BEACON FEN ENERGY PARK

Planning Inspectorate Reference: EN010151

Chapter 6 – Landscape and Visual
[Document Reference: ST19595-REP-002]
January 2024

The Planning Act 2008
The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 - Regulation 5(2)(q)

Revision History

Revision	Revision date	Details	Authorized	Name	Position

List of Outstanding Issues and Information

Outstanding issue/info.	Section/Paragraph	Responsibility	Action

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6. Landscape and Visual

6.1 Introduction

6.1.1 This Chapter reports the preliminary assessment of the likely significant effects of the Proposed Development on Landscape and Visual receptors. In particular it considers the potential for likely significant effects of construction and operation of the Proposed Development on landscape character and visual receptors.

6.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this PEIR (Chapters 1 – 5) and particularly to the description of the Proposed Development in Chapter 2 which includes details about the Site, the design parameters and construction methodology, as well as the final chapter, 'Summary of Environmental Effects' (Chapter 17).

6.1.3 This chapter is accompanied by the following Appendices and Figures:

- Appendix 6.1 Landscape and visual legislation and policy;
- Appendix 6.2 Landscape and Visual Methodology;
- Appendix 6.3 Landscape character;
- Appendix 6.4 Visual Assessment;
- Figure 6.1 Bareground Zone of Theoretical Visibility (Drawing ST19595/110);
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6.1.4 As set out within Chapter 1, the information set out within this Chapter is preliminary and intended to inform consultees (both specialist and non-specialist) about the likely environmental effects of the Proposed Development, helping to inform their consultation responses.

6.2 Legislation and Policy

6.2.1 The legislation and policy considered relevant to the assessment of Landscape and Visual effects are listed below, with details provided in Appendix 6.1 Landscape and visual legislation and policy.

Legislative Framework

6.2.2 The applicable legislation includes:

- Planning Act (2008), and;

Planning Policy

6.2.3 The applicable planning policy includes:

- Emerging (Published but not yet Designated)1 2023 National Policy Statement for Electricity Networks:

  Overarching National Policy Statement for Energy (EN-1) (November 2023);

  - National Policy Statement for Renewable Energy Infrastructure (EN-3) (November 2023);
  - National Policy Statement for Electricity Networks Infrastructure (EN-5) (November 2023);

- National Planning Policy:
  - National Planning Policy Framework (NPPF) (2023);

- Planning Practice Guidance:
  - Design: process and tools (01st October 2019).
  - Natural environment (21st July 2019).
  - Renewable and low carbon energy (18th June 2015)

- Local Planning Policy:

1 At the time of the writing the 2011 NPSs remained the designated NPSs but this will cease on the designation of the 2023 Emerging NPSs.

- Central Lincolnshire Local Plan 2012 – 2036 (Adopted April 2023)
- South East Lincolnshire Local Plan 2011 – 2036 (March 2019)
- South Kesteven District Council Local Plan Adopted 2021-2041 (January 2020)

6.3 Consultation & Scope of Assessment

Consultation Undertaken to Date

6.3.1 Consultation will be ongoing throughout the preparation of the DCO application; to date, it can broadly be divided into the following key stages:

- EIA Scoping;
- Early Non-Statutory Consultation; and
- Direct Topic-Specific Consultation.

6.3.2 **Error! Reference source not found.** provides a summary of the consultation activities undertaken in support of the preparation of this Chapter.

Table 6.1 – Summary of Consultation Undertaken to Date

ORGANISATION	DATE	FORM OF CONSULTATION	SUMMARY REQUESTS	SUMMARY OF RESPONSES
EIA SCOPING				
PINS	26 May 2023	Scoping Opinion	Requested an assessment of visual effects on Aswarby Park Registered Park and Garden (RPG).	The viewpoint No.17 has been added.
PINS	26 May 2023	Scoping Opinion	Requested inclusion of final ZTVs, including features such as fences, camera poles, and construction compounds.	The inclusion of more detailed ZTVs will be considered at the ES stage when final designs are available.
PINS	26 May 2023		Requested consultation regarding selected viewpoints and photomontages.	This has been addressed through the addition of further viewpoints on consultation plans issued on 30/06/2023. The viewpoint locations will be subject to further consultation.
PINS	26 May 2023	Scoping Opinion	Requested production of the outline LEMP (OLEMP).	Draft OLEMP will be produced as part of the ES submission.
North Kesteven District Council	18 May 2023	Scoping Opinion Response	Referred to the comments provided by AAH on behalf of Lincolnshire County Council	Response already considered.

ORGANISATION	DATE	FORM OF CONSULTATION	SUMMARY REQUESTS	SUMMARY OF RESPONSES
EIA SCOPING				
			and North Kesteven District Council contained in Appendix 1, 'Technical Memorandum 1: AAH TM01'.	
North Kesteven District Council	18 May 2023	Scoping Opinion Response	Requested addition of viewpoints located further away from the Proposed Development.	This has been addressed through the addition of further viewpoints on consultation plans issued on 30/06/2023 for the purpose of viewpoint consultation. The viewpoint location will be subject to further consultation.
North Kesteven District Council	18 May 2023	Scoping Opinion Response	Requested reasoning for the selection of photomontage locations.	This has been addressed in a consultation e-mail sent out on 30/06/2023.
North Kesteven District Council	18 May 2023	Scoping Opinion Response	Requested Residential Visual Amenity Assessment (RVAA).	This assessment will be produced at the Environmental Statement stage. The Residential Visual Amenity Receptors have been identified in a consultation e-mail sent out on 30/06/2023. The RVAA receptors will be subject to further consultation.
North Kesteven District Council	18 May 2023	Scoping Opinion Response	Requested recognition of Lincolnshire Reservoir and potential landscape change.	This has been included within PEIR report
AAH Consultants, on behalf of North Kesteven District Council	May 2023	Scoping Opinion Response Landscape Scoping Report Review	Requested consultation on various aspects of Landscape and Visual Assessment, including viewpoint locations and photomontages.	This has been included in a consultation e-mail sent out on 30/06/2023 and is subject to further consultation.
AAH Consultants, on behalf of North Kesteven District Council	May 2023	Scoping Opinion Response Landscape Scoping Report Review	Requested further consultation on parameters of the ZTV.	This has been included in a consultation e-mail sent out on 30/06/2023. Other comments will be addressed within PEIR and Environmental Statement.

ORGANISATION	DATE	FORM OF CONSULTATION	SUMMARY REQUESTS	SUMMARY OF RESPONSES
EIA SCOPING				
AAH Consultants, on behalf of North Kesteven District Council	May 2023	Scoping Opinion Response Landscape Scoping Report Review	Requested Assessment of landscape effects on the Site and effects on landscape elements.	This is included in the PEIR.
AAH Consultants, on behalf of North Kesteven District Council	May 2023	Scoping Opinion Response Landscape Scoping Report Review	Requested inclusion of Assessment of worst-case scenario at year 1 for visual receptors. Assessment of landscape effects on the Site and effects on landscape elements, alongside the effects of introduced scheme elements such as fencing.	This has been included in the PEIR.
AAH Consultants, on behalf of North Kesteven District Council	May 2023	Scoping Opinion Response Landscape Scoping Report Review	Requested inclusion of cumulative assessment and provided recommendations relating to the mitigation.	This has been included in the PEIR.
Lincolnshire County Council	16 May 2023	Scoping Opinion Response	The comments aligned with the comments provided by the North Kesteven District Council and AAH Consultants.	Responses to these comments are provided above.
Early Non-Statutory Consultation				
NA	NA	NA	NA	
Direct Topic-Specific Consultation				
North Kesteven District Council Lincolnshire County Council AAH Consultants	17 July 2023	Viewpoint, Photomontage and RVAA receptor consultation	North Kesteven District Council advised that as Beacon Fen South site has been removed from the project, he requested the issue of revised plans.	The updated plans were sent on 29September 2023.
North Kesteven District Council	31 July 2023	Viewpoint, Photomontage and RVAA	North Kesteven District Council	In response to the comments, viewpoints

ORGANISATION	DATE	FORM OF CONSULTATION	SUMMARY REQUESTS	SUMMARY OF RESPONSES
EIA SCOPING				
Lincolnshire County Council AAH Consultants		receptor consultation	provided initial comments on proposed viewpoint locations, requesting the inclusion of viewpoints that will capture the cumulative effects of Heckington Fen (HF) solar NSIP following the issue of revised plans with the cable corridor being removed. Requested an addition of viewpoints from the Amber Hill area, junction of the A17 and the B1395 Sidebar Lane and potentially a viewpoint from south of North Kyme on the A153/B1395 junction to capture possible panorama views looking SE and SW. North Kesteven District Council advised that joint advice will be provided from the North Kesteven District Council on behalf of other LPA's.	Nos. 8, 15 and 16 have been added.
North Kesteven District Council Lincolnshire County Council AAH Consultants South Holland District Council Lincolnshire County Council Boston Borough Council	28 September 2023	Viewpoint, Photomontage and RVAA receptor consultation	North Kesteven District Council advised that information will be reviewed by Justine Proudler and AHH Consultants (29/09/2023) Justine Proudler confirmed receipt	No action required.

ORGANISATION	DATE	FORM OF CONSULTATION	SUMMARY REQUESTS	SUMMARY OF RESPONSES
EIA SCOPING				
			of the information and advised that a review of the information is ongoing. Justine also advised that she will be the main point of contact going forward. (18.10.2023). North Kesteven District Council shared a Heckington Fen Solar Park Report produced by Pegasus addressing Interrelationship with other Projects considering potential cumulative effects.	

Scope of the Assessment

6.3.3 This Landscape and Visual Impact Assessment (LVIA) assesses the effects of the Proposed Development on landscape resources in its own right and the effects on views and visual amenity. This Chapter reports the likely significant effects of the Proposed Development in relation to landscape and visual impacts.

6.3.4 The approach to the assessment has been informed by comments received with the Scoping Opinion and subsequent stakeholder consultations and engagement. In addition, the North Kesteven District Council has provided some initial feedback regarding potential viewpoint locations, which have been included in the PEIR and are subject of ongoing consultation.

6.3.5 In accordance with best practice, the assessment considers the potential effects at construction, year 0 (winter) and year 15 (summer) and at decommissioning stage (winter) on landscape elements within the Site; effects on the landscape character of the Site and local landscape character; alongside effects on landscape character at regional level. Visual effects will be considered for the visual receptors with the study area similarly at year 0 (winter) without the screening provided by leaf cover to represent the worst case scenario, contrasted with the assessment at year 15, when the proposed planting will be effective in providing visual screening in addition to screening provided by the existing vegetation. The effects of decommissioning will be considered at winter to assess the worst case scenario, assuming the 40 year lifespan of the Proposed Development.

Effects not considered within the scope

6.3.6 None identified at this stage.

Limitations & Exclusions

Limitations

6.3.7 General assumptions used throughout the PEIR are set out in Chapter 4: EIA Methodology. The assumptions and limitations relevant to the Landscape and Visual Assessment are described below.

6.3.8 Potential direct effects on visual amenities experienced within the local area have been assessed using a range of agreed representative viewpoints. These are not intended to show every possible view towards the Proposed Development but represent the views that will be experienced by a range of different receptor types from a range of different locations within the local landscape.

6.3.9 All fieldwork has been undertaken from publicly accessible locations. Professional judgement has been used to assess residents' views, aided by aerial photography and fieldwork observations from the surrounding area.

6.3.10 As the photographs were taken in the summer/autumn of 2023, with trees with leaf cover, the photographs represent the scenario where existing vegetation provides maximum screening to the views. The winter photography will be provided within Environmental Statement to illustrate the worst case scenario, of trees without leaves. The professional judgment has been used to assess the worst-case scenario in winter year zero.

6.3.11 This assessment includes individual or groups of residential receptors experiencing a similar level of effects e.g. at the edges of settlements or a group of residential properties. Similarly, this approach has been adopted for recreational receptors where similar views are expected from a group of nearby PRoWs.

Assumptions

6.3.12 The following assumptions are relevant at the construction stage:

- For the purpose this preliminary assessment, as the precise alignment of the cable route is not yet known, construction of the cable route has been assumed to be anywhere within the Cable Route Corridor boundary to represent the worst-case scenario;
- The ZTV for the Proposed Development has been modelled on a worst-case scenario with PV Array heights at 4.5m as per the EIA Scoping Report. The ZTV will be updated to reflect the parameters in the ES;
- the construction phase is assumed to require daily HGV movements, Access during construction be provided via a bespoke access route from the A17. As a worst case, it is assumed at this stage that the access route will be removed following construction, with the land restored to its former use.
- the contractor will utilise the construction compounds within the Solar Array Area; however, there will likely be a need for temporary construction laydown areas along the Cable Route Corridor;

- Construction compounds will consist of offices, welfare facilities, canteens, storage and waste skips, parking areas and enough space to allow the storage, offloading and turning areas of vehicles. Mobile cranes (i.e. a vehicle with a tall lifting arm) may be required temporarily to build compounds, i.e. lifting and placing of office containers etc. Compounds will store materials as required, with frequent deliveries, to limit stock piling and will require lighting;
- the perimeter fence around the Solar Array Area will consist of up to 3m high deer-proof fencing. The fence around the substation will be up to 3.4m in height;
- the existing trees will be protected in line with the recommendations of BS5837 (2012) Trees in Relation to Design, Demolition and Construction;
- ground preparation for areas of solar panels and associated infrastructure will consist of topsoil stripping and storage, localised ground levelling, laying of foundations for structures and trenching for wiring. This will be undertaken by standard construction equipment, e.g. diggers, excavators and trucks. This will be followed by the construction of the solar module support structures with the solar panels being fixed onto these structures, followed by the construction of associated infrastructure, e.g. solar inverters, transformers and switchgears. This activity will require tall lifting equipment, e.g. cranes;
- substations have been located to minimise visual impact on nearby visual receptors;
- construction may require removal of crops if present during construction;
- Excavation will be required to accommodate cable alongside formation of temporary stock piles;
- parameters of substations and other structures have been designed to be of the minimum size, required for functionality of these elements.
- topsoil will be spread back across the area with a new native grass seed mix applied along with the planting of the hedgerows and woodland, and;
- It has been assumed for the purpose of the assessment that agricultural land use will be reinstated at the end of the construction phase.

6.3.13 The following assumptions are relevant to year zero of the operational phase:

- the Proposed Development will be fully operational across the entire site;
- the visual assessment considers effects in winter year 0, taking into account the worst-case scenario, when the Proposed Development will be built without the proposed mitigation. However, in practice, some mitigation may be introduced before other elements of the Proposed Development are built;
- the solar arrays will be set within an aluminium frame and mounted on a steel rack. The panels will be angled with their highest edge 4.5m above ground level, and all panels will be fixed in a south-facing orientation;
- It is assumed that the height of the transformer will be below 10.5m in height. The height of inverters and switchgear will be up to 3.5m in height;

- Proposed native hedgerows will be between 0.6m and 0.8m in height with tree planting between 1m and 3.5m in height depending on completion (year 0), and availability of plants and natural variation in heights; and
- All proposed planting will form part of the proposed 'Green Infrastructure' and will be implemented and managed in accordance with the Outline Landscape Ecology Management Plan ('OLEMP').

6.3.14 The following assumptions are relevant to year 15 of the operational phase:

- the visual assessment considers effects for year 15/summer to take into account the screening effect of maturing vegetation in full leaf;
- the tree planting will have grown by an assumed 3m in height (equating to 20 centimetres per year) to range between 4m and 6.5m in height. New and existing hedgerows will be managed and maintained at a height above 3.5m.

6.3.15 The following assumptions are relevant to the decommissioning stage:

- the Proposed Development is no longer operational, and the solar panels and associated structures and equipment are removed in a manner similar to the construction phase, requiring machinery and localised excavation;
- the assessment is undertaken for the winter season, to take the account of the worst-case scenario with the duration of the decommissioning phase being between 12 and 24 months, and;
- Cable Route will be removed at decommissioning stage to represent the worst case assessment scenario.

6.4 Assessment Methodology & Significance Criteria

Extent of the Study Area

6.4.1 Guidelines for Landscape and Visual Impact Assessment (GLVIA 3)[2].

6.4.2 GLVIA3 suggests that the study area should cover the geographical area from which the Proposed Development will be potentially visible. The area should also be proportionate to the Proposed Development itself and may include refinement by professional judgement.

6.4.3 In the case of the Proposed Development, the study area of the assessment was defined by a combination of the ZTV, and professional judgement, verified by field surveys. The combination of these factors has resulted in a study area that encompasses up to 5 km from the Site (ST19595/Figures 6.1 – 6.8). It is considered that beyond this distance the Proposed Development will be unlikely to give rise to significant landscape or visual effects.

Assessment Methodology

6.4.4 The method of baseline data collection and assessment has been adopted in line with current best practices, industry guidelines and comments obtained

[2] Guidelines for Landscape and Visual Assessment 3rd edition (2013).

from consultees. Full details are provided in Appendix 6.2 Landscape and Visual Methodology.

6.4.5 Landscape effects are associated with the development and relate to changes to the fabric, character, and quality of the landscape as a receptor and how it is experienced. This requires consideration of the character of the landscape, the elements and features that it contains, and any value attached to the landscape (whether formally or informally).

6.4.6 Landscape assessment relates to:

- direct effects upon specific landscape elements, especially prominent and eye-catching features;
- change in character, which is the distinct, recognisable and consistent pattern of elements that creates distinctiveness and a sense of place;
- subtle effects that contribute towards the experience of intangible characteristics such as tranquillity, wildness and cultural associations; and
- effects on designated landscapes, and other acknowledged areas of special interest.

6.4.7 Visual effects relate closely to landscape effects, but they concern changes in views and visual amenity. Visual assessment concerns people's perception and response to changes in visual amenity. Effects may result from new landscape elements that cause visual intrusion or new features that obstruct views across the landscape.

6.4.8 The landscape and visual effects are connected with other environmental disciplines such as heritage and biodiversity and therefore are to be read in conjunction with Chapter 8 Cultural Heritage and Chapter 7 Ecology.

6.4.9 The landscape and visual assessment draws upon landscape and visual surveys undertaken between March 2023 and October 2023.

6.4.10 Judgements about the landscape and visual sensitivity to the Proposed Development result from combining judgments regarding value and susceptibility to the proposed changes. The sensitivity levels are recorded on the scale of very high, high, medium, low and very low, accompanied by clear justification.

6.4.11 Judgements about the magnitude of change for landscape effects are recorded on a verbal scale of high, medium, low and negligible, based on the principles set out in GLVIA3 paragraphs 5.48-5.52, which includes a consideration of scale, geographical extent and the duration and reversibility of the landscape effects.

6.4.12 Cumulative landscape and visual effects arise where the study areas for two or more schemes of the same type or other types of the proposed development or other ancillary components may give rise to cumulative landscape and visual effects. The cumulative assessment includes the existing identified schemes, those that are consented, and those for which planning applications have been submitted.

6.4.13 As with the assessment of the effects of the Proposed Development, the significance of cumulative effects is determined through a combination of the sensitivity of the landscape receptor or view and the magnitude of change

upon it. The sensitivity of landscape receptors and views is the same in the cumulative assessment as in the assessment of the Proposed Development itself. However, the definition of a significant cumulative effect may differ from a significant effect in the assessment of the Proposed Development itself, as the magnitude of change may differ for cumulative schemes.

Significance Criteria

6.4.14 Judgements about the overall level of landscape and visual effects, are recorded on a verbal scale of major, moderate, minor and negligible, based on the principles set out in GLVIA3 paragraphs 5.53-5.57. The underlying principles are summarised in GLVIA Figure 5.10 (Page 92), which has been adapted below.

6.4.15 The GLVIA references the requirement for a final judgment on whether the effects are considered significant or not in p.3.32 "…There are no hard and fast rules about what effects should be deemed 'significant'", but LVIAs should always distinguish clearly between what is considered to be the significant and not significant effects".

6.4.16 The GLVIA highlights in p3.35-3.36 the identification of significant effects through narrative text in explaining the judgments on significance.

6.4.17 The overall level of landscape and visual effects is derived by considering the combination of the sensitivity of the receptors and the magnitude of impact resulting from the Proposed Development. The following table is used as a guide to show how sensitivity and magnitude are combined to determine the level of effects. However, it is important to note that professional judgement is required to determine the actual level of effects in each case. Where the level of effect is considered to differ from this guide, a reasoned justification is provided within the appraisal narrative.

6.4.18 The matrix presented in Table 6.2 should, therefore, be considered as a guide, and deviation from this guide will be clearly explained in the assessment.

Table 6.2 – Matrix for Evaluating Significance

		NATURE OF RECEPTOR (SENSITIVITY)				
		Very high	High	Medium	Low	Very low
NATURE OF EFFECT (MAGNITUDE)	High	Major	Major	Major or Moderate	Moderate or Minor	Minor
	Medium	Major	Major or moderate	Moderate or Minor	Minor	Minor or Negligible
	Low	Major or Moderate	Minor or Moderate	Minor	Minor or Negligible	Negligible
	Very low	Minor or Moderate	Minor	Minor or Negligible	Negligible	Negligible

6.4.19 Effects that are deemed to be significant for the purposes of this assessment are those that are described as being of a major or moderate adverse/beneficial level. Effects predicted to be minor or negligible are considered to be 'non-significant'.

6.5 Baseline Conditions

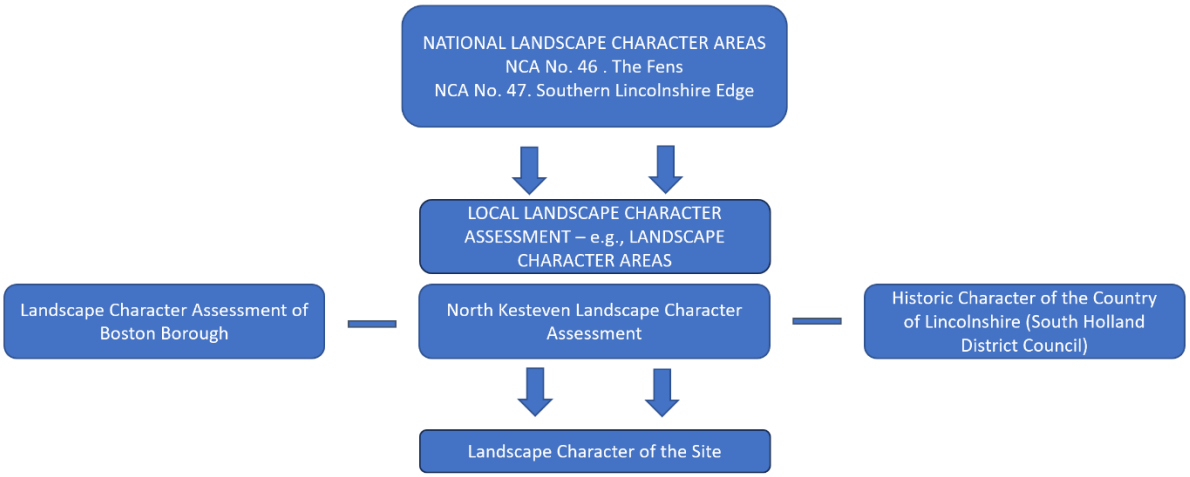
Current Baseline Conditions

6.5.1 This section describes the landscape and visual characteristics of the Site and wider study area. The proposed site for the Proposed Development comprises the Solar Array Area and the Cable Route Corridor.

Hierarchy of Landscape Character

6.5.2 The hierarchy of landscape character is illustrated within the study area illustrated in Diagram No. 1 below.

Diagram No. 1 Landscape Character Hierarchy



Regional Landscape Character

6.5.3 Natural England produces mapping and written descriptions of the landscape character of England within National Character Areas (NCAs). The aim is to assist those who make decisions regarding local plans to consider how best to enhance and respect local distinctiveness.

6.5.4 At a national scale, the site lies directly to the north of the boundary of 2 NCAs, 47 Southern Lincolnshire Edge, and 46 The Fens. The detailed analysis of these two NCAs within the Study Area is included in Appendix 6.3 Landscape Character. The landscape context of the study area exhibits some of these key characteristics, and they are taken as an appropriate description of it at a regional scale.

Published Landscape Character Assessment

Local Landscape Character Assessments

6.5.5 As there are no published Landscape Character Assessments at the County level, the assessment refers to the effects on the study area informed by

baseline descriptions of Landscape Areas identified at the local level within Local Landscape Character Assessments. The majority of the Site is located within North Kesteven Council's administrative area. The south-eastern part of the Cable Route Corridor is located within the administrative boundaries of the Boston Borough Council.

6.5.6 The majority of the Site falls within the landscape characterised within the North Kesteven Landscape Character Assessment. This Landscape Character Assessment identifies Landscape Character Types (LCTs) and Landscape Character Sub-Areas that provide more detailed landscape characteristics. The Solar Array Area falls entirely within Fenland Sub Area. The majority of the Cable Route Corridor also falls within Fenland Sub Area; however, the south eastern part is located within the Holland Reclaimed Fen Landscape Character Area (LCA) within Boston Borough Council.

6.5.7 The very south eastern part of the study area falls within the administrative boundaries of the South Kesteven District Council, and the landscape of this area is characterised by the South Kesteven Landscape Character Assessment. This Assessment identified seven District Landscape Character Areas (LCAs) with distinct characteristics. The Fen Margin and the Fens LCAs fall within the most northern part of the study area.

6.5.8 In the absence of a Landscape Character Assessment published by the South Holland District Council, the boundaries of the Historic Character of the County of Lincolnshire covering the Lincolnshire area have been used to identify LCAs of distinct characteristics within the study area. Based on the review of the available information informed by field surveys, two LCAs were identified, comprising the Wash LCA and the South Holland Fens LCA.

6.5.9 The south-eastern part of the study area falls within the administrative boundaries of Boston Borough Council, and the character of the landscape is described within the Landscape Character Assessment of Boston Borough Council. This Landscape Character Assessment identifies Landscape Character Types (LCT), which represent distinct types of landscape that are relatively homogenous in character. These Landscape Character Types have been subdivided into nine LCAs, which are “single unique areas and are the discrete geographical areas of a particular landscape type”. The Holland Reclaimed Fen LCA falls within the north eastern part of the study area.

6.5.10 A key characteristic of the landscape within the study area has been described below. More detailed landscape character information is included in the Appendix 6.3 Landscape Character.

Fenland Sub Area

6.5.11 The Landscape of Fenland Sub Area is a low-lying and very flat landscape with very large fields divided from one another predominantly by drainage channels. Drains and ditches provide a strong linear pattern often reflected in road pattern. The Fens are characterised in the following way within North Kesteven Landscape Character Assessment:

6.5.12 “The fens have a very strong and distinctive character and despite its absence of variation might be considered to present a sense of drama and melancholy.”.

6.5.13 The land has been reclaimed and drained from the natural marshes and wet woodlands from which the 'reclaimed' fens of today actually take their name. The Fenlands have been drained and farmed over a period of hundreds of years and therefore present an almost totally man-made landscape. The Fens typically have soils of the highest grade, peaty and very dark brown, frequently used for growing wheat or root vegetables.

6.5.14 Tree and woodland cover are scarce, with minimal significant woodland cover. There are occasional individual trees and some tree belts around the isolated farmsteads. These are often distinctive and often consist of poplar trees visible for significant distances over the flat and otherwise uninterrupted landscape.

6.5.15 Rows of high-voltage electricity pylons dominate within the open landscape. The settlement comprises largely individual properties and small villages.

Central Clays and Gravels Sub Area

6.5.16 The landscape character of the Sub - Area is characterised by gently undulating lowland, with scattered woodland. South of Sleaford, the land falls gradually down from the Upland Plateau Fringe at approximately 40m AOD in the west before merging with the adjacent fenland in the east at approximately 5m AOD. Agricultural use dominates with cereal and root vegetables with occasional grazed areas. Some small woodland copses, mostly broadleaved are scattered throughout the Sub – Area. High voltage power lines and pylons cross through the area but, whilst massive, are generally less prominent in the landscape than in the more open landscapes of the Fens or the Limestone Heath.

6.5.17 Although the drainage channels, dykes and other watercourses are present, their presence is more localised to low laying areas alongside their density. The settlements comprise typically isolated farmsteads, small villages and rare small towns such as Sleaford that include some industrial land use. The landscape includes some landmarks such as the Heckington 8-sailed windmill a Grade I Listed Building, presenting strong historical reference point in the landscape.

Holland Reclaimed Fen LCA

6.5.18 The key characteristic of Holland Reclaimed Fen is described within the Landscape Character Assessment of Boston Borough.

6.5.19 The landform of Holland Reclaimed Fen LCA is flat and low-lying, with semi-remote views of agricultural landscape. The long-distance panoramas are available across cereal crops with frequently open skylines. These views are sometimes interrupted by small-scale telegraph poles or wind turbines, such as near Bicker in the southwest corner. A hierarchical grid layout of straight, open, deep drains is crossed by frequent bridges which allow access to the adjacent dwellings and farmsteads. Drain and dyke banks are well maintained in most parts with limited riparian vegetation.

6.5.20 Wheat and brassicas crops dominate within medium to large-scale fields within the strong geometric pattern of drains, dykes and ditches. Tree cover is sparse and confined to mature trees and shelterbelts around settlements, farmsteads and dwellings. The section of Boston to Sleaford rail link runs along the top of the South Forty Foot Drain embankment.

6.5.21 Overall, the landscape is intact, large-scale, semi-remote and intensively farmed.

6.5.22 Table 6.3 below outlines the key characteristics of other LCAs within the study area, that are likely to be affected indirectly.

Table 6.3 – Key characteristics of LCA's that may be affected indirectly by the Proposed Development

LANDSCAPE CHARACTER AREAS	CHARACTERISTICS
North Kesteven Landscape Character Assessment	
Central Clays and Gravels Sub Area	• A gently undulating lowland, edged by areas of woodland in the north. • Fields are generally smaller and more varied in shape than on the adjacent limestone plateau with some grazing land as well as arable. • Surface water drains into small streams running from west to east and drainage ditches run by the sides of the fields. • Well kept hedgerows along roadsides and sometimes between fields. • Dark brown coloured soil. • Small copses of broadleaved woodland throughout the sub-area and larger areas of woodland on the eastern edge. • Three distinctive lines of settlements – the limestone villages following the spring lines coming off the limestone plateau, the line of villages on the clay strip; and the villages edging the fens to the south. • Road network orientated with the main roads running from north to south (Lincoln to Sleaford) with smaller roads running west to east. • Pressures for change in the sub-area relate to inappropriate development on the edge of villages and the loss of hedgerows and tree cover. • Opportunities for landscape enhancement mainly rest with increased hedgerow and tree planting and maintaining the character of the villages.
South Kesteven Landscape Character Assessment	
The Fens	• Low flat terrain, level horizons and large skies. • Large-scale open rectangular fields, divided by drainage ditches and embanked rivers. • Sparse trees and woodland cover. • Little settlement apart from individual farmsteads, often with large-scale agricultural buildings.
Fen Margin	• A transitional area between the wooded Kesteven Uplands and the flat open fens. • Broad east-facing slope, with local variations in topography. • Medium-scale rectilinear fields with some hedgerow trees and a variety of farming uses. • High proportion of settlement along the A15 and B1177 roads provides activity in the landscape.
South Holland District Council	
The Wash Farmlands LCA	• A sparsely settled LCA characterised by its agricultural use under arable cultivation. Settlement character entirely dispersed with no nucleation. • Field boundaries are discontinuous and in the form of shallow wet dykes, with a wider, irregular geometric field pattern present.

LANDSCAPE CHARACTER AREAS	CHARACTERISTICS
	• Woodland is extremely sparse, consisting of small-scale twentieth-century plantations around domestic or farm buildings. • There are no civic buildings or amenities in the character zone.
South Holland Fens LCA	• This LCA presents a large portion of the southern half of the country, with the area well defined to the north and west, where in these areas a clear defined edge is present on higher ground. • Predominantly flat topography, dissected by local roads, rivers, drainage channels and drainage ditches, often on raised banks. • Least settled character area due to the lack of nucleated settlements. • The few trees to be found tend to be near farmsteads, and there is no evidence of hedgerows as field boundaries. • Views are unrestricted across the landscape, with limited detracting features enhancing the impact of big skies. • The flat landscape is occasionally relieved by small woodland blocks and raised roads and tracks around isolated farmsteads.
Landscape Character Assessment of Boston Borough Council	
Bicker to Wyberton Settled Fen LCA	• Expansion and modernisation of the infrastructure associated with intensive agriculture. • New sustainable housing on the edge of Bicker village. • Countryside and Environmental Stewardship Schemes are affecting the appearance of buffer strips around arable fields edges and dyke vegetation, through changed farming and management practices. • Views to Bicker windfarm outside the character area. • Urban expansion on the outskirts Boston town including leisure, residential, industrial and commercial developments which could in future merge with outlying settlements. • Housing development over the last decade expanding villages such as Swineshead.

Landscape of the site and surroundings

Landform and drainage

6.5.23 The landform of Solar Array Area is low lying and largely flat, typical of fenland landscape and varies from 2m AOD at Middfoder Dike in the east to 8m AOD near Howel hamlet; however, this change in landform is barely perceptible, stretching over a large area. The landform of the Cable Route Corridor is similarly flat and below 5m AOD, east of Little Hale.

6.5.24 Drains and dykes are typical landscape features of the fenland landscape, which are characteristic of both the Solar Array Area and the Cable Route Corridor. The low-lying fen landscape east of Great Hale, Little Hale and Helpringham comprises large and medium-scale fields divided from one another by drainage channels. A hierarchy of drains and ditches provides a strong linear pattern, as ditches and drains replace otherwise present hedgerows demarcating fields boundaries. Key drains within or along boundaries of the Solar Array Area and eastern part of the Cable Route Corridor include Twelve Drain, Midfoder Dike, Hodge Dike, The Beck, Car

Dyke, Helpringham Eau, Great Hale Eau, South Forty Foot Drain. The fen landscape was initially created in 17th century and is still an ongoing process, which transformed wild wetlands and meandering streams into long straight channels at regular angles that enabled the use of the peat-rich soils for growing a variety of crops.

6.5.25 Both the landform and the drainage pattern of the Site are reflected within the study area. The western part of the study area includes fewer ditches and drainage channels as the limestone plateau edge transitions into more porous soils of fens. The landform at the western edges of the study area rises to approximately 50m in proximity to Green Hill (between Aswarby and Aunsby) and approximately 2m AOD at the eastern edges of the study area. The River Witham is located in the north eastern part of the study area. Apart from drains, ponds are also frequently present throughout the study area.

Land use and Land cover

6.5.26 The arable land use dominates within the Solar Array Area. Small to medium-scale fields are separated by drainage channels or hedgerows. There are a few small woodland blocks within the Solar Array Area, such as Fox Covert.

6.5.27 The land use and land cover within the Cable Route Corridor is very similar to the Solar Array Area. Predominantly arable use stretches across a mosaic of small, medium, and large fields separated by hedgerows or, more frequently by drainage channels. Existing energy infrastructure is present in the form of high-voltage power lines and pylons, the Bicker Fen Substation and the adjacent Bicker Fen wind farm. Woodland cover is sparse and comprises small to medium size woodlands.

6.5.28 The land cover and land use are similar within the study area. The woodlands are larger, and hedgerows are typically more frequent as field enclosures in the western part of the study area. Roadside hedgerows are usually thick and in good condition, with few sparsely spaced hedgerow trees. In contrast, the landscape in the eastern part of the study area (fenland) is more open, with fewer woodlands and hedgerows and frequently present drainage channels. The arable land use dominates with cereal and root crops. Shelterbelts are present occasionally and often consist of poplars. Overall, the agricultural landscape within the study area is well-managed and in good condition.

Settlements and individual properties

6.5.29 The dominating settlement patterns are small villages, such as Heckington, Helpringham and Great Hale, or hamlets, such as Little Hale. The villages are frequently aligned along local roads and therefore have a linear character, such as Heckington and Great Hale or hamlets, such as Little Hale and Helpringham nucleated along the B1394. Heckington is the largest village within the study area, which originated at the intersection of minor roads, but has grown northwards towards the A17 bypass. Newer mixed development has been built on the outskirts of the villages, although much of this has been in-keeping with the local vernacular.

6.5.30 Red brick buildings with tiled roofs dominate. Some older houses were built of yellow brick, and although the core of the villages is of historical interest. The Heckington Village and Heckington Station Conservation Area Appraisal refers to "*Heckington Windmill as a prominent landmark….which presents*

strong historical reference points within the landscape which should be protected from visual interruption."

6.5.31 Sleaford is the largest market town located at the western edges of the study area. The fenland landscape is less settled, and apart from isolated houses, and hamlets, it includes the villages such as South and North Kyme. The villages of Donnington and Billingborough are located at the south eastern edges of the study area, slightly elevated above the adjacent landscape of fens to the east.

Transport corridors

6.5.32 The road network in the western part of the study area is orientated with the main roads running from north to south (Lincoln to Sleaford) with minor connector routes roads running west to east. The road pattern in the eastern part of the study area consists largely of narrow, straight roads running in an east west direction and is heavily influenced by the drainage patterns of the area. The A17 cuts across the centre of the study area and takes an uncharacteristic sweeping line.

6.5.33 The A52 skirts the southeastern peripheries of the study area to link with the A17 just north of Bicker. The B1395 links East Heckington with North Kyme, and the B1394 links Heckington with Swaton in the north-south direction. The roads within the fenland are raised above the land level on earth embankments along the drainage channels. The movement of vehicles along the roads is a rare dynamic element within a relatively static and tranquil landscape.

6.5.34 The Peterborough to Lincoln railway line runs south of Helpringham, with associated rail infrastructure such as bridges, level crossings and signal boxes.

6.5.35 There are numerous footpaths and Public Rights of Way (PRoW) present within the study area. Cross Britain Way is a walking route that crosses the study area in the south eastern part and follows some of the drains such as Bridge End Causeway for much of its length. This long-distance recreational route is noted in tourist guides and published online information but are not designated unlike National Trails

Designated and Undesignated Landscapes

6.5.36 There are no landscape designations on the site and within the study area.

6.5.37 Although there are no landscape designations within the study area, there are some sensitive receptors present as described below.

6.5.38 Listed Buildings and Scheduled Monuments are grouped primarily within the core of villages or hamlets such as Heckington, Great Hale, Little Hale, Helpringham, Howell, Ewerby Thrope or South Kyme. Scheduled Monuments are also frequently located within these settlements although some such as Roman Saltern in Helpringham Fen Scheduled Monument is located near South Forty Foot Drain in the south eastern part of the study area.

6.5.39 Aswarby Park, Grade II Registered Park and Garden is located on the western peripheries of the study area. Ancient Woodlands are located over 1km away from the Solar Array Area. Aswarby Thorns Ancient and Semi Natural

Woodland is located approximately 1.2km to the north east of Aswarby Park (Grade II Registered Park and Garden). Evedon Wood is located approximately 1.2km to the west from the Solar Array Area. The Old Wood Ancient and Semi Natural Woodland is located approximately 1km to the north east of the Solar Array Area.

6.5.40 The Horbling Fen Site of Special Scientific Interest (SSSI) is located approximately 850m to the south of the A52. A Local Nature Reserve – Mareham Pastures is located at the southern edges of Sleaford.

Visual Baseline

6.5.41 This section identifies the key visual receptors in the vicinity of the Site that may experience a change in the views alongside the nature of the views available.

ZTV Analysis

6.5.42 The limited topographical variation within the study area combined with the presence of sparse vegetation in the form of woodlands and hedgerows results in a Zone of Theoretical Visibility (ZTV) stretching over a considerable distance, as illustrated in Figure 6.1 (ST19595/111) Bareground Zone of Theoretical Visibility and Figure 6.2 (ST19595/113) Screened Zone of Theoretical Visibility.

6.5.43 The screened ZTV has been produced using DTM data combined with associated building locations based on OS Master Map data and their heights and tree canopy extents data from National Tree Map data and their maximum heights. Although this ZTV includes buildings and trees over 3m in height, it does not include hedgerows, which, although present to a limited extent within the study area, have a considerable impact on visibility within a relatively flat landscape. Undertaken field surveys, however, established that the true visibility of the Site is much more limited and restricted primarily to the 2km buffer from the Site. This is primarily due to screening provided by hedgerows that have not been captured in ZTV data analysis, but also single trees and corpses and woodlands that are not captured by National Tree Map data.

6.5.44 The visibility of the Cable Route Corridor will depend on the final alignment of the proposed cable route, however generally the close receptors are likely to be more affected, due to the screening effects of field boundary vegetation, woodlands and garden vegetation that provides effective screening over a longer distance within flat landscape.

Views from Residential Receptors and Settlements

6.5.45 There are very few residential receptors that currently experience the views towards the Solar Array Area. The Gashes Barn is located within the north eastern portion of the Site. The views of residents encompass almost the entire Solar Array Area, although adjacent agricultural buildings and a row of trees along Black Drove provide limited screening. Ewerby Waithe is a single-storey house (approximately 600m to the north of the Site), from where middle distance views towards the Solar Array Area are available. The views from the residential property at Ferry Farm are completely blocked by adjacent woodland belt, garden vegetation and hedgerow along Kyme Eau drainage channel. Views from Anwick village located approximately 2.55km to the north

west from the Site are screened by Haversholme Wood. The views from residential properties along the A153 are almost entirely screened by hedgerows, however some long distance views are expected from the upper storey of some of these properties into parts of the Site. The views from South Kyme village are screened by woodland belt around the village and a hedgerow along the Middfoder Dyke, that forms the eastern boundary of the Solar Array Area.

6.5.46 Open views of the Site are available from Ewerby Thrope Farm, adjacent to the east of the Solar Array Area. The visibility from residential properties located further away is considerably more restricted by intervening vegetation, consisting of hedgerows and shelterbelts or through screening provided by poultry units or scattered trees around Ewerby. The existing woodland and tree groups around residential properties completely screen the views from Howell hamlet. The views from Westmoorelands Farm are largely screened by adjacent ancillary buildings with partial views into the Solar Array Area. The views from Howell Fen Farmhouse are partial due to screening provided by trees and hedgerows around the perimeter of the residential property. The views from residential properties located further away to the south, accessed off Littleworth Drove and Star Fen Road are considerably more restricted due to the greater distance from the Site, screening of field boundary vegetation and presence of trees and shelterbelts around residential properties. The views from Heckington are screened by vegetation along the A17.

6.5.47 The views of works alongside the Cable Route Corridor are expected to be visible predominantly by residential receptors in the vicinity of undertaken works, such as Car Dyke Farm and Crow Lane Farm. The views from many of these residential receptors are screened by vegetation around the houses. Residents of some residential properties have views available only from the upper storeys, such as from some of the houses around Grate Hale.

Views from Public Rights of Way

6.5.48 There are no Public Rights of Way (PRoW) that cross through the Solar Array Area. However, the Public Footpath Ewer/12/1 (approximately 340m) follows the eastern section of the northern boundary. There are a few PRoW that link with the Solar Array Area, such as Public Bridleway Ewer/1103/1, which links Ewerby Thorpe with Asgarby Road. Partial views towards the Solar Array Area are available from Public Footpath Anwi/2/2 and Restricted Byway Ewer/8/1, which run along the River Slea. The views from Public Footpath SKym/8/1 the SKym/1/1 located to the west of the Solar Array Area, are largely screened by a hedgerow along Middfoder Dyke, but some filtered views into the Site are available. The views from Public Footpaths such as AsHo/4/1 near Howell and Public Footpath Heck/12/1 stretching along Heckington Eau to the south are largely screened by intervening vegetation.

6.5.49 There are a range of PRoWs within the Cable Route Corridor. Some of them follow the existing drainage channels such as Public Footpath Help/14/2 and Help/2/6. Some sections of PRoW are short such as Public Footpath LHal/5/1, but they are connected to the farm access tracks allowing for continuity. Public footpath Bick/1/1 runs in the north southerly direction along the South Forty Foot Drain. This public footpath aligns with the section of Cross Britain Way, which is a promoted hiking route in tourist information guides and online sources. This 280 mile route links Boston in England with Barmouth in Wales.

Views from People at Work

6.5.50 The key visual receptors that will experience a change in a views at work are farmers working on their land. Their presence on the fields is limited and more frequent at times of sowing and harvest.

6.5.51 Business units of notable size are present at the eastern edges of Heckington. However, the views towards the Site are completely blocked by adjacent buildings and vegetation. Although these business units are industrial in character, located typically within large unsightly buildings, they are often focussed on processing food. Other businesses are almost unnoticeable, as they utilise the existing farm buildings such as the Farm Kitchen producing food for schools, which utilises the farm buildings present within the Farm.

Views from Roads

6.5.52 The key transport receptors that have views towards the Site are local roads adjacent to the Site such as Asgarby Road, from where partial views of the Solar Array Area are available above the existing hedgerow that stretches along the perimeter of the Site. Similar views are available to transport receptors along Black Drove that follows the northern perimeter of the Site, although some short sections of hedgerow are gappy allowing for more open views towards the Site. The views from Ferry Lane to the north of the Site are also restricted by hedgerow with occasional gaps. The views from roads located further to the north such as the A153 to the north are screened by field boundary vegetation and raised banks along the River Slea.

6.5.53 The views from transport receptors to the east such as Wood Lane and Clay Bank are screened by intervening field boundary vegetation, occasional small woodland blocks, but foremost the hedgerow with trees along the Middfoder Dyke. Some glimpsed and partial views are available from Cow Drove, linking the nearby local farms with South Kyme, from where some partial views into the Site are available.

6.5.54 The key roads where from transport receptors experience views into the Cable Route Corridor include the users of the A17, Main Road/B1394, Fen Road and Little Hale Drove Road.

Selection of Viewpoints for Assessment

6.5.55 Viewpoints are selected to inform the potential visual effects of the Proposed Development. The principal criterion is that they must be representative of the range of views and viewer types likely to experience the Proposed Development (paragraphs 6.19 and 6.20 of GLVIA 3) in their views. Specific points may also be chosen because they are important existing viewpoints in the landscape.

6.5.56 The selection of viewpoints was informed by the ZTV analysis, fieldwork, and by desk research on access and recreation, including footpaths, bridleways and public access land, tourism including popular vantage points, and distribution of population. A range of representative viewpoints was selected at different elevations, giving coverage from all directions, distances, and aspects. The viewpoints were also selected to capture the views from recreational routes, panoramic views and views from promoted recreational

routes. The detailed location of each viewpoint was considered as typical or representative as possible of the view likely to be experienced.

6.5.57 The initial selection of viewpoints was submitted with the Scoping Report. The comments received with the Scoping Opinion informed the addition of a further six viewpoints alongside the identification of photomontage locations that will be produced at the ES stage.

6.5.58 A series of photographs were taken from the agreed representative viewpoints using a Nikon D750, with a 50mm fixed lens, mounted on a tripod with a professional panoramic head which positions the focal point of the camera lens above the pivot of the tripod and allows the photographs to be stitched together accurately. Panoramic photographs are presented as Type 1 visualisations and prepared in accordance with the requirements of the Technical Guidance Note 06/19 published by the Landscape Institute.

6.5.59 The representative viewpoints and visualisations used to assess the visual effects are shown in Figure 6.1 (ST19595/111) Bareground Zone of Theoretical Visibility and Figure 6.2 (ST19595/113) Screened Zone of Theoretical Visibility. Supporting visualisations have been produced for all viewpoints as indicated below.

Sensitive Receptors

6.5.60 Landscape receptors likely to be affected by the Proposed Development and potential impacts are included in Table 6.4 below.

Table 6.4 – Key sensitive landscape receptors and potential impacts

SENSITIVE LANDSCAPE RECEPTORS	POTENTIAL IMPACTS
Existing vegetation, such as hedgerows and trees	Loss of vegetation during construction.
Land use	Long term change from arable land use to energy infrastructure.
Landscape pattern	Long term change to landscape pattern from arable to infrastructure.
Change to landscape character of the site	Introduction of uncharacteristic features associated with the Proposed Development such as solar arrays, inverter cabins and substation and other elements of the Proposed Scheme including mitigation.
Perceptual aspects of landscape character	Introduction of scheme elements will alter tranquillity and remoteness locally.
Field enclosure	Removal of vegetation will likely reduce field enclosure
Drainage channels	Section of drainage channels may need to be adopted to allow for temporary access
Time depth	The Proposed Development may affect the perception of time depth locally.
Landscape character	Potential change to landscape character on the site level, local and regional scale.
Cumulative change to landscape character	Potential effects of the Proposed Development and other solar schemes in the area.

6.5.61 Visual receptors likely to be affected by the Proposed Development and potential impacts are included in Table 6.5 below.

Table 6.5 – Key sensitive visual receptors and potential impacts

SENSITIVE VISUAL RECEPTORS	POTENTIAL IMPACTS
Residents of properties with views of the Proposed Development	The effects of change and development on the views available to residents and their visual amenity.
Recreational receptors along the PRoWs with views of the Proposed Development	The effects of change and development on the views available to residents and their visual amenity.
People at work with views of the Proposed Development	The effects of change and development on the views available to people at work and their visual amenity.
People travelling along major transport corridors and local roads	The effects of change and development on the views available to residents and their visual amenity.

Future Baseline Conditions

6.5.62 It is anticipated that the future landscape and visual baseline within the red line boundary will remain as indicated in the baseline section. The land will, therefore, remain in agricultural use.

6.5.63 In relation to the study area, the land uses, and vegetation patterns are also considered to remain similar, although the potential cumulative effects with other renewable schemes has been considered and assessed.

6.5.64 The effects of change in temperature or precipitation levels as a result of climate change are unlikely to materially affect the existing landscape.

6.6 Assessment of Effects

Embedded Mitigation

6.6.1 The assessment is based on the assumptions included in the section Limitation and Exclusions above. The section below lists key embedded mitigation measures:

6.6.2 Construction phase embedded mitigation of relevance to this landscape and visual chapter is as follows:

- the extent of the Cable Corridor Route has been refined to reduce its size and therefore reduce the land use change and direct effects;
- the substation location was influenced by multidisciplinary consideration of potential effects;
- use of colour tones of proposed PV panels that will help to blend them within the existing landscape;
- direct impacts on landscape features have been avoided through the siting of the Proposed Development within an area that is currently in agricultural use;
- the loss of the existing vegetation will be limited through the iterative design process;

- reinstatement of land utilised during construction to its original use as far as technically practicable in consultation with the landowners where required;
- temporary fencing will be used to demarcate important and protected habitats, preventing construction access to protect them from accidental damage;
- the use of hoarding will be considered where visual screening is required from residential properties, PRoWs and recreational areas;
- work compounds, access tracks, haulage routes, material storage areas, will be located away from sensitive landscape and visual receptors where practicable.

6.6.3 Operational phase embedded mitigation of relevance to this landscape and visual chapter is as follows:

- existing vegetation will be retained as far as reasonably practicable in order to preserve its function as a natural screen to the elements of the Proposed Development;
- the species selection will be developed in consideration of local landscape context and local provenance;
- in order to minimise the visual impact of the Proposed Development, the landscape design around the Solar Array Area will include enhancement to the existing perimeter vegetation planting, aiming at full screening to the Proposed Development by year 15 of operation;
- taller elements of the Proposed Development, such as the substation will receive additional planting to screen them should any visibility to above the perimeter planting remain.to protect views across the flat and open landscape of fens including historic landmarks such as church towers, the mitigation planting will be limited within the Cable Route Corridor and will be focused primarily on restoration planting.
- to protect the historic character of the landscape, the inclusion of additional hedgerows within Solar Array Area will be carefully considered and included where this is necessary for screening purposes, as fenland landscape typically comprises field boundaries demarcated by drainage channels with few field boundary hedgerows;
- the scheme design will consider the visual impacts in the context of the proposed noise mitigation measures to minimise the negative impact on tranquillity and landscape character;
- woodland planting comprising typically of native species (with some climate-change-adapting species), planted as multipurpose features for visual screening, will aid landscape integration and support nature conservation and biodiversity;
- land temporarily impacted by works to divert utilities will be reinstated to its former condition and composition upon completion, as far as reasonably practicable;
- lighting will be designed, positioned and directed to prevent or minimise light disturbance, excluding floodlighting to nearby receptors;
- the existing and proposed hedgerows around the perimeter of the Beacon Fen Energy Park will be allowed to grow taller 3-5m in height to provide a greater level of security.

Assessment of Landscape Effects

Proposed Development and Landscape Receptors

6.6.4 Interactions between the Proposed Development and landscape receptors will potentially occur in two ways; through direct loss of landscape elements (i.e. subtractive changes which change landscape character) or through additions that change landscape character (additive).

6.6.5 The Proposed Development at the Solar Array Area will utilise arable fields set within the agricultural landscape of Fens. The arable fields will be replaced by solar arrays. The existing perimeter vegetation consisting of hedgerows with trees alongside hedgerows forming the field boundaries will be retained except for vegetation removed for the access, if required. The change in landscape character will be largely a result of modification to land use and the introduction of PV panels that will influence the presence of man-made features within the study area.

6.6.6 Construction of the cable route will introduce uncharacteristic elements, such as the temporary movement of construction trucks along temporary access routes, excavation, and temporary material stockpiles alongside the temporary presence of compounds. As the agricultural land use will be restored at the end of construction, the landscape of the Cable Route Corridor, will exhibit very few signs of former construction with the cable buried underground.

6.6.7 For the purpose of this assessment, the landscape effects of the Proposed Development will be assessed at the site level (Figure 6.8/ST19595/109), local landscape character with the reference to the local landscape character assessments (Figure 6.7/ST19595/108) and landscape character at regional scale (Figure 6.6/ST19595/114) with the reference to the National Character Area profile.

Landscape Sensitivity – Site level

6.6.8 Value: Medium (As described in the Appendix 6.3 Landscape Character).

6.6.9 Susceptibility: The large-scale landscape of the Solar Array Area is generally of lower susceptibility to the Proposed Development, as large-scale fields will accommodate the large scale solar arrays better than small scale fields. The Site where Solar Array Area is proposed has a low level of enclosure, resulting in higher susceptibility to the Proposed Development. The landform of the Solar Array Area is flat and, therefore, less susceptible to large scale solar development. Arable land use is generally considered to have lower susceptibility to solar development, as the land can be reinstated for agricultural use at the end of construction. The land cover is limited to sparse hedgerows and, therefore, is of lower susceptibility to the Proposed Development.

6.6.10 The landscape of the Site does not contain a large-scale built form that will reduce the susceptibility to the Proposed Development. Although the landscape is relatively tranquil, the scenic qualities are limited, resulting in medium susceptibility to the Proposed Development. There are no landmark features within the Site, although the church spire in Ewerby Thorpe is visible from the Site. The skylines of open arable landscape and “big skies” are

characteristic of the fenland landscape, and they are available to the west towards Ewerby Thorpe settlement resulting in medium susceptibility. Similar susceptibility is expected to the proposed works within the Cable Route Corridor.

6.6.11 Sensitivity: Combined medium value with medium susceptibility will result in medium sensitivity.

Landscape Sensitivity – Local Landscape Character

Fenland Sub Area

6.6.12 Value: Medium (As described in the Appendix 6.3 Landscape Character).

6.6.13 Susceptibility: The susceptibility of large scale fenland to the introduction of solar arrays is generally low. Large fields with hedgerows along the roads are able to accommodate solar arrays better in comparison to small-scale landscapes. The limited enclosure around the site is less susceptible to loss in comparison to small scale landscapes but also is less capable of integrating the proposed solar arrays. The flat landform of fens is generally of low susceptibility to the introduction of solar arrays. Land cover consisting mainly of arable crops is generally of low susceptibility to the introduction of Proposed Development.

6.6.14 Landscapes that contain little large-scale built form, such as Fens, are generally more susceptible to solar schemes in comparison to small scale landscapes with undulating landform. The high voltage power lines and towers are present within the LCA alongside the A153 and Nottingham to Skegness Line Railway Line reducing the susceptibility. The remoteness and tranquillity of the Site are of medium susceptibility, as currently, although in arable use, it is quite remote and tranquil. The fenland landscape includes several historic landmarks, including church spires, which are one of the key qualities of vistas. The skylines are important features of the fenland landscape and are of medium susceptibility to the introduction of solar arrays as they have a generally low impact on skylines within flat landscape of fens.

6.6.15 Sensitivity: Combined medium value with medium susceptibility will result in medium sensitivity.

Central Clays and Gravels Sub Area

6.6.16 Value: Medium (As described in the Appendix 6.3 Landscape Character).

Susceptibility: The large-scale fields are generally of low susceptibility to the accommodation of the access route within dominating medium to large scale fields. A medium level of enclosure is generally of medium susceptibility as it helps to accommodate the change partially within the landscape. Small changes in the landform of the Sub Area are of medium susceptibility to the proposed access route, as little alteration to the existing landform is required. The land cover pattern is of medium susceptibility as it comprises largely from fields in agricultural use, with occasional remnants of estate landscape associated with small rural settlements. The landscape of Sub Area contains a few large scale transport corridors such as Sleaford North Railway Junction, A - Roads such as the A15 and A17, Whitecross Lane Solar Park and, therefore, is of medium susceptibility to the introduction of access road. The

landscape has a medium level of remoteness and wildness, resulting in medium susceptibility. Although there are some landmarks present, such as church spires the landscape includes also high voltage power lines that are detracting features at the skyline resulting in medium susceptibility. Overall, the susceptibility of Central Clays and Gravels Sub Area is low to the introduction of access road.

6.6.17 Sensitivity: Combined medium value with low susceptibility will result in medium sensitivity.

Holland Reclaimed Fen LCA

6.6.18 Value: Medium (As described in the Appendix 6.3 Landscape Character).

6.6.19 Susceptibility – Cable Route Corridor: The medium to large-scale fields arranged in geometric pattern are generally of low susceptibility to the accommodation of the Cable Route. The limited enclosure of the Fenland landscape is of low susceptibility to the cable route as, typically, the cable will be buried underground. The flat landform and land cover are also of low susceptibility to the Cable Route as the Cable will be buried, and agricultural land use will be restored.

6.6.20 The presence of large-scale built form is absent within this LCA, although drainage infrastructure such as the North Forty Foot Drain and South Forty Foot Drain dominate within the study area but are generally of low susceptibility to the introduction of the cable route. Remoteness alongside skylines is also of low susceptibility to the cable route. The presence of distinct landscape features is limited to the drainage network. The Solar Array Area is too distant to affect the perceptual and aesthetic qualities of this LCA. Overall, the susceptibility of Holland Reclaimed Fen LCA is medium to the introduction of the Cable Route.

6.6.21 Sensitivity: Combined medium value with medium susceptibility will result in medium sensitivity.

Bicker to Wyberton Settled Fen LCA

6.6.22 Value: Medium (As described in the Appendix 6.3 Landscape Character).

6.6.23 Susceptibility – Cable Route Corridor: The largely flat landform of this LCA is of low susceptibility to the introduction of Cable Route. The fields are of medium scale with relatively sparse vegetation and a medium level of enclosure, resulting in a medium susceptibility to the Proposed Development. The presence of large-scale built form is limited; however, road network alongside occasional small-scale solar farms is already present within this LCA, and, therefore, of medium susceptibility. There is a range of landmark features within this LCA, and skyline views are characteristic of this landscape, resulting in higher susceptibility to the construction associated with underground cabling resulting in higher susceptibility to the construction of cable route.

6.6.24 Overall, the landscape character of the Bicker to Wyberton Settled Fen LCA is considered of medium susceptibility to the introduction of underground cable.

6.6.25 Sensitivity: Combined medium value with medium susceptibility will result in medium sensitivity.

South Holland Fen LCA

6.6.26 Value: Medium (As described in the Appendix 6.3 Landscape Character).

6.6.27 Susceptibility – Cable Route Corridor: The medium-scale fields are generally of medium susceptibility to the accommodation of the Cable Route. The medium level of enclosure of the South Holland Fen LCA is, however, of medium susceptibility at the construction stage. Landform and land cover patterns are of low susceptibility to the introduction of the Cable Route. The presence of local landmarks is limited within this LCA, and views are more restricted compared to other parts of the fenland and, therefore, are of lower susceptibility to the cable route. The skylines are frequently restricted by field boundary vegetation and, therefore, of lower susceptibility to the Cable Route. Overall, there is a medium level of tranquillity and remoteness and, therefore, a medium level of susceptibility. Overall, the landscape character of the South Holland Fens is considered of medium susceptibility to the proposed cable route.

6.6.28 Sensitivity: Combined medium value with medium susceptibility will result in medium sensitivity.

Landscape effects – Regional Landscape Character

6.6.29 Two NCAs cross the study area: NCA Profile: 47 Southern Lincolnshire Edge and NCA Profile: 46 The Fens. The NCA profile provides a useful description of landscape characteristics at a regional scale. No significant effects have been identified on the NCAs, due to the generally very small scale and extent of change within the NCAs. The detailed Assessment of effects on the NCA is presented in Appendix 6.3 Landscape Character.

Construction Phase

6.6.30 The section below presents an assessment of potential effects at the construction phase.

Effects on Landscape character – Site level

Magnitude

6.6.31 Existing landscape elements: The removal of vegetation will be of a small scale limited to hedgerow sections to allow for access. Small blocks of woodland within the site will be retained. Whilst some loss of vegetation will occur, this will be compensated by hedgerow and tree replacement planting alongside enhancement planting. The arable land use will be altered by introducing temporary construction activity and the gradual installation of panels. The existing field pattern will be maintained and enhanced with a finer small-scale field pattern introduced in places to help accommodate the Proposed Development. The existing field enclosure will be maintained. The network of drainage ditches within the site will be maintained, with temporary crossings installed in locations required for access. Tree protective fencing will be installed to protect trees and hedgerows during construction.

Landscape character: During construction, the solar arrays will be installed across the Site, with construction vehicles accessing the Site primarily from local roads. An access road linking the A17 with Heckington Road will be constructed west of Beacon Fen Energy Park. The route will temporarily alter the landscape character west of Asgarby and Boughton, during construction, introducing subsequent movement of vehicles and its removal at the end of construction.

Construction of solar arrays, inverter cabins and associated development such as laying out cabling and grid connections will be of small scale. The presence of a substation, welfare facilities and material storage will be localised to minimise the perceptible change in the landscape. There will also be a considerable change to the tranquillity and remoteness due to the movement generated by construction traffic and the introduction of uncharacteristic features associated with construction. The landscape setting and time depth will be temporarily altered.

6.6.32 The cable route will be located to avoid loss of vegetation and any loss to vegetation will be mitigated through the proposed planting. The arable land use and landscape pattern will be altered temporarily but will be restored to the baseline use at the end of construction. The change within the Cable Route Corridor will be temporary as excavations, earthworks, and material stockpiles, compounds alongside access routes will be removed, and the land will be restored to its current use.

6.6.33 There will be a large scale of change as agricultural land use will be replaced by construction activity that is uncharacteristic for large-scale farmed landscapes.

6.6.34 Overall, construction will be temporary, short term and reversible, resulting in a high magnitude of change.

Significance of effects

6.6.35 The medium sensitivity combined with the high magnitude of change will result in major adverse and significant effects on the landscape character of the site. Construction will be at variance with the existing Landscape Character through addition of uncharacteristic features.

Effects on Landscape character – Local landscape character

Fenland Sub Area

Magnitude

6.6.36 Landscape elements: The vegetation removal will be of medium scale within the extent of the Fens Sub Area. The loss will affect hedgerows as the woodland blocks and trees will be retained. The losses will be compensated through compensatory and enhancement planting. There will be a considerable loss of arable land that will be replaced with construction activity and the gradual installation of solar panels. The existing field pattern will be retained and altered locally to help accommodate some elements of the Proposed Development. The existing network of drainage channels will be retained, and any alterations will be minimised to accommodate access.

6.6.37 Landscape character: Construction will occupy a medium extent of the LCA, and therefore, the change to the land use, landscape pattern and enclosure will be of a medium scale and extent. The construction will introduce a new dynamic pattern of uncharacteristic activities within the rural landscape. Although construction will be located mainly at the ground level, the introduction of the compound and material set-down areas, as well as the construction of other elements, such as substations, will introduce uncharacteristic features.

6.6.38 Construction will be temporary and reversible, resulting in a medium magnitude of change.

Significance of effects

6.6.39 The medium sensitivity combined with a medium magnitude of the change will result in moderate adverse and significant effects on the landscape character of the Fenland Sub Area. The Proposed Development will introduce uncharacteristic elements of large-scale construction within a rural landscape.

Central Clays and Gravels

Magnitude

6.6.40 Landscape elements: The vegetation removal will be of small scale, and the loss of vegetation will be limited to short sections of hedgerows along the access route. There will be a short-term loss to the agricultural land use within the cable corridor route, resulting overall in a very small scale and extent of loss and alteration to the existing landscape elements.

6.6.41 Landscape character: Construction associated with the access route will be short term and will result in a very small scale of change, affecting a very small proportion of the Sub Area. The land will be restored to agricultural use at the end of construction, alongside any loss to the existing vegetation. Locally the change to landscape character will be more notable, through the introduction of uncharacteristic features and construction vehicle movement; however, the route has been located away from local settlements to take a benefit of enclosure provided by nearby woodlands, and hedgerows. The western boundary of the Solar Array Area adjoins this Sub Area, however the change to perceptual and aesthetic qualities will be very localised. The construction within the Cable Corridor Area will be too distant and separated to affect this Sub Area.

6.6.42 Construction will be temporary and reversible, resulting in a low magnitude of change.

Significance of effects

6.6.43 The medium sensitivity combined with a low magnitude of the change will result in minor adverse and not significant effects on the landscape character of the Central Clays and Gravels. The construction will be at variance with the existing landscape character, through the introduction of uncharacteristic features within rural landscape.

Holland Reclaimed Fen LCA

Magnitude

6.6.44 Landscape elements: The vegetation removal will be of a small scale within the extent of the Holland Reclaimed Fens. The loss of vegetation will be very limited as drainage channels, separate most of the small-scale fields. Where the loss will occur, the replacement vegetation will be introduced alongside the enhancements. Existing field pattern will be retained, and agricultural land use will be reinstated at the end of the construction stage.

6.6.45 Landscape character: Construction will occupy a small extent of the LCA, and the change to the land use, landscape pattern and enclosure will be of small scale. The construction will introduce increased movement of HGVs, the presence of dumper trucks and excavators that will be perceptible in landscape with sparse field boundary vegetation. Earthworks and access tracks will temporarily alter the rural landscape of fens. Construction will temporarily reduce the tranquillity and remoteness within a small part of the LCA. The scale of change will be medium.

6.6.46 Construction will be temporary and reversible, resulting in a medium magnitude of change.

Significance of effects

6.6.47 The medium sensitivity combined with a medium magnitude of the change will result in a moderate adverse and significant effects on the landscape character of the LCA. The Proposed Development will be at variance with the existing landscape character.

Bicker to Wyberton Settled Fen LCA

Magnitude

6.6.48 Landscape elements: There will be no vegetation removal within the Bicker to Wyberton Settled Fen LCA and the landscape of this LCA will not be affected directly.

6.6.49 Landscape character: Construction will occupy an adjacent area of the Holland Reclaimed Fen LCA. Although construction will introduce a new dynamic pattern of uncharacteristic activities, they will be of limited perceptibility within the eastern part of Bicker to Wyberton Settled Fens. Similarly, the change to tranquillity and remoteness will affect a small part of the LCA.

6.6.50 Construction will be temporary and reversible, affecting the western part of the LCA, and resulting in a very low magnitude of change.

Significance of effects

6.6.51 The medium sensitivity combined with a very low magnitude of the change will result in negligible adverse and not significant effects on the landscape character of the LCA. The Proposed Development will be at slight variance in construction with the landscape character of this LCA.

South Holland Fen LCA

Magnitude

6.6.52 Landscape elements: There will be no vegetation removal within the South Holland LCA, and the landscape of this LCA will not be affected directly.

6.6.53 Landscape character: Construction will occupy an adjacent area within Holland Reclaimed Fen LCA. The construction will introduce a new dynamic pattern of uncharacteristic activities within the landscape of medium tranquillity and remoteness.

6.6.54 Construction will be temporary and reversible, altering the perceptual and aesthetic qualities of the northern part of the South Holland LCA, resulting in an overall a very low magnitude of change.

Significance of effects

6.6.55 The medium sensitivity combined with a very low magnitude of the change will result in negligible adverse and not significant effects on the landscape character of the LCA. Construction of the Proposed Development will be at slight variance with the South Holland Fen LCA.

Operational Phase

6.6.56 The section below presents an assessment of potential effects at the year 0 and year 15. At year 0 the Proposed Development will be built but, but the assessment will not take into the account the proposed mitigation measures. The year 15 assessment considers the Proposed Development with the Proposed mitigation that is well established and effective in integration of the Proposed Development within the existing landscape.

Year 0

Effects on Landscape character – Site level

Magnitude

6.6.57 The Proposed Development will result in a large scale land use change from agricultural to solar arrays. Although the Proposed Development will be confined to the existing field network, the change in land use will be noticeable, altering local tranquillity and remoteness and perception of local landscape character in the views. Albeit the landscape structure on the Site will be maintained, the openness across Solar Array Area will be reduced, and the key characteristic of large scale open fields will be altered through the introduction of the solar arrays with associated infrastructure, however, the Proposed Development will be confined to the existing field parcels within the existing landscape framework. The mitigation planting will not provide landscape integration at year zero. The scale of change and its extent will remain large, and the magnitude of change will be high.

6.6.58 The changes within the landscape caused by the introduction of Cable Route Corridor will be barely perceptible following the restoration of land to the former use; however, where vegetation has been removed, the proposed mitigation planting will not be restored in year zero. Overall, the change will be

long-term and reversible, but occupying the entire site and resulting overall in a high magnitude of change.

Significance of effects

6.6.59 The medium sensitivity combined with the high magnitude of change will result in major adverse and significant effects on the landscape character of the site. The Proposed Development will be at considerable variance with the existing character of fenland landscape.

Effects on Landscape character – Local landscape character

Fenland Sub Area

Magnitude

6.6.60 The Proposed Development will alter the existing land use and landscape pattern with the Fenland Sub Area by introducing solar arrays and increasing manmade influence. The Proposed Development will be confined partially by perimeter vegetation and with field boundary vegetation, reducing the perception of local impact and the scale of the Proposed Development. The remoteness and tranquillity will be affected locally, therefore, of a small scale and extent, as solar panels will increase the presence of energy infrastructure locally. Mitigation planting will not provide effective screening at year zero. A change in land use will be of medium scale and geographical extent.

6.6.61 In year 0, a change to the landscape character associated with the introduction of the cable corridor will be of small scale and perceptible in places, where the arable crops have not been fully restored alongside mitigation planting. The change will be long-term and reversible, resulting overall in a medium magnitude of change.

Significance of effects

6.6.62 The medium sensitivity combined with a medium magnitude of the change will result in moderate adverse and significant effects on the landscape character of the Fenland Sub Area. The introduced features of the Proposed Development will be at variance with landscape of the Fenland Sub Area.

Central Clays and Gravels Sub Area

Magnitude

6.6.63 At year 0, the access route will be restored to agricultural land use alongside any lost vegetation. The solar array area located in within Fenland Sub Area will be operational and will be partially contained by the retained existing hedgerows. The change to the perceptual and aesthetic qualities will be very localised. The introduction of the Cable Corridor Area will have no effect on the landscape of Central Clays and Gravels Sub Area due to a distance from the Sub Area, degree of separation and largely restored landscape at the end of the year 0. The change will be long-term and reversible, resulting overall in a low magnitude of change.

Significance of effects

6.6.64 The medium sensitivity combined with a low magnitude of the change will result in a moderate adverse and significant effects on the landscape character of the Central Clays and Gravels Sub Area.

Holland Reclaimed Fen LCA

Magnitude

6.6.65 The changes in year zero associated with introducing the Cable Corridor Route will be very limited, as although the loss of vegetation will not be fully compensated, the cable will be buried underground, and arable land use will be restored. Therefore, the change in the landscape will be of a very small scale and extent, resulting overall in a low magnitude of change.

Significance of effects

6.6.66 The medium sensitivity combined with a very low magnitude of the change will result in a minor adverse and not significant effect on the landscape character of the LCA. The Proposed Development will be at slight variance within the existing landscape character.

Bicker to Wyberton Settled Fen LCA

Magnitude

6.6.67 In year zero, the cable will be buried, and the agricultural land will be restored; however, removed vegetation will not reach to its full height in year zero. The change in landscape will be noticeable locally on a very small scale and extent across the LCA. Therefore, the magnitude of change will be very low in year zero.

Significance of effects

6.6.68 The medium sensitivity combined with a very low magnitude of the change will result in a negligible adverse and not significant effect on the landscape character of the LCA. The Proposed Development will have only a limited adverse effect within the local landscape.

South Holland Fen LCA

Magnitude

6.6.69 In year zero, the cable will be buried underground, and the agricultural land will be restored; however, removed vegetation will not reach its full height in year zero. The change in the landscape of adjacent LCA will be noticeable locally on a small scale and across the small extent of the LCA. Therefore, the magnitude of change will be very low in year zero.

Significance of effects

6.6.70 The medium sensitivity combined with a very low magnitude of the change will result in negligible adverse and not significant effects on the landscape character of the LCA.

Year 15

Effects on Landscape character – Site level

Magnitude

6.6.71 In Year 15, the mitigation planting will help to integrate the Proposed Development within the existing landscape. The increased height of the boundary hedgerows and additional tree planting will provide a landscape framework that will integrate the Proposed Development reducing the impact of the land use change. However, a change to openness and land use will be noticeable, although partially reduced by the proposed mitigation. The change will be long term but reversible and of medium scale. Overall, the magnitude of change will reduce to medium.

6.6.72 By year 15, the changes associated with the introduction of the Cable Route Corridor will be minimal as the existing vegetation will restore the existing field boundaries in a similar way to the baseline scenario.

Significance of effects

6.6.73 The medium sensitivity combined with a medium magnitude of the change will result in a moderate adverse and significant effects on the landscape character of the site as matured mitigation planting will provide a degree of integration to the Proposed Development within the landscape of the Site.

Effects on landscape character – Local landscape character

Fenland Sub Area

Magnitude

6.6.74 At Year 15, the introduced mitigation planting and change in hedgerow management height will help to integrate the Solar Array Area and Cable Route Corridor within the existing landscape. The openness of fenland landscape will be altered with finer scale field pattern and greater presence of planting introduced to accommodate the Proposed Development. The mitigation planting will help to break up the massing of the Proposed Development and integrate the Proposed Development, resulting in a low scale of change and extent. The change will be long term and reversible. In year 15 the proposed mitigation planting will restore key qualities associated with baseline landscape character. Overall, the magnitude of change will reduce to low.

6.6.75 The landscape within the Cable Route Corridor will be fully restored by year 15.

Significance of effects

6.6.76 The medium sensitivity combined with a medium magnitude of the change will result in a minor adverse and not significant effect on the landscape character of the Fenland Sub Area. The Proposed Development will be at slight variance with the landscape character of Fenland Sub Area.

Central Clays and Gravels Sub Area

Magnitude

6.6.77 At year 15 the proposed vegetation around the perimeter of Solar Array Area, will mature to screen almost entirely the Proposed Development and any lost vegetation during construction of the access route will be functionally replaced.

6.6.78 The Cable Corridor Area will be fully restored at year 15.

6.6.79 Overall, the magnitude of change will reduce to very low.

Significance of effects

6.6.80 The medium sensitivity combined with a very low magnitude of change will result in negligible adverse and not significant effects as the Proposed Development will have only a limited adverse effect within the mainly local context.

Holland Reclaimed Fen LCA

Magnitude

6.6.81 At Year 15, the introduced mitigation planting will restore the lost vegetation, and the change in the landscape will be almost imperceptible. The scale of change and extent will be very small. The introduction of underground cabling will be permanent and reversible but almost imperceptible, resulting in a low magnitude of change.

Significance of effects

6.6.82 The medium sensitivity combined with a very low magnitude of the change will result in a minor adverse and not significant effect on the landscape character of the LCA. The Proposed Development will be at slight variance with the landscape character of Holland Reclaimed Fen LCA.

Bicker to Wyberton Settled Fen LCA

Magnitude

6.6.83 At Year 15, the introduced mitigation planting will restore largely losses to vegetation while restoring the key qualities of the existing landscape. The geographical extent and the scale of the change will be small and long term. The magnitude of change will remain very low.

Significance of effects

6.6.84 The medium sensitivity combined with a very low magnitude of the change will result in a negligible adverse and not significant effect on the landscape character of the LCA. The Proposed Development will have only a limited adverse effect within the local context.

South Holland Fen LCA

Magnitude

6.6.85 At Year 15, the introduced mitigation planting will restore largely losses to vegetation and agricultural land use at the adjacent Holland Reclaimed LCA. There will be no views towards the Solar Array Area. The magnitude of change will reduce to very low.

Significance of effects

6.6.86 The medium sensitivity combined with a very low magnitude of change will result in a negligible adverse and not significant effect on the landscape character of the LCA. The Proposed Development will have only a limited adverse effect within the mainly local context of the South Holland Fen LCA.

Decommissioning Phase

Effects on Landscape character – Site level

Magnitude

6.6.87 Landscape elements: The decommissioning will not require the removal of trees and hedgerows at the Solar Array Area, however, the wildflower mixes typically proposed under the PV panels are likely to be replaced by arable use. The Proposed Development will introduce a range of habitats and planting that will be retained during decommissioning, such as perimeter planting and this green infrastructure will be effective in providing screening and degree of landscape integration.

6.6.88 Some small scale removal of vegetation is likely to occur alongside a temporary loss to the agricultural land use within the Cable Corridor Area, should the cable be removed.

6.6.89 Landscape Character: At the decommissioning stage, the proposed solar arrays, inverters, transformers, and substation will be removed and recycled where possible, whilst their foundations will be broken up and removed. Underground wires connecting the solar farm will be dug out and removed alongside the security fence and posts. The internal access roads will also be removed subject to the agreement with the landowner.

6.6.90 Removal of underground cable within Cable Corridor Area will result in similar effects to construction stage.

6.6.91 Similarly, to construction stage, there will be a large scale of change as large areas of land will be replaced by decommissioning activity that is uncharacteristic within farmed landscape. The change will be of smaller scale within the Solar Array Area, in comparison to construction, but overall, the scale of change and extent will remain large.

6.6.92 Overall, decommissioning will be temporary and short term, resulting in a high magnitude of change.

Significance of effects

6.6.93 The medium sensitivity combined with the high magnitude of change will result in moderate adverse and significant effects on the landscape character of the site. Decommissioning will be at variance with the existing Landscape Character through large scale addition of uncharacteristic features.

Effects on Landscape character – Local landscape character

Fenland Sub Area

Magnitude

6.6.94 Landscape elements: The vegetation removal will be of low scale within the extent of the Fens Sub Area. The loss will primarily affect the wildflower areas proposed below solar arrays within the solar array area. The loss of vegetation within the Cable Corridor Area will be very limited, should the cable be removed within the Cable Corridor Area. The key change within the Cable Corridor Area will be associated with the temporary change of land use as arable land use will be replaced with decommissioning activities. Most of the proposed landscape elements associated with the green infrastructure will be retained.

6.6.95 Landscape character: Decommissioning will occupy a medium extent of the LCA and will be of a medium scale within the context of the flat landscape of fens. The key alterations will include a change to land use, landscape pattern and enclosure, albeit of a slightly smaller scale within the Solar Array Area compared to the construction stage. The decommissioning will introduce a pattern of uncharacteristic activities within the rural landscape.

6.6.96 Decommissioning will be temporary and reversible, resulting in a medium magnitude of change.

Significance of effects

6.6.97 The medium sensitivity combined with the medium magnitude of change will result in moderate adverse and significant effects on the landscape character of Fenland Sub Area. This will be due to the temporary introduction of uncharacteristic features associated with decommissioning.

Central Clay and Gravels Sub Area

Magnitude

6.6.98 The landscape of this Sub Area will remain largely unaffected during decommissioning. The decommissioning at the Solar Array Area will have localised impact on the landscape of the Central Clay and Gravels Sub Area due to the screening provided by the proposed mitigation planting around the perimeter of the site. The decommissioning will require the introduction of the access track and although their alignment is not known at this stage, the effects associated with their temporary introduction will be similar to construction stage.

6.6.99 The decommissioning within the Cable Corridor Area will be too distant and separated to affect this Sub Area.

Significance of effects

6.6.100 The medium sensitivity combined with the low magnitude of change will result in minor adverse and not significant effects on the landscape character of Central Clay and Gravels Sub Area. The decommissioning activities will be at slight variance with the landscape character.

Holland Reclaimed Fen LCA

Magnitude

6.6.101 Landscape elements: The vegetation removal will be of a small scale during decommissioning within the extent of the Holland Reclaimed Fens. The loss of vegetation will be very limited, as field boundary vegetation is sparse, and works will be restricted in areas where the cable route crosses through the existing field boundary vegetation. Where the loss will occur, the replacement vegetation will be introduced alongside enhancement planting. Existing field patterns will be retained, and agricultural land use will be reinstated at the end of the decommissioning stage.

6.6.102 Landscape character: Decommissioning will occupy a small extent of the LCA, and the change will be of medium scale. The decommissioning will introduce increased movement of construction vehicles, such as dumper trucks and excavators, that will be perceptible within the open landscape of fens. Temporary earthworks and access tracks will temporarily alter the openness, wildness and tranquillity. The scale of change will be medium. Decommissioning will be temporary and reversible, resulting in a medium magnitude of change, although the land will be restored to agricultural use at the end of construction.

Significance of effects

6.6.103 The medium sensitivity combined with a medium magnitude of change will result in moderate adverse and significant effects on the landscape character of the LCA. The decommissioning will be at variance with the existing landscape character.

Bicker to Wyberton Settled Fen LCA

Magnitude

6.6.104 As described at construction phase.

6.6.105 Landscape character: As described at construction phase.

Significance of effects

6.6.106 The medium sensitivity combined with a low magnitude of the change will result in minor adverse and not significant effects on the landscape character of the LCA. The Proposed Development will be at slight variance at decommissioning with the landscape character of this LCA.

South Holland Fen LCA

Magnitude

6.6.107 Landscape elements: As described at construction phase.

6.6.108 Landscape character: As described at construction phase.

Significance of effects

6.6.109 The medium sensitivity combined with a very low magnitude of the change will result in negligible adverse and not significant effects during decommissioning stage as there will be very minor alteration to the characteristic of the LCA.

Assessment of Visual Effects

6.6.110 Changes in views may give rise to adverse or beneficial visual effects through obstruction in views, alteration of the components of the view and through the opening of new views by removal of landscape elements. The Proposed Development will not entail any significant removal of landscape elements other than limited existing hedgerow sections to enable access. Changes in visual amenity/views will relate entirely to effects arising from the temporary visibility of construction and the long-term presence of the PV panels and associated infrastructure.

6.6.111 The addition of the Proposed Development will be long term but reversible. Consequently, compared to the baseline situation, the Proposed Development will become the reversible addition of solar development to the views. The assessment of visual effects from selected viewpoints has been carried out at the stages defined below and is presented in Appendix 6.4: Visual Assessment.

- Construction;
- Operation - Year zero (winter);
- Operation - Year 15 (summer); and
- Decommissioning (winter).

6.6.112 Visibility from other key visual receptors within 2km, where potential significant effects may arise, is presented in the Appendix 6.4: Visual Assessment.

6.6.113 The Baseline Panoramas for the representative viewpoints (prepared in accordance with Technical Guidance Note (TGN) 06/19 Visual Representation of development proposals published by the Landscape Institute) are shown on (Drawing Nos ST19595/060 to 073). Where a visual receptor location corresponds with multiple types of receptors that may experience a change in the views, the most sensitive receptor has taken precedence for the visual assessment to represent a “worst case scenario”.

Construction Phase

Solar Array Area

6.6.114 The construction will progress through field parcels, resulting in a gradual change in the views. The landform of the site and the presence of retained existing field boundary vegetation and screening provided by vegetation close to the site will combine to limit the visibility. The presence of the compound and material set down and the construction of substations will be locally more visible and intrusive in the views, but the changes will be localised, affecting a low number of visual receptors. Some activities will require localised excavation to drive the cables into the ground to facilitate grid connection within the Solar Array Area.

6.6.115 Major adverse and significant effects have been identified for residents of Ewerby Thorpe Farm (Baseline Panorama No.4/ Drawing No.ST19595/063), as there will be open views from the farm towards most of the Solar Array Area due to its slightly elevated location. The views from Gashes Barn will also be significantly affected as major adverse effects are identified due to the proximity to the works within Solar Array Area.

6.6.116 Major adverse and significant effects have been identified for residents of the Grange on Ferry Lane (Baseline Panorama No.2/ Drawing No.ST19595/061) due to availability of partial views at ground level and open views from the upper storeys.

6.6.117 Some of the identified visual receptors will not experience a change in views, such as residents of Asgarby (Baseline Panorama No.6/Drawing ST19595/065); or the change in the views will be barely perceptible, such as for residents of Sycamore House (Baseline Panorama No.3/Drawing ST19595/062), for whom a negligible adverse and not significant level of effects has been identified.

6.6.118 The works at the Solar Array Area will be most visible to recreational receptors located close to the Site, where the views are not obstructed or just slightly restricted by low hedgerows or raised embankments of drainage channels. The visibility of access track will be very localised.

6.6.119 Major adverse and significant effects have been identified from some sections of the PRoW e.g. (Ewer/8/2 and Ewer/8/1) along the River Slea due to the close proximity of the Proposed Development. Also, major adverse and significant effects have also been identified from the Bridleway Ewer/1103/1, located immediately to the west of Solar Array Area, due to the close distance from the Proposed Development.

6.6.120 Minor adverse and not significant effects have been identified for recreational users along PRoW No. Anwi 2/2 to the north of the Solar Array Area and PRoW No. AsHo/3/1 near Asgarby.

6.6.121 No changes to the views have been identified for recreational receptors along the PRoW No. Ewer1/5 (Baseline Panorama No.5/ST 19595/064), due to the screening provided by intervening vegetation. No change to the views are also reported for recreational receptors along the PRoW Anwi/6/1 and PRoW's east of Ewerby Nos. Ewer/5/1, Ewer/974/1 and Ewer/1/6 as the views are screened by a combination of the existing vegetation and built form within Ewerby village.

Cable Route Corridor

6.6.122 The construction within the Cable Route Corridor will require excavation within large extent of the cable corridor area. Excavated soil will be stored on-site within temporary soil stockpiles. The construction will require the presence of compounds and the construction of temporary access tracks that will be dismantled at the end of construction. Vehicle movement will be characteristic of the construction phase. The land will be temporarily excluded from agricultural production but restored at the end of the construction phase. The field pattern alongside field boundary vegetation will be maintained except for where removal of vegetation will be required to accommodate the cable route.

The removed vegetation will be replaced by proposed mitigation planting, including proposed enhancements.

6.6.123 Major adverse and significant effects have been identified for residents of Hall Farm (Baseline Panorama No.7/Drawing No.ST19595/066) due to the proximity of works within Cable Route Corridor that will be prominent in the views.

6.6.124 The views of construction within Cable Route Corridor will also be available to residents at the edge of Great Hale, where moderate adverse and significant effects have been identified. Similarly, it is expected that views from the upper storeys of some residential properties in East Heckington will experience moderate adverse and significant effects during construction of the Cable Route Corridor.

6.6.125 Due to the large scale and extent of works construction within the Cable Route Corridor the views from a range of PRoWs located close to the Cable Route Corridor will be significantly affected. The flat landscape with sparse field boundary vegetation and woodlands provides limited screening to the views. Major adverse and significant effects have been identified in construction from recreational receptors along the River Slea e.g. PRoWs Heck/12/1 and Heck/14/1. Similarly, major adverse and significant effects were identified for users of the PRoW Nos. GtHa/2/1 and LHal/4/1 east of Great and Little Hale. There is a range of other PRoWs where from major adverse and significant effects are reported in construction and these are detailed in the Appendix 6.3 – Visual Assessment.

6.6.126 Some of the visual receptors will not experience any changes in the views such as users of PRoW Doni/8/1 near Bullbank Holt (Baseline Panorama 14/ST19595/073).

6.6.127 Moderate adverse and significant effects are identified from transport receptors along Black Drove (linking Ewerby Whaite Common with Howell) as the views towards the Solar Array Area will be intermittently screened by taller vegetation.

6.6.128 Negligible adverse and not significant effects are reported from transport receptors along Clay Bank/B1395 (Baseline Panorama No.3/ST18965/062). Some of the transport receptors will not experience change in the views due to the screening provided by intervening vegetation including hedgerows and trees alongside raised embankments of drains as illustrated on (Baseline Panorama 1/ST18965/060), where a view is available from a local road. Similarly, no change to the views were reported for users of ‘C’ Class Road near Asgarby (Baseline Panorama No.3/ST18965/065). There will be no change to the views from the B1394, the A153 due to the screening provided by intervening vegetation.

6.6.129 Moderate adverse and significant effects are identified for transport receptors from some sections of the A17 due to the proximity of the Cable Route Corridor and the extent of visible works. The views will also include the views of temporary access tracks. Similarly moderate adverse and significant effects were reported for users of local roads near Cable Route Corridor e.g. Tileban Lane and Bicker Drove.

Operational Phase

Solar Array Area

6.6.130 Potential impacts on visual receptors during operation will include a change in openness across rural landscapes as introduced solar arrays will be initially visible predominantly to close receptors. Over time, the proposed mitigation planting will screen most of the Proposed Development, however the loss of openness will remain.

6.6.131 Some visual receptors will have partial views of solar arrays and other elements of the Proposed Development, such as inverter cabins, substations, CCTV cameras and fencing. The views will change throughout the operational stage at year 0, as the proposed mitigation planting will not provide a screening effect, but the views will change over time as the proposed mitigation planting will be maturing to provide effective screening at year 15. It is expected that over a time the views of features associated with the Proposed Development will be screened for majority of visual receptors.

Cable Route Corridor

6.6.132 The visual effects of the cable route in the operational stage will be very restricted as the cable will be buried underground and whilst the crops will not be restored immediately, the land will be restored to its former use in the short term. Whilst a loss to the field boundary vegetation may be perceptible locally, it is anticipated that mitigation planting will restore the field boundary vegetation over a medium term, whilst enhancing the existing vegetation cover in long term. The underground cable within the Cable Corridor Area may be retained, however for the purpose of the assessment a worst case scenario of the cable being removed has been assessed.

6.6.133 The potential effects on different categories of visual receptors have been presented below through the operational stages of Year 0, Year 15, and decommissioning stage. The full assessment of visual effects is presented in the Appendix 6.2 Visual Assessment.

6.6.134 Below, a summary of visual effects has been presented for the identified development stages.

Year 0

Solar Array Area

6.6.135 The presence of residential receptors is generally sparse around the Solar Array Area; however, few residential properties will experience considerable change in the views due to the proximity to the Site and availability of open views across fenland landscape. The views from Ewerby Thrope Farm and Ewerby Thorpe Lodge (Baseline Panorama No.4/ST19595) will be considerably altered in year zero as solar arrays will dominate the views from a slightly elevated location, resulting in major adverse and significant effects for residents of these properties in year zero. Moderate adverse and significant effects have been identified for residents of The Grange on Ferry Lane (Baseline Panorama No.2/ST19595) due to the proximity of the Proposed Development.

6.6.136 The open views from Gashes Barn will be replaced by a large scale solar array with associated infrastructure, resulting in moderate adverse and significant effects. Upon completion, lost vegetation will not be restored, and therefore, the screening of the Proposed Development will rely on the retained existing retained vegetation and screening of adjacent ancillary buildings. Minor adverse and not significant effects were identified for residents of Ewerby Thorpe hamlet as majority of the views will be screened by existing intervening vegetation.

6.6.137 Negligible adverse and not significant effects have been identified for residents of Ewerby village due to the distance and screening of the existing vegetation. The views from a range of properties are screened completely by a combination of garden vegetation, nearby trees and woodlands, such as views from Asgarby village (Baseline Panorama No.6/Drawing ST19595).

Cable Route Corridor

6.6.138 The landscape within the Cable Route Corridor will be restored at the end of the construction period, therefore no significant effects have been identified at completion in views encompassing Cable Corridor Area.

6.6.139 For the majority of recreational receptors in vicinity of Cable Corridor Route minor or negligible adverse and not significant effects are identified in year 0, due to small scale of change to vegetation pattern e.g. recreational receptors along PRoWs east of Helpringham e.g.Help/14/2 or users of the PRoW Nos. Swhd/13/1 and Swhd/14/1. Minor adverse and not significant effects are identified for recreational users close to Cable Corridor Route along the PRoW No. Heck/2/4 as loss of some vegetation will be noticeable in the views and the agricultural crops will not be fully restored on completion.

6.6.140 The views from the PRoW Ewer1/5 at Evedon Road (Baseline Panorama No.5/ST19595/064) are completely screened by intervening vegetation, therefore no change has been identified from this location. This view is representative also of views from adjacent Aswarby Park, Grade II Registered Park and Garden.

6.6.141 Minor adverse and not significant effects will remain also on completion for transport users along Black Drove due to close range of the views being available to Solar Array Area.

6.6.142 Negligible adverse and not significant effects are identified for users of Clay Bank/B1395 (Baseline Panorama No.3/ST18965-062) as the Solar Array Area will be largely screened by the existing vegetation in the middle distance. Similarly negligible adverse and not significant effects were identified from the B1395 as glimpsed views will remain available.

6.6.143 Negligible adverse and not significant effects are identified for users of local roads near Cable Corridor Area e.g. Tileban Lane and Bicker Drove as some of the existing vegetation and crops will not be fully restored. Likewise, negligible adverse and not significant effects were also identified for the users of the A17 and B1395.

Year 15

Solar Array Area

6.6.144 At year 15, the proposed mitigation will screen the majority of the Proposed Development, in combination with the existing vegetation and farm buildings and small settlements. Moderate adverse and significant effects have been identified for Gashes Barn as the proposed mitigation planting will screen largely available views, but the loss of openness to the views and the overall nature of the views will remain altered. Also, moderate adverse and significant effects have been identified for residents of Ewerby Thrope Farm and Ewerby Thorpe Lodge (Baseline Panorama No.4/ST19595/063) as parts of the Proposed Development will remain visible. The visual effects on the residents at the Grange will reduce to minor adverse and not significant in year 15 as the maturing mitigation will successfully screen majority of the Solar Array Area. Negligible adverse and not significant effects have been identified for residents of Ewerby Thorpe hamlet as the proposed mitigation planting will increase screening to the Proposed Development. Negligible adverse and not significant effects have been identified for residents of Ewerby due to combination of screening effect provided by the existing vegetation, some agricultural buildings and proposed mitigation planting.

6.6.145 Minor adverse effects and not significant effects have been reported for PRoWs near the River Slea e.g. Ewer/8/2 and from the Bridleway Ewer/1103/1 to the west of Solar Array Area as the upper elements of the substation will be partially visible. Negligible adverse and not significant effects are reported on views from PRoW Anwi 2/2. The proposed mitigation planting will provide screening to the views but also reduce the openness.

6.6.146 There will also be negligible adverse and not significant effects for users of the Public Footpath AsHo/3/1 near Asgarby, as the views will be almost entirely screened by a combination of existing vegetation and mitigation planting.

6.6.147 Similarly, the negligible adverse and not significant effects are reported for views from PRoWs between Solar Array Area and South Kyme e.g. PRoW No. SKym/8/1. Negligible adverse and not significant effects were identified from the the PRoW Ewer1/5. No change in the views were identified from the PRoW Anwi/6/1. The views from PRoWs east of Ewerby are screened by intervening vegetation and a combination of residential and ancillary buildings.

6.6.148 Negligible adverse and not significant effects are identified from Black Drove, as although the views of the Solar Array Area will be screened completely by a combination of the existing and proposed vegetation, there will be some loss to the openness of the views.

6.6.149 Negligible neutral effects are identified for users of the Clay Bank (Baseline Panorama No.3/ST18965/062) at year 15, as although the Proposed Development will be screened by a combination of the existing and proposed mitigation, a minor change to vegetation pattern will remain perceptible.

Cable Route Corridor

6.6.150 By year 15, the agricultural crops and the lost field boundary vegetation will be fully restored within Cable Corridor Route alongside agricultural landscape. The views will be very similar to the baseline views and will also include

planting included in addition to the replacement planting. Negligible adverse and not significant effects were identified from Poplars Farm and Garwick Cottage along the A17 as by year 15 the restored landscape will be very similar to the baseline scenario. No change has been predicted for residents of Little Hale as the views are largely screened by existing vegetation around Little Hale and intervening vegetation.

6.6.151 By Year 15, the views from recreational receptors will not be significantly affected as the cable corridor will be buried underground and mitigation planting will restore the lost vegetation alongside agricultural use resulting in minor adverse and not significant effects such as for users of the Public Footpath No. Bick/2/1. The users of some recreational routes will not experience change in the views as they are already screened by the existing vegetation such as views from PRoW Doni/8/1 near Bullbank Holt (Baseline Panorama No. 14/ST19595/073).

6.6.152 Negligible neutral effects were identified for transport users along local roads near the Cable Route Corridor. Similarly negligible neutral effects were identified for the users of the A17. Negligible neutral and not significant effects were identified also for transport users along the B1395.

Decommissioning Phase

Solar Array Area

6.6.153 At the decommissioning stage, most of the works will be screened by a combination of existing vegetation and proposed mitigation planting. The views will also include predominantly vehicle traffic associated with removal of scheme elements. Minor adverse and not significant effects have been identified for recreational receptors along the River Slea.

6.6.154 The significance of visual effects identified at year 15 for residents of Gashes Barn will reduce to minor adverse and not significant. The identified effects on residents of Ewerby Thorpe Farm Baseline (Panorama No.4/ST19595/063) will reduce to minor adverse and not significant due to the proximity of the Proposed Development in all directions. Negligible adverse and not significant effects were identified for residents of Ewerby Thorpe hamlet and Ewerby village, The Grange (Baseline Panorama No.2/ST19595/ 061) and Sycamore House (Baseline Panorama No.3/ ST18965/062).

6.6.155 There will be no change to the views for some of the residential receptors, such as residents of Asgarby village (Baseline Panorama No.6/ST19595/065), where the existing vegetation screens the views completely. The visibility of access route will likely be restricted to local visual receptors.

6.6.156 Negligible adverse and not significant effects have been identified for recreational users along PRoWs between Beacon Fen Energy Park and South Kyme e.g. PRoW Nos. SKym/8/1 and SKym/6/1. Similarly negligible adverse and not significant effects have been identified from PRoW No. Anwi 2/2 near Anwick and for recreational receptors along the public footpath AsHo/3/1 near Asgarby as the proposed mitigation planting in combination with the existing vegetation will screen almost entirely the Proposed Development.

6.6.157 Negligible neutral effects are identified for the users of the B1395 as the views of the Solar Array Area will be screened by a combination of the existing and

proposed mitigation planting. Negligible adverse and not significant effects will remain for transport receptors along Black Drove, as although the views of the Solar Array Area will be screened, there will be a considerable loss of openness.

Cable Route Corridor

6.6.158 As the nature of decommissioning works will be similar to the construction the effects will remain as identified at construction phase above.

6.7 Mitigation

6.7.1 Environmental considerations will influence the Proposed Development throughout the design development process, from the detailed alignment of the Cable Corridor Route to the refinement of the design at the Solar Array Area. An iterative process will facilitate design updates and improvements. The layout of Beacon Fen Energy Park alongside the extent of the Solar Array Area, the Cable Route Corridor, and access roads continues to be refined to take into the account a range of user groups and their needs. Whilst the Indicative Mitigation Layout (Figure 1.5) and OLEMP are not yet fully developed, the current design has been informed by the input from the project design team and will be informed by comments from statutory consultation. The OLEMP will outline the proposed long-term management of the landscape and ecological elements of the Project.

6.7.2 The ongoing iterative design process is informed by Landscape and Visual Assessment, via design principles which respond to the policy requirements, published landscape character assessments and field work analysis, in order to mitigate the likely adverse effects of the Scheme.

6.7.3 The key proposed mitigation measures, as illustrated on the Indicative Mitigation Layout, are listed below:

- reduction in the extent of the proposed solar modules to provide buffers from nearby residential receptors and Public Rights of Way (PRoW), existing hedgerows and trees and existing drains;
- lost vegetation such as trees, hedgerows and other valuable habitats will be replaced by the proposed planting or seeding; and
- the strengthening of structural landscape within the Beacon Fen Energy Park will ensure greater integration of the Proposed Development.

6.7.4 The design of the proposed mitigation measures will be further refined through detailed design if a DCO is granted for the Proposed Development. The detailed landscape design, which will be submitted to the Secretary of State following consultation with the local planning authority, will include planting plans, schedules, and a specification.

6.7.5 During detailed design, a detailed Landscape and Ecology Management Plan (LEMP) will be developed from the OLEMP. The LEMP will include information on long-term operational management of the landscape and ecological resource. The LEMP will also describe the long-term management of ecological habitats required to achieve biodiversity net gain units.

Landscape Design Strategy

6.7.6 The landscape design strategy, for the Scheme will take into consideration:

- Recommendations contained within relevant landscape guidelines including Natural England Statements of Environmental Opportunity (SEO) outlined in the profiles for NCA Profile: 46. The Fens and NCA Profile: 47 Southern Lincolnshire Edge;
- Guidance contained within the Landscape Institute's Infrastructure Technical Guidance Note 04/20 (Ref 10-4);
- Suggested land management guidelines set out in the North Kesteven Landscape Character Assessment (September 2007);
- Relevant policies of the Local Plan as set out in the Appendix 6.1 Landscape and visual legislation and policy;
- Comments received during consultation.

6.8 Residual Effects

6.8.1 At year 15, significant landscape effects were identified for the Landscape Character of the Site, whilst moderate adverse and significant effects were identified for visual receptors at Ewerby Thorpe Farm and Gashes Barn.

Monitoring

Construction

6.8.2 An Environmental Clerk of Works will ensure the Proposed Development's construction is delivered in accordance with the measures set out within the OLEMP and final LEMP developed during detail design.

6.8.3 In addition, establishment of appropriate vegetation protection measures and areas for removal will be inspected by an Environmental Clerk of Works to ensure compliance with the Arboricultural Method Statement and Tree Protection Plans. This requirement will be detailed within the emerging OLEMP.

6.8.4 The Environmental Clerk of Works will also monitor the implementation of the landscape mitigation planting in order to ensure that best practice is being followed and the planting is implemented in accordance with the detailed design.

Operation

6.8.5 During the establishment aftercare, proposed mitigation planting will be routinely inspected in accordance with the requirements stipulated in the detailed LEMP. Inspection will ensure management and maintenance of landscape elements, as identified in the detailed LEMP, are undertaken and that the proposed planting achieve their intended environmental function and objective. Monitoring of the establishment, growth and maintenance of landscape planting will be undertaken during the establishment aftercare period to ensure its successful establishment. The duration of monitoring during establishment period and long-term management will be outlined within the OLEMP and LEMP.

6.9 Assessment of Cumulative Effects

Intra-Cumulative Effects

6.9.1 The IMEA's guidelines refer to Intra-project effects when a single receptor is affected by more than one source of effect arising from different aspects of the Proposed Development. An example of an intra-project effect will be where a local resident is affected by dust, noise and traffic disruption during the construction of a scheme, with the result being a greater level of effect than each individual effect alone.

6.9.2 The initial findings reported in the specialist chapters have been considered to identify potential interactions between Landscape and Visual Assessment effects upon single receptors identified within Landscape and Visual Assessment.

6.9.3 The initial review identified the following other types of environmental effects, that interact with single identified landscape and visual receptors:

- Ecology (Inform broad intra cumulative effects on landscape character);
- Cultural Heritage e.g Listed Buildings (Inform receptor specific intra cumulative effects on visual receptors and landscape character as a whole);
- Glint e.g. residents (Inform receptor specific intra cumulative effects);
- Noise and vibration (Inform broad effects on landscape character);

6.9.4 As effects identified in other sections of the PEIR are still under the consideration due to continuous iterative design process, the intra cumulative effects will be identified at the ES Stage.

Inter-Cumulative Effects

6.9.5 The principle of the assessment of the inter-project cumulative effects will be based on the four stage assessment approach to cumulative assessment, as outlined in PINS Advice Note 17 and outlined below:

- Stage 1: Establishing the long list;
- Stage 2: Establishing the short list;
- Stage 3: Information gathering, and;
- Stage 4: Assessment.

6.9.6 At this stage, an initial short list of Proposed Developments has been compiled with emerging information being partially available for Stage 3.

6.9.7 This section of the LVIA assesses the potential cumulative landscape and visual effects of the Proposed Development when considered in the context of other solar developments, and other schemes, in planning process, consented or those in construction and operation.

6.9.8 With respect to cumulative effects on landscape resources, the GLVIA3 states in its paragraph 7.19:

> *"Cumulative landscape effects may result from adding new types of change or from increasing or extending the effects of the main project when it is considered in isolation. For example, the*

landscape effects of the main project may be judged of relatively low significance when taken on their own, but when taken together with the effects of other schemes, usually of the same type, the cumulative landscape effects may become more significant."

6.9.9 The assessment of cumulative visual effects involves reference to the cumulative visibility of considered Schemes with the reference to the identified viewpoints.

6.9.10 The GLVIA refers to two types of the cumulative visual effects in Table 7.1:

- *"Combined – Occurs where the observer is able to see two or more developments from one viewpoint;*
- *Sequential – Occurs when the observer has to move to another viewpoint to see the same or different developments. Sequential effects may be assessed for travel along regularly used routes such as major roads and popular paths".*

6.9.11 The combined effects can be differentiated into "in combination" and "in succession" visual effects, whilst sequential effects can be either "frequently sequential" or "occasionally sequential". Further details of methodology for cumulative assessment are outlined in Appendix 6.2 Landscape and Visual Methodology.

6.9.12 The first step in the cumulative assessment is an initial assessment to ascertain, which of the landscape character receptors, representative viewpoints have the potential to undergo significant cumulative effects as a result of the addition of other schemes in combination with the Proposed Development.

6.9.13 As with the assessment of effects of the Proposed Development, the significance of cumulative effects is determined through a combination of the sensitivity of the landscape receptor or view and the magnitude of change. The sensitivity of landscape receptors and views is the same in the cumulative assessment as identified in the assessment of the Proposed Development.

6.9.14 Table 6.6 below identifies the initial short list of schemes alongside justification for inclusion within Cumulative Landscape and Visual Assessment. The further details of cumulative developments to be considered are included in the Section 4.6 Scope and Methodology of the PEIR report.

Table 6.6 – Justification for scoping in/out of considered cumulative schemes within Landscape and Visual Assessment.

CONSIDERED SCHEMES		SCOPED IN/OUT FOR CUMULATIVE ASSESSMENT
REFERENCE	**SCHEME**	**JUSTIFICATION**
B/17/0340 (BBC) Approximate distance (400m) H04-0823-17 (SHDC) Approximate distance (100m) 17/1200/FUL (NKDC) Adjacent	Viking Link – works to facilitate electricity link between the Bicker Fen substation in Lincolnshire and Revsing substation in southern Jutland, Denmark Key scheme elements include: Construction of associated Temporary Construction Compounds (TCC), Temporary Works Areas (TWA) and temporary vehicle access arrangements; construction of a permanent access road from the A52 to the converter station site, including a bridge crossing over Hammond Beck; Installation of up to six onshore high voltage alternating current (AC) cables between the converter station at North Ing Drove and the existing Bicker Fen 400 kV Substation; installation of two substation bays at Bicker Fen 400 kV Substation to allow Viking Link to be connected to the National Electricity Transmission System.	The underground cable connection with works around Beacon Fen Substation will overlap with the Cable Corridor Area of the Proposed Development. There is a potential for cumulative landscape and visual effects as a result of introduction of these two developments primarily due to an overlap between offsite cable routes associated with both schemes.
Heckington Fen Solar Park (PINS REF: EN010123)	The Energy Park will consist of PV infrastructure and an Energy Storage System (ESS) with associated infrastructure. Electricity will be transferred by an underground 400kV cable. The offsite cable route will extend 8.5km to the south and connecting with the Beacon Fen Substation. The underground cable connection will overlap with the Cable Cable Corridor Area of the Proposed Development.	There is a potential for cumulative landscape and visual effects due to the overlap between offsite cable routes associated with both schemes.
Vickarage Drove (B/21/0443) (B/22/0198) (BBC)	Vicarage Drove is an approved planning application for a solar farm consisting of PV panels and associated infrastructure.	There is a potential for cumulative landscape and visual effects due to the proximity of the Scheme to the Beacon Fen Substation and partial overlap with the Cable Corridor Area of the Proposed Development.
Handley Chase Sleaford South Quadrant 13/0498/OUT 18/0652/RESM 22/0856/RESM 20/0363/RESM 21/0669/RESM 21/1068/RESM 22/0188/RESM	Handley Chase Development It is an urban extension to the south of Sleaford including retail units with offices, convenience store, car park spaces, new link road, 410 residential dwellings and associated infrastructure, including access, internal roads, Public Open Space and attenuation basins, south of Sleaford.	The Handley Chase Development is located beyond the 5km study area for the Proposed Development and at the significant distance and therefore separated from the Proposed Development predominantly by the existing intervening vegetation, therefore there will be no intervisibility between two Schemes. Both schemes have the potential to affect Central Clays

CONSIDERED SCHEMES		SCOPED IN/OUT FOR CUMULATIVE ASSESSMENT
REFERENCE	SCHEME	JUSTIFICATION
23/0649/RESM		and Gravels Sub Area, however as Hadley Chase Development will be seen as natural extension to the existing urban use around Sleaford the potential effects on this Sub Area will not be significant and therefore this development is not carried further to the cumulative assessment.
Bicker Fen Solar Farm B/22/0356 B/21/0412 (BBC)	Bicker Fen Solar Farm (Land to the west of Cowbridge Road) is a solar farm that consist of photovoltaic solar arrays, grid connection, access improvement and associated infrastructure.	There is a potential for cumulative landscape and visual effects due to the proximity of the Scheme to the Beacon Fen Substation and overlap with the Cable Corridor Area of the Proposed Development.
Land at Heckington 15/0383/EIASCR (NKDC)	Land at Heckington includes for a proposed expansion of residential area (up to 600 dwellings) to the north of Heckington with associated road network and residential infrastructure.	There will be no intervisibility between the residential properties at Land at Heckington and the Proposed Development as there is an existing woodland belt along the northern boundary of the residential development that will be retained. Other intervening vegetation such as along the A17 also contributes to the screening and separation effect. Therefore, the cumulative visual effects will not be significant. The Land at Heckington is located within Fenland Sub Area, however as the residential development is adjacent to Heckington it will be seen as an extension to the existing settlement pattern. Therefore, the cumulative landscape effects will not be significant. Consequently, this scheme will not be carried further into cumulative assessment.
Gorse Lane Solar Farm 19/0060/FUL (NKDC)	A 20MW Solar Farm with associated infrastructure.	This solar farm is located at approximately 10km from the Proposed Development and therefore the views are completely screened by intervening vegetation. Due to the distance and a degree of physical separation the cumulative landscape effects will not be significant.
Overhead Lines National Grid 22/1596/OHL 22/1597/OHL 22/1598/OHL 22/1599/OHL (NKDC)	Proposals include for removal of the existing overhead power lines and erection of new power lines.	The proposed replacement of overhead power lines is associated with the existing electricity network and although they are likely to result in a change to the views and will cause localised change to the landscape character primarily in construction, the replacement will essentially maintain, the existing

CONSIDERED SCHEMES		SCOPED IN/OUT FOR CUMULATIVE ASSESSMENT
REFERENCE	SCHEME	JUSTIFICATION
		baseline scenario once completed. Therefore, this scheme has not been carried forward for the cumulative assessment.
Little Hale Solar Solar Farm Little Hale Fen Solar Farm 21/1337/EIASCR (NKDC) Land South of Little Hale 23/1021/FUL B/23/0300 (BBC)	A proposed solar farm (up to 49.995MW) with associated infrastructure and underground cabling linking with the Beacon Fen Substation.	The Little Hale Solar Farm is located just to the east of South Forty Foot Drain with underground round cable connection linking to the Beacon Fen Substation, and therefore the cumulative effects of these two developments require further consideration.

6.9.15 The following schemes are identified for further consideration of cumulative landscape and visual effects:

- Viking Link;
- Heckington Fen Solar Park;
- Vickarage Drove;
- Bicker Fen Solar Farm, and;
- Little Hale Solar Farm.

Viking Link

6.9.16 A section of the Viking Link scheme, comprising an underground Cable Route connection, crosses through the Cable Corridor Area as the route connects to the Beacon Fen Substation. As there is considerable distance and separation that includes screening of field boundary vegetation and farmsteads between the Viking Link scheme and the Beacon Fen Energy Park, there will be no intervisibility between these two scheme areas.

6.9.17 Construction of cable route connection (Viking Link) and Cable Corridor Area (Beacon Fen Energy Park) may result in significant cumulative visual effects for a limited range of visual receptors that are located close to the construction of both schemes, primarily east of South Forty Foot Drain, south of the A17, and visual receptors near Beacon Fen Substation. The change will be however short term and reversible.

6.9.18 In operation, the cumulative visual effects will not be significant, as the underground cables will remain buried underground, and the landscape will be largely restored at the end of construction as detailed in the paragraph 44 of the Planning Appeal Decision (Ref: APP/D2510/W/18/3208088) consenting the Viking Link scheme.

6.9.19 The construction of both schemes including underground cabling at the same time will result in significant cumulative landscape effects on the Holland Reclaimed Fen LCA, but the change during construction will be temporary and reversible. There will be no cumulative effects in operation as the landscape along underground cable corridors will be largely restored at the end of construction.

6.9.20 The cumulative landscape effects at the regional scale will not be significant due to the limited extent of the Schemes within the large extent of the landscape of the NCA Profile: 47 Southern Lincolnshire Edge and NCA Profile: 46. The Fens.

Heckington Fen Solar Park

6.9.21 As there is considerable distance and separation between the respective projects, the views between the solar array areas of the Beacon Fen Energy Park and Heckington Fen Solar Park are screened by intervening vegetation and scattered farmsteads.

6.9.22 As the underground cabling area associated with the Heckington Fen Solar Park crosses partially the Cable Corridor Area of the Beacon Fen Energy Park, there will be a potential for cumulative visual effects for visual receptors located east of South Forty Foot Drain, south of the A17 and visual receptors near Beacon Fen Substation in construction stage, should these two schemes be constructed at the same time. As the area of works will be restored largely at the end of construction, there will be no significant cumulative visual effects for visual receptors at the operational stage.

6.9.23 The construction of underground cabling, associated with the Beacon Fen Energy Park and the Heckington Fen Solar Park will likely result in cumulative landscape effects on the Holland Reclaimed Fen LCA during construction, should both schemes be constructed at the same time. The change during construction will be temporary and reversible as the landscape will be largely restored at the end of construction.

6.9.24 At operation, the underground cabling areas will be largely restored, and the proposed mitigation and enhancement planting will mature over a time. Subsequently there will be no cumulative and significant landscape effects on landscape of the Holland Reclaimed Fen LCA and adjacent landscape description units due to the scale of change and extent limited primarily to the Solar Arra Areas associated with both schemes.

6.9.25 The cumulative landscape effects at the regional scale will not be significant due to the limited extent of the Schemes within the landscape of the NCA.

Vickarage Drove Solar Farm

6.9.26 The Vickarage Drove Solar Farm, adjacent west of Beacon Fen Substation overlaps partially with some parcels of the Cable Corridor Area (Beacon Fen Energy Park). However, there will be no intervisibility between the solar array areas of the Beacon Fen Energy Park and Vickarage Drove Solar Farm due to a distance and separation created by intervening vegetation, farmsteads and raised embankments along some drains.

6.9.27 There are few visual receptors in the vicinity such as residents at Eau End Farm, Villa Farm and Poplartree Farm or PRoWs Nos. Help/14/3 and Bick/1/1, that may experience a potentially significant cumulative visual effects in the views during construction, should both schemes be constructed at the same time. Vegetation along South Forty Foot Drain will screen majority of works for visual receptors located east of the drain.

6.9.28 At operation the cumulative visual effects will unlikely be greater than those identified for visual receptors associated with Vickarage Drove Solar Farm, as

the landscape within Cable Corridor Area will be largely restored at the end of construction.

6.9.29 The construction of underground cabling, associated with the Beacon Fen Energy Park and the construction of solar arrays with associated infrastructure at Vicarage Drove Solar Farm is likely to result in cumulative significant effects on the Holland Reclaimed Fen LCA during construction. However as the addition of construction at Vicarage Drove Solar Farm at the same time will result in small expansion of construction area associated with Cable Corridor Area, the effects are likely to remain moderate adverse and significant as identified for the Proposed Development.

6.9.30 As the landscape within Cable Corridor Area will be restored at the end of construction, the effects on the Holland Reclaimed Fen LCA during operation are unlikely to be significant due to a small proportion of the LCA occupied by Vickarage Drove Solar Farm and restoration of the existing landscape within the Cable Corridor Area.

6.9.31 The cumulative landscape effects at the regional scale will not be significant due to the limited extent of the Schemes within the landscape of the NCA.

Bicker Fen Solar Farm

6.9.32 Bicker Fen Solar Farm is located to the east of the Beacon Fen Substation and west of Bicker Bar and Northorpe villages. The views between this solar farm and solar array areas of the Beacon Fen Energy Park are screened by intervening vegetation and scattered farmsteads. Simultaneous construction of both schemes will screen views of construction associated with the other scheme for some visual receptors. As an example the works associated with Bicker Fen Solar Farm will screen the views of construction within the Cable Corridor Area.

6.9.33 Potentially significant cumulative visual effects during construction are likely to be expected for some residents along Cowbridge Road/Bicker Drove and recreational receptors such as Cross Britain Way Long Distance Path, Public Footpath No. Bick/2/1 and Bridleway No. Bick/1/1 (South Forty Foot Drain). This is based on the assumption that both schemes will be constructed at the same time.

6.9.34 At operation cumulative visual effects will not be greater than those identified for visual receptors when considering both schemes in isolation as the landscape of the Cable Corridor Area will be largely restored at the end of construction.

6.9.35 As the Proposed Development is located outside of the Bicker to Wyberton Settled Fen LCA, the effects of the Cable Corridor Area will be restricted primarily to construction, and limited to perceptual and aesthetic qualities and therefore will not be greater than those identified for the Bicker to Wyberton Settled Fen LCA when considering in isolation. Similarly the cumulative landscape effects will not be greater for Holland Reclaimed Fen LCA than those identified for the Proposed Development due to a degree of separation between two schemes and limited indirect effects.

6.9.36 At operation the cumulative landscape effects on Wyberton Settled Fen LCA and Holland Reclaimed Fen LCA will not exceed those identified in isolation for the Proposed Development and Bicker Fen Substation.

6.9.37 The cumulative landscape effects at the regional scale will not be significant due to the limited extent of the Schemes within the landscape of the NCA.

Little Hale Fen Solar Farm

6.9.38 The Little Hale Fen Solar Farm is located to the east of South Forty Foot Drain, and therefore, although this scheme is located at a close distance to Beacon Fen Energy Park, there is a considerable degree of separation and screening between both schemes created by raised banks of South Forty Foot Drain and scrub vegetation with some scattered trees.

6.9.39 Glimpsed views of construction associated with both schemes are likely to be available from Public Footpaths Nos. Help/14/3 and LHal/5/1. A greater level of visibility will be available to the recreational receptors along Public Bridleway No. Bick1/1, that runs along South Forty Foot Drain, where combined in succession views, will likely experience short term significant adverse effects, along a section of the PRoW, should the construction of both schemes take place at the same time. Very few residential receptors such as residents at Eau End Farm will have a potential visibility of both schemes during construction due to the distance, presence of South Forty Foot Drain, outbuildings and vegetation along curtilage of dwellings.

6.9.40 At operation cumulative visual effects are unlikely to be greater than those identified for visual receptors as a result of the introduction of the Bicker Fen Solar Farm as the landscape of the Cable Corridor Area will be largely restored at the end of construction.

6.9.41 As the Little Hale Fen Solar Farm is of relatively small scale and extent it will not result in additive change to landscape effects identified on the Fenland Sub Area both at construction and operation identified for both Schemes when assessed separately. The landscape of the Cable Corridor Area will be largely restored at the end of construction.

6.9.42 The cumulative landscape effects at the regional scale will not be significant due to the limited extent of the Schemes within the landscape of the NCA.

6.10 Summary

Summary of Baseline

6.10.1 The Proposed Development is not located within national statutory landscape designations, and it does not lie within any regional or local non-statutory landscape designations. The overall value of landscape within Solar Array Area and Cable Corridor Area has been assessed as medium.

6.10.2 The Proposed Development is located on the edge of the NCA Profile: 46 The Fens and NCA Profile:47 Southern Lincolnshire Edge. Overall, the Proposed Development displays key characteristic of fenland landscape defined broadly as *“Expansive, flat, open, low-lying wetland landscape”.*

6.10.3 At local level the Proposed Development is located within Fenland Sub Area and Holland Reclaimed Fen LCA, which characteristic reflects key qualities of

fenland landscape. As the Proposed Development consist of solar array area and cable corridor area the landscape and views will be affected to different extent within these two areas.

6.10.4 The LVIA considers the landscape effects at the site level, local level of identified landscape description units as detailed in the Appendix 6.3 Landscape Character and a range of visual receptors agreed through consultation and detailed in Appendix 6.4 Visual Assessment. The identified viewpoints are not intended to cover every possible view of the Proposed Development, but rather they have been selected to be representative of a range of receptor types. Alongside the identified viewpoints the assessments refers also to key visual receptors identified within the proximity to the Proposed Development as detailed in the Appendix 6.4 Visual Assessment.

Summary of Assessment

Construction Phase - Landscape

6.10.5 During the construction phase the key effects will be associated with the introduction of solar arrays, substation and associated infrastructure at the Solar Array Area. Construction within the Cable Route Corridor will result in excavation and the introduction of temporary material stockpiles and access tracks. Construction traffic will be present along some access roads and temporary access tracks. The arable land use at Solar Array Area will be transformed into large scale construction, however at the end of construction the land use will be restored including the replacement planting.

6.10.6 Major adverse and significant effects are identified at the site level during construction. Moderate adverse and significant effects have been identified at construction stage for Fenland Sub Area and Holland Reclaimed Fen LCA. The introduction of access route within Central Gravels and Clays Sub Area will result in minor adverse and not significant effects on landscape of this Sub - Area. The effects during construction will be short term and reversible and will include restoration of existing land use, lost existing vegetation and proposed enhancements at construction stage.

Construction Phase - Visual

6.10.7 Construction effects will be temporary and reversible, however due to the flat landscape of fens and relatively sparse existing screening, there will be a range of visual receptors located close to the Proposed Development that will experience change in the views.

6.10.8 Major adverse and significant effects have been identified for:

- Residents of the Grange;
- Residents of Ewerby Thorpe Farm;
- Residents of Gashes Barn;
- Residents of Westmoorlands Farm;
- Residents of Fen Farm;
- Recreational receptors along Public Footpath Bick/2/1.

- Recreational receptors along Public Footpath Heck 2/4;
- Recreational receptors along PRoWs near River Slea e.g. Ewer/8/2 and Bridleway Ewer/1103/1, and;
- PRoWs near Heckington, west of Solar Array Area e.g. Heck/12/1 and Heck/14/1.

6.10.9 Moderate adverse and significant effects have been identified for:

- Residents at the edge of Great Hale;
- Residents at the edge of Northorpe village;
- Transport users along Black Drove;
- Transport receptors along the sections of the A17;
- Local roads near Cable Route Corridor, and along the sections of the A17 as well as some local roads near Cable Route Corridor

6.10.10 The identified effects have been considered to be localised and limited in range alongside views from PRoWs that are usually available from some sections of the PRoW or more transient views available to transport receptors along some sections of the road network, primarily in close proximity to the Proposed Development. The effects during construction will be however short term and reversible.

Operational Phase – Landscape

6.10.11 During operation the agricultural land use within Cable Route Corridor will be restored including access route and although some change in the vegetation pattern will be perceptible initially, the change to landscape character will be very limited as over time the existing pattern of land use will be completely restored. Solar Array Area will alter the existing land use and landscape pattern locally within Fenland Sub Area.

6.10.12 Major adverse and significant effects have been identified on the landscape character of the site in year 0, but reducing to moderate adverse and significant in year 15. Moderate adverse and significant effects were identified on the Fenland Sub Area in year zero. At year 15, the proposed mitigation planting will help to integrate the Proposed Development within the existing landscape, resulting in reduction of effects to minor adverse and not significant for Fenland Sub Area. The effects on Holland Reclaimed will reduce to minor adverse and not significant in year 0.

6.10.13 At the decommissioning stage, moderate adverse and significant effects were identified for Fenland Sub Area and Holland Reclaimed Fen LCA, as the change in the landscape will be similar to construction stage.

Operational Phase – Visual

6.10.14 The visual effects will be considerably reduced and particularly in views of Cable Route Corridor, where no significant effects have been identified in operation.

6.10.15 Upon completion major adverse and significant effects have been identified for residents of Ewerby Thorpe Farm, adjacent to the solar array area. Moderate adverse and significant effects have been identified for the following receptors:

- Ewerby Thorpe Farm

6.10.16 Moderate and significant effects were identified for the following visual receptors at year 0:

- Residents of the Grange;
- Gashes Barn;
- Westmoorlands Farm;
- Fen Farm;
- PRoWs near the River Slea, and;
- Bridleway Ewer/1103/1.

6.10.17 At year 15 the following moderate adverse and significant effects were identified for visual receptors:

- Ewerby Thorpe Farm
- Gashes Barn

6.10.18 At decommissioning stage, the identified effects will be largely similar to those identified at construction stage. Major adverse and significant effects were identified for the following receptors:

- Westmoorlands Farm;
- Fen Farm;
- PRoW's near Heckington and west of solar array area;
- Public Footpath No. Bick/2/1

6.10.19 Moderate adverse and significant effects were identified for the following visual receptors during decommissioning:

- Public Footpath Heck 2/4 near Hall Farm;
- PRoWs east of Great Hale
- Great Hale
- Northorpe village
- Views from local roads near Cable Corridor

Summary of Mitigation

6.10.20 The proposed mitigation comprises of embedded mitigation that is based on the full extents layout that corresponds to the worst-case assessment scenario. The mitigation shown on Indicative Mitigation Layout (ST19595-083/Plan 1-12) is subject to iterative design process informed by Stakeholder

Consultation and this stage of PEIR Assessment is treated as additional mitigation as detailed in section 6.7 Mitigation.

Summary of Residual Effects

6.10.21 This section summarises the residual significant effects of the Proposed Development on landscape and visual receptors following the implementation of mitigation. Significant residual effects are defined as moderate or major. These are listed in Table 6.8: Discipline Summary Assessment Matrix, that includes significant residual effects (year 15).

6.10.22 At year 15, significant landscape effects were identified for the Landscape Character of the Site, whilst moderate adverse and significant effects were identified for visual receptors at Ewerby Thorpe Farm and Gashes Barn.

6.10.23 The residual significant landscape and visual effects are due to the change in land use and the massing and scale of solar arrays introduced at the Beacon Fen Energy Park. Whilst long term, the residual significant effects would be reversible.

Summary Cumulative Effects

6.10.24 The review of the potential cumulative schemes has included five schemes that cross over with the Cable Corridor Area or are located in close proximity that have a potential to result in cumulative landscape and visual effects and they include:

- Viking Link;
- Heckington Fen Fen Solar Park;
- Vickarage Drove Solar Farm;
- Bicker Fen Solar Farm, and;
- Little Hale Solar Farm.

Construction Phase – Landscape

6.10.25 The assessment of cumulative effects identified potential significant cumulative landscape effects on Holland Reclaimed Fen LCA as a result of potentially overlapping construction phases of Viking Link, Heckington Fen Fen Solar Park, Vicarage Drove Solar Farm. This is due to all these schemes requiring underground cable connection to the Beacon Fen Substation or being located close to the Substation such as Vicarage Drove Solar Fam or Little Hale Solar Farm. The extent of these effects will depend on overlap of phases associated with the Proposed Development and their duration.

6.10.26 The cumulative effects on other LCAs such as Fenland Sub Area and Bicker to Wyberton Fen LCAs will not be greater than those identified for the considered schemes in isolation due to their limited scale, extent, and reversibility within the landscape of these description units.

6.10.27 No cumulative effects were identified on landscape at the regional level due to the small scale and extent of the considered schemes within large scale landscape of the NCA Profiles.

Construction Phase - Visual

6.10.28 The visibility is generally limited within fenland landscape as although the open landscape of fens is generally flat, even sparsely present field boundary vegetation is generally effective in providing visual screening. There will be no intervisibility between Solar Array Area and considered schemes due to the screening of the existing vegetation and existing farmsteads. However, there will be some visual receptors located between South Forty Foot Drain, the A17 and villages of Bicker and Northorpe, that are likely to experience a greater level of cumulative visual effects in comparison to the effects identified in isolation for considered schemes, should the construction phase of these schemes overlap.

6.10.29 The potential for greater cumulative visual effects associated with Bicker Fen Solar Farm, Little Hale Solar Farm and the Proposed Development in comparison to the effects identified in isolation for these schemes is therefore limited due to a separation created by South Forty Foot Drain and short term and reversible nature of works associated with the underground Cable Connection to Beacon Fen Substation.

Operation Phase – Landscape

6.10.30 In operation the landscape within the area required for underground cabling associated with the Proposed Development, Viking Link and Heckington Fen Solar Park will be largely restored at the end of construction, therefore the change will be principally associated with initially immature replacement vegetation and introduced enhancement planting, that will mature over time to restore the existing landscape and provide further landscape enhancements.

6.10.31 The change in landscape associated with Vickarage Drove Solar Farm, Little Hale Solar Farm and Bicker Fen Solar Farm will affect the landscape within three separate Landscape Description Units such as Fenland Sub Area, Holland Reclaimed Fen and Bicker to Wyberton LCA. Although part of the Proposed Development is located within Fenland LCA, the effects are unlikely to exceed the level of effects identified for these schemes in isolation, due to their scale and extent being limited within a large scale of landscape description unit and in the context of Cable Corridor Area being largely restored in the operational Phase.

Operation Phase – Visual

6.10.32 There will be no intervisibility between Solar Array Area and other considered schemes. At operation the landscape within Cable Corridor Area of Heckington Fen Solar Park, the Proposed Development and Viking Link will be largely restored and therefore the visual receptors within the area east of South Forty Foot Drain, A17 and villages of Bicker and Northrope will not experience significant cumulative visual effects.

The Vickarage Drove Solar Farm, Bicker Fen Solar Farm and Little Hale Solar Farm will benefit from a degree of separation by South Forty Foot Drain and some intervening vegetation between Vickarage Drove Solar Farm and Bicker Fen Solar Farm alongside the proposed mitigation measures around perimeter of these schemes. As a result cumulative visual effects will not be greater than in comparison to these schemes considered in isolation.

Table 6.8: Discipline - Summary Assessment Matrix

ISSUE	DESCRIPTION OF IMPACT	GEOGRAPHICAL SIGNIFICANCE							IMPACT	NATURE	SIGNIFICANCE	MITIGATION MEASURES
		I	N	R	C	D	P	L				
Landscape & Visual												
Landscape Character of the Site	Operation (year 15): Change to the landscape character of the site							X	Moderate Adverse	Lt, R	Significant	Mitigation along the perimeter and within the Solar Array Area alongside replacement planting within Cable Corridor Area.
Residential receptor - Ewerby Thorpe Farm	Operation (year 15): Change in the views							X	Moderate Adverse	Lt, R	Significant	Mitigation planting along the perimeter of the Beacon Fen Energy Park.
Residential receptor - Gashes Barn	Operation (year 15): Change in the views							X	Moderate Adverse	Lt,R	Significant	Mitigation planting along the perimeter of the Beacon Fen Energy Park.

Key:
Geographical Significance: I = International N = National R = Regional C = County D = District P = Parish L = Low to Local
Nature: St = Short Term Mt = Medium Term Lt = Long Term R = Reversible Ir = Irreversible

BFEP Appendices