West Burton Solar Project

Environmental Statement

Chapter 13: Cultural Heritage

Prepared by: Lanpro Services

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West Burton
SOLAR PROJECT

Contents

Issue Sheet

Report Prepared for: West Burton Solar Project Ltd.
DCO Submission

Environmental Statement Chapter 13:

Cultural Heritage

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13 Cultural Heritage

13.1 Introduction

13.1.1 This chapter of the Environmental Statement (ES) presents an assessment of the effects of the Scheme on cultural heritage and archaeological receptors. It will assess the effect on heritage, historic landscape and archaeology arising from likely impacts and will propose appropriate mitigation.

13.1.2 The assessment identifies and evaluates heritage assets (archaeological remains, historic buildings, and historic landscapes) within the Study Area (defined in section 13.4 below) and assesses how the Scheme may potentially affect those heritage assets.

13.1.3 This ES chapter has been prepared and collated by Antony Brown, Principal Archaeology and Heritage Consultant at Lanpro Services, who is a Member of the Chartered Institute for Archaeologists (MCIfA) and has over 22 years' experience as a heritage professional. The chapter and appendices also include contributions from Mitchell Pollington, Director of Archaeology and Heritage at Lanpro Services, and Alice James and Michelle Burpoe, Associate Archaeologists at Lanpro Services (see Statement of Competence **[EN010132/APP/WB6.3.1.1]**).

13.1.4 This chapter of the ES considers relevant heritage policy and guidance and sets out the methodologies and approaches which have been used to inform the Cultural Heritage chapter of the ES for the Scheme. A description of the cultural heritage baseline conditions is followed by a description of embedded mitigation measures that have been identified and adopted as part of the evolution of the project design. An assessment of the likely effects of the Scheme upon the cultural heritage resource, alongside consideration of proposed additional mitigation strategies has been undertaken. Cumulative impacts resulting from the combined effects of the Scheme with other significant and relevant committed proposals within the vicinity of the Scheme are assessed; and finally, any identified residual effects are identified that would occur as a result of the Scheme assuming the implementation of the proposed mitigation.

13.1.5 This chapter is supported by the following appendices:

- **Appendix 13.1** Archaeological Desk-Based Assessments (DBAs), **[EN010132/APP/WB6.3.13.1].**
- **Appendix 13.2** Archaeological Geophysical Survey Reports, **[EN010132/APP/WB6.3.13.2].**
- **Appendix 13.3** Geoarchaeological Desk-Based Assessment, **[EN010132/APP/WB6.3.13.3.].**

- **Appendix 13.4** Air Photo and LiDAR Mapping and Interpretation Reports, **[EN010132/APP/WB6.3.13.4].**
- **Appendix 13.5** Heritage Statement, **[EN010132/APP/WB6.3.13.5].**
- **Appendix 13.6** Archaeological Evaluation Reports, **[EN010132/APP/WB6.3.13.6].**
- **Appendix 13.7** Archaeological Written Scheme of Investigation (WSI), **[EN010132/APP/WB6.3.13.7].**
- **Appendix 13.8** Cultural Heritage Impact Assessment Tables, **[EN010132/APP/WB6.3.13.8].**
- **Appendix 13.9** Consultation Response Table, **[EN010132/APP/WB6.3.13.9].**

13.1.6 This chapter is also supported by the following figures:

- **Figure 13.1** Site location and figure key plan, **[WB6.4.13.1]**.
- **Figure 13.2** Assessed Archaeological Remains and Historic Buildings, West Burton 1 and 2 **[WB6.4.13.2]**.
- **Figure 13.3** Assessed Archaeological Remains and Historic Buildings – West Burton 3 **[WB6.4.13.3]**.
- **Figure 13.4** Assessed Archaeological Remains and Historic Buildings – West Burton cable route **[WB6.4.13.4]**.
- **Figure 13.5** Historic Landscape Characterisation – West Burton 1 and 2, **[WB6.4.13.5]**.
- **Figure 13.6** Historic Landscape Characterisation – West Burton 3, **[WB6.4.13.6]**.
- **Figure 13.7** Historic Landscape Characterisation – West Burton cable route, **[WB6.4.13.7]**.
- **Figure 13.8** WBCR East Designated Heritage Assets **[WB6.4.13.8]**.
- **Figure 13.9** WBCR West Designated Heritage Assets **[WB6.4.13.9]**.

13.2 Consultation

13.2.1 Consultation undertaken throughout the pre-application and scoping phases of the Scheme have informed the approach and the information provided in this chapter. A full list of consultation comments of relevance to Cultural Heritage and the responses to these are provided in the Consultation Response Tables in **Appendix 13.9** and also in the Consultation Report (Counter Context) **[EN010132APP/WB5.1]** submitted with the DCO application.

13.3 Legislation, Planning Policy and Guidance

13.3.1 The following legislative provisions, policy and guidance, as well as the EIA Regulations, provide the context for the cultural heritage assessment to be undertaken in the EIA.

13.3.2 The applicable legislative framework comprises:

- *Ancient Monuments and Archaeological Areas Act* (AMAAA) 1979[1], which provides specific protection for monuments of national interest;
- *Planning (Listed Buildings and Conservation Areas) Act* 1990[2], which provides specific protection for buildings and areas of special architectural or historic interest;
- *Historic Buildings and Ancient Monuments Act* 1953[3], which makes provision for the compilation of a register of gardens and other land (parks and gardens, and battlefields); and
- *Hedgerows Regulations* 1997[4] make provision for the protection of important hedgerows, which may be afforded statutory protection should they qualify as being 'important' for, *inter alia*, historical or archaeological reasons.

13.3.3 The applicable National Policy Statements (NPS) include:

- The adopted *Overarching National Policy Statement for Energy (EN-1)*[5] Section 5.8: The Historic Environment is the section of this document of greatest relevance to this chapter, and the key points relevant to this assessment are as follows:

  *'**Applicant's assessment**: As part of the ES … the applicant should provide a description of the significance of the heritage assets affected by the proposed development and the contribution of their setting to that significance. The level of detail should be proportionate to the importance of the heritage assets and no more than is sufficient to understand the potential impact of the proposal on the significance of the heritage asset. As a minimum, the applicant should have consulted the relevant Historic Environment Record (or, where the development is in English or Welsh waters, English Heritage or Cadw) and assessed the*

[1] https://www.legislation.gov.uk/ukpga/1979/46. Retrieved 04/11/2022.
[2] https://www.legislation.gov.uk/ukpga/1990/9/contents. Retrieved 04/11/2022.
[3] https://www.legislation.gov.uk/ukpga/Eliz2/1-2/49/contents Retrieved 04/11/2022.
[4] https://www.legislation.gov.uk/uksi/1997/1160/contents/made Retrieved 04/11/2022.
[5] Department of Energy and Climate Change (DECC). July 2011. *Overarching National Policy Statement for Energy (EN-1*).

heritage assets themselves using expertise where necessary according to the proposed development's impact' [6].

'Where a development site includes, or the available evidence suggests it has the potential to include, heritage assets with an archaeological interest, the applicant should carry out appropriate desk-based assessment and, where such desk-based research is insufficient to properly assess the interest, a field evaluation. Where proposed development will affect the setting of a heritage asset, representative visualisations may be necessary to explain the impact' [7].

'The applicant should ensure that the extent of the impact of the proposed development on the significance of any heritage assets affected can be adequately understood from the application and supporting documents' [8].

- The NPS described above is currently under review and in 2021 the Department for Business, Energy and Industrial Strategy consulted on the emerging *Draft Overarching National Policy Statement for Energy (EN-1)*[9]. Section 5.9: The Historic Environment is the section of this document of most relevance to this chapter, and the key points relevant to this assessment are as follows*:*

  *'**Applicant's assessment**: The applicant should undertake an assessment of any likely significant heritage impacts of the proposed development as part of the EIA and describe these in the ES. This should include consideration of heritage assets above, at, and below the surface of the ground'* [10].

  'As part of the ES the applicant should provide a description of the significance of the heritage assets affected by the proposed development, including any contribution made by their setting. The level of detail should be proportionate to the importance of the heritage assets and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the applicant should have consulted the relevant Historic Environment Record (or, where the development is in English or Welsh waters, Historic England or Cadw) and assessed the heritage assets themselves using expertise where necessary according to the proposed development's impact' [11].

[6] Ibid., paragraph 5.8.8.
[7] Ibid., paragraph 5.8.9.
[8] Ibid., paragraph 5.8.10.
[9] Department for Business, Energy & Industrial Strategy (DBEIS). July 2021. *Draft Overarching National Policy Statement for Energy (EN-1).*
[10] Ibid., paragraph 5.9.10.
[11] Ibid., paragraph 5.9.11.

'Where a site on which development is proposed includes, or the available evidence suggests it has the potential to include, heritage assets with an archaeological interest, the applicant should carry out appropriate desk-based assessment and, where such desk-based research is insufficient to properly assess the interest, a field evaluation. Where proposed development will affect the setting of a heritage asset, accurate representative visualisations may be necessary to explain the impact'[12].

'The applicant should ensure that the extent of the impact of the proposed development on the significance of any heritage assets affected can be adequately understood from the application and supporting documents. Studies will be required on those heritage assets affected by noise, vibration, light and indirect impacts, the extent and detail of these studies will be proportionate to the significance of the heritage asset affected'[13].

'The applicant is encouraged, where opportunities exist, to prepare proposals which can make a positive contribution to the historic environment, and to consider how their scheme takes account of the significance of heritage assets affected. This can include, where possible:

- *enhancing, through a range of measures such a sensitive design, the significance of heritage assets or setting affected*
- *considering measures that address those heritage assets which are at risk or which may become at risk, as a result of the scheme*
- *considering how visual or noise impacts can affect heritage assets, and whether there may be opportunities to enhance access to, or interpretation, understanding and appreciation of, the heritage assets affected by the scheme'*[14].

'Careful consideration in preparing the scheme will be required on whether the impacts on the historic environment will be direct or indirect, temporary or permanent'[15].

'Applicants should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve

[12] Ibid., paragraph 5.9.12.
[13] Ibid., paragraph 5.9.13.
[14] Ibid., paragraph 5.9.14.
[15] Ibid., paragraph 5.9.15.

those elements of the setting that make a positive contribution to the asset (or which better reveal its significance) should be treated favourably'[16].

- The adopted *National Policy Statement for Renewable Energy Infrastructure (EN-3)*[17] does not contain any policies pertaining to the impacts of solar energy production on the cultural heritage resource. However, the emerging *Draft National Policy Statement for Renewable Energy Infrastructure (EN-3)*[18] contains *Section 2.53 - Solar photovoltaic generation impacts: cultural heritage.* Key paragraphs within this section include:

  'The impacts of solar PV developments on the historic environment will require expert assessment in most cases. Solar PV developments may affect heritage assets (sites, monuments, buildings, and landscape) both above and below ground. Above ground impacts may include the effects of applications on the setting of Listed Buildings and other designated heritage assets as well as on Historic Landscape Character. Below ground impacts may include direct impacts on archaeological deposits through ground disturbance associated with trenching, cabling, foundations, fencing, temporary haul routes etc. Equally archaeological finds may be protected by a solar PV farm as the site is removed from regular ploughing and shoes or low-level piling is stipulated' [19]

  'Applicant's assessment: It is anticipated that the applicant's assessment will be informed by a consultation with the Historic Environment Record (HER). Alternatively, the applicant may contact the local authority for this information. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, the applicant should submit an appropriate desk-based assessment and, where necessary, a field evaluation. These are expected to be carried out, using expertise where necessary and in consultation with the local planning authority, and should identify archaeological study areas and propose appropriate schemes of investigation, and design measures, to ensure the protection of relevant heritage assets'[20].

  'In some instances, field studies may include investigative work such as trial trenching beyond the boundary of the proposed site to assess the impacts of any underground cabling on archaeological assets. The extent of investigative work

[16] Ibid., paragraph 5.9.16.
[17] DECC. July 2011, *National Policy Statement for Renewable Energy Infrastructure (EN-3).*
[18] DBEIS. November 2021. *Draft National Policy Statement for Renewable Energy Infrastructure (EN-3*).
[19] Ibid., paragraph 2.53.2.
[20] Ibid., paragraph 2.53.3.

should be proportionate to the sensitivity of, and extent of proposed cabling in, the associated study area[21]

'Applications should take account of the results of historic environment assessments in their design, for instance through the sensitive planning of installations. The applicant should consider what steps can be taken to ensure heritage assets are conserved in a manner appropriate to their significance, including the impact of proposals on views important to their setting. As the significance of a heritage asset derives not only from its physical presence, but also from its setting, careful consideration should be given to the impact of large-scale solar farms on such assets. Depending on their scale, design and prominence, a large-scale solar farm within the setting of a heritage asset may cause substantial harm to the significance of the asset. Visualisations may be required to demonstrate the effects of a proposed solar farm on the setting of heritage assets'[22].

***Mitigation**: The ability of the applicants to microsite specific elements of the proposed development during the construction phase should be an important consideration by the Secretary of State when assessing the risk of damage to archaeology. Therefore, where requested by the applicant, the Secretary of State should consider granting consents which allow for the micro siting within a specified tolerance of elements of the permitted infrastructure so that precise locations can be amended during the construction phase in the event that unforeseen circumstances, such as the discovery of previously unknown archaeology, arise'*[23]

***Secretary of State decision making**: 'Consistent with the generic policy on historic environmental impacts in EN1 (Section 5.9) the Secretary of State should be satisfied that solar farms and associated infrastructure have been designed sensitively taking into account known heritage assets and their status'* [24].

'Solar farms are generally consented on the basis that they will be time-limited in operation. The Secretary of State should therefore consider the length of time for which consent is sought when considering the impacts of any indirect effect on the historic environment, such as effects on the setting of designated heritage assets'[25]

[21] Ibid., Paragraph 2.53.4.
[22] Ibid., Paragraph 2.53.5.
[23] Ibid., paragraph 2.53.6.
[24] Ibid., paragraph 2.53.7.
[25] Ibid., paragraph 2.53.8.

- The adopted *National Policy Statement for Electricity Networks Infrastructure (EN-5)*[26] does not contain any policies pertaining to the impacts of solar energy production on the cultural heritage resource, but does make reference to archaeology or heritage on two occasions, both with regard to the laying of below ground electricity cables:

  *'Effects on soil, water, ecology and **archaeology** are likely to be negative, at least in the short term, requiring significant mitigation, but there is uncertainty around long term effects depending on the specific location and the sensitivity of the receiving environment. However, long term effects on landscape, townscape and visual impacts will be positive'*[27].

  *'... the environmental and archaeological consequences (undergrounding a 400kV line may mean disturbing a swathe of ground up to 40 metres across, which can disturb sensitive habitats, have an impact on soils and geology, and damage **heritage assets**, in many cases more than an overhead line would'*[28].

13.3.4 The national and local planning policy framework and associated guidance includes:

- *National Planning Policy Framework (NPPF)* - Section 16: Conserving and Enhancing the Historic Environment[29].

  The policies within the NPPF that are most relevant to the proposed development and this assessment include:

  ***'194.** In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.*

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[26] DECC. July 2011. *National Policy Statement for Electricity Networks Infrastructure (EN-5).*
[27] Ibid., paragraph 1.7.5.
[28] Ibid., paragraph 2.8.9.
[29] Ministry of Housing, Communities & Local Government (MHCLG). 2021. *National Planning Policy Framework*. Paragraphs 189-208.

***195**. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this into account when considering the impact of a proposal on a heritage asset, to avoid or minimise any conflict between the heritage asset's conservation and any aspect of the proposal.*

***196.** Where there is evidence of deliberate neglect of, or damage to, a heritage asset, the deteriorated state of the heritage asset should not be taken into account in any decision.*

***197.** In determining applications, local planning authorities should take account of:*

(a) the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;

(b) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and

(c) the desirability of new development making a positive contribution to local character and distinctiveness.

***199.** When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.*

***200.** Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:*

(a) grade II listed buildings, or grade II registered parks or gardens, should be exceptional;

(b) assets of the highest significance, notably 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.*

***201.** Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm*

or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

(a) the nature of the heritage asset prevents all reasonable uses of the site; and

(b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and

(c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and

(d) the harm or loss is outweighed by the benefit of bringing the site back into use.

***202.** Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.*

***203.** The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.*

***204.** Local planning authorities should not permit the loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred.*

***205.** Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible [69]. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.'*

- *NPPF Planning Practice Guidance: Historic environment*[30].
- *The Central Lincolnshire Local Plan* (adopted on 24 April 2017). The policy most relevant to this assessment is Policy LP25: The Historic Environment[31] The sections of the policy most relevant to this assessment include:

[30] MHCLG. 2019. *National Planning Policy Framework*. *Planning Policy Guidance: Historic Environment.*
[31] Central Lincolnshire. Adopted April 2017, *Central Lincolnshire Local Plan 2012-2036*. Section 5.10, p.62-64.

'Development proposals should protect, conserve and seek opportunities to enhance the historic environment of Central Lincolnshire.

In instances where a development proposal would affect the significance of a heritage asset (whether designated or non-designated), including any contribution made by its setting, the applicant will be required to undertake the following, in a manner proportionate to the asset's significance:

a. describe and assess the significance of the asset, including its setting, to determine its architectural, historical or archaeological interest; and

b. identify the impact of the proposed works on the significance and special character of the asset; and

c. provide clear justification for the works, especially if these would harm the significance of the asset or its setting, so that the harm can be weighed against public benefits.

Unless it is explicitly demonstrated that the proposal meets the tests set out in the NPPF, permission will only be granted for development affecting designated or non-designated heritage assets where the impact of the proposal(s) does not harm the significance of the asset and/or its setting.

Development proposals will be supported where they:

d. Protect the significance of designated heritage assets (including their setting) by protecting and enhancing architectural and historic character, historical associations, landscape and townscape features and through consideration of scale, design, materials, siting, layout, mass, use, and views and vistas both from and towards the asset;

e. Promote opportunities to better reveal significance of heritage assets, where possible;

f. Take into account the desirability of sustaining and enhancing non-designated heritage assets and their setting.

The change of use of heritage assets will be supported provided:

g. the proposed use is considered to be the optimum viable use, and is compatible with the fabric, interior, character, appearance and setting of the heritage asset;

h. such a change of use will demonstrably assist in the maintenance or enhancement of the heritage asset; and

i. features essential to the special interest of the individual heritage asset are not lost or altered to facilitate the change of use.

Listed Buildings

Permission to change the use of a Listed Building or to alter or extend such a building will be granted where the local planning authority is satisfied that the proposal is in the interest of the building's preservation and does not involve activities or alterations prejudicial to the special architectural or historic interest of the Listed Building or its setting.

Permission that results in substantial harm to or loss of a Listed Building will only be granted in exceptional or, for grade I and II Listed Buildings, wholly exceptional circumstances.*

Development proposals that affect the setting of a Listed Building will be supported where they preserve or better reveal the significance of the Listed Building.

Conservation Areas

Development within, affecting the setting of, or affecting views into or out of, a Conservation Area should preserve (and enhance or reinforce it, as appropriate) features that contribute positively to the area's character, appearance and setting.

Archaeology

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

Planning applications for such development should be accompanied by an appropriate and proportionate assessment to understand the potential for and significance of remains, and the impact of development upon them. If initial assessment does not provide sufficient information, developers will be required to undertake field evaluation in advance of determination of the application. This may include a range of techniques for both intrusive and non-intrusive evaluation, as appropriate to the site.

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

Any work undertaken as part of the planning process must be appropriately archived in a way agreed with the local planning authority.'

- *The emerging Bassetlaw Local Plan 2020-2037 - Policy ST42: The Historic and Environment32 and Policy ST43: Designated and Non-Designated Heritage Assets[33].*

  Policy ST42: The Historic Environment states:

  '1. The historic environment will be conserved and enhanced, sensitively managed, enjoyed and celebrated for its contribution to sustainable communities. Proposals will be supported where they:

  a) give great weight to the conservation and re-use of heritage assets (designated and non-designated) and their settings, including for appropriate temporary use, based on their significance in accordance with national policy[1];

  b) make a positive contribution to the character and local distinctiveness of the historic environment, including through the use of innovative design;

  c) positively conserve or enhance a historic designed landscape;

  d) maintain, conserve, sustain or return to beneficial use designated or non-designated assets;

  e) capitalise in an appropriate and sensitive manner the regeneration, tourism and energy efficiency potential of heritage assets;

  f) positively secure the conservation and re-use of 'at risk' heritage assets;

  g) improve access and enjoyment of the historic environment where appropriate, particularly where they retain, create or facilitate public access to heritage assets to increase understanding of their significance.

  2. Applicants will be required to submit evidence in line with best practice and relevant national guidance, examining the significance of any heritage assets affected through a Heritage Statement, including any contribution made by their setting. The level of detail should be proportionate to the asset's significance, and the results submitted to the Nottinghamshire Historic Environment Record. In some circumstances, further survey, analysis and/or recording will be made a condition of consent.

  Policy 43: Designated and Non-Designated Heritage Assets states;

  Designated Heritage Assets

[32] Bassetlaw District Council. *Bassetlaw Local Plan 2020-2037*. Publication Version. August 2021.p.155-156.
[33] Bassetlaw District Council. *Bassetlaw Local Plan 2020-2037*. Publication Version. August 2021.p.156-157.

1. Proposals for development, including change of use, that involve a designated heritage asset, or the setting of a designated heritage asset will be expected to:

a) conserve, enhance or better reveal those elements which contribute to the heritage significance and/or its setting;

b) respect any features of special architectural or historic interest, including where relevant the historic curtilage or context, its value within a group and/or its setting, such as the importance of a street frontage, traditional roofscape, or traditional shopfronts;

c) be sympathetic in terms of its siting, size, scale, height, alignment, proportions, design and form, building technique(s), materials and detailing, boundary treatments and surfacing, or are of a high quality contemporary or innovative nature which complements the local vernacular, in order to retain the special interest that justifies its designation;

d) ensure significant views away from, through, towards and associated with the heritage asset(s) are conserved or enhanced;

e) in the case of a Conservation Area, to have regard to the established urban grain and ensure that spaces between and around buildings, such as paddocks, greens, gardens and other gaps, are preserved where they contribute to the Conservation Area's character and appearance.

2. Proposals that will lead to substantial harm or total loss of significance will be refused unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss, where it can be demonstrated that:

a) the nature of the heritage asset prevents all reasonable uses of the site;

b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation;

c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible;

d) the harm or loss is outweighed by the benefit of bringing the site back into use.

3. Proposals that would result in less than substantial harm to the significance of a designated heritage asset will only be supported where it can be demonstrated that the public benefits will outweigh any harm identified.

Non-Designated Heritage Assets

1. Proposals for development, including change of use, that involve a non-designated heritage asset, or the setting of a non-designated heritage asset will be expected to:

a) have regard to the significance of the asset and its relationship with its setting;

b) be sympathetic to the local vernacular in terms of siting, size, scale, height, alignment, design and form; proportions, materials;

2. Proposals that will lead to harm to or loss of significance of a non-designated heritage asset will only be considered where it can be demonstrated that:

a) the asset's architectural or historic significance is proven to be minimal; or

b) through an up-to-date structural report produced by a suitably qualified person, the asset is not capable of viable repair; or

c) through appropriate marketing, the asset has no viable use; or

d) the public benefits of the scheme outweigh the loss of significance.

Archaeological sites

1. Where the 'in situ' preservation of archaeological remains is not possible or desirable, suitable provision shall be made by the developer for the excavation, recording, analysis, storage, relocation of assets and archiving, in accordance with a Written Scheme of Investigation that has been approved by the Local Planning Authority."

- *The Core Strategy and Development Management Policies Development Plan for Bassetlaw* (adopted on 22 December 2011) - Policy DM8: The Historic Environment[34]. The sections of the policy most relevant to this assessment include:

'A. Definition of Heritage Assets

Designated heritage assets in Bassetlaw include:

i. Listed Buildings (including attached and curtilage structures);

ii. Conservation Areas;

iii. Scheduled Monuments; and

iv. Registered Parks and Gardens.

Non-Designated assets in Bassetlaw include:

[34] Bassetlaw District Council. *The Core Strategy and Development Management Policies Development Plan for Bassetlaw. Adopted December 2011.* p.62-63.

v. Buildings of Local Interest;

vi. Areas of archaeological interest;

vii. Unregistered Parks and Gardens37; and

viii. Buildings, monuments, places, areas or landscapes positively identified as having

significance in terms of the historic environment.'

B. Development Affecting Heritage Assets

There will be a presumption against development, alteration, advertising or demolition that will be detrimental to the significance of a heritage asset.

Proposed development affecting heritage assets, including alterations and extensions that are of an inappropriate scale, design or material, or which lead to the loss of important spaces, including infilling, will not be supported.

The setting of an asset is an important aspect of its special architectural or historic interest and proposals that fail to preserve or enhance the setting of a heritage asset will not be supported. Where appropriate, regard shall be given to any approved characterisation study or appraisal of the heritage asset. Development proposals within the setting of heritage assets will be expected to consider:

i. Scale;

ii. Design;

iii. Materials;

iv. Siting; and

v. Views away from and towards the heritage asset.'

13.3.5 Sectorial guidance documents relevant to the EIA include:

- The former Department for Transport's *Design Manual for Roads and Bridges* ("DMRB")[35]
- English Heritage's *Conservation Principles: Policies and guidance for the sustainable management of the historic environment*[36].

[35] Department for Transport (DfT). 2008. *Design Manual for Roads and Bridges. Volume 11 Section 3 Part 2 (HA 208/07) Environmental Assessment. Environmental Topics. Cultural Heritage.*

[36] English Heritage. 2008. *Conservation Principles. Conservation Principles. Policies and guidance for the sustainable management of the historic environment.* Historic England, London.

- Historic England's *Historic Environment Good Practice Advice in Planning 2: Managing Significance in Decision Taking in the Historic Environment*[37]
- Historic England's *The Setting of Heritage Assets*[38].
- Historic England's*: Statement of Heritage Significance: Analysing Significance in Heritage Assets*[39].
- Historic England's *Commercial Renewable Energy Development and the Historic Environment*[40].
- The Chartered Institute for Archaeologists' *Standard and Guidance for Historic Environment Desk-based Assessment*[41]
- Lincolnshire County Council's *Archaeology Handbook*[42] which lays out the requirements for undertaking archaeological work in the County.

[37] Historic England. 2015. *Historic Environment Good Practice Advice in Planning 2: Managing Significance in Decision Taking in the Historic Environment.* Swindon, Historic England.
[38] Historic England. 2017. *Historic Environment Good Practice Advice in Planning. Note 3: The Setting of Heritage Assets.* (Second Edition). Swindon, Historic England.
[39] Historic England. 2019.*: Statement of Heritage Significance: Analysing Significance in Heritage Assets. Historic England Advice Note 12.* Swindon, Historic England.
[40] Historic England. 2021. *Commercial renewable energy development and the historic environment Historic England Advice Note 15.* Swindon. Historic England.
[41] Chartered Institute for Archaeologists. 2020. *Standard and Guidance for Historic Environment Desk-based Assessment*. Reading, CIfA.
[42] Jennings, L. 2019. *Archaeology Handbook. Revised 2019.* Lincoln, Lincolnshire County Council.

13.4 Assessment Methodology and Significance Criteria

Study Area

Non-designated heritage assets

13.4.1 For non-designated heritage assets, a 1km study area surrounding each of the West Burton Sites has been adopted for the Desk Based Assessments (DBAs) that have been prepared as part of the baseline to inform the ES, which is a standard sized study area for assessments of this type in rural areas of England. This ES chapter makes reference to these wider study areas where appropriate but focuses on those assets within the Order Limits under assessment, as it is these assets that would be directly affected by the Scheme. For the Cable Route Corridors running between the Sites and the grid connection at West Burton Power Station, a 250m study area was used for the archaeological appraisal of the routes. This smaller study area was chosen for the Cable Route Corridor as it was considered that a larger study area would have resulted in a disproportionately large assessment area for what would ultimately be a relatively localised impact (i.e., along the final cable route that will be chosen within the defined Cable Route Corridor). Moreover, this smaller study area was considered sufficient to provide an assessment of any known archaeological remains that could be impacted by the Scheme within the Cable Route Corridor.

Designated heritage assets

13.4.2 For designated heritage assets, Historic England in its role as statutory consultee provided a Scoping Response which highlighted the following sites and settings for consideration in the assessment:

- The Scheduled *Broxholme medieval settlement and cultivation remains* (NHLE 1016797)
- The Scheduled *Deserted village of North Ingleby* (NHLE 1003570)
- The Scheduled *Medieval bishop's palace and deer park, Stow Park* (NHLE 1019229).

13.4.3 However, it was also stated that this advice was given '*Without prejudice to the results of analysis (which will benefit from use of our GPA Setting of Heritage Assets*)'.

13.4.4 The Scoping Opinion **[EN010132APP/WB6.3.2.2]** provided by PINS on behalf of the Secretary of State also highlighted that the 2km study area proposed for Built Heritage in the Scoping Report **[EN010132APP/WB6.3.2.1]** was inconsistent with the 5km study area proposed for the LVIA chapter. It further noted the location of heritage assets along the Lincoln Cliff more than 3.5km to the east of the West Burton 1 Site that could potentially have lines of site to both the Cottam and West

Burton Sites. It concluded that the ES should define an appropriate study area based upon the views to and from the Scheme, and potential impacts to all heritage assets, and that this should inform the cumulative assessment.

13.4.5 Consequently, the Heritage Statement that has been produced to assess potential impacts to the settings of designated heritage assets (included in **Appendix 13.5**) identified all designated assets 'of the highest significance' within a 5km radius of each of the Sites under consideration, and these were taken forward for further assessment in accordance with the methodology detailed in *The Setting of Heritage Assets*[43]. For Grade II Listed Buildings, which are considered to be of 'medium' value (using the definitions provided in Table 13.6 below), a 2km study area was adopted for assessment in the Heritage Statement, in accordance with the proposed methodology detailed in the PEIR. For the temporary setting impacts during construction that could occur along the Cable Route Corridors, a 500m study area has been adopted, as it was considered that any temporary, short term, reversible effects would be of a negligible significance and moreover would be unlikely to be discernible at distances greater than 500m.

Sources of Information

13.4.6 The following sources of information have been consulted to inform this ES chapter:

- The DBAs that have been produced by Lanpro Services for each of the West Burton Sites and the Cable Route Corridors (included in **Appendix 13.1**). These comprise:
  - *Archaeological Desk-based Assessment: West Burton 1. West Burton Solar Project, Lincolnshire*[44]
  - *Archaeological Desk-based Assessment: West Burton 2. West Burton Solar Project, Lincolnshire*[45]
  - *Archaeological Desk-based Assessment: West Burton 3. West Burton Solar Project, Lincolnshire*[46]

[43] Historic England 2017, op. cit.
[44] James, A., Ryan, R. and Burpoe, M. 2023a. *Archaeological Desk-based Assessment: West Burton 1. West Burton Solar Project, Lincolnshire.* Unpubl. Lanpro client report.
[45] James, A. and Ryan, R. and Burpoe, M. 2022b. *Archaeological Desk-based Assessment: West Burton 2. West Burton Solar Project, Lincolnshire.* Unpubl. Lanpro client report.
[46] James, A. and Ryan, R. and Burpoe, M. 2023c. *Archaeological Desk-based Assessment: West Burton 3. West Burton Solar Project, Lincolnshire.* Unpubl. Lanpro client report.

- *Archaeological Desk-Based Appraisal: West Burton Cable and Access Corridor. West Burton Solar Project, Lincolnshire*[47]

- The Geophysical Survey reports produced by Archaeological Services (ASWYAS) and Wessex Archaeology which comprise the following (included in **Appendix 13.2**):
  - *West Burton Solar Project, West Burton 1, Lincolnshire: Geophysical Survey*[48].
  - *Geophysical Survey Report: West Burton 2, West Burton Solar Scheme, Lincolnshire* [49].
  - *Geophysical Survey Report: West Burton 3, West Burton Solar Scheme, Lincolnshire* [50].
  - *West Burton Solar Project, West Burton Cable Route, Lincolnshire: Geophysical Survey*
  - *Shared Cable Route Corridor, Nottinghamshire and Lincolnshire: Detailed Gradiometer Survey Report*[51]
  - *West Burton Cable Route. West Burton Solar Project, Lincolnshire*[52]
- Oxford Archaeology North's *West Burton Solar Farm, Lincolnshire and Nottinghamshire: Geoarchaeological Assessment Report*[53] (included in **Appendix 13.3**).
- Alison Deegan's *Air Photo and LiDAR Mapping and Interpretation: Gate Burton Energy Park, Nottinghamshire and Lincolnshire*[54] (included in **Appendix 13.4**).

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[47] James, A. 2023. *Archaeological Appraisal: West Burton Cable and Access Corridor. West Burton Solar Project, Lincolnshire.* Unpubl. Lanpro client report.
[48] Brunning, E. 2022a. *West Burton Solar Project, West Burton 1, Lincolnshire: Geophysical Survey*. Archaeological Services WYAS Report no. 3743.
[49] James, A. 2022. *Geophysical Survey Report: West Burton 2, West Burton Solar Scheme, Lincolnshire.* NAA Report no. 21/53.
[50] James, A. 2022. *Geophysical Survey Report: West Burton 2, West Burton Solar Scheme, Lincolnshire.* NAA Report no. 21/54.
[51] Plesnicar, R. and Edwards, P. 2022. *Shared Cable Route Corridor, Nottinghamshire and Lincolnshire: Detailed Gradiometer Survey Report.* Wessex Archaeology Report no. 257661.03
[52] Brunning, E. 2023. *West Burton Cable Route. West Burton Solar Project, Lincolnshire*. Archaeological Services WYAS Report no. 3890.
[53] Rutherford, M. 2022. *West Burton Solar Farm, Lincolnshire and Nottinghamshire: Geoarchaeological Assessment Report.* Oxford Archaeology North Report no. 2022/2196.
[54] Deegan, A. 2022. *Air Photo and LiDAR Mapping and Interpretation: Gate Burton Energy Park, Nottinghamshire and Lincolnshire.* Alison Deegan project report no. 2122007.

- Alison Deegan's *Air Photo and LiDAR Mapping and Interpretation for the West Burton Solar Project and Cable Routes, Lincolnshire and Nottinghamshire*[55] (included in **Appendix 13.4**).
- Lanpro's *West Burton Solar Project: Heritage Statement*[56] (included in **Appendix 13.5**)
- The interim reports on the archaeological evaluations undertaken by CFA and Wessex Archaeology, which comprise the following (included in **Appendix 13.6**):
  - *West Burton 1 Solar Project: Interim Report. Archaeological Evaluation Trenching.*[57]
  - *West Burton 2 Solar Project: Interim Report. Archaeological Evaluation Trenching*[58]
  - *West Burton 3 Solar Project: Interim Report. Archaeological Evaluation Trenching*[59]
  - *Shared Grid Connection Corridor, Nottinghamshire and Lincolnshire. Archaeological Evaluation Interim Report*[60]

The Setting of Heritage Assets

13.4.7 The methodology that has been employed for the setting assessment (see **Appendix 13.5**) follows Historic England's *Good Practice Advice Note* (GPAN 3)[61] which recommends a 5-stage approach to the assessment of impacts to settings of heritage assets:

- Step 1: identify which heritage assets and their settings are affected.

[55] Deegan, A. 2023 *Air Photo and LiDAR Mapping and Interpretation for the West Burton Solar Project and Cable Routes, Lincolnshire and Nottinghamshire.* Alison Deegan project report no. 2223003.
[56] Brown, A. 2023. *West Burton Solar Project Environment Statement. Appendix 13.5: Heritage Statement.*
[57] Daly, G. and Greaves, F. 2022a. *West Burton 1 Solar Project: Interim Report. Archaeological Evaluation Trenching.* CFA Report no. Y615/22.
[58] Daly, G. and Greaves, F. 2022b. *West Burton 2 Solar Project. Interim Report: Archaeological Evaluation Trenching.* CFA Report no. 596/22.
[59] O'Connell, K. 2022. *West Burton 3 Solar Project: Interim Report. Archaeological Evaluation Trenching.* CFA Report no. Y616/22.
[60] Powell, J. 2022. *Shared Grid Connection Corridor, Nottinghamshire and Lincolnshire. Archaeological Evaluation Interim Report.* Wessex Archaeology Report Ref: 268980.01.
[61] Historic England 2017, op. cit.

- Step 2: Assess the degree to which these settings and views make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated.
- Step 3: Assess the effects of the proposed development, whether beneficial or harmful, on the significance or on the ability to appreciate it.
- Step 4: Explore ways to maximise enhancement and avoid or minimise harm.
- Step 5: Make and document the decision and monitor outcomes.

13.4.8 The conclusions of the setting assessment were used to inform the impact assessment scores as assessed using the adapted DMRB methodology described below (paragraphs 13.4.9-13.4.119).

Impact Assessment Methodology

Introduction

13.4.9 The *West Burton Solar Project Environmental Impact Assessment Scoping Report* **[EN01032APP/WB6.3.2.1]** included proposed methodologies for assessing Archaeology and Built Heritage in the ES, but the PINS Scoping Opinion identified inconsistencies in the matrices used for determining 'significant' effects. Consequently, the PEIR instead proposed that the methodology to be adopted in the ES chapter for assessing predicted impacts and effects upon the cultural heritage resource would follow the guidance provided in the Highways Agency's *Design Manual for Roads and Bridges* (*DMRB*)[62]. This methodology was designed for the assessment of impacts and effects resulting from road construction, but it is also a useful approach to the assessment of other development schemes. The original methodology was developed in consultation with the key historic environment stakeholders in the UK, including English Heritage (in their role at the time as non-departmental public body advising the British Government, a role now fulfilled by Historic England) and the Institute for Archaeologists (now the Chartered Institute for Archaeologists - CIfA). The original methodology has also been adapted for this assessment using professional judgement to take cognisance of the updated national planning policy contained within the NPPF, and more recent guidance concerning assessment of significance and impacts to setting[63] [64].

[62] DfT 2008, op. cit.
[63] English Heritage 2008, op. cit.
[64] Historic England 2017, op. cit.

13.4.10 It should be noted that a new updated version of the DMRB has been published[65], which supersedes the original DMRB guidance document issued in 2007[66]. However, this updated methodology does not address deficiencies identified by Historic England in the previous document in terms of its failure to comply with *NPPF*'s definition of heritage 'assets of the highest significance'. It also adopts a more simplified, generic, assessment methodology which removes the detail contained in the original document with regard to the assessment of the cultural heritage 'sub-topics'. Consequently, the original DMRB assessment methodology for cultural heritage has been retained for use in this assessment, as adapted to comply with more recent professional guidance (as described below in paragraph 13.4.12) and the *NPPF* terminology (as described below in paragraph 13.4.13).

13.4.11 The original methodology identified three cultural heritage 'sub-topics', each with its own assessment methodology: *Archaeological Remains*, *Historic Buildings* and *Historic Landscape*. These are described in further detail below, as well as noting any changes that have been adopted in this ES to bring the original DMRB methodology into line with the NPPF terminology.

Assessing the Magnitude of Change

13.4.12 The scale and magnitude of change to cultural heritage assets can be assessed using the five-tier grading system for each of the sub-topics as presented in Tables 13.1 - 13.3. These tables were originally published in DMRB[67], but have been modified for use in this ES using professional judgement to highlight that, when of assessing impacts to setting, it is impacts to the significance of a heritage asset (or the ability to appreciate this significance) brought about by changes to its setting that are being measured and assessed rather than changes to setting *per se* (as was implicit in the original DMRB tables). It is considered that with this modification, the methodology accords more closely with recent guidance[68] on the assessment of impacts to the setting of heritage assets. It should be noted that the magnitude of change values described below in Table 13.1 can be either *adverse* or *beneficial* in nature.

[65] Highways England. 2020. *LA106 Cultural Heritage Assessment. Revision 1.*
[66] DfT 2008, op. cit.
[67] DfT 2008, op. cit., Annexe 5, Table 5.3; Annexe 6, Table 6.3; and Annexe 7, Table 7.3.
[68] Historic England 2017, op. cit.

Table 13.1: Factors in the Assessment of the Magnitude of Change for Archaeological Remains

Magnitude	Description
Major	• Changes to most or all key archaeological elements, such that the resource is totally altered • Comprehensive changes to significance (or the ability to appreciate it) due to changes to setting
Moderate	• Changes to many key archaeological elements, such that the resource is clearly modified • Considerable changes to significance (or the ability to appreciate it) due to changes to setting
Minor	• Changes to key archaeological elements, such that the asset is slightly altered • Slight changes to significance (or the ability to appreciate it) due to changes to setting
Negligible	• Very minor changes to archaeological elements, or to significance (or the ability to appreciate it) due to changes to setting
No change	• No change

Table 13.2: Factors in the Assessment of the Magnitude of Change for Historic Buildings

Magnitude	Description
Major	• Changes to key historic building elements such that the resource is totally altered • Comprehensive changes to significance (or the ability to appreciate it) due to changes to setting
Moderate	• Changes to many key historic building elements, such that the resource is significantly modified • Changes to the setting of an historic building, such that its significance (or the ability to appreciate it) is significantly modified
Minor	• Changes to key historic building elements, such that the asset is slightly different • Changes to the setting of an historic building, such that its significance (or the ability to appreciate it) is noticeably changed
Negligible	• Slight changes to historic building elements or setting that hardly affect the significance of the asset.

Magnitude	Description
No change	• No change

Table 13.3: Factors in the Assessment of the Magnitude of Change for Historic Landscapes

Magnitude	Description
Major	• Change to most or all key historic landscape elements, parcels or components; • Extreme visual effects; • Gross change of noise or change to sound quality; • Fundamental changes to use or access; resulting in total change to historic landscape character unit
Moderate	• Changes to many key historic landscape elements, parcels or components; • Visual change to many key aspects of the historic landscape; • Noticeable differences in noise or sound quality; • Considerable changes to use or access; resulting in moderate changes to historic landscape character.
Minor	• Changes to few key historic landscape elements, parcels or components; • Slight visual changes to few key aspects of historic landscape; • Limited changes to noise levels or sound quality; • Slight changes to use or access; resulting in limited changes to historic landscape character.
Negligible	• Very minor changes to key historic landscape elements, parcels or components; • Virtually unchanged visual effects; • Very slight changes in noise levels or sound quality; • Very slight changes to use or access; resulting in a very small change to historic landscape character.
No change	• No change

Assessing the Value of Heritage Assets

13.4.13 In order to assess the significance of the different magnitudes of change resulting from the Scheme, the above factors have to be weighed against the value of each cultural heritage asset. This 'value' is broadly equivalent to an asset's significance

in NPPF terminology[69] (also referenced in NPS EN-1[70]), but the term 'value' has been retained here in order that this is not confused with the 'significance of effects' which is described in paragraphs 13.4.18–13.4.19 below. The DMRB tables 13.4-13.6 below have also been modified to bring them into accordance with the NPPF paragraph 200 which states that heritage assets 'of the highest significance' include Scheduled Monuments, Protected Wreck Sites, Battlefields, grade I and II* Listed Buildings, grade I and II* Parks and Gardens, as well as World Heritage Sites. Consequently, all of these assets have been grouped into the single category of 'high' value rather than 'high' and 'very high' (for World Heritage Sites) as in the original DMRB methodology.

13.4.14 In addition to the DMRB methodology, with regards to assigning 'value', reference will also be made to 'heritage significance' as described in the *National Planning Policy Framework* (NPPF), which is defined as the '*value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting*'[71].

13.4.15 These three heritage 'interests' are described more fully in the *Planning Practice Guidance: Historic environment* document as[72]:

- **archaeological interest**: As defined in the Glossary to the National Planning Policy Framework, there will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point.
- **architectural and artistic interest:** These are interests in the design and general aesthetics of a place. They can arise from conscious design or fortuitously from the way the heritage asset has evolved. More specifically, architectural interest is an interest in the art or science of the design, construction, craftsmanship and decoration of buildings and structures of all types. Artistic interest is an interest in other human creative skill, like sculpture.
- **historic interest**: An interest in past lives and events (including pre-historic). Heritage assets can illustrate or be associated with them. Heritage assets with historic interest not only provide a material record of our nation's history but can also provide meaning for communities derived from

[69] MHCLG 2021, op. cit., p.71-72.
[70] DECC, 2011, op. cit., p.90 (Footnote 118).
[71] MHCLG 2021, op. cit., p.71-72.
[72] MHCLG 2019, op. cit., paragraph 006.

their collective experience of a place and can symbolise wider values such as faith and cultural identity.

13.4.16 Reference will also be made to the 'heritage values' described in the guidance regarding the assessment of significance contained within *Conservation Principles*[73]. This states that the significance of heritage assets derives from the 'heritage values' that they possess, which may be *evidential, historical* (either *illustrative* or *associative*), *aesthetic* or *communal.*

13.4.17 Cultural heritage assets can include archaeological assets, historic buildings/built environment, and/or historic landscapes, and different criteria are provided in the DMRB guidance for establishing a 'value' for each of these assets, as tabulated in Tables 13.4-13.6.

Table 13.4: Factors for assessing the value of archaeological assets

Value	Description
High	• World Heritage Sites (including nominated sites) • Assets of acknowledged international importance • Assets that can contribute significantly to acknowledged international research objectives • Scheduled Monuments (including proposed sites) • Undesignated assets of schedulable quality and importance • Assets that can contribute significantly to acknowledged national research objectives
Medium	• Designated or undesignated assets that contribute to regional research objectives
Low	• Designated and undesignated assets of local importance • Assets compromised by poor preservation and/or poor survival of contextual associations • Assets of limited value, but with potential to contribute to local research objectives
Negligible	• Assets with very little or no surviving archaeological interest
Unknown	• The importance of the asset cannot be ascertained

[73] English Heritage 2008, op. cit.

Table 13.5: Factors for assessing the value of the historic built environment

Value	Description
High	• Standing structures inscribed as of universal importance as World Heritage Sites • Other buildings of recognised international importance • Scheduled Monuments with standing remains • Grade I and Grade II* Listed Buildings • Other listed buildings that can be shown to have exceptional qualities in their fabric or historical association • Conservation Areas containing very important buildings • Undesignated structures of clear national importance
Medium	• Grade II Listed Buildings • Historic unlisted buildings that can be shown to have exceptional qualities in their fabric or historical associations • Conservation Areas containing buildings that contribute significantly to its historic character • Historic Townscape or built-up areas with important historic integrity in their buildings, or built settings (e.g. including street furniture and other structures)
Low	• 'Locally Listed' buildings • Historic (unlisted) buildings of modest quality in their fabric or historical association • Historic Townscape or built-up areas of limited historic integrity in their buildings, or built settings (e.g. including street furniture and other structures)
Negligible	• Buildings of no architectural or historical note; buildings of an intrusive character
Unknown	• Buildings with some hidden (i.e. inaccessible) potential for historical significance

Table 13.6: Factors for assessing the value of the historic landscapes

Value	Description
High	• World Heritage Sites inscribed for their historic landscape qualities • Historic landscapes of international value, whether designated or not • Extremely well preserved historic landscapes with exceptional coherence, time-depth, or other critical factor(s) • Designated historic landscapes of outstanding interest

Value	Description
	• Undesignated historic landscapes of outstanding interest • Undesignated landscapes of high quality and importance, and of demonstrable national value • Well preserved historic landscapes, exhibiting considerable coherence, time-depth, or other critical factors
Medium	• Designated special historic landscapes • Undesignated historic landscapes that would justify special historic landscape designation, landscapes of regional value • Averagely well-preserved historic landscapes with reasonable coherence, time-depth, or other critical factor(s)
Low	• Robust undesignated historic landscapes • Historic landscapes with importance to local interest groups • Historic landscapes whose sensitivity is limited by poor preservation and/or poor survival of contextual associations
Negligible	• Landscapes with little or no significant historical interest

The Significance of Effects

13.4.18 This ES chapter will classify the effect of the Scheme upon cultural heritage assets (both positive and negative impact) using the following measures:

- Very Large beneficial
- Large beneficial
- Moderate beneficial
- Slight beneficial
- Neutral
- Slight adverse
- Moderate adverse
- Large adverse
- Very Large adverse.

13.4.19 Table 13.7 below has been adapted from the DMRB 'Significance of Effects' matrix[74] to accord with the terminology described above, and with the definition

[74] DfT 2008, op. cit., Annexe 5, Table 5.4; Annexe 6, Table 6.4; and Annexe 7, Table 7.4.

of '*heritage assets of the highest significance'* provided in the NPPF[75]. It is considered that 'significant' effects are those that are scored as *Moderate* or higher.

Table 13.7: The Significance of Effects Matrix

Value/Sensitivity	**High**	Neutral	Slight	Slight/ Moderate	Moderate/ Large	Large/ Very Large
	Medium	Neutral	Neutral/ Slight	Slight	Moderate	Moderate/ Large
	Low	Neutral	Neutral/ Slight	Neutral/ Slight	Slight	Slight/ Moderate
	Negligible	Neutral	Neutral	Neutral/ Slight	Neutral/ Slight	Slight
		No change	**Negligible**	**Minor**	**Moderate**	**Major**
		Magnitude of change (Beneficial or adverse)				

13.4.20 In making the decision, the Secretary of State will have regard to whether any identified 'significant' effects constitute 'substantial harm'[76].

13.4.21 Paragraph 5.8.14 of NPS EN1 states: *'There should be a presumption in favour of the conservation of designated heritage assets and the more significant the designated heritage asset, the greater the presumption in favour of its conservation should be. Once lost heritage assets cannot be replaced and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Loss affecting any designated heritage asset should require clear and convincing justification. Substantial harm to or loss of a grade II listed building park or garden should be exceptional. Substantial harm to or loss of designated assets of the highest significance, including Scheduled Monuments; registered battlefields; grade I and II* listed buildings; grade I and II* registered parks and gardens; and World Heritage Sites, should be wholly exceptional'*[77].

13.4.22 Paragraph 5.8.15 goes on to state: '*Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of*

[75] MCHLG 2021, op. cit., p.57.
[76] MHCLG 2019, op. cit., Paragraph: 018 Reference ID: 18a-018-20190723.
[77] DECC. July 2011, op. cit., paragraph 5.8.14.

development, recognising that the greater the harm to the significance of the heritage asset the greater the justification will be needed for any loss. Where the application will lead to substantial harm to or total loss of significance of a designated heritage asset the IPC should refuse consent unless it can be demonstrated that the substantial harm to or loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm"[78].

13.4.23 The Secretary of State is also likely to have regard to the NPPF policy on substantial harm as an important and relevant matter in their decision making.

Cumulative Impacts and In-combination Effects

13.4.24 The assessment of cumulative impacts and in-combination effects is undertaken in accordance with the methodology described in Chapter 2 of this ES.

13.5 Baseline Conditions

Designated Archaeological Assets: Scheduled Monuments

13.5.1 The combined 5km study area surrounding the West Burton 1, 2, 3 sites contain 17 Scheduled Monuments that are included on Historic England's *National Heritage List for England* (NHLE), as detailed in Table 13.8 below. None of these Scheduled Monuments are located within the Order Limits, although the *Broxholme medieval settlement and cultivation remains* (NHLE 1016797) directly abuts the south-western corner of the West Burton 1 Site; the *Deserted village of North Ingleby* (NHLE 1003570) is directly abutted by the Order Limits boundary of the West Burton 2 Site along the western edge and south-eastern corners of the Scheduled Monument; and at the *Medieval bishop's palace and deer park, Stow Park* (NHLE 1019229), the Order Limits boundary at West Burton 3 abuts the scheduled park pale earthwork along the western edge of the park, and closely surrounds the earthworks of the bishop's palace on three sides. The locations of these assets are depicted on Figures App.13.5-1 and App.13.5-2 in the Heritage Statement in **Appendix 13.5 [EN010132/APP/WB6.3.13.5]**, which also contains further detailed information concerning each of these assets.

Table 13.8: Scheduled Monuments within the combined West Burton 5km study area

NHLE	Name
1003570	Deserted village of North Ingleby
1003669	Segelocum Roman town

[78] Ibid., paragraph 5.8.15

NHLE	Name
1004935	Roman fort, south of Littleborough Lane
1004965	Shrunken village (North Carlton)
1004991	Site of medieval town (Torksey)
1005041	Roman villa W of Scampton Cliff Farm
1005056	Torksey Castle
1008594	Fleet Plantation moated site
1008670	Site of medieval nunnery, Broadholme
1008685	Site of Heynings Priory
1012976	Site of a college and Benedictine Abbey, St Mary's Church
1016797	Broxholme medieval settlement and cultivation remains
1016978	Thorpe medieval settlement
1016979	Coates medieval settlement and moated site
1018288	Cross in St Cuthbert's churchyard
1018289	Cross in St Peter and St Paul's churchyard
1019229	The medieval bishop's palace and deer park, Stow Park

13.5.2 For the Cable Route Corridor, it was considered that any visual impacts would be relatively localized, temporary, short term and reversible, and consequently it was considered that a 500m study area to assess potential impacts to Scheduled Monuments would be appropriate. There are three Scheduled Monuments within this 500m study area, two of which are the *Broxholme medieval settlement and cultivation remains* (NHLE 1016797) and *The medieval bishop's palace and deer park, Stow Park* (NHLE 1019229), which are included in Table 13.8 above as they are within the 5km study area for the three Sites. In addition, the *Medieval settlement and open field system immediately south-east of Low Farm* (NHLE 1017741) is outwith the 5km study area for the sites but *c.*255m to the east of the Cable Route Corridor close to where it meets West Burton Power Station. These Scheduled Monuments are depicted by purple polygons on Figures 13.8 **[EN010132/APP/WB6.4.13.8]** and 13.9 **[EN010132/APP/WB6.4.13.9]**.

Non-Designated Archaeological Assets

13.5.3 The baseline for on-Site non-designated archaeological assets has been derived from the sources detailed above in paragraph 13.4.6, full details of which can be found in **Appendices 13.1-13.6 [EN010132/APP/WB6.3.13.1 – WB6.3.13.6].**

13.5.4 It should be noted that the ubiquitous agricultural remains identified through air photo and LiDAR analysis across much of the study area (such as cropmarks of ridge and furrow, former field boundaries, drainage ditches and ploughed out plough headlands of medieval and/or post-medieval origin) have not been provided with separate entries in the gazetteers below, as it is considered that that the impacts upon these from the solar farm development would be negligible and would not require any mitigation. Full discussion of these remains is, however, provided in the relevant report in **Appendix 13.4**[79].

West Burton 1

13.5.5 The DBA identified that there are three archaeological entries on the Lincolnshire HER and/or the National Record of the Historic Environment (NRHE) within the West Burton 1 Site boundary and associated access routes, as well as two Portable Antiquities Scheme (PAS) findspots. An additional two areas of archaeological interest have been identified as a result of the air photo assessment, geophysical survey and evaluation trenching undertaken to inform this ES. These archaeological remains are listed in Table 13.9 below, and their locations are depicted on ES Figure 13.2 **[EN010132/APP/WB6.4.13.2]**.

Table 13.9: Gazetteer of Archaeological Remains within the West Burton 1 Site

ES ref.	Other references	Description
AR01	AP:161	**Uncertain ditches and pits** The Air Photo (A)P and LiDAR analysis undertaken in 2022-2023 identified several possible features of an uncertain date including a long mound and an amorphous parchmark containing two parallel ditches with two adjacent pits[80]. Geophysical survey detected several magnetic anomalies in the same location that lacked the necessary patterning for conclusive interpretation and so were also considered to be of an unknown origin[81].

[79] Deegan 2023, op cit. (Appendix 13.4).
[80] Ibid., p.32; Figure 3. (Appendix 13.4).
[81] Brunning 2022, op. cit., Figure 6. (Appendix13.2)

ES ref.	Other references	Description
AR02	HER: MLI51515 NRHE: 326437	**Neolithic stone axe (findspot)** A findspot of Neolithic Stone Axe, Broxholme.
AR03	Geophysics: U1	**Broxholme SMV (buried features)** A group of linear and short ditch-like magnetic anomalies were identified to the east of Broxholme SMV (MLI150523) and tentatively interpreted as possibly relating to former medieval settlement or being of an agricultural nature[82]. Evaluation trial trenching identified a series of ditches, in which three sherds of *c.*14/15th century pottery were recovered along with two pieces of sheep/goat bone, and a spread containing charcoal and fired clay (within Trench 19)[83]. Historic maps of Broxholme dating from between *c.*1593-1610 and 1842 inclusive illustrate that the curtilage of one of the landholdings at the north-eastern corner of the village extended into this area prior to the re-organisation of the village boundaries in the mid- to late-19th century[84].
AR04	PAS: NLM-5BED57	**Stirrup mount (findspot)** A findspot of a copper alloy stirrup mount fragment of early medieval date recorded by the Portable Antiquities Scheme (PAS).
AR05	PAS: NLM-5BF9A2	**Mount fragment (findspot)** A findspot of a copper alloy mount fragment of early medieval date recorded by the PAS.
AR06	HER: MLI50523 NRHE: 326451	**Broxholme medieval settlement and cultivation remains** Surviving earthwork and buried remains of the medieval village of Broxholme and its former open fields, as recorded on the HER. The polygon does not include the full extent of the village as depicted

[82] Brunning 2022, op. cit., p.6. (Appendix 13.2)
[83] Daly & Greaves 2022a, op. cit., p.7-12. (Appendix 13.6)
[84] James, Ryan & Burpoe 2023a, op. cit., Figures 7-9.

ES ref.	Other references	Description
		on historic maps prior to 1878, as this extended into the western part of the area defined by AR3[85].
AR07	HER: MLI51796	**Broxholme post-medieval settlement** Location of the post-medieval settlement of Broxholme, as recorded on the HER. The polygon is virtually coterminous with that for the medieval village (see AR6) and contains a smaller polygon representing the extent of Manor House Park (MLI92376) as depicted on the 1st and second edition OS maps.

Cable Route Corridor from West Burton 1 to West Burton 2

13.5.6 Along the Cable Route Corridor between the West Burton 1 and West Burton 2 Sites, two areas of potential archaeological interest have been identified within the Order Limits as a result of the air photo assessment and geophysical survey undertaken to inform this ES. Details of these are provided in Table 13.10 below, and their locations are depicted on ES Figure 13.2 **[EN010132/APP/WB6.4.13.2]**.

Table 13.10: Gazetteer of Archaeological Remains along the Cable Route Corridor between West Burton 1 and West Burton 2.

ES ref.	Other references	Description
AR06	HER: MLI50523 NRHE: 326451 AP: 162	**Broxholme medieval settlement and cultivation remains** The Cable Route Corridor between West Burton 1 and West Burton 2 crosses two areas within the HER polygon representing the medieval settlement remains at Broxholme. However, historic mapping from the immediate post-medieval period indicates that the settlement did not extend as far as these areas at that time[86] and it appears unlikely that it extended further to the north-west during the medieval period, although this cannot be discounted. AP and LiDAR analysis only identified former ridge and furrow and plough

[85] Ibid.
[86] Ibid, Figure 7. (Appendix 13.1).

ES ref.	Other references	Description
		headlands in this area[87], lending credence to the conclusion that this was an area under agriculture rather than settlement.
AR07	HER: MLI51796	**Broxholme post-medieval settlement** The Cable Route Corridor between West Burton 1 and West Burton 2 crosses two areas within the HER polygon representing the post-medieval settlement of Broxholme. However, historic maps[88] indicate that the settlement did not extend as far as these areas during the post-medieval period which were in agricultural use.

West Burton 2

13.5.7 Within the West Burton 2 Site, there are ten archaeological entries on the Lincolnshire HER, six are recorded on the NRHE (four of which duplicate HER entries), a single Portable Antiquities Scheme (PAS) findspot, and a further five areas of potential archaeological interest have been identified as a result of the air photo assessment, geophysical survey and evaluation trenching undertaken to inform this ES. These archaeological remains are listed in Table 13.11 below, and their locations are depicted on ES Figure 13.2 **[EN010132/APP/WB6.4.13.2]**.

Table 13.11: Gazetteer of Archaeological Remains within the West Burton 2 Site

ES ref.	Other references	Description
AR8	AP: 169 & 167 Geophysics: N26a, N27a	**Uncertain ditch** A short ditch of uncertain date is visible as a shallow earthwork on LiDAR imagery[89], and magnetic trends identified by the geophysical survey continue along this alignment to the south-east as far as the River Till[90]. A cropmark which is visible on an air photograph continues to the

[87] Deegan 2023., op. cit., p.32 – AP162; Figure 3. (Appendix 13.4).
[88] James, Ryan & Burpoe 2023a, op. cit., Figures 7 – 15. (Appendix 13.1).
[89] Deegan 2023., op cit., p. 2 – AP169; Figure 3. (Appendix 13.4)
[90] Chapman, Fay and James 2022, op. cit., p.22; Figure 59. (Appendix 13.2)

ES ref.	Other references	Description
		south of the River Till along the same alignment and may therefore be related[91].
AR9	NRHE: 326439	**Neolithic unpolished stone axe (findspot)** Findspot of a Neolithic unpolished stone axe was found at Saxilby. It is now in Lincoln Museum (accession number 109/53).
AR10	PAS: LIN-9A0592	**Early medieval metal object (findspot)** A cast copper-alloy terminal, probably from a staff, thought to be of early medieval date.
AR11	HER: MLI52773 NRHE: 1059104 AP: 178	**Windmill mound (site of)** A 'tumulus' is depicted at this location on the 1824 OS Old Series map[92]. This is labelled as 'Mill Hill' on the OS 25 inch map of 1886 and is visible as a soilmark on recent air photos, indicating that this was the likely site of a former windmill mound[93]. It is possible that this is the windmill documented at South Ingleby in 1304-5[94]
AR12	HER: MLI50535 NRHE: 324623 AP: 186, 187 & 188	**South Ingleby DMV** The deserted medieval settlement earthworks of South Ingleby lie on flat ground south of a shallow valley which separates it from North Ingleby. Earthwork survey shows evidence of a complete rearrangement of the settlement before its desertion, with direct links to the developments at North Ingleby[95]. None of the earthworks are within the Order Limits, though the roadway that is included within the HER polygon will be used for site access.
AR13	HER: MLI54225 NRHE: 324620	**North Ingleby DMV** Deserted Medieval village of North Ingleby. A moated earthwork and probable remains of

[91] Deegan 2023., op cit., Figure 3. (Appendix 13.4).
[92] James, Ryan & Burpoe 2023a, op. cit., Figure 8. (Appendix 13.1).
[93] Deegan 2023, op. cit., p.33 – AP178; Figure 4. (Appendix 13.4).
[94] Everson, P.L., Taylor, C.C., and Dunn, C.J. 1991. *Change and Continuity: Rural Settlement in North-West Lincolnshire*, p.161.
[95] Ibid.

ES ref.	Other references	Description
	AP: 181 & 185	Ingleby Deserted Medieval Village. AP parcel 185 is bisected by an east to west hollow way and the hollow way described in AP181 veers to the north-west to Sturton Road. A number of likely building platforms and low building remains are clustered along and between the intersection of the two hollow ways, these are associated with small tofts and beyond those crofts and ridge and furrow. Late ditches cut across these earthworks. Most features survive as well-preserved earthworks.
AR14	HER: MLI92376	**Manor House Park, Broxholme** A park recorded on the first edition *c.*1880 and c.1905 Ordnance Survey maps at Manor House Park, Broxholme.
AR15a	HER: MLI52788	**Worked flint flake (findspot)** Findspot of a worked flint flake.
AR15b	HER: MLI52787	**Four silver coins (findspot)** Four silver coins (Edward I, II and III and Henry VII)
AR16	NRHE: 324617	**Bronze Age worked flint (findspot).** Bronze Age worked flint findspot (possibly the same find recorded as AR15a).
AR17	HER: MLI119092	**Ingleby Wood Farm (site of)** A demolished 19th century farmstead. This area was occupied by Ingleby Wood at the time of the 1824 OS Old Series map, but the wood was sold *c.*1846 and subsequently cleared by the time of the 1885 OS 1st edition map, where the farmstead was first depicted. It continued to be depicted on subsequent OS maps up to 1956 inclusive but had been demolished by 1975[96].
AR18	Geophysics: N6a	**Uncertain linear anomalies** Linear anomalies and trends identified by geophysical survey. Although they were originally

[96] James, Ryan & Burpoe 2023a, op. cit., Figures 8-14. (Appendix 13.1).

ES ref.	Other references	Description
		interpreted as possibly being agricultural in origin, an archaeological origin cannot be discounted[97].
AR19	Geophysics: N7a	**Uncertain circular anomaly** A circular magnetic anomaly with a diameter of *c.*15m was identified by geophysical survey and tentatively interpreted as having a possible archaeological origin[98].
AR20	Geophysics: N/A	**Possible Iron Age features and finds** A magnetic trend identified by geophysical survey[99] was proven by evaluation trial trenching to be caused by a ditch that contained charcoal, burnt bone and pottery. A shallow gully was identified in Trench 43, which contained ceramic building material (CBM), a loom weight and pottery spot dated to the Iron Age[100].
AR21	HER: MLI52786 NRHE: 324635	**Findspot of a Neolithic polished stone axe.** Two further Neolithic axes (MLI52770) have also been found *c.*100m to the east of this location, a short distance beyond the Order Limits.
AR22	Geophysics: N2a	**Undated (Romano-British?) enclosure** Two sides of a large undated enclosure identified by geophysical survey[101] and confirmed by evaluation trenching in Trenches 13, 14 and 18[102]. Trench 17 contained what was interpreted in the interim report as a paleochannel that possibly contained the remains of a wooden post, as well as pottery sherds spot dated to the *c.*2nd century, indicating a possible date for the adjacent enclosure[103].

[97] Chapman, Fay and James 2022, op. cit., p.12; Figure 27. (Appendix 13.2).
[98] Ibid., p.13; Figure 29. (Appendix 13.2).
[99] Ibid, Figure 13. (Appendix 13.2).
[100] Daly and Greaves 2022b, op. cit., p.12; Figure 3.7 & 3.10. (Appendix 13.6).
[101] Chapman, Fay and James 2022, op. cit., p.10; Figure 11. (Appendix 13.2).
[102] Daly and Greaves 2022b, op. cit., p.8-9; Figure 2.2. (Appendix 13.6).
[103] Ibid., p. 9; p.38; Figure 2.2 (Appendix 13.6).

ES ref.	Other references	Description
AR23	HER: MLI119086	**Unnamed farmstead (site of)** Demolished 19th century outfarm. Regular courtyard of L plan. Isolated location. Depicted on the 1885 OS 1st edition and continued to be depicted on subsequent OS maps up to 1956 inclusive but had been demolished by 1975[104].
AR24	HER: MLI119086 AP:200 Geophysics: N1a and N1f	**Iron Age/Romano-British enclosure** Rectilinear enclosure of possible Iron Age or Roman date identified as a cropmark on Google Earth imagery[105]. The enclosure was also mapped by geophysical survey, along with several linear, curvilinear and amorphous anomalies interpreted as related to infilled features[106]. Evaluation trial trenching confirmed the presence of the enclosure in Trenches 54-55 and 66-68 which recorded several steep sided 'U'-shaped ditches containing pottery spot dated to the late Iron Age[107]. A ring gully and several small pits were identified within the enclosure that contained material tentatively spot dated to between the Late Iron Age and Early Roman periods[108].

Cable Route Corridor from West Burton 2 to West Burton 3

13.5.8 Along the Cable Route Corridor between the West Burton 2 and West Burton 3 Sites, there is one entry on the Lincolnshire HER, which is also recorded by the NRHE, and a further two areas of potential archaeological interest have been identified within the Order Limits as a result of the geophysical surveys undertaken to inform this ES. Details of these are provided in Table 13.12 below, and their locations are depicted on Figure 13.2 **[EN010132/APP/WB6.4.13.8]** and 13.3 **[EN010132/APP/WB6.4.13.3]**

[104] James, Ryan & Burpoe 2023b, op. cit., Figures 10-14 (Appendix 13.1).
[105] Deegan 2023, op. cit., p.4; p. 35; Figure 4. (Appendix 13.4).
[106] Chapman, Fay and James 2022, op. cit., p.9; Figure 9. (Appendix 13.2).
[107] Daly and Greaves 2022b, op. cit., p.13-18; p.20-29; p.37; Figure 3.13. (Appendix 13.6).
[108] Daly and Greaves 2022b, op. cit. p.20-26; p.38; Figure 3.13. (Appendix 13.6).

Table 13.12: Gazetteer of Archaeological Remains along the Cable Route Corridor between West Burton 2 and West Burton 3.

ES ref.	Other references	Description
AR25	Geophysics: A4 and P5	**Undated enclosure** Rectilinear anomaly indicative of an enclosure measuring 64m by 67m with a possible entrance on the north-east corner identified by geophysical survey. No obvious internal features were identified, however a high number of anomalies associated with agricultural activity were also noted, which may have in part masked/destroyed any associated features, if extant[109]. Two linear anomalies identified to the north and east of the enclosure are on the same alignment and might represent an associated field system.
AR26	Geophysics: A3 and P4.	**Possible ring ditch and field systems** An isolated ring ditch measuring *c.*10m and possible field systems identified by geophysical survey[110]
AR27	HER: MLI52793 NRHE: 891713 AP: 201 Geophysics: P4 and F8	**Monastic grange (site of)** The HER records the remains of a monastic grange 'Aldhagh' to the north-west of Aldhow Grange farm. Earthworks associated with the monastic grange were present until the 1940s but have since been ploughed out. Air photos of subsequent dates have shown pale limestone material within plough scars indicating the presence of buildings[111]. Geophysical survey identified anomalies and areas of magnetic disturbance which are plausibly associated with the monastic site. Conversely it is worth noting that the magnetic technique used is unlikely to detect buildings or walls composed of a stone material, if its magnetic properties do not contract with the surrounding sub soil.

[109] Brunning 2023, op. cit., p.7; Figure 47. (Appendix 13.2).
[110] Brunning 2023, op. cit., p.7; Figure 44. (Appendix 13.2).
[111] Deegan 2023, op. cit., p.5; p.36 – AP201; Figure 5. (Appendix 13.4).

West Burton 3

13.5.9 Within the West Burton 3 Site, there are ten archaeological entries on the Lincolnshire HER, one of which is also recorded on the NRHE, and there are seven PAS findspots recorded. In addition, a further nine areas of potential archaeological interest have been identified as a result of the air photo assessment, geophysical survey and evaluation trenching undertaken to inform this ES, and two as a result of map regression. These archaeological remains are listed in Table 13.13 below, and their locations are depicted on ES Figure 13.3 **[EN010132/APP/WB6.4.13.4]**.

Table 13.13: Gazetteer of Archaeological Remains within the West Burton 3 Site

ES ref.	Other references	Description
AR28	HER: MLI52455 AP: 201	**Boundary bank and ditched platform** 'Cropmark boundary and enclosure or unknown date' recorded by the National Mapping Programme (NMP) 1992-1996. The AP and LiDAR mapping undertaken in 2022 confirmed that the former is narrow bank and the later a small platform with ditch around, and they were visible as cropmarks on the air photos[112]. The boundary is depicted on the 1809 Stow Park estate plan, separating the fields named 'Great Walk' and 'Cow Close' to the west from the elongated field named 'East Lawn' to the east, which abuts the line of the former deer park pale[113], and is likely to be post-medieval in date.
AR29	N/A	**Stow Park Cottage (site of)** The site of Stow Park Cottage which was depicted on the 1809 Stow Park estate plan and subsequent historical mapping up to 1843 inclusive but had been demolished by the time of the 1885 OS 1st edition map[114]. An outbuilding immediately to the east of the is likely to have been a dovecote, as the

[112] Deegan 2023, op. cit., p.36 – AP201: Figure 5. (Appendix 13.4).
[113] James, Ryan & Burpoe 2023c, op. cit., Figure 13. (Appendix 13.1).
[114] Ibid., Figure 13. (Appendix 13.1).

ES ref.	Other references	Description
		field within which the buildings were located was recorded on the tithe apportionment as 'Cottage and Dovecote Close'.
AR30	N/A	**Brick kilns (site of)** A field at the south-western corner of Stow Park is named 'Brick Kilns' on the 1809 Stow Park estate plan, 'Brick Pit Close' on the 1839 tithe apportionment, and 'Brick Yard', on the OS 1st edition map of 1885[115]. The latter map depicts 13 ponds spread across the western half of this parcel in an area of rough ground and to the east of this, three further ponds are depicted alongside two wooden buildings. A smaller brick structure is depicted immediately to the south of the southernmost building, and a circular structure is also depicted close to its northern edge. The 1894 Stow Park Sale Plan labels 'Brick Kilns' in this area, but the buildings were no longer depicted on the 1904 OS map which labels this area as 'Old Brick Kiln'.
AR31	PAS: NLM-5637D6	**Silver coin (findspot)** Penny of Edward II (1307-1327).
AR32	Geophysics: P5 AP: 201	**Possible undated field system** A series of linear magnetic anomalies were identified within Stow Park Medieval Deer Park (MLI50418) and interpreted as possibly being associated with a former field system[116]. It is possible that the Roman artefacts discovered nearby at AR34 might relate to these features. A geophysical anomaly thought to be caused by a land drain was also identified as a soilmark in this area by the air photo and LiDAR mapping and interpreted as a ditch of unknown date[117].

[115] James, Ryan & Burpoe 2023c, op. cit., Figures 8, 11 & 13. (Appendix 13.1).
[116] Brunning 2023, op. cit., p.7; Figure 38. (Appendix 13.2).
[117] Deegan 2023. p.36; Figure 5. (Appendix 13.4).

ES ref.	Other references	Description
AR33	HER: MLI52453	**Roman artefacts (findspot)** Roman coins, beads and Samian ware pottery found at this location.
AR34	HER: MLI50418	**Stow medieval deer park** The medieval deer park at Stow was first documented at the end of the 12th century, but undoubtedly existed prior to this. It occupies the whole of the near-rectangular south-western projection of Stow parish. The south boundary also coincides with the parish boundary, and the modern by-road following it is markedly raised, perhaps from lying on the former pale bank. On the north and north-east, the details of the circuit are less clear, but it may have diverged from the parish boundary, and followed a strikingly straight run of hedge lines before swinging west, adjacent to the moated site[118].
AR35	HER: MLI52441	**Various Roman finds (findspot)** Bronze strap-end, finger ring, disc brooch fragment and 17 coins of Roman date from this location.
AR36	HER: MLI52442	**Copper Alloy Finger Ring (findspot)** One copper alloy finger ring of Roman date. Found at Stow Park.
AR37	PAS: LIN-B0E9F3	**Silver halfpenny (findspot)** A medieval silver cut halfpenny of Henry III, long cross type. Mint of London. Moneyer unknown. Struck AD1251-72.
AR38	PAS: LIN-B1358C	**Roman coin (findspot)** A Roman silver denarius of Antoninus Pius dating to the period 138-161 AD. Mint of Rome, struck AD 160-161.

[118] https://heritage-explorer.lincolnshire.gov.uk/Monument/MLI50418

ES ref.	Other references	Description
AR39	PAS: LIN-B10EDA	**Silver penny (findspot)** A clipped medieval silver penny of Edward I, class 9a, Mint of London. Struck 1299-1300
AR40	PAS: LIN-DD1978	**Post-medieval musket balls (findspot)** Five post-medieval lead shots or musket balls of varying sizes, but all found within a 15m square.
AR41	HER: MLI50403	**Medieval finds from N of Bishops Palace site at Stow.** Finds include a French jetton, a heraldic badge, a short cross half-penny and a seal-matrix.
AR42	HER: MLI52435	**Neolithic polished stone axe (findspot)** Polished stone axe in possession of Retford history and archaeology society.
AR43	PAS: NLM-5660F2	**Silver halfpenny (findspot)** Long cross halfpenny of Edward II (1307-1327), London Mint issue of 1310-1314.
AR44	HER: MLI52444 AP: 204 & 205 Geophysics: P4a	**Stow Park Deserted Medieval Settlement** A named settlement of Stow Park is recorded from at least the early 14th century and in the 15th century as an ancillary to Stow. The full size and extent of the settlement is unknown. It is uncertain whether the origin of the settlement was wholly dependent on the medieval Bishop's Palace as it appears, or whether the moat was built on the edge of a pre-existing settlement[119]. Features were identified in this area by the NMP in 1992-1996 and have been given greater resolution by the AP and LiDAR analysis undertaken in 2022-2023. This identified parchmarks and soilmarks on the eastern side of the farm track leading to Moat Farm (HB13) that suggest the presence of demolished and levelled buildings, walls and a road[120]. To the east of the farm track cropmarks and parchmarks indicate the remains of a large,

[119] https://heritage-explorer.lincolnshire.gov.uk/Monument/MLI52444
[120] Deegan 2023, op. cit., p.36 – AP 204 (Appendix 13.4)

ES ref.	Other references	Description
		walled enclosure, with internal walled subdivisions and several possible buildings[121]. The geophysical survey undertaken in 2022 identified vague trends that closely align with the north-eastern corner of the enclosure to the east of the track to Moat Farm detected by AP analysis[122]. To the east of this, a series of fragmented linear anomalies and trends were identified and tentatively interpreted as representing infilled features, although an agricultural origin was not ruled out[123]. During the evaluation of this area, two trenches were located perpendicular to the enclosure identified through AP and Lidar analysis. Trench 187 identified what was interpreted in the interim report as a furrow, although as its location closely corresponds with the alignment of the putative enclosure a different interpretation seems plausible. No features were recorded in Trench 189, where the AP assessment identified possible walled enclosures[124]. Trench 188 was located in the area immediately to the north-east of the enclosure where further features were mapped from APs. A possible ditch terminus was recorded on the same alignment as one of these features, and shell, metal objects, animal bone and (as yet, undated) ceramics were recovered from its fills[125]. Further to the east, Trench 190 identified a substantial ditch which corresponded with the putative rectilinear enclosure identified by the geophysical survey (P4a) and which produced pottery spot dated to the late 13th century or later

[121] Ibid., p.37 – AP205 (Appendix 13.4).
[122] Chapman, Faye and James 2022, op. cit., Figure 7. (Appendix 13.2).
[123] Ibid., p.12 – Anomaly P4a; Figure 7. (Appendix 13.2).
[124] O'Connell 2023, op. cit., p.66: Figure 3.44. (Appendix 13.6)
[125] Ibid., p.66; Figure 3.44; Appendix 1: Interim pottery assessment. (Appendix 13.6).

ES ref.	Other references	Description
		within its fill[126]. Adjacent to this was another feature which has been tentatively interpreted as a sunken floor building (SFB) which could indicate early medieval settlement activity, although pottery spot dated to the 14th century or later was recovered from its fill. Nevertheless, this could be intrusive, and a sherd of possible Roman-Late Saxon pot recovered from a ditch in Trench 192, *c.*40m to the east of the putative SFB lends credence to this. Trench 191 successfully identified a feature at its south-eastern end which corresponds with a ditch identified by the AP and LiDAR assessment. This ditch is undated but as it continues in a south-easterly direction it aligns with extant field boundaries which continue the alignment of the medieval deer park pale, and could therefore represent its one-time alignment, rather than the historic township boundary further to the east that is its assumed alignment[127]. Ceramics and animal bone were recovered from the fill of this ditch, but the ceramics have yet to be dated[128].
AR45	PAS: LIN-DCC1A9	**Bronze Age axe (findspot)** Fragment of a late Bronze Age socketed axe. Approximately one-third of the axe remains, with the surviving third being the blade-end.
AR46	AP: 219	**Possible undated enclosure** Amidst a swathe of indistinct and complex cropmarks between Brampton village and Stow Park Road thought to be of geological origin are ditches suggestive of a large polygonal enclosure, although their placement may be coincidental[129]. It

[126] Ibid., p.67; Figure 3.44; Appendix 1: Interim pottery assessment. (Appendix 13.6).
[127] Everson, P.L., Taylor, C.C., and Dunn, C.J. 1991. *Change and Continuity: Rural Settlement in North-West Lincolnshire*, p.52.
[128] O'Connell 2023, op. cit., p.68; Figure 3.44; Appendix 1: Interim pottery assessment. (Appendix 13.6).
[129] Ibid., p.39 – AP219; Figure 5 (Appendix 13.4)

ES ref.	Other references	Description
		either abuts or is cut by a ditch interpreted as a post-medieval field boundary.
AR47	AP: 219	**Possible undated ditch** A curvilinear ditch identified as a cropmark on air photographs which is on a different alignment to the surrounding post-medieval field systems and could therefore potentially pre-date them[130].
AR48	Geophysics: Q11a	**Uncertain linear and curvilinear anomalies** Linear anomalies and trends identified by geophysical survey as being of an unknown origin. Although they were originally interpreted as possibly being caused by agricultural activity or denoting geological or pedological changes in substrata, their form means an archaeological origin cannot be completely dismissed[131]
AR49	Geophysics: Q7a, Q8a, Q15a and Q16a AP: 221 and 222	**Romano-British settlement enclosures** Geophysical survey has mapped a large area of magnetic anomalies that were interpreted as being of an archaeological origin. Anomalies identified spanning Fields Q7 and Q8 were postulated as belonging to a Roman ladder settlement. Anomalies in the east of Field Q7 and west of Fields Q15 and Q16 were considered to possibly relate to a system of enclosures of a possible Roman date – their tentative interpretation was a result of modern disturbances including a trackway and several utilities which both truncated and masked anomalies[132]. The AP and LiDAR assessment also identified fragmentary cropmarks in this vicinity thought to possibly indicate buried archaeological ditches, some of which closely corresponded to the geophysical anomalies[133]

[130] Ibid. (Appendix 13.4).
[131] James 2022, op. cit., p.18-19; Figure 19. (Appendix 13.2)
[132] Ibid., p.17,18, 20 and 26; Figure 17. (Appendix 13.2)
[133] Deegan 2023, op. cit., p.40 – AP 221 and 222; Figure 5. (Appendix 13.4).

ES ref.	Other references	Description
		Evaluation trial trenching confirmed the archaeological nature of identified anomalies and suggested several possible areas of varying activity. Within Field Q7 (Trenches 149-155) ditches were interpreted as forming field enclosures with one semi-circular feature interpreted as a small animal shelter[134]. To the east of this (Trenches 147-148 & 203) a series of ditches and two sections of wall thought to represent a multi-ditched sub-rectangular enclosure were investigated and numerous finds indicative of occupational activity such as pottery, CBM, coins and a brooch[135]. To the south, in Field Q8 (Trenches 169, 171-172, 175-176, 180-181, 184, & 212) further evidence of likely occupational activity was identified through a series of ditches containing domestic material[136]. Evidence of two or three possible sub-square enclosures and shallow quarrying was also recorded in trenches in Fields Q15 and Q16 to the east (Trenches 141-146 & 206-207) [137].
AR50	HER: MLI52501 NRHE: 1062667 AP: 215	**Medieval ridge and furrow** Earthwork remains of a former medieval ridge and furrow field system to the north-east of Brampton were identified on aerial photography by the National Mapping Programme in 1992-96. The AP and LiDAR assessment undertaken in 2022/2023 confirmed that these former earthworks have now been levelled by more recent agricultural activity [138].
AR51	Geophysics: Q6a	**Romano-British settlement enclosures** A cluster of rectilinear geophysical anomalies[139] confirmed by evaluation trial trenching to be caused by an Iron Age / Roman settlement. Features identified by the evaluation trenching in

[134] O'Connell 2022, op. cit., p.55-59 ; p.77; Figure 2.5. (Appendix 13.6).
[135] Ibid., p. 47-54; p.77; Figure 2.5. Appendix 13.6).
[136] Ibid., p.60-70; p.77; Figure 2.5. (Appendix 13.6).
[137] Ibid.., p.40-47; p.77; Figure 2.5. (Appendix 13.6).
[138] Deegan 2023, op. cit., p.38; Figure 5. (Appendix 13.4).
[139] James 2022, op. cit., p.16; Figure 15 (Appendix 13.2)

ES ref.	Other references	Description
		Field Q6 (Trenches 75-78 & 80) included largely shallow ditches, pits and postholes that contained evidence of domestic activity – in particular CBM, including possible roof tile, was identified which was considered suggestive of the presence of structures[140].
AR52	N/A	**Possible prehistoric ditch** Isolated curvilinear feature that was identified by evaluation trial trenching and contained charcoal flecks, possible flint flake and animal bone[141].
AR53	HER: MLI52489 AP: 227; 236; GB101	**Cropmarks of a possible Roman trackway** Cropmarks of a probable Roman trackway and field boundaries, to the south-east of Marton, identified on aerial photographs examined as part of the National Mapping Programme in 1992-96. The AP and LiDAR analysis undertaken in 2022 identified that this feature is visible as a cropmark running south-east to north-west across three parcels. To the south-east this cropmark suggests a broad compacted surface flanked by ditches, becoming less well defined to the north as it continues beyond the Order Limits. Projecting this feature further north-west it would converge with the Roman road known as Till Bridge Lane on the west side of Marton[142]. The geophysical survey also identified linear trends along this alignment[143], but as part of the evaluation, three trenches (Trench 42, 61 and 62) were placed along its length, but no archaeological features were recorded[144], therefore its presence has not been confirmed.

[140] O'Connell 2022, op. cit., p.32-38; p.77; Figure 2.4 (Appendix 13.6).
[141] O'Connell 2022, op. cit., p.30; Figure 3.12. (Appendix 13.6)
[142] Deegan 2023, op. cit., p.4; p.39 - AP227 & AP236. (Appendix 13.4).
[143] James 2023, op. cit., Figure 15. (Appendix 13.2).
[144] O'Connell 2022, op. cit., Figure 2.3. (Appendix 13.6)

ES ref.	Other references	Description
AR54	Geophysics: Q1	**Undated ditches** Geophysical survey identified a series of rectilinear and linear anomalies of possible archaeological interest, although this interpretation was tentative as it was concluded that the features could equally be of more recent agricultural origin[145] . Evaluation Trenches 1-20 were placed to target these putative features as well as apparently 'blank' areas. The putative enclosure ditch was targeted by Trenches 15, 17 and 18, and whilst linear features were identified, it was unclear as to whether these related to furrows, and no clear dating evidence was recovered Elsewhere, an undated linear feature was recorded in Trench 20, an undated pit in Trench 5, and what were interpreted as furrows or other post-medieval agricultural features in Trenches 7, 8, 10 and 115. In conclusion, no clear evidence for Iron Age/Romano-British activity was identified in any of the trenches in the field parcel Q1, although some ditches identified could feasibly relate to field boundaries associated with the settlement activity identified in field parcel Q9a to the east (see AR55) [146].
AR55	Geophysics: Q9a	**Romano-British roadside settlement and possible industrial site** Geophysical survey identified several rectilinear, linear and amorphous anomalies and trends thought likely to be caused by infilled archaeological features. It was postulated that anomalies are suggestive of a roadside settlement to the south of the Roman Road which linked Ermine Street to a crossing at the River Trent in Marton (now fossilised by Till Bridge Lane)[147].

[145] James, A. 2022, op. cit., p.14; Figs. 12-13 - Area Q1. (Appendix 13.2)
[146] O'Connell 2022, op. cit., p.9-12; p.76; Fig. 2.2; Figs. 3.1-3.4. (Appendix 13.6)
[147] James, A. 1922, op. cit., p.18; Figs. 18-19 - Anomalies Q9a. (Appendix 13.2).

ES ref.	Other references	Description
		Evaluation trenching in this area was undertaken in October and November 2022 and trenches were placed to target these putative features as well as apparently 'blank' areas. The evaluation confirmed in (Trenches 18 and 21-30) the presence of the geophysical rectilinear anomalies as well as numerous other finds and features such as CBM, stone packed postholes, the remains of a possible wall or stone surface, as well as possible evidence for metal-working and glass manufacture or re-working[148]

Cable Route Corridor from West Burton 3 to West Burton Power Station

13.5.10 Within the Order Limits along the Cable Route Corridor from West Burton 3 to its terminus at the West Burton Power Station, there are two archaeological entries on the Lincolnshire HER, five on the Nottinghamshire HER, and five entries on Historic England's NRHE (three of which duplicate the HER entries). In addition, there are two PAS findspots, and a further five areas of potential archaeological significance have been identified through air photo assessment, geophysical survey and evaluation trenching undertaken to inform this ES. These archaeological remains are listed in Table 13.14 below, and their locations are depicted on ES Figure 13.4 **[EN010132/APP/WB6.4.13.4]**.

[148] O'Connell 2022, op. cit., p.13-28; p.76-77; Fig. 2.2; Figs. 3.5-3.6. (Appendix 13.6).

Table 13.14: Gazetteer of Archaeological Remains along the Cable Route Corridor and access routes between West Burton 3 and the West Burton Power Station

ES ref.	Other references	Description
AR56	NRHE: 324930	**Findspot of Roman coins.** 18th and 19th century references to Roman coin finds from the parish of Marton which are now in Lincoln Museum but the precise location of the findspots is not known.
AR57	HER: MLI52488 AP: GB110, GB111 & GB233.	**Post-medieval flood defences** Earthworks of probable post-medieval flood defences, to the south of Marton. Identified on aerial photographs examined as part of the National Mapping Programme in 1992-96. Confirmed by the AP and LiDAR analysis undertaken as part of the Gate Burton Energy Park scheme in 2022 as meandering through three of the parcels assessed[149].
AR58	HER: MLI125067	**The Winter Camp of the Viking Great Army at Torksey.** The Viking Great Army overwintered at Torksey in 872-73, as recorded by the Anglo-Saxon Chronicle, and their camp has been identified to the north of Torksey village in the parishes of Brampton and Torksey. The camp sat on a prominent bluff partially surrounded by marshes and with the River Trent on its western boundary; effectively an island. Although it lacked earthwork defences, it was an area that could be easily defended, it controlled the River Trent and provided a good vantage point over the surrounding flood plain.
AR59	PAS: SWYOR-0163C7	**Early medieval coin findspot** A complete base silver sceat, dated to AD 700-765.
AR60	PAS: NLM-4C0382	**Roman coin findspot** Copper alloy coin. Nummus of the House of

[149] Deegan 2023, op. cit., p.47 - GB110, GB111 and GB233; Figure 6.

ES ref.	Other references	Description
		Constantine (306-361), probably a copy of a fallen horseman, issue of 355-361.
AR61	AP: GB218	**Iron Age/Romano British trackway and field boundary** AP and LiDAR assessment undertaken as part of the Gate Burton Energy Park project identified a palimpsest of post medieval field boundaries and roads, and Iron Age/Romano-British enclosures, trackways and field systems previously mapped by the NMP and recorded on the HER (see AR62 below). The mapping provided more detail than was obtained by the NMP, and indicates that a trackway and field boundary of likely Iron Age/Romano-British date extends further to the east across the cable route corridor than previously known[150]
AR62	HER: L5038-MNT4981 NRHE: 324971 AP: 256; GB219	**Cropmarks at North Leverton** The HER records 'two enclosures, one with an internal hut circle or similar feature. A number of lines, their nature uncertain, run across the field, E-W. There may be other features here too. Probably part of the brickwork plan fields'. The AP and LiDAR assessment undertaken in 2022-23 for the Gate Burton and West Burton Solar Projects also confirmed that part of an Iron Age or Roman period field system with possible enclosures are visible as cropmarks on various air photos. Long fields are aligned near east to west and divided into smaller fields with short cross boundaries. A poorly defined linear feature runs south-east to north-west across this parcel, it may be the continuation of a trackway that is more clearly visible in the field to the east, possibly along a natural depression[151].

[150] Deegan 2023, op. cit., p.41; Figure 7. (Appendix 13.4).
[151] Ibid. (Appendix 13.4).

ES ref.	Other references	Description
AR63	HER: MNT6180-L6243 NRHE: 1061698 AP: GB219	**Cropmarks of a medieval or post-medieval trackway** Within the north-eastern area of the palimpsest of cropmarks recorded at North Leverton (see AR60) there are separate HER and NRHE entries for a medieval or post medieval trackway. The AP and LiDAR assessment has identified this as a now redundant section of Craikbank Lane which was still extant on air photos taken in the 1940s[152].
AR64	Geophysics: A2 & P1	**Rectilinear enclosure** The geophysical survey along the Cable Route Corridor identified a rectilinear anomaly and a series of linear anomalies to the north[153]. The proximity to the cropmarks mapped from air photos immediately to the south and west (see AR63 and AR66) suggests that this is a continuation of what is considered to be an Iron Age/Romano-British field system.[154]
AR65	HER: L5037-MNT4980 NRHE: 1061711 AP: 259	**Cropmarks at North Leverton** The HER records 'Linear features possibly field boundaries. Small rectangular enclosure adjoining one line, linear features to SW. Probably part of brickwork plan field systems'. The AP and LiDAR assessment undertaken in 2022-23 also confirmed: 'A perpendicular arrangement of ditches that is likely to be the northward continuation of the Iron Age or Roman period field system described in AP256 [see AR62]. These ditches are visible as cropmarks'[155].
AR66	HER: MNT4979-L5036	**Enclosures at North Leverton** Two adjacent rectangular enclosures thought to be associated with the cropmarks to the south (AR66) were recorded on an air photograph taken by

[152] Deegan, op. cit., p.48 – APGB219; Figure 7. (Appendix 13.4).
[153] Brunning 2023, op. cit., p.7; Figure 29. (Appendix 13.2)
[154] Deegan 2023, op. cit., Figure 7 (Appendix 13.4).
[155] Ibid., p.42; Figure 7. (Appendix 13.4).

ES ref.	Other references	Description
		Derek Riley. However, these were not identified on the photographs consulted as part of the Gate Burton Energy Park AP and LiDAR assessment, as only a section of linear ditch of uncertain date was identified in this area[156].
AR67	AP: 260; 261; 262; 263	**Cropmarks of possible Iron Age/Romano British ditches** The AP and LiDAR assessment undertaken in 2022-23 identified several ditches running across parcels 260, 261 and 262 of possible Iron Age/Romano-British date which are likely to be associated with the more extensive field system recorded further to the south (see AR62-AR66). One ditch in parcel 261 is related to the Iron Age/Romano-British field boundary which continues to the west into parcel 260, and although it appears to stop at the edge of the cable route corridor, the possibility that it continues eastwards cannot be discounted. However, it is also possible that this feature is associated with the possible palaeochannel identified in this vicinity by the geophysical survey[157]. A second ditch further to the north in parcel 261 is undated but may well be contemporary, and this also appears to stop at the edge of the cable route, though could continue across it. Further to the north a further ditch of likely Iron Age/Romano-British date is visible in parcel 263 which crosses the cable route corridor and continues eastwards into parcel 265[158].
AR68	Geophysics: A1	**Anomalies indicative of Iron Age/Romano-British to Medieval period settlement** Geophysics identified a series of linear and curvilinear magnetic anomalies that are likely to be

[156] Ibid., Figure 7. (Appendix 13.4).
[157] Brunning 2023, op. cit., p.6 – G1; Figure 26. (Appendix 13.2)
[158] Deegan 2023, op. cit., p. 42; Figure 7. (Appendix 13.4).

ES ref.	Other references	Description
		indicative of settlement activity of probable Iron Age/ Romano-British to medieval date[159].
AR69	AP: 289 Geophysics: F7	**Medieval or post-medieval enclosure and fishponds** Sub-square enclosure of possible medieval or post-medieval date with an annex or hollow way at the north-west corner recorded from earthworks and soilmarks on air photos and LiDAR. To the south-east are two ponds, one of which is recorded on the 1885 OS map and is present as a bipolar magnetic anomaly[160]. LiDAR indicates that the enclosure and ponds survive as very shallow earthworks. Ridge and furrow is recorded as overlying both sets of features, but this has since been levelled[161].
AR70	HER: MLI50575	**Till Bridge Lane** Roman road running from Lincoln to Doncaster. The alignment is largely followed by later features, but some earthwork and cropmark sections survive. In the later first century AD the Romans found that, with the rising importance of York, there was a need for a road that would avoid the wide ferry crossing of the Humber, which the main route of Ermine Street found unavoidable. A road was, therefore, laid out that takes off from Ermine Street at a point near North Carlton, and proceeds north-west to Bawtry and Doncaster, then swinging north through Castleford to Tadcaster and finally north-east to York. It is at first a substantial agger, and after one and a half miles it joins Till Bridge Lane, which then follows the alignment to the crossing of the Trent at Littleborough.

[159] Brunning 2023, op. cit., p.7. (Appendix 13.2).
[160] Brunning 2023, op. cit., p.5 – Anomaly F7. (Appendix 13.2).
[161] Deegan 2023, op. cit., p.45; Figure 8. Appendix 13.4).

ES ref.	Other references	Description
AR71	NRHE: 1341116	**River Trent Navigation.** The River Trent is an historic navigation running for about 100 miles from the Midlands to the Humber ports and the North Sea. At its peak in the 19th and early 20th century, the Trent formed the main artery of trade for the East Midlands, being connected with the Sheffield and South Yorkshire Navigations, the Chesterfield Canal, the Foss Dyke, the Grantham Canal, the Erewash Canal, the River Soar Navigation and the Trent and Mersey Canal,

Historic Buildings

Designated Historic Buildings: Grade I and II* Listed Buildings within 5km

13.5.11 Grade I and II* Listed Buildings are classed as heritage assets 'of the highest significance' in terms of the NPPF[162], and historic buildings of *High Value* according to the criteria detailed in Table 13.4 above. The combined 5km study area surrounding the West Burton 1, 2 and 3 Sites contains 25 Grade I and Grade II* Listed Buildings, as detailed in Table 13.15 below. The locations of these buildings are indicated by dark blue points (Grade I) and yellow points (Grade II*) on Figures App.13.5-1 which accompanies the Heritage Statement in **Appendix 13.5 [EN010132/APP/WB6.3.13.5]**.

13.5.12 At the Scoping stage it was proposed that a number of these assets should be scoped out of further assessment, but the PINS' Scoping Opinion **[EN010132/APP/WB6.3.2.2]** requested that further evidence be presented in the ES to demonstrate no direct or indirect impacts to these receptors. This further assessment is detailed within the Heritage Statement included as **Appendix 13.5 [EN010132/APP/WB6.3.13.5]**.

Table 13.15: Grade I and II* Listed Buildings within the 5km study area

NHLE	Name	Grade
1063342	Church of St and Michael and All Angels, Cammeringham	II*
1063378	Church of St. Cuthbert, Brattleby	II*
1064050	Church of St Mary, Knaith	II*

[162] MHCLG 2021, op. cit., Paragraph 200, p.57.

NHLE	Name	Grade
1064070	Church of St Luke, North Carlton	II*
1064072	The Old Hall, Saxilby with Ingleby	II*
1064078	Church of St Peter, Torksey	II*
1064079	Torksey Castle, Torksey	I
1064085	Burton Chateau, Gate Burton	II*
1146624	Church of St Mary, Stow	I
1146742	Church of St Edith, Stow	I
1147172	Gateway at Kettlethorpe Hall, Mounting Block, Garden Wall and Gate Piers, Kettlethorpe	II*
1147235	North Carlton Hall, North Carlton	I
1147274	Gateway at Scampton House Farm in Field to West of House, Scampton	I
1165919	Manor House, Cammeringham	II*
1216860	Church of St Nicholas, Sturton Le Steeple	I
1233511	Church of St Peter, Laneham	I
1233879	Church of All Saints, Rampton	I
1276407	Gateway From Manor Farm to Churchyard and Attached Walls 7 Metres West of Manor Farmhouse, Rampton	I
1302452	Church of St Helen, Thorney	II*
1359456	Torksey Viaduct over River Trent, Torksey	II*
1359458	Gate Burton Hall, Gate Burton	II*
1359484	Church of St. Margaret of Antioch, Marton	I
1359490	Church of St Botolph, Saxilby with Ingleby	I
1359492	Church of St John the Baptist, Scampton	II*
1359493	Church of St John the Baptist and Monson Mausoleum, South Carlton	I

Conservation Areas

13.5.13 There are four Conservation Areas within the combined 5km study area for the West Burton Solar Scheme. These are listed in Table 13.16 below, and a value has been assigned to each using the criteria provided in Table 13.5 above. Their locations are depicted by green polygons on Figures App.13.1 and App.13.2 which accompany the Heritage Statement in **Appendix 13.5 [EN010132/APP/WB6.3.13.5]**.

Table 13.16: Conservation Areas within the combined West Burton 5km study area

Name	Value
Burton	High
Brattleby	High
South Carlton	High
Saxilby, Bridge Street	Medium

Designated Historic Buildings: Grade II Listed Buildings within the 2km study area

13.5.14 At the Scoping stage, it was proposed that many of the Grade II Listed Buildings within 2km of the Order Limits should be scoped out of further assessment, but the PINS' Scoping Opinion **[EN010132/APP/WB6.3.2.2]** requested that further evidence be presented in the ES to demonstrate no direct or indirect impacts to these receptors. This further assessment is provided in the Heritage Statement in **Appendix 13.5 [EN010132/APP/WB6.3.13.5]** of this ES, and the locations of all of the Grade II Listed Buildings assessed are depicted by magenta points on Figures App.13.5-1 which accompanies the Heritage Statement.

13.5.15 There are 54 Grade II Listed Buildings within the combined 2km study area surrounding the West Burton 1, 2 and 3 Sites, as listed in Table 13.17 below. These are all classed as historic buildings of *Medium* value using the criteria provided in Table 13.5 above.

Table 13.17: Grade II Listed buildings within the 2km study area

NHLE	Name	Location
1064080	The Beeches	Brampton
1064081	Richards-Havercross Cottages	Brampton

NHLE	Name	Location
1064082	Priory Cottage	Brampton
1064083	The Hermitage	Brampton
1064084	Manor Farmhouse	Brampton
1064095	Church Of All Saints	Broxholme
1064096	Cornhill Farmhouse	Broxholme
1147027	Boontown Cottage	Broxholme
1147028	Old Rectory	Broxholme
1147032	Farm Buildings at Manor Farm	Broxholme
1359464	Manor Farmhouse	Broxholme
1064105	White Swan Inn	Fenton
1064106	Barn And Pigeoncote at White Swan Farm	Fenton
1064086	Gateway To Gate Burton Hall	Gate Burton
1064087	Church Of St Helen	Gate Burton
1166351	Gate Burton Hall Cottages	Gate Burton
1359457	Old Rectory	Gate Burton
1472727	Walled Garden at Gate Burton Hall	Gate Burton
1064057	Ingelby Arms Public House	Marton
1064059	Windmill	Marton
1064060	Berfoston Cottage	Marton
1146582	Cross	Marton
1146594	No 21 And Attached Barn to Rear	Marton
1146611	Wapping Lane Farmhouse and Attached Outbuilding	Marton
1308917	25, Gainsborough Road	Marton
1359485	Thornleigh House	Marton
1064058	Stow Park Station	Marton
1146606	Signal Box at Stow Park Station	Marton
1064071	Saxilby Moor Mill	Saxilby with Ingleby

NHLE	Name	Location
1064073	Railway Station and House	Saxilby with Ingleby
1147263	Ingleby Chase	Saxilby with Ingleby
1308588	The Manor House	Saxilby with Ingleby
1308593	103 And Pump, High Street	Saxilby with Ingleby
1064075	Till Bridge Farm Cottages	Scampton
1064062	Whipping Post	Stow
1064063	Threshing Barn at Church End Farm	Stow
1064064	21, Church Lane	Stow
1064066	6, Sturton Road	Stow
1146735	Stables and Pigeoncote at Church End Farm	Stow
1146755	9, Ingham Road	Stow
1146761	Wesleyan Chapel	Stow
1359486	Manor Farmhouse	Stow
1064067	Subscription Mill	Sturton By Stow
1064068	Lych Gate and Wall of Church Of St Hugh Of Avalon	Sturton By Stow
1146766	Brickyard Cottages	Sturton By Stow
1146772	Church Of St Hugh of Avalon	Sturton By Stow
1146778	Old Hall	Sturton By Stow
1146780	Gallows Dale Farmhouse	Sturton By Stow
1359487	Barn At Bransby House for Retired Horses	Sturton By Stow
1359488	Old Rectory Home for The Elderly	Sturton By Stow
1308921	Thorpe In the Fallows Farmhouse	Thorpe in the Fallows
1147315	Torksey Lock and Footbridge	Torksey
1147328	Gravestone 8 Paces from SE Angle of Nave of Church of St Peter	Torksey

NHLE	Name	Location
1359495	The Paddocks Castle View	Torksey

Listed Buildings within 500m of the Cable Route Corridor

13.5.16 For the Cable Route Corridor, it was considered that any visual impacts would be relatively localized, temporary, short term and reversible, and consequently it was considered that a 500m study area would be sufficient to assess potential impacts to Listed Buildings. There are 19 Listed Buildings within 500m of the Cable Route Corridors, as listed in Table 13.18 below. Their locations are depicted by dark blue (Grade I) and magenta (Grade II) points on Figures 13.8 **[EN010132/APP/WB6.4.13.8]** and 13.9 **[EN010132/APP/WB6.4.13.9]**.

Table 13.8: Listed buildings within the 500m study area for the cable route

NHLE	Name	Grade	Location
1064095	Church of All Saints	II	Broxholme
1147027	Boontown Cottage	II	Broxholme
1147028	Old Rectory	II	Broxholme
1064057	Ingelby Arms Public House	II	Marton
1064059	Windmill	II	Marton
1064060	Berfoston Cottage	II	Marton
1146582	Cross	II	Marton
1146594	No 21 And Attached Barn to Rear	II	Marton
1146611	Wapping Lane Farmhouse and Attached Outbuilding	II	Marton
1308917	25, Gainsborough Road	II	Marton
1359484	Church of St. Margaret of Antioch	I	Marton
1359485	Thornleigh House	II	Marton
1216697	Cross Street Cottage and Outhouse	II	Sturton Le Steeple
1216864	Crown Cottage	II	Sturton Le Steeple

NHLE	Name	Grade	Location
1216933	Wesleyan Chapel, Wall and Railing	II	Sturton Le Steeple
1216936	Crow Tree Farm	II	Sturton Le Steeple
1275658	Boundary Wall, Railing and Gate at Crown Cottage	II	Sturton Le Steeple
1275659	Mayflower House and Outhouse	II	Sturton Le Steeple
1275774	The Barn	II	Sturton Le Steeple

Non-Designated Historic Buildings

13.5.17 Currently, there are no Local Lists of Heritage Assets in Lincolnshire, but Heritage Lincolnshire is leading the Local Heritage List Campaign in partnership with Lincolnshire County Council, having received funding from the Ministry of Housing, Communities and Local Government (MHCLG) (as it then was).

13.5.18 Whilst no statutory protection is afforded to the settings of non-designated historic buildings (i.e., those of *Low* Value using the criteria described in Table 13.5 above), it was considered appropriate to provide an assessment of the impacts to those in close proximity to the Scheme, as there is the potential for 'significant' effects to occur in instances where the magnitude of change could be defined as *Major*. Consequently, those non-designated historic buildings identified on the Lincolnshire HER within 250m of the West Burton Sites are identified in Tables 13.20 – 13.22 below, as it is considered unlikely that a *Major* change would occur at buildings beyond this distance. It was considered that any temporary, short-term and reversible impacts to the settings of non-designated buildings along the Cable Route Corridor would be of too low a magnitude to consider as part of the baseline.

13.5.19 In order to ascribe a historical value to these buildings (in accordance with criteria set out in Table 13.5 above), data obtained from *The Building the Evidence base for Historic Farmsteads in Greater Lincolnshire Project*[163] was utilised. This project mapped all the historic farmsteads in Lincolnshire, and characterised them

[163] Lake, J. and Partington, A.2 015. *Building the evidence base for Historic Farmsteads in Greater Lincolnshire* [data-set]. York: Archaeology Data Service [distributor] [redacted]

according to their level of survival, as described in the first column of Table 13.19 below. The value assigned in Tables 13.19 to these different categories has been derived from the criteria for assessing the value of historic buildings provided in Table 13.5 above.

Table 13.19: Assessment of the value of historic farmsteads in Lincolnshire

Survival	Value
Extant – no apparent alteration	Low
Altered - partial loss – less than 50% change	Low
Altered - significant loss – more the 50% change	Negligible
House only - farmhouse only survives	Low
Demolished - farmhouse survives but complete alteration	Negligible
Lost - farmstead/outfarm totally demolished	None

West Burton 1

13.5.20 There are no non-designated built heritage assets recorded on the HER within the West Burton 1 Site boundary, although the historic building identified in Table 13.20 below is in close proximity (i.e., <250m distant) and therefore could potentially experience a 'significant' effect as a result of the proposed development. Its location is depicted by a light blue point on ES Figure 13.2 **[EN010132/APP/WB6.4.13.2]**.

Table 13.20: HER built environment entries within 250m of the West Burton 1 Site

ES Ref	HER ID	Description	Value
HB01	MLI119082	The Grange, Broxholme – (partial loss – less than 50% change)	Low

West Burton 2

13.5.21 There are no non-designated built heritage assets recorded on the HER within the West Burton 2 Site boundary, although the historic farmstead identified in Table

13.21 below are within 250m of the Order Limits. The locations of the farmsteads are depicted by light blue points on Figure 13.2 **[EN010132/APP/WB6.4.13.2]**.

Table 13.21: HER built environment entries within 250m of the West Burton 2 Site

ES Ref	HER ID	Description	Value
HB02	MLI118750	Ingleby Grange, Ingleby - (partial loss – less than 50% change)	Low
HB03	MLI119090	Ingleby Hall Barns, Ingleby – (partial loss – less than 50% change)	Low
HB04	MLI119087	Ingleby Hall Farm (Wood Farm) - (partial loss – less than 50% change)	Low
HB05	MLI119094	Sykes Farm, Ingleby - (significant loss – more than 50% change)	Negligible
HB06	MLI119093	Saxilby Sykes, Ingleby - (partial loss – less than 50% change)	Low
HB07	MLI119085	Castle Farm, Ingleby - (no apparent alteration)	Low

West Burton 3

13.5.22 There are no non-designated built heritage assets recorded on the HER within the West Burton 3 Site boundary, although the historic farmsteads identified in Table 13.22 below are in close proximity (i.e., <250m distant) and therefore could potentially experience a 'significant' effect as a result of the proposed development. The locations of these farmsteads are depicted by light blue points on Figure 13.3 **[EN010132/APP/WB6.4.13.3]**.

Table 13.22: HER built environment entries within 250m of the West Burton 3 Site

ES Ref	HER ID	Description	Value
HB08	MLI118783	High Wood Farm, Torksey - (partial loss – less than 50% change)	Low
HB09	MLI116499	Stow Park, Stow - (significant loss – more than 50% change)	Negligible

ES Ref	HER ID	Description	Value
HB10	MLI116501	Axlewood Farm, Stow - (farmhouse survives but complete alteration)	Negligible
HB11	MLI116496	Greenfields Farm, Stow - (farmhouse only survives)	Low
HB12	MLI116495	White House, Stow - (no apparent alteration)	Low
HB13	MLI116500	Moat Farm, Stow - (farmhouse survives but complete alteration)	Negligible
HB14	MLI116494	Manor Farm, Stow - (no apparent alteration)	Low
HB15	MLI116498	Manor Moor Farm - (significant loss – more than 50% change)	Negligible
HB16	MLI116492	Marton Grange - (significant loss – more than 50% change)	Negligible
HB17	MLI50066	Poplar Farm (Rectory Farm), Marton - (partial loss – less than 50% change)	Low
HB18	MLI52496	Brampton Grange, Brampton - (no apparent alteration)	Low
HB19	MLI118778	Bellwood Grange Farm, Brampton - (farmhouse survives but complete alteration)	Negligible
HB20	MLI125370	Hermitage House, Brampton - (significant loss – more than 50% change)	Negligible
HB21	MNT27760	Clapper Gate 31	Low

The Historic Landscape

Designated Landscapes: Registered Parks and Gardens

13.5.23 There are no Registered Parks and Gardens within the 5km study area surrounding the three West Burton Sites.

Historically Important Hedgerows

13.5.24 Hedgerows form an important element of the historic landscape, and under the *Hedgerow Regulations* 1997, hedgerows are afforded statutory protection should

they qualify as being 'important' for, *inter alia*, historical or archaeological reasons. The historical and archaeological criteria include:

- Hedgerows which mark pre-1850 parish boundaries;
- Hedgerows which incorporate or are within Scheduled Monuments or sites listed on an SMR/HER;
- Hedgerows which mark the boundary of a pre-1600 estate or manor;
- Hedgerows which are an integral part of a field system pre-dating the Enclosure Acts (meaning an Enclosure Act mentioned in the *Short Titles Act*; the earliest of these was made in 1845), as depicted on a map held at the County Records Office; and
- Hedgerows which are part of or visibly related to any building or other feature associated with such a system[164].

13.5.25 All hedgerows visible on Google Earth imagery were assessed against the above criteria and those identified as qualifying as historically important within the Order Limits are depicted on the DCO Important Hedgerow Plan **[EN010132/APP/WB2.7]** and are also depicted in green on ES Figures 13.2-13.4 **[EN010132/APP/WB6.4.13.2 - WB6.4.13.4]**. with those on pre-1850 parish boundaries depicted in purple. The single hedgerows depicted in orange (on ES Figures 13.2-13.5) is considered to be 'probably' historically important, as it is on a field boundary depicted on the 1849 Scampton tithe map, but for which no map pre-dating 1845 could be identified at the Lincolnshire Archives. There are five field boundaries with hedgerows on them to the west of Ingleby (West Burton 2) which are not depicted on a late 18th/early 19th century estate map, as this area was occupied by Norton Wood at that time. Although they were in existence by the time of the Ordnance Survey 1st edition map surveyed in 1885, no earlier map which depicted them could be located at Lincolnshire Archives, and therefore these hedgerows have been coloured in cyan on ES Figures 13.2, which indicates 'possible' examples of historically important hedgerows.

Historic Landscape Characterisation

13.5.26 The ongoing country-wide Historic Landscape Characterisation (HLC) is being carried out by local authorities with support from Historic England, and the HLC for Lincolnshire was completed and published in 2011[165]. The three West Burton

[164] Statutory Instruments. 1997 No. 1160. COUNTRYSIDE. *The Hedgerow Regulations 1997*. p.12.
[165] Lord, J. and Mackintosh, A. 2011. *The Historic Landscape Characterisation Project for Lincolnshire.* Lincoln, Lincolnshire County Council.

Sites are all located within Character Area *TVL1: The Trent Valley*, which is located within *The Northern Cliff Foothills* Character Zone.

13.5.27 In Tables 13.23-32 below, the different HLC types which make up these Character Areas and Zones have each been assigned a value based upon the attributes described in Table 13.6 above, the guidance provided in the guidance document co-authored by English Heritage (now Historic England) *Assessing the Effect of Road Schemes on Historic Landscape Character*[166], and professional judgement. For the *Modern Fields* HLC type, where these have good legibility of the earlier field pattern (for example largely rationalised parliamentary enclosure period geometric fieldscapes with significant areas of modern fields), these have been assigned a *Low* value, whereas those where the removal of most historic indicators (for example as a result of extreme boundary loss in modern prairie type fields), these have been assigned a *Negligible* value.

West Burton 1

13.5.28 There are 4 individual HLC units within the West Burton 1 Site boundary and associated access routes comprising two HLC types (*Modern Fields* and *Parliamentary Planned Enclosure*). These are detailed in Table 13.23 below and their locations are depicted on ES Figure 13.5 **[EN010132/APP/WB6.4.13.5]**.

Table 13.23: On-Site HLC units within West Burton 1

HLC ID	HLC Type	Value
HLI100589	Private Planned Enclosure	Medium
HLI100590	Modern Fields	Negligible
HLI100591	Modern Fields	Low
HLI100592	Modern Fields	Negligible

West Burton 2

13.5.29 There are fifteen individual HLC units within the West Burton 2 Site boundary and associated access routes. These are composed of fiveHLC types: *Ancient Enclosure, Modern Fields, Parliamentary Planned Enclosure, Isolated Farmstead* and *Medieval Village Earthworks* (although it should be noted that the latter two HLC

[166] Highways Agency. 2007. *Assessing the Effects of Road Schemes on Historic Landscape Character.* English Heritage/Department for Transport guidance document.

types are represented by a single HLC unit each, both of which are crossed by the access routes associated with the Site rather than being within the Site itself). These are detailed in Table 13.24 below and their locations are depicted on ES Figure 13.5 **[EN010132/APP/WB6.4.13.5]**.

Table 13.24: On-Site HLC units within West Burton 2

HLC ID	HLC Type	Value
HLI21238	Medieval Village Earthworks	High
HLI21240	Modern Fields	Negligible
HLI21242	Modern Fields	Low
HLI21244	Modern Fields	Low
HLI21245	Modern Fields	Negligible
HLI21251	Modern Fields	Negligible
HLI21257	Modern Fields	Low
HLI21258	Modern Fields	Low
HLI21266	Parliamentary Planned Enclosure	Medium
HLI21267	Parliamentary Planned Enclosure	Medium
HLI21268	Parliamentary Planned Enclosure	Medium
HLI21269	Parliamentary Planned Enclosure	Medium
HLI21308	Ancient Enclosure	High
HLI21339	Modern Fields	Low
HLI21340	Ancient Enclosure	High

West Burton 3

13.5.30 There are thirteen individual HLC units within the West Burton 3 Site boundary and associated access route. These are composed of four HLC types (*Ancient Enclosure, Modern Fields* and *Parliamentary Planned Enclosure* and *Other Industrial Works*). These are detailed in Table 13.25 below and their locations are depicted on ES Figure 13.6 **[EN010132/APP/WB6.4.13.6]**.

Table 13.25: On-Site HLC units within West Burton 3

HLC ID	HLC Type	Value
HLI20787	Modern Fields	Low
HLI20789	Modern Fields	Low
HLI20791	Ancient Enclosure	High
HLI20848	Modern Fields	Negligible
HLI20849	Modern Fields	Negligible
HLI20860	Parliamentary Planned Enclosure	Medium
HLI20867	Parliamentary Planned Enclosure	Medium
HLI20871	Other Industrial Works	Low
HLI20953	Modern Fields	Low
HLI20954	Modern Fields	Low
HLI20955	Modern Fields	Low
HLI20956	Modern Fields	Low
HLI20957	Modern Fields	Negligible

Cable Route Corridor

13.5.31 The Cable Route Corridor and its associated access routes cross through 17 HLC units in Lincolnshire, comprising four HLC types (*Ancient Enclosure, Modern Fields, Parliamentary Planned Enclosure* and *Private Planned Enclosure* and *Modern Fields*). These are detailed (from east to west) in Table 13.26 below and their locations are depicted on ES Figure 13.7 **[EN010132/APP/WB6.4.13.7]**.

Table 13.26: HLC units along the Cable Route Corridors between the Sites

Cable route	HLC ID	HLC Type	Value
WB1- WB2	HLI100589	Private Planned Enclosure	Medium
WB2 – WB2	HLI21266	Parliamentary Planned Enclosure	Medium
	HLI21257	Modern Fields	Low
	HLI21340	Ancient Enclosure	High
WB2 – WB3	HLI21240	Modern Fields	Low

Cable route	HLC ID	HLC Type	Value
	HLI21259	Modern Fields	Negligible
	HLI20794	Modern Fields	Low
	HLI20788	Modern Fields	Low
	HLI20789	Modern Fields	Low
WB3 – River Trent	HLI20848	Modern Fields	Negligible
	HLI20859	Parliamentary Planned Enclosure	Medium
	HLI20881	Parliamentary Planned Enclosure	Medium
	HLI20861	Modern Fields	Low
	HLI20951	Modern Fields	Low/Negligible
	HLI20892	Parliamentary Planned Enclosure	Medium
	HLI20950	Parliamentary Planned Enclosure	Medium

13.5.32 In addition to the above, to the west of the Trent, the Cable Route Corridor and its associated access routes cross through fifteen HLC units in Nottinghamshire, comprising four HLC types (*Regularly Laid Out Large Geometric Field Patterns, Irregular Geometric Field Patterns, Semi-Regular Field Patterns,* and *Modern Modified Field Patterns*). These are detailed in Table 13.27 below (from east to west) and their locations are depicted on Figure 13.7 **[EN010132/APP/WB6.4.13.7]**. The Nottinghamshire HLC units were not assigned individual reference codes by the Local Authority as was the Lincolnshire HLC, therefore codes that are specific to this project have been assigned in the first column of Table 12,27 below.

Table 13.27: On-Site Nottinghamshire HLC units along the Cable Corridor

HLC code	HLC Type/Description	Period	Value
NHLC1	REGGEO/Regularly Laid Out Large Geometric Field Patterns	18th / 19th century	Medium

HLC code	HLC Type/Description	Period	Value
NHLC2	IREGGEO/Irregular Geometric Field Patterns	18th /19th century	Medium
NHLC3	REGGEO/Regularly Laid Out Large Geometric Field Patterns	18th / 19th century	Medium
NHLC4	DESTROY/Modern Modified Field Patterns	Modern (20th century)	Low
NHLC5	SEMIREG/ Semi-Regular Field Patterns	Varies (Medieval – 19th century)	Medium-High
NHLC6	REGGEO/Regularly Laid Out Large Geometric Field Patterns	18th / 19th century	Medium
NHLC7	REGGEO/Regularly Laid Out Large Geometric Field Patterns	18th / 19th century	Medium
NHLC8	DESTROY/Modern Modified Field Patterns	Modern (20th century)	Low
NHLC9	REGGEO/Regularly Laid Out Large Geometric Field Patterns	18th / 19th century	Medium
NHLC10	DESTROY/Modern Modified Field Patterns	Modern (20th century)	Negligible
NHLC11	DESTROY/Modern Modified Field Patterns	Modern (20th century)	Negligible
NHLC12	DESTROY/Modern Modified Field Patterns	Modern (20th century)	Negligible
NHLC13	DESTROY/Modern Modified Field Patterns	Modern (20th century)	Low
NHLC14	DESTROY/Modern Modified Field Patterns	Modern (20th century)	Low
NHLC15	DESTROY/Modern Modified Field Patterns	Modern (20th century)	Negligible

13.6 Embedded Mitigation

13.6.1 A full suite of archaeological desk-based research and non-intrusive surveys (including air photo and LiDAR mapping and interpretation, geoarchaeological assessment and geophysical survey) was undertaken to assess the archaeological potential of the area within the Order Limits. These assessments and surveys identified several concentrations of features within the Order Limits that were interpreted as relating to prehistoric, Roman and medieval activity.

13.6.2 A programme of evaluation trenching was undertaken targeting the concentrations of features identified through non-intrusive surveys. The aim of this was to test the results of these surveys on the ground ('ground truthing'), as well as across adjacent 'blank' areas, where baseline information and the results of non-intrusive surveys suggested a negligible to low potential for archaeological features to be present.

13.6.3 The results of the evaluation trenching demonstrated a close correlation between the results of non-intrusive surveys and the presence of buried archaeological features identified in the trenches, and provided information on the character, form and date of the archaeological resource. Where complex archaeological remains were encountered during the evaluation trenching, additional contingency trenches were agreed with Lincolnshire Historic Environment Team, to allow a clearer understanding of the nature of any remains.

13.6.4 The extensive scope of non-intrusive survey work, supported by targeted evaluation trenching, which showed a clear correlation between the results of non-intrusive surveys and the features identified by the trenching, is considered sufficient to meet the information requirements of the relevant NPPF and NPS policies in order to inform the DCO application at this stage, as well as to establish that the archaeological potential for 'blank' areas across the Scheme is negligible/low.

13.6.5 Given the low impact the Scheme will have across the majority of the site (around 0.07% ground impact for areas of solar mounts), an extensive and untargeted programme of evaluation trenching across all remaining 'blank' areas of the Scheme, which did not take into account the evidence from the range of non-intrusive survey work undertaken to inform the DCO application, was considered disproportionate.

13.6.6 Evaluation trenching was not considered necessary for the majority of the West Burton Cable Route Corridor, where one or two circuits are proposed, dependent upon the location, because baseline information and non-intrusive survey data suggests minimal archaeological potential. A programme of archaeological monitoring, in the form of a watching brief, and targeted 'strip, map and record'

excavation are considered suitable further mitigation techniques to safeguard against any potential impacts to previously unknown archaeological remains during the construction phase, based on the information collated to inform the DCO application (this further mitigation is discussed under 'Mitigation Measures' in section 13.8 below).

13.6.7 Within the Shared Cable Corridor, archaeological evaluation trenching covering a sample of approximately 1% of the area was agreed with Lincolnshire Historic Environment Team. The Shared Cable Corridor is intended to be used by up to three or more Schemes, and so development work across these schemes has the potential to cause a higher impact on any buried archaeological deposits. Baseline information and non-intrusive surveys identified the Shared Cable Corridor area to have potential to contain extensive late prehistoric and Roman period remains, and this was confirmed by the targeted evaluation trenching. However, this area of dense archaeology is located in the area beyond the Order Limits for the West Burton Scheme, in that part of the Shared Cable Corridor which would be used solely by the Cottam and Gate Burton solar projects and therefore this assessment has not considered this area further.

13.6.8 Full details of the proposed embedded mitigation strategies (and also including those areas where the additional mitigation discussed in section 13.8 below is proposed) are provided in the Written Scheme of Investigation (WSI) which is provided in **Appendix 13.7 [EN010132/APP/WB6.3.13.7].**

13.6.9 Table 13.28 below provides descriptions of the 'embedded mitigation' strategies that are proposed in this ES along with the codes that have been used in the Impact Assessment Tables included in **Appendix 13.8 [EN010132/APP/WB6.3.13.8]**. Code 'AA' refers to those putative archaeological assets where no mitigation ('embedded' or 'additional') has been proposed due to the impacts being of a negligible magnitude, and codes 'BB', 'CC1' and 'CC2' refer to the 'embedded mitigation' strategies discussed in more detail below.

Table 13.28: 'Embedded mitigation' codes used in the impact assessment tables in Appendix 13.8

Mitigation code	Description of 'embedded' mitigation proposals
AA	None proposed due to impact being of a negligible magnitude
BB	'Embedded mitigation' resulting in preservation *in situ* – no solar panels, cable routes or other infrastructure proposed in this area
CC1	'Embedded mitigation' to achieve preservation *in situ* – solar panels placed on non-intrusive concrete feet, with connection by above ground cabling ducts (or as for BB above if this is not possible)
CC2	'Embedded mitigation' to achieve preservation in situ – horizontal directional drilling (HDD) beneath archaeological remains

13.6.10 Archaeological mitigation that has been embedded into the Scheme by design includes the avoidance of archaeologically sensitive areas by the removal of panels and other infrastructure entirely, and/or the installation of concrete feet for the panels, which would also serve to preserve the archaeological remains *in situ* (as illustrated on Plate 4.3 in the Concept Design Parameters section in Chapter 4 of the ES **[EN010132/APP/WB6.2.4]**). This latter mitigation strategy is set out in planning guidance published by BRE on behalf of Cornwall Council[167] and acknowledged by Historic England in its Advice Note concerning renewable energy and the historic environment[168]. There are no embedded mitigation measures to reduce the likely significant effects upon historic buildings or the historic landscape, as no historic buildings would be directly affected by the Scheme, and because the changes to historic landscape character are necessary for the delivery of the scheme and hence are an intrinsic part of it. Areas where the embedded mitigation includes the use of concrete feet for the panels and above ground cabling ducts to avoid impacts to archaeologically sensitive areas identified during the assessment include the mitigation areas at AR03, AR20, AR22, AR24, AR30, AR49, AR51, AR52, and AR55. The locations of these archaeological areas are depicted in magenta on ES Figures 13.2 – 13.5 **[EN010132/APP/WB6.4.13.2 - WB6.4.13.3]**. Further 'informative trenching' is proposed at AR01, AR11, AR13, AR14, AR18, AR19, AR34, AR44, AR46, AR47, and AR48, which are also areas are depicted in magenta on ES Figures 13.2 – 13.5.

[167] BRE. *Planning guidance for the development of large scale ground mounted solar PV systems.*
[168] Historic England. 2021. *Commercial Renewable Energy Development and the Historic Environment.* Historic England Advice Note 15. Swindon, Historic England. Paragraph 68, p. 16.

These are all areas where possible, but uncertain, archaeological remains have been identified through geophysical survey, air photo and LiDAR analysis or map regression. Should the proposed informative trenching confirm the presence of significant archaeological remains in these areas, then these areas will also be included in the embedded mitigation with the proposed solar panels being mounted on concrete feet.

13.6.11 It should be noted that, currently, it is not possible to install 'tracker' panels on concrete feet, although technological advances may allow this by the time that the Scheme is constructed. However, should this not be the case, then it is proposed that the tracker solar panels will be removed entirely from identified areas of archaeological sensitivity and the embedded mitigation 'BB' would be applied. Fixed panels can be placed on concrete feet and therefore if the site were constructed with fixed panels, then the above embedded mitigation ('CC') will apply.

13.6.12 The impact assessment table for non-designated archaeological remains (Table App.13.8-2 (**Appendix 13.8 [EN010132/APP/WB6.3.13.8]**) is concordant with the mitigation area codes that are used in the WSI (Appendix 13.7), including the 'embedded mitigation' discussed above, and also additional mitigation strategies which are discussed in more detail below in section 13.8. In this table, the 'embedded mitigation' strategies are identified by the code 'CC' (panels on concrete feet in archaeologically sensitive area) only, as the avoidance of areas of archaeological sensitivity ('BB') would only be used in areas where tracker panels are proposed and where these cannot be mounted on concrete feet. The requirements for the removal of any panels from the scheme to avoid impacts to archaeologically sensitive areas will be identified ahead of construction once the detailed design and methods of construction have been decided.

13.6.13 The final column in the impact assessment table for archaeological remains (Table App.13.8-2) provides an indication of the 'significance of effects' of the Scheme without embedded mitigation in place, and below this an indication of the predicted 'significance of effects' assuming the embedded mitigation has been implemented (where proposed). It is evident from this that for those archaeological areas where 'embedded mitigation' is proposed with the code 'CC', then the mitigated significance of effects would be *Neutral,* whereas without the embedded mitigation, then the effect would be *Slight Adverse* in each instance (except for example at AR03 where a mixture of embedded mitigation and further mitigation is proposed).

13.7 Identification and Evaluation of Likely Significant Effects

Introduction

13.7.1 The identification of the likely 'significant' effects upon the cultural heritage resource has been undertaken using the methodology described in Section 13.4 above, and specifically the criteria for assessing the magnitude of change for archaeological remains, historic buildings and historic landscapes set out in Tables 13.1 – 13.3, and the criteria for assessing the values of archaeological remains, historic buildings and historic landscapes set out in Tables 13.4 – 13.5. The 'significance of the effects' can be ascertained by applying these values to the matrix provided in Table 13.7.

13.7.2 The assessment scores for each heritage asset as ascertained using the above methodology are presented in a series of impact assessment tables which can be found in **Appendix 13.8** (Tables App.13.8-1 – App.13.8-10) **[EN010132/APP/WB6.3.13.8]**.

13.7.3 As a matter of expediency, in the impact assessment tables in **Appendix 13.8,** in those instances where the same impacts are predicted at multiple receptors, a code has been assigned to each impact description, and this has been entered into the 'Impact code' column of the relevant assessment table. These impact codes and the associated impact descriptions are provided below in Table 13.34. Impacts to HLC units are more variable and asset-specific, and consequently a brief description of the impact is provided (see column 3 in Tables App. 13.8-5 and App.13.8-10) rather than a generic code such as those provided in Table 13.29 below.

Table 13.29: Impact codes used in the impact assessment tables in Appendix 13.8

Impact code	Description of impact
A	**Construction Phase** - Possible direct adverse impacts to buried archaeological remains from piles to secure to solar panels, and other site infrastructure such as access roads, battery storage, inverters, associated cabling, and HGV movement through nearby villages.
B	**Construction Phase** - Possible direct adverse impacts to buried archaeological remains from excavation for cable route and associated access routes, compounds and laydown areas.
C	**Operational Phase** - Indirect beneficial impacts from removal of buried archaeological remains ('do something') from the agricultural

Impact code	Description of impact
	ploughing regime (i.e., the 'do nothing scenario') during the operational phase.
D	**Construction Phase** - Visual impact to settings of heritage assets due to intervisibility with site construction, cable route construction, temporary compounds and lay-down areas.
E	**Operational Phase** - Visual impact to settings of heritage assets due to intervisibility with solar panels and other site infrastructure.
F	**No impact likely** – asset represented by findspot, place name, documentary reference only, location unknown, or evaluation has confirmed lack of significance.
G	**No impact likely** – asset located within Order Limits, but no development proposed in this area.

13.7.4 Further codes have also been used in the impact assessment tables in **Appendix 13.8** to describe the nature of the impacts, in terms of their duration and reversibility. These are described below in Table 13.30:

Table 13.30: Further impact codes used in Appendix 13.8

Impact code	Nature of Impact
St	Short term impact (up to 12 months)
Mt	Medium term (1-5 years)
Lt	Long term (more than 5 years)
P	Permanent
R	Reversible
PR	Partially reversible
Ir	Irreversible
N/A	Not applicable

13.7.5 For the impact assessment tables for archaeological remains (Tables App.13.8-1 –App.13.8-2 and App.13.8-6 – App.13.8-7) and historic buildings (Tables App.13.8-3 –App.13.8-4 and App.13.8-8 – App.13.8-9), column 1 identifies the heritage

receptor under assessment, and column 2 provides a description of the predicted impact in with reference to the impact codes provided above in Table 13.34. Column 3 indicates the value of the heritage receptor as derived from the criteria for assessing the value of archaeological remains (Table 13.4), historic buildings (Table 13.5) as appropriate, and column 4 describes the predicted magnitude of change that would result from the Scheme compared to the 'do nothing scenario', without any mitigation in place (derived from Tables 13.1 and 13.2). The cell in column 4 has been further sub-divided to indicate the predicted magnitude of change with any proposed mitigation in place. The nature of the impact is then assessed in column 5, using the codes derived from Table 13.35. Any proposed mitigation is identified in column 6, using the codes provided in Table 13.33 (for embedded mitigation, as described in section 13.6 above) and 13.36 (for additional mitigation, as described in section 13.8 below), and for archaeological remains this is cross-referenced to the mitigation areas discussed in greater detail in the archaeological WSI provided in **Appendix 13.7** (which identifies areas of embedded mitigation and additional mitigation). Finally, column 7 provides a score derived from the significance of the effects matrix provided in Table 13.7. Where appropriate, this row is subdivided to indicate the significance of effects without any mitigation in place, and below this the score assigned once any proposed mitigation has been implemented.

13.7.6 The impact assessment tables for the historic landscape (Tables App.13.8-5 and App.13.8-10 in **Appendix 13.8**) are structured slightly differently, with the HLC type and/or value in column 2 (derived from Table 13.6) and a description of the impact in column 3. There is also no column for mitigation in these two tables as it is not possible to mitigate the predicted changes in historic landscape character (though these effects would be ultimately reversible following decommissioning).

Construction Phase

13.7.7 As set out in Chapter 2 of the ES **[EN010132/APP/WB6.2.2]**, for the purposes of the assessment, the two-year construction phase effects are effects that are anticipated to result from activities during site preparation / enabling works, construction, and commissioning activities e.g., effects such as construction traffic, noise and vibration from construction activities, dust generation, site runoff, mud on roads, and the visual intrusion of plant and machinery on site.

Archaeological Remains

Scheduled Monuments

13.7.8 For designated archaeological remains (Scheduled Monuments), it is clear that the visual impacts that would be most evident during the operational phase would commence during construction, but it is difficult to disentangle and

quantify the relative levels of impact that would occur throughout the phase as these would be fluid. In general, it can be stated that any visual impacts that might occur during the construction phase would be, overall, of no greater magnitude than those experienced during the operational phase and would be of a short- or medium-term duration and reversible, as detailed in Table App.13.8-2 in **Appendix 13.8 [EN010132/APP/WB6.3.13.8].** They would, however, be of a different nature, for example the possible visibility of plant movement, temporary cranes, and the presence of temporary construction compounds. These might result in very localised visual impacts that could be of a greater magnitude than what would occur during the operational phase, but the reversibility and short-term duration of these impacts would mean that the significance of the effects would soon return to *Neutral*.

13.7.9 Even though the construction phase is assessed as being two-years in length (i.e., *medium term*) in reality the visual impacts that might occur at some of the Scheduled Monuments would be likely to be very ephemeral in nature (for example limited glimpses of construction in a discrete part of a Site) and where this is the case these have been assessed as short-term impacts (e.g., *Broxholme medieval settlement and cultivation remains* (NHLE 1016797)).

13.7.10 However, as the operational phase would commence immediately following the construction phase, and any 'reversibility' of the visual impacts during construction (i.e., removal of temporary site compounds, temporary haul roads etc) would immediately be superseded by the visual impacts of the operational phase. The potential visual impacts upon Scheduled Monuments would, therefore, best be considered as a continuum, with low-level impacts commencing at the beginning of the construction phase, increasing in magnitude and reaching a peak at the beginning of the operational phase, continuing for 40 years (with some potential reduction in the visual impact as landscape mitigation i.e., planting matures) and then gradually reducing to pre-construction levels during the decommissioning phase. As the visual impacts would be at their greatest in terms of magnitude and duration during the operational phase, this is the main focus of the assessment of impacts to Scheduled Monuments as detailed in the Heritage Statement **(Appendix 13.5 [EN010132/APP/WB6.3.13.5]).**

13.7.11 Nevertheless, further impacts that would be solely construction phase specific could be experienced along, and in the vicinity of, the Cable Route Corridor. There are four Scheduled Monuments within 500m of the Cable Route Corridor: *Broxholme medieval settlement and cultivation remains* (NHLE 1016797), *Deserted village of North Ingleby* (1003570), *The medieval bishop's palace and deer park, Stow Park* (1019229) and *Medieval settlement and open field system immediately south*

east of Low Farm (NHLE 1017741). At Broxholme, the intervening built environment and vegetation would prevent any intervisibility between the scheduled area and the cable route, as is confirmed by the ZTV included in the Heritage Statement (Figure App. 13.5-10 in **Appendix 13.5 [EN010132/APP/WB6.3.13.5]**). Similarly at North Ingleby the intervening vegetation and topography would screen views of the Cable Route Corridor running alongside Sturton Road from within the scheduled area (Figure App.13.5-3), although the visibility of the construction compound in Field N9 *c.*290m to the west of the scheduled area means that visual impacts are likely to occur throughout the construction phase.

13.7.12 At *the medieval bishop's palace and deer park, Stow Park*, the proposed Cable Route Corridor passes to within 15m of the southern end of the eastern area of at the eastern park pale. It will run along the road which is thought to have been constructed along the course of the southern park pale before veering northwards along the eastern edge of the railway cutting, skirting the farm buildings and running along the edge of the field to the north before crossing this field and running beneath the underpass, and exiting the former deer park underneath the unscheduled section of park pale at the north-west by means of horizontal directional drilling. In addition, it is proposed that the southern part of the field immediately to the east of the eastern park pale would be used for a temporary cable laydown area during the construction phase. This construction activity in the vicinity of the eastern park pale will result in additional cumulative impacts to the setting of the Scheduled Monument on top of those that would be experienced as a result of the other construction activity that would be occurring in the vicinity of the western park pale and the site of the bishop's palace. These impacts would constitute '*Considerable changes to significance (or the ability to appreciate it) due to changes to setting'* or impacts of a *Moderate Adverse* magnitude (see Table 13.1). For a Scheduled Monument of *High* value, this constitutes effects of either *Moderate* or *Large Adverse* significance. As these adverse effects are temporary, applying professional judgement it is considered that the lower ***Moderate Adverse*** score is appropriate.

13.7.13 Finally, *Medieval settlement and open field system immediately south east of Low Farm* (NHLE 1017741) is located *c.*340m from the eastern edge of the grid connection works laydown area adjacent to West Burton Power Station. The setting of this Scheduled Monument is already dominated by the Power Station that abuts its northern and north-western edge, the nearest cooling tower being *c.*80m distant from the scheduled area. Consequently, it is considered that the temporary laydown area, should this be visible from the scheduled area would not constitute a significant change to what is already a highly industrialised setting. It is considered, therefore that this would constitute '*Very minor changes*

to elements, or to significance (or the ability to appreciate it) due to changes to setting' or impacts of a *Negligible Adverse* magnitude. For a Scheduled Monument of *High* value, this would constitute effects of *Slight Adverse* significance.

13.7.14 In conclusion, during the construction phase, there is the potential for there to be *Slight Adverse* effects at four Scheduled Monuments, and up to *Moderate Adverse* effects at one Scheduled Monument (*the medieval bishop's palace and deer park, Stow Park* – NHLE 1019229), as detailed in Appendix 13.8-1 This latter impact would result in 'significant' effects in EIA terms, and although impacts resulting from the construction phase are medium term and reversable, the visual impacts of the constructed Scheme would continue into and throughout the operational phase.

Non-designated Archaeological Remains

13.7.15 Impacts to non-designated archaeological remains would largely occur during the construction phase, when activities such as the installation of panels and other Scheme infrastructure such as battery panels, sub-stations, cable routes, the haul roads and access routes, lay-down areas and compounds all have the potential to have an adverse, permanent, and irreversible impact upon buried archaeology.

13.7.16 The results of the impact assessment are set out in Table App.13.8-2 (**Appendix 13.8 [EN010132/APP/WB6.3.13.8]**), with the magnitude of change (with & without mitigation) recorded in column four, and the final column records significance of effects (with & without mitigation). Whilst it should be self-evident how many of these scores have been reached with reference to the criteria detailed in Tables 13.1 – 13.7, in some instances a degree of professional judgement has been required, for example where the *significance of effects* matrix provides two alternative scores to choose from, and also when there is some uncertainty regarding the significance and/or level of survival of the archaeological remains. For transparency, the bullet points below provide some indication as to how some of these decisions have been reached:

- Where ubiquitous and low value agricultural features such as buried furrows would be impacted by the occasional piling required for the solar arrays, this *Negligible Adverse* change has been scored as having *Neutral* rather than *Slight Adverse* effects, as it is considered that the *evidential value* of these remains would not be compromised by these impacts.
- Where archaeological excavation and recording are proposed as mitigation, (for example along the cable routes, access and haul roads, inverters, battery storage compound, and substations), the adverse changes to the archaeological resource would still occur, and therefore the significance of

effects scores remain the same with or without the additional mitigation in place.

- Where *Medium* value archaeological remains such as Iron Age/Romano-British settlement and field systems have been identified in areas where solar panels are proposed it has been considered that, in the absence of mitigation, the changes could range from *Negligible* to *Minor Adverse* due to the likely limited (but unquantifiable) impact that occasional piles and cable runs could have upon the buried remains, which would nevertheless be largely preserved *in situ*. With standard mitigation in place in the form of placing the panels on concrete feet, the impact would be avoided, and it is therefore considered that the mitigated effects upon these remains would be *Neutral* during the construction phase. This is notwithstanding the fact there could be some impacts due to construction traffic movement, though such impacts could also occur anyway in the 'do nothing' scenario, for example due to impacts from agricultural machinery.

13.7.17 The assessment results in Table App.13.8-2 indicate that most of the identified effects upon archaeological remains are 'not significant' in EIA terms, with effects mostly ranging between *Negligible* and *Slight Adverse*. However, there is the potential for up to *Moderate* or *Large Adverse* effects to occur at a few archaeological receptors (e.g., AR13, AR25, AR26, AR44, AR64, AR68) although there is some uncertainty regarding some of these.

13.7.18 There would be impacts to earthworks at North Ingleby due to the landscape planting proposals which would have an impact upon a raised causeway visible on LiDAR which represents the course of an old road or trackway. This earthwork is within the HER polygons for both *North Ingleby DMV* (AR13) and *Manor House Park* (AR14), though it is uncertain as to which of these receptors this is best assigned to, indeed if any. The road is depicted on late 18th and early 19th century maps and may represent a post-medieval trackway, though the possibility that it could have medieval origins and therefore be associated with the DMV cannot be discounted. If this were the case, then the change would be considered of *Minor Adverse* magnitude to this receptor of *High* value, and therefore *Moderate Adverse* effects. It is proposed to further evaluate this feature with informative trenching (see Mitigation Area Ref: WB2/06 in the WSI (Appendix 13.7 **[EN010132/WB6.3.13.7]**), and this could help to provide a likely date for it, and identify any requirements for further excavation should this be required following consultation with Lincolnshire Historic Places Team.

13.7.19 At AR25 a possible enclosure of unknown date would be largely destroyed by the cable route cutting through it. However, its value is uncertain, as it could for example represent agricultural features of negligible value or a prehistoric

enclosure of *Medium* value. If the latter, then the expected impacts of *Moderate Adverse* magnitude would result in *Moderate Adverse* effects. In mitigation, it is proposed to undertake a 'strip, map and sample' excavation of this feature (see Mitigation Area Ref: WBCR/04 in the WSI (Appendix 13.7 **[EN010132/WB6.3.13.7]**),

13.7.20 Similarly, at AR26 geophysical anomalies have been interpreted as a possible ring ditch and field system, though it has not been confirmed whether these are of prehistoric origin or natural features. If the former, then these would be considered to be of *Medium* value, and the likely impacts of *Major Adverse* magnitude caused by the cable route and/or laydown area at this location would result in *Large Adverse* effects. In mitigation, it is proposed to undertake a 'strip, map and sample' excavation of this feature (see Mitigation Area Ref: WBCR/05 in the WSI (Appendix 13.7 **[EN010132/WB6.3.13.7]**),

13.7.21 At *Stow Park DMV* (AR44) most of the known extent of archaeological remains as identified from geophysical survey, air photo assessment, and evaluation trenching has been excluded from the Order Limits. However, a landscape mitigation requirement to provide screening for a property on Till Bridge Lane means that planting has been proposed across an area where air photographs and historic mapping has identified the course of the road which may represent the original medieval entrance into the forecourt to the bishop's palace. Archaeological evaluation has also produced evidence that tentatively suggests that there might have been an earlier Anglo-Saxon settlement in this vicinity that predates the bishop's palace. However, the evaluation also indicated that features identified from air photographs in this area may have been truncated by recent ploughing, therefore the magnitude of the impacts is uncertain. Should the proposed planting impact upon significant medieval remains in this area, then it is concluded that these could be of *Medium* or *High* value, and the predicted impacts that could range from *Negligible* to *Minor Adverse* magnitude would result in *Slight* or *Moderate Adverse* effects. In mitigation, it is proposed to undertake a 'strip, map and sample' excavation in the two areas where planting is proposed (see Mitigation Area Ref: WBCR/03 and WB3/04 in the WSI (Appendix 13.7 **[EN010132/WB6.3.13.7]**), and informative trenching in the area surrounding the DMV in order to further evaluate this area and inform any requirement for concrete feet for the panels to preserve any archaeological remains thus identified *in situ.*

13.7.22 At AR64 there is a possible rectilinear enclosure of unknown date identified by geophysical survey that could be largely destroyed by the cable route cutting through it. However, its value is uncertain, as it could for example represent agricultural features of negligible value or a prehistoric enclosure of *Medium value.* If the latter, then the expected impacts of *Major Adverse* magnitude would

result in *Large Adverse* effects. In mitigation, it is proposed to undertake a 'strip, map and sample' excavation of this feature (see Mitigation Area Ref: WBCR/12 in the WSI (Appendix 13.7 **[EN010132/WB6.3.13.7]**),

Historic Buildings

Listed Buildings

13.7.23 The proposed Scheme is not anticipated to result in any direct, physical impacts to Listed Buildings during the construction phase.

13.7.24 Where there is intervisibility between historical buildings and the Sites, or where views towards buildings would include elements of the Scheme in the same arc of view, the visual impacts that would occur during the operational phase of the Scheme as identified by the Heritage Statement in **Appendix 13.5 [EN010132/APP/WB6.3.13.5]** would commence with low-level impacts at the beginning of the construction phase, increasing in magnitude until construction is complete. Whilst the magnitude of the visual impact might on occasion be greater during the construction phase than the operational phase (e.g., as a result of moving plant, temporary installation of cranes etc), such impacts would be of a very short-term duration and would be reversible. As such, it is considered that the magnitude of change that would result from the construction phase of the Scheme would be, at worst, equivocal to that identified during the operational phase (as discussed in the heritage statement in **Appendix 13.5**), as detailed in Table App.13.8-3 which can be found in **Appendix 13.8**. As the visual impacts would be at their greatest in terms of magnitude and duration during the operational phase, this is the main focus of the assessment of impacts to Listed Buildings as detailed in the Heritage Statement and is discussed further below in the operational phase section. The assessment provided Table App.13.8-3 indicates that there it is predicted that there would be *Negligible Adverse* impacts at four Grade II Listed Buildings and *Minor Adverse* impacts at four Grade II Listed Buildings, in each case resulting in *Slight Adverse* effects.

13.7.25 There is, however, the potential for impacts of a *Minor Adverse* magnitude at the Grade I *Church of St Botolph, Saxilby with Ingleby* (1359490) which are considered to be *Slight Adverse* effects due to these occurring along a limited stretch of one of the long views towards the church when travelling southwards from Ingleby to Saxilby.

13.7.26 An assessment of potential construction phase impacts along the cable route corridor has concluded that there would be no effects upon the Listed Buildings within the 500m study area. At Broxholme, there would be no intervisibility between the *Church of All Saints* or *The Rectory* and the Cable Route Corridor due to the intervening built environment. Likewise, the cable route would be screened

from view from all of the Listed Buildings within the village of Marton, and views towards the cable route from the outlying Grade II windmill at Trent Port (NHLE 1064059) would also be screened by intervening vegetation. The remainder of the Listed Buildings within the 500m study area for the cable route are within the village of Sturton le Steeple where views would also be screened by the surrounding buildings and vegetation.

Non-designated Historic Buildings

13.7.27 There would be no direct physical impacts to non-designated historic buildings during the construction phase of the Scheme. As set out above, for Scheduled Monuments and Listed Buildings, impacts to the settings of these buildings would be experienced as a continuum, with low-level impacts commencing at the beginning of the construction phase, increasing in magnitude and reaching a peak at the beginning of the operational phase, reducing due to the impacts of planting for many of the heritage assets, continuing for 40 years and then gradually reducing to pre-construction levels during the decommissioning phase. The predicted construction phase-specific impacts (which also take into consideration the temporary and short term visual and noise impacts from construction traffic) are presented in Table App.13.8-4 in **Appendix 13.8 [EN010132/APP/WB6.3.13.8]**. As the visual impacts would be at their greatest in terms of magnitude and duration during the operational phase, these are addressed in greater detail in the relevant operational phase section below.

13.7.28 Even though the construction phase is assessed in this ES as being two years in length (i.e., *medium term*) in reality the visual impacts that might occur at most of the non-designated historic buildings would be likely to be very ephemeral in nature (for example limited glimpses of construction in a discrete part of a Site) and therefore these have been assessed as *short term* impacts.

13.7.29 For those effects where the *significance of effects* matrix (Table 13.7) provides two alternative scores to choose from, in these instances the lower of the two scores has been chosen, applying professional judgement, due to the temporary and short-term nature of the impacts during the construction phase.

13.7.30 In conclusion, Table App.13.8-4 in **Appendix 13.8** indicates that for non-designated buildings, construction phase effects would range from *Neutral* to *Slight Adverse*, and therefore 'not significant'.

Historic Landscape

Non-designated Historic Landscape

13.7.31 For the HLC units, the key effects would be experienced during the operational phase of the Scheme, and whilst (similarly to all of the designated assets

described above) these impacts would commence during the construction phase, forming a continuum lasting until decommissioning, the main assessment of these effects is described below as part of the operational phase assessment.

13.7.32 Notwithstanding the above, the historic landscape impacts along the cable route would be construction phase specific, and Table App.13.8-5 in **Appendix 13.8** provides an assessment of these impacts that would occur during the construction phase only. This illustrates that the impacts would all be short term and reversible, caused by change of land-use and access due to the excavation of the cable trench and laying of the cable, construction of temporary laydown areas and compounds, and/or cutting through hedgerows, some of which are historically important.

13.7.33 The impact assessment table (Table App.13.8-5) illustrates that these temporary and reversible impacts would, at worst, be of a *Negligible Adverse* magnitude and effects of up to *Slight Adverse* significance along much of the cable route. The Shared Cable Corridor would be slightly more impactful as two scenarios have required assessment, neither of which would be characterised by the relatively rapid excavation, laying of cable and backfilling envisaged for other areas along the cable route. The first scenario relates to the construction of the Scheme, Cottam Solar Project and Gate Burton Energy Park's ducts and cables at the same time, assuming an 18-month duration for this where haul roads, laydown areas, construction compounds and any fencing would remain *in situ.* The second scenario is for the three Schemes' ducts and cables to be installed sequentially over a five-year period, which would also require all of the haul roads, laydown areas, construction compounds and any fencing to remain *in situ* for this more extended period. These latter two scenarios for the Shared Cable Corridor would result in impacts of up to *Minor Adverse* magnitude, but the effects would still be at worst, of *Slight Adverse* significance, and so 'not significant' in EIA terms.

13.7.34 In conclusion, the construction phase-specific impacts to the historic landscape would result in effects that are 'not significant' in EIA terms.

Operational Phase

Archaeological Remains

Scheduled Monuments

13.7.35 The Heritage Statement (**Appendix 13.5 [EN010132/APP/WB6.3.13.5]**) provides an assessment of potential impacts to the 17 Scheduled Monuments within the 5km study area surrounding the three Scheme Sites, the key results of which are also presented in Table App.13.8-6 in **Appendix 13.8 [EN010132/APP/WB6.3.13.8]** for those receptors where potential impacts have

been identified This identified that the topographic locations of these designated heritage assets on the generally flat Trent valley floodplain (or in one instance set back from the Lincoln Cliff with no visibility of the Trent Valley beyond) coupled with the layering effect of the ubiquitous hedgerows and woodland plantations that characterise this landscape, views and vistas are generally very restricted. At 13 of the Scheduled Monuments, the assessment concluded that it was unlikely that any visibility of the Scheme would be possible. Step 1 of the assessment identified that there would be likely to be visual impacts at four of the Scheduled Monuments.

13.7.36 At *Deserted village of North Ingleby* (1003570) the immediate setting of the Scheduled Monument which contains the extensive and prominent earthworks associated with the DMV at North Ingleby and the unscheduled remains adjacent to the south associated with South Ingleby would not be affected by the Scheme. However, there would be impacts upon the wider rural setting of these earthworks due to the industrialising effect of the visibility of the panels during the initial part of the operational phase. This would be most pronounced in views south-west from the Scheduled Monument across Field N9 and in the views across the South Ingleby earthworks on the approach to the south along Sturton Road. In terms of the DMRB assessment criteria, this can be characterised as '*Slight changes to significance (or the ability to appreciate it) due to changes to setting*', and therefore impacts of a *Minor Adverse* magnitude. For a Scheduled Monument of *High* value, this would result in effects of either *Slight Adverse* or *Moderate Adverse* significance in terms of the scoring methodology adopted by the ES. Taking into consideration that the that if tracked panels are used, when at full tilt these would relatively prominently visible in views westwards from the Scheduled Monument and in glimpses to the south-east, the higher *Moderate Adverse* score would be more appropriate for the unmitigated Scheme.

13.7.37 At *Roman villa W of Scampton Cliff Farm* (1005041) the assessment identified that there would be extensive views from this location across the Trent valley, and all of the West Burton Sites could potentially be visible in this view. These sites would be visible within a relatively wide arc of view extending for *c.*40°, but at between *c.*3.5km and up to *c.*11.5km distant it is considered that this would only be experienced as a very low-level industrialising effect upon the rural character of the distant historic landscape. In terms of the DMRB assessment criteria, this can be characterised as '*Very minor changes to elements, or to significance (or the ability to appreciate it) due to changes to setting,* and therefore impacts of a *Negligible* magnitude. For a Scheduled Monument of *High* value, this would result in effects of *Slight Adverse* significance.

13.7.38 For the *Broxholme medieval settlement and cultivation remains* (1016797) Scheduled Monument that abuts the western edge of the West Burton 1 Site, the assessment identified that views of the panels would be visible in the same arc of view as the last remaining tofts of the medieval settlement, which would have an industrialising effect upon a key part of its setting. This can be characterised as '*Slight changes to significance (or the ability to appreciate it) due to changes to setting*', and therefore impacts of a *Minor Adverse* magnitude. For a Scheduled Monument of *High* value, this would result in effects of either *Slight Adverse* or *Moderate Adverse* significance in terms of the scoring methodology adopted by the ES. As the arc of view that would frame the industrialising effect of the Scheme would also contain the key view of the medieval tofts, it is considered that this effect should be scored as a *Moderate Adverse* effect, and therefore a 'significant' effect in terms of the EIA assessment.

13.7.39 For *The medieval bishop's palace and deer park, Stow Park* (1019229) it is concluded that the visual impacts to this Scheduled Monument that would result from the scheme can be characterised as '*Comprehensive changes to significance (or the ability to appreciate it) due to changes to setting*' and therefore impacts of a *Major Adverse* magnitude. For a Scheduled Monument of *High* value this would result in effects of either *Large* or *Very Large Adverse* significance in terms of the scoring methodology adopted by the ES. The Heritage Statement concludes that if fixed panels with a height of *c.*2m are used rather than the tracker panels which have a maximum height of *c.*4.5m, then then the lower, *Large Adverse* score would be appropriate.

13.7.40 In terms of overall harm to the significance of the Scheduled Monument, there will be no physical impacts to the extant landscape remains (specifically those of the bishop's palace and the south-west and south-east park pales). The existing modern landscape features (i.e., hedgerows, field boundaries, woodland, tracks and roads etc) would also remain *in situ*. In this way, the legibility, as interpreted from historical maps and other documentary sources, will still remain unaffected in terms of the contribution to the understanding of the Scheduled Monument's historical and functional association in consideration of setting. The temporary nature of the development should therefore be taken into consideration in the balance, as any harmful effects will be reversed to its present, do nothing, condition following the removal of the panels, when there will be no residual harmful effects to the setting.

13.7.41 The archaeological interest vested in the below ground remains of the bishop's palace contributes in the large part to the significance of the Scheduled Monument. These remains will not be directly impacted by the Scheme.

13.7.42 Based on the above, the Heritage Statement concludes that with the use of the shorter fixed panels and the reversibility to the current baseline, the overall harm to the Scheduled Monument will be less than substantial harm (at the upper end). The Planning Statement **[EN010132/APP/WB7.5]** discusses in further detail how this level of harm can be seen to be outweighed by the public benefits of the Scheme.

Non-designated Archaeological Remains

13.7.43 Impacts to on-site archaeological remains during the operational phase of the Scheme are detailed in Table App.13.8-7 in **Appendix 13.8 [EN010132/APP/WB6.3.13.8]**. Essentially, the impacts to buried archaeological features during the operational phase would be of a largely beneficial nature, due to these remains being taken out of the agricultural cycle of regular ploughing which most of the field parcels within the Order Limits are currently subject to. Whilst the magnitude of this impact is difficult to define, it has been scored on the basis that this could range from *Negligible Beneficial,* for example in those instances where the upper fill of a deep ditch would be preserved by the Scheme when it would otherwise have been truncated by ploughing, to *Major Beneficial,* for example where shallowly buried features would be preserved *in situ* when they might otherwise be totally destroyed by ploughing over the 40 year operational phase of the Scheme.

13.7.44 Table App 13.8-7 identifies that the likely beneficial impacts set out above would occur at 24 of the archaeological areas assessed, but it is difficult to define the magnitude of these impacts and the significance of the effects with any certainty as it is unknowable as to how much truncation to archaeological remains would be caused by the next 40 years of ploughing in the 'do nothing' scenario. With this caveat in place, it is considered that these impacts could be anywhere within the range of a *Negligible Beneficial* to *Major Beneficial* magnitude. Taking into account these uncertainties, the assessment has identified that 'significant' beneficial effects could *potentially* occur at 22 of the archaeological areas within the Order Limits (i.e., those scored as potentially having *Neutral* or *Slight* to *Moderate Beneficial* or *Neutral* or *Slight* to *Large Beneficial* effects).

Historic Buildings

Listed Buildings

13.7.45 The Heritage Statement (**Appendix 13.5 [EN010132/APP/WB6.3.13.5]**) provides an assessment of potential impacts to the 25 Grade I and II* Listed Buildings within the 5km study area surrounding the three Scheme Sites, and the 54 Grade II Listed Buildings within the 2km study area. The Heritage Statement concluded in Step 1 of the assessment that the majority of these buildings would not be

affected by the Scheme, and only nine Listed Buildings were identified as requiring further, more detailed assessment in Steps 2-4 of the assessment, the results of which are presented in Table App.13.8-8 in **Appendix 13.8 [EN010132/APP/WB6.3.13.8]**.

13.7.46 The assessment concluded that during the operational phase of the Scheme, there would be impacts of a *Negligible Adverse* magnitude at five of the Grade II Listed Buildings, two of which were scored as effects of *Neutral* significance, whilst three were scored as *Slight Adverse.* In addition to this, it was concluded that there would be impacts of *Minor Adverse* magnitude at four Grade II Listed Buildings and one Grade II* Listed Building, all of which would result in effects of *Slight Adverse* significance, as discussed in the Heritage Statement in **Appendix 13.5**, and detailed in Table App. 13.8-8 in **Appendix 13.8**.

Non-designated Historic Buildings

13.7.47 For impacts upon non-designated historic buildings during the operational phase, these were assessed on the basis that where panels are proposed in fields immediately adjacent to, and/or surrounding a historic building, and these would be prominently visible and result in comprehensive changes to the rural/agricultural setting, this would be considered to result in an impact of *Major Adverse* magnitude. For buildings of *Negligible* value, the significance of effects matrix indicates that this should be scored as a *Slight Adverse* effect. For buildings of *Low* value, whether this was scored as a *Moderate* rather than *Slight Adverse* effect has been based upon professional judgement, taking into account the positioning of the panels with regards to any key views from or towards the buildings.

13.7.48 Table App.13.8-9 illustrates that for most of the non-designated historic buildings assessed, the effects would be either *Neutral* or *Slight Adverse* effects, i.e., 'not significant', but at *Greenfields Farm, Stow* (HB11), and *Poplar Farm, Marton* (HB17) it is concluded that the *Major Adverse* impacts could result in 'significant' *Moderate Adverse* effects in the absence of additional mitigation.

Historic Landscape

The non-designated Historic Landscape

13.7.49 Impacts to the on-site HLC units during the operational phase of the Scheme are detailed in Table App.13.8-10 in **Appendix 13.8 [EN010132/APP/WB6.3.13.8]**. The magnitude of change scores for HLC units have been assessed using professional judgement, on the basis that where less than 20% of the HLC unit would be affected by the installation of solar panels and/or other infrastructure associated with the Scheme then this would be an impact of *Negligible Adverse*

magnitude. Where 20% - 50% of the HLC unit would be affected, this would be considered to be a *Minor Adverse* impact, and where 50% - 80% would be affected this would be considered to be a *Moderate Adverse* impact. For those instances when 80% or more of the unit would be affected, this would be an impact of *Major Adverse* magnitude.

13.7.50 For those instances where the *significance of effects* matrix (Table 13.7) provides two alternative scores to choose from, professional judgement has been used, but in general the lower score has been chosen, because apart from the occasional gapping through hedgerows that the Scheme would necessitate, the Scheme would largely preserve the historic landscape parcels and associated elements intact, and the visual impacts and change in land-use, though long term, would ultimately be reversible.

13.7.51 Table App. 13.8-10 illustrates that no 'significant' effects are identified within the West Burton 1 Site, as all effects are scored at either *Neutral* or *Slight Adverse.* However, at West Burton 2 Site there would be 'significant' effects at one HLC unit located between the settlements of Ingleby and Saxilby (HLI21266), due to the impacts of a *Moderate Adverse* magnitude within *Parliamentary Planned Enclosure* of *Medium* value, resulting in *Moderate Adverse* effects.

13.7.52 At the West Burton 3 Site, the assessment concluded that there would be 'significant' effects at three HLC units within the former deer park at Stow Park. At HLI20787, the impacts of *Major Adverse* magnitude at this HLC unit of *Low* value was scored as *Moderate* rather than *Slight Adverse* due to the legibility of the deer park evident here due to the presence of the western park pale and West Lawn. Similarly, HLI20791 was scored as *Moderate* rather than *Slight Adverse* due to the legibility of the likely course of the western deer park pale and site of the bishop's palace which both are boundary features for this HLC unit.

13.7.53 In addition to the above, there would be effects of *Moderate Adverse* significance at HLI20860 due to the impacts of *Moderate Adverse* magnitude at this *Parliamentary Planned Enclosure* HLC unit of *Medium* value.

Decommissioning Phase

13.7.54 As set out in Chapter 4 of the ES (paragraph 4.8.1) **[EN010132/APP/WB6.2.4]**, decommissioning is expected to take between 12 and 24 months and will be undertaken in phases, and for the purposes of the assessment is expected to occur no earlier than 40 years after the commencement of operation of the Scheme. A Decommissioning Environmental Management Plan will be prepared prior to decommissioning and will be secured through the Decommissioning Strategy which is secured by a Requirement in the draft DCO **[EN010132/APP/WB3.1].**

Archaeological Remains

Scheduled Monuments

13.7.55 The decommissioning phase would require plant movement and other activities similar to those employed during the construction phase, which could have an adverse impact upon the settings of nearby Scheduled Monuments. It is likely that, as with construction, there is the potential for there to be *Slight Adverse* effects at five Scheduled Monuments, and up to *Moderate Adverse* effects at one Scheduled Monument (*The medieval bishop's palace and deer park, Stow Park* (NHLE 1019229). However, these impacts are no greater than during the operational phase, and would be temporary, medium term and reversible in nature, and would ultimately result in the reversal of the operational phase impacts leading to *Neutral* effects at the end of the decommissioning phase. It should be noted that at all but *The medieval bishop's palace and deer park, Stow Park,* the fully mature landscape mitigation planting would be likely to greatly reduce or wholly screen decommissioning activities from the Scheduled Monuments.

Non-designated Archaeological Remains

13.7.56 As set out in Chapter 4 of the ES (paragraph 4.8.3) **[EN010132/APP/WB6.3.4]**, there is a high degree of uncertainty regarding decommissioning as engineering approaches and technologies are likely to change over the operational life of the Scheme. There is the potential for impacts to archaeological remains as a result of any proposed groundworks and/or plant movement during decommissioning, and it is envisaged that detailed mitigation strategies to avoid or minimise any such impacts to the archaeological resource will be included in the Decommissioning Environmental Management Plan that will be required prior to decommissioning. Consequently, it is concluded that this would ensure that any decommissioning effects would not be 'significant'.

Historic Buildings

Listed Buildings

13.7.57 Similarly to Scheduled Monuments, plant movement and other activities during decommissioning similar to those employed during the construction phase could have an adverse impact upon the settings of nearby Listed Buildings. However, it is considered that these impacts would be of no greater magnitude than the operational impacts that would already be occurring, and the decommissioning impacts would be temporary, medium term and reversible in nature, and would ultimately result in the reversal of the operational phase impacts leading to *Neutral* effects at the end of the decommissioning phase. In addition, the

landscape mitigation planting would be at full maturity during decommissioning, and this would greatly reduce or wholly screen decommissioning activities from the Listed Buildings. Consequently, it can be concluded that the likely decommissioning effects would not be 'significant'.

Non-designated Historic Buildings

13.7.58 As for the Listed Buildings assessed above, decommissioning impacts to the settings of non-designated historic buildings would be of no greater magnitude than the operational impacts that would already be occurring, and the decommissioning impacts would be temporary, short term and reversible in nature, and would ultimately result in the reversal of the operational phase impacts leading to *Neutral* effects at the end of the decommissioning phase. Consequently, it can be concluded that the likely decommissioning effects would not be 'significant'.

Historic Landscape

13.7.59 Similarly to archaeological remains, there is the potential for impacts to historic landscape units, parcels and elements as a result of any proposed groundworks and/or plant movement during decommissioning of the Scheme, but it is envisaged that detailed mitigation strategies to avoid or minimise any such impacts to the historic landscape will be included in the Decommissioning Environmental Management Plan that will be required prior to decommissioning, and that this would ensure that any decommissioning effects would not be 'significant'.

13.8 Mitigation Measures

Archaeological Remains

13.8.1 Full details of the proposed mitigation strategies (including those areas where the 'embedded mitigation' described in section 13.6 above is proposed) are provided in the Written Scheme of Investigation (WSI) which is provided in **Appendix 13.7 [EN010132/APP/WB6.3.13.7].**

13.8.2 Table 13.31 below provides descriptions of the additional mitigation strategies that are proposed in this ES along with codes that have been used in the Impact Assessment Tables included in **Appendix 13.8 [EN010132/APP/WB6.3.13.8].** Code 'AA' refers to those putative archaeological assets where no 'embedded' or 'further' mitigation has been proposed due to the impacts being of a negligible magnitude, and codes 'DD', 'EE', and 'GG' refer to the further mitigation proposals that would occur in advance of, and during construction, should the Scheme be permitted, as detailed in the WSI. Code 'HH' refers to the proposed re-instatement of any earthworks that are disturbed during construction, as would occur where

the cable route and any associated haul road would cut through the historic flood defences at AR57. Code 'KK' refers to the landscape mitigation proposals which would help to mitigate impacts to the settings of heritage assets, as discussed further below.

Table 13.31: Additional mitigation codes used in the impact assessment tables in Appendix 13.8

Mitigation code	Description of additional mitigation proposals
AA	None proposed due to impact being of a negligible magnitude
DD	Strip, Map and Sample (SMS) excavation and 'preservation by record'
EE	Watching Brief scalable to SMS excavation and 'preservation by record'
GG	Informative trenching followed by BB or CC if appropriate
HH	Re-instatement of earthworks following construction
KK	Landscape mitigation proposals (e.g., planting of shelter belts and scattered trees, planting of new hedgerows, existing hedgerow reinforcement) which should reach maturity by Year 15

13.8.3 The impact assessment table for non-designated archaeological remains (Table App.13.8-2 (**Appendix 13.8 [EN010132/APP/WB6.3.13.8])** is concordant with the mitigation area codes that are used in the WSI (**Appendix 13.7 [EN010132/APP/WB6.3.13.7])**, and in the final column provides an indication of the 'significance of effects' of the Scheme without mitigation in place, and below this an indication of the predicted 'significance of effects' assuming the proposed mitigation has been implemented.

13.8.4 It should be noted that for buried archaeological remains where embedded mitigation is not proposed, and 'preservation by record' is proposed instead, whether by means of Strip, Map and Sample excavation ('DD'), Watching Brief ('EE'), or Open Area Excavation ('FF'), then the ultimate impact upon the archaeological resource would remain the same. This is because the archaeological remains would still be destroyed or truncated through excavation, but the 'preservation by record' can be seen to be 'off-setting' the impacts by recovering artefacts and providing a greater understanding and appreciation of the *evidential value* inherent in archaeological remains.

Designated Heritage Assets and Non-designated Buildings

13.8.5 The only potential direct physical impact to a designated heritage asset is the potential for damage to the *No 21 and Attached Barn To Rear* Grade II Listed Building (NHLE1146594) during construction. This is due to the fact that HGVs delivering abnormal loads will need to mount the pavement adjacent to the Listed Building. However, it has been confirmed by Wynns that the transport of abnormal loads will be a closely managed process travelling at crawl speed and monitored by the police, and therefore the likelihood of this impact occurring is negligible.For impacts to the settings of designated heritage assets and non-designated historic buildings, the landscape mitigation proposals discussed in the LVIA chapter (section 8.8) would provide screening (by Year 15) for some of these assets, and this would help to reduce the visual impact of the solar panels and other Site infrastructure. These proposals are referred to in the Impact Assessment Tables in **Appendix 13.8** by the mitigation code 'KK'.

13.8.6 At the *Roman villa west of Scampton Cliff Farm* (NHLE 1005041) Scheduled Monument, the assessment concluded that, in the absence of mitigation, the construction and operational phases would result in effects of *Slight Adverse* significance. It is concluded that whilst the landscape proposals, once matured by Year 15, would reduce the visual impact from this designated heritage asset, the Scheme would still be likely to be visible from this elevated position and therefore this score would remain unchanged.

13.8.7 For *the medieval bishop's palace and deer park, Stow Park* (NHLE 1019229) it is considered that the landscape mitigation proposals would not mitigate the impacts to the setting of the Scheduled Monument due to the proposed layout of panels being in close proximity to the scheduled areas, and therefore the effects would remain as *Large Adverse.*

13.8.8 It is considered that the *Slight Adverse* effects predicted at the following Scheduled Monuments, Listed Buildings, and non-designated historic buildings would be reduced to *Neutral* once the landscape proposal have matured (i.e., by Year 15) by virtue of the placement of the proposed screening proposals:

- Deserted village of North Ingleby (1003570)
- Broxholme medieval settlement and cultivation remains (1016797)
- Medieval settlement and open field system immediately south east of Low Farm (NHLE 1017741)
- Church of St Botolph, Saxilby with Ingleby (1359490)
- Subscription Mill (1064067)
- Manor Farmhouse, Brampton (1064084)

- Cornhill Farmhouse, Broxholme (1064096)
- Boontown Cottage, Broxholme (1147027)
- Farm Buildings at Manor Farm, Broxholme (1147032)
- Manor Farm House, Broxholme (1359464)
- HB11: Greenfields Farm, Stow
- HB12: White House, Stow
- HB15: Manor Moor Farm
- HB16: Marton Grange
- HB18: Brampton Grange, Brampton
- HB19: Bellwood Grange Farm, Brampton

Historic Landscape

13.8.9 For the non-designated historic landscape, it is considered that the new planting and reinforcement of existing vegetation would have an overall beneficial effect by reinforcing the historic landscape character, but it is considered that the assessment scores for individual HLC units would remain unchanged.

13.9 In-Combination Effects

13.9.1 It is considered that during the construction phase and decommissioning phase, in-combination effects could be experienced at all receptors where there would be both a visual and a noise and or dust impacts due to construction traffic.

13.9.2 During the operational phase, there would be an in-combination visual effect upon the setting of the Roman villa west of Scampton Cliff Farm (NHLE 1005041) where views from the Lincoln Cliff contribute to its significance.

13.9.3 The views from this Scheduled Monument would be likely to include all of the Sites, but Cumulative Sites have already been assessed as part of the Heritage Statement **(Appendix 13.5 [EN010132/APP/WB6.3.13.5]).**

13.9.4 A review of the other assessments within this ES indicates that there will be few significant in-combination effects with archaeology/heritage, and that the landscape planting and ecological mitigation will generally result in beneficial effects upon the historic environment.

13.9.5 There would be beneficial effects at the operation (Year 15) stage due to the landscape mitigation to the overall character of the designated heritage assets since the new planting would assist with framing and softening within the landscape. The embedded ecological mitigation would result in a large-scale

reversion of arable to permanent grassland, as well as the adoption of generous ecological buffer zones, which will remove areas from arable cultivation and remove the threat to buried archaeological remains from deep ploughing. It is considered, therefore that the ecological mitigation strategy (as secured in the LEMP) would have a positive effect on the preservation conditions of buried archaeological remains.

13.9.6 However, at three heritage receptors (AR03 – Broxholme SMV buried archaeological remains, AR13 – North Ingleby DMV and AR44 – Stow DMV) the planting proposals would have an adverse impact upon buried archaeological remains or earthworks, and these impacts will require archaeological mitigation in the form of 'strip, map and sample' excavation.. At AR03 the effects are predicted to be of *Slight Adverse* significance, and therefore 'not significant'. However, at AR13, should the earthworks affected relate to the DMV rather than later, post-medieval activity, then this effect could be *Moderate Adverse* and therefore 'significant'. Similarly at AR44 the impacts are uncertain but if significant medieval remains were affected then this could result in a *Moderate Adverse* and therefore 'significant' effect.

13.10 Cumulative Effects

13.10.1 For cumulative impacts, Chapter 2 of this ES has identified the following NSIPs in close proximity to the Scheme:

a) Cottam Solar Project (this application was received by the Planning Inspectorate on 12th January 2023, and accepted for examination on 9th February 2023. The Cottam Solar Project is working broadly to the same timescales as the Scheme);
b) Gate Burton Energy Park (EIA scoping opinion issued December 2021 and Statutory Consultation Summer 2022. The application was received by the Planning Inspectorate on 27th January 2023 and accepted for examination on 22nd February 2023);
c) Tillbridge Solar (EIA Scoping opinion issued by PINS November 2022).

13.10.2 It can be stated at the outset that in general terms, there will be cumulative effects from each of these schemes upon the overall archaeological resource in the local area, as it is likely that each will adversely impact upon buried archaeological remains within each of the different schemes' Order Limits to some degree, even when taking into account embedded and additional mitigation.

13.10.3 For the settings of heritage assets, it is considered that the zone of influence (ZOI) is very much constrained for those assets located within the lowlands of the Trent valley, as confirmed by the ZTVs for these assets produced as part of the Heritage

Statement (**Appendix 13.5 [EN010132/APP/WB6.3.13.5]**). The only 'significant' effects identified (once mitigation is in place) due to impacts to the setting of a designated heritage asset are at *The medieval bishop's palace and deer park, Stow Park* (NHLE 1019229). There would be no significant cumulative effects from any of the other NSIPs at this heritage receptor.

13.10.4 *Slight Adverse* effects (i.e., effects that are 'not significant') have been identified at the following Scheduled Monuments for the mitigated Scheme:

- *Deserted village of North Ingleby* (1003570)
- *Roman villa west of Scampton Cliff Farm* (NHLE 1005041)
- *Broxholme medieval settlement and cultivation remains* (1016797)
- *Medieval settlement and open field system immediately south east of Low Farm* (NHLE 1017741)

13.10.5 *Slight Adverse* effects (i.e., effects that are 'not significant') have also been identified at the following Listed Buildings for the Scheme:

- *Subscription Mill* (NHLE 1064067)
- *Church of All Saints, Broxholme* (NHLE 1064095)

13.10.6 It is considered that there could only be cumulative effects at the heritage asset identified above (in Paragraph 13.9.2) where views from the Lincoln Cliff contribute to the significance of the asset:

- Roman villa west of Scampton Cliff Farm (NHLE 1005041)

13.10.7 This is due to the fact that the other NSIPs in the vicinity of the Scheme would also be likely to be visible from this elevated viewpoint along the Lincoln Cliff, but not from those situated in the Trent Valley. Should all of the NSIPs identified in paragraph 13.10.1 above be consented and constructed, then the *Slight Adverse* effects identified at those heritage assets located on the Lincoln Cliff with extensive views across the Trent valley would increase in magnitude as a result of the cumulative effects, in which would result in *Moderate Adverse* effects (i.e., 'significant' effects).

13.11 Residual Effects

13.11.1 The residual effects that would remain as a result of the Scheme assuming that all 'embedded' and 'additional' mitigation has been implemented are set out in Tables 13.32 – 13.34 below:

Table 13.32: Residual effects following mitigation: Construction Phase

Heritage Receptor	Residual Effects
Scheduled Monuments	
Deserted village of North Ingleby (1003570)	Slight Adverse
Roman villa west of Scampton Cliff Farm (NHLE 1005041)	Slight Adverse
Broxholme medieval settlement and cultivation remains (1016797)	Slight Adverse
Medieval settlement and open field system immediately southeast of Low Farm (NHLE 1017741)	Slight Adverse
The medieval bishop's palace and deer park, Stow Park (1019229)	Moderate Adverse
Non-Designated Archaeological Remains	
AR03 (Broxholme SMV (buried features))	Slight Adverse
AR08 (Uncertain ditch)	Slight Adverse
AR13 (North Ingleby DMV)	Slight or Moderate Adverse
AR14 (Manor House Park, Broxholme)	Slight Adverse
AR25 (Undated enclosure)	Neutral or Moderate Adverse
AR25 (Undated enclosure)	Neutral or Moderate Adverse
AR26 (Possible ring ditch and field systems)	Neutral to Large Adverse
AR32 (Possible undated field system)	Neutral or Slight Adverse
AR34 (Stow med. deer park)	Slight Adverse
AR44 (Stow Park Deserted Med. Settlement)	Slight or Moderate Adverse
AR53 (Cropmarks of a possible Roman trackway)	Neutral or Slight Adverse
AR54 (Undated ditches)	Neutral to Slight Adverse
AR58 (Torksey Viking camp)	Neutral or Slight Adverse
AR61 (IA/RB trackway and field boundary)	Neutral or Slight Adverse
AR62 (Cropmarks at North Leverton)	Neutral or Slight Adverse
AR63 (Cropmarks of a med. or post-med. trackway)	Neutral or Slight Adverse

Heritage Receptor	Residual Effects
AR64 (Rectilinear enclosure)	Slight to Large Adverse
AR65 (Cropmarks at North Leverton)	Neutral or Slight Adverse
AR67 (Cropmarks of possible IA/RB ditches)	Neutral or Slight Adverse
AR68 (Anomalies indicative of IA/RB to med. period settlement)	Slight to Large Adverse
AR69 (med. or post-med. enclosure and fishponds)	Neutral or Slight Adverse
Listed Buildings	
Church of St Botolph, Saxilby with Ingleby (1359490)	Slight Adverse
Manor Farmhouse, Brampton (1064084)	Slight Adverse
Church of All Saints, Broxholme (1064095)	Slight Adverse
Boontown Cottage, Broxholme (1147027)	Slight Adverse
Old Rectory, Broxholme (1147028)	Slight Adverse
Farm Buildings at Manor Farm, Broxholme (1147032)	Slight Adverse
Manor Farm House, Broxholme (1359464)	Slight Adverse
Non-Designated Historic Buildings	
HB02: Ingleby Grange, Ingleby	Slight Adverse
HB06: Saxilby Sykes, Ingleby	Slight Adverse
HB08: High Wood Farm, Torksey	Slight Adverse
HB09: Stow Park, Stow	Slight Adverse
HB11: Greenfields Farm, Stow	Slight Adverse
HB12: White House, Stow	Slight Adverse
HB13: Moat Farm, Stow	Slight Adverse
HB16: Marton Grange	Slight Adverse
HB17: Poplar Farm (Rectory Farm), Marton	Slight Adverse
HB18: Brampton Grange, Brampton	Slight Adverse
HB19: Bellwood Grange Farm, Brampton	Slight Adverse
Historic Landscape	

Heritage Receptor	Residual Effects
HLI21266 - Parliamentary Planned Enclosure	Slight Adverse
HLI21244 - Modern Fields	Slight Adverse
HLI21240 - Modern Fields	Slight Adverse
HLI20794 - Modern Fields	Slight Adverse
HLI20788 - Modern Fields	Slight Adverse
HLI20789 - Modern Fields	Slight Adverse
HLI 20789- Modern Fields	Slight Adverse
HLI20867- Modern Fields	Slight Adverse
HLI20787- Modern Fields	Slight Adverse
HLI20955- Modern Fields	Slight Adverse
HLI20954- Modern Fields	Slight Adverse
HLI20849- Modern Fields	Slight Adverse
HLI20860 -Parliamentary Planned Enclosure/Medium	Slight Adverse
HLI20848 - Modern Fields	Option 2: Slight Adverse
HLI20859 - Parliamentary Planned Enclosure	Option 2: Slight Adverse
HLI20861 - Modern Fields	Option 2: Slight Adverse
HLI20951 - Modern Fields	Option 2: Slight Adverse
HLI20892 - Parliamentary Planned Enclosure/Medium	Option 2: Slight Adverse
NHLC1 - Regularly Laid Out Large Geometric Field Patterns	Option 2: Slight Adverse
NHLC4 - Modern Modified Field Patterns	Slight Adverse
REFLOF - Field Patterns Reflective of Open Fields	Both Options: Slight Adverse
SEMIREG - Semi-Regular Field Patterns	Both Options: Slight Adverse
DESTROY - Modern Modified Field Patterns	Option 2: Slight Adverse

Table 13.33: Residual effects following mitigation: Operational Phase

Heritage Receptor	Residual Effects
Scheduled Monuments	
Roman villa west of Scampton Cliff Farm (NHLE 1005041)	Slight Adverse
The medieval bishop's palace and deer park, Stow Park (1019229)	Large Adverse
Non-Designated Archaeological Remains	
AR1 (Uncertain ditches and pits)	Neutral to Moderate Beneficial
AR3 (Broxholme SMV (buried features))	Neutral to Slight Beneficial
AR8 (Uncertain ditch)	Neutral to Moderate Beneficial
AR11 (Windmill mound (site of))	Neutral to Moderate Beneficial
AR14 (Manor House Park, Broxholme)	Neutral to Slight Beneficial
AR17 (Ingleby Wood Farm (site of))	Neutral to Moderate Beneficial
AR18 (Uncertain linear anomalies)	Neutral to Moderate Beneficial
AR19 (Uncertain circular anomaly)	Neutral to Moderate Beneficial
AR20 (Possible IA features and finds)	Neutral to Moderate Beneficial
AR22 (Undated (RB?) enclosure)	Neutral to Large Beneficial
AR23 (Unnamed farmstead (site of))	Neutral
AR24 (IA/RB enclosure)	Neutral to Large Beneficial
AR29 (Stow Park Cottage (site of))	Neutral to Moderate Beneficial
AR30 (Brick kilns (site of))	Neutral to Moderate Beneficial
AR34 (Stow med. deer park)	Neutral to Large Beneficial
AR44 (Stow Park Deserted Med. Settlement)	Neutral to Large Beneficial
AR46 (Possible undated enclosure)	Neutral to Large Beneficial
AR47 (Possible undated ditch)	Neutral to Large Beneficial
AR48 (Uncertain linear and curvilinear anomalies)	Neutral to Large Beneficial
AR49 (RB settlement enclosures)	Neutral to Large Beneficial
AR50 (Med. ridge and furrow)	Neutral to Moderate Beneficial
AR51 (RB settlement enclosures)	Neutral to Large Beneficial

Heritage Receptor	Residual Effects
AR52 (Possible prehistoric ditch)	Neutral to Large Beneficial
AR53 (Cropmarks of a possible Roman trackway)	Neutral
AR54 (Undated ditches)	Neutral to Large Beneficial
AR55 (RB roadside settlement and possible industrial site)	Neutral to Large Beneficial
Listed Buildings	
Church of All Saints, Broxholme (1064095)	Slight Adverse
Non-Designated Historic Buildings	
HB02: Ingleby Grange, Ingleby	Slight Adverse
HB06: Saxilby Sykes, Ingleby	Slight Adverse
HB09: Stow Park, Stow	Slight Adverse
HB10: Axlewood Farm, Stow	Slight Adverse
HB13: Moat Farm, Stow	Slight Adverse
HB17: Poplar Farm (Rectory Farm), Marton	Slight Adverse
Non-Designated Historic Landscape	
HLI100590 – Modern Fields	Slight Adverse
HLI100591 – Modern Fields	Slight Adverse
HLI100592– Modern Fields	Slight Adverse
HLI21244 – Modern Fields	Slight Adverse
HLI21245 – Modern Fields	Slight Adverse
HLI21258 – Modern Fields	Slight Adverse
HLI21266 – Parliamentary Planned Enclosure	Moderate Adverse
HLI21269 – Parliamentary Planned Enclosure	Slight Adverse
HLI21339 – Modern Fields	Slight Adverse
HLI20787 – Modern Fields	Moderate Adverse
HLI20789 – Modern Fields	Negligible Adverse
HLI20791 – Ancient Enclosure	Moderate Adverse

Heritage Receptor	Residual Effects
HLI20849 – Modern Fields	Slight Adverse
HLI20860 – Parliamentary Planned Enclosure	Moderate Adverse
HLI20953 – Modern Fields	Slight Adverse
HLI20954 – Modern Fields	Slight Adverse
HLI20955 – Modern Fields	Slight Adverse
HLI20956 – Modern Fields	Slight Adverse
HLI20957 – Modern Fields	Slight Adverse

13.11.2 As set out in Chapter 4 of the ES (paragraph 4.8.3) **[EN010132/APP/WB6.2.4]** and paragraph 13.7.43 above, there is a high degree of uncertainty regarding decommissioning at this stage of the Scheme, as engineering approaches and technologies are likely to change over its operational life. Consequently, it is not possible to state with any degree of certainty what residual effects might occur with regard to impacts to buried archaeological remains, although it is to be assumed that the Decommissioning Environmental Management Plan that will be prepared prior to decommissioning and will be secured through the Decommissioning Strategy which is secured by a Requirement in the draft DCO would seek to avoid or minimise such impacts.

13.11.3 For the impacts to the settings of heritage assets, the assessment has identified that the residual effects could be of up to a similar magnitude as during the construction phase, albeit mitigated for a number of assets by the screening effects of the landscape proposals which would become effective by Year 15 of the operational phase.

Table 13.34: Residual effects following mitigation: Decommissioning Phase

Heritage Receptor	Residual Effects
Scheduled Monuments	
Roman villa west of Scampton Cliff Farm (NHLE 1005041)	Slight Adverse
The medieval bishop's palace and deer park, Stow Park (1019229)	Moderate Adverse
Non-Designated Historic Buildings	

Heritage Receptor	Residual Effects
HB02: Ingleby Grange, Ingleby	Slight Adverse
HB06: Saxilby Sykes, Ingleby	Slight Adverse
HB09: Stow Park, Stow	Slight Adverse
HB10: Axlewood Farm, Stow	Slight Adverse
HB13: Moat Farm, Stow	Slight Adverse
HB17: Poplar Farm (Rectory Farm), Marton	Slight Adverse