes that piled foundations will be used except within the identified mitigation areas as this is considered the reasonable "worst-case" for impacts to currently unknown below-ground archaeological remains. The assessment assumes that the maximum extent of Solar PV modules as outlined in ES Volume 2, Figure 3.1: Zonal Masterplan [EN010149/APP/6.2] will be utilised which is considered to be a reasonable 'worst-case' for impacts on heritage assets as it makes no	
	allowance for technological advances that may occur between submission and construction that would decrease the number of modules required to achieve the installed DC capacity applied for.	
Depth of foundations	The depth of foundations for Solar PV modules would be 1.5m to 3m, depending on ground conditions. This assessment assumes that the foundation depth would be 3m as this is considered the reasonable worst- case.	



Project element	Reasonable worst-case scenario that has been assessed
Duration of construction and decommissioning activities	This assessment has assumed that construction related activity could occur within the setting of individual heritage assets for the full 48 month construction programme, and that decommissioning activity could occur within the setting of heritage assets for the full 24 month decommissioning programme. This is considered to represent a 'worst-case' for construction phase impacts relating to changes in the setting of heritage assets through: visibility of construction activity, traffic movements, noise/vibration and dust.

Assessment assumptions

- 9.4.14. The assessment of the cultural heritage impact of construction traffic has been based on the assumptions set out in ES Volume 1, Chapter 3: Proposed Development Description and Chapter 14: Traffic and Transport [EN010149/APP/6.1], alongside the traffic routing and future baseline traffic values derived in Volume 1, Chapter 14: Traffic and Transport [EN010149/APP/6.1].
- 9.4.15. Assessment of settings impacts refers to the ZTV and visualisations produced for **ES Volume 1, Chapter 10: Landscape and Visual [EN010149/APP/6.1]** supplemented by the site visits detailed above.

Assessment methodology and criteria

Importance of the receptor

- 9.4.16. The importance of a heritage asset is the overall value assigned to it reflecting its statutory designation or, in the case of non-designated assets, the professional judgement of the assessor with reference to national and local guidance and the planning policy tests (**Table 9.5**). Historic England guidance also refers to an asset's "level of significance" (GPA2, paragraph 10), which in this usage has the same meaning as importance.
- 9.4.17. Any feature which does not merit consideration in planning decisions may be said to have negligible importance. It is the role of the professional judgements made by the assessor to identify any heritage assets within the Site that are considered to be of negligible importance, for which no further assessment or mitigation works will be proposed.



Table 9.5 Criteria for assessing the importance of heritage assets

Importance of the asset	Criteria
Very High (International)	World Heritage Sites and other assets of equal international importance, that contribute to international research objectives
High (National)	Grade I and II* Registered Parks and Gardens, Scheduled Monuments, Protected Wreck Sites, Registered Battlefields, Grade I and II* Listed Buildings, and undesignated heritage assets of equivalent importance that contribute to national research objectives. Also Conservation Areas, Grade II Registered Parks and Gardens and Grade II Listed Buildings which have particular characteristics that merit a high level of importance.
Medium (National or Regional)	Conservation Areas, Grade II Registered Parks and Gardens, Grade II Listed Buildings except where their particular characteristics merit a higher level of importance, heritage assets on local lists and undesignated assets that contribute to Regional research objectives.
Low (Local)	Locally listed heritage assets, except where their particular characteristics merit a higher level of importance, undesignated heritage assets of Local importance, including assets that may already be partially damaged.
Negligible	Identified historic remains of no importance in planning considerations, or heritage assets and findspots that have already been removed or destroyed (i.e. 'site of').
Unknown / Uncertain	Heritage assets for which a level of importance cannot be defined on current information.

9.4.18. The importance of all heritage assets within the study area is identified in the Stage 1 Setting Assessment (ES Volume 3, Appendix 9.1:

Archaeological Desk-Based Assessment and Stage 1 Setting Assessment [EN010149/APP/6.3]). The importance of those heritage assets affected by the Proposed Development is identified in the sections below.



Magnitude of change (impact upon heritage significance)

Table 9.6 Criteria for classifying magnitude of impact upon heritage significance

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.					

- 9.4.19. Impacts may be described as permanent/temporary, and beneficial/adverse. Temporary impacts may be described as either short, medium or long term. For the purposes of this assessment, permanent impacts are those which are irreversible (e.g. physical impacts to archaeological remains; changes to the setting of heritage assets as a result of permanent elements of the Proposed Development such as the substation, road alterations, or planting), whilst temporary impacts are reversible (e.g. changes to the setting of heritage asset during the construction phase or as a result of elements of the Proposed Development that will be removed on decommissioning). Short term temporary impacts are those that would occur for a duration of under 48 months (i.e. during construction or decommissioning), long term temporary impacts those that would occur while the Proposed Development is operational.
- 9.4.20. Determining magnitude using the criteria set out in **Table 9.6** above requires professional judgement with reference to the planning policy tests for "substantial harm" and "less than substantial harm", in general impacts of major magnitude are considered to be substantial harm and impacts of moderate or minor magnitude are considered to be degrees of less than



substantial harm. The degree of harm in each case is detailed in Appendix 5 – Heritage Harm Statement which forms part of the Planning Statement [EN010149/APP/7.2].

Significance of effect

- 9.4.21. The assessment of the significance of effect in this chapter has combined analysis of the baseline data (e.g. desk-based assessment, site visit and ZTVs) with the parameters of the Proposed Development presented in the reasonable worst-case scenario (**Table 9.4**) above.
- 9.4.22. Significance of effect has been determined using a combination of importance of the asset (receptor) and the magnitude of impact upon that asset (receptor). The significance of effect matrix is presented in **Table 9.7** 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 therefore be described on a continuous scale from 'no effect' to 'very large'. The significance of effect can be either beneficial or adverse. Where the matrix presents two options for significance of effect, professional judgement is used to determine the likely significance with regard to the specific circumstances of the importance of the asset and magnitude of effect (which will be fully described where necessary). These criteria are based on professional judgement.
- 9.4.23. 'Very large', 'large' and 'moderate' effects are regarded as 'significant' while 'slight' effects, and 'neutral' effects and 'no effects' are regarded as 'not significant'. Where the significance matrix indicates a range for the effect significance (e.g. 'slight or moderate'), professional judgement is applied to select the most applicable option (which would be justified by evidence, as appropriate) or an effect significance range can be applied. If a significance of effect is assigned as 'slight or moderate', this would be considered significant unless further information could be provided to downgrade the significance effect to 'slight'.

Table 9.7 Criteria for assessing the significance of effect

Magnitude of impact	Importance of receptor Negligible Low Medium High Very High								
Major	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large				
Moderate	Neutral	Slight	Slight or Moderate	Moderate or Large	Large or Very Large				



Magnitude of impact		Importance of receptor								
Minor	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large					
Negligible	Neutral	Neutral or Slight	Neutral or Slight	Slight	Slight or Moderate					
None	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 the assessment, as detailed within **Table 9.2** above. The full details of the baseline conditions are presented in the following appendices in **ES Volume 3 [EN010149/APP/6.3]**:
 - Appendix 9.1: Archaeological Desk-Based Assessment and Stage 1 Setting Assessment;
 - Appendix 9.2: Geoarchaeological Deposit Modelling Report;
 - Appendix 9.3: Aerial Investigation Report;
 - Appendix 9.4: Geophysical Survey Report; and
 - Appendix 9.5: Archaeological Trial Trenching Report.

Known heritage assets within the Site

- 9.5.2. There are three designated heritage assets, 71 previously recorded non-designated heritage assets and eight non-designated heritage assets within the Site that have been identified during this assessment.
- 9.5.3. The Brauncewell medieval village scheduled monument (NHLE 1018397) is partly within the Site at the southern edge where a permissive path is proposed. It is of high importance for its archaeological interest and is included for potential direct physical impacts as well as potential impacts through changes in its setting.
- 9.5.4. The Blankney Conservation Area includes a portion around St Oswald's Church that extends south of Oswald's Lane into the Site. This asset is therefore included for potential direct physical impacts during construction as well as effects resulting from changes in the setting of the conservation area (an asset of medium importance).
- 9.5.5. The Grade II listed milepost on the A15 (NHLE1061824) lies within the Site and is of medium importance for its architectural and historic interest.



It appears to have been relocated at some point in the past as the listed building description notes that the inscriptions detailing the distances between Sleaford and Lincoln are on the opposite sides of the milepost to the corresponding directions.

- 9.5.6. With the exception of two World War II era aeroplane crash sites (Avro Lancaster crash site (Lincolnshire County Council HER Ref: MLI25416) and Hawker Hurricane crash site (Lincolnshire County Council HER Ref: MLI25417)), which being protected by legislation are of high importance, the non-designated heritage assets within the Site are generally considered to be of low importance. They are considered for the potential for direct physical impacts. As buried sites which do not derive significance from the current land use of the Site they are not considered for impacts resulting from changes in their setting.
- 9.5.7. The aerial investigation and mapping (ES Volume 3, Appendix 9.3: Aerial Investigation Report [EN010149/APP/6.3]) identified two previously unrecorded heritage assets within the Site. These were a possible barrow and an undated square enclosure. The geophysical survey identified a generally low density of archaeological remains within the Site with concentrations of anomalies suggestive of settlement remains in Springwell Central and Springwell East (see ES Volume 2, Figure 9.7: Relative Density of Archaeological Features [EN010149/APP/6.2]).
- 9.5.8. All of these heritage assets are shown in ES Volume 2, Figure 9.2:
 Assets within the Site; Figure 9.5: Assets Identified from Geophysical Survey and Figure 9.6: Assets Identified from Aerial Investigation and Mapping [EN010149/APP/6.2]. The relative density of archaeological remains identified in the geophysical survey varies across the Site, with some areas showing a high density of archaeological features and others having only evidence of ploughed out ridge and furrow cultivation. This is shown in ES Volume 2, Figure 9.7: Relative Density of Archaeological Features [EN010149/APP/6.2].
- 9.5.9. The Site overlaps with the mapped extent of Scopwick Conservation Area, however this is considered to be due to differences in the map scale at which this was digitised as it follows property boundaries for buildings which are not part of the Site. The Scopwick Conservation Area is not considered for direct physical impacts but is considered for potential effects resulting from changes in its setting.

Archaeological potential of the Site

9.5.10. The results of the archaeological desk-based assessment, aerial investigation and mapping, geophysical survey, geoarchaeological desk-based assessment and trial trenching indicate that there is potential for the



following types of unknown archaeological remains to be present within the Site:

- Stray finds of prehistoric artefacts; and
- Further features associated with the identified settlement sites.
- 9.5.11. The Lincolnshire HER records five artefact findspots within the Site. These comprise three prehistoric flint artefacts and two finds of Roman date. One of the Roman finds (Lincolnshire County Council HER Ref: MLI84520) was from within 600m of the route of a Roman road and one of which (Lincolnshire County Council HER Ref: MLI86164) was within an area of cropmarks recorded by the HER as prehistoric (Lincolnshire County Council HER Ref: MLI83188) and where the geophysical survey revealed anomalies interpreted as settlement over a larger area than the cropmark. One of the prehistoric flints (a Palaeolithic hand axe (Lincolnshire County Council HER Ref: MLI60508) was found within a field in which the HER records cropmarks (Lincolnshire County Council HER Ref: MLI87443 and MLI87444) which correspond with geophysical anomalies. The other two flint artefacts were not associated with other known sites and may indicate additional potential for below-ground archaeological remains that have not been detected by the geophysical survey in these areas.
- 9.5.12. The geoarchaeological desk-based assessment has indicated that the variation in the geophysical survey results between Springwell Central and East versus Springwell West is likely due to the soil types present in the west on the eastern edges of the limestone scarp being less favourable for agriculture in the past, making this area less attractive for settlement.
- 9.5.13. Potential currently unknown below-ground archaeological remains could be of up to medium importance if they contribute to regional research aims.

Designated heritage assets within the study area

9.5.14. Beyond the Order Limits but within the 5km study area for designated heritage assets, there are 16 Scheduled Monuments, considered to be of high importance, and 11 Conservation Areas considered to be of medium importance. There are also 263 Listed Buildings. The Listed Buildings comprise 13 Grade I and 13 Grade II* considered to be of high importance, and 237 Grade II considered to be of medium importance. These are all detailed in the Gazetteer (Annex I of ES Volume 3, Appendix 9.1: Archaeological Desk-Based Assessment and Stage 1 Setting Assessment [EN010149/APP/6.3]) and shown in ES Volume 2, Figure 9.3: Assets within the Study Area [EN010149/APP/6.2].

Future baseline in the absence of the Proposed Development



- 9.5.15. In the absence of the Proposed Development the future baseline for cultural heritage and archaeology could change in the following ways:
 - New heritage assets may be designated and/or currently designated heritage assets may be removed from statutory lists/registers.
 - 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.
 - 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.
- 9.5.16. Changes to the designated status of assets within the study areas has been monitored and the baseline data from the Lincolnshire HER refreshed during the EIA process to ensure that the ES is based on up-to-date information.
- 9.5.17. Changes to the setting of heritage assets through growth of vegetation reducing visibility or conversely through disease/death or felling of vegetation increasing visibility may occur at any time. Increased vegetation growth is unlikely to materially alter the setting of assets between submission and construction due to the short timespan and would only serve to reduce impacts compared to the assessment. Reductions in vegetation may occur suddenly at any time. It is not considered that vegetation growth would have resulted in material changes since the visual surveys and ZTV were completed.
- 9.5.18. Changes to the integrity of heritage assets as a result of weather, vegetation growth and agricultural practices would be relatively slow to become apparent and unlikely to alter the heritage significance of heritage assets between submission and construction. It is not considered that such changes would have resulted in material alterations to the integrity of heritage assets since the baseline surveys were completed.
- 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. ES Volume 1, Chapter 3:

 Proposed Development Description [EN010149/APP/6.1] and ES Volume 3, Appendix 3.1: Project Parameters [EN010149/APP/6.3] and the Design Commitments [EN010149/APP/7.4] identify measures that has been embedded into the design of the Proposed Development. The



embedded mitigation relevant to the cultural heritage assessment is detailed in **Table 9.8** below.

Table 9.8 Embedded mitigation relevant to cultural heritage

Embedded mitigation measures relevant to cultural heritage	Function	Securing mechanism
Areas with known or suspected below-ground archaeological deposits have been largely avoided through the Project Parameters and ongoing design development.	Damage and disturbance to known below-ground archaeological deposits will be avoided for those assets now outside Site or where located within the Site, are in areas where grassland habitats will be created.	Works Plans [EN010149/APP/2.3]
Changes to the setting of designated and non-designated heritage assets have been avoided through amendments to the Proposed Development layout including exclusion of Solar PV modules from areas which contribute to the significance of heritage assets and proposed additional vegetation screening.	Impacts upon the contribution made by setting to the significance of heritage assets have been significantly reduced or eliminated.	Works Plans [EN010149/APP/2.3]
Site access points from the A15 have been selected to avoid works in proximity to the listed milepost.	Impacts on the listed milepost have been avoided.	Works Plans [EN010149/APP/2.3]
Non-intrusive construction methods such as concrete feet will be used within the archaeological mitigation areas shown in ES Volume 2, Figure 9.8: Indicative Archaeological Mitigation Areas [EN010149/APP/6.2].	Impacts to known below- ground archaeological remains as a result of the Solar PV modules will be avoided.	oCEMP [EN010149/APP/7.7]
Routeing of HGV construction traffic away from Blankney and	Removes the potential for unintended impacts to	oCTMP [EN010149/APP/7.8]



Embedded mitigation measures relevant to cultural heritage	Function	Securing mechanism
Scopwick (as set out in the oCTMP [EN010149/APP/7.8])	heritage assets within the Conservation Areas.	

9.7. Assessment of likely effects (without additional mitigation)

Construction

- 9.7.1. Likely significant effects without mitigation include unintended damage to listed mileposts and other designated heritage assets, disturbance or damage to protected WWII aircraft crash sites, disturbance or damage to other known below-ground heritage assets (archaeological remains) within the cable route corridors, Satellite Collector Compounds and ITS areas within the Solar PV development and disturbance or damage of currently unknown below-ground archaeological remains.
- 9.7.2. Short term changes to the setting of heritage assets during construction may also occur through increased noise, dust and visibility of construction vehicles and staff.

Operation (including maintenance)

9.7.3. Likely significant effects without additional mitigation include changes to the setting of scheduled remains, listed buildings and conservation areas resulting from the Proposed Development as well as unintended damage to known and currently unknown archaeological remains through maintenance activity.

Decommissioning

- 9.7.4. The effects of decommissioning activities on the setting of heritage assets will result in a negligible impact on the heritage significance of the assets, will be temporary and short term and will reverse the operational (including maintenance) phase setting effects. No likely significant effects are therefore predicted..
- 9.7.5. Likely significant effects without mitigation may occur through unintended damage to known and currently unknown archaeological remains as a result of decommissioning activity.



9.8. Additional mitigation

Construction

Milepost 20 metres south of Ashby Lodge Farm (grade II listed building NHLE 1061824)

9.8.1. The oCEMP [EN010149/APP/7.7], oOEMP [EN010149/APP/7.10] and oDEMP [EN010149/APP/7.13] include good practice measures to prevent accidental damage to this listed building.

WWII aeroplane crash sites (non-designated heritage assets MLI25416 and MLI25417)

9.8.2. In accordance with the Proposed Development **Design Commitments** [EN010149/APP/7.4], piling will be avoided in these areas (as shown in ES Volume 2, Figure 9.8: Indicative Archaeological Mitigation Areas [EN010149/APP/6.2]), detailed design will seek to route cables outside of the crash site locations so that these sites will be preserved in situ. If avoidance in this way is not possible then cables would be routed above ground or targeted areas of archaeological investigation would take place. The assets will be noted in the oCEMP [EN010149/APP/7.7], oOEMP [EN010149/APP/7.10] and oDEMP [EN010149/APP/7.13] in order to avoid potential unintended impacts. A targeted area of archaeological investigation (strip, map and sample incorporating a metal detector survey) will take place in the area of the Satellite Collector Compound within this field so that any further remains associated with the crashes which may be present in this area can be recovered. This work will take place in accordance with the appropriate licence to recover a crashed military aircraft in accordance with the Protection of Military Remains Act 1986 which will be obtained from the Ministry of Defence by the appointed archaeological contractor in advance of construction. The local aircraft recovery group will be invited to participate in these works.



Other known non-designated heritage assets within cable route areas

- 9.8.3. Detailed design will seek to minimize the impact of cable routes on the known non-designated heritage assets. Targeted areas of archaeological investigation (strip, map and sample in advance of construction) will take place within the archaeological mitigation areas shown in ES Volume 2, Figure 9.8: Indicative Archaeological Mitigation Areas [EN010149/APP/6.2] so that the archaeological remains can be investigated and recorded.
- 9.8.4. The assets will be noted in the oCEMP [EN010149/APP/7.7], oOEMP [EN010149/APP/7.10] and oDEMP [EN010149/APP/7.13] in order to avoid potential unintended impacts.

Known non-designated heritage assets within Solar PV development

- 9.8.5. Further archaeological trial trenching will be secured as a requirement to the DCO which is outlined in Schedule 2 of the Draft DCO [EN10149/APP/3.1] (and set out in the oWSI [EN010149/APP/7.15]). This will refine the draft archaeological mitigation areas shown in ES Volume 2, Figure 9.8: Indicative Archaeological Mitigation Areas [EN010149/APP/6.2]. The Solar PV modules within the identified archaeological mitigation areas will use concrete feet or other non-intrusive construction methods, this is secured within the oCEMP [EN010149/APP/7.7]. The detailed design will seek to site ITS outside of these mitigation areas and to use above ground cabling between Solar PV modules within the mitigation areas. Impacts to known archaeological remains will be reduced to non-significant levels or avoided.
- 9.8.6. The assets will be noted in the oCEMP [EN010149/APP/7.7], oOEMP [EN010149/APP/7.10] and oDEMP [EN010149/APP/7.13] in order to avoid potential unintended impacts.

Potential currently unknown archaeological remains

- 9.8.7. There is a slight risk that further currently unknown archaeological remains may be present within the Site. Such remains are likely to be small, discrete features not detectable by geophysical survey, and are considered more likely in proximity to the known assets. The limited ground intrusion caused by foundations for the Solar PV modules means that the risk of the Solar PV module supports / frame interacting with such features is negligible.
- 9.8.8. A programme of further archaeological investigation secured by a requirement to the DCO (and set out in the **oWSI [EN010149/APP/7.15]**) would ensure that areas of archaeological features not detected by the geophysical survey are identified at detailed design stage and appropriate mitigation measures (including non-intrusive foundations and above



ground cabling) put in place to avoid significant effects and where necessary targeted areas of archaeological investigation and recording would be detailed in a task-specific WSI to off-set any likely pre-mitigation effects.

Operation (including maintenance)

9.8.9. The known assets within the Site (including any identified through the additional archaeological trial trenching) will be noted in the oOEMP [EN010149/APP/7.10] in order to avoid potential unintended impacts during maintenance activities. The oOEMP [EN010149/APP/7.10] will be updated with any assets identified during the pre-construction and construction phase archaeological work There will be no impacts from the operation (including maintenance) phase on heritage assets beyond the Site and no additional mitigation measures will be required.

Scheduled remains of former village of Brauncewell (NHLE 1018397)

9.8.10. Detailed earthwork survey of monument. Seasonal restrictions on use of permissive path to limit risk of erosion during wet weather (to be reviewed periodically for effectiveness in consultation with Historic England).

Decommissioning

- 9.8.11. The known assets within the Site will be noted in the **oDEMP** [EN010149/APP/7.13] in order to avoid potential unintended physical impacts during decommissioning. The **oDEMP** [EN010149/APP/7.13] will be updated with any assets identified during the pre-construction and construction phase archaeological work.
- 9.9. Assessment of residual effects (with additional mitigation)

Construction

Milepost 20 metres south of Ashby Lodge Farm (grade II listed building NHLE 1061824)

9.9.1. Following implementation of the additional mitigation measures in the oCEMP [EN010149/APP/7.7], impacts to this medium importance asset will be avoided, resulting in an impact magnitude of none. The significance of effect will therefore be no effect, which is considered to be not significant.



WWII aeroplane crash sites (non-designated heritage assets MLI25416 and MLI25417)

- 9.9.2. The trial trenching (ES Volume 3, Appendix 9.4: Geophysical Survey Report [EN010149/APP/6.3]) identified some potential for remains of the World War II aeroplane crash sites, including unexploded ordnance and personal effects of the crew as well as fragments of aircraft to still be present within the Site. These remains have archaeological and historic interest for the information that they contain regarding the WWII crashes and the lives of the people on board.
- 9.9.3. Piling will be avoided in these areas (as shown in ES Volume 2, Figure 9.8: Indicative Archaeological Mitigation Areas [EN010149/APP/6.2]), and cabling will be kept above ground which is secured within the oCEMP [EN010149/APP/7.7]. The Satellite Collector Compound proposed in the east of the field containing the crash site would result in a small area of ground disturbance that may encounter fragmentary remains associated with the crashes. This area will be subject to archaeological investigation which will ensure that the legislative requirements pertaining to military crash sites are followed. The magnitude of impact on the heritage significance of the crash sites as a result of this small area of disturbance is considered to be negligible adverse, resulting in an effect of slight adverse significance to this high importance asset, which is considered to be not significant.

Probable prehistoric enclosure cropmarks north of Scopwick (non-designated heritage asset Lincolnshire County Council HER Ref: MLI87423; AA54)

- 9.9.4. Geophysical survey has revealed a larger area of potential archaeological interest around the cropmarks defined by Lincolnshire County Council. This area of below-ground archaeological remains is considered to be of **low** to **medium** importance for its archaeological interest which may contribute to the regional research agenda.
- 9.9.5. A suggested archaeological mitigation area is provided in **ES Volume 2**, Figure 9.8: Indicative Archaeological Mitigation Areas [EN010149/APP/6.2], within this area piling will be avoided and cables will be routed above ground. Further archaeological trial trenching secured as a requirement to the DCO in line with the oWSI [EN010149/APP/7.15]) will determine the extent, state of preservation and significance of these remains and refine the archaeological mitigation area.
- 9.9.6. Following implementation of these additional mitigation measures, there would be no disturbance to these remains. The magnitude of impact would be **none** and the significance of effect will therefore be **no effect**, which is considered to be **not significant**.



Areas of high density archaeology within the Ground Mounted Solar PV Generating Station

- 9.9.7. The areas of high density archaeology within the area for the Ground Mounted Solar PV Generating Stations are detailed in ES Volume 2, Figure 9.4: Assets Included in the Assessment and Figure 9.7: Relative Density of Archaeological Features [EN010149/APP/6.2]) (Lincolnshire County Council HER references MLI87449, MLI87423, MLI87443, MLI87444, MLI87445, Non-designated heritage assets: AA60, AA63, AA55, AA56, and AA42
- 9.9.8. These areas are considered to be of **low** to **medium** importance for their archaeological interest which may contribute to the regional research agenda. This is because they appear to be multi-phase sites forming a group of similar sites identified through geophysical survey along the low ridge which passes through the Site.
- 9.9.9. Suggested archaeological mitigation areas are provided in ES Volume 2, Figure 9.8: Indicative Archaeological Mitigation Areas [EN010149/APP/6.2], within this area piling will be avoided and the detailed design would seek to avoid routeing cables through these areas. If this is not possible, cables will be routed above ground. These measures are secured within the oCEMP [EN010149/APP/7.7]. Further archaeological trial trenching secured as requirement to the DCO in line with the oWSI [EN010149/APP/7.15]) will determine the extent, state of preservation and significance of these remains and refine the archaeological mitigation area.
- 9.9.10. Following implementation of these additional mitigation measures, there would be no disturbance to these remains. The magnitude of impact would be **none** and the significance of effect will therefore be **no effect**, which is considered to be **not significant**.

Areas of high density archaeology within cable route areas

- 9.9.11. The areas of high density archaeology within the cable route areas are shown in ES Volume 2, Figure 9.4: Assets Included in the Assessment [EN010149/APP/6.2] and ES Volume 2, Figure 9.7: Relative Density of Archaeological Features [EN010149/APP/6.2]) (Lincolnshire County Council HER references MLI87417, MLI90983, MLI87414, MLI84711, MLI86753, MLI961987, MLI90995, MLI90993, non-designated heritage assets AA51, AA44, AA36, AA31)
- 9.9.12. These areas are considered to be of **low** to **medium** importance for their archaeological interest which may contribute to the regional research agenda. This is because they appear to be multi-phase sites forming a group of similar sites identified through geophysical survey along the low ridge which passes through the Site.



- 9.9.13. The cable routes between Springwell Central and Springwell East and between Springwell Central and Springwell West will pass through these areas of complex archaeology and will damage any remains within the working area for the cable routes. This could result in the loss of some of the archaeological features, the loss of physical evidence of their relationships and phasing and damage to other features.
- 9.9.14. Following additional mitigation at detailed design to minimise the extent of the assets affected by the cable routes, the magnitude of impact would be **minor adverse** resulting in an effect of up to **slight adverse** significance, which is considered to be **not significant**. This effect will be offset by a programme of archaeological work, secured by a requirement to the DCO and outlined in the **oWSI [EN010149/APP/7.15]**.

Possible rectilinear double ditched enclosure and possible area of archaeological remains identified in geophysical survey west of A15

- 9.9.15. The possible rectilinear double ditched enclosure and possible area of archaeological remains identified in geophysical survey west of A15 (Non-designated heritage asset AA01 are detailed in ES Volume 2, Figure 9.4: Assets Included in the Assessment [EN010149/APP/6.2].
- 9.9.16. If these anomalies represent an archaeological site they could be up to **high** importance for their archaeological interest.
- The cable corridor to the National Grid Navenby Substation may cross 9.9.17. through this asset depending on its final route. This could result in damage or loss of this potential heritage asset Further archaeological trial trenching secured as a requirement to the DCO in line with the oWSI [EN010149/APP/7.15]) will determine the extent, state of preservation and significance of these remains. If the remains are of high importance, the cable will be routed to avoid them and the magnitude of impact would be none, resulting in a significance of effect of no effect. If the remains are of lesser importance, the cable will be routed to avoid them if possible and to minimise the impact on the remains. If avoidance is not possible, the magnitude of impact following additional mitigation would be minor adverse, resulting in an effect of up to slight adverse significance, which is considered to be **not significant**. This effect would be offset through a programme of archaeological work secured through a requirement to the DCO.

Potential currently unknown archaeological remains

9.9.18. There is a slight risk that further currently unknown archaeological remains may be present within the Site. Such remains are likely to be small, discrete features not detectable by geophysical survey. The limited ground intrusion caused by foundations for the Solar PV modules means that the risk of Solar PV module supports / frame interacting with such features is



minimal. Construction of ITS and associated cabling may damage remains if they are present within the footprint of these works, depending on the extent of the archaeological remains the magnitude of impact could be **major adverse** (where small areas of archaeological remains are completely removed by construction activity).

9.9.19 A programme of further archaeological investigation secured by a requirement to the DCO (and set out in the oWSI [EN010149/APP/7.15]) would ensure that areas of archaeological features not detected by the geophysical survey are identified at detailed design stage and appropriate mitigation measures (including non-intrusive construction methods where necessary; and targeted excavation or watching brief where preservation in situ is not necessary) will be put in place to avoid significant effects and to offset any residual effects. Following implementation of mitigation measures to be secured through a requirement to the DCO for further archaeological trial trenching and a Construction Environmental Management Plan, significant effects will be avoided through detailed design of the Proposed Development (to avoid impacts to assets of high importance) or will be offset through a programme of archaeological work. The magnitude of impact following additional mitigation would therefore be up to minor adverse to assets of up to medium importance and the significance of effect would be up to slight adverse and therefore not significant.

Operation (including maintenance)

WWII aeroplane crash sites (non-designated heritage assets MLI25416 and MLI25417)

9.9.20. As noted above, piling will be avoided in these areas (as shown in ES Volume 2, Figure 9.8: Indicative Archaeological Mitigation Areas [EN010149/APP/6.2]), and cabling will be kept above ground. The majority of the crash sites will therefore be preserved from further disturbance by ploughing during the operational (including maintenance) phase of the Proposed Development. This will result in a minor beneficial magnitude of impact to this high importance asset which will result in an effect of moderate beneficial significance which is considered to be significant.

Brauncewell medieval village, scheduled monument (NHLE 1018397)

9.9.21. The monument derives significance from its archaeological interest as the earthwork remains of a medieval village. The physical and historic association with the surviving church within the monument and with the farm buildings outside the scheduled monument contribute to this archaeological and historic interest. The immediate rural surroundings, including fields containing ridge and furrow to the north of the monument



- also contribute to the significance of the asset by providing appropriate context to the former rural settlement.
- 9.9.22. The embedded mitigation includes avoiding siting Solar PV modules in the field closest to the monument so that the visual relationship with the surrounding agricultural fields is maintained. This field would be converted to grassland habitat as detailed in ES Volume 2, Figure 3.3: Green Infrastructure Parameter Plan [EN010149/APP/6.2] and secured in the oLEMP [EN010149/APP/7.9] which would preserve the remains of ridge and furrow, enhancing (through long-term preservation) its contribution to the significance of the monument.
- 9.9.23. Additional vegetation planting as part of **ES Volume 2, Figure 3.3: Green Infrastructure Parameter Plan [EN010149/APP/6.2]** would screen the proposed panels in views from the monument and further reduce the visual change.
- 9.9.24. The magnitude of impact on the significance of this asset of **high** importance following the implementation of additional mitigation measures is expected to be **negligible adverse**, resulting in a significance of effect of **slight adverse**, which is considered to be **not significant**. The adverse impact on this asset is considered to result in harm at the lower end of less than substantial harm.
- 9.9.25. The creation of a permissive path between the Site and the scheduled monument will increase public access and allow more people to appreciate the heritage significance of the earthwork remains. This will be a minor beneficial magnitude of impact resulting in an effect of moderate beneficial significance, which is considered to be significant and will offset the adverse effects.

Milepost 20 metres south of Ashby Lodge Farm, Grade II Listed Building (NHLE 1061824)

9.9.26. Following implementation of additional mitigation measures to be set out in the **oOEMP [EN010149/APP/7.10]**, the magnitude of impact on this asset of **medium** importance will be **none** as a result of maintenance activity. Therefore, the significance of effect will be **no effect**, which is considered to be **not significant**.

Known and potential unknown archaeological remains within the Site

9.9.27. Following implementation of additional mitigation measures to be set out in the **oOEMP [EN010149/APP/7.10]**, the magnitude of impact on these assets of up to **medium** importance will be **none** as a result of maintenance activity. Therefore, the significance of effect will be **no effect**, which is considered to be **not significant**.



Decommissioning

Milepost 20 metres south of Ashby Lodge Farm, Grade II Listed Building (NHLE 1061824)

Following implementation of additional mitigation measures to be set out in the **oDEMP [EN010149/APP/7.13]**, the magnitude of impact as a result of decommissioning activity on this asset of **medium** importance will be **none**. Therefore, the significance of effect will be **no effect**, which is considered to be **not significant**.

Known and potential unknown archaeological remains within the Site

- 9.9.28. Following implementation of additional mitigation measures to be set out in the oDEMP [EN010149/APP/7.13], the magnitude of impact from decommissioning activity on these assets of up to medium importance will be negligible adverse. Therefore, the significance of effect will be no effect, which is considered to be not significant.
- 9.10. Opportunities for enhancement
- 9.10.1. Opportunities for environmental enhancement in relation to cultural heritage are detailed in the **Design Approach Document** [EN010149/APP/7.3].
- 9.10.2. The following measures could be implemented as part of the Proposed Development to enhance the experience and appreciation of the cultural heritage resource of the Site:
 - Installation of information boards, particularly regarding the Scheduled remains of former villages of Brauncewell (NHLE 1018397) and Dunsby (NHLE 1013895) and non-designated heritage assets Hawker Hurricane crash site (Lincolnshire County Council HER Ref: MLI25417) and Avro Lancaster crash site (Lincolnshire County Council HER Ref: MLI25416) as well as the listed milepost on the A15 (NHLE).
 - Instigating local community events, such as talks to local history societies, detailing the results of any archaeological fieldwork that is carried out in association with the Proposed Development.

9.11. Monitoring requirements

9.11.1. Mitigation measures and monitoring requirements documented within and secured by the oCTMP [EN010149/APP/7.8], oCEMP [EN010149/APP/7.7] and oDEMP [EN010149/APP/7.13] will avoid or mitigate construction phase impacts on listed buildings, conservation areas and non-designated heritage assets.



- 9.11.2. Monitoring of the archaeological mitigation measures would be carried out by the Lincolnshire County Council Historic Environment Team to ensure that the measures set out in the **oWSI [EN010149/APP/7.15]** remain appropriate following further investigation, that the Archaeological WSI is adhered to, and that any post-excavation analysis and reporting is conducted in accordance with the WSI (or subsequently agreed amendments to this).
- 9.11.3. The Applicant will monitor the effectiveness of control measures to prevent erosion of the Brauncewell medieval village, scheduled monument (NHLE 1018397) through use of the permissive path in consultation with Historic England.
- 9.12. Difficulties and uncertainties
- 9.12.1. The following difficulties and uncertainties have been encountered in undertaking the cultural heritage assessment:

Data sources

- 9.12.2. Information held by public data sources is generally considered to be reliable; however, the following general points are noted:
 - Some tithe maps were not available for consultation for ES Volume 3, Appendix 9.1: Archaeological Desk-Based Assessment and Stage 1 Setting Assessment [EN010149/APP/6.3];
 - 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;
 - HER records 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 HER records 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 HER records, 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.

Site visit

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 of the Site.

Geophysical survey

- 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.
- A small area of the northwest of the Order Limits (around the proposed National Grid substation) was not covered by the geophysical survey. There is therefore potential for this area to contain currently unknown archaeological remains. This potential is addressed in the ES on a likely "worst case" basis taking into account the known archaeological baseline.

Trial trenching

• Trial trenching has been carried out over the areas of likely greatest ground disturbance (BESS, Satellite Collector Compound areas, Construction Compound areas). 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.

9.13. Summary

9.13.1. A summary of this assessment is presented in **Table 9.9**. The sensitivity 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 9.9 Assessment summary

Receptor	Importan ce	Embedded mitigation	Potential effects (without additional mitigation)	Additional mitigation	Magnitu de of impact	Residual effect	Monitoring requirement
Key: + = positive, - temporary	= negative,	D = direct, I =	indirect, ST = sh	ort-term, MT = mediu	ım-term, LT	= long-term,	P = Permanent, T =
Milepost 20 metres south of Ashby Lodge Farm, Grade II Listed Building (NHLE Ref: 1061824)	Medium	The access to the Site from the A15 has been located to avoid physical impacts to this asset	Potential accidental damage during construction, maintenance and decommissioning.	oCEMP [EN010149/APP/7. 7], oOEMP [EN010149/APP/7. 10] and oDEMP [EN010149/APP/7. 13] will include measures to protect this asset from accidental damage	None	No Effect Not significant	N/A
Avro Lancaster crash site (Lincolnshire County Council HER Ref: MLI25416)	High	Non- intrusive construction methods for panel supports	The crash site is recorded within the Site and trial trenching identified artefacts	Archaeological investigation and recording of collector compound in vicinity of crash site and of any ITS within this field.	None	No Effect Not significant	Detailed design and WSI for archaeological investigation and recording (based on the oWSI [EN010149/APP/7.



Receptor	Importan ce	Embedded mitigation	Potential effects (without additional mitigation)	Additional mitigation	Magnitu de of impact	Residual effect	Monitoring requirement
			associated with the crash. Construction activity would directly impact on any remains present within ITS and collector compound.				15]) to be agreed with Lincolnshire County Council
Hawker Hurricane crash site (Lincolnshire County Council HER Ref: MLI25417)	High	Non- intrusive construction methods for panel supports	The crash site is recorded within the Site. Construction activity would directly impact on this asset, with potential for significant effects to occur.	Archaeological investigation and recording of collector compound in vicinity of crash site and of any ITS within this field.	None	No Effect Not Significant	Detailed design and WSI for archaeological investigation and recording (based on the oWSI [EN010149/APP/7. 15]) to be agreed with Lincolnshire County Council



Receptor	Importan ce	Embedded mitigation	Potential effects (without additional mitigation)	Additional mitigation	Magnitu de of impact	Residual effect	Monitoring requirement
Scheduled remains of former village of Brauncewell (NHLE 1018397)	High	Impacts upon the setting of heritage assets have been minimised or eliminated by design modification s.	Minor changes to setting	Additional vegetation planting to screen panels from view	Negligible adverse	Slight adverse (-) (I) (T) (LT) Not significant	N/A
Scheduled remains of former village of Brauncewell (NHLE 1018397)	High	Creation of permissive path to improve access to monument	Risk of erosion of monument through increased access on permissive path	Detailed earthwork survey of monument. Seasonal restrictions on use of permissive path to limit risk of erosion during wet weather (to be	Minor beneficial	Moderate beneficial (-) (I) (T) (LT) Significant	



Receptor	Importan ce	Embedded mitigation	Potential effects (without additional mitigation)	Additional mitigation	Magnitu de of impact	Residual effect	Monitoring requirement
				reviewed periodically for effectiveness in consultation with Historic England).			
Areas of high density	Up to medium	N/A	Damage and disturbance to	Detailed design to route cables within	Minor adverse	Slight adverse	Detailed design and WSI for
archaeological remains within cable route areas (see ES Volume 2,		archaeological less sensitive areas remains. of archaeological remains as far as possible.		(-), (D), (P) Not significant	archaeological investigation and recording to be agreed with		
Figure 9.7: Relative Density of Archaeological Features [EN010149/APP/6. 2])	cal		Archaeological mitigation through excavation and recording			Lincolnshire County Council	



Receptor	Importan ce	Embedded mitigation	Potential effects (without additional mitigation)	Additional mitigation	Magnitu de of impact	Residual effect	Monitoring requirement
Areas of high density archaeological remains within Ground Mounted Solar PV Generating Stations (see ES Volume 2, Figure 9.7: Relative Density of Archaeological Features [EN010149/APP/6. 2])	Up to medium	Non- intrusive construction methods for panel supports	Compounds, ITS and internal cabling will damage or disturb these remains,	String inverters to be used. ITS and compounds to be sited outside the areas of archaeological sensitivity.	Minor adverse	Slight adverse (-), (D), (P) Not significant	Detailed design and WSI for archaeological investigation and recording to be agreed with Lincolnshire County Council
Areas of low density archaeological remains within cable route areas and Ground Mounted Solar PV	Up to medium	None	Damage or disturbance to archaeological remains	Cables to be routed and ITS and compounds to be sited to avoid sensitive areas of archaeology.	Minor adverse	Slight adverse (-) (D) (P) Not significant	Detailed design to be agreed with Lincolnshire County Council



Receptor	Importan Embedded ce mitigation	Potential effects (without additional mitigation)	Additional mitigation	Magnitu de of impact	Residual effect	Monitoring requirement
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Generating Station (see ES Volume 2, Figure 9.7: Relative Density of Archaeological Features [EN010149/APP/6. 2])



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