

Cottam Solar Project

Preliminary Environmental Information Report: Chapter 8: Landscape and Visual Impact

Prepared by: Lanpro
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Issue Sheet

Report Prepared for: Cottam Solar Project Ltd.

Preliminary Environmental Information Report: Chapter 8: Landscape and Visual Impact

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8 Landscape and Visual Impact

8.1 Introduction

8.1.1 This chapter of the PEIR describes the existing environment in relation to the landscape and visual resource and the assessment work that has been undertaken to date. The main objective is to provide as much relevant information about the Scheme and highlight the key and significant likely environmental effects anticipated sufficient to allow the consultation bodies to provide an informed view on the proposals. The Scheme and Sites are described in **Chapters 3** and **4** of the PEIR. Proposed mitigation measures are set out, and a discussion of the residual impacts is provided where significant impacts are identified.

8.1.2 The Landscape and Visual Impact Assessment (LVIA) chapter is supported by the following appendices and figures:

- **Appendix 8.1** LVIA Methodology
- **Appendix 8.2** Landscape Character Tables
- **Appendix 8.3** Viewpoint Analysis Tables
- **Appendix 8.4** Consultation
- **Appendix 8.5** Figures
 - Figure 8.1 Site Location and Study Area
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- Figure 8.14 Cottam Viewpoint Verified Photography
- Figure 8.15 Cottam Cumulative Developments
- Figure 8.16 Cottam Strategic Landscape Mitigation Measures

8.1.3 The Landscape and Visual Impact Assessment (LVIA) chapter is supported by the following tables:

- Table 8.1 Compliance with Planning Policy
- Table 8.2 Consultation and Responses Timeline
- Table 8.3 Current Cumulative Developments
- Table 8.4 Key Information Sources
- Table 8.5 Landscape Character Types & Areas
- Table 8.6 Potential Cumulative Developments
- Table 8.7 Summary Matters

8.1.4 This chapter was prepared by Wendy Wright Associate Director and Chartered Landscape Architect of Lanpro Services Ltd, Landscape Architecture. The LVIA Methodology is based on recognized national guidelines and is outlined in the following sections. A full methodology is included in **Appendix 8.1**.

8.2 Planning Policy Context and Guidance

8.2.1 For Nationally Significant Infrastructure Projects (NSIP), a Landscape and Visual Impact Assessment (LVIA) is required to be undertaken as part of an Environmental Impact Assessment. As part of the decision-making process for solar NSIPs, the Secretary of State must have regard to important and relevant matters, including the relevant National Planning Statement (NPS) and applicants should therefore ensure that their applications, and any accompanying planning documents demonstrate that the scheme in question is compliant with the policy tests set out in any relevant NPS.

[National Planning Policy Statements \(NPS\)](#)

8.2.2 At the time of writing, there is no designated NPS which specifically deals with ground mounted solar developments. However, there are aspects of three of the

designated energy NPSs which are relevant to decision making of the Secretary of State and are likely to be deemed important and relevant considerations in any examination of a ground mounted solar farm DCO (to the extent they have not been superseded by the time this application is being examined). The LVIA will therefore have regard to:

- NPS EN-1 Energy (emerging¹ and adopted)²
- NPS EN3 Renewable Energy Infrastructure (³emerging and adopted)⁴
- NPS EN-5 Electricity Networks (⁵emerging and adopted)⁶

8.2.3 The Department for Business, Energy and Industrial Strategy is currently undertaking a review of the six NPSs for energy infrastructure. Consultation on the revised draft NPSs closed on 29 November 2021. As drafted NPS EN3 on renewable energy has been expanded to provide policy on solar development. Currently there is no timescale in place for when the draft NPS (as amended) will be adopted. The revised EN3 addresses a range of matters including:

- Design Flexibility;
- Temporary nature of solar farms;
- Site Selection;
- Irradiance and Site topography and capacity of Site;
- Proximity of a Site to dwellings;
- Grid Connection;
- Accessibility;
- Agricultural Land Quality;
- Site Layout and appearance;
- Landscape and Arboriculture;

¹ Department for Business, Energy & Industrial Strategy, November 2021, *Planning for New Energy Infrastructure (EN-1)*.

² Department for Business, Energy & Industrial Strategy, September 2021, *Draft Overarching National Policy Statement for Energy (EN-1)*.

³ Department for Business, Energy & Industrial Strategy, November 2021, *Planning for New Energy Infrastructure (EN-3)*.

⁴ Department of Energy & Climate Change, July 2011, *National Planning Policy Statement for Renewable Energy Infrastructure (EN-3)*.

⁵ Department for Business, Energy & Industrial Strategy, November 2021, *Planning for New Energy Infrastructure (EN-5)*.

⁶ Department of Energy & Climate Change, July 2011, *National Planning Policy Statement for Electricity Networks (EN-5)*.

- Ecology and Biodiversity;
- Built heritage and archaeology;
- Flood risk and drainage;
- Highways and Access; and
- Glint and Glare.

[National Planning Policy Framework \(NPPF\), 2021⁷](#)

8.2.4 The following paragraphs are relevant:

- Paragraph 100 in respect of protecting and enhancing public rights of way (PRoW);

Planning policies and decisions should protect and enhance public rights of way and access, including taking opportunities to provide better facilities for users, for example by adding links to existing rights of way networks including National Trails.⁸

- Paragraph 130 which requires development to be sympathetic to local character and setting;

c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities)⁹

- Paragraph 131 in respect of making sure that appropriate measures are in place for the planting of new trees;

Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that

⁷ Ministry of Housing, Communities & Local Government, 2021, *National Planning Policy Framework*.

⁸ Ministry of Housing, Communities & Local Government, 2021, *National Planning Policy Framework*. Para 100

⁹ Ministry of Housing, Communities & Local Government, 2021, *National Planning Policy Framework*. Para 130

the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users. 10

- Paragraph 174. Planning policies and decisions should contribute to and enhance the natural and local environment by;

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan); 11

- Paragraph 180c in relation to siting development that is appropriate for its location alongside ancient/veteran trees.

When determining planning applications, local planning authorities should apply the following principles: c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists¹²

Planning Practice Guidance (PPG)¹³

8.2.5 The guidance on the Natural Environment is relevant and explains key issues in implementing policy to protect and enhance the natural environment, including local requirements. Relevant topics are:

- Green Infrastructure
- Biodiversity, geodiversity and ecosystems
- Landscape

Local Planning Policy

Central Lincolnshire Local Plan (Adopted April 2017)¹⁴

8.2.6 The following local planning policy is relevant:

- Policy LP17: Landscape, Townscape and Views

¹⁰ Ministry of Housing, Communities & Local Government, 2021, *National Planning Policy Framework*. Para 131

¹¹ Ministry of Housing, Communities & Local Government, 2021, *National Planning Policy Framework*. Para 174

¹² Ministry of Housing, Communities & Local Government, 2021, *National Planning Policy Framework*. Para 180C

¹³ Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government, 21 July 2019, *Planning Practice Guidance Natural Environment*.

¹⁴ Central Lincolnshire, Adopted April 2017, *Central Lincolnshire Local Plan 2012-2036*.

- Policy LP18: Climate Change and Low Carbon Living
- Policy LP19: Renewable Energy Proposals
- Policy LP20: Green Infrastructure Network
- Policy LP21: Biodiversity and Geodiversity
- Policy LP25: The Historic Environment
- Policy LP26: Design and Amenity
- Policy LP38: Protecting Gainsborough's Setting and Character
- Policy LP55: Development in the Countryside

West Lindsey Local Plan First Review (June 2006)¹⁵

8.2.7 The West Lindsey Local Plan (First Review) was adopted on 19 June 2006 and formally replaced by the Central Lincolnshire Local Plan on 24 April 2017. The following policies are saved:

- Policy NBE 8 – Historic Parks and Gardens
- Policy NBE 10 – Protection of Landscape Character in Development Proposals

Bassetlaw District Local Development Framework (2011)

8.2.8 The Core Strategy, with its Development Control policies and Proposals Map, was adopted by Bassetlaw District Council on 22 December 2011. It identifies the settlements to which new development will be directed and the amount of new housing and employment land that will be provided in these areas up to 2028. The following policies are deemed to be relevant to this assessment:

- POLICY DM8: The Historic Environment
- POLICY DM9: Green Infrastructure; Biodiversity & Geodiversity; Landscape; Open Space & Sports Facilities
- POLICY DM10: Renewable and Low Carbon Energy

8.2.9 The draft Bassetlaw Local Plan 2020-2037 (published August 2021) has been reviewed for relevant policies and it has been determined that the following are relevant to the LVIA assessment:

¹⁵ West Lindsey District Council, *West Lindsey Local Plan First Review June 2006*.

- POLICY ST37: Landscape Character
- POLICY ST39: Green and Blue Infrastructure
- POLICY ST40: Biodiversity and Geodiversity
- POLICY 41: Trees, woodlands and hedgerows
- POLICY ST42: The Historic Environment
- POLICY 43: Designated and Non-Designated Heritage Assets
- POLICY ST50: Reducing Carbon Emissions, Climate Change Mitigation and Adaptation
- POLICY ST51: Renewable and Low Carbon Energy Generation

Gainsborough Town Neighbourhood Plan (2020-2036)¹⁶

8.2.10 Gainsborough Neighbourhood Plan was formally adopted by West Lindsey District Council on the 28 June 2021. The Plan now forms part of the development plan in helping determine future planning applications within the Plan area. The following policies are deemed to be relevant to this assessment:

- NPP 1 Sustainable Development
- NPP 2 Protecting the Natural Environment and Enhancing Biodiversity
- NPP 5 Protecting the Landscape Character
- NPP 6 Ensuring High Quality Design
- NPP 7 Ensuring High Quality Design in each Character Area

Gainsborough Heritage and Character Assessment (28 February 2018)¹⁷

8.2.11 The report was prepared by consultants AECOM on behalf of Locality, working closely with the Gainsborough Town Council and presents a summary of the history and character of Gainsborough carried out through desk study and fieldwork.

¹⁶ Gainsborough Town Council, *Gainsborough Town Neighbourhood Plan 2020-2036*.

¹⁷ AECOM, 2018, *Gainsborough Heritage and Character Assessment*

Green Infrastructure Study for Central Lincolnshire (December 2011)¹⁸

- 8.2.12 The study aims to provide a strategic framework for guiding the planning and delivery of Green Infrastructure across Central Lincolnshire. The findings of the Study are presented as two volumes:
- Volume 1 – Green Infrastructure Strategy
 - Volume 2 – Green Infrastructure Audit and Assessment

Biodiversity Opportunity Mapping Study for Central Lincolnshire (October 2013)¹⁹

- 8.2.13 The study aims to provide an evidence base for the combined Local Plan. The Biodiversity Opportunity Mapping was a follow-on study from the Green Infrastructure Study of 2011.

8.3 Compliance with Planning Policy

- 8.3.1 The Scheme will be assessed against relevant planning policy and guidance identified in **Section 8.2** of this chapter and in **Table 8.1 below**.

Table 8.1: Compliance with Planning Policy

Policy/guidance	Compliance commentary
National Planning Policy Statements (NPS)	
EN-1: Undertake LVIA for Nationally Significant Infrastructure Projects. (section 5.9)	The Scheme complies with the landscape-related criteria of EN-1 through the provision of an LVIA chapter within the PEIR and ES.
Draft EN-1: All proposals for projects that are subject to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) must be accompanied by an Environmental Statement (ES) (Section 4.2). The applicant should carry out a landscape and visual	The Scheme complies with the landscape-related criteria of Draft EN-1 through the provision of an LVIA chapter within the PEIR and ES. The Scheme complies with the landscape-related criteria of section 4.6 since consideration has been given from the outset to development layout, massing and colouring. However, the Scheme is extensive such that there are limitations to the range of practical measures that can be adopted.

¹⁸ Chris Blandford Associates, December 2011, *Green Infrastructure Study for Central Lincolnshire*

¹⁹ Chris Blandford Associates, October 2013, *Biodiversity Opportunity Mapping Study for Central Lincolnshire*

<p>assessment and report it in the ES (Section 5.10.5).</p> <p>Section 4.6 Criteria for “Good Design” for Energy Infrastructure.</p>	
<p>EN-3: Paragraph 2.5.50. Good design that contributes positively to the character and quality of the area will go some way to mitigate adverse landscape/visual effects.</p>	<p>The Scheme complies with the landscape-related criteria of EN-3 since consideration has been given from the outset to development layout, massing and colouring. Landscape mitigation measures include the retention and enhancement of existing landscape features and the introduction of new areas of planting. Native species will be selected, and the planting will be designed to give softening and screening where appropriate whilst reinforcing local landscape character and biodiversity.</p>
<p>EN-3: Paragraph 2.5.51. Mitigation is achieved primarily through aesthetic aspects of the site layout and building design including size and external finish and colour of the generating station to minimise intrusive appearance on the landscape as far as engineering requirements permit.</p>	<p>The Scheme complies with the landscape-related criteria of EN-3 since consideration has been given at the outset to development layout, massing and colouring. However, the Scheme is extensive such that there are limitations to the range of practical measures that can be adopted.</p>
<p>Draft EN-3: Section 2.51 Solar photovoltaic generation impacts: landscape, visual and residential amenity.</p>	<p>The Scheme complies with the landscape-related criteria of Draft EN-3, Section 2.51 through the provision of an LVIA chapter within the PEIR and ES as well as having regards to both the design layout of the solar farm, and future maintenance plans. The proposals have considered the potential to mitigate landscape and visual impacts through extensive landscape mitigation.</p>
<p>EN-5: Paragraph 2.8.2. New substations, sealing end compounds and other above ground installations that form connection, switching and voltage transformation points on the electricity network can also give rise to landscape and visual impacts.</p>	<p>The Scheme complies with the landscape-related criteria of EN-5 in that mitigation measures include, where possible, the retention and reinforcement of existing woodland, scrub, and hedgerow areas. The location of the Scheme within a strong landscape framework also provides layering by intervening hedgerows and tree cover that contributes towards screening in views across the Study Area.</p>

<p>Draft EN-5: Section 2.11 landscape and Visual.</p>	<p>The Scheme complies with the landscape-related criteria of Draft EN-5 in that the Scheme includes for undergrounding of the cable routes.</p> <p>The Scheme also provides an LVIA chapter within the PEIR and ES as well as having regards to both the design layout of the solar farm, mitigation strategy and future maintenance plans.</p>
<p>National Planning Policy Framework (2021):</p>	
<p>Paragraph 98: Access to a network of high-quality open spaces and opportunities for sport and physical activity is important for the health and well-being of communities and can deliver wider benefits for nature and support efforts to address climate change.</p>	<p>The Scheme complies with the landscape-related criteria of paragraph 98 of the NPPF in that consideration is given to the enhancement of the network of open spaces, footpaths, and bridleways. The Scheme avoids impacts on the rights of way network and where users of these routes are close to the Site, mitigation measures would look to provide effective screening and softening of views where effects are predicted.</p>
<p>Paragraph 127: Well-designed places that have effective landscaping and are sympathetic to local setting/character.</p>	<p>The Scheme complies with the landscape-related criteria of paragraph 127 of the NPPF in that mitigation measures would provide effective landscaping, and this would be sympathetic to local character and landscape setting.</p>
<p>Paragraph 131: Trees make an important contribution to the character and quality of urban environments and can also help mitigate and adapt to climate change.</p>	<p>The Scheme complies with the landscape-related criteria of paragraph 131 of the NPPF in that mitigation would ensure existing trees are retained where possible. Opportunities will be explored to incorporate new trees elsewhere. Appropriate measures will also be in place to secure the long-term maintenance and management of both existing and proposed trees. Management and maintenance measures will be set out within the Landscape Environmental Management Plan (LEMP).</p>
<p>Paragraph 174: Protecting valued landscapes, recognising the intrinsic character and beauty of the countryside and the benefits of natural capital including trees and woodlands.</p>	<p>The Scheme complies with the landscape-related criteria of paragraph 170 of the NPPF in that it would recognise the intrinsic character and beauty of locally designated Sites and their benefits to the landscape character and visual amenity of the area.</p> <p>There are Sites of locally designated landscape value within the Study Area.</p> <p>The proposals respond to the value of the existing vegetation features across the Site and landscape mitigation measures would enable the retention, management and reinforcement of those features wherever possible.</p>

	The Scheme avoids impacts on locally valued landscapes and recognises and reinforces the benefits derived from existing hedgerows, trees and woodlands.
Paragraph 180c: Developments resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused.	The Scheme complies with the landscape-related criteria of paragraph 180c of the NPPF in that areas of ancient woodland and ancient or veteran trees, would not be affected.
Planning Practice Guidance (PPG):	
Green Infrastructure: Green Infrastructure is a natural capital asset that provides multiple benefits, at a range of scales.	The Scheme complies with the landscape-related criteria of the PPG in that mitigation measures would look to retain and enhance areas of open space, woodlands, hedgerows and sustainable drainage features. Blue infrastructure such as streams, ponds, canals and other water bodies would be retained and protected.
Biodiversity, Geodiversity Ecosystems: The need to consider the opportunities that individual development proposals may provide to conserve and enhance biodiversity and geodiversity and contribute to habitat connectivity in the wider area.	The Scheme complies with the landscape-related criteria of the PPG in that mitigation measures would look to secure the long-term maintenance and management of both existing and proposed trees. Management and maintenance measures are set out within the Landscape Environmental Management Plan (LEMP).
Landscape: Use of landscape character assessment in the planning process.	The Scheme complies with the landscape-related criteria of the PPG in that landscape character assessment is used as a tool to inform the LVIA process and mitigation strategy. The process will identify where landscapes and their particular characteristics have a particular local value. The assessment will take into account the evidence that supports the special characteristics and will set out mitigation measures, such as appropriate design and visual screening, where necessary.
Central Lincolnshire Local Plan (Adopted April 2017)	
Policy LP17: Landscape, Townscape and Views. Central Lincolnshire is predominantly a rural landscape interspersed by the City of Lincoln and smaller settlements and characterised by its contrasting chalk and	The Scheme complies with the criteria of the LP17 in that the environmental quality, character and diversity of the landscape will be protected and, where possible enhanced.

limestone uplands, low lying vales and fenland landscapes.	
Policy LP17: Landscape, Townscape and Views. Character and Setting	Landscape mitigation measures will look to address the intrinsic value of the landscape and townscape, including the setting of settlements. The Scheme will have particular regard to maintaining and responding positively to any natural and man-made features within the landscape and townscape which positively contribute to the character of the area. Measures will respond to historic buildings and monuments, other landmark buildings, topography, trees and woodland, hedgerows, walls, water features, field patterns and intervisibility between rural historic settlements.
Policy LP17: Landscape, Townscape and Views. Creating and Protecting Views	Landscape mitigation measures will look to address key views within the landscape, and in to and out of settlements. Measures will also take into consideration views and vistas that are valued by the local community and views that define the local identity of a place or assist in way finding. Opportunities to create new public views will also be explored where possible and particular consideration will be given to views of significant buildings. Views within landscapes which are more sensitive to change due to their open, exposed nature and extensive visibility from various viewpoints will also be taken into account.
Policy LP17: Landscape, Townscape and Views. The Lincolnshire Wolds, Lincoln's historic skyline and Areas of Great Landscape Value	Landscape mitigation measures will look to address where the Development Proposal is likely to impact upon the Areas of Great Landscape Value (as identified on the policies map) and upon Lincoln's historic skyline.
Policy LP17: Landscape, Townscape and Views. Cumulative Impacts	Landscape mitigation measures will look to address the cumulative impacts as well as the individual impacts.
Policy LP18: Climate Change and Low Carbon Living. Reducing greenhouse gas emissions is a key part of limiting climate change, and will require concerted action at all levels, from international to local.	The Scheme complies with the landscape-related criteria of Policy LP18 in that mitigation measures would look to secure well-designed areas of woodland and tree cover. These measures would include management and maintenance measures set out within a Landscape Environmental Management Plan (LEMP). The Central Lincolnshire Biodiversity Opportunity Mapping (or subsequent relevant document) would be used to guide the most suitable habitat in a particular area.

Carbon Off-setting	
<p>Policy LP19: Renewable Energy Proposals. Proposals for non-wind renewable technology will be assessed on their merits, with the impacts, both individual and cumulative, considered against the benefits of the scheme.</p> <p>Proposals for non-wind renewable energy development</p>	<p>The Scheme complies with the landscape-related criteria of Policy LP19 in that mitigation measures would take into account the surrounding landscape and townscape. Other mitigation considerations would include ecology and biodiversity and residential and visual amenity. The mitigation measures would look to outweigh the harm caused as far as is reasonable possible.</p>
<p>Policy LP20: Green Infrastructure Network. Green Infrastructure is a strategic network of multifunctional green and blue spaces, and the connections between them, in both urban and rural areas, which is capable of delivering a range of environmental, economic, health and quality of life benefits for local communities.</p>	<p>The Scheme complies with the criteria of Policy LP20 in that mitigation measures would target the highlighted areas of the Central Lincolnshire Green Infrastructure Study 2011 of existing habitats and areas where there are deficiencies in green infrastructure at the strategic level across Central Lincolnshire and identified opportunities to enhance the network. The network priority areas include:</p> <ul style="list-style-type: none"> • Strategic Green Corridors • Strategic Green Access Links • Urban Green Grids • Green Infrastructure Zones
<p>Policy LP21: Biodiversity and Geodiversity. Central Lincolnshire has many areas which are noted for their natural beauty and biodiversity value. These areas also support a wide variety of species and habitats and form an important part of the network of biodiversity Sites within the wider environment.</p>	<p>The Scheme complies with the landscape-related criteria of Policy LP20 in that mitigation measures would target the known areas of opportunity for local landscape-scale habitat improvement. This mitigation would adopt a landscape scale approach to the planning, design and management of connected Green Infrastructure assets. This would in turn provide the framework within which species migration can more readily occur in response to environmental pressures such as climate change.</p>
<p>Policy LP25: The Historic Environment. Central Lincolnshire as a rich historic environment. The rural countryside and historic towns and villages</p>	<p>The Scheme complies with the criteria of the LP25 in that the environmental quality, character and diversity of the historic environment will be protected and, where possible enhanced.</p>

are attractive aspects of Central Lincolnshire as a whole, while within Lincoln's historic core are aspects of national and wider importance.	
Policy LP26: The Historic Environment. Listed Buildings	Landscape mitigation measures will look to address the setting of a Listed Building which may be affected by the Scheme. Measures would take into account the architectural, historic or archaeological interest, the special character and views and vistas both from and towards the asset.
Policy LP26: The Historic Environment. Conservation Areas	Landscape mitigation measures will look to address the character and appearance of the Conservation Area, including the spaces around and within the boundary and historic street patterns. Measures would also take into consideration any impacts the Scheme may have on the skyline and surrounding landscape.
Policy LP38: Protecting Gainsborough's Setting and Character. Gainsborough is located on the eastern banks of the River Trent, extending its urban area eastwards into an undulating and often wooded landscape. Gainsborough's historic core is protected by three conservation areas.	The Scheme complies with the landscape-related criteria of the LP38 in that the environmental quality, character and diversity of Gainsborough's character and setting will be protected and, where possible enhanced. Landscape mitigation measures will look to address the protection of important views from both within and outside the town. Measures will also look to protect and enhance the landscape character of the setting of the town to maintain the setting and integrity of the surrounding villages.
Policy LP55: Development in the Countryside. The significant rural population means that it is important to maintain and enhance the services and features of the rural area in order to sustain the vibrancy of rural settlements and the quality of life experienced by those living in such areas.	The Scheme complies with the landscape-related criteria of the LP55 in that the Scheme will deliver a sustainable use and the location is suitable in terms of accessibility.
West Lindsey Local Plan	
The West Lindsey Local Plan (First Review) was adopted on 19 June 2006 and formally replaced by the Central Lincolnshire Local Plan on 24 April 2017.	

<p>The Central Lincolnshire Local Plan replaced all the existing or 'saved' policies in the West Lindsey Local Plan (adopted 2006). Policy compliance therefore will not be considered further.</p>	
<p>Bassetlaw District Local Development Framework (2011)</p>	
<p>POLICY DM8: The Historic Environment</p>	<p>The Scheme complies with the criteria of Policy DM8 in that the environmental quality, character and diversity of the historic environment will be protected and, where possible enhanced. Proposals will consider: i. Scale; ii. Design; iii. Materials; iv. Siting; and v. Views away from and towards the heritage asset.</p>
<p>POLICY DM9: Green Infrastructure</p>	<p>The Scheme complies with the green infrastructure -related criteria of Policy DM9 in that mitigation measures would support the Council's strategic approach to the delivery, protection and enhancement of multi-functional Green Infrastructure, achieved through the establishment of a network of green corridors and assets at local, sub-regional and regional levels.</p>
<p>POLICY DM9: Biodiversity & Geodiversity</p>	<p>The Scheme complies with the biodiversity and geodiversity-related criteria of Policy DM9 in that the development proposals provide opportunities to restore or enhance habitats and species' populations whilst demonstrating that they will not adversely affect or result in the loss of features of recognised importance.</p> <p>Mitigation measures would target the known areas of opportunity for local landscape-scale habitat improvement. This mitigation would adopt a landscape scale approach to the planning, design and management of connected Green Infrastructure assets.</p>
<p>POLICY DM9: Landscape Character</p>	<p>The Scheme complies with the landscape character -related criteria of Policy DM9 in that the development has been designed</p>

	<p>so as to be sensitive to its landscape setting.</p> <p>Proposals will seek to enhance the distinctive qualities of the landscape character policy zone and respond to the recommendations made in the Landscape Character Assessment by conserving, restoring, reinforcing or creating landscape forms and features accordingly.</p>
<p>POLICY DM9: Open Space & Sports Facilities</p>	<p>The Scheme complies with the landscape-related criteria of Policy DM9. The Scheme will not adversely affect or result in the loss of open spaces or sports facilities.</p>
<p>POLICY DM10: Renewable and Low Carbon Energy Carbon Reduction</p>	<p>The Scheme complies with the landscape-related criteria of Policy DM10, as the proposals:</p> <ul style="list-style-type: none"> i. are compatible with policies to safeguard the built and natural environment, including heritage assets and their setting, landscape character and features of recognised importance for biodiversity; ii. will not lead to the loss of or damage to high-grade agricultural land (Grades 1 & 2). Whilst there are areas of the Site that are identified within the ALC Assessment at WB4 as being BMV land, the Scheme avoids panels within these areas. Panels are proposed wholly within Grade 3 land; iii. are compatible with tourism and recreational facilities; iv. will not result in unacceptable impacts in terms of visual appearance; noise; shadow flicker; watercourse engineering and hydrological impacts; pollution; or traffic generation; and <p>will not result in an unacceptable cumulative impact in relation to the factors above.</p>

Gainsborough Town Neighbourhood Plan (2020-2036)	
Gainsborough Town Neighbourhood Plan: The Plan now forms part of the development plan in helping determine future planning applications within the Plan area.	The Scheme complies with the landscape-related criteria of the Plan in that the environmental quality, character and diversity of Gainsborough's character and setting will be protected and, where possible enhanced.
Policy NNP2: Protecting the Natural Environment and Enhancing Biodiversity. Looks protect and enhance the natural environment, especially those areas identified on Maps 5 and 6.	Landscape mitigation measures would look to support a net biodiversity gain and measures would be targeted to benefit local conservation priorities as identified in the most recent Lincolnshire Biodiversity Action Plan. Measures will also look to protect and enhance existing mature trees and hedgerows and blocks and belts of woodland. Measures will also look to incorporate new planting to further enhance these areas where possible.
Policy NNP3: Creating a Local Green Network. Seeks to deliver elements of the Local Green Network around the town.	Landscape mitigation measures will consider the new walking and cycling routes around the Town. Those existing routes for improvement will also be considered and connectivity between existing footpaths, roadways and cycleways will also be considered.
Policy NNP5 Protecting the Landscape Character	The mitigation measures will consider key characteristics of particular relevance within National Character Areas NCA45 and NCA48. In regard to Landscape Character at the local level, the Plan refers to the West Lindsey District Landscape Character Assessment 1999. This LCA was undertaken in August 1999 and therefore it is proposed to undertake a review to ensure extracted information is still current and relevant. The review will take into account the most sensitive parts of the landscape as ' <i>the higher land to the south and east of Gainsborough</i> '. The setting and character of Gainsborough will also form an important part of mitigation proposals including the views set out within Map 11 and Appendix C of the Plan. This will consider the ridge line that runs to south that affords views from publicly accessible locations within the town.
Gainsborough Heritage and Character Assessment (28 February 2018)	
Presents a summary of the history and character of Gainsborough carried out through desk study and fieldwork.	<p>The Scheme complies with the landscape-related criteria of the Assessment in that the environmental quality, character and diversity of Gainsborough's character and setting will be protected and, where possible enhanced.</p> <p>Landscape mitigation measures will consider, where relevant, the results of the desk study and fieldwork that divides the Town into six distinct Townscape Character Areas (TCAs) as shown on Figure 3 of the Assessment.</p>

Green Infrastructure Study for Central Lincolnshire	
Provides a strategic framework for guiding the planning and delivery of Green Infrastructure across Central Lincolnshire.	<p>The Scheme complies with the criteria of the Study in that the existing assets and attributes that contribute to the GI in Central Lincolnshire will be protected and, where possible enhanced.</p> <p>The network priority areas include:</p> <ul style="list-style-type: none"> • Strategic Green Corridors • Strategic Green Access Links • Urban Green Grids • Green Infrastructure Zones <p>Landscape mitigation would look to take account of the above priority measures within the following Sub-Area Boundaries:</p> <ul style="list-style-type: none"> • Gainsborough Area • Lincoln Area <p>The mitigation measures would also take account of the Strategic Green Infrastructure Initiatives and projects for each of the Sub-Areas. Such projects would include the Coversands Heathlands Initiative, which is a partnership involving Natural England to restore and recreate Coversands heathlands to help reserve habitat decline and fragmentation.</p>
Biodiversity Opportunity Mapping for Central Lincolnshire	
In early 2019 the Greater Lincolnshire Nature Partnership (GLNP) created a Biodiversity Opportunity Map (BOM) for North Lincolnshire Council area as part of their requirements in producing a new local plan. The expertise led Central Lincolnshire to undertake the same BOM exercise.	The Scheme complies with the landscape-related criteria of the Study in that the existing assets and attributes that contribute to the ecological network in Central Lincolnshire will be protected and, where possible enhanced.

8.4 Consultation

- 8.4.1 Consultation undertaken throughout the pre-application and scoping phase for the Scheme informed the approach to the LVIA assessment and the information

provided in this chapter. A summary of the consultation of relevance to the LVIA is detailed in **Table 8.2** below.

Table 8.2: Consultation and Responses Timeline

Consultee and Date	Response	Chapter Section Where Consultation Comment is Addressed
Public engagement events, November 2021	Meeting to introduce the project and those involved in the design and assessment process moving forward. Discussion over the LVIA on matters relating to scoping, the assessment methodology, Study Area, landscape receptors, visual receptors and potential cumulative developments.	Correspondence from the events is provided in Appendix 8.4 . Comments received have been reviewed and considered throughout the design process.
The Planning Inspectorate, Scoping Opinion, March 2022	<i>"The proposed mitigation should be described, and any associated impacts should be assessed in the ES where significant effects are likely to occur."</i>	Proposed mitigation is shown on Figure 8.16 Cottam Strategic Landscape Mitigation Measures.
The Planning Inspectorate, Scoping Opinion, March 2022	<i>"The ES should confirm the number, type and structural set up of panels required including their proposed foundations i.e., the location and quantity of piled foundations/concrete feet (including any ballast required) foundations and whether they are tracking or fixed and the aspect they face. This should include a description and reasoning of spacing between panels to avoid ground shading effects and any buffers employed. The ES should also describe and assess a worst-case scenario in the relevant aspect chapter in relation to the type of solar panels being constructed e.g., soil compaction, traffic</i>	The ES will employ a maximum design scenario approach reflecting the principle of the 'Rochdale Envelope'. This approach allows for a project to be assessed on the basis of maximum project design parameters i.e., the worst-case scenario in order to provide flexibility and take advantage of technological improvements, assessing all potentially significant effects (positive or adverse) within the EIA process and reported in the ES. Table 4.1 sets out the details of the design parameters used for the PEIR.

	<i>and transport, landscape and visual impact,”</i>	
The Planning Inspectorate, Scoping Opinion, March 2022	<i>“The ES should include West Burton A decommissioning in the cumulative assessment where there is potential for likely significant effects.”</i>	Proposed cumulative sites/developments are shown on Figure 8.15 and listed in Table 8.3 . A summary of potential significant effects is provided in Table 8.6 . West Burton A decommissioning is included in the cumulative assessment.
The Planning Inspectorate, Scoping Opinion, March 2022	<i>“The Inspectorate considers that a 5km study area is broadly appropriate, however in the light of the extent of the Proposed Development and nature of the surrounding terrain with some elevated viewpoints, the assessment should consider the potential for landscape and visual receptors to be affected that are close to but outside the 5km buffer area.”</i>	The extent of the Study Area has been determined in accordance with recognised LVIA methodology to encompass all receptors that may experience significant effects. In light of the nature of the surrounding terrain with some elevated viewpoints, the assessment will consider the potential for landscape and visual receptors to be affected that are close to but outside the 5km buffer area.
The Planning Inspectorate, Scoping Opinion, March 2022	<i>“The final extent of the study area and viewpoints should be determined in consultation with the relevant local authorities.”</i>	Correspondence with the relevant local authorities is provided in Appendix 8.4 . The final extent of the Study Area and viewpoints is being determined in consultation with the relevant local authorities. Correspondence from the workshop is provided in Appendix 8.4 . The extent of the Study Area and viewpoints have been determined in accordance with recognised LVIA methodology to encompass all receptors that may experience significant effects. The relevant local authorities have also been consulted in this process.
Lincolnshire County Council,	Meeting to introduce the project and those involved	Correspondence from the meeting is provided in Appendix 8.4 .

Introductory Meeting, March 2022	in the consultation process moving forward. Discussion over the additional matters on scoping and that consultation feedback will be required on the assessment methodology, Study Area, landscape receptors, visual receptors and cumulative sites/developments. Future meetings to be held in the form of workshops.	The final extent of the Study Area and viewpoints is being determined in consultation with the relevant local authorities. Correspondence with the relevant local authorities is provided in Appendix 8.4 .
Near Neighbour Meetings, March 2022	Meeting to introduce the project and those involved in the design and assessment process moving forward. Discussion over the LVIA on matters relating to scoping, the assessment methodology, Study Area, landscape receptors, visual receptors and potential cumulative sites/developments.	Correspondence from the meetings is provided in Appendix 8.4 .
Lincolnshire County Council, LVIA Workshop 1, March 2022	Workshop to take forward matters relating to scoping, the assessment methodology, Study Area, landscape receptors, visual receptors and potential cumulative sites/developments.	Correspondence from the workshop is provided in Appendix 8.4 . Suggested adjustment to locations of viewpoints and the inclusion of additional locations.
Lincolnshire County Council, LVIA Workshop 2, April 2022	Workshop to take forward matters relating to scoping, the assessment methodology, Study Area, landscape receptors, visual receptors and potential cumulative sites/developments.	Correspondence from the workshop is provided in Appendix 8.4 . Suggested adjustment to locations of viewpoints and the inclusion of additional locations.

<p>Lincolnshire County Council, LVIA Workshop, Consultee Questionnaires, April 2022</p>	<p>Distribution of workshop questionnaires to take forward matters relating to scoping, the assessment methodology, Study Area, landscape receptors, visual receptors and potential cumulative sites/developments.</p> <p>LLC returned these questionnaires with detailed and extensive feedback in addition to the previous workshop. This feedback is set out below:</p> <p>Assessment Methodology: The LVIA should be undertaken by suitably qualified personnel and carried out to the third edition of Guidelines for Landscape and Visual Impact Assessment (GLVIA3).</p> <p>Methodology generally reflects the guidance in GLVIA3.</p> <p>5km Study Area (from Site boundaries) provides a reasonable Study Area. At this stage, LCC cannot comment on, or agree the Study Area of cable runs.</p> <p>Published landscape character areas have been identified, however, to align with GLVIA3 the LVIA should include an assessment of landscape effects at a range of scales. Assessment expected to include a finer grain landscape assessment</p>	<p>Correspondence from the workshop is provided in Appendix 8.4.</p> <p>These responses have been taken on board and will form important considerations in the production of the ES.</p>
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	<p>that includes the Site and immediate area.</p> <p>Visual receptors should also include potential users of waterways (boats), leisure cyclists and train users.</p> <p>ZTV should clearly demonstrate the full extent of the Scheme stating what has been included and the ultimate height/scale.</p> <p>A full methodology of photography, photomontages and presentation should be provided that aligns with LI TGN 06/19.</p> <p>The intervisibility with each of the designated heritage assets (or groups of assets) within the Study Area be reviewed and evaluated as part of the study, and where appropriate the steps to mitigate the impact need to be set out</p> <p>Cumulative Impacts: Cumulative Landscape and Visual Impacts should be assessed, particularly in regard to the Cottam Solar Project and Gate Burton Energy Park.</p> <p>Mitigation and Layout: As this is an iterative process, and the baseline elements are still being defined, at this stage we are not providing comment on any potential mitigation or layout of the development.</p>	
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	<p>Study Area: 5km (from Site boundaries) provides a reasonable Study Area and would include more sensitive receptors in the area such as Ridge AGLV, and Gainsborough AGLV, settlements to the east along the Limestone Escarpment and the Scampton viewing area.</p> <p>LVIA should also provide a clear statement on the justification for the extent of the Study Area and confirm that receptors beyond 5km would not be affected.</p> <p>At this stage, cannot comment on, or agree the Study Area (currently proposed as 500m at para. 7.1.10 of the Scoping Report) for any offsite cable runs until the final option is selected.</p> <p>Published landscape character areas have been identified, however, to align with GLVIA3 the LVIA should include an assessment of landscape effects at a range of scales. Assessment expected to include a finer grain landscape assessment that includes the Site and immediate area.</p> <p>The LVIA should include an assessment of the potential impacts of the development on local landscape features and the local landscape character.</p>	
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	<p>By incorporating a 5km (from Site boundaries) Study Area, more sensitive components/receptors would be included such as Ridge AGLV, and Gainsborough AGLV, settlements to the east along the Limestone Escarpment and the Scampton viewing area.</p> <p>Assessment should consider the value and potential change in character to local lanes.</p> <p>Landscape Effects: LVIA should include an assessment of landscape effects at a range of scales, and we would expect the assessment to include a finer grain landscape assessment that includes the Site and immediate area and that also considers individual landscape elements.</p> <p>-</p> <p>The LVIA should include an assessment of the potential impacts of the development on local landscape features and the local landscape character.</p> <p>It would be useful to take into account the information collated as part of the Historic landscape characterisation project: The Historic Character of The County of Lincolnshire (September 2011), to ensure that the development is sensitive to the historic landscape.</p>	
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	<p>Cumulative Effects: Cumulative Landscape and Visual Effects should be assessed, particularly in regard to the Cottam Solar Project and Gate Burton Energy Park.</p> <p>The document: LVIA Workshop Questionnaire D-Cumulative developments – WB, has been forwarded to West Lindsey District Council for review and comment.</p>	
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8.5 Assessment Methodology

Landscape and Visual Impact Assessment Methodology

8.5.1 The methodology for the LVIA is based on the general recommendations set out in Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, LI IEMA, 2013²⁰. The guidelines are not prescriptive and set out a general approach that should be tailored to specific circumstances of the project that is being assessed. The methodology adopted for this assessment is set out in **Appendix 8.1**. Briefly, the assessment process comprises the following stages:

- A desk study to assess the landscape and visual baseline including a review of published landscape character assessments identified in Section 8.6. This process would be supported by a suite of landscape figures similar to those listed in the appendices. This process helps to identify the landscape and visual receptors to be assessed. These landscape and visual receptors would be finalised following LPA approval;
- Detailed fieldwork to confirm aspects of the desk study and to ground truth proposed viewpoint locations;

²⁰ Landscape Institute and Institute of Environmental Management and Assessment, 2013, *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition, Routledge, London.

- An assessment of the sensitivity (nature of the receptor) of landscape and visual receptors. This is defined through a combination of their value and susceptibility to change;
- An assessment of the magnitude of impact (nature of effect) of the Scheme during the construction period (winter), operation at year 1 (winter) and operation at year 15 summer) and at decommissioning phase (winter). The magnitude of impact will be assessed in relation to the size, scale, duration and reversibility of the effect;
- An assessment of the significance of the effect to the landscape and visual receptors for the three stages of the Scheme (construction, operation and decommissioning). This process systematically and transparently assesses the likely significant effects identified;
- Mitigation proposals would be set out to prevent/avoid, reduce, and where possible offset or/compensate for any significant adverse landscape and visual effects;
- Re-evaluation of the significance of effect based on the mitigation proposed, to identify any residual landscape and visual effects; and
- Preparation of a Landscape and Biodiversity Management Plan which would prescribe how the mitigation measures identified and proposed would be implemented and managed to ensure the effectiveness and certainty in achieving the objectives of the mitigation strategy. This stage would be undertaken in conjunction with the ecology and arboricultural consultants.

8.5.2 Landscape effects and visual effects are considered separately in this assessment. Landscape effects relate to both direct physical effects of the Scheme (for example loss of existing trees) and effects on wider landscape character, including perceptual effects. Visual effects relate to the effect on views and visual amenity experienced by various receptors including residents, users of P_{RoW}, road users and recreational users. Views from conservation areas, listed buildings and scheduled monuments are also considered where these features include recognised viewpoints, e.g., used by tourists or other receptors. It should be noted that the LVIA address effects on recognised views from cultural heritage resources; effects on 'setting' are not considered in this assessment and are presented in the Chapter 13 Cultural Heritage.

8.5.3 Effects are identified as being either reversible or irreversible and the duration of effects is also considered. Effects are described as being either beneficial or adverse depending on whether they are considered to have a positive or negative respective effect on the landscape or within views.

- 8.5.4 Impact assessment and any proposed development is an iterative process, with the overall aim being to avoid environmental impacts or, where impacts cannot be avoided completely, reducing identified impacts to acceptable levels. Based on the findings of this assessment, landscape and visual mitigation measures are designed to help integrate the Scheme into its landscape setting and mitigate any specific visual or physical impacts that are identified. The LVIA considers the effects of mitigation measures being in place and identified residual impacts.
- 8.5.5 The extent of the Study Area adopted for this assessment is derived from a combination of desktop study, Site investigation and of Zone of Theoretical Visibility (ZTV) analysis. The extent of the Study Area is shown on **Figure 8.1**. Significant effects are not expected beyond a 2km zone from the Site boundary, therefore the 2km Study Area is used when identifying receptors. However, high sensitivity receptors could be identified within the wider landscape and in such cases, the 5km Study Area is used to consider these high sensitivity receptors.
- 8.5.6 The significance of predicted landscape and visual effects has been considered with findings based on the work undertaken to date. In identifying these effects, consideration has been given to both effects on the landscape as a resource and the effects on views. At this stage, the findings do not set out a series of thresholds for different levels of significance (for example a four-point scale), but instead distinguish clearly between what are considered to be the significant and non-significant effects. The consideration of the effects on the landscape resource is based on the landscape receptors (**Figure 8.6**) and the visual resource is based on a series of 'representative and specific viewpoints' (**Figures 8.11 to 8.13**) and verified photography (**Figure 8.14**). These viewpoints have been selected to represent the experience of different types of visual receptor, including users of PRoW, residential properties, transport routes, heritage and recreational sites. Selected viewpoints may include specific locations that are popular vantage points or tourist destinations. Viewpoints have also been selected to illustrate landscape character effects or likely cumulative effects of the Scheme.
- 8.5.7 Landscape and visual effects identified as being moderate, moderate major and major are considered to be significant effects are to be taken into account during the decision-making process for the DCO application.

Cumulative Impact Assessment

- 8.5.8 Cumulative landscape and visual effects are defined as the additional changes caused by a proposed development in conjunction with other similar developments, or as a combined effect of a set of developments taken together. Cumulative visual effects can be caused where an observer is able to see two or more developments from one viewpoint and/or sequential effects which occur when the observer must move to another viewpoint to see different developments.

8.5.9 **Table 8.3** below provides a summary of relevant cumulative developments. An overview of potential cumulative effects is summarised at the end of this chapter.

Table 8.3: Current Cumulative Developments

Scheme	Status	Distance from the Scheme
West Burton Solar Project	DCO Same timescales as Scheme	1.5km south of Cottam 1
West Burton Cable Route Construction	DCO Same timescales as Scheme	Location yet unknown
Low Carbon Gate Burton 500MW Solar and Energy Storage (Battery)	DCO Scoping opinion issued 20.12.21 Likely DCO application submission Q4 2022	1km west of Cottam 1
Decommissioning of West Burton A	Awaiting confirmation of what activities are involved with decommissioning as no planning applications have been submitted	Potential 200m to WB Sub (depending on exact location yet unknown)
Demolition of Cottam Power Station	Approved on 02.03.22	2.9km southwest of West Burton
Cottam Power Station Proposed Redevelopment. Comprehensive Masterplan and design code to be prepared.	Emerging local plan policy ST6: Cottam Priority Regeneration Area.	2.5km west of West Burton 3.
Heckington Fen solar generation exceeding 50MW with energy storage	DCO Scoping opinion issued 17.02.2022 Likely submission Q1 2023. The land at Heckington is related to a different point of connection and the developers of this project have taken up grid offers, but the project might not come forward	41km southeast of West Burton 2
Automotive Research and Development Centre, including garaging, circuit viewing facilities, 2 no wind turbines and ground mounted solar panels. Land	Application approved 03.03.2022	Immediately north of Cottam

at Blyton Park Driving Centre.		
Site Allocation Strategic Policy LP8 Employment Site Land at Lincolnshire Showground (Central Lincolnshire Local Plan 2017)	LDO/Masterplan – no details in public domain or approved	5.1km southeast from Cottam 1
Sustainable Urban Extension Policy 48 Gainsborough Northern Neighbourhood SUE Allocation (Central Lincolnshire Local Plan 2017)	128.8 ha 2,500 total dwellings and 750 dwellings in plan period 2012-2036.	3.5km west from Cottam 2

Transboundary Impact Assessment

8.5.10 Transboundary Impact Assessment has not been undertaken for the Scheme as it is not relevant to this chapter. This is because no cross-boundary LVIA effects have been identified at this stage of the consultation process.

Residential Visual Amenity Assessment

8.5.11 Current guidance on Residential Visual Amenity Assessment (RVAA) is contained within the Landscape Institute’s Technical Guidance Note (TGN) 2/19.

8.5.12 Steps 1-3 of RVAA guidance align with the standard LVIA based approach defined in GLVIA3. The guidance recommends that the effects on residential amenity should be assessed as follows:

- Step 1 – Definition of Study Area and scope of the assessment
- Step 2 – Evaluation of Baseline Visual Amenity
- Step 3 – Assessment of likely change to visual amenity of properties
- Step 4 – Forming the RVAA judgement

8.5.13 Stage 4 of the RVAA is defined as being required as follows:

“In this final step, and only for those properties where the largest magnitude of effect has been identified, a further judgement is required.”

8.5.14 It is therefore proposed to undertake steps 1-3 as part of the LVIA for the Scheme and if following assessment of affects upon residential properties at year 15 there remain significant effects at the highest magnitude of significance (major) then a full RVAA would be undertaken for those properties affected.

Glint and Glare

- 8.5.15 This Chapter has taken into account the preliminary conclusions presented in the PEIR Glint & Glare Assessment. The LVIA undertaken for the ES will consider the conclusions of the Glint and Glare Assessment in association with an assessment of the magnitude of landscape and visual impacts using the methodology prescribed in detail in **Appendix 8.1**.

Lighting

- 8.5.16 The LVIA undertaken for the ES will clearly explain the construction, operational and decommissioning lighting strategy for the Scheme and will include details of directionality, intermittent lighting, and an assessment of associated effects. It will also describe any measures necessary to avoid or mitigate lighting effects.

Cultural Heritage

- 8.5.17 The LVIA undertaken for the ES will focus on likely significant effects of views from heritage assets but would not comment upon the setting of such assets. This would be undertaken as part of the cultural heritage chapter of the ES. Consultation has been undertaken with the cultural heritage consultant through the LVIA process to help inform landscape character and the details are set out in **Appendix 8.4** Consultation.

Arboriculture

- 8.5.18 The LVIA undertaken for the ES will consider the findings of any tree surveys undertaken and review any effects upon landscape and visual receptors should vegetation removal be required as part of the Scheme. Due to the nature of the Scheme, it is considered that existing vegetation on Site would be retained and any removal to accommodate elements associated with construction or access would be subject to a BS5837:2012 tree survey and associated Arboricultural Impact Assessment which would inform the LVIA and design process. Mitigation associated with any such tree loss associated with the Scheme would be included in the landscape mitigation plans forming part of the LVIA. The Applicant and its LVIA consultants would work closely with the arboricultural consultant throughout the application process to ensure local arboreal assets and character inform the LVIA and associated mitigation plans. All work associated with the Scheme is proposed to be undertaken in line with BS5837:12.

Ecology

- 8.5.19 The LVIA undertaken for the ES will consider the findings of the ecological reports and close liaison with the ecology consultant would form a key part of the LVIA mitigation strategy. Whilst ecological effects would be dealt with wholly in the

ecological and biodiversity chapter of the ES (**Chapter 9**) this approach ensures that the landscape mitigation proposed for landscape and visual requirements is considered holistically with ecological requirements to maximise the benefits of the Scheme in terms of green infrastructure scale interventions in line with the Biodiversity Opportunity Mapping Study undertaken by the Greater Lincolnshire Nature Partnership Central in order to maximise habitat creation and ecological mitigation as well as landscape and visual mitigation

8.6 Scope

8.6.1 The preliminary LVIA assessment has been undertaken with reference to six key data information sources, as detailed in **Table 8.4** below.

Table 8.4: Key Information Sources

Data Source	Reference
Landscape Institute and Institute of Environmental Management and Assessment	Guidelines for Landscape and Visual Impact Assessment, 3 rd Edition (2013) ²¹
Natural England	An Approach to Landscape Character Assessment (October 2014) ²²
Landscape Institute	Visual Representation of Development Proposals ²³
Landscape Institute	Technical Guidance Note 02/19, Residential Visual Amenity Assessment (RVAA) (March 2019) ²⁴
Landscape Institute	Technical Guidance Note 02/21, Assessing landscape value outside national designations (May 2021) ²⁵
Ordnance Survey	Ordnance Survey 1-25000 digital and raster mapping
Ordnance Survey	Terrain 5 Digital Terrain Model data
Natural England	National Character Area Profile: 45 Northern Lincolnshire Edge with Coversands (NE554)
Natural England	National Character Area Profile: 48 Trent and Belvoir Vales (NE429)
Natural England	National Character Area Profile: 39 Humberhead Levels (NE339)

²¹ Landscape Institute and Institute of Environmental Management and Assessment, Guidelines for Landscape and Visual Impact Assessment, Third Edition 2013 (GLVIA) (2013)

²² Natural England, An Approach to Landscape Character Assessment, October 2014, by Christine Tudor, Available at: [landscape-character-assessment.pdf](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/362222/landscape-character-assessment.pdf) (publishing.service.gov.uk)

²³ Landscape Institute, Visual Representation of Development Proposals, Technical Guidance Note 06/1, 17 September 2019

²⁴ Landscape Institute Technical Guidance Note 02/19, Residential Visual Amenity Assessment (RVAA) (March 2019). Available at: [Residential Visual Amenity Assessment | Landscape Institute](https://www.landscapeinstitute.com/technical-guidance-note-02-19-residential-visual-amenity-assessment/)

²⁵ Guidance Note 02/21, Assessing landscape value outside national designations (May 2021), Available at: [tgn-02-21-assessing-landscape-value-outside-national-designations.pdf](https://www.landscapeinstitute.com/technical-guidance-note-02-21-assessing-landscape-value-outside-national-designations/) (windows.net)

East Midlands Landscape Partnership	East Midlands Regional Landscape Character Area Assessment Profile: 2b Planned and Drained Fens and Carrlands
East Midlands Landscape Partnership	East Midlands Regional Landscape Character Area Assessment Profile: 3a Floodplain Valleys
East Midlands Landscape Partnership	East Midlands Regional Landscape Character Area Assessment Profile: 3b Sandland Farmlands
East Midlands Landscape Partnership	East Midlands Regional Landscape Character Area Assessment Profile: 4a Unwooded Vales
East Midlands Landscape Partnership	East Midlands Regional Landscape Character Area Assessment Profile: 4b Wooded Vales
East Midlands Landscape Partnership	East Midlands Regional Landscape Character Area Assessment Profile: 5b Wooded Village Farmlands
East Midlands Landscape Partnership	East Midlands Regional Landscape Character Area Assessment Profile: 6a Limestone Scarps and Dipslopes
East Midlands Landscape Partnership	East Midlands Regional Landscape Character Area Assessment Profile: 10b Sandstone Forests and Heaths
Historic England online resource	Register of Historic Parks and Gardens

Assumptions and Limitations

- 8.6.2 ZTV mapping uses LIDAR Composite Digital Terrain Model (DTM) 2019 2m data as the basis for the DTM.
- 8.6.3 Woodland and other significant areas of vegetation were incorporated into the DTM using online aerial mapping and observation at the Sites. Buildings were incorporated into the DTM model using OS data. Heights used for both vegetation and building modelling were generic heights that are considered to be conservative estimates. ZTV mapping cannot incorporate the matrix of varying features and heights of those features. Mapping is assumed to present a 'worst case' scenario and is used as a *guide only* for Site-based survey to enable the selection of representative viewpoint locations and determine the possible extent of landscape areas affected.
- 8.6.4 ZTV mapping is based on analysis points set to the tops of tallest proposed structures. Mapping does not therefore differentiate between the full extent of a proposed structure being visible or only the top section being visible.
- 8.6.5 Site assessment was undertaken at each of the Sites by a qualified landscape architect using publicly accessible viewpoints. Assessment of residential property and other non-accessible receptors was estimated based on effects identified from the closest publicly accessible areas. No Site assessment of the substation has been undertaken as the location is yet to be determined as per section 8.8.7 to 8.8.8

however, landscape and visual advice will inform the final substation location as part of the iterative design process. Given the small scale nature of the sub-station, significant effects are unlikely. As per sections 8.83 to 8.86, the cable route is subject to refinement and the final cable corridor would be assessed as part of the ES chapter. Given the underground nature of the cable corridor and that construction impacts would only be temporary, significant effects are unlikely.

8.6.6 Arboreal constraints associated with the cable route would be dealt with in the Landscape and Environmental Management Plan (LEMP) and as an arboricultural method statement to prescribe how construction along the cable route would be undertaken alongside the retention of existing trees.

8.6.7 The assessment of visual effects for all residential receptors is based on views from ground floor areas, including gardens for residential property.

8.7 Existing Baseline

8.7.1 This section of the assessment describes the baseline landscape and visual conditions for the Sites and their surroundings, against which the potential impacts of the Scheme would be identified. The potential impacts of the Scheme include the cable route corridors, which have been reduced and altered from the version submitted at scoping stage, as further environmental assessments have been completed. There is still on-going assessment work in relation to the cable route which will inform the final corridor to be proposed in the DCO application. The existing baseline is set within the following areas:

- Cottam 1, which is located across a series of fifteen field parcels surrounding the small hamlet of Coates and covers an area of approximately 894 ha;
- Cottam 2, which is located across a single land parcel and covers an area of approximately 132 ha; and
- Cottam 3, which is located across a series of five field parcels to the west, northwest and southwest of the village of Blyton and covers an area of approximately 244 ha.

Landscape Resource

8.7.2 This section describes the landscape around the Sites and sets out the information that has been collected to determine the baseline conditions at this stage in the EIA. The main objective is to provide as much relevant information about the Sites and the surroundings of the Scheme and to set out the assessment parameters that will underpin the final detailed assessment of any likely significant environmental effects that will be undertaken to inform the ES.

8.7.3 The baseline conditions are described under the following sub-headings and illustrated on figure 8.6:

- Land use
- Topography and watercourses
- Communications and infrastructure
- Settlements, industry, commerce, and leisure
- Public rights of way and access
- National and Locally Designated landscape
- Scheduled Monuments, Listed Buildings, Conservation Areas and Registered Parks and Gardens; and
- Ancient woodland and natural designations.

Land use

8.7.4 **Cottam 1:** Land within the Study Area, features include geometric shaped shelterbelts and woodland plantations consisting of predominantly native species with large polar specimens in shelterbelts to the east of the Site. The landscape is also punctuated by small roads running in a predominantly east west orientation across the landscape.

8.7.5 The Site comprises fields separated by hedgerows with trees, and drainage ditches that feed into the River Till.

8.7.6 **Cottam 2:** Land within the Study Area, the landscape consists primarily of arable land use with small to medium sized fields separated by hedgerows with some trees, and drainage ditches that feed into the wider drainage network of the River Till. The landscape is typified by arable fields, hedgerows and watercourses, which is synonymous with the Site. Small woodlands are located to the northeast identified as coverts and are broadly rectangular or angular shaped by field pattern. Wharton Wood and Birch Wood are large areas of woodland to the west with Wharton being the largest and part of which is ancient woodland. These woodland forms part of a wider structure of woodlands across the area.

8.7.7 The Site comprises a series of agricultural field parcels that follow the surrounding field patterns and consist of predominantly arable and grazing land use. The hedgerows are generally uniform and gappy in places with very few hedgerow trees and some small areas of scrub.

8.7.8 **Cottam 3:** Land within the Study Area, there is open agricultural land with small pockets of woodland with Laughton Woods approximately 2km to the northwest of the Site. This forms a prominent feature in the landscape running to the west into Laughton Common and Owlet Plantation. There are also woodlands within and adjacent to the Site.

8.7.9 The Site comprises predominantly open fields with boundaries and structures associated with the former airfield and current uses for motor racing and carting. The Site boundaries are enclosed to the south, east and west by hedgerows with trees, and drainage ditches leading to Northorpe Beck in the northeast.

Topography and Watercourses

8.7.10 **Cottam 1:** Land within the Study Area, the landscape is generally flat or gently sloping, with levels ranging from approximately 10m AOD to the southwestern boundary and rising to approximately 20m AOD to the north-eastern boundary towards the village of Fillingham.

8.7.11 A notable topographical feature lies to the east where the landform rises to create a distinctive sloping ridge forming a prominent landform. Along this landform lie a linear line of small villages. In the east the road arrangement formalises and changes to a linear north to south alignment called Middle Street Road.

8.7.12 The River Till runs through and borders a number of the western Site parcels as it meanders through the landscape.

8.7.13 The Site shows some typical characteristics and a more organic pattern where fields are bound in some places by both rectilinear and informal drains.

8.7.14 **Cottam 2:** Land within the Study Area, the landscape is generally flat, with levels of approximately 20m AOD across the Site. Ditches feed into the wider drainage network of the River Till. Corringham Beck forms a larger watercourse and bounds the north-eastern boundary of the land parcel.

8.7.15 A notable topographical feature lies to the east where the land rises to form a distinctive sloping ridge forming a prominent landform. The ridgeline is a distinctive feature in the surrounding landscape and prevalent across all field parcels. Along this ridgeline lie a linear arrangement of small villages some of which are listed above. In the east the road alignment curves through the landscape in a broadly north-south alignment of the A1398.

8.7.16 The road alignment formalises further east by the A15 following a linear and former Roam Road. To the south of Cottam 2 lies the A631 running a southeast-east to northwest-west orientation approximately 44m from the Site boundary.

- 8.7.17 The Site shows some typical characteristics and comprises a series of agricultural fields in a compact single land parcel with two residential steadings located towards the centre, namely, Corringham Grange Farm and The Cottage.
- 8.7.18 **Cottam 3:** Land within the Study Area, the landscape is generally flat, with topography varying only very slightly in elevation, typically with levels of approximately 20m AOD similar to Cottam 2 although there are some minor undulations of landform to the northeast and east of the Site at Cottam 3.
- 8.7.19 A notable topographical feature is located to the east, the land rises to form a distinctive sloping ridge, which is a dominant landform where a series of small villages follow the ridgeline.
- 8.7.20 Man-made, rectilinear drains are a characteristic of the area to the north of the railway line with an absence of natural, meandering watercourses. To the south of the railway line, the primary watercourse comprises the River Eau with a number of tributaries including Aisby Beck that cuts across the Study Area in the south and meets with Cottam 2. Other substantial drainage features include Laughton Drain, Highfield Drain, Northorpe Beck and Corringham Beck.
- 8.7.21 The Site shows some typical characteristics to the south of the railway line where the fields are bounded by drains that are regular. Beyond the Site to the south the pattern becomes more irregular.

Communications and Infrastructure

- 8.7.22 **Cottam 1:** Land within the Study Area, the landscape is reinforced to the east by the A15 following a strong linear alignment and former Roman Road. To the southwest lies the A1500 a linear road again following the alignment of a former Roman Road and orientated in a roughly northwest to southeast alignment running diagonally across the landscape. In contrast, the adjoining Gainsborough Road (A156) follows a more organic and informal alignment across the landscape.
- 8.7.23 The Site is crossed by a number of roads that cross east to west, these roads are Glentworth Road, Gillingham Lane and Ingham Road.
- 8.7.24 **Cottam 2:** Land within the Study Area, there are small roads running in a predominantly east west and north south orientation across the landscape.
- 8.7.25 The Site has residential properties towards the centre, and these are accessed by a narrow road in a broadly north-northwest to south-southeast arrangement. Two metalled access tracks lead off the main access road running perpendicular to the access road and defining field parcels in a geometric form.
- 8.7.26 **Cottam 3:** Land within the Study Area, a wind turbine is located near to the entrance to the airfield, near the parcel's southern boundary and this forms the only other

significant vertical element in the local landscape. The surrounding landscape is punctuated by small roads linking villages, with the B1025 defining the southern boundary and running in a predominantly east to west orientation across the landscape turning to a broadly north to south alignment for a short section to the east before returning to the main east to west alignment.

- 8.7.27 The A159 is located to the west of the Site running through Blyton and northward before turning northeast towards the village of Scotter. A main line railway runs between two of the larger land parcels with Sites located to the north and south of the railway line. The line serpentine through and around Gainsborough and cuts through the landscape surrounding the Site in a linear form and orientated southwest-west to northeast-east before turning to a southwest to northeast orientation towards the edge of Kirton in Lindsey. Land to the south of the railway line is more rural in character with pasture surrounded and divided by hedgerows and trees.
- 8.7.28 In the east, the road arrangements formalise and change to a linear north to south alignment called Grayingham Low Road. This is reinforced further to the east by the B1398 and the A15 further east following a linear and former Roman Road.
- 8.7.29 The Site has overhead powerlines which run across the western portion in a northeast to southwest alignment defining the largest vertical elements on Site and in the wider landscape.

Settlements, Industry, Commerce, and Leisure

- 8.7.30 **Cottam 1:** Land within the Study Area shows a series of rural villages include Fillingham (approximately 1km); Ingham (approximately 1.6km); and Cammeringham (approximately 1.5km) to the east of the Site. Thorpe in the Fallows (approximately 100m); Sturton by Stow (approximately 1.15km); and Bransby (approximately 1.9km) lie to the south and southwest of the Site. Stow (approximately 840m); Normanby by Stow (adjacent); and Willingham by Stow (approximately 960m) lie to the west of the Site, and Kexby lies approximately 1.6km to the northwest of the Site. Cottam 1 is located roughly between the city of Lincoln (approximately 10km to the southeast of the Site, and the town of the town of Gainsborough is the primary settlement located approximately 8.7km to the northwest of the Site.
- 8.7.31 With the exception of the villages/hamlets mentioned above, the area is relatively sparsely populated with isolated residential properties and farmsteads dotted throughout the surrounding countryside.
- 8.7.32 The Site lies within the parishes of Fillingham, Cameringham, Thornton in the Fallows, Sturton by Stow, Stow and Willingham.

- 8.7.33 **Cottam 2:** Land within the Study Area shows the closest settlements to Cottam 2 include the settlements of Corringham located approximately 600m to the southwest. Pilham is located approximately 2.2km to the northwest, Blyton is located approximately 3.6km to the northwest, beyond which lies Laughton all outside the Study Area. Northorpe is located approximately 590m to the east of the Site, Willoughton is located approximately 4km to the northeast, Hemswell is located approximately 4km to the southeast, Harpswell is located approximately 5km to the southeast all outside the Study Area, Springthorpe is located approximately 1.9km to the south with Heapham and Upton located beyond Springthorpe to the southeast.
- 8.7.34 With the exception of the villages/hamlets mentioned above the area is relatively sparsely populated with isolated residential properties and farmsteads dotted throughout the surrounding countryside.
- 8.7.35 The Site lies wholly within the Parish of Corringham which is surrounded by the parishes of Pilham, Blyton, Northorpe, Blyborough, Willoughton, Hemswell, Harpswell, Springthorpe, Upton, Lea, Gainsborough and Thornock. It is located roughly between the town of Gainsborough (approximately 6.5km) to the southwest and the village of Willoughton (approximately 4km) to the northeast of the Site and outside of the Study Area.
- 8.7.36 **Cottam 3:** Land within the Study Area shows a series of rural villages are located across the landscape with the closest being Blyton located approximately 970m to the southwest. Laughton is located approximately 1.7km to the northwest, and Scotton and Scotter are located approximately 2.5km and 4km respectively to the northeast outside the Study Area. Northorpe is located approximately 2km to the east and Willoughton is located approximately 5km to the southeast outside the Study Area, with Pilham located approximately 470m to the southeast.
- 8.7.37 The main Sites are located on the former Blyton airfield site and adjoining arable land to the northeast and west. The airfield is interspersed with arable land use and a series of concrete roads and large open concrete areas are found throughout the Site.
- 8.7.38 With the exception of the villages/hamlets mentioned above the area is relatively sparsely populated with isolated individual residential properties and farmsteads distributed along lanes throughout the surrounding countryside. The landscape to the south of the railway line is well-contained and similar in character to Cottam 2. To the north of the railway line the landscape is heavily influenced by the airfield and to the northeast of the Site, the landscape is more open and less vegetated responding closely to subtle landform, open field boundaries and irregular field Patterns.

8.7.39 Land within the wider Study Area shows the landscape is also influenced by existing and redundant airfields at Sturgate and Scampton and the redundant airfield on Site at Cottam 3. Cottam and West Burton Power Stations are also located within the wider landscape to the west forming visible landmarks in the wider landscape within and outside the 2km and 5km Study Areas.

8.7.40 The Site lies within the parishes of Laughton, Blyton and a small section within the parish of Pilham and also lies in immediate proximity to the boundary of Northorpe Parish. Cottam 3 is located approximately 6.7km to the northeast of the town of Gainsborough, which is the primary settlement in the area.

Public Rights of Way and Access

8.7.41 **Cottam 1:** Land within the Study Area shows the PRow network is concentrated along field boundaries and aligned with the road network. The network is intermittent with few landscape features to help form continuous links and is particularly sporadic in the landscape to the west. There are no named long-distance routes or national cycle routes.

8.7.42 The Site is bordered by the footpath network with some footpaths passing along the boundaries and passing across east to west. As a general observation, footpaths appear well used with observations of pedestrian activity. Because the network is sporadic the local lanes are also used to supplement the network.

8.7.43 **Cottam 2:** Land within the Study Area, shows the PRow network is concentrated within the western landscape, elsewhere the network is sparse.

8.7.44 The Site is not bordered by the footpath network and there are no footpaths crossing the land parcel.

8.7.45 **Cottam 3:** Land within the Study Area shows the PRow network is generally concentrated around settlements and along field boundaries and drainage features. The landscape to the west has a higher number of footpaths and bridleways in contrast to the landscape to the east.

8.7.46 The Site to the south of the railway line is crossed by a footpath in contrast to the former airfield to the north which supports no footpaths.

National and Locally Designated landscape

8.7.47 West Lindsey District contains a local landscape designation, the West Lindsey Area of Great Landscape Value (AGLV) which comprises different and disparate parts. These different parts are not named, therefore for clarity, in the descriptions below the areas are named as follows (and shown on **Figure 8.6** Landscape Receptors):

- AGLV1 – The Ridge

- AGLV2 – Gainsborough
- AGLV3 – Laughton Wood

8.7.48 **Cottam 1:** The Site does not include nationally designated landscape or AGLV as shown on **Figure 8.6**.

8.7.49 Land within the Study Area shows there are locally designated landscapes comprising the AGLV centred around Gainsborough [Gainsborough AGLV] to the west and around Fillingham and Ingham [Ridge AGLV] to the east. These AGLV run in a north south direction and are associated with the distinct landform ridge. These AGLV cover a considerable distance and extend from the villages of Grayingham in the north to South Carlton in the south. The Ridge AGLV lies at the closest proximity at 200m from the Site boundary near the village of Fillingham. The Gainsborough AGLV is located approximately 3.1km west of the Site.

8.7.50 **Cottam 2:** The Site does not include nationally designated landscape or AGLV as shown on **Figure 8.6**.

8.7.51 Land within the Study Area shows there are locally designated landscapes comprising the AGLV centred around Gainsborough [Gainsborough AGLV] to the west and around Grayingham and Blyborough [Ridge AGLV] to the east. The Ridge AGLV is located approximately 3.7km to the east of the Site and runs in a north to south orientation from Gainsborough down to Marton. The Gainsborough AGLV is located approximately 2.3km west of the Site and the Laughton Wood AGLV is located approximately 4.7km northwest.

8.7.52 **Cottam 3:** The Site does not include nationally designated landscape or AGLV as shown on **Figure 8.6**.

8.7.53 Land within the Study Area shows there are locally designated landscapes comprising the AGLV centred around Gainsborough to the west [Gainsborough AGLV], around Grayingham and Blyborough [Ridge AGLV] to the east and Laughton [Laughton AGLV] to the northwest. The Ridge AGLV is located approximately 4.8km to the east of the Site. The Laughton Wood AGLV covers an extensive area of woodland surrounding Laughton and is located to the north of the Site. The Gainsborough AGLV is located approximately 1.9km southwest of the Site.

[Scheduled Monuments, Listed Buildings, Conservation Areas and Registered Parks and Gardens](#)

8.7.54 **Cottam 1:** There are two Scheduled Monuments on the Site within the red line boundary.

8.7.55 The hamlet of Coates also lies to the centre of Cottam 1 within the red line boundary and contains two areas of defined Scheduled Monuments, Land within the 2km

Study Area shows the closest Scheduled Monument to the centre is Thorpe Medieval Settlement (List Entry Number: 1016978) in Thorpe the Fallows hamlet which borders the Site to the south. Coates Medieval Settlement and Moated Site (List Entry Number 1016979) located approximately 560m from the Site boundary. There is a further Scheduled Monument outside the Site in the village of Brattleby called Cross on St Cuthbert's Churchyard (List Entry Number: 1018288) just within 2km of the boundary.

- 8.7.56 Land within the 5km Study Area shows there are a number of scheduled monuments including Sites at Harpswell to the west of Fillingham, Broxholme, Ingleby, between Sturton by Stow and Marton, Knaith Park and Springthorpe.
- 8.7.57 There are no Listed Buildings on Site.
- 8.7.58 The closest listed building in proximity to the Site is located at Thorpe in the Fallows which is Thorpe in the Fallows Farmhouse (List Entry Number: 1308921). The Grade I listed Church of St Edith (List Entry Number: 1146742) lies in the hamlet of Coates at the centre of Cottam 1. There are further number Listed Buildings within 2km of the Site and these are found predominantly within local villages and settlements.
- 8.7.59 Land within the 5km Study Area shows there are a number of listed buildings in the Hemswell, Harpswell, Hemswell Cliff, Aisthorpe, Scrampton, Broxholme, Ingleby, Brampton, Marton, Gate Burton, Upton and Heapam, together with a number of isolated and grouped buildings outside of settlements.
- 8.7.60 There are no Conservation Areas on Site.
- 8.7.61 Land within the 2km Study Area shows there are a number of Conservation Areas including Glentworth, Fillingham, Ingham, and Brattleby. These are all located on rising ground to the east of the Site at the base of the prominent landform running north to south.
- 8.7.62 Land within the 5km Study Area shows there are Conservation Areas at Hemswell and South Carlton.
- 8.7.63 There are no Registered Parks and Gardens on Site.
- 8.7.64 The closest Registered Park and Garden lies just on the outer eastern Study Area within 2km and comprises the Grade II listed Fillingham Castle (List Entry Number: 100097).
- 8.7.65 **Cottam 2:** There are no Scheduled Monuments on the Site.
- 8.7.66 Land within the 2km Study Area shows the closest scheduled monument is Gilby Medieval Settlement and Cultivation Remains (List Entry Number: 1016795) which lies approximately 1.3km to the northwest of the Site. The Deserted Village of

Dunstall (List Entry Number: 1004996) lies approximately 0.75km to the northeast of the Site boundary.

- 8.7.67 Land within the 5km Study Area shows there are sites at Willoughton, Springthorpe and Harpswell.
- 8.7.68 There are no Listed Buildings on the Site.
- 8.7.69 Two isolated listed buildings are located in close proximity to the Site boundary, including the Grade II Old Hall (List Entry Number: 1165535) lies 400m to the west of the Site, and Grade II Corringham Windmill (List Entry Number: 135941) lies 580m to the south. There are further Listed Buildings within the villages of Corringham and Springthorpe.
- 8.7.70 There are no Conservation Areas on the Site.
- 8.7.71 There is only one Conservation Area at Springthorpe within 2km.
- 8.7.72 There are no Registered Parks and Gardens on Site or within 2km of the boundary.
- 8.7.73 **Cottam 3:** There are no Scheduled Monuments on the Site.
- 8.7.74 Land within the 2km Study Area shows Southorpe Medieval Settlement and Cultivation Remains (List Entry Number: 1016794) lies approximately 1.35km to the east of the boundary northeast of the Site. There is a further Scheduled Monument namely the Cross in St Martin's Churchyard (List Entry Number: 1018291) which lies approximately 940m to the southwest of the Site boundary.
- 8.7.75 Land within the 5km Study Area shows there is a site at Willoughton on the south-eastern outer limits.
- 8.7.76 There are no Listed Buildings on the Site.
- 8.7.77 The closest listed building in proximity to the boundary is the Grade II listed Old Railway Station (List Entry Number: 1359454) located 0.32km to the west of the lowest field parcel to the south of the railway line. There are a number of Listed Buildings in the surrounding landscape including at Pilham which are predominantly Grade II listed with the Grade II* listed Church of All Saints (List Entry Number: 131137). Blyton contains a number of Listed Buildings including the Grade I listed Church of St Martin (List Entry Number: 1064159) located 660m to the southwest of the Site. There are further Listed Buildings at Laughton include the Grade I listed Church of All Saints (List Entry Number: 131208) located approximately 1.66km from the boundary. The Grade II Mount Pleasant Farmhouse (List Entry Number: 131186) lies to the north of the Site approximately 600m north of the boundary. There are further Listed Buildings at Northorpe including the Grade I Church of St John the Baptist (List Entry Number: 1165812).

8.7.78 There are no Conservation Areas on the Site.

8.7.79 There is only one Conservation Area at Springthorpe within 2km.

8.7.80 There are no Registered Parks and Gardens on Site or within 2km of the boundary.

Ancient woodlands and Natural Designations

8.7.81 Ancient Woodland and Natural Designations include National Parks and AONBs. In addition to these there are further national and international statutory environmental designations which contribute to England's natural environment and make a major contribution to national and regional character. These include the following:

- Sites of Special Scientific Interest (SSSI)
- Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- Ramsar Sites
- National Nature Reserves (NNR)
- Local Nature Reserves (LNR)
- Marine Protected Areas (MPA) - including a Marine Nature Reserve at Lundy

8.7.82 **Cottam 1:** There are no areas of Ancient Woodland on the Site or within 2km of the boundary.

8.7.83 There are no Local Nature Reserves, Local Wildlife Sites or Sites of Special Scientific Interest on Site or within 2km of the boundary.

8.7.84 **Cottam 2:** There are no areas of Ancient Woodland on the Site or within the 2km of the boundary.

8.7.85 There are no Local Nature Reserves, Local Wildlife Sites or Sites of Special Scientific Interest on the Site.

8.7.86 Land within 2km of the boundary shows there is Scotton Beck Fields Site of Special Scientific Interest (SSSI) and Scotton Common SSSI approximately 1.5km to the north of the boundary.

8.7.87 **Cottam 3:** There are no areas of Ancient Woodland on the Site or within 2km of the boundary.

8.7.88 There are no Local Nature Reserves, Local Wildlife Sites or Sites of Special Scientific Interest on the Site.

8.7.89 Land within 2km Laughton Common SSSI lies to the northwest of the boundary.

National Landscape Character

8.7.90 Land within the Study Area shows there are the following National Character Area (NCA's) as identified by Natural England in the England-wide mapping of landscape character at a broad, national scale.

8.7.91 **Cottam 1:** The Site and land within the Study Area fall within National Character Area (NCA) 48²⁶ Trent and Belvoir Vales and NCA 45 Northern Lincolnshire Edge.

8.7.92 **Cottam 2:** The Site and land within the Study Area fall within National Character Area (NCA) 39²⁷ Humberhead Levels, NCA 48 Trent and Belvoir Vales and NCA 45 Northern Lincolnshire Edge.

8.7.93 **Cottam 3:** The Site and land within Study Area fall within National Character Area (NCA) 39 Humberhead Levels, NCA 48 Trent and Belvoir Vales and NCA 45 Northern Lincolnshire Edge.

8.7.94 The key characteristics, forces for change and sensitivities identified for the NCAs that are relevant to the LVIA are set out in **Appendix 8.2** Landscape Receptor Analysis Tables.

Regional Scale Landscape Character

8.7.95 Land within the Study Area shows there are four Landscape Character Groups (LCG's)²⁸ that are subdivided into five Landscape Character Types (LCT's) as detailed in **Table 8.5** below.

²⁶ Natural England, 8 April 2013, *National Character Area profile: 48 Trent and Belvoir Vales (NE429)* Available online at: <http://publications.naturalengland.org.uk/publication/7030006#:~:text=NCA%20Profile%3A%2048%3A%20Trent%20and%20Belvoir%20Vales%20%28NE429%29,predominantly%20arable%20farmland%2C%20centred%20on%20the%20River%20Trent.?msclkid=6e059cd3cf9e11ec87d997fd87101149> (Accessed 09/05/2022).

²⁷ Natural England, 8 April 2013, *National Character Area profile: 39 Humberhead Levels (NE339)* Available online at: <http://publications.naturalengland.org.uk/publication/1843305?category=587130&msclkid=28838fcdcf9d11ec80e67518fa16df71> (Accessed 09/05/2022).

²⁸ East Midlands Landscape Partnership, April 2010, *East Midlands Regional Landscape Character Assessment*

Table 8.5: Landscape Character Types & Areas

Landscape Character Groups:	Landscape Character Types:
Group 2: Fenland and Fenland Margins	2b: Planned and Drained Fen and Carrlands
Group 3: River Valley Floodplains	3a: Floodplain Valleys
Group 4: Lowland Vales	4b: Wooded Vales 4b: Unwooded Vales
Group 6: Limestone Farmlands	6a: Limestone Scarps and Dipslopes

8.7.96 Within the Sites, at the regional scale, landscape character is assessed within the East Midlands Regional Landscape Character Assessment and as defined in **Figure 8.5**, the Sites are located within RLCT Profile: 4a Unwooded Vales.

8.7.97 Based upon Site observation and professional judgement, it was clear that the Scheme would incur no significant effects upon landscape character within the remaining LCT's due to a combination of Distance from the Application Site and/or general lack of intervisibility. As such those remaining LCA's are not discussed further in the LVIA.

8.7.98 Land within the Study Area also contains areas defined as 'Built Up Area' which is associated with the primary settlement of Gainsborough and other settlements including Blyton, Scotter, Scampton, Saxilby and Sturton by Stow, and the main highway corridors including the A1500 (Tillbridge Road), A15 (Ermine Road), A631 (Harpswell Lane), and the A59 (Gainsborough Road). Cottam 3 includes two Sites to the west that are located within this 'Built Up Area'.

8.7.99 The key characteristics, forces for change and sensitivity identified for the LCTs that are relevant for the LVIA are set out in **Appendix 8.2** Landscape Receptor Analysis Tables.

Local Scale Landscape Character

8.7.100 The Sites are located within a Local Landscape Character Area (LLCA's) as defined by the West Lindsey Landscape Character Assessment²⁹ within Profile LLCA 3 Till Vale.

8.7.101 Land within the Study Area shows there are further LLCA's as follows:

- LLCA 1 Loughton Woods
- LLCA 2 Trent Valley; and
- LLCA 4 The Cliff.

²⁹ Environmental Resources Management, August 1999, *West Lindsey Landscape Character Assessment*

8.7.102 The LCA was undertaken in August 1999 and therefore it is proposed to undertake a review of the West Lindsey Landscape Character Assessment to ensure extracted information is used where still current and relevant.

Visual Resource

8.7.103 This section describes the visual resource around the Sites and sets out the information that has been collected to determine the baseline conditions at this stage in the EIA. The main objective is to provide as much relevant information about the Sites and the surroundings of the Scheme and to set out the assessment parameters that will underpin the final detailed assessment of any likely significant environmental effects that will be undertaken to inform the ES.

8.7.104 A suite of viewpoints have been identified through desk studies which have been confirmed through fieldwork in February and March 2022. Their locations have been subject to consultation with the relevant planning authorities and other stakeholders where some additional viewpoints have been included and photography undertaken as set out within **Table 8.2**. Viewpoint selection has followed good practice and in particular paragraphs 6.18 to 6.20 of GLVIA3. The viewpoints proposed will be used to aid the description of effects on both landscape and visual resources and would be utilised for assessment purposes.

8.7.105 The selection of viewpoints was made on the basis of the following types of publicly accessible viewpoints, as follows:

- Representative viewpoints (representative of views from a particular PRoW)
- Specific viewpoints (such as key views from a specific visitor attraction)
- Illustrative viewpoints (chosen to demonstrate a particular effect/specific issue)
- Any important sequential view, for example, along key recreational or transport routes; and
- Any additional agreed viewpoints that have been requested by consultees and the relevant planning authorities.

8.7.106 For the purposes of the LVIA, all the viewpoints are taken from publicly accessible land and photography undertaken in both summer and winter to ensure a worst-case scenario is assessed and illustrated.

8.7.107 The viewpoints are set out within **Appendix 8.3** Viewpoint Analysis Tables.

8.7.108 The viewpoint photography and photography methodology is illustrated in **Figure 8.14** Viewpoint Verified Photography and was undertaken in winter.

- 8.7.109 In order to assist with viewpoint selection and to appreciate the potential influence of the Scheme on the wider landscape, preliminary ZTV figures are used to illustrate the area from where it may be theoretically possible to view all, or part of the Scheme. The ZTVs produced are both Bare Earth (landform only) to illustrate a worst-case scenario and Augmented ZTV figures which illustrate the effects of landform, built form and vegetation in both summer and winter.
- 8.7.110 The ZTV's provide a starting point in the assessment process and therefore provide a 'worst case' illustration of theoretical visibility and assume that if any of the Scheme is visible it will be shown on the ZTV.
- 8.7.111 Further ZTV's would be undertaken through the iterative design process to help understand the impacts of evolution to the design process. The ZTV is produced using ArcGIS Pro 2.1 software, and the calculations are based on the Scheme at 4.5m above ground level (AOD).
- 8.7.112 Augmented ZTVs would also be produced through the iterative design process to illustrate with greater accuracy the theoretical visibility of the Scheme. A further Augmented ZTV would also be run to illustrate the screening effects of vegetation at year 15 (summer) should this be requested by the relevant planning authorities.
- 8.7.113 Further to the viewpoints, a series of photomontages are proposed to be produced to show the effects of the Scheme at the locations where significant effects may be possible. At these locations it is proposed to undertake photomontages to AVR (Actual Visual Representation). Following PEIR, Type 4 Photomontage (survey/scale verifiable) will be prepared for the ES in both winter and summer months. This ensures that both the effects of reduced vegetation and where the colours of the panels change with the light at different times of the year (winter/summer) are illustrated. Such montages are also proposed to be utilised if required at the time of assessment for cumulative photography where the effects of the Scheme would be seen in combination with another scheme. At present no cumulative photography has been defined. This will be agreed with the LPAs prior to submission of the DCO application.

8.8 Proposed Structures and Mitigation Measures

Proposed Structures

- 8.8.1 A detailed description of the Scheme is provided in **Chapter 4 Development Proposal**. The Scheme comprises above ground and below ground built development, namely, solar panels, sub-stations and energy storage, cables and associated apparatus.

8.8.2 For the purpose of the LVIA process, each of the smaller Sites are considered independently of each other as separate Study Areas. These areas are illustrated on **Figure 8.1** and described as:

- Cottam 1: Size 894ha. Is made up of a number of Sites/fields clustered within an area of countryside centred around the village of Coates in the District of West Lindsey.
- Cottam 2: Size 132ha. Sits to the north of Cottam 1 and is located to the east of the village of Corringham.
- Cottam 3: Size 244ha. Sits to the north of Cottam 2 and is split into two distinct areas:
 - Cottam 3a, to the north-east and south-east of the village of Blyton; and
 - Cottam 3b, to the east of Pilham.

Cable Route Corridors

8.8.3 The electricity generated by the Scheme will be imported and exported via new underground cables to the National Grid at a substation at Cottam Power Station. The cable route corridors are identified as 'search areas' at this stage for a potential cable route. Only a narrow width within these corridors will be required for the cable route and its construction. The cable route corridors are connecting the land parcels together and then to the grid connection point. The Applicant is in the process of seeking to refine this corridor, which will progress alongside the design process.

8.8.4 The cable corridor as shown in the PEIR is mostly around 100m in width with some wider sections to allow for specific constraints such as ecology and archaeology. The corridor shown is wider than is required but it is still subject to on-going assessment work which will be used to refine the cable route which will inform the route proposed in the DCO submission.

8.8.5 The voltage of the cables and the number of circuits will affect the width of cable trenches required. The range of typical cable trench widths is from 0.32m (for 1 circuit) to 3.38m (for 4 circuits). However, the width and spacing of the cable trenches may differ depending on environmental constraints, engineering requirements or if crossing third party apparatus (e.g., railway lines). In addition to the trenches, land will be required in the corridor for access and soil and cable 'lay down'. Construction compounds along this route will also be required. Any existing overhead power lines will be retained, and no new overhead lines will be required.

8.8.6 Mitigation measures, if required, will be developed for the cable route once the design and route has been developed further. However, initial principles are set out below:

- **Primary Mitigation** – Route designed to avoid landscape features such as trees, hedgerows, ditches, woodland etc.
- **Secondary mitigation** – where crossing such features becomes unavoidable, utilise directional drilling.

Sub Stations and Energy Storage

- 8.8.7 Substations and energy storage form part of the Scheme design. The applicant is in the process of seeking to refine the location for the substations, which will progress alongside the design process. Mitigation measures will be developed for the substations once the design is known. On the Cottam 2 and 3 Sites there are proposed to be 132kV substations and each substation will take in the region of 12 months to construct. The 400kV substation on the Cottam 1 Site will take in the region of 18-24 months to construct and there will be a connection from the substation to the existing Cottam Power Station.
- 8.8.8 Mitigation measures will be developed for the substation and energy storage once the design has been developed further. However, initial principles would be consistent with the Mitigation Buffer Zones (MBZs) approach undertaken for CO1-3 Sites set out below.

Mitigation Relating to the Scheme

- 8.8.9 The potential mitigation measures which are being explored as part of the LVIA process are reported in this section, prior to the following **Section 8.8** Landscape and Visual Effects.
- 8.8.10 The mitigation measures set out in this section are those that are may be established for Year 15 of the Proposed Development (during the operational period). This is because impacts at Year 15 of the Development are considered as most relevant to all other stages of mitigation under review because they are the most inherent in the context of the landscape character and visual amenity of the Development. This position of 'Year 15' relevance is judged in terms of the effectiveness of maturation of planting and the 'time depth' of the receiving landscape.
- 8.8.11 The assessment process includes iterative design and re-assessment of any remaining, residual effects that could not otherwise be mitigated or 'designed out'. The type of effect is also considered and may be direct or indirect; temporary or permanent (reversible); cumulative. The LVIA involves a combination of both quantitative and qualitative assessment and wherever possible a consensus of professional opinion is sought through consultation as set out within **Table 8.2** Consultation Responses Timeline and **Appendix 8.4** Consultation.

- 8.8.12 In terms of mitigation and the landscape baseline and landscape character measures associated with the Scheme, the LVIA would look to address the landscape sensitivities and forces for change. Each of the character areas are set out within **Appendix 8.2** Landscape Character Tables.
- 8.8.13 The full extent of the built elements of the Scheme within the Sites is not yet known and is being developed through the LVIA assessment in an iterative way in line with GLVIA3. Measures illustrated on **Figure 8.16** Strategic Landscape Mitigation Measures are therefore preliminary and will be finalised in the Environmental Statement.
- 8.8.14 As set out within GLVIA3 at paragraph 4.21, mitigation measures are described as:
- 8.8.15 “In accordance with the EIA Regulations, measures to prevent/avoid, reduce and where possible offset or remedy (or compensate for) any significant adverse landscape and visual effects should be described.”
- 8.8.16 Within the guidance, these mitigation measures are now generally considered to fall into three categories and the LVIA will consider them as being:
- *Primary Mitigation:* Measures that are embedded within the design of the Scheme at the outset and which depend on the preliminary findings of the LVIA process. The measures are iterative and essentially look to modify the scale and layout of the Scheme and also strive to achieve to raise the bar of acceptability in terms of planning policy compliance. These measures aim to ensure a reasonable balance of viability and to meet with policy expectations.
 - *Secondary Mitigation:* Measures that are integrated as part of the evolution of the design and which depend on the interim findings of the LVIA process. The measures are iterative and essentially will look to include planting enhancement at the source of the Scheme and within the redline boundary. These measures will look to add inherent value to the landscape character and visual amenity of the Site and its environs and to exceed planning policy expectations; and
 - *Tertiary Mitigation:* These are offsite measures that could be considered as a wider commitment under legal obligation outside the redline boundary. The measures are iterative but also look to fulfil wider planning policy objectives such as green infrastructure interventions and planning for social and community initiative. The achievement of tertiary mitigation can be dependent upon a number of factors and some outside the control of an applicant.
- 8.8.17 These mitigation measures are explored within **Figure 8.16** Cottam Strategic Mitigation Plan and the assessment of effects of these ‘high level’ measures are set out within the following **Section 8.8**. The LVIA at this PEIR stage takes into account

potential mitigation measures at the construction, operation and decommissioning stages of the Scheme:

- Construction – Assessment would be based on the construction of the solar panels and associated infrastructure including energy storage, substation and cable corridor options and would be undertaken in winter to assess a worst-case scenario. Primary mitigation would look at measures to reduce the construction effects, in particular the siting, design and layout of the construction activities. Secondary mitigation measures such as planting would not be taken into account at this stage. Tertiary mitigation would be considered at this stage if required to reduce the effects of construction such as temporary changes to hedgerow management within the wider land ownership to reduce views of the Scheme.
- Operation (Year 1) – Assessment would be based on the presence of the solar panels and associated infrastructure including the energy storage, substation and cable corridor being operational and would be undertaken in winter to assess a worst-case scenario. Primary mitigation would look at measures to reduce the operational effects, in particular the siting, design and layout of the solar panels and associated infrastructure including energy storage, substation and cable corridor. Secondary mitigation measures such as planting would be taken into account at this stage. Tertiary mitigation would also be considered at this stage if required to reduce the effects of construction such as temporary changes to hedgerow management within the wider land ownership to reduce views of the Scheme.
- Operation (Year 15) – Assessment would be based on the solar panels and associated infrastructure including the energy storage, substation(s) being operational at the time and assessed in summer with vegetation in leaf offering maximum screening potential. Primary mitigation would assume a uniform growth of trees, shelterbelts and woodland planting of 5m since operation at Year 1, representing uniform growth of 1m every 3 years for proposed trees, shelterbelts and woodland. This would also assume a uniform growth of hedgerow mitigation planting of 4m since operation at Year 1 representing uniform growth of 1m every 3.75 years. Existing hedgerows would be assumed to have reached their prescribed management height by Year 15 of between 3-5m. Secondary mitigation would include management and maintenance of the primary aspects of mitigation. Tertiary mitigation would form part of the management and maintenance objectives.
- Decommissioning – Assessment would be based on a similar process to that of construction, but with the Scheme being no longer operational. It would assess the Site in winter but would assume retention of existing vegetation

and build upon the proposed primary and secondary mitigation that had been established as the future baseline.

8.8.18 The following ZTV's have been produced (**Figures 8.8 to 8.13**):

- Bare Earth ZTV: Year 1 of operation. 5km Study Area
- Augmented ZTV: Year 1 of operation. 2km Study Area.

Updated ZTV studies are intended to be produced as part of the iterative design stages within the mitigation process:

- Augmented ZTV: Year 15 of operation. 2km Study Area. With mitigation.

8.8.19 At year 15 we would undertake a re-evaluation of the Scheme to identify any residual landscape and visual effects. Adaptive management and maintenance measures would be bought forward via a Landscape and Environmental Management Plan (LEMP).

8.8.20 The Scheme is designed to incorporate landscape and visual mitigation measures. These measures take into account potential landscape and visual impacts identified at an early stage in the LVIA process. The following considerations (as set out in **Figure 8.16** Cottam Strategic Landscape Mitigation Measures) are in place to reduce potential impacts of the Scheme:

- *Context:* Location of the Scheme within a relatively flat lower-lying landscape. To the east, the existing landform that forms the ridgeline at Hemswell Cliff which provides containment of the Scheme from this direction.
- *Location:* The location of the solar panels set back from the Site boundary.
- *Design:* Change in resting angle of the panels.
- *Features:* The colour palette for the solar panels to reduce their prominence when seen within the landscape backdrop or seen against the sky.
- *Existing Vegetation:* Retention and reinforcement of existing woodland/scrub and hedgerow cover. This existing vegetation provides a strong visual framework and potentially screens or substantially filters at ground level towards the solar panels.
- *Reinforcement:* Existing woodland/scrub and hedgerow cover may also be reinforced by the introduction of new planting providing long term screening and structural benefits to the landscape.

- *New Planting and Wider Visual Amenity:* The establishment of planting along the margins of the solar panel parcels to increase the elevation, robustness and efficacy of the planting as screening becomes more effective in the integration with the surrounding landscape.
- *New Planting and Inherent Visual Amenity:* Planting within the Sites supporting the solar panels to provide screening and habitat connectivity, particularly where transport routes and footpaths and bridleways cross the Site.
- *New Planting and Time Depth:* Planting to reflect landscape character and policy expectations using a palette of native tree and shrub species that are appropriate to the location. Faster growing species would be used to provide quicker screening/filtering effects.
- *New Planting and Landscape Character:* Proposed woodland planting would not be effective in all locations, but some areas would be selected to ensure the long-term presence of woodland where it is accordance with landscape character.
- *New Planting and Recreational Users:* Planting would screen certain views such as users of the PRowS, the bridleway network and local roads.
- *New Planting and Green Infrastructure:* Measures to enhance the landscape framework in keeping with landscape character would also be explored to soften and continue to provide the 'filtering' effect of vegetation that is characteristic of the local landscape.
- *Planting Management and Maintenance:* Preparation of a Landscape Environmental Management Plan (LEMP), which would prescribe how the mitigation measures identified and proposed can be implemented and managed to ensure the effectiveness and certainty in achieving the objectives of the mitigation strategy. This stage would be undertaken in conjunction with the ecology and arboricultural consultant.
- *Cumulative Impacts:* Landscape mitigation measures will look to address the cumulative impacts as well as the individual impacts.

Mitigation Buffer Zones

8.8.21 At this stage, a Mitigation Buffer Zone (MBZ) approach is suggested to mitigate impacts on those areas considered to be of landscape, biodiversity and residential amenity sensitivity. These MBZs currently apply an equal distance on all sides of the area of sensitivity from the Scheme; however, as the design continues to evolve, these distances will be fine-tuned to take account of a number of factors, including:

- Intervening vegetation;

- Surrounding land use;
- Prevailing landform;
- Green Infrastructure and wildlife connectivity; and
- The attributes that contribute to the visual and physical connectivity of the landscape.

8.8.22 This is the preliminary position, which is guided by the information known at this stage. The MBZ distances are equal for each sensitivity type and therefore define a worst-case scenario. Later iterations of the MBZ approach outlined in this section will look to build upon the initial baseline position to include more detail that takes into account the factors set out above.

8.8.23 Moving forward within the LVIA process, consideration will be given to development layout, massing and colouring. Landscape mitigation measures will also include the retention and reinforcement of existing landscape features and the introduction of new areas of planting. Native species will be selected, and the planting will be designed to give softening and screening where appropriate whilst reinforcing local landscape character and biodiversity of the area.

8.8.24 The initial MBZ baseline position is shown on the Landscape Mitigation Plan and Illustrative Sections within **Figure 8.16**. The proposed distances are set from the outer edge of the sensitive areas as follows:

- Existing Hedgerows - 5m to outer edge boundary fence line;
- Existing Trees - Varies between 8-20 m (depending on Bat Roost Potential);
- Existing Major Watercourses - 20m to outer edge of solar panel;
- Existing Woodland - 20m to outer edge of solar panel;
- Badger Setts - 20m to outer edge of solar panel;
- Residential Properties - 50m (min) to outer edge of solar panel;
- PRoW - 15m to outer edge of solar panel; and
- New Woodland and Shelterbelts - 5m to boundary fence line.

8.9 Landscape and Visual Effects

8.9.1 This section describes the landscape analysis, iterative design work and mitigation measures known at this stage of the EIA. The main objective is to provide as much relevant information about the Scheme and highlight the assessment parameters

that will underpin judgements regarding any significant likely environmental effects to be taken forward into the ES. The purposes of the PEIR is to provide preliminary information on the likely significant effects of the Scheme. The possibility of potential significant landscape effects are identified within **Appendix 8.2** Landscape Character Tables.

Landscape Value

8.9.2 The findings on landscape value are not known at this stage of the EIA, but the list of factors that could be considered when identifying landscape value is set out within **Appendix 8.2** Landscape Character Tables.

8.9.3 GLVIA3 indicates at paragraph 5.45 that:

8.9.4 *"...the value of landscape receptors will to some degree reflect landscape designations and the level of importance which they signify, although there should be no over-reliance on designations as the sole indicator of value. "*

Landscape Susceptibility to Change

8.9.5 The susceptibility of the landscape resource to change is not known at this stage of the EIA, but meaning is discussed in paragraph 5.40 of GLVIA:

8.9.6 "This means the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular landscape type or area, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the proposed facility without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies."

Landscape Sensitivity

8.9.7 The findings on the sensitivity are not known at this stage of the EIA, but the list of factors that could be considered when identifying landscape sensitivity will be taken forward into the ES.

Landscape Analysis

8.9.8 The significance of the landscape and visual effects on the baseline conditions during the construction, operational and decommissioning stages of the Scheme have therefore yet to be determined. Any findings will be determined by professional judgement, based on the sensitivity of the receptor, combined with the magnitude of effect.

Land use

- 8.9.9 **Cottam 1:** Within the Study Area, shelterbelts and woodland plantations are the key vertical features that punctuate the landscape. The Site comprises fields separated by hedgerows with trees, and drainage ditches that feed into the River Till.
- 8.9.10 *Primary Mitigation:* Ditches would be protected and enhanced where possible and solar panels would be set back to provide sufficient buffers for ecological mitigation. For example, the panels would be set back 20m from the existing woodland at Larch Plantation just south of Willingham Road.
- 8.9.11 *Secondary Mitigation:* The pattern of hedgerows to the east of Normanby Road and each side of the River Till are particularly distinctive on the Site and mitigation would look to retain all trees and enhance hedgerows with new planting where possible. For example, an offset of 5m from these hedgerows to the outer edge of the boundary fence line is proposed as mitigation.
- 8.9.12 **Cottam 2:** Land within the Study Area shows how the landscape consists primarily of arable land use with small to medium sized fields separated by hedgerows with some trees, and drainage ditches that feed into the wider drainage network of the River Till. Wharton Wood and Birch Wood are large areas of woodland to the west with Wharton Wood being the largest part of which is ancient woodland.
- 8.9.13 *Primary Mitigation:* The field boundary hedgerows are distinctive in the vicinity of Corringham Grange and The Cottage and mitigation would look to preserve this pattern of hedgerows. The solar panels would be set back with a 5m offset at the boundaries.
- 8.9.14 *Secondary Mitigation:* Where hedgerows are gappy in places they would be enhanced with new planting. There are very few hedgerow trees and only small areas of scrub and the Scheme would look to bring forward more hedgerow trees and areas of scrub. For example, the hedgerow along the western boundary of the Site is intermittent and would benefit from new planting to infill this section.
- 8.9.15 **Cottam 3:** Land within the Study Area, shows there is an open agricultural land use. There are also small pockets of woodland with Laughton Woods approximately 2km to the northwest of the Site. This woodland forms a prominent feature in the landscape running towards the west into Laughton Common and Owlet Plantation. There are also woodlands within and adjacent to the Site and the solar arrays would be set back between 8-20 metres depending on areas of bat roost potential.
- 8.9.16 *Primary Mitigation:* The mitigation would look to set the panels back from the field boundaries to the south of the railway line, particularly where there are hedgerow trees. In this location, the offset would vary between 8-20 metres depending on bat roost potential.

8.9.17 *Secondary Mitigation:* The mitigation would look to establish a network of hedgerows on the land associated with the former airfield similar to the areas to south, east and west where hedgerows with trees, and drainage ditches are more commonplace.

Topography and Watercourses

8.9.18 **Cottam 1:** Land within the Study Area shows the landscape is generally made up of flat or gently sloping landform, and then rising to the north-eastern boundary towards the village of Fillingham. A notable topographical feature lies to the east where the landform rises to create a distinctive sloping ridge.

8.9.19 *Primary Mitigation:* The River Till meander through the landscape and borders a number of the western most Site parcels. The solar panels would be set back from this location to retain appropriate landscape and ecology buffers. Additionally, the existing network of drains across the Site would look to achieve an offset by at least 8m to the outer edge of each ditch or drain.

8.9.20 *Secondary Mitigation:* The landscape shows some typical topography and watercourse characteristics with a more organic pattern in parts and the planting framework would look to draw out this feature. For example, the network of drains to the north of Thorpe le Fallows would look to achieve offsets at least 8m from the edge of the ditch or drain.

8.9.21 **Cottam 2:** Land within the Study Area shows the landscape is generally flat with a gentle slope towards the River Till, where ditches feed into the wider drainage network of the river. Corringham Beck forms a larger watercourse. Along this ridgeline lie a linear arrangement of small villages. The solar arrays would be set back from this location outside of the flood zones.

8.9.22 *Primary Mitigation:* The mitigation would ensure the solar panels are set back from road corridors to protect their rural character. For example, the panels would be set back from Mill Mere Road along the southwest boundary of the Site with an offset of 5m to protect the rural character of this lane.

8.9.23 *Secondary Mitigation:* The Site comprises a series of fields in a single compact land parcel with opportunities to enhance the setting of the residential steadings. For example, there could be planting towards the centre of the Site around Corringham Grange Farm.

8.9.24 **Cottam 3:** Land within the Study Area shows the landscape is generally flat, with topography varying only very slightly in elevation, although there are some minor undulations of landform to the northeast and east. Laughton Drain, Highfield Drain, Northorpe Beck and Corringham Beck are key drainage features.

8.9.25 *Primary Mitigation:* The mitigation would look to set the solar panels back from substantial drainage features to ensure landscape and ecology buffers are retained. For example, there could be offsets of 5m from the series of ditches and drains that are located to the south of the railway line.

8.9.26 *Secondary Mitigation:* Rectilinear drains are a characteristic of the area to the north of the railway line with an absence of natural, meandering watercourses. For example, look to introduce planting that softens the formality of the landscape around Kirkton Road.

Communications and Infrastructure

8.9.27 **Cottam 1:** Land within the Study Area, shows the landscape is reinforced to the east by the A15 following a strong linear alignment and former Roman Road. To the southwest lies the A1500 a linear road again. The landscape is also crossed by a number of roads including Glentworth Road, Gillingham Lane and Ingham Road.

8.9.28 *Primary Mitigation:* The area is crossed by a number of roads east to west, including Glentworth Road, Gillingham Lane and Ingham Road. For example, look to ensure the solar panels are set back from road corridors where landscape character or visual effects are likely, particularly along Thorpe Lane.

8.9.29 *Secondary Mitigation:* The adjoining Gainsborough Road (A156) follows a more organic and informal alignment across the landscape. For example, utilise planting to draw out the organic alignment of roads, particularly along Willingham Road.

8.9.30 **Cottam 2:** Land within the Study Area shows there are small roads running in a predominantly east west and north south orientation across the landscape. Two metalled access tracks lead off the main access road running perpendicular to the access road and defining field parcels in a geometric form

8.9.31 *Primary Mitigation:* The Site has residential properties at Corringham Grange Farm and The Cottage towards the centre, and these are accessed by a narrow road. Solar panels would be set back with a buffer of at least 5m from these roads to preserve the residential visual amenity.

8.9.32 *Secondary Mitigation:* Field parcels forming the Site have a geometric form. The mitigation would look to utilise planting at field corners to soften the formality of the geometric landscape. For example, field corners could be planted to the south-eastern part of the Site around Brown's Holt and Yawthorpe Beck to enhance the landscape character.

8.9.33 **Cottam 3:** The Study Area is punctuated by small roads linking villages, with the B1025 defining the southern boundary. A main line railway runs between two of the larger Sites.

8.9.34 *Primary Mitigation:* Land to the south of the railway line is more rural in character with pasture surrounded and divided by hedgerows and trees. Solar panels could be set back with a buffer of at least 5m from hedgerows and 8-20m from existing trees (depending on bat roost potential) to provide landscape and ecological buffers.

8.9.35 *Secondary Mitigation:* The railway line serpentine through and around Gainsborough and then cuts through the landscape in a linear form. The mitigation measures would look to utilise planting to soften the presence of the line in the landscape.

Settlements, Industry, Commerce, and Leisure

8.9.36 **Cottam 1:** Land within the Study Area shows there are a series of rural villages including Fillingham Ingham and Cammeringham. The town of Gainsborough is the primary settlement located to the northwest of the Site.

8.9.37 *Primary Mitigation:* The area is relatively sparsely populated with isolated residential properties and farmsteads. The mitigation measures would look to ensure that solar panels are set back to retain rural character in sensitive locations.

8.9.38 *Secondary Mitigation:* The mitigation measures would look to use planting to enhance views towards the villages and hamlets. For example, views towards the church spires at Willingham and Willingham by Stow are key features in views to the east of the area.

8.9.39 **Cottam 2:** Land within the Study Area shows that settlements include Corringham, Pilham, Blyton, Laughton, Northorpe, Willoughton, Hemswell and Harpswell. The town of Gainsborough is the main settlement to the southwest and the village of Willoughton is located to the northeast of the Site.

8.9.40 *Primary Mitigation:* Isolated residential properties and farmsteads are distributed along lanes, which help impart a distinctive rural character. Mitigation measures would look to ensure that solar panels are set back from the edges of the Site to retain rural character in sensitive locations such as Mill Mere Road.

8.9.41 *Secondary Mitigation:* Mitigation measures would look to utilise planting to enhance views towards the villages and hamlets. For example, views towards Corringham are distinctive.

8.9.42 **Cottam 3:** Land within the Study Area shows there are a series of rural villages located across the landscape with the closest being Blyton located approximately 970m to the southwest. Other settlements include Laughton, Scotton, Scotter, Northorpe, Willoughton and Pilham. Gainsborough is the primary settlement.

8.9.43 To the north of the railway line the landscape is heavily influenced by the airfield and to the northeast of the Site, the landscape is more open and less vegetated

responding closely to subtle landform, open field boundaries and irregular field Patterns. The Site lies within the parishes of Laughton, Blyton and a small section within the parish of Pilham and also lies in immediate proximity to the boundary of Northorpe Parish. Cottam 3 is located approximately 6.7km to the northeast of the town of Gainsborough, which is the primary settlement.

8.9.44 *Primary Mitigation:* Blyton Airfield is interspersed with a series of concrete roads and large open concrete areas and the mitigation measures would look to utilise these areas for the solar panels and as access where possible.

8.9.45 *Secondary Mitigation:* The landscape to the south of the railway line is well-contained and supports a strong landscape structure. The landscape mitigation measures would look to enhance the landscape to the north of the railway line with reinforcements to hedgerows, scrub and areas of existing woodland.

Public Rights of Way and Access

8.9.46 Land within the Study Area shows the public rights of way network is concentrated along field boundaries and aligned with the road network. As a general observation, footpaths appear well used pedestrian activity has been observed. Because the network is sporadic the local lanes are also used to supplement the network in places.

8.9.47 **Cottam 1:** *Primary Mitigation:* The Site is bordered by the footpath network with some footpaths passing along the boundaries and passing across east to west. The mitigation measures would look for opportunities to set back the solar panels with a buffer of 15m where the footpath network may be affected between Kexby Road and Willingham Road for example.

8.9.48 *Secondary Mitigation:* The PRow network is intermittent with few landscape features to help form continuous links and is particularly sporadic in the landscape to the west of the Site. The mitigation measures would look for opportunities to enhance the existing footpath network where associated with the Site between Grange Farm and Long Lane for example.

8.9.49 **Cottam 2:** Land within the Study Area shows that the PRow network is concentrated within the western part, whereas elsewhere the network is sparse. The Site is not bordered by the footpath network and there are no footpaths crossing over the land in any direction.

8.9.50 *Primary Mitigation:* The Site is bordered by local lanes which serve as connections for local recreation. The mitigation measures would look for opportunities to set back the solar panels where views or amenity may be affected along Mill Mere Road for example.

- 8.9.51 *Secondary Mitigation:* Although the Site is not bordered by footpaths there may be opportunities to enhance the linkages that the local lanes offer. Mill Mere Road provides opportunities for recreation and access for example.
- 8.9.52 **Cottam 3:** Land within the Study Area shows the public rights of way network is generally concentrated around settlements and along field boundaries and drainage features. The landscape to the west has a higher number of footpaths and bridleways in contrast to the landscape to the east.
- 8.9.53 *Primary Mitigation:* The Site to the south of the railway line is crossed by a footpath. The mitigation measures would look for opportunities to set back the solar panels with a buffer of 15m where views or amenity may be affected. The location between viewpoints VP56 and VP58 is a typical location where solar panels would be set back.
- 8.9.54 *Secondary Mitigation:* The Site to the south of the railway line is crossed by a footpath in contrast to the former airfield to the north which supports no footpaths. The mitigation measures would look for opportunities to enhance this footpath network on the former airfield for example.

National and Locally Designated landscape

- 8.9.55 West Lindsey District contains a local landscape designation, the West Lindsey Area of Great Landscape Value (AGLV) which comprises different and disparate parts. These different parts are not named, therefore for clarity, in the descriptions below the areas as follows:
- AGLV1 – The Ridge
 - AGLV2 – Gainsborough
 - AGLV3 – Laughton Wood
- 8.9.56 **Cottam 1:** The Site does not include nationally designated landscape or AGLV. These AGLV run in a north south direction and are associated with the distinct landform ridge outside the Site.
- 8.9.57 *Primary Mitigation:* Land within the Study Area shows there are locally designated landscapes comprising the AGLV centred around Gainsborough [Gainsborough AGLV] to the west and around Fillingham and Ingham [Ridge AGLV] to the east. Mitigation measures would look for opportunities to review the siting, design and layout of the solar panels where intervisibility with the AGLV may be an issue such as those areas bordering the east boundary of the Site.
- 8.9.58 *Secondary Mitigation:* The Ridge AGLV lies at the closest proximity at 200m from the Site boundary near the village of Fillingham. The mitigation measures would look to ensure that planting along this section of the Site addresses the proximity to the

AGLV in contrast to the Gainsborough AGLV, which is located approximately 3.1km west of the Site and outside of the Study Area.

8.9.59 **Cottam 2:** The Site does not include nationally designated landscape or AGLV. The Ridge AGLV is located approximately 3.7km to the east of the Site and runs in a north to south orientation from Gainsborough down to Marton.

8.9.60 *Primary Mitigation:* Land within the Study Area shows there are locally designated landscapes comprising the AGLV centred around Gainsborough [Gainsborough to the west and around Grayingham and Blyborough [Ridge AGLV] to the east. The mitigation would look for opportunities to review the siting, design and layout of the solar panels where intervisibility may be an issue particularly along the east boundary of the Site.

8.9.61 *Secondary Mitigation:* The Gainsborough AGLV is located approximately 2.3km west of the Site and the Laughton Wood AGLV is located approximately 4.7km northwest. The mitigation measures would explore the opportunity to address proximity to these AGLVs.

8.9.62 **Cottam 3:** The Site does not include nationally designated landscape or AGLV. The Ridge AGLV is located approximately 4.8km to the east of the Site.

8.9.63 *Primary Mitigation:* Land within the Study Area shows there are locally designated landscapes comprising the AGLV centred around Gainsborough to the west [Gainsborough AGLV], around Grayingham and Blyborough [Ridge AGLV] to the east and Laughton [Laughton AGLV] to the northwest. Opportunities will be considered to review the siting, design and layout of the solar panels where intervisibility may be an issue, particularly along the eastern boundary of the Site.

8.9.64 *Secondary Mitigation:* The Laughton Wood AGLV covers an extensive area of woodland surrounding Laughton and is located to the north of the Site. The Gainsborough AGLV is located approximately 1.9km south-west of the Site. Opportunities will be considered to address proximity to these AGLV through landscape mitigation along the Site boundary.

[Scheduled Monuments, Listed Buildings, Conservation Areas and Registered Parks and Gardens](#)

8.9.65 There are a number of Scheduled Monuments, Listed Buildings, Conservation Areas and Registered Parks and Gardens within the Study Area.

8.9.66 **Cottam 1:** There are no Listed Buildings, Conservation Areas or Registered Parks and Gardens on the Site. There are two Scheduled Monuments on the Site within the red line boundary.

- 8.9.67 *Primary Mitigation:* The hamlet of Coates lies to the centre of the Site within the red line boundary, which includes two Scheduled Monuments. Opportunities will be considered to review the siting, design and layout of the solar panels where intervisibility with the hamlet of Coates may be an issue.
- 8.9.68 *Secondary Mitigation:* The closest Registered Park and Garden (RPG) lies just on the outer eastern Study Area within 2km and comprises the Grade II listed Fillingham Castle. Opportunities will be considered to enhance the views towards the wider setting of the RPG with the use of planting mitigation.
- 8.9.69 **Cottam 2:** There are no Scheduled Monuments, Listed Buildings, Conservation Areas or Registered Parks and Gardens on the Site.
- 8.9.70 *Primary Mitigation:* The closest Scheduled Monument is Gilby Medieval Settlement and Cultivation Remains which lies approximately 1.3km to the northwest of the Site. The Deserted Village of Dunstall also lies approximately 0.75km to the northeast. Opportunities will be considered to review the siting, design and layout of the solar panels where intervisibility may be an issue with these Scheduled Monuments.
- 8.9.71 *Secondary Mitigation:* There are no Registered Parks and Gardens within the 2km Study Area, but there are listed buildings in close proximity, including the Grade II Old Hall to the west and Grade II Corringham Windmill to the south. Opportunities will be considered to enhance the landscape setting and views towards these features where possible.
- 8.9.72 **Cottam 3:** the 2km Study Area, only one Conservation Area at Springthorpe within 2km.
- 8.9.73 *Primary Mitigation:* The closest Scheduled Monument is Southorpe Medieval Settlement and Cultivation Remains which lies to the northeast of the Site. Opportunities will be considered to review the siting, design and layout of the solar panels where intervisibility may be an issue with these scheduled monuments.
- 8.9.74 *Secondary Mitigation:* The closest listed building is the Grade II listed Old Railway Station to the south of the railway line. Opportunities will be considered to enhance the landscape setting and views towards this building and bring forward heritage interpretation of other heritage assets where applicable.
- [Ancient Woodland and Natural Designations](#)
- 8.9.75 There are areas of Ancient Woodland or Natural Designations within 2km of the boundary.
- 8.9.76 **Cottam 1:** There are no Local Nature Reserves, Local Wildlife Sites or Sites of Special Scientific Interest or Ancient Woodland on Site or within 2km of the boundary.

- 8.9.77 *Primary Mitigation:* Opportunities to review the siting, design and layout of the solar panels will be considered where intervisibility may be an issue with ecological features with wildlife and nature conservation potential.
- 8.9.78 *Secondary Mitigation:* Opportunities will be considered to enhance the landscape where ecological features provide opportunities for wildlife and nature conservation within identified buffer areas.
- 8.9.79 **Cottam 2:** There are no Local Nature Reserves, Local Wildlife Sites or Sites of Special Scientific Interest on the Site. There are no areas of Ancient Woodland on the Site or within the 2km of the boundary.
- 8.9.80 *Primary Mitigation:* Opportunities will be considered to review the siting, design and layout of the solar panels where intervisibility may be an issue with any ecological features with wildlife and nature conservation potential.
- 8.9.81 *Secondary Mitigation:* Within 2km of the boundary there is Scotton Beck Fields Site of Special Scientific Interest (SSSI) and Scotton Common SSSI approximately 1.5km to the north of the boundary. Opportunities will be considered to provide landscape character improvements to wildlife corridors in close proximity.
- 8.9.82 **Cottam 3:** There are no areas of Ancient Woodland on the Site or within 2km of the boundary. There are no Local Nature Reserves, Local Wildlife Sites or Sites of Special Scientific Interest on the Site.
- 8.9.83 *Primary Mitigation:* Opportunities will be considered to review the siting, design and layout of the solar panels where intervisibility may be an issue with ecological features with wildlife and nature conservation potential.
- 8.9.84 *Secondary Mitigation:* Within the 2km Study Area the Laughton Common SSSI lies to the northwest of the boundary. Opportunities will be considered to provide landscape character enhancement and improvements to wildlife corridors in close proximity to the SSSI.

Visual Analysis

- 8.9.85 This section describes the visual analysis, iterative design work and proposed mitigation measures known at this stage of the EIA. The main objective is to provide as much relevant information about the Scheme and highlight the assessment parameters that will underpin any significant likely environmental effects to be taken forward into the ES. The purposes of the PEIR is to provide preliminary information on the likely significant effects of the Scheme. The possibility of potential significant visual effects is identified within **Appendix 8.3** Viewpoint Analysis Tables.

Visual Value

- 8.9.86 The findings on visual value are not known at this stage of the EIA, but the list of factors that could be considered when identifying visual value is set out within **Appendix 8.3** Viewpoint Analysis Tables.

Visual Susceptibility to Change

- 8.9.87 The susceptibility of the visual resource to change is not known at this stage of the EIA, but the meaning is discussed in paragraph 6.32 of GLVIA3:
- 8.9.88 “The susceptibility of different visual receptors to changes in views and visual amenity is mainly a function of:
- The occupation or activity of people experiencing the view at particular locations; and
 - The extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at particular locations.”

Sensitivity of Visual Receptors

- 8.9.89 The findings on the sensitivity are not known at this stage of the EIA, but the list of factors that could be considered when identifying visual sensitivity will be taken forward into the ES.

Visual Analysis

- 8.9.90 The potential visual effects will be assessed from a series of viewpoints located within the ZTV (see **Figures 8.11 to 8.13** Augmented ZTV (Including Viewpoint Locations)). These locations are currently being agreed in consultation with Lincolnshire County Council and other stakeholders (see **Appendix 8.4** Consultation). The consultation has included workshops and discussions on how the assessment findings from these viewpoints will be used to identify effects on specific receptors. This discussion will also form the basis for making professional judgement of the potential effects upon other receptors in similar geographical locations to the relevant viewpoint.
- 8.9.91 Visual findings to date are summarised below in general terms and for each viewpoint views are discussed based on the information at this stage of the EIA (see **Appendix 8.3** Viewpoint Analysis Tables). Photomontages will be taken forward into the ES in Consultation with Lincolnshire County Council and other stakeholders.
- 8.9.92 Within the overall Study Area, the combination of the low-lying landscape, the layering of the intervening hedgerows and the lack of significant vantage points limits the overall extent of views. Other intervening features such as treed field boundaries

and intervening settlements further influence the nature and extent of the views. A sense of enclosure and intimacy is experienced in some parts of the Study Area, and this contrasts with open horizons in some parts where the local elevations in landform and limited hedgerow and tree cover create a more open horizon. These contrasts in the visual baseline for each Site are set out below:

- 8.9.93 **Cottam 1:** *Close range* views towards the Site are obtained from the footpath and bridleway system to the east, and which connect between Ingham in the south towards Glentworth in the north. Views are available from locations immediately adjacent to the Site from the bridleway network at locations VP32 and VP36.
- 8.9.94 In more *mid-range* views from this footpath and bridleway network, the intervening hedgerows provide screening and layering in views towards the Site from typical locations such as VP28 just to the north of the village of Ingham and VP 31 just to the south of the hamlet of Fillingham.
- 8.9.95 There are some high sensitivity *residential receptors* in close proximity to the Site. To the north this includes North Farm, Turpin's Bungalow, Turpin Farm and Side Farm. To the south, properties include Blackthorn Hill, The Grange and Cold Harbour. To the west residential receptors within the villages of Willingham by Stow and Stow are in close proximity to the Site. Residential receptors to the east include Greystones Farm and Fillingham Grange.
- 8.9.96 Views from transport receptors include Gypsy Lane where it meets with Fillingham Lane to the northeast of the Site where views are experienced adjacent to the Site boundary at VP37. Kexby Road meets with Glentworth Road and Gypsy Lane where VP41 is set away from the Site boundary and where views are likely to be screened by intervening hedgerows and tree cover. Middle Street is located to the east of the Site and runs in a north to south direction and views from VP24, VP25, VP27, VP29 and VP30 may yield sequential cumulative effects from this route. Likewise, from Thorpe Lane in the south, there may be sequential cumulative effects from viewpoints VP4, VP7 and VP9.
- 8.9.97 Views are more open from the outlying areas to the east along the ridgeline where the settlements of Brattleby, Ingham, Fillingham and Glentworth may be experienced in the context of a more panoramic view due to the raised landform. Views are characterised by the open agricultural landscape in the foreground. In contrast, views towards the Site from the west are curtailed by the settlements of Sturton by Stow, Stow, Willingham by Stow and Upton. The lack of elevated vantage points to the north and south of the Site also curtail views from this direction.
- 8.9.98 There are a limited number of visual detractors within the Study Area, however due to the low-lying landscape the large-scale agricultural buildings are incongruous and occasional lines of shelterbelt plantings stands out in the landscape. The network of

roads also provides interruptions in some parts, otherwise the visual character is generally intact and cohesive.

- 8.9.99 **Cottam 2:** *Close range* views towards the Site are obtained from the footpath and bridleway network and system of local lanes to the west, which pass in a north south direction heading from Springthorpe in the south, via Corringham, Aisby, Pilham and Blyton. Views are available from locations immediately adjacent to the Site from the bridleway network at location VP49. Other locations along the footpath network include views from a footpath that passes via Corringham at location VP53.
- 8.9.100 In more *mid-range* views, the intervening hedgerows provide screening and layering in views towards the Site but locations at VP44 just to the north of the hamlet of Springthorpe may give rise to some visibility. Station Road to the west may also reveal mid-range views from locations at the village of Corringham and just to the west of Aisby.
- 8.9.101 There are some high sensitivity *residential receptors* in close proximity to the Site, which includes Corringham Grange Farm and The Cottage within the southwest part of the Site. To the south, residential properties are scarce. To the west residential receptors within the villages of Corringham and Aisby are in close proximity to the Site. Residential receptors to the east include a collection of steadings at Ancliff Farm, Home Farm and Taskers Farm. Residential properties to the north include Bonsdale Farm, Aisby House Farm and Moscar Farm.
- 8.9.102 Views from transport receptors include Mill Mere Road where it meets with Corringham Beck Drain to the west of the Site where views are experienced adjacent to the edge of the settlement at VP48. Corringham Road (A631) to the south is set away from the Site boundary and where views are likely to be screened by intervening hedgerows and tree cover, however locations VP45 and VP46 may yield some visibility. The railway line is located to the north of the Site and runs in an east to west direction and views from VP59, at the Blyton Level Crossing may yield effects from this viewpoint. From Pilham Lane to the west there may be sequential cumulative effects from locations at VP52 and VP47.
- 8.9.103 Views are more open from the outlying areas to the east towards the ridgeline where the settlements of Hemswell, Harpswell and Blyborough are situated and where visibility may be experienced in the context of more panoramic views due to the raised landform. Views are characterised by the open agricultural landscape in the foreground. In contrast, views towards the Site from the west are curtailed by the settlements of Corringham, Pilham and Aisby. The lack of elevated vantage points to the north and south of the Site also curtail views from this direction.
- 8.9.104 There are a limited number of visual detractors within the Study Area, however due to the low-lying landscape the large-scale agricultural buildings are incongruous and occasional lines of shelterbelt plantings stand out in the landscape. The network of

roads also provides interruptions in some parts, otherwise the visual character is generally intact and cohesive.

- 8.9.105 **Cottam 3:** *Close range* views towards the Site are obtained from the local road network including the system of local lanes to the south, which pass in an east to west direction heading from Blyton in the west towards Northorpe in the east. Views are available from receptors immediately adjacent to the Site to the north of the railway line at locations VP60, VP61 and VP62. To the south of the railway, receptors immediately adjacent to the Site include VP56, VP58 and VP59. Other locations along the footpath and bridleway network do not yield visibility at close-range to the Site.
- 8.9.106 In more *mid-range* views, the intervening hedgerows provide screening and layering in views towards the Site but locations at VP53 and VP54 just to the north of the hamlet of Corringham may give rise to some visibility. Pilham Lane to the southwest may also reveal mid-range views from locations northeast of Corringham Scroggs at location VP52.
- 8.9.107 There are some high sensitivity *residential receptors* in close proximity to the Site, but these are mostly located to the south of the railway line and include Bonsdale Farm and a property known as Glebe. To the north of the railway line, residential properties are scarce due to the former airfield land use. To the west residential receptors within the villages of Blyton and Laughton are in close proximity to the Site. Residential receptors to the east include Grange Farm, Southorpe Farm and Blenheim Farm. Residential properties to the south include Chapel Yard at Dunstall, Aisby House Farm and Moscar Farm.
- 8.9.108 Views from transport receptors include Green Lane to the south of the railway line near to Bonsdale Farm where views are experienced away from the edge of the Site at location VP57. Other locations at this intersection include locations VP58, which is right at the Site boundary. Kirton Road to the north of the railway line follows the boundary of the disused airfield where views over intervening hedgerows and tree cover may yield some visibility at locations VP60 and VP62. The railway line is located to the north of the Site and runs in an almost east to west direction and views from VP59, at the Blyton Level Crossing may yield effects from this viewpoint. From Laughton Road (A159) to the northwest and the north of the railway line there may be sequential cumulative effects from locations at VP63 right at the Site boundary and then further north at VP64.
- 8.9.109 Views are more open from the outlying areas to the east towards the ridgeline where the settlements of Scotton and Northorpe are situated and where visibility may be experienced in the context of more panoramic views due to the raised landform. Views are characterised by the former airfield use in the foreground and where the agricultural landscape is only evident to the south of the railway line. In contrast, views towards the Site from the west are curtailed by the settlements of Laughton

and Blyton. The lack of elevated vantage points to the north and south of the Site also curtail views from this direction.

- 8.9.110 There are a limited number of visual detractors within the Study Area, however due to the low-lying landscape the former airfield use is incongruous, and the railway line cuts across the landscape. There are also occasional lines of shelterbelt plantings that stand out in the landscape. The network of roads also provides interruptions in some parts, otherwise the visual character is generally intact and cohesive.

8.10 Cumulative Impacts

- 8.10.1 This section provides an overview of potential cumulative landscape and visual effects. The methodology adopted for this cumulative assessment is set out in **Appendix 8.1**. Briefly, the cumulative assessment process comprises the following considerations:

- **Cumulative Effects** as the additional changes caused by a proposed development in conjunction with other similar developments or as the combined effect of a set of developments, taken together' (Scottish National Heritage (SNH), 2012, 4)
- **Cumulative Landscape Effects** as effects that 'can impact on either the physical fabric or character of the landscape, or any special values attached to it' (SNH, 2012:10)
- **Cumulative Visual Effects** as effects that 'can be caused by combined visibility, which occurs where the observer is able to see two or more developments from one viewpoint and/or sequential effects which occur when the observer has to move to another viewpoint to see different developments' (SNH 2012:11)

- 8.10.2 Cumulative landscape effects are likely to include effects:

- *on the fabric of the landscape as a result of removal of or changes in individual elements or features of the landscape and/or the introduction of new elements or features;*
- *on the aesthetic aspects of the landscape – for example its scale, sense of enclosure, diversity, pattern and colour, and/or on its perceptual or experiential attributes, such as a sense of naturalness, remoteness or tranquillity;*
- *on the overall character of the landscape as a result of changes in the landscape fabric and/or in aesthetic or perceptual aspects, leading to*

*modification of key characteristics and possible creation of new landscape character if the changes are substantial enough.*³⁰

8.10.3 Cumulative visual effects are likely to include both types of experience combined and sequential. This should be guided by the same principles and consider the following criteria:

- *“the susceptibility of the visual receptors that have been assessed to changes in views and visual amenity;*
- *the value attached to the views they experience;*
- *the size or scale of the cumulative visual effects identified;*
- *the geographical extent of the cumulative visual effects identified;*
- *the duration of the cumulative visual effects, including the timescales relating to both the project being assessed and the other projects being considered, and the extent to which the cumulative effects may be considered reversible.”*³¹

8.10.4 The overview of the potential cumulative developments is set out in **Table 8.6** below.

Table 8.6: Potential Cumulative Developments

Scheme	Status	Potential cumulative landscape/visual effects
West Burton Solar Project	1.5km south of Cottam 1	DCO Same timescales as Cottam Solar Project. Due to the proximity of the project, there is potential for sequential and combined visual effects with the project. This may affect receptors to the south and southwest of Cottam 1 using public rights of way and the transport networks. There are also residential receptors at the villages of Gate Burton, Willingham by Stow, Normanby by Stow, Stow, Sturton by Stow, Thorpe in the Fallows, Bransby, Broxholme, Ingleby, Saxilby, Fenton, Torksey, Brampton and Marton. At close-range, views between the Sites are likely to be seen in succession (the observer must turn to see the Sites). With more distant views, views

³⁰ Landscape Institute and Institute of Environmental Management and Assessment, 2013, *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition, Routledge, London. P124.

³¹ Landscape Institute and Institute of Environmental Management and Assessment, 2013, *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition, Routledge, London. P132.

		between the Sites are likely to be seen in combination, particularly to the north of Broxholme around Thorpe in the Fallows, Sturton by Stow and Bransby. Both cumulative landscape character and visual effects would be experienced.
West Burton Cable Route Construction	DCO Same timescales as Cottam Solar Project	Due to the proximity of the project, there is potential for sequential and combined visual effects with the project.
Low Carbon Gate Burton 500MW Solar and Energy Storage (Battery)	1km west of Cottam 1	DCO Scoping opinion issued 20.12.21 Likely submission Q4 2022. Due to the proximity of the project, there is potential for sequential and combined visual effects with the project. This may affect receptors to the west of Cottam 1 using public rights of way and the transport networks. There are also residential receptors at the villages of Heapham, Upton, Kexby, Willingham by Stow, Normanby by Stow, Stow, Sturton by Stow, Gate Burton and Marton. At close-range, views between the Sites are likely to be seen in succession (the observer must turn to see the Sites). With more distant views, views between the Site are likely to be seen in combination, particularly around Willingham by Stow, Kexby, Normanby by Stow, Stow, Marton and Gate Burton. Both cumulative landscape character and visual effects would be experienced.
Decommissioning of West Burton A	Exact location as yet unknown)	Awaiting confirmation of what activities are involved with decommissioning as no planning applications have been submitted. Potential intervisibility unlikely, given the proximity of the two Sites. Cumulative combined visual effects would be experienced in succession, but with negligible overall magnitude of change in views. There are not anticipated to be any cumulative landscape character effects.
Demolition of Cottam Power Station	Approved on 02.03.22	Similar timescales as West Burton and Cottam Solar Project. The Station was closed in 2019 and is awaiting demolition. Due to the proximity of the project, there is potential for sequential and combined visual effects with the project,
Heckington Fen solar generation	Southeast of Cottam	DCO Scoping opinion issued 17.02.2022 Likely submission Q1 2023. Potential intervisibility

exceeding 50MW with energy storage		unlikely, given the proximity of the two Sites. Combined visual effects would be in succession with negligible overall magnitude of change in views. There are not anticipated to be any cumulative landscape character effects.
Automotive Research and Development Centre, including garaging, circuit viewing facilities, 2 no wind turbines and ground mounted solar panels. Land at Blyton Park Driving Centre	Immediately north of Cottam	Application approved 03.03.2022. Due to the proximity of the project, there is potential for sequential and combined visual effects with the project. This may affect receptors to the north and northwest of Cottam 3 using public rights of way and the transport networks. There are also residential receptors at the villages of Laughton, Blyton and Pilham. At close-range, views between the Sites are likely to be seen in succession (the observer must turn to see the Sites). With more distant views, views between the Sites are likely to be seen in combination, particularly around Laughton and Pilham. Only limited cumulative landscape character effects and visual effects are likely to experienced.
Site Allocation Strategic Policy LP8 Employment Site Land at Lincolnshire Showground (Central Lincolnshire Local Plan 2017)	5.1km southeast from Cottam 1	LDO/Masterplan – no details in public domain or approved. Potential intervisibility unlikely, given the proximity of the two Sites. Cumulative combined visual effects would be experienced in succession, but with negligible overall magnitude of change in views. There are not anticipated to be any cumulative landscape character effects.
Sustainable Urban Extension Policy 48 Gainsborough Northern Neighbourhood SUE Allocation (Central Lincolnshire Local Plan 2017)	3.5km west from Cottam 2	128.8 ha 2,500 total dwellings and 750 dwellings in plan period 2012-2036. This may affect receptors to the west of Cottam 2 and the southwest of Cottam 3 using public rights of way and the transport networks. There are also residential receptors at the villages of Blyton, Pilham, Corringham, Springthorpe and Heapham. At close-range, views between the Sites are likely to be seen in succession (the observer must turn to see the Sites). With more distant views, views between the Sites are likely to be seen in combination, particularly around Pilham, Corringham and Springthorpe. Both cumulative landscape character and visual effects would be experienced, but they are unlikely to be significant.

8.10.5 Due to a combination of overall distance, and/or intervisibility between the Sites included in the cumulative list at this stage there is likely to be some significant landscape and visual effects predicted. Based on the information known at this time the following Sites are potential cumulative developments that are likely to yield significant effects:

- West Burton Solar Project
- West Burton Cable Route Construction
- Low Carbon, Gate Burton 500MW Solar and Energy Storage (Battery)
- Demolition of Cottam Power Station; and
- Automotive Research and Development Centre, including garaging, circuit viewing facilities, 2 no wind turbines and ground mounted solar panels. Land at Blyton Park Driving Centre.

8.11 Summary and Conclusions

8.11.1 This chapter of the PEIR has identified the existing environment in relation to the landscape and visual resource and the assessment work that has been undertaken to date. The main objective is to provide as much relevant information at this stage in the project. Preliminary mitigation measures that are being explored have been described, and there is discussion of the residual impacts, however it is not possible at this stage to identify all the significant likely environmental effects of the Scheme.

8.11.2 The chapter sets out sufficient information to allow the relevant consultation authority to provide an informed view on the proposals at this stage in the project based on the information known at this time. The summary matters relating to the landscape and visual resource are set out within **Table 8.7** below.

Table 8.7: Summary Matters

Summary Matter	Description	Consulting Local Planning Authority Position
LVIA Process	Necessary to meet the requirements for the NSIP process as part of an ES.	Satisfied that an LVIA is being undertaken and that it is prepared by a relevant chartered professional.
LVIA Methodology	This is set out within Appendix 8.1 . The LVIA methodology follows best practice guidance in accordance with the approach within GLVIA3.	Satisfied that the LVIA Methodology is in accordance with best practice guidance. See Local Planning Authority comments (Appendix 8.4).

Policy Context	This is set out within Section 8.2 and Table 8.1 . The IPC must decide an application for energy infrastructure in accordance with the relevant National Planning Statement (NPS).	Satisfied that the landscape-related planning policy is appropriate within the context of the NPS.
Cumulative Developments	This is set out within Figure 8.15 , Table 8.3 and Table 8.6 . There are seven cumulative sites/developments where landscape and visual effects may be caused by a proposed development in conjunction with other similar developments, or as a combined effect of a set of developments taken together. Three of these cumulative sites/developments are proposed to be taken forward into the LVIA as part of the ES.	Satisfied with the initial identification of cumulative developments. Yet to reach final agreement on the list cumulative sites/developments to be taken forward into the LVIA as part of the ES. See Local Planning Authority comments (Appendix 8.4).
Landscape Character	This is set out within Appendix 8.2 and Table 8.4 . The baseline is covered by three-character areas at the national level Located as identified within the Natural England National Character Areas (NCA) Profiles. At the regional level, there are three-character areas as identified within the East Midlands Regional Landscape Character Assessment (EMRLCA).	Yet to reach agreement that the context of the landscape resource is appropriate. Yet to reach agreement that the overall landscape character sensitivity is appropriate to the context of the landscape resource. Comments received by LCC requests to include a finer grain landscape assessment that includes the Site and immediate area and that also considers individual landscape elements.
Landscape Receptors	The baseline conditions within the Site and Study Area are broadly considered under the following sub-headings: Land use <ul style="list-style-type: none"> • Topography and watercourses • Communications and infrastructure • Settlements, industry, commerce and leisure 	Yet to reach agreement that the broad consideration of the landscape receptors is appropriate. Comments received by LCC requests to include a finer grain landscape assessment that comprises the Site and immediate area and that also considers individual landscape elements.

	<ul style="list-style-type: none"> • Public rights of way and access • Nationally and locally designated landscape • Scheduled monuments, listed buildings, conservation areas and registered parks and gardens; and • Ancient woodland and natural designations. 	
Visual Resource	<p>This is set out within Appendix 8.3. A suite of viewpoints has been identified through desk studies which have been ground truthed through fieldwork in February and March 2022. Their locations have been subject to consultation with the relevant planning authorities and other stakeholders where some additional viewpoints have been included and photography undertaken. Viewpoint selection would follow good practice and in particular paragraphs 6.18 to 6.20 of GLVIA3. The viewpoints proposed will be used to aid the description of effects on both landscape and visual resources and would be utilised for assessment purposes</p>	<p>LCC generally satisfied that the consideration of the visual receptors is appropriate. See appendix 8.4 for details of additional requests and considerations.</p> <p>Satisfied with viewpoint locations. Yet to reach agreement with the presentation of the photography. LCC have requested a full methodology of photography, photomontages and presentation should be provided that aligns with LI TGN 06/19. This should include full details of the elements that have been modelled (Solar Arrays, substation etc.)</p>
Landscape Mitigation	<p>This is set out within Figure 8.16. The Scheme incorporates specific landscape mitigation measures. These include the enhancement of hedgerows and new planting where gapping up is required. Existing planting within the Site will be retained where possible and enhanced by additional planting, including trees is select locations to improve screening.</p>	<p>LCC recognise that the approach to landscape mitigation is an iterative process, and the baseline elements are still being defined. As such at this stage commentary on any potential mitigation or layout of the development is not being provided.</p>