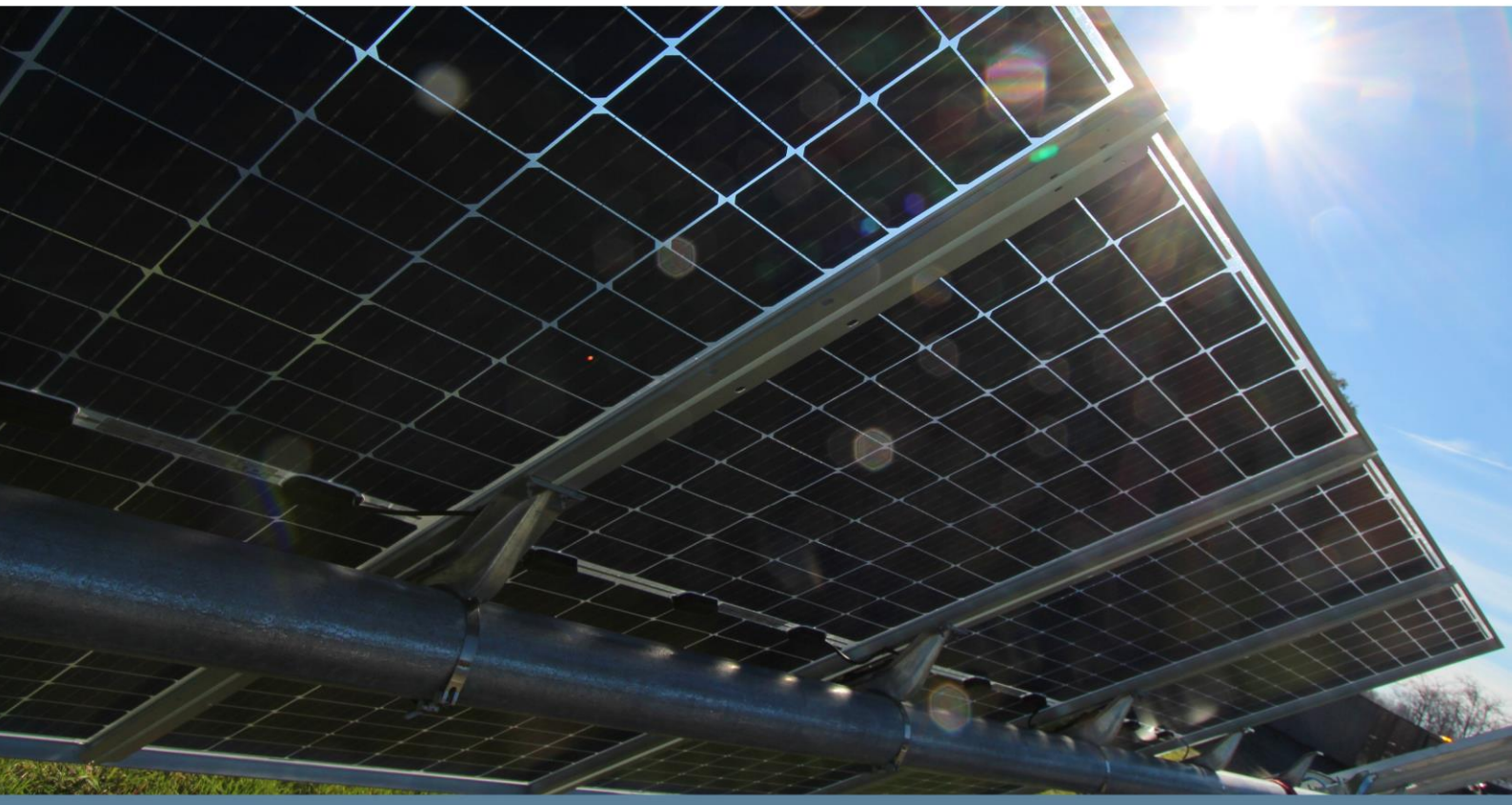
LANDSCAPE AND VISUAL IMPACT ASSESSMENT

GUNTHORPE ROAD SOLAR FARM AND BATTERY STORAGE FACILITY

LAND SOUTH OF GUNTHORPE ROAD, WALPOLE MARSH, WISBECH, NEAR PE14 7JH

JUNE 2021



Gunthorpe Road Solar Farm

Landscape and Visual Impact Assessment

for Walpole Green Limited

June 2021

Landscapevisual

www.landscapevisual.co.uk

Contents

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1.0 Introduction

1.1. This Report

1.1.1. Landscape Visual Limited was appointed by Walpole Green Limited ("the Applicant") to prepare a landscape and visual impact assessment (LVIA) for a proposed solar farm and battery storage facility ('the Proposed Development') on land south of Gunthorpe Road, Walpole Marsh, Wisbech ('the Site').

1.1.2. This LVIA report considers the impact of the Proposed Development on the landscape and on views.

1.1.3. This work has been undertaken by Angus Jeffery BSc PhD (Cantab) CMLI and Andrew Jones BA DipLA CMLI, chartered landscape architects with over thirty years' combined experience of the assessment of a wide variety of development proposals.

1.2. The Existing Site

1.2.1. The Site comprises an arable field which is located on land north-west of Walpole Bank Substation to the east of the River Nene. The Site lies immediately to the west of Walpole Marsh in West Norfolk and approximately 1.8 km to the west of Walpole St Andrew. The Site location is shown on **Figures 1a**, **1b** and **1c**[1].

1.2.2. The southern part of the Site lies within King's Lynn and West Norfolk District (KLWN) and Norfolk. The northern end of the Site lies within South Holland District (SH) and Lincolnshire. The boundary with Fenland District (Cambridgeshire) follows the River Nene to the west of the Site.

1.3. The Proposed Development

1.3.1. This LVIA considers the proposed development of the Site for a solar PV development with battery storage and associated infrastructure. The Proposed Development is described in **Section 4** and shown on the plans contained in **Appendix 2**.

[1] For brevity, within this document, figures are referred to without the project number 1257, i.e., **Figure 1a** and **Figure 1284/1a** are the same.

1.4. Methodology

1.4.1. The study was undertaken in accordance with the following key references:

- Landscape Institute (LI) and Institute of Environmental Management and Assessment (IEMA) (2013), *Guidelines for Landscape and Visual Impact Assessment: Third Edition*.[i]
- Natural England (2014), *An Approach to Landscape Character Assessment*.[ii]
- The Building Research Establishment (BRE) (2013), *Planning guidance for the development of large scale ground mounted solar PV systems: Appendix A*.[iii]

1.4.2. The LVIA methodology is contained in **Appendix 1**.

1.4.3. Fieldwork was undertaken in October 2019, March 2020 and May 2021.

1.4.4. All measurements in this document are approximate and given to a level of accuracy which is appropriate to the appraisal and consideration of the Proposed Development's effects. Co-ordinates and heights are stated in relation to the Ordnance Survey (OS) datum unless otherwise stated.

1.5. Consultation

1.5.1. Planning officers from KLWN and SH were provided with an overview of the approach to this LVIA and a schedule and plan of the LVIA viewpoints on 10th May 2021. Responses were received from both authorities confirming their agreement with the proposed approach.

1.6. Approach to this Study

1.6.1. The following work stages have been undertaken:

1. Desk study collating information on potential receptors (landscape and visual).
2. Preparation of Geographic Information System (GIS)-based maps (the Figures list is in **Appendix 3**).
3. Fieldwork to photograph six representative viewpoints and assess the baseline landscape and visual environment.
4. Providing advice on landscaping as part of the Proposed Development.
5. Assessment of the value and susceptibility of the surrounding

landscape/visual amenity, and landscape and visual receptor sensitivity.

6. Assessment of potential direct and indirect impacts on the landscape and visual environment during construction, on completion, and in the long-term.
7. Preparation of photomontages to support the assessment.

2.0 Policy Context

2.1. National Planning Policy Context

2.1.1. This section highlights the key national planning policy context insofar as it relates to the landscape setting of the Site.

2.1.2. At the heart of the *National Planning Policy Framework* [iv](NPPF) (February 2019) is a presumption in favour of sustainable development. There are three over-arching objectives of sustainable development (economic, social and environmental). Of particular relevance to this assessment is the environmental objective, '*to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.*'

2.1.3. Paragraph 11 states, in relation to the presumption in favour of sustainable development, that:

'For decision-taking this means:

c) approving development proposals that accord with an up-to-date development plan without delay; or

d) where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:

i. the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or

ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.'

2.1.4. In section 12, '*Achieving well-designed places*', paragraph 127 sets out policies and decisions for achieving well designed places, ensuring that developments:

'a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;

b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;

c) are sympathetic to local character and history, including the surrounding built environment and

landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);

d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;

e) optimise the potential of the Site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and

f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.'

2.1.5. In section 15, '*Conserving and enhancing the natural environment*', paragraph 170 sets out that, '*Planning policies and decisions should contribute to and enhance the natural and local environment by:*

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

2.1.6. Paragraph 171 states that, '*Plans should:*

distinguish between the hierarchy of international, national and locally designated sites;

allocate land with the least environmental or amenity value, where consistent with other policies in this framework;

take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and

plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.'

2.1.7. With regard to habitats and biodiversity, the NPPF, section 15: '*Habitats and biodiversity*', paragraph 175(d) states that, *'…opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.'*

2.1.8. The *National Policy Statement for Renewable Energy Infrastructure* [v] (read with the overarching *National Policy Statement for Energy*[vi]) includes objectives and policies aimed at the understanding, protecting, managing and planning of the landscape and visual impact of

proposals. Paragraph 2.4.2 notes that, '*Proposals for renewable energy infrastructure should demonstrate good design in respect of landscape and visual amenity, and in the design of the project to mitigate impacts such as noise and effects on ecology.*'

2.2. Local Landscape Planning Policy

2.2.1. Assessment work has shown that the main effects would arise in the KLWN and SH districts. The policy for the nearby district of Fenland is not therefore included in this review.

Kings Lynn and West Norfolk District

2.2.2. This section contains a review of relevant KLWN planning policy.

2.2.3. The *Core Strategy*[xii] sets out the spatial planning framework for the development of the borough up to 2026 and is part of King's Lynn and West Norfolk's Local Development Framework. **Sustainable Development – Policy CS08** sets out key policy that,

'All new development in the borough should be of high quality design. New development will be required to demonstrate its ability to:

- *protect and enhance the historic environment;*
- *enrich the attraction of the borough as an exceptional place to live, work and visit;*
- *respond to the context and character of places in West Norfolk by ensuring that the scale, density, layout and access will enhance the quality of the environment;*
- *optimise site potential, making the best use of land including the use of brownfield land;*
- *enhance community wellbeing by being accessible, inclusive, locally distinctive, safe and by promoting healthy lifestyles (see Policy CS14 Community & culture);*
- *achieve high standards of sustainable design.'*

2.2.4. With respect to Renewable Energy, **CS08** states that, *'The Council and its partners will support and encourage the generation of energy from renewable sources. These will be permitted unless there are unacceptable locational or other impacts that could not be outweighed by wider environmental, social, economic and other benefits. Renewable projects should be assessed accordingly (where necessary by project level Habitat Regulation Assessment) to ensure minimal ecological impact, and should undergo a detailed cumulative impact assessment.'*

2.2.5. **Environmental Assets - Policy CS12** is relevant to the Proposed Development:

> *'Proposals to protect and enhance our historic environment and landscape character, biodiversity and geodiversity will be encouraged and supported.'*

2.2.6. With regards to Character Assessment, **CS12** states that, *'Proposals for development will be informed by, and seek opportunities to reinforce the distinctive character areas and potential habitat creation areas identified in the King's Lynn and West Norfolk Landscape Character Assessment, the West Norfolk Econet Map and other character assessments. Development proposals should demonstrate that their location, scale, design and materials will protect, conserve and, where possible, enhance the special qualities and local distinctiveness of the area (including its historical, biodiversity and cultural character), gaps between settlements, landscape setting, distinctive settlement character, landscape features and ecological networks.'*

2.2.7. The *King's Lynn and West Norfolk Local Plan - Site Allocations & Development Management Policies (SADMP) Plan* [viii] was adopted on 29 September 2016. It contains the following policies which are relevant to this LVIA:

- **Policy DM 1 – Presumption in favour of sustainable development:** '*When considering development proposals the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. It will always work proactively and jointly with applicants to find solutions that allow proposals to be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.*

  Planning applications that accord with the policies in this Local Plan (and, where relevant, with policies in neighbourhood plans) will be approved without delay, unless material considerations indicate otherwise.

  Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision, the Council will grant permission unless material considerations indicate otherwise taking into account whether:

  - *Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or*
  - *Specific policies in that Framework indicate that development should be restricted.'*

- **Policy DM 15 – Environment, Design and Amenity:** *'Development must protect and enhance the amenity of the wider environment including its heritage and cultural value. Proposals will be assessed against their impact on neighbouring uses and their occupants as well as the amenity of any future occupiers of the proposed development. Proposals will be assessed against a number of factors including:*

  - Heritage impact;

  - Overlooking, overbearing, overshadowing;

  - Noise;

  - Odour;

  - Air quality;

  - Light pollution;

  - Contamination;

  - Water quality; and

  - Visual impact.

  The scale, height, massing, materials and layout of a development should respond sensitively and sympathetically to the local setting and pattern of adjacent streets including spaces between buildings through high quality design and use of materials. Development that has a significant adverse impact on the amenity of others or which is of a poor design will be refused. Development proposals should demonstrate that safe access can be provided and adequate parking facilities are available'.

- **Policy DM 19 - Green Infrastructure/Habitats Monitoring and Mitigation:** *'Opportunities will be taken to link to wider networks, working with partners both within and beyond the Borough.*

  The Council supports delivery of the projects detailed in the Green Infrastructure Study including:

  - The Fens Waterway Link- Ouse to Nene;

  - The King's Lynn Wash/Norfolk Coast Path Link;

  - Gaywood Living Landscape Project;

  - The former railway route between King's Lynn and Hunstanton; and

  - Wissey Living Landscape Project.

  The Council will identify, and coordinate strategic delivery, with relevant stakeholders, of an appropriate range of proportionate green infrastructure enhancements to support new housing

and other development and mitigate any potential adverse effects on designated sites of nature conservation interest as a result of increased recreational disturbance arising from new development. All new development must ensure there is no adverse effect on a European Protected Site through the provision of appropriate measures. These enhancements will be set out in a Green Infrastructure Delivery Plan.

Major development will contribute to the delivery of green infrastructure, except:

- *Where it can be demonstrated the development will not materially add to the demand or need for green infrastructure.*
- *Where such a contribution would make the development unviable, the development will not be permitted unless:*
- *It helps deliver the Core Strategy; and*
- *The relevant contribution to that Strategy could not be achieved by alternative development, including in alternative locations or in the same location at a later time; or*
- *Unless the wider benefits of the proposed development would offset the need to deliver green infrastructure enhancements'.*

- **Policy DM 20 – Renewable Energy:** *'Proposals for renewable energy (other than proposals for wind energy development) and associated infrastructure, including the landward infrastructure for offshore renewable schemes, will be assessed to determine whether or not the benefits they bring in terms of the energy generated are outweighed by the impacts, either individually or cumulatively, upon:*
    - *Sites of international, national or local nature or landscape conservation importance, whether directly or indirectly, such as the Norfolk Coast Area of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSIs) and Ramsar Sites;*
    - *The surrounding landscape and townscape;*
    - *Designated and un-designated heritage assets, including the setting of assets;*
    - *Ecological interests (species and habitats);*
    - *Amenity (in terms of noise, overbearing relationship, air quality and light pollution);*
    - *Contaminated land;*
    - *Water courses (in terms of pollution);*
    - *Public safety (including footpaths, bridleways and other non-vehicular rights of way in addition to vehicular highways as well as local, informal pathway networks); and*
    - *Tourism and other economic activity.*

In addition to the consideration of the above factors, the Borough Council will seek to resist proposals where:

- *There is a significant loss of agricultural land; or*
- *Where land in the best and most versatile grades of agricultural land are proposed to be used.*

Development may be permitted where any adverse impacts can be satisfactorily mitigated against and such mitigation can be secured either by planning condition or by legal agreement'.

- **Policy DM 22 – Protection of Local Open Space**: *'The Council will have careful regard to the value of any area of open space when assessing planning applications for development. In assessing the contribution that an area of open space plays, the Council will consider the following factors:*
  - *Public access;*
  - *Visual amenity;*
  - *Local distinctiveness;*
  - *Landscape character;*
  - *Recreational value;*
  - *Biodiversity, geodiversity;*
  - *Cultural value and historic character;*
  - *Whether the Site has been allocated for development in the local plan.*

  Proposals that will result in the loss or restriction of access to locally important areas of open space will be refused planning permission unless such loss can be offset by the replacement of equivalent or higher standard of provision or the wider benefits of allowing development to proceed outweigh the value of the Site as an area of open space.
  The Borough Council will support local communities in designating local green space for protection in neighbourhood plans where this:
  - *meets the criteria for local green space as detailed in the National Planning Policy Framework; and*
  - *does not conflict with other policies in the Borough's Local Plan'.*

- **G.109 Walpole St. Peter / Walpole St. Andrew / Walpole Marsh (RV)**
  'Rural Village Description
  G.109.1 Walpole is a large parish that includes the villages of Walpole St. Peter, Walpole

St. Andrew and Walpole Marsh. The villages lie to the north of the A47 approximately 10 miles south-west of King's Lynn and 6 miles north-east of Wisbech. The Parish population is 1,804.

G.109.2 The villages of Walpole St. Peter and Walpole St. Andrew are physically joined, but within each village the settlement pattern is nucleated around the village church with spurs of development from this. Walpole St. Peter is characterised by ribbon development with a large area of agricultural open space forming the centre of the settlement and the built extent of the village following the roads around this land.

G.109.3 Walpole Marsh is distinct but made up of a linear development along The Marsh Road, and is much smaller in size.

G.109.4 Collectively the villages have a range of services and facilities including schools, churches, a bus service, convenience store, retail and employment uses.

G.109.5 In relation to landscape character, Walpole is situated at the northern extent of the 'Settled Inland Fens'. This large-scale, low-lying landscape offers extensive panoramic views in all directions, occasionally framed by fruit orchards scattered throughout the area. Dykes and ditches demarcate the small to medium-sized mainly irregular fields and often also follow the course of rural roads. Settlement pattern consists of large-scale farmsteads and nucleated hamlets and villages. Building character varies from old style farmhouses to relatively new suburban red or buff coloured brick housing. A network of narrow rural roads connects the villages.'

South Holland District

2.2.8. This section contains a review of relevant SH planning policy. The relevant local plan is the *South East Lincolnshire Local Plan*[ix] (jointly covering SH, Boston Borough and Lincolnshire County).

2.2.9. Climate Change and Renewable and Low Carbon Energy, **Policy 31** states that, with respect to climate change, *'All development proposals will be required to demonstrate that the consequences of current climate change has been addressed, minimised and mitigated by:*

1. employing a high-quality design;…

5. incorporating measures which promote and enhance green infrastructure and provide an overall net gain in biodiversity as required by Policy 28 to improve the resilience of ecosystems within and beyond the site.'

2.2.10. With respect to renewable energy, **Policy 31** states that, *'With the exception of Wind Energy the development of renewable energy facilities, associated infrastructure and the integration of decentralised technologies on existing or proposed structures will be permitted provided, individually, or cumulatively, there would be no significant harm to:*

1. visual amenity, landscape character or quality, or skyscape considerations;

2. residential amenity in respect of: noise, fumes, odour, vibration, shadow flicker, sunlight reflection, broadcast interference, traffic;

3. highway safety (including public rights of way);

4. agricultural land take;

5. aviation and radar safety;

6. heritage assets including their setting; and

7. the natural environment.'

2.2.11. Regarding the Design of New Development, **Policy 3** states that, *'All development will create distinctive places through the use of high quality and inclusive design and layout and, where appropriate, make innovative use of local traditional styles and materials. Design which is inappropriate to the local area, or which fails to maximise opportunities for improving the character and quality of an area, will not be acceptable.*

'Development proposals will demonstrate how the following issues, where they are relevant to the proposal, will be secured:

1. creating a sense of place by complementing and enhancing designated and non designated heritage assets; historic street patterns; respecting the density, scale, visual closure, landmarks, views, massing of neighbouring buildings and the surrounding area;…

3. the landscape character of the location;…'

3.0 Landscape and Visual Baseline Conditions

3.1. Landscape Baseline

National Landscape Character

3.1.1. At the broader, national scale, the Site lies within a central section of *The Fens*, National Character Area (NCA) 46[x], as defined by Natural England. This NCA is noted as an *'historic and human influenced wetland landscape'* and for its *'large-scale, flat, open landscape with extensive vistas to level horizons'.*

Regional Landscape Character

3.1.2. The East of England Landscape Framework[xi] provides the context for defining the landscape character of the study area at a regional level. The framework classifies the landscape into Landscape Character Types (LCTs), with one LCT (*Settled Marsh*) relevant to the Site. These LCTs inform more detailed character assessments at the local level within KLWN and SH. The overall description for the *Settled Marsh* LCT notes:

> *'A distinctively flat and intensively farmed open arable landscape, with a densely settled character of towns and villages expressing periods of past wealth in stone buildings and churches. Tree cover is restricted to small shelterbelts and orchards'.*

King's Lynn and West Norfolk Landscape Character Types and Areas

3.1.3. At a local level, the landscape character of the Site and the surrounding study area to the east and south is described within the King's Lynn and West Norfolk Borough Landscape Character Assessment[xii] (KLLCA). Within this published report, one LCT, *The Fens – Settled Inland Marshes* (type D) is present, with two sub-Landscape Character Areas (LCAs). The overarching key characteristics for the LCT relevant to the Site include:

- *'A large scale, low lying landscape offering distant, panoramic views that evoke a sense of openness. This open character is less evident where settlements, shelterbelts and orchards occur.*
- *Simplistic terrain characterised by a distinctly flat landform providing wide horizons. Earthworks in the form of rivers and creek embankments bring topographic change and strong, straight lines of contrast.*
- *An intensively farmed arable landscape comprising predominantly geometric fields divided by*

straight drainage channels and dykes and underlain predominantly by silts. Field size is variable in places with small units defining settlement edges.

- *Fruit orchards are a relatively common (yet declining) feature with rectangular plots ordered into rows. These rows often channel views and where orchards occur alongside roads, views across the landscape are more restricted. Conifer planting is also a relatively common feature.*
- *Buildings and storage associated with horticulture and food production industries, as well as power stations, pumping stations and sluices, provide visible human built elements.*
- *Well served by a network of rural roads that follow an irregular path.*
- *The landscape appears well settled – with villages, town edges, large houses, individual farms and properties generally in view. Settlement is predominantly found aligning secondary roads and has a linear arrangement with villages often merging through ribbon development.*
- *The skyline appears cluttered in places due to the varied heights, forms and textures of vertical elements including trees, pylons and buildings.*
- *Lines of pylons are dominant features slicing diagonally across the field system. The pylons and posts carrying overhead wires are frequently in view.*
- *Views can be gained to the edge of King's Lynn and Wisbech.*
- *The change to the adjacent Coastal Marshes and Open Inland Marsh landscapes is transitional and not always obvious.*
- *Large churches (which are often situated in an elevated position) within villages are key landmark features - visible from long distances.*
- *The main roads – the A17(T) and A47(T) are busy through routes and the operation of farm machinery brings constant movement to the landscape.*
- *The sense of remoteness and tranquillity varies and is largely dependent on proximity to roads and settlement edges'.*

LCA D3 - Terrington St John

3.1.4. The Site is located in the *Terrington St John* landscape character area (LCA). This Site is at the north-western corner of the LCA, which extends ca. 10 km to the east and 4 km to the south. The Settled Fens LCT within SH is contiguous with this LCA, running to the north to Sutton Bridge (see paragraph 3.1.8).

3.1.5. The inherent landscape sensitivities described in the KLLCA for the host LCA, include:

- *Wide panoramic views across the fen landscape and beyond over adjacent areas (including views on*

West Walton church).

- *Strong historic integrity including historic drainage network.*
- *Strong sense of tranquility and isolation throughout the area'.*

3.1.6. Landscape Planning Guidelines in the KLLCA include:

- *'Seek to conserve the predominantly rural character of the area.*
- *Seek to conserve the panoramic views across the area and adjacent areas.*
- *Seek to conserve the characteristically sparse settlement pattern throughout the area.*
- *Ensure that any new appropriate development responds to historic settlement pattern and is well integrated into the surrounding landscape.*
- *Seek to conserve the landscape setting of existing small villages such as Terrington St John and West Walton.*
- *Seek to conserve the largely undisturbed and tranquil nature of the area'.*

3.1.7. Beyond the Site to the east of Walpole Marsh lies LCA *D2 - Walpole, Terrington and Clenchwarton.* The LCA extends 10 km to the east of Walpole Marsh to Terrington St Clement. Analysis of the screened zone of theoretical visibility (ZTV) (**Figure 5d**) combined with further appraisal on Site, indicates that visibility of the proposed solar farm would be limited to just the nearest fringe points of LCA *D2 - Walpole, Terrington and Clenchwarton* given the local variations in landcover and built form. The potential for effects on the character at these points would, therefore, be limited and they are not assessed further. This is evidenced further by the existing Site panoramas in **Figure 8**.

South Holland District

3.1.8. *The Strategic Landscape Capacity Study for South Holland District Council*[xiii] contains a concise characterization for the district. The Site lies within a *Settled Fens* LCT, which is described as follows:

> *'Predominantly flat topography, dissected by main roads, rivers, drainage channels and drainage ditches often on raised banks (1-3m). Primarily nucleated settlements with associated mature trees. Church spires and towers often rise above the mature vegetation to provide prominent landmark features. Medium to large fields with intensive market garden crops. Locally strong hedgerow elements. Views are restricted or foreshortened by shelterbelts and woodland or mature*

hedgerows. This contributes to a sense of enclosure with a more open feel between settlements. The main visual detractors are the 440kV and 132kV overhead lines on towers, electricity substations and power stations and urban fringe visual clutter (dominated by light industry and glasshouse horticulture).'

3.1.9. The character of the *Settled Fens* LCT in the South Holland part of the study area is contiguous with that of *The Fens – Settled Inland Marshes* LCT described for KLWN.

Fenland District

3.1.10. To the west of the River Nene lies the *Settled Marsh* LCT from the *East of England Landscape Framework*. This LCT covers the character to the west of the Nene in the Fenland District Council area. The raised embankments of the River Nene to the west of the Site mean that the potential for visibility of the Proposed Development and effects on landscape character within Fenland District is considered to be very limited. No further consideration is given to effects on this LCT in Fenland District.

Landscape Character of the Site and Surrounding Area

3.1.11. Photographs of the Site and its surroundings are shown in **Figure 8**. Key views to the Site (representative viewpoints) are shown in **Figure 7**.

3.1.12. The Site is a large-scale arable field currently used for various crops. In May 2021, the area to the south of Walpole St Peter Footpath 1, which crosses through the eastern part of the Site and along the northern edge of the western part of the Site (**Figures 3a** and **3b**), contained oil-seed rape, and the area to the north contained a cereal crop. In the surrounding area, crops can cover a whole or part of a field. The Site also includes a series of high-voltage overhead power lines extending from north to south and east to west.

3.1.13. The following paragraphs describe the main characteristics of the Site and surrounding area following site work.

3.1.14. *Topography/hydrology:* The Site is defined by a distinctly flat and low-lying landform at approximately 4 m Above Ordnance Datum (AOD) as shown in **Figure 2**. The low point of the Site is towards its centre, at ca. 3 m AOD. The high point of the Site is towards the north-eastern boundary, at ca. 4.5 m AOD. The pattern of fields in the surrounding area is divided by straight drainage channels and dykes. These dykes are

low and are often only visible from a short distance. This adds to the perceived simplicity of the terrain and the expansive character of the area, with its distinctly flat, low-lying landform. To the west, earthworks, in the form of rivers and creek embankments, principally along the River Nene, bring topographic change and strong, straight lines of contrast, while at other points the network of narrow roads is often slightly raised above the surrounding farmland emphasising the low-lying nature of the landscape. Gunthorpe Road is one example of this.

3.1.15. *Vegetation:* The arable fields within the Site and in the surrounding area are bound by low drainage ditches. This adds to the open character of the Site. Vegetation is restricted to the Site boundaries.

3.1.16. The south-eastern Site boundary is marked by some groups of Poplar trees with shrub under-storey (**Figure 7.1**). The western boundary follows the raised flood levee of the River Nene, which is ca. 3 to 3.5 m above the Site field level. The northern boundary is in three parts: the western section follows a ditch field boundary running west to east; the central section follows a ditch field boundary running south-west to north-east; the eastern section is not marked by any distinct landscape feature but does seem to follow the line demarcated by a change in cropping regime. This eastern section of the northern boundary is parallel to and approximately 160 m south of Gunthorpe Road.

3.1.17. Field boundaries in the landscape surrounding the Site remain typically open and defined by ditches and dykes. There are a number of landcover features relating to the settlement pattern, including hedgerows and shelter-belt planting, which provide containment around clusters of properties, settlement and the network of narrow rural roads connecting the villages. Features at these points also include tall conifer tree belts and small groups of trees.

3.1.18. *Land use:* The whole of the Site is in agricultural use. The majority of the surrounding landscape is also in agricultural use. There are a number of land uses related to energy infrastructure in the wider study area. This includes the Walpole Bank Substation to the south-east and series of steel-lattice pylons extending from this across the wider landscape in all directions. The Rose and Crown solar farm is approximately 2.2 km to the south of the Site.

3.1.19. *Scale/enclosure:* The Site forms part of a local landscape pattern comprising medium-to-

large-scale, rectilinear fields. The Site has an open character with simplistic terrain providing panoramic views to wide, level horizons. To the west side of the Site, the open character is less evident due to the containment of views provided by the River Nene's flood levee. To the east, settlement, shelter-belts and orchards occur with a smaller pattern of field units.

3.1.20. *Settlement/townscape:* The settlement pattern (**Figure 1a**) consists of large-scale farmsteads and nucleated hamlets and villages, including Walpole St Andrew and St Peter, Walpole Marsh, and West Walton. Building character varies from old style farmhouses to relatively new suburban red or buff-coloured brick housing. A network of narrow rural roads, frequently lined with tall vegetation, connects the villages.

3.1.21. *Visual connections with adjacent landscapes:* Distant panoramas are available in most directions to cluttered, wide and level horizons. Connections to the west are more restricted by large earthworks associated with the River Nene embankments which act as strong topographic change and contrast (**Figure 7.3**). There is a stronger, mature landcover pattern on the edge of settlement which provides some containment towards settled areas (**Figure 8C**).

3.1.22. *Landmarks/built features:* Most of the landmarks visible in the near and distant landscape relate to energy infrastructure (**Figure 8**, various photographs) with overhead power lines on pylons of differing scale forming dominant structures across the Site. The Walpole Substation is 1 km to the south of the Site and is seen in middle-distance views from the west and north. The Tydd St Mary Marsh Wind Farm (7 turbines) is visible from the Site to the north-west. The Sutton Bridge power station (1.8 km to the north of the Site) also forms a sizeable industrial structure in views to the north, with the large mass of its turbine building and the prominent twin stacks.

3.1.23. *Perceptual characteristics:* The Site has an open character with distant panoramic views to wide horizons. Energy infrastructure in the form of overhead power lines, pylons, substations, wind farms, and the power station, provides a semi-industrialised, rural character in the immediate landscape. In more distant views, the horizon appears cluttered in places due to the variety of vertical elements in the wider landscape, including buildings, farmsteads, village churches, glasshouses, communication masts, and tall vegetation, such as rows of Poplar trees and conifer tree belts. These elements

prevent a sense of remoteness. Huge skies and wide panoramas bring changing light conditions and add contrast of light and shade across the landscape.

Designated Landscapes

3.1.24. The Site and the immediately surrounding area are not located within any landscape designations.

Designated Cultural Heritage

3.1.25. There are no Registered Parks and Gardens (RPGs) or other heritage assets within the Site landscape.

3.1.26. **Figure 4** shows the National Heritage List for England (NHLE) assets located in the surrounding area. Refer to the Cultural Heritage assessment for further details. The following NHLE assets lie within 1 km of the Site:

- County Boundary Post - Grade II, mid C19. Rectangular cast iron post surmounted by oval plaque. *Registration number 1064545*, located approximately 165 m west of the Site.
- Footbridge, road bridge and sluices. Road bridge and sluice gates with parallel footbridge. 1859 and 1866, constructed for the North Level Commissioners by Robert Stephenson. *Registration number 1204893*, located approximately 380 m north-west of the Site.

3.2. Visual Baseline

Visibility of the Site from the Surrounding Area

3.2.1. Preliminary ZTV plans were used during desk study and fieldwork as part of the baseline appraisal. Site work confirmed that the visibility of the Site from the surrounding area was found to be more limited than shown on ZTV plans due to field-boundary vegetation.

3.2.2. The preliminary ZTV plans and fieldwork confirmed the following patterns:

- The Site is visible from adjacent areas of open farmland to the north, east and south of the Site.
- Raised embankments associated with the River Nene watercourse limit further visibility from the west while raised local roads restrict views from the north.

- With intervening surface features such as vegetation and buildings taken into account (LIDAR 1 m Digital Surface Model data - Environment Agency, 2018), as shown on **Figures 5c** and **d**, these views are typically limited to within 1 km to the north, the immediate vicinity of the Site to the east and west, and extending up to 2 km to the south. The large-scale landscape absorbs low, linear features with distance so that they quickly become background features of the landscape.

Representative Viewpoints

3.2.3. Views to the Site from the surrounding area have been considered using six representative viewpoints as shown on **Figures 6a** and **b**. Details of these are provided in **Table 3.1**. Viewpoint photographs are shown on **Figures 7.1** to **7.6**.

Table 3.1: Representative Viewpoints

Viewpoint	Distance/ direction from Site	Description	Potential visual receptors
Viewpoint 1: Bridleway, south of Walpole Marsh at Flower Farm (Walpole St Peter BR2) 547781 317408	Ca. 150 m south of the Site.	This viewpoint is located on a bridleway running south-west from Walpole Marsh and offers views through boundary vegetation to the Site. The immediate view is open, but a series of steel-lattice pylons and overhead power lines traverse the view from east to west. The middle-distance view is partially enclosed by intermittent mature field-boundary vegetation to the south-east, while to the west an intermittent line of mature Poplar trees extends into the view from the near distance (marking the south-eastern Site boundary). More extensive distant views are available to a cluttered flat low horizon to the south. The landscape is open and distinctly flat and is defined by a mix of vegetated and built elements including overhead power lines and wind turbines.	Users of the public right of way (PROW)
Viewpoint 2: King John Bank, north of Walpole Marsh 548361 318321	Ca. 0.6 km north-east of the Site.	This is a roadside viewpoint. To the south, the view is terminated by vegetation at Corner Farm and Wingland Farm. The view is more open to the south-west, where the northern end of the Site is visible in the middle distance. Multiple series of steel-lattice pylons are present in the near, middle and far distance of this view.	Road users
Viewpoint 3: Footpath, River Nene eastern embankment (Walpole St Peter FP9) 546631 317105	Ca. 10 m to the west of the Site.	This view looks from the raised eastern embankment of the River Nene across the Site. The view shows the intermittent line of mature Poplar trees along the southern boundary which partially encloses the view and filters occasional views across flat open arable farmland to the south-east. These filtered views are delineated in the far distance by a flat, low-lying horizon defined by a mix of vegetated and built features. The immediate view is also defined by series of steel-lattice pylons and overhead power lines, which cross the Site and its boundaries and	Users of the PROW

Viewpoint	Distance/ direction from Site	Description	Potential visual receptors
		extend into the view to the north-east. There are also middle-distance views towards further pylons and overhead power lines as well as wind turbines to the north-east and beyond the Site to the north-west. Also, distant views to the north extend to the Sutton Bridge Power Station.	
Viewpoint 4: Nene Way long-distance path at Foul Anchor 546677 317869	Ca. 160 m to the west of the Site.	This viewpoint is located on the raised embankment on the west side of the River Nene at Foul Anchor. The Site is present in a thin slice of the view between the eastern flood bank on the far side of the river and the distant vegetation which forms the horizon towards Walpole Marsh to the east. Multiple series of steel-lattice pylons cross the view in the near, middle and far distance. The towers of the Sutton Bridge Power Station are also visible to the north.	Users of the PROW
Viewpoint 5: Sutton Bridge bridleway 6/3 at Gunthorpe Road next to the Nene 546987 318288	Ca. 530 m to the north-west of the Site.	This viewpoint is located on the flood embankment of the River Nene at the western end of Gunthorpe Road, where the road takes a sharp turn to the north to follow the River Nene to Sutton Bridge. The viewpoint offers an open, slightly elevated prospect over the arable farmland to the north of the Site. Pylons cross the view, which is also broken by the Poplars along the Site's southern boundary and trees on the edge of settlement at Walpole Marsh.	Users of the PROW
Viewpoint 6: Mill Road, Ingleborough, north of Crown Farm, on grass verge 547517 315095	Ca. 1.95 km to the south of the Site.	From a relatively-distant location to the south of the Site, this view extends across open arable farmland with gently undulating localised variations in landform defining the foreground. The view continues across flat, low-lying farmland towards a flat, vegetated, low horizon in the far distance. Much of the intervening near and middle-distance view is open and simple with few features but is occasionally broken by isolated field-boundary trees and at points to the north-east by overgrown mature field boundaries. To the north the view is enclosed by roadside vegetation and residential properties. The view then extends to a distant view defined by the broken line of Poplar trees, which mark the southern boundary of the Site. Series of steel-lattice pylons and overhead power lines cross the view and are present alongside other notable built influences, such as wind turbines at Tydd St Mary and the chimneys of Sutton Bridge Power Station.	Local road users and residents

Potential visual receptors

3.2.4. Potential visual receptors are detailed in **Section 5.2**, paragraphs 5.2.4 to 5.2.23 of this report.

4.0 The Proposed Development

4.1. The Solar Farm and Battery Storage Facility

4.1.1. Full planning permission is sought for the installation of a renewable-led energy generating station comprising ground-mounted photovoltaic solar arrays and battery-based electricity storage containers together with substation, inverter/transformer units, Site access, internal access tracks, security measures, access gates and other ancillary infrastructure.

4.1.2. The Proposed Development would export renewable energy to the National Grid for 35 years. The battery storage element is also expected to operate for 35 years.

4.1.3. Details of the proposed solar arrays are provided on the application drawings (see **Appendix 2**). The panels would be ground mounted to a piled sub-structure. At their lower edge the panels would be approximately 0.8 m from the ground and up to approximately 3 m at their higher edge. At horizontal, the panels would be ca. 2.1 m. The inter-row distance would be approximately 6 m. The arrays would utilise a single axis tracking system that uses an east/west system with the panels tilting at angles of up to +/- 60 degrees. They include bifacial modules made of double glass structures. They have an anti-reflective coating to ensure maximum absorption of solar radiation and reduction of reflections.

4.1.4. Dimensions of other associated structures and buildings are shown on the drawings submitted with the planning application. In summary they include:

- A battery storage facility positioned mid-way along the southern boundary. This includes 24 battery storage containers, housed within shipping containers or similar, with each unit measuring 12.2 m x 2.4 m with a height of 3.7 m including the concrete plinth. The battery storage area would be fenced with welded steel mesh, 2.4 m high.
- There would be 11 inverter / transformer stations distributed evenly across the solar farm. The inverters/transformers would tend to be located in pairs within metal containers that would be finished in green and positioned on a hardcore or concrete slab base. Each unit measures 12.2 m x 2.4 m and with a height of 2.9 m.

- There would be one substation / switchgear compound measuring ca. 11 m x 4 m and with a height of 4 m. Adjacent are two containers measuring 12.2m x 2.4m.
- Perimeter fencing (2.1 m-high deer fencing) would extend around the perimeter of fields with panels to allow sheep grazing and for security purposes. The fencing will include badger and small mammal gates.
- Closed-circuit television (CCTV) and infra-red cameras would be mounted on perimeter fence posts between 2.5 and 3.0 m tall along the perimeter of the Site.
- Lighting will be included on the substation building.

4.1.5. Access to the development once operational would be via existing farm accesses.

4.2. The Potential Landscape and Visual Effects of the Proposed Development

4.2.1. The construction phase would last for approximately 7 months and would give rise to short-term landscape and visual effects. The construction phase effects would be distinct to the operational effects as they would include more activity on Site (the operational phase having relatively low activity associated with it). Construction vehicle movement would focus around the main access tracks and compounds. The location of construction works on the Site would change as different areas are built out.

4.2.2. Duration is one of the factors which is taken into consideration in determining the magnitude of landscape and visual effects (**Appendix A1.3**, sub-heading B). The construction-phase landscape and visual effects arising from the Proposed Development would be a secondary consideration to its 35-year long-term operational effects, which are the focus of the assessment contained in **Section 5** of this report. Because of their temporary nature, construction phase effects would not exceed the operational effects in magnitude or significance. The principal effects of the development would relate to the operational phase; construction phase effects are given no further specific consideration in this assessment.

4.2.3. The main features of the operational Proposed Development which could potentially result in landscape and visual effects are:

- Changes to land use and pattern

- New elements such as solar PV panels, transformers, battery storage, fencing and CCTV cameras
- Access arrangements
- Hard surface areas
- Replacement of arable crops with grazed meadow grassland
- New planting areas.

4.2.4. It is noted that the Proposed Development would typically be 3 m or less in height, although the sub-station and inverter/transformer stations are 4 m high. In a very flat landscape, the Proposed Development could be screened by a combination of scrub and/or hedgerows from most near and middle-distance views.

4.3. Landscape Mitigation Measures

4.3.1. Landscape mitigation proposals are incorporated into the scheme design and are illustrated on **Figure 10**. The landscape mitigation proposals include measures that aim to avoid, reduce, or remedy significant adverse impacts on the landscape by ensuring that the scheme has a good fit within the landscape setting. It also includes measures that would reduce the visual prominence of the solar arrays in local views by enhancing the condition of key field boundaries on the perimeter of the Site.

4.3.2. Measures have been incorporated into the design of the Site to reduce potential impacts and improve the layout of the Proposed Development, including:

- Retaining and enhancing the amenity of the existing PROW within the Site boundary.
- Aligning the Site boundaries and north-south rows to avoid a saw-tooth edge on development boundaries to soften hard edges of the Proposed Development as viewed from Walpole St Peter Footpath 1 and Gunthorpe Road.
- To screen elements of the Proposed Development from key receptor locations where possible, e.g., settlement at Walpole Marsh and Walpole St Peter Bridleway 2.
- To reflect existing landscape elements and character in areas of the wider landscape which would not be subject to built development.

4.3.3. The key landscape mitigation measures are as follows:

- A new hedgerow would be planted on the northern and north-western edge of the Site using shrub species to be managed to a traditional 'A-shape' profile and to 4 m height.
- Gap up the existing Poplar tree belt on the south-eastern Site boundary, using native species of local provenance and only shrubs beneath power lines.
- Proposed species-rich native wildflower meadow to perimeter buffer areas to the south and west of the Site and in a strip along Walpole St Peter Footpath 1. This would be maintained mechanically twice per year as a hay meadow.
- Sheep grazing / management areas throughout the Site in fields with panels, with a conservation grazing regime to enhance biodiversity.

4.3.4. The proposed hedgerow and tree planting and landscape management would produce landscape features to provide effective screening towards the Proposed Development within 15 years (medium-term). The proposed elements would also enhance the local landscape character and provide additional screening in relation to cumulative schemes, in particular the Walpole Bank scheme to the south (see **Section 6**).

5.0 Landscape and Visual Effects

5.1. Landscape Effects

Sensitivity of the Site and Surrounding Area

5.1.1. The sensitivity of landscape receptors depends primarily upon the value attached to the landscape and the landscape's susceptibility to the Proposed Development. These aspects of the Site's landscape are dealt with in the following sections.

Landscape Value

5.1.2. The Site and surrounding area do not lie within a designated landscape area. The Site does not contain any NHLE assets. There are, however, two NHLE assets located within a 1 km radius of the Site. For more information on these assets, please refer to the Heritage Statement.

5.1.3. The overall character of the Site and surrounding area is defined by large-scale, open, typically rectilinear arable fieldscape, where fields are divided by ditch and dyke boundaries. This provides wide panoramas to flat, low-lying horizons, which appear cluttered with a mix of natural and built elements. Raised river embankments are distinctive features of this landscape. The local character of the landscape is also strongly influenced by the Walpole Substation, with series of steel-lattice pylons of differing scales extending from the substation across the wider landscape in all directions. There are also wider views towards other energy generating infrastructure to the north including wind turbines and the Sutton Bridge Power Station. A PROW crosses the Site and another runs just along the western boundary on the River Nene's embankment. Overall, the value of the landscape of the Site and the surrounding area is considered to be **medium to low**.

Susceptibility to Harm due to Change

5.1.4. The following factors are considered relevant with respect to the susceptibility of the landscape to the Proposed Development:

- The distinctly flat topography combines with wider patterns of earthwork embankments associated with watercourses or roads to provide simple landform context and to reduce susceptibility.
- The largely rectilinear field pattern of the Site and surrounding area can contain

a development with strongly linear features.

- The presence of some hedgerows, tree belts and shelterbelts along some field boundaries in the landscape beyond the Site, particularly around settlement, provides an appropriate context for further vegetation to be included as part of the Proposed Development.
- High-voltage power lines and steel-lattice and wooden pylons cross the Site. There are distant views towards telecommunication masts, Tydd St Mary Wind Farm and the Sutton Bridge Power Station. All these built elements are notable features in the landscape and reduce the susceptibility of the landscape to harm arising from the Proposed Development.

5.1.5. On balance the susceptibility of the local landscape is judged to be **low**.

Landscape Sensitivity

5.1.6. The local landscape has a **medium to low** value and a **low** susceptibility to the Proposed Development. The KLLCA report does not note levels of sensitivity for the host landscape character areas (LCA *D3 - Terrington St John*) but does note inherent sensitivities relating to *'wide panoramic views'*, historic integrity relating to the *'historic drainage network*' and tranquility. Overall, this analysis supports the conclusion that the landscape of the Site and the immediate surrounding area has a **medium to low** sensitivity to the proposed development.

Magnitude of Landscape Effects

5.1.7. The assessment considers scale, extent and duration/reversibility as key aspects of the magnitude of landscape and visual effects. For the proposed development, these considerations are as follows:

- *Scale:* The scale of existing landscape elements that would be lost and the scale of change that would arise from the introduction of new elements is considered to be medium to small.
- *Extent:* The extent of the impact of the Proposed Development would largely be contained within the Site itself and to parts of the local landscape within a 0.5 km radius of the Site. There would be minor effects on the wider setting of the Site.
- *Duration:* The Proposed Development would be operational for a period of 35

years and the duration of effects arising would, therefore, be medium-to-long-term when considering the establishment of mitigation.

- *Reversibility:* The impact of the development would be reversed in the future with removal of the solar PV development from the Site.

Landscape Character Effects

5.1.8. The following **Table 5.1** provides an appraisal of the effects of the proposed development in relation to the different characteristics of the local landscape.

Table 5.1 Appraisal of Effects on Landscape Characteristics

Characteristic	Commentary
Topography/landform	The Proposed Development would have no direct effect on topography or landform. The distinctly flat topography in the landscape surrounding the Site, combined with a range of engineered raised embankments to watercourses, is helpful for containing the Proposed Development and limiting indirect effects arising from views towards the proposed development.
Vegetation	There is no notable vegetation within the Site. Vegetation is restricted to its outer edges, with clusters of Poplar trees along the south-eastern boundary. There are outgrown field boundaries and shelterbelts and small blocks of woodland in the wider landscape surrounding the Site. This context is helpful for integrating the Proposed Development into the wider landscape through the landscape mitigation proposals.
Land use	The Site currently comprises an arable fieldscape, and contains eight steel-lattice pylons of differing sizes. While the Proposed Development would reflect a change of land use, other energy infrastructure is already present in the immediately surrounding area, including the Walpole Substation. There are also views to the north-west towards an operational wind farm and to the north towards the power station. Intensively farmed arable crops would be replaced with grazed pasture under the panels.
Scale/enclosure	The Site is situated within a landscape where fields are typically unenclosed being bounded by drainage ditches. This adds to the perception of a medium-to-large-scale, open landscape. The Proposed Development would not alter the existing field shape or scale within the Site, nor would it include the removal of any notable vegetation. Landscape mitigation proposals would strengthen the local field pattern overall. A greater sense of enclosure would arise within the Site as a consequence of the proposed development and the landscape mitigation proposals. This greater sense of enclosure, however, would be similar in nature to the sense of enclosure prevailing elsewhere in the local landscape, for example towards the edges of settlements.
Settlement/townscape	No effects would arise on settlement pattern or townscape character. There would potentially be views to the Site from dwellings within a 0.5 km radius from properties on the edge of Walpole Marsh and at Foul Anchor. Visual effects are addressed in **Section 5.2**.
Visual connections with adjacent landscapes	The Proposed Development would slightly reduce the availability of distant panoramas within the Site and the western fringes of LCA *D3 - Terrington St John* but would not generally affect wider views and connections beyond the Site boundaries. This is due to the height of the Proposed Development and the low-lying flat nature of the Site.
Landmarks/built features	Various landmarks and built development are present in the landscape near the Site as described in paragraph 3.1.22. The Proposed Development would not change the contribution of these features to existing character.

Characteristic	Commentary
Perceptual characteristics	The character of the landscape is already influenced by existing near, middle-distance and distant views towards energy infrastructure, set within a distinctly flat, low-lying landscape. This would assist in reducing the perception of contrast between the features which make up the existing landscape and the Proposed Development. Beyond the Site boundaries the Proposed Development would be seen to add another largely horizontal element into a landscape setting which has a strongly horizontal emphasis.

Magnitude of landscape effects

5.1.9. Direct landscape effects would include replacing the prevailing arable land use within the Site with energy infrastructure. The solar PV panel layout has been designed to retain existing vegetation within and around the outer edges of the Site as far as possible and no notable tree or hedgerow sections would be removed. As such the overall field scale that is characteristic of the Site would remain. Approximately 1600 m of new hedgerows would be planted, and ca. 1600 m of existing tree belts would be enhanced (see **Figure 10**). The direct effects would occur within ca. 1.2 per cent of the host LCA *D3 - Terrington St John* (*Settled Inland Marshes* LCT), or the equivalent LCT within South Holland District[2].

5.1.10. The photovoltaic panels would be comparable in height to other existing elements in the landscape such as intermittent field boundaries and raised embankments to nearby watercourses, as well as local bungalows, outbuildings and farm buildings. The proposed development would not be out of character with the Site and the immediate surrounding area, although it would extend the influence of energy infrastructure on the character of the local landscape.

5.1.11. At completion of the construction phase, landscape effects arising from the Proposed Development would be limited to the Site itself and the immediate setting of the Site up to approximately 0.5 km to the north, 0.25 km to the east and west, and extending up to ca. 1 km to the south but reducing with increasing distance from the Site. The proposed landscape mitigation planting would help to screen the Proposed Development from most near and middle-distance views, as well as integrate the

[2] The character of the *Settled Fens* LCT in the South Holland part of the study area is contiguous with that of *The Fens – Settled Inland Marshes* LCT described for KLWN.

development into the surrounding landscape in the medium-to-long-term.

5.1.12. The magnitude of direct landscape effects arising from the Proposed Development would be **medium** on completion and in the medium-to-long-term. As the sensitivity of the Site is judged to be **medium to low**, the significance of the effect would be **moderate-to-minor adverse**, where the Proposed Development would add to the semi-industrialised, rural nature of the Site.

5.1.13. The magnitude of indirect landscape effects on the surrounding landscape characteristics arising from the Proposed Development would be **small** on completion, reducing to **very small to negligible** in the medium-to-long-term as the mitigation planting matures. Given the **medium to low** sensitivity of the LCA, the significance would be **minor adverse** on completion and **negligible** in the medium-to-long-term.

5.1.14. All direct and indirect effects would arise within the LCA *D3 - Terrington St John* (*Settled Inland Marshes* LCT), or the equivalent LCT within South Holland District, across an isolated western section of the LCA which is estimated to be less than five per cent of the total LCA area, with the remaining LCA unaffected.

5.1.15. No adjacent LCAs or LCTs would be affected to any significant extent.

5.2. Visual Effects

Zone of Theoretical Visibility

5.2.1. The ZTV of 10 reference points at 3 m above the existing terrain (the maximum height of the solar PV panels) is shown on **Figures 5a** to **d**. The bareground ZTV (**Figures 5a** and **5b**) is based on OS Terrain 5 data terrain data. The screened ZTV (**Figures 5c** and **5d**) is based on LIDAR 1 m Digital Surface Model data (Environment Agency, 2018) and takes account of the potential screening effects of earthworks, vegetation, buildings and other surface features. The ZTVs indicate the following:

- The main area of *theoretical* views lies within 0.5 km to the north and north-east, 0.2 km to the east and west, extending up to 2 km to the south.
- Immediately to the west of the Site, raised embankments associated with the River Nene watercourse limit further visibility from the west. Gunthorpe Road is raised and restricts views from the north.
- Vegetation and built features would screen and heavily filter views from the

nearest settlement at Walpole Marsh to the east.

5.2.2. Fieldwork undertaken in the landscape surrounding the Site confirms that the visibility of the Site is more limited than as illustrated by the ZTV plans, due to the screening effects of field-boundary vegetation, which includes outgrown and unclipped hedgerows and hedge trees (see **Section 3.2**, paragraph 3.2.2). Such features are only partially picked up on the screened ZTVs (**Figures 5c** and **5d**), which are based on one data point for each square metre. While being more informative than the bare-ground ZTVs, fieldwork has confirmed that the screened ZTV model still exaggerates visibility compared to what is experienced on the ground. In this very flat, low-lying landscape, which often has wide, distant horizons, low-level development of a horizontal form is absorbed into views, rapidly becoming a background feature of the landscape with increasing distance.

Viewpoint Assessment

5.2.3. The representative viewpoints are illustrated on **Figures 7.1** to **7.6**. Photomontages have also been provided for *viewpoints 1, 3* and *5*. They are illustrated on **Figures 9.1**, **9.3** and **9.5**. The table below contains the viewpoint assessment.

Table 5.2: Viewpoint Assessment

Viewpoint	Receptor(s) and sensitivity	Effect
Viewpoint 1: Bridleway, south of Walpole Marsh at Flower Farm (Walpole St Peter BR2) 547781 317408 Ca. 150 m south of the Site.	Users of the PROW – **high to medium** sensitivity as there is likely to be some appreciation of the landscape and immediate surroundings close to settlement.	For users of the PROW, this viewpoint would offer a medium-to-long-duration, near view towards the panels located in the southern part of the Site. To the west, the view would remain open along the bridleway and the long field between the bridleway and the Site, with views towards the River Nene. The solar PV panels would be seen in the near view (**Figure 9.1**) with views ranging from side-on in a west or north-westerly direction, to end-on to the north. With the proposed tracking system, in a west or north-westerly direction, the panels would be seen with the front face tilting towards the view during the first part of the day. By the middle of the day they would be seen as flat, horizontal panels, with clearer views to the supporting structures and at a lower overall height. Later in the day they would be seen facing away from the view with the back of the panels visible. The panels would fill a horizontal strip across the centre of the view, occupying the space beyond the Site boundary and Gunthorpe Road, where a change in level is perceptible in views. The panels would be seen in the context of existing steel-lattice pylons in the near and middle-distance of the view. The Tydd St Mary wind farm and Sutton Bridge Power Station are also present in this view. The proposed solar panels

Viewpoint	Receptor(s) and sensitivity	Effect
		would be present in a wide arc of views northwards (see **Figure 7.1**, frames 1 to 3), exceeding ca. 120 degrees horizontal field of view (HFoV). The Proposed Development would extend the semi-industrialised character seen in the near to middle-distance of the view more into the foreground. The effect on completion would be **large** in magnitude. When combined with the **high to medium** sensitivity of the receptors at this point, the significance of visual effects would be **major-to-moderate adverse**. In the medium-to-long-term, the establishment of proposed vegetation along the southern Site boundary would provide screening of the solar panels, filtering views to a greater extent in the summer months when vegetation is in leaf. The medium-to-long-term effect would be **medium** in magnitude and effects would reduce to **moderate adverse**.
Viewpoint 2: King John Bank, north of Walpole Marsh 548361 318321 Ca. 0.6 km north-east of the Site.	Road users - **medium to low** sensitivity as appreciation of the landscape is likely to be secondary to the primary purpose of the route, which is to provide local access.	From this viewpoint, the proposed development would appear to the right of trees at Wingland Farmhouse (to the west of the junction of Gunthorpe Road and King John Bank). The proposed solar panels would appear in the middle-distance of the view beyond Gunthorpe Road and occupy ca. 14 degrees HFoV. The view to the south-west contains ca. 12 steel-lattice pylons of different sizes. The Proposed Development would be recessive in this view but would slightly increase the presence of energy infrastructure seen in the middle-distance of the view. The scale and extent of change on completion would be such that the magnitude would be considered **small**. When combined with the **medium to low** sensitivity of the receptors at this point, the significance of visual effects would be **minor adverse**. In the medium-to-long-term, the hedgerow on the northern Site boundary would mature. The Site occupies a thin horizontal strip across the middle-ground of the view and it is likely that a 4 m high hedgerow would screen the majority of the Proposed Development. The medium-to-long-term effect would be **negligible to small** in magnitude and effects would be reduced to **negligible**.
Viewpoint 3: Footpath, River Nene eastern embankment (Walpole St Peter FP9) 546631 317105 Ca. 10 m to the west of the Site.	Users of the PROW – **high to medium** sensitivity as there is likely to be some appreciation of the landscape and immediate surroundings close to settlement.	For users of the PROW at this elevated location on the River Nene embankment to the west, this viewpoint would offer a medium duration view of the Proposed Development in a near distance view. The rows of solar panels would occupy a wide field of view from the north to the south-east (ca. 130 degrees HFoV). The solar panels would be seen side-on looking directly east and it is likely that the viewpoint would offer an appreciation of the linearity of the development in views in a more northerly direction. (**Figure 9.3**). The sub-station compound would be visible to the east. Other features such as the inverters would be visible from this elevated viewpoint. While the nature of the proposed tracking system would provide some variation in the view of the panels with the front and rear side of the panels visible at different times of the day, they would largely be perceived as a horizontal built feature at a low-lying point in the flat arable farmland to the east. The panels would sit below the horizon allowing views across the Proposed Development towards the wider surrounding landscape. The panels would be seen in the context of existing steel-lattice pylons which cross the view in the near and middle-distance and in the wider context of the Walpole Bank Substation to the east. As such the Proposed Development would extend the semi-industrialised character already seen in the middle-distance of the view into the foreground of the view.

Viewpoint	Receptor(s) and sensitivity	Effect
		The effect on completion would be **large** in magnitude. When combined with the **high to medium** sensitivity of the receptors at this point, the significance of visual effects is considered to be **major-to-moderate adverse**. In the medium-to-long-term, the establishment of vegetation on the southern Site boundary would slightly change views beyond the proposed solar array, for example by reducing views to the Walpole Substation. The elevated position of the viewpoint above the western edge of the Proposed Development does however mean that there would be no reduction in the extent of the solar array which would be visible in the medium-to-long-term. The medium-to-long-term effect would be **large** in magnitude and effects would be **major-to-moderate adverse**.
Viewpoint 4: Nene Way long-distance path at Foul Anchor 546677 317869 Ca. 160 m to the west of the Site.	Users of the PROW– **high to medium** sensitivity as there is likely to be some appreciation of the landscape and immediate surroundings.	The Proposed Development would be present in a thin strip of the view between the eastern flood bank on the far side of the river and the distant vegetation which forms the horizon towards Walpole Marsh to the east. The Proposed Development would occupy ca. 100 degrees HFoV in the near to middle distance but with near views significantly reduced by the eastern bank of the River Nene. The north-eastern parcel of development (to the north of Walpole St Peter FP1) would be more distant and less noticeable than the parcel to the south of FP1. The proposed panels would be seen as a horizontal built feature at a low-lying point in the flat arable farmland to the east of the river. The panels would sit below the surrounding horizon, and wider views across the Proposed Development towards the surrounding landscape would be retained. The panels would be on a tracking system and there would be some variation with the front and rear side of the panels visible at different times of the day. The panels would be seen in the context of existing steel-lattice pylons which traverse the view in the near and middle-distance and in the wider context of the Sutton Bridge Power Station to the north. As such the Proposed Development would extend the semi-industrialised character already seen in the middle-distance of the view. It would not encroach into the foreground view. The effect on completion would be **small** in magnitude. When combined with the **high to medium** sensitivity of the receptors at this point, the significance of visual effects is considered to be **minor adverse**. In the medium-to-long-term, the establishment of the hedgerow on the northern boundary would screen views of development in the north-eastern parcel. The visibility of the southern parcel would not reduce in the long-term although changes relating to the proposed vegetation on the southern Site boundary may slightly alter the view. The overall medium-to-long-term effect would be **small-to-negligible** in magnitude and effects would reduce to **minor-to-negligible adverse**.
Viewpoint 5: Sutton Bridge bridleway 6/3 at Gunthorpe Road next to the Nene 546987 318288	Users of the PROW– **high to medium** sensitivity as there is likely to be some appreciation of the landscape and	This viewpoint is similar to *viewpoint 3* in that it is located on the flood embankment of the River Nene and therefore allows elevated views over the landscape to the south-east. The solar panels would be ca. 550 m from the viewpoint at their nearest, extending across the middle-distance of the view to the southern Site boundary which is ca. 1.1 to 1.3 km from the viewpoint. The Proposed Development would occupy a ca. 85 degree HFoV spanning from the east to the south. This view contains numerous steel-lattice pylons in the middle and far distance, including a high density of these towards the Walpole Bank substation which is

Viewpoint	Receptor(s) and sensitivity	Effect
Ca. 530 m to the north-west of the Site.	immediate surroundings.	partially in view. The Proposed Development would extend the semi-industrialised character already seen in the middle-distance of the view (**Figure 9.5**). The effect on completion would be **medium** in magnitude. The significance of the visual effect would be **moderate adverse.** In the medium-to-long-term, the proposed hedgerow along the northern edge of the Site would soften the appearance of the edge of the Proposed Development. Managed to 4 m height, the hedgerow would screen much of the edge of the development. The elevation of the viewpoint above the flat low-lying landscape means that some development is likely to remain visible. In the medium-to-long-term, the effect would reduce to **small** magnitude. The significance would be **minor adverse**.
Viewpoint 6: Mill Road, Ingleborough, north of Crown Farm, on grass verge 547517 315095 Ca. 1.95 km to the south of the Site.	Local road users - **medium to low** sensitivity as appreciation of the landscape is likely to be secondary to the primary purpose of the route, which is to provide local access. Residents at dwellings alongside Walpole Bank at Ingleborough – **high to medium** sensitivity as views limited from main curtilage of the property but with some appreciation of the landscape from the wider curtilage and approaches.	The Proposed Development would bring about negligible change to views from this location. In this landscape the narrow, horizontal strip of solar development would be extremely recessive in views at ca. 1.95 km distance, particularly with the existing vegetation on the southern Site boundary. It is highly likely that the Proposed Development would not be noticeable in views from moving vehicles on Mill Road, particularly as the seven Tydd St Mary wind turbines stand beyond the Site and the view is also crossed by multiple steel-lattice pylons, and these features tend to attract attention. Local residents would have longer opportunities to view the landscape to the north, but changes in views would nevertheless be occurring in the distant background of views and would tend to go unnoticed. The effect on completion would be **negligible** in magnitude. For road users at this viewpoint (**medium to low** sensitivity) the significance of visual effect would be **negligible**. For residents (**high to medium** sensitivity) the effect would be of **minor-to-negligible adverse** significance. In the medium-to-long-term, the proposed vegetation planted along the southern boundary of the Site would mature. This would screen views towards the Proposed Development to the extent that from this viewpoint, the proposed solar panels would not be perceptible as distant landscape features. The medium-to-long-term effect would remain **negligible** in magnitude and the significance would be **negligible** for both road users and residents.

Effects on Visual Receptor Groups

5.2.4. In this section of the report, principal effects on the following visual receptors are considered:

- Local residents of nearby settlement (see note in **Appendix A1.4**).
- Users of nearby roads.
- Users of PROWs.

Settlement

5.2.5. This assessment gives an overview of visual effects on the clusters of properties and settlement as a whole based on desk study and fieldwork in public areas. This is not a residential amenity assessment; refer to **Appendix 1**, **Section A1.4** for further details on scope and methodology.

5.2.6. Residents within settlements are assessed to be of **high to medium** sensitivity. It is assumed that residents would have a moderately high interest in the landscape surrounding properties within the settlement.

Walpole Marsh: Gunthorpe Road West of Junction with The Marsh and St. John Bank (0.1 to 0.3 km to the north-east of the Proposed Development)

5.2.7. There would potentially be views south and west from Wingland Farmhouse, Wingland, the Nursery, and Highbury and the unnamed cottage to its west. These dwellings are located near the Site entrance and north-eastern corner of the proposed area of solar panels. **Figure 8C** shows the surroundings of these dwellings in the direction of the Site. There is a minimum offset of ca. 100 m from the curtilage of these dwellings to the proposed area of solar panels. Garden vegetation near these dwellings would contribute to the screening or filtering of views. The proposed hedgerow along the northern Site boundary would soften the edge of the solar array and in the medium-to-long term would screen it.

5.2.8. Effects on completion would be **small** in magnitude and **minor adverse** in significance. Effects in the medium-to-long-term would be **small/negligible** in magnitude and **minor-to-negligible** in significance.

Walpole Marsh: Flower Farm to Model Cottage on The Marsh (0.15 to 0.2 km to the south-east the Proposed Development)

5.2.9. This group of dwellings is located on The Marsh, which runs south-west to north-east through Walpole Marsh at the eastern end of the Site. For most of the dwellings from their north-western side there may be glimpsed or filtered views through garden vegetation to the edge of the solar development. Some dwellings may also offer slightly more open views to the Site from their upper floors.

5.2.10. There are several dwellings in this area which have more open views: the north-eastern dwelling on this stretch, which is a new house opposite 'Missbe-haven', has no vegetation in its garden to contribute to the filtering of views towards the Site; and

Sunnyside and Marsh Cottages, which also have slightly more open gardens to the north-west.

5.2.11. The relationship of these dwellings to the Site can be appreciated through **Figures 8B** (frames 2 and 3) and **8C**. The proposed infill vegetation along the southern Site boundary, which already contains some mature trees, would soften the edge of the solar array in the medium-to-long-term, further contributing to the screening of views.

5.2.12. Depending on the vegetation present in the back gardens to the north-west of these dwellings, effects on completion would be up to **medium** magnitude and **moderate adverse** significance. Effects in the medium-to-long-term would be up to **small** magnitude and up to **minor adverse** significance.

Foul Anchor (0.2 to 0.3 km to the west of the Proposed Development)

5.2.13. There are approximately six houses at Foul Anchor which could have views eastward to the Proposed Development. For many of the dwellings, garden vegetation would limit views in the direction of the Site. From their upper floors and curtilages, some views of the Proposed Development are likely to arise. These views would be similar to those illustrated by *viewpoint 4*, with the Proposed Development present in a thin strip of the view between the eastern flood bank on the far side of the river and the distant vegetation which forms the horizon towards Walpole Marsh to the east. The Proposed Development would occupy ca. 100 degrees HFoV in the near to middle distance but with near views significantly reduced by the eastern bank of the River Nene.

5.2.14. Effects on completion would be **small** in magnitude and **minor** adverse in significance.

5.2.15. In the medium-to-long-term, the establishment of the hedgerow on the northern boundary would screen views of development in the north-eastern parcel, reducing effects for dwellings further to the north at Foul Anchor (e.g., St Pauls) but not reducing effects for dwellings further to the south at Foul Anchor (e.g., The Hollies). The visibility of the southern parcel would not reduce in the long-term. Effects in the medium-to-long-term effect would be up to **small** magnitude and up to **minor adverse** in significance.

Mill Road: Rose Hall, Roman Bank House, Ingleborough Farm, Crown Farm, Hill House Farm (1.8 to 2 km to the south of the Proposed Development)

5.2.16. As indicated by *viewpoint 6*, while the ZTV indicates theoretical visibility from dwellings

along Mill Road to the south (**Figures 5b** and **5d**), the Proposed Development would tend to go unnoticed from this distance in this landscape. In this landscape the narrow, horizontal strip of solar development would be extremely recessive in views at this distance, particularly with the existing vegetation on the southern Site boundary. Local residents would have long opportunities to view the landscape to the north, but changes in views would nevertheless tend to go unnoticed.

5.2.17. Effects on completion and in the medium-to-long-term would be **negligible** in magnitude and significance.

Roads

5.2.18. The nearest road is Gunthorpe Road and this is the main road from which the Proposed Development would be visible. Views from Gunthorpe Road are illustrated by *viewpoint 5* (**Figure 7.5**) and Site photo C (**Figure 8C**). Panels in the north-eastern parcel would be ca. 170 m from the road. Gunthorpe Road is raised ca. 2 m above the fields to the north and south. Road users would have slightly elevated views over the Proposed Development. The Proposed Development would be more noticeable from the eastern end of the road which is closer to the north-eastern parcel. For road users, the Proposed Development would be visible from a 1 km stretch of the road and perpendicular to the direction of travel. A hedgerow is proposed along the northern edge of the solar farm and this would soften the edge of the development in views in the medium-to-long-term.

5.2.19. Local users of Gunthorpe Road would be **medium to low** sensitivity receptors, as appreciation of the landscape is likely to be secondary to the primary purpose of the route, which is to provide local access. On completion, effects would be of **large to medium** magnitude and **moderate adverse** significance. In the medium-to-long-term, effects would reduce to **medium** magnitude and **moderate-to-minor adverse** significance.

5.2.20. As indicated by *viewpoint 4* at Foul Anchor (0.16 km to the west of the Site), views would be possible from Front Road. The effect on road users is as described for *viewpoint 4*: for **medium to low** sensitivity receptors, on completion the effect would be of **small** magnitude and **minor-to-negligible adverse** significance; and in the medium-to-long-term, the effect would reduce to **negligible**.

5.2.21. As indicated by *viewpoint 6* on Mill Road, Ingleborough (1.95 km to the south of the Site), the effects users of Mill Road on completion and in the medium-to-long-term would be **negligible**.

Public Rights of Way

5.2.22. The sensitivity of users of all PROWs near the Proposed Development would be **high to medium** as there is likely to be some appreciation of the landscape and immediate surroundings close to settlement when using the local footpaths. All receptors discussed below are on local rights of way. The Nene Way is a long-distance route which follows local rights of way or permissive paths. The study area does not contain any specific viewpoints noted on OS mapping or identified in the KLWN landscape character assessment.

5.2.23. Effects on users of PROWs near the Site are summarized in **Table 5.3**. Rights of way are shown on **Figures 3a** and **3b**.

Table 5.3: Visual Effects on Users of Rights of Way

Viewpoint	Effect
Walpole St Peter Footpath 1 *Crosses the Site from east to west*	*Site viewpoint B* is located on this footpath and *Site viewpoint A* is located on the River Nene flood embankment just beyond the western end of the footpath but looking down the alignment of the footpath to the east (**Figures 8A** and **8B**). This footpath runs west from Walpole Marsh (Bridleway 2) and crosses through the eastern part of the solar farm. The western 200 m of this path rise onto the River Nene flood embankment and offer views very similar to those illustrated by Site viewpoint A.[3] For ca. 550 m from the eastern Site boundary, the path would be immersed within the solar farm, with panels beyond fencing on both sides of the route. Along the western section of the northern boundary, the path would have panels and fencing to the south for ca. 370 m, with the new hedgerow to the north. The Proposed Development would fill the foreground of views and screen views from beyond the Site. The solar PV panels would be seen in the near view (**Figure 9.1**) with views ranging from side-on to end-on. With the proposed tracking system, the panels would be seen with the front face tilting towards the east during the first part of the day. By the middle of the day they would be seen as flat, horizontal panels, with clearer views to the supporting structures and at a lower overall height. Later in the day they would be seen with the front face tilting westwards. The panels would be seen in the context of existing steel-lattice pylons in the near and middle-distance of the view. The Tydd St Mary wind farm and Sutton Bridge Power Station are also present in this view.

[3] At the time of visiting the Site in May 2021, Walpole St Peter Footpath 1 was not accessible from its western end at the flood levee due to overgrown vegetation. At the eastern end of the path, there was very little disturbance of vegetation in the crop and field margin, suggesting that the right of way is infrequently used.

Viewpoint	Effect
	The Proposed Development would extend the semi-industrialised character seen in near to middle-distance of the view into the foreground. The effect on completion would be **very large** in magnitude. When combined with the **high to medium** sensitivity of the receptors at this point, the significance of visual effects would be **major adverse**. The medium-to-long-term effect would be **very large** in magnitude and **major adverse** in significance.
Walpole St Peter Bridleway 2 *Runs broadly parallel to the southern boundary, ca. 60 to 180 m from the Site*	*Viewpoint 1* is located on this bridleway (**Figures 7.1** and **9.1**). For users of the PROW, this viewpoint would offer a medium-to-long-duration, near view towards the panels located in the southern part of the Site. To the west, the view would remain open along the bridleway and the long field between the bridleway and the Site, with views towards the River Nene. The solar development would be visible over an approximate 1.1 km stretch of this path. The path passes within ca. 140 m of the sub-station and battery storage compound and would offer views of this beyond the southern boundary vegetation (existing and proposed). The panels would fill a horizontal strip across the centre of the view, occupying the space beyond the Site boundary and Gunthorpe Road, where a change in level is perceptible in views. There are stretches of the path where trees on the southern Site boundary would screen or filter views of the PV development. The panels would be seen in the context of existing steel-lattice pylons in the near and middle-distance of the view. The Tydd St Mary wind farm and Sutton Bridge Power Station are also present in this view. The proposed solar panels would be present in a wide arc of views northwards, in places filling much of the view to the west or north (e.g., *viewpoint 1*, **Figure 7.1**). The Proposed Development would extend the semi-industrialised character seen in the near to middle-distance of the view into the foreground. The effect on completion would be **large** in magnitude. When combined with the **high to medium** sensitivity of the receptors at this point, the significance of visual effects would be **major to moderate adverse**. In the medium-to-long-term, the establishment of proposed vegetation along the southern Site boundary would provide screening of the solar panels, filtering views to a greater extent in the summer months when vegetation is in leaf. The medium-to-long-term effect would be **medium** in magnitude and effects would reduce to **moderate adverse**.
Walpole St Peter Footpath 9 *Runs parallel and outside of the western boundary, typically 10 to 15 m from the Site*	*Viewpoint 3* and *Site viewpoint A* are on this route (**Figures 7.3**, **9.3** and **8A**). For users of the PROW at this elevated location on the River Nene embankment to the west, this route would offer a medium duration view of the Proposed Development in a near-distance view. The rows of solar panels would occupy a wide field of view in views to the east of the route over ca. 770 m. The elevated nature of this route is such that there would be views to all components of the scheme, including the sub-station and battery storage compound near the southern boundary, the inverter compounds, and the internal access tracks. While the nature of the proposed tracking system would provide some variation in the view of the panels with the front and rear side of the panels visible at different times of the day, they would largely be perceived as a horizontal built feature at a low-lying point in the flat arable farmland to the east. The panels would sit below the horizon allowing views across the Proposed Development towards the wider surrounding landscape. The panels would be seen in the context of existing steel-lattice pylons which cross the view in the near and middle-distance and in the wider context of the Walpole Bank Substation to the east. As such the Proposed Development would extend the semi-industrialised character already seen in the middle-distance of the view into the foreground of the view. The effect on completion would be **large** in magnitude. When combined with the **high to medium** sensitivity of the receptors at this point, the significance of visual effects is considered to be **major-to-moderate adverse**.

Viewpoint	Effect
	In the medium-to-long-term, the establishment of vegetation on the southern Site boundary would slightly change views beyond the proposed solar array, for example by reducing views to the Walpole Substation. The elevated position of the viewpoint above the western edge of the Proposed Development does however mean that there would be no reduction in the extent of it which would be visible. The medium-to-long-term effect would be **large** in magnitude and effects would be **major-to-moderate adverse**.
Sutton Bridge Bridleway 6/3 *Runs from Sutton Bridge south to the north-western corner of the Site, joining to Walpole St Peter Footpath 9*	The southern end of this route effectively joins with Walpole St Peter Footpath 9 and offers very similar views to those described above. *Site viewpoint A* is located on this route (**Figure 8A**). The proposed development would be visible over a ca. 550 m stretch of this route from *viewpoint 5* (**Figure 7.5**) south to *Site viewpoint A* (**Figure 8A**). On completion, the effect would range from **medium** magnitude and **moderate adverse** significance at *viewpoint 5* to **large** magnitude and **major-to-moderate adverse** significance at *Site viewpoint A*. In the medium-to-long-term, the proposed hedgerow along the northern edge of the Site would soften the appearance of the edge of the Proposed Development in views from the north (*viewpoint 5,* **Figures 7.5.** and **9.5**). Managed to 4 m height, the hedgerow would screen the edge of the development. The elevation of the viewpoint above the flat low-lying landscape means that some development is likely to remain visible. In the medium-to-long-term, from *viewpoint 5* the effect would reduce to **small** magnitude. The significance would be **minor adverse**. Closer to the Site, the elevated position of the *Site viewpoint A* above the western edge of the Proposed Development does however mean that there would be no reduction in the extent of it which would be visible. The medium-to-long-term effect at *Site viewpoint A* would be **large** in magnitude and effects would be **major-to-moderate adverse**. In summary, effects for users of this route would be up to **major-to-moderate adverse** significance on completion and in the medium-to-long-term.
Nene Way long-distance path *Runs along the western embankment of the Nene, ca. 115 m from the Site at its nearest*	The Nene Way follows the River Nene for over 100 miles from Northampton to the Wash. It is located at an approximate minimum distance of 150 m to the west of the Site. The sensitivity of users of this long-distance route is assessed as high to medium. Within the study area, the ZTV indicates some visibility within 1 km over bare-ground (**Figures 5a** to **b**). *Viewpoint 4* (**Figure 7.4**) is located on this route at Foul Anchor. Refer to **Table 5.2** for a description of the effects which would arise at that specific viewpoint. The worst-case views from the Nene Way are demonstrated by *viewpoint 4*, where the effect on completion would be **small** magnitude and **minor adverse** significance. In the medium-to-long-term, the establishment of the hedgerow on the northern boundary would screen views of development in the north-eastern parcel. The visibility of the southern parcel would not reduce in the long-term although changes relating to the proposed vegetation on the southern Site boundary may slightly alter the view. The medium-to-long-term worst-case effect for users of the Nene Way would be **small-to-negligible** magnitude and **minor-to-negligible adverse** significance. Fieldwork has demonstrated that beyond ca. 0.3 km from the Site on the Nene Way, effects would reduce rapidly for people using the route.

6.0 Cumulative Effects

6.1. Scope of the Cumulative Assessment

6.1.1. Potential cumulative assessment schemes (CASs) which could give rise to cumulative landscape or visual effects are shown on **Figure 11** and listed below:

- **Sutton Bridge Solar Farm (SBSF)**: (SH Planning Application H18-1126-20, status: Consented), located ca. 0.9 km north of the Proposed Development. The consent is for, '*Change of use from agricultural land to solar farm and construction and operation of a solar photovoltaic (PV) development with capacity of up to 49.9mw with associated infrastructure and landscaping.*'
- **Walpole Bank Solar Farm (WBSF)**: (KLWN Planning Application 20/01508/FM, status: Consented), located ca. 0.4 km to the south of the Proposed Development. The consent is for, '*Installation of renewable led energy generating station comprising ground-mounted photovoltaic solar arrays and battery-based electricity storage containers together with substation, inverter/transformer stations, site accesses, internal access tracks, security measures, access gates, other ancillary infrastructure, landscaping and biodiversity enhancements*.' The scheme would supply up to 49.9 MW energy.
- **Rose and Crown Solar Farm (RCSF)**: (KLWN Planning Application 14/00283/FM and 14/00057/REF, status: Operational), located approximately 2.1 km south of the Proposed Development. The RCSF scheme comprises the installation of solar PV panels with an export capacity of approximately 30 MW. The scheme also includes a number of associated auxiliary structures including 12 inverter racks and transformers, a substation, a DNO substation, cabling, security fencing and monitoring structures. The solar PV panels and substation structures are up to ca. 2.8 m in height.

Cumulative Landscape Effects

6.1.2. The methodology relating to cumulative landscape and visual assessment is contained in **Appendix 1**.

6.1.3. Cumulative landscape effects and cumulative visual effects (in combination, in succession and in sequence) are assessed in **Table 6.1**.

6.1.4. Relevant figures include **Figure 11**, which shows the locations of the CASs and **Figures 12a/b** and **13a/b**, which show cumulative ZTVs (CZTVs) with the SBSF and WBSF schemes. A CZTV is not shown with the RCSF scheme; as this is installed, cumulative assessment for this scheme is based on fieldwork.

Table 6.1: Cumulative Landscape and Visual Effects with the Proposed Development

Cumulative Scheme	**Landscape** (cumulative effects on the landscape)	**Visual: In combination** (static viewpoint: combined in same field of view)	**Visual: In succession** (static viewpoint: different fields of view)	**Visual: In sequence** (views experienced moving through the landscape)
Sutton Bridge Solar Farm 0.9 km north of the Proposed Development, Consented Ca. 119 ha and up to 49.9 MW capacity	The ZTV for SBSF (**Figure 12a**) and CZTV (**Figure 12b**) together indicate that the main cumulative landscape effects would arise in the farmland to the north of Gunthorpe Road. This landscape is already strongly influenced by energy infrastructure (views of Tydd St Mary wind farm; of multiple steel-lattice pylons; and of the Sutton Bridge power station). Fieldwork indicates that hedgerows and the raised Gunthorpe Road would serve to limit cumulative landscape effects. The Proposed Development would give rise to an effect of **small to medium** magnitude. For the host LCA (low-to – medium sensitivity receptor (LMSR)), the effect would be of **minor adverse** significance.	The CZTV indicates *theoretical* views in combination from Walpole St Peter Footpath 9 for users heading north on the path. In these views, the Proposed Development would be visible in the foreground, with SBSF present in the far distance to the north. In practice, intervening landscape features along the edge of the River Nene and on Gunthorpe Road would screen views in combination. Effects in combination would be **negligible**.	Views in succession would be possible from points on Gunthorpe Road where roadside vegetation allows views both to the north to SBSF and to the south to the Proposed Development. Such views would be possible from Gunthorpe Road up to ca. 0.3 km west of Wingland Farm. The SBSF would be present in the middle-distance of views, being ca. 0.7 km from this stretch of Gunthorpe Road. The Proposed Development would be ca. 0.15 km from the road, occupying the near to middle-distance in views south. For road users (LMSRs), the effect in succession would be **small** in magnitude and **minor adverse** in significance.	Present mainly in sequence on a journey heading west along Gunthorpe Road and then heading north-north-east on the road on the eastern bank of the River Nene. West of Walpole Marsh, the Proposed Development would be the main scheme in view to the south from Gunthorpe Road (with views in succession to SBSF). After turning north next to the River Nene (from which point there would no longer be views of the Proposed Development), the SBSF would increasingly come into view, with the road passing the western end of the SBSF scheme ca. 0.75 km north of the turn in the road. For road users (LMSRs) The sequential effect would be **small** in magnitude and **minor adverse** in significance.
Walpole Bank Solar Farm 0.4 km south of the Proposed Development, Consented Ca. 56 ha and up to 49.9 MW capacity	The ZTV for WBSF (**Figure 13a**) and the CZTV (**Figure 13b**) show that the main cumulative landscape effects would arise between Mill Road to the south, Gunthorpe Road to the north, the River Nene to the west, and Walpole Marsh to the east. As is demonstrated by *viewpoint 6*, with distance from proposed solar development, it is a form of	From points to the south of WBSF, the Proposed Development would in theory be visible to the north in the distance beyond the WBSF. In practice, the WBSF would be the focus of views from areas such as Mill Road near the Walpole Bank sub-station (548795 316258; *viewpoint 5a* from the LVIA for WBSF), and the Proposed Development would tend to go unnoticed. The same would	The principal views in succession would be from Walpole St Peter Bridleway 2, from where the Proposed Development would be visible to the north (*viewpoint 1*, **Figure 7.1**; moderate adverse medium-to-long-term *in solus* effect); and the WBSF would be visible to the south (*viewpoint 1* for the WBSF; minor adverse medium-to-long-term *in solus* effect).	The worst-case effect in sequence would arise on a journey made on Sutton Bridge Bridleway 6/3 south, continuing on Walpole St Peter Footpath 9, and then heading east on Walpole St Peter Bridleway 2. Sutton Bridge Bridleway 6/3 and Walpole St Peter Footpath 9 pass directly along the western boundary of the Proposed Development, with medium

Cumulative Scheme	**Landscape** (cumulative effects on the landscape)	**Visual: In combination** (static viewpoint: combined in same field of view)	**Visual: In succession** (static viewpoint: different fields of view)	**Visual: In sequence** (views experienced moving through the landscape)
	development which becomes recessive in this large-scale landscape. The Proposed Development would give rise to an effect of **medium** magnitude. For the host LCA (LMSR), the effect would be of **moderate to minor adverse** significance.	be true in views south from Gunthorpe Road, where *theoretical* views in combination could arise. In practice, the WBSF would tend to go unnoticed. Effects in combination would be **negligible**.	The effect in succession would be of **medium** magnitude. For users of the bridleway (high to medium sensitivity receptors (HMSRs)) the effect in succession would be of **moderate adverse** significance.	duration views being possible. On turning onto Bridleway 2 to head east towards Walpole Marsh (546907 316883) there would be middle-distance views towards the WBSF, 0.55 km to the south-east. These views to the WBSF would continue for ca. 0.5 km during which time there would be views to the Proposed Development in succession with WBSF, and thereafter for ca. 0.5 km, views to the Proposed Development on its own. The in sequence effect for footpath users would be of medium to long duration with few gaps with no solar development in view. The in sequence effect would be **medium** magnitude and **major-to-moderate adverse** significance.
Rose and Crown Solar Farm 2.1 km South of the Proposed Development Ca. 57 ha, Capacity unknown	Fieldwork supports the conclusion that the RCSF occupies a different part of the host LCA. Cumulative landscape effects would be **negligible**.	No views in combination would arise.	From Mill Road near the Walpole Bank substation, the RCSF is visible to the south-west. There would theoretically be views beyond WBSF to the Proposed Development. In practice, the Proposed Development would go unnoticed in the background of views from this area. Effects in succession would be **negligible**.	It would be possible to undertake a journey as follows: Mill Road towards Ingleborough Farm, passing within 0.35 km of the RCSF to the south and with a short duration gap within 0.1 km of the WBSF; after a longer gap of ca. 2.9 km after heading north-west through Walpole Marsh, there would be views of the Proposed Development 0.15 km to the south from Gunthorpe Road, these views continuing for ca. 1 km of Gunthorpe Road before the road turns northwards; and at the same time on this

Cumulative Scheme	**Landscape** (cumulative effects on the landscape)	**Visual: In combination** (static viewpoint: combined in same field of view)	**Visual: In succession** (static viewpoint: different fields of view)	**Visual: In sequence** (views experienced moving through the landscape)
				stretch, there are glimpsed views of SBSF 0.7 km to the north. Continuing north next to the River Nene, there would be further views of SBSF on passing its western boundary. The sequential effect with the Proposed Development would be **minor adverse**.
Overall cumulative effects	**Cumulative landscape effects** All direct and indirect effects would arise within the LCA *D3 - Terrington St John* (*Settled Inland Marshes* LCT), or the equivalent LCT within South Holland District[4]. The four schemes would occupy 305 ha of the LCA/LCT, the total area of which is ca. 6000 ha. This indicates that ca. 5 per cent of the LCA/LCT would contain field-scale solar PV development were all four schemes to be consented and installed. The character of the landscape is already influenced by energy infrastructure (the Walpole Bank substation with recent extension projects; multiple steel-lattice pylons; the Tydd St Mary wind farm; the Sutton Bridge power station) and the CASs would increase the influence of energy development on local character. The overall cumulative landscape effect of the four schemes, including the Proposed Development, on the LCA /LCT (LMSR) would be of **medium** magnitude and **moderate to minor adverse** significance. The Proposed Development due to its extent would contribute ca. 25 per cent of this effect. Indirect cumulative landscape effects on surrounding LCAs/LCTs would be negligible.		**Cumulative visual effects** Views of solar schemes would become more frequent and characteristic of the host LCA/LCTs. These would sometimes occur in combination or in succession due to the relative proximity of the schemes. Sequential views of solar development would become more noticeable in local journeys, although often these would not involve all four CASs considered in this assessment. Note that fieldwork demonstrates that the host landscape has good capacity for absorbing large, field-scale solar development due to its scale, flatness, and rectilinear field structure, and the strongly horizontal, low-lying form of the PV development. Any vegetation or landform present in the landscape (e.g. the changes in level at the River Nene flood embankments or at raised roads such as Gunthorpe Road or Mill Road) serves to contain PV development in sub-areas of the landscape so that PV development is not typically a dominant feature in longer views. Overall, the cumulative visual effects relating to the four CASs assessed would be **minor adverse**, with the Proposed Development contributing to ca. 25 per cent of these.	

[4] The character of the *Settled Fens* LCT in the South Holland part of the study area is contiguous with that of *The Fens – Settled Inland Marshes* LCT described for KLWN.

7.0 Summary and Conclusions

7.1. Baseline

7.1.1. Landscape Visual Limited was appointed to prepare an LVIA for a solar PV scheme on land south of Gunthorpe Road, Walpole Marsh, Wisbech ('the Site').

The Landscape Context and Site Landscape

7.1.2. The Site lies immediately to the west of Walpole Marsh in KLWN (Norfolk) and SH (Lincolnshire).

7.1.3. The Site comprises a large-scale, arable field, which in May 2021 contained oil-seed rape and a cereal crop. In the surrounding area, crops can cover a whole or part of a field. The Site also contains steel-lattice pylons from series of high-voltage overhead power lines extending from north to south and east to west. The Site is distinctly flat and low-lying at approximately 4 m AOD.

7.1.4. The Site lies within the *Terrington St John* LCA (KLWN) and the equivalent LCT within SH.

7.1.5. The Site does not lie within any landscape designations and does not contain any designated cultural heritage. There are, however, several NHLE assets scattered in the wider landscape surrounding the Site (**Figure 4**).

Landscape Value

7.1.6. The overall character of the Site and surrounding area is defined by the large-scale, open, typically rectilinear arable fieldscape, where fields are divided by ditch and dyke boundaries. This provides wide panoramas to flat, low-lying horizons, which appear cluttered with a mix of natural and built elements. Raised river embankments are distinctive features of this landscape. The local character of the landscape is also strongly influenced by the Walpole Substation, with series of steel-lattice pylons of differing scales extending from the substation across the wider landscape in all directions. There are also wider views towards other energy generating infrastructure to the north including wind turbines and the Sutton Bridge Power Station. A PROW crosses the Site and another runs just along the western boundary on the River Nene's embankment. Overall, the value of the landscape of the Site and the surrounding area is

considered to be **medium to low**.

Visibility of the Site from the Surrounding Area

7.1.7. Fieldwork and desk study using ZTVs has confirmed the following patterns:

- The Site is visible from adjacent areas of open farmland to the north, east and south of the Site.
- Raised embankments associated with the River Nene watercourse limit further visibility from the west while raised local roads restrict views from the north.
- With intervening surface features such as vegetation and buildings taken into account these views are typically limited to within 1 km to the north, the immediate vicinity of the Site to the east and west, and extending up to 2 km to the south. The large-scale landscape absorbs low, linear features with distance so that they quickly become background features in the landscape.

Potential Visual Receptors

7.1.8. Potential visual receptors include:

- Users of Walpole St Peter Footpaths 1 and 9, Bridleway 2, Sutton Bridge Bridleway 6/3, and the River Nene Way.
- Users of Gunthorpe Road, King John Bank, and Front Road at Foul Anchor.
- Residents of settlement at Walpole Marsh and Foul Anchor.

7.2. The Proposed Development

7.2.1. The Proposed Development is described in **Section 4**. It comprises a solar array on a tracking system, arranged in rows from north to south. The solar PV panels would be 3 m in height. The Proposed Development also includes a 24-unit battery storage installation positioned midway along the southern boundary, along with 11 inverter/transformer units, a substation, deer fencing, and CCTV masts.

7.2.2. Approximately 1600 m of new hedgerows would be planted, and ca. 1600 m of existing tree belts would be enhanced (see **Figure 10**).

7.3. Landscape Effects

Sensitivity of the Site and Surrounding Area

7.3.1. The following factors are considered relevant with respect to the susceptibility of the

landscape to the Proposed Development:

- The distinctly flat topography combines with wider patterns of earthwork embankments associated with watercourses or roads to provide simple landform context and to reduce susceptibility.
- The largely rectilinear field pattern of the Site and surrounding area can contain a development with strongly linear features.
- The presence of some hedgerows, tree belts and shelterbelts along some field boundaries in the landscape beyond the Site, particularly around settlement, provides an appropriate context for vegetation to be included as part of the Proposed Development.
- High-voltage power lines and steel-lattice and wooden pylons cross the Site. There are distant views towards telecommunication masts, Tydd St Mary Wind Farm and the Sutton Bridge Power Station. All these built elements are notable features in the landscape and reduce the susceptibility of the landscape to harm arising from the Proposed Development.

7.3.2. The local landscape has a **medium to low** value and a **low** susceptibility to the Proposed Development. The KLLCA report does not note levels of sensitivity for the host landscape character areas (LCA *D3 - Terrington St John*) but does note inherent sensitivities relating to *'wide panoramic views'*, historic integrity relating to the *'historic drainage network*' and tranquility. Overall, this analysis supports the conclusion that the landscape of the Site and the immediate surrounding area has a **medium to low** sensitivity to the proposed development.

Summary of Landscape Effects

7.3.3. The landscape effects of the development are described in full in **Section 5.1** of this report.

7.3.4. The assessment considers scale, extent and duration/reversibility as key aspects of the magnitude of landscape and visual effects. For the proposed development, these considerations are as follows:

- *Scale:* The scale of existing landscape elements that would be lost and the scale of change that would arise from the introduction of new elements is considered

to be medium to small.

- *Extent:* The extent of the impact of the Proposed Development would largely be contained within the Site itself and to parts of the local landscape within a 0.5 km radius of the Site. There would be minor effects on the wider setting of the Site.
- *Duration:* The Proposed Development would be operational for a period of 35 years and the duration of effects arising would, therefore, be medium-to-long-term when considering the establishment of mitigation.
- *Reversibility:* The impact of the development could be reversed in the future with removal of the solar PV development from the Site.

7.3.5. The following table gives a summary of landscape effects which would arise.

Table 7.1: Summary of Landscape Effects
(principal effects are those above moderate and are shaded in grey)

Receptor	Phase	Magnitude of Effect	Significance	Nature of Effect
Site (medium to low sensitivity) *Direct effects on fabric and character*	Completion	Medium	Moderate-to-minor	Adverse
	Medium-to-long-term	Medium	Moderate-to-minor	Adverse
Surrounding area in the LCA *D3 – Terrington St. John* (*Settled Inland Marshes* LCT) and the equivalent contiguous LCT in South Holland District (medium to low sensitivity) *Indirect effects on character*	Completion	Small	Minor	Adverse
	Medium-to-long-term	Very small to negligible	Negligible	-

7.4. Visual Effects

7.4.1. The visual assessment (**Section 5.2**) refers to six representative viewpoints (**Figures 7.1** to **7.6**), ZTV plans (**Figures 5a** to **d**) and photomontages (**Figures 9.1**, **9.3** and **9.5**).

- The main area of *theoretical* views lies within 0.5 km to the north and north-east, 0.2 km to the east and west, extending up to 2 km to the south.
- Immediately to the west of the Site, raised embankments associated with the River Nene watercourse limit further visibility from the west. Gunthorpe Road is raised and restricts views from the north.
- Vegetation and built features would screen and heavily filter views from the nearest settlement at Walpole Marsh to the east.

7.4.2. Fieldwork undertaken in the landscape surrounding the Site confirms that the visibility of the Site is more limited than as illustrated by the ZTV plans, due to the screening effects of field-boundary vegetation, which includes outgrown and unclipped hedgerows and hedge trees. In this very flat, low-lying landscape, which often has wide, distant horizons, low-level development of a horizontal form is absorbed into views, rapidly becoming a background feature of the landscape with increasing distance.

Summary of Visual Effects

7.4.3. The following table provides a summary of effects on views from nearby settlement, roads and PROWs.

Table 7.2: Summary of Visual Effects
(principal effects are those above moderate and are shaded in grey)

Receptor	Phase	Magnitude of Effect	Significance	Nature of Effect
Residents of nearby settlement (high to medium sensitivity receptors)				
Walpole Marsh: Gunthorpe Road West of Junction with The Marsh and St. John Bank *0.1 to 0.3 km to the north-east of the Proposed Development*	Completion	Small	Minor	Adverse
	Medium-to-long-term	Small-to-negligible	Minor-to-negligible	Adverse
Walpole Marsh: Flower Farm to Model Cottage on The Marsh *0.15 to 0.2 km to the south-east the Proposed Development*	Completion	*Up to* Medium	*Up to* Moderate	Adverse
	Medium-to-long-term	*Up to* Small	*Up to* Minor	Adverse
Foul Anchor *0.2 to 0.3 km to the west of the Proposed Development*	Completion	Small	Minor	Adverse
	Medium-to-long-term	Small	Minor	Adverse
Mill Road: Rose Hall, Roman Bank House, Ingleborough Farm, Crown Farm, Hill House Farm *1.8 to 2 km to the south of the Proposed Development*	Completion	Negligible	Negligible	-
	Medium-to-long-term	Negligible	Negligible	-
Road users (low to medium sensitivity receptors)				
Gunthorpe Road *170 m from the Proposed Development at its nearest*	Completion	Large to medium	Moderate	Adverse
	Medium-to-long-term	Medium	Moderate-to-minor	Adverse
Front Road, Foul Anchor *160 m west of the Proposed Development at its nearest*	Completion	Small	Minor-to-negligible	Adverse
	Medium-to-long-term	Negligible	Negligible	-

Receptor	Phase	Magnitude of Effect	Significance	Nature of Effect
Mill Road, Ingleborough *1.95 km south of the Site*	Completion	Negligible	Negligible	-
	Medium-to-long-term	Negligible	Negligible	-
Users of PROWs (high to medium sensitivity receptors)				
Walpole St Peter Footpath 1 *Crosses the Site from east to west*	Completion	Very large	**Major**	**Adverse**
	Medium-to-long-term	Very large	**Major**	**Adverse**
Walpole St Peter Bridleway 2 *Runs broadly parallel to the southern boundary, ca. 60 to 180 m from the Site*	Completion	Large	**Major-to-moderate**	**Adverse**
	Medium-to-long-term	Medium	Moderate	Adverse
Walpole St Peter Footpath 9 *Runs parallel and outside of the western boundary, typically 10 to 15 m from the Site*	Completion	Large	**Major-to-moderate**	**Adverse**
	Medium-to-long-term	Large	**Major-to-moderate**	**Adverse**
Sutton Bridge Bridleway 6/3 *Runs from Sutton Bridge south to the north-western corner of the Site, joining to Walpole St Peter Footpath 9*	Completion	*Up to* Large	*Up to* **Major-to-moderate**	**Adverse**
	Medium-to-long-term	*Up to* Large	*Up to* **Major-to-moderate**	**Adverse**
Nene Way long-distance path *Runs along the western embankment of the Nene, ca. 115 m from the Site at its nearest*	Completion	Medium	Moderate	Adverse
	Medium-to-long-term	Small	Minor	Adverse

7.5. Cumulative Effects

7.5.1. This assessment has considered the cumulative landscape and visual effects of the Proposed Development with three other large-scale solar schemes:

- **Sutton Bridge Solar Farm**: Consented, located ca. 0.9 km north of the Proposed Development.
- **Walpole Bank Solar Farm**: Consented, located ca. 0.4 km to the south of the Proposed Development.
- **Rose and Crown Farm Solar Farm**: Operational, located approximately 2.1 km south of the Proposed Development.

Cumulative landscape effects

7.5.2. All direct and indirect effects would arise within the LCA *D3 - Terrington St John* (*Settled*

Inland Marshes LCT), or the equivalent LCT within South Holland District[5]. The four schemes would occupy 305 ha of the LCA/LCT, the total area of which is ca. 6000 ha. This indicates that ca. 5 per cent of the LCA/LCT would contain field-scale solar PV development were all four schemes to be consented and installed. The character of the landscape is already influenced by energy infrastructure (the Walpole Bank substation with recent extension projects; multiple steel-lattice pylons; the Tydd St Mary wind farm; the Sutton Bridge power station) and the CASs would increase the influence of energy development on local character. The overall cumulative effects of the four solar PV schemes assessed in this report would be **moderate-to-minor adverse**. The Proposed Development would contribute ca. 25 per cent of this effect.

Cumulative visual effects

7.5.3. Views of solar schemes would become more frequent and characteristic of the host LCA/LCTs. These would sometimes occur in combination or in succession due to the relative proximity of the schemes. Sequential views of solar development would become more noticeable in local journeys, although often these would not involve all four CASs considered in this assessment.

7.5.4. Note that fieldwork demonstrates that the host landscape has good capacity for absorbing large, field-scale solar development due to its scale, flatness, and rectilinear field structure, and the strongly horizontal, low-lying form of the PV development. Any vegetation or landform present in the landscape (e.g. the changes in level at the River Nene flood embankments or at raised roads such as Gunthorpe Road or Mill Road) serves to contain PV development in sub-areas of the landscape so that PV development is not typically a dominant feature in longer views. Overall, the cumulative visual effects relating to the four CASs assessed would be **minor adverse**, with the Proposed Development contributing to ca. 25 per cent of these.

[5] The character of the *Settled Fens* LCT in the South Holland part of the study area is contiguous with that of *The Fens – Settled Inland Marshes* LCT described for KLWN.

7.6. Conclusions

The Principal Effects of the Proposed Development

7.6.1. The following table summarises the principal effects of the Proposed Development, which are considered to be those which would be of greater than moderate significance at any assessed timescale.

Table 8.3: Summary of Principal Landscape and Visual Effects (principal effects are those above moderate and are shaded in grey)

Receptor / Effect	Phase	Magnitude of Effect	Significance	Nature of Effect
Visual Effects on Users of PROWs (high to medium sensitivity receptors)				
Walpole St Peter Footpath 1 *Crosses the Site from east to west*	Completion	Very large	**Major**	**Adverse**
	Medium-to-long-term	Very large	**Major**	**Adverse**
Walpole St Peter Bridleway 2 *Runs broadly parallel to the southern boundary, ca. 60 to 180 m from the Site*	Completion	Large	**Major-to-moderate**	**Adverse**
	Medium-to-long-term	Medium	Moderate	Adverse
Walpole St Peter Footpath 9 *Runs parallel and outside of the western boundary, typically 10 to 15 m from the Site*	Completion	Large	**Major-to-moderate**	**Adverse**
	Medium-to-long-term	Large	**Major-to-moderate**	**Adverse**
Sutton Bridge Bridleway 6/3 *Runs from Sutton Bridge south to the north-western corner of the Site, joining to Walpole St Peter Footpath 9*	Completion	*Up to* Large	*Up to* **Major-to-moderate**	**Adverse**
	Medium-to-long-term	*Up to* Large	*Up to* **Major-to-moderate**	**Adverse**

Overall Conclusion

7.6.2. The Proposed Development is well located. The nearby substation, overhead power lines and steel-lattice pylons lend a semi-industrialised character to the intensively farmed landscape in the immediate vicinity of the Site. The wider study area also contains a number of industrial landscape features, including structures relating to energy generation. The distinctly-flat, low-lying topography combines with local landcover patterns around settlements and roads to limit or screen all distant views and most middle-distance views towards the Site. The design of the scheme has also incorporated various landscape measures to reduce landscape and visual effects. These include a hedgerow along the northern boundary; infill tree and shrub planting on the southern boundary, which is consistent with existing features present in the landscape; and establishing wildflower meadow areas to the southern edge of the Site, with other

ecological measures throughout.

7.6.3. The majority of landscape and visual effects would arise within the immediate landscape setting of the Site up to ca. 0.5 km distance. Limited effects would occur between ca. 0.5 km and 1 km from the Site, with effects reducing with distance from the Site.

7.6.4. The landscape mitigation proposed (**Figure 10**) and its ongoing management as described in the *Landscape and Ecological Management Plan*, would help to integrate the solar development into the surrounding landscape and reduce views to the Proposed Development on completion. The effectiveness of the mitigation would improve as the proposed vegetation matures. In the medium-to-long-term, the proposed planting would improve the integration of the Proposed Development into the landscape and further reduce the impact on views. The landscape mitigation proposals would also increasingly screen local views towards the Walpole Bank Substation and cumulative schemes, including in particular the consented WBSF.

7.6.5. The significance of direct landscape effects arising from the Proposed Development would be **moderate to minor adverse**.

7.6.6. The significance of indirect landscape effects on the surrounding landscape would be **minor adverse** on completion and **negligible** in the medium-to-long-term.

7.6.7. The main visual effects would arise for users of PROWs which cross the Site or run along or near to its boundaries or along the River Nene's flood embankments.

7.6.8. Effects of up to **major adverse** significance would arise for users Walpole St Peter Footpath 1, which runs through the Site, due to the near proximity of views to the Proposed Development. Fieldwork undertaken in May 2021 indicates that this path is not frequently used.

7.6.9. Effects of up to **major-to-moderate adverse** significance would arise for users of paths beyond the Site, including Walpole Bridleway 2 and Footpath 9, and Sutton Bridge Bridleway 6/3. In the long-term, visual effects on users of the routes on the River Nene flood embankments (Footpath 9 and Bridleway 6/3) are not possible to mitigate, due to the elevated nature of the routes. Note, however, that from these elevated routes, views to the wider landscape beyond the solar array would be retained, with the Proposed Development occupying the low foreground of views in one

direction only. Effects on users of Bridleway 2 would reduce in the medium-to-long term as the proposed vegetation on the southern boundary matures.

7.6.10. In the surrounding landscape, the Proposed Development would extend the semi-industrialised, rural character already seen in near and middle-distance views. This would be a moderate change from the existing situation. The Proposed Development provides a balance between the addition of new low-lying built PV elements, with some improvements to the landcover pattern on the Site boundaries.

7.6.11. Cumulative effects with three other nearby energy infrastructure projects have been considered in this assessment. The cumulative landscape effects on the host LCA would be **moderate-to-minor adverse**. The cumulative visual effects relating to the four schemes assessed would be noticeable but less than significant: overall effects would be **minor adverse**. The Proposed Development would contribute approximately 25 per cent of the cumulative landscape and visual effects.

7.6.12. The assessment concludes that, while some effects would be noticeable in the immediate vicinity of the Site, there is capacity for the landscape to accommodate the Proposed Development without causing landscape or visual harm to the wider surrounding area either as an individual scheme or cumulatively with other similar developments. The landscape and visual effects as assessed would be limited in scale and extent and some effects would reduce over time as the proposed mitigation planting matures. The effects would be wholly reversible with the removal of the Proposed Development and the reinstatement of present land management.

Appendix 1: Methodology

Scope of Landscape and Visual Impact Assessment and this Study

The European Landscape Convention (ELC) defines landscape as, *'…an area, as perceived by people, whose character is the result of the action or interaction of natural and/or human factors*' (Council of Europe, 2000). The ELC supports a holistic approach to landscape planning and covers, '*…natural, rural, urban and peri-urban areas. It includes land, inland water and marine areas. It concerns landscapes that might be considered outstanding as well as everyday or degraded landscapes.*'

LVIA considers landscape and visual effects separately as '*related but very different considerations*' (LI and IEMA, 2013[i]; paragraph 2.20):

- **Landscape assessment** considers the effects of the proposed development on the landscape as a resource.
- **Visual assessment** considers the effects of the proposed development on specific views and on the general visual amenity experienced by people.

The scope of LVIA is derived from the Town and Country Planning (Environmental Impact Assessment (EIA)) Regulations 2011, Schedule 4 of which states that EIA must include: '*A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development*…' With respect to landscape and views, an LVIA typically considers the direct and indirect effects of a proposal, its potential cumulative effects, considers the changes which would arise over time, and whether those changes would be beneficial, neutral or adverse.

The proposed development has been screened as not requiring EIA. The study is a full LVIA and is provided as an independent and impartial assessment of the landscape and visual effects that would arise as a result of the proposed development. This LVIA considers the existing landscape, the sensitivity of landscape and visual receptors, and considers the magnitude and significance of landscape and visual effects which could arise. The approach followed is in line with guidance provided by the Landscape Institute (*GLVIA3 Statement of Clarification 1/13 10-06-13*).

This methodology is structured as follows:

A1.1 Study Area

The study area has been determined through fieldwork and desk study and has been informed by the appraisal itself. The study area is in proportion with the zone in which the principal landscape or visual effects could arise. Preliminary ZTVs were used to establish a preliminary 3 km radius area for desk study. In the landscape surrounding the Site, fieldwork indicated that topography and woodland mean that the principal landscape or visual effects of this development would be more local than this. Accordingly, the focus of this report is on receptors within 1.5 km of the Site. To keep the scope proportionate, only receptors within the study area for which or for whom noticeable effects could arise are considered.

A1.2 The Nature of Landscape and Visual Effects

Direct and Indirect Effects

The landscape and visual resource of an area can be affected both directly and indirectly. Visual impacts are always direct because an object needs to be seen for a visual impact to arise. Landscape impacts on the other hand can be either direct or indirect. Change which affects on-site physical features (i.e. vegetation, buildings and landform), or the character area in which the Site is located, is direct, whereas an impact on the character of surrounding landscape character areas is indirect. Indirect impacts tend to be less significant than direct ones.

In general, the scope of this LVIA is:

- **Direct** (primary) effects on landscape features, the character of the Site, and views; and
- **Indirect** (secondary) effects on the surrounding landscape character.

Cumulative Effects

The nature of cumulative landscape and visual effects are described in detail in section 7 of LI and IEMA (2013). As a summary, the following cumulative effects could potentially arise with two or more developments (terms used are from Scottish Natural Heritage (SNH) (2012); pages 10/11, see also footnote 6):

- **Cumulative landscape** effects: where two or more projects in combination create new landscape types (e.g. similar to large-scale afforestation). Landscape effects are not necessarily negative and may include other pressures such as longer-term incremental change.
- **Combined visual** effects: where it is possible to see two or more projects from one location, either *in combination* (in the viewer's same field of view at any one time), or *in succession* (in different fields of view from the same location).
- **Sequential visual** effects: where the viewer has to move through the landscape to see different projects.

As with landscape and visual effects, cumulative effects vary depending on the sensitivity of the receptor and the magnitude of the change in terms of the scale, nature, duration, frequency of combined and sequential views (glimpses or more prolonged views; oblique, filtered or more direct views; time separation between sequential views). Cumulative effects also vary depending on the relative impact of each project with respect to visual amenity.

Assessment Timescales

In this assessment, potential effects are considered according to the following timescales, which allow an understanding of the changes which may occur in the landscape as a result of the development over time, and judgements to be made about the duration and reversibility of effects (see also the **Section A1.3B** on 'Magnitude' below):

- **During construction**: focussing on specific construction-related landscape and

[6] Much of the expertise in cumulative assessment in recent practice is derived from LVIAs of wind farms which can have significant cumulative effects. SNH have led much of the research in this field, and while guidance on wind farms or SNH's influence is not specifically relevant to this LVIA, the thinking as set out by SNH is transferable to other forms of development and this report.

visual effects.

- **On completion**: the effects when the construction phase is complete and the operational phase of the project starts.
- **Medium-term**: taken to be up to 15 years post completion: this timescale allows the assessment to consider effects once the mitigation vegetation proposed for the Site has become established and has been managed to the stipulated height.
- **Long-term**: taken to be 15-35 years post completion and for the duration of the operational life of the Proposed Development.

Adverse, Beneficial and Neutral Effects

The methodological background to whether effects are adverse, beneficial or neutral is based on the aim for assessment work to influence a proposed development to reduce adverse effects:

> *'In reporting on the significance of the identified effects the main aim should be to draw out the key issues and ensure that the significance of the effects and scope for reducing any negative/adverse effects are properly understood by the public and the competent authority before it makes its decision'* (LI and IEMA, 2013; paragraph 3.35).

Whether effects should be adverse, beneficial or neutral is recognised as a 'challenging' aspect of assessment (LI and IEMA, 2013; 5.37). Further methodological background is provided in paragraphs 5.37 and 6.29 for landscape and visual effects respectively.

> *'One of the more challenging issues is deciding whether the landscape effects should be categorised as positive or negative. It is also possible for effects to be neutral in their consequences for the landscape. An informed professional judgement should be made about this and the criteria used in reaching the judgement should be clearly stated. They might include, but should not be restricted to:*
>
> - *The degree to which the proposal fits with existing character;*
> - *The contribution to the landscape that the development may make in its own right, usually by virtue of good design, even if it is in contrast to existing character.'* (LI and IEMA, 2013; paragraph 5.37).
>
> *'As with landscape effects an informed professional judgement should be made as to whether the visual effects can be described as positive or negative (or in some cases neutral) in their consequences for views and visual amenity. This will need to be based on a judgement about whether the changes will affect the quality of the visual experience for those groups of people who will see the changes, given the nature of*

their existing views.' (LI and IEMA, 2013; paragraph 6.29).

Effects in this assessment are described as follows:

- **Adverse**, for example the loss of valuable landscape elements, degradation of landscape character or loss of integrity in terms of designated landscapes.
- **Beneficial**, for example the removal of inappropriate or damaging landscape elements, enhancement of key landscape elements and landscape character, or introduction of positive landscape elements.
- **Neutral** effects are those which are on balance neither adverse nor beneficial. Neutral may reflect an absence of harm. Neutral may sometimes be used as a judgement where there are both adverse and beneficial aspects of an effect.

The decision regarding whether effects are adverse, beneficial or neutral is set out in the conclusions for effects of greater than negligible magnitude and is made using professional judgement and separately to the determination of their magnitude.

For adverse landscape or visual effects, mitigation is described or recommended (proposals for preventing/avoiding, reducing, or offsetting or compensating for the adverse effects), or has been recommended during previous iterations of the appraisal. Residual effects remaining after mitigation are summarised at the end of the report.

A1.3 Assessment Criteria

The following are the main terms used in this assessment:

- The **sensitivity** of receptors (landscape or visual)[7], which depends upon the value attached to the landscape or view and the susceptibility to harm due to the development proposal.
- The **magnitude** of an effect (the change brought about by the development proposal), which depends upon the scale and geographical extent of the change, and its duration and reversibility.

[7] Landscape receptors are *'defined aspects of the landscape resource that have the potential to be affected by a proposal.'* Visual receptors are *'individuals and/or defined groups of people who have the potential to be affected by a proposal.'* (From the glossary to LI and IEMA, 2013).

The above are determined using a combination of quantitative (objective) and qualitative (subjective) methods, and are assessed using professional judgement.

A. Sensitivity

The sensitivity of landscape receptors depends primarily upon the value attached to the landscape and the landscape's susceptibility to the development proposal.

Landscape Value

'*Landscapes and their component parts may be valued at the community, local, national or international levels… A review of existing landscape designations is usually the starting point in understanding landscape value, but the value attached to undesignated landscapes also needs to be carefully considered and individual elements of the landscape – such as trees, buildings or hedgerows – may also have value*' (LI and IEMA, 2013; paragraph 5.19).

The following influence landscape value as determined in this assessment (LI and IEMA, 2013[i]; box 5.1):

- *'**Landscape quality (condition)**: a measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.*
- ***Scenic quality**: The terms used to describe landscapes that appeal primarily to the senses (primarily but not wholly to the visual senses).*
- ***Rarity**: The presence of rare elements or features in the landscape or the presence of a rare Landscape Character Type.*
- ***Representativeness**: Whether the landscape contains a particular character and/or features or elements which are considered particularly important examples.*
- ***Conservation interests**: The presence of features of wildlife, earth science or archaeological or historical and cultural interest can add to the value of the landscape as well as having value in their own right.*
- ***Recreation value**: Evidence that the landscape is valued for recreational activity where experience of the landscape is important.*
- ***Perceptual aspects**: A landscape may be valued for its perceptual qualities, notably wilderness and/or tranquillity.*
- ***Associations**: Some landscapes are associated with particular people, such as artists or writers, or*

events in history that contribute to perceptions of the natural beauty of the area.'

Landscape value is illustrated by scale set out in **Table A1.1**.

Table A1.1: Landscape Value

Value	Typical criteria
High	High landscape quality and scenic quality. Particularly important/representative landscapes or landscape elements. Important conservation interests and recreational value due to landscape quality. Highly-valued perceptual aspects or cultural/historical associations.
Medium	Medium landscape quality and scenic quality. May contain some important/representative elements. May contain some conservation interests and recreational value and/or perceptual aspects or cultural/ historical associations of moderate value.
Low	Low landscape quality and scenic quality. Common landscapes which are not particularly important/representative examples. More limited conservation interests and recreational value and/or more limited perceptual aspects or cultural/historical associations of value.

Landscape Susceptibility

Susceptibility can be defined as, '*the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular landscape type or area, or an individual element and/or feature, or a particular aesthetic or perceptual aspect) to accommodate the proposed development without undue negative consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies*' (LI and IEMA, 2013; paragraph 5.40).

Susceptibility of landscape areas is influenced by their characteristics and is often considered in district or county landscape character assessments or capacity studies. For designated landscapes, susceptibility may also relate to the special qualities for which the designation is made. The activity and expectations of people within landscapes which are used for access or recreation may also influence susceptibility.

Individual assessment of the susceptibility of receptors is made in relation to the specific development proposal as part of the assessment of effects. Landscape susceptibility is determined according the scale set out in **Table A1.2**.

Table A1.2: Landscape Susceptibility

Susceptibility	Typical criteria
High	A low potential to accommodate the specific proposed development without undue negative consequences. A more vulnerable landscape unlikely to be able to accommodate the Proposal with a low risk of harm.
Medium	A moderate potential to accommodate the specific proposed development without undue negative consequences. A moderately vulnerable landscape which may be able to accommodate the Proposal with a low risk of harm.

Susceptibility	Typical criteria
Low	A high potential to accommodate the specific proposed development without undue negative consequences. A less vulnerable landscape likely to be able to accommodate the Proposal with a low risk of harm.

Landscape Sensitivity

Table A1.3 illustrates typical judgements which might be made in assessing landscape receptor sensitivity, which take account of landscape value and landscape susceptibility. It should be noted that, '*there can be complex inter-relationships between the value attached to landscape receptors and their susceptibility to change which are especially important when considering change within or close to designated landscapes*' (LI and IEMA, 2013; paragraph 5.46). For this reason, judgements relating to how value and susceptibility combine to determine sensitivity are made on a case-by-case basis and explained in the assessment as necessary.

Table A1.3: Landscape Sensitivity

Sensitivity	Typical criteria
High	A high-quality landscape of particular importance or representativeness, with important conservation or recreational value and valued perceptual aspects or cultural or historic associations. A landscape valued at an international, national or regional scale. A landscape which has a high susceptibility to the proposed change. Minor changes cannot be accommodated without impact on value and/or loss of character or no more than minor changes can be compensated by replacement or substitution.
Medium	A medium-quality landscape which may contain some important or representative elements, and have some conservation or recreational value, and valued perceptual aspects or cultural or historic associations. A landscape valued at a regional, district or community scale. A landscape of medium susceptibility to the proposed change. Minor to moderate change may be accommodated but needs to be carefully dealt with. Minor changes can be accommodated without impact on value and/or loss of character or moderate changes can be reduced or eliminated by replacement or substitution.
Low	A low-quality landscape which is not particularly important or is representative of a common type with limited conservation or recreational interests, or limited value placed in perceptual aspects or cultural or historic associations. A landscape valued at the district or community scale. Potentially a damaged or derelict landscape. A low susceptibility to the proposed change. Moderate changes can be accommodated without impact on value and/or loss of character or more substantial changes can be reduced or eliminated by replacement or substitution.

Visual Sensitivity

The sensitivity of visual receptors can depend on:

- Their **susceptibility** to change, which is, '*mainly a function of the occupation or activity of people experiencing the view at particular locations and the extent to which their attention or interest may therefore be focussed on the views and the visual amenity they experience at particular locations*' (LI and IEMA, 2013; paragraph 6.32).
- The **value** attached to the view, for example whether it appeals to locals, visitors, or whether it is cited in books, guides and maps, or whether the view might be recognised through planning designations or in relation to heritage designations.

For visual receptors, value and susceptibility are closely related. Individuals or groups of receptors are assessed on a case-by-case basis and the thinking in relation to judgements is recorded in the assessment. **Table A1.4** illustrates the typical judgements which may be made in assessing the sensitivity of visual receptors.

Table A1.4: Visual Receptor Sensitivity (information adapted in part from LI and IEMA, 2013; paragraphs 6.33 and 6.34)

Sensitivity	Typical criteria
High	People at viewpoints in a high-value landscape, recognised in published maps or guides (e.g., visitors to nationally designated areas of public and private open space such as National Parks, AONBs or Heritage Coasts). Residents at home where views contribute to the landscape setting enjoyed by residents. People who are engaged in leisure activities intrinsic to which is an appreciation of the landscape or surroundings, for example users of national trails, long-distance paths or local footpaths through high-valued landscapes. Visitors to heritage assets or other important attractions, or travellers on routes where views are important to the experience.
Medium	People at viewpoints in a medium-value landscape (e.g., visitors to locally designated areas of public and private open space such as Areas of Great Landscape Value, or Country Parks). People who have a moderate interest in their surroundings whilst working or engaged in leisure activities, for example those engaged in outdoor sports such as fishing or golf, or using local footpaths through moderately-valued landscapes, or users of local roads designated as National Cycle Routes or national trails. Travellers on road, rail or other routes may fall into an intermediate category depending on whether travel involves appreciation of the landscape.
Low	People at viewpoints in a low-value landscape. People involved in outdoor sport or recreation not involving or depending upon appreciation of views in the landscape. People at places of work whose attention is focussed on their work or activity, not on their surroundings, and where the setting is not important to quality of working life. People who have a transient interest in the surrounding landscape whilst engaged in other activities, for example while working or travelling through an area on an occasional or functional basis (e.g., users of major roads, employees of businesses and industry, users of local rights of way associated with highways or local routes whose primary function is access between two places).

B. Magnitude

The assessment considers **scale**, **extent** and **duration/reversibility** as key aspects of the magnitude of landscape and visual effects (LI and IEMA, 2013; paragraphs 5.48 and 6.38).

Scale

For **landscape** receptors, scale relates to:

- '*the extent of existing landscape elements that will be lost, the proportion of the total extent that this represents and the contribution of that element to the character of the landscape – in some cases this may be quantified;*
- *the degree to which aesthetic or perceptual aspects of the landscape are altered either by the removal of existing components of the landscape or by addition of new ones – for example, removal of hedges may change a small-scale, intimate landscape into a large-scale, open one, or introduction of new buildings or tall structures may alter open skylines;*
- *whether the effect changes the key characteristics of the landscape, which are critical to its distinctive character*' (LI and IEMA, 2013; paragraph 5.49).

For **visual** receptors, scale relates to:

- '*the scale of the change in the view with respect to the loss or addition of new features in the view and changes in its composition, including the proportion of the view occupied by the proposed development;*
- *the degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, height, colour and texture;*
- *the nature of the view of the proposed development, in terms of the relative amount of time over which it will be experienced and whether views will be full, partial or glimpses*' (LI and IEMA, 2013[i]; paragraph 6.39).

Extent

For **landscape** receptors, extent is the '*geographical area over which the landscape effects will be felt*' (LI and IEMA, 2013; paragraph 5.50). Generally, effects may occur:

- '*at the site level, within the development site itself;*
- *at the level of the immediate setting of the site;*
- *at the scale of the landscape type or character area within which the proposal lies;*
- *on a larger scale, influencing several landscape types or areas.*'

For **visual** receptors extent is likely to reflect:

- '*the angle of view in relation to the main activity of the receptor;*
- *the distance of the viewpoint from the proposed development;*
- *the extent of the area over which the changes would be visible*' (LI and IEMA, 2013; paragraph 6.40).

Duration and reversibility

For both **landscape** and **visual** receptors: '*These are separate but linked considerations. Duration can usually be simply judged on a scale such as short term, medium term, or long term, where, for example, short term might be zero to five years, medium term five to ten years and long term ten to twenty-five years. There is no fixed rule on these definitions…Reversibility is a judgement about the prospects and practicality of the particular effect being reversed in, for example, a generation*' (LI and IEMA, 2013; paragraphs 5.51, 5.52 and 6.41).

Table A1.5 illustrates the judgements made with respect to magnitude, which take account of **scale**, **extent** and **duration/reversibility**. Effects are judged on a case-by-case basis applying professional judgement for the specific project and host landscape.

Table A1.5: Magnitude

	Landscape	**Visual**
	The magnitude of change in relation to ***physical elements and/or landscape character****. Considerations include* ***scale****,* ***extent****, and* ***duration/reversibility****.*	*The magnitude of change in relation to* ***views and/or visual amenity as generally perceived by observers*** *– this is related to the degree of landscape impact magnitude. Considerations include* ***scale****,* ***extent****, and* ***duration/reversibility****.*
Negligible	Indiscernible or barely discernible change - project components would tend to go unnoticed in the wider landscape.	Indiscernible or barely perceptible change - project components would tend to go unnoticed in views.
Small	Small levels of change - project components would be present in the landscape but would generally be perceived as a background component of the wider landscape.	Small levels of change to views - project components would be present in the landscape but as a background component of views and would easily go unnoticed.
Medium	Medium levels of change – project components would be relatively prominent in the landscape but would generally appear subservient to, or in equilibrium with, the prevailing landscape characteristics.	Medium levels of change to views - project components would be relatively prominent but generally subservient, or in equilibrium with, the prevailing landscape characteristics, and would easily be noticed.
Large	Large levels of change – project components would be prominent in the landscape and would generally be perceived as a determining factor of local character.	Large levels of change to views - project components would be prominent, perceived as a determining factor in views, and would be difficult not to notice.

	Landscape	Visual
Very Large	Very large levels of change – project components are very prominent in the landscape and are the determining factor of local character.	Very large levels of change to views – project components would be very prominent, perceived as the determining factor in views, and would be extremely difficult not to notice.

C. Significance

Judgements about the sensitivity of a landscape or visual receptor and the magnitude of a landscape or visual effect are combined to draw conclusions about significance. Note that for both landscape and visual receptors, '*there are no hard and fast rules about what makes a significant effect, and there cannot be a standard approach since circumstances vary with the local and landscape context and with the type of proposal*' (LI and IEMA, 2013[i], paragraphs 5.56 and 6.44).

Landscape Effects

'*Significance can only be defined in relation to each development and its specific location. It is for each assessment to determine how the judgements about the landscape receptors and landscape effects should be combined to arrive at significance and to explain how the conclusions have been derived*' (LI and IEMA, 2013; paragraph 5.54). In broad terms, the significance for landscape effects can be illustrated by the extremes illustrated in the following table.

Table A1.6: Significance of Landscape Effects

More likely to be significant	Major loss or irreversible negative effects, over an extensive area, on elements and/or aesthetic and perceptual aspects that are key to the character of nationally-valued landscapes.
Less likely to be significant	Reversible negative effects of short duration, over a restricted area on elements and/or aesthetic and perceptual aspects that contribute to but are not key characteristics of landscapes of community value.

Visual Effects

'*Significance of visual effects is not absolute and can only be defined in relation to each development and its specific location. It is for each assessment to determine the approach*…' (LI and IEMA, 2013; paragraph 6.42). In broad terms, the significance of visual effects can be illustrated by the extremes in the following table.

Table A1.7: Significance of Visual Effects

More likely to be significant	Effects on people who are particularly sensitive to changes in views and visual amenity.
	Effects on people at recognised and important viewpoints or from recognised scenic routes.
	Large-scale changes which introduce new, uncharacteristic or discordant or intrusive elements.
Less likely to be significant	Effects on people who are less sensitive to changes in views and visual amenity.
	Effects on people at local incidental viewpoints, or from local routes, the primary purpose of which is to connect two places.
	Small-scale changes which introduce forms which are already present and characteristic, or unobtrusive elements.

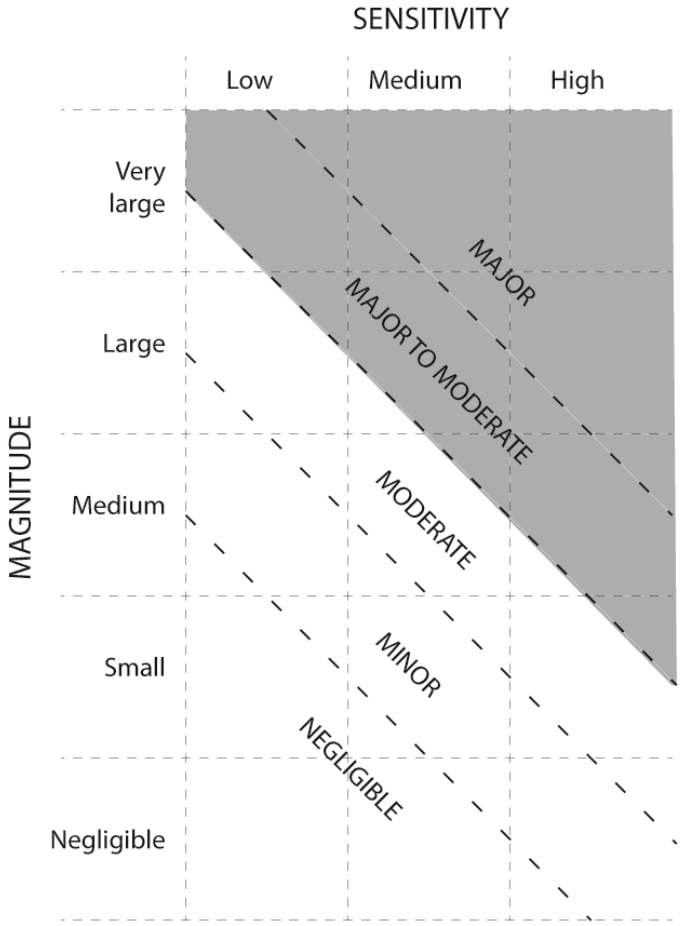
Table A1.8 illustrates how sensitivity and magnitude may combine to determine significance. Judgements are made on a case-by-case basis.

Effects of **moderate/major** or **major** significance (shaded grey in **Table A1.8**) are 'significant' in that they are the principal landscape or visual effects of the Project. The identification of 'significant' effects equally does not necessarily mean that effects would be unacceptable. Effects considered to be 'not significant' are not completely disregarded in the assessment (LI and IEMA, 2013; paragraph 3.34) but are lesser effects which are considered, with professional judgement, to be less important in decisions regarding the landscape and visual effects of the Project.

The significance classifications in **Table A1.8** run diagonally. This reflects that professional judgement is used in determining how sensitivity and magnitude combine to give significance. For example, for a medium sensitivity receptor, an effect of medium magnitude will often but not always give rise to a moderate significance effect; the effect could be judged to be major-to-moderate or moderate-to-minor in some circumstances. The reasoning behind judgements made in the assessment are explained in the assessment text.

Conclusions regarding significance are also expressed in terms of whether effects are adverse, beneficial or neutral as is described under the subheading 'Adverse, Beneficial and Neutral Effects', **Section A1.2** above.

Table A1.8: Significance (Landscape Visual Limited)



A1.4 Residential Amenity

The emphasis of the visual assessment is on publicly available views. Paragraph 6.17 of LI and IEMA (2013) notes that, '*in some instances it may [also] be appropriate to consider private viewpoints, mainly from residential properties…. Effects of development in private property are frequently dealt with mainly through 'residential amenity assessments*". Residential amenity assessments are separate from LVIAs and are normally only provided if it is considered likely at the scoping stage that effects on visual aspects of residential amenity are likely to give rise to likely significant effects. The assessment has not identified this as a concern for this development; no further consideration is given to effects on residential amenity in the LVIA. The assessment considers the changes in views which could arise for groups of properties near the Site based on fieldwork on the Site and in publicly accessible areas.

A1.5 Zone of Theoretical Visibility Analysis

The ZTVs **Figures 5a** and **5b** are 'bareground' ZTVs which take into account the underlying topography. These are based on OS Terrain 5 data.

Figures 5c and **5d** are 'screened' ZTVs, which take into account the underlying topography as well as woodlands, hedgerows, earthworks, buildings and other landscape surface features captured by LIDAR survey. A LIDAR elevation model of the study area was compiled from 1 m resolution Digital Surface Model data (Environment Agency, 2018).

ZTVs were prepared using the Grass version 7.4.1 *r.viewshed* script (Toma, Zhuang, Richard and Metz, 2017). Reference points at a height of 3 m above existing terrain level were located at 10 locations across the Site (corresponding to the maximum height of the PV rows). Viewer height was assumed to be 1.75 m.

The ZTVs should be interpreted with reference to the notes on the ZTV plans.

A1.6 Photomontages

The photomontages (**Figure 9**) were prepared using WindPro (EMD International). The PV array was modelled using the information in **Appendix 2**. The inter-row gap was set at 6 m. The PV panels are illustrated using a generic amorphous / thin film module adjusted to reflect the parameters shown on the elevation drawings. The substructure was created in Sketchup to reflect the elevation drawings. For each viewpoint, three images are shown reflecting the changing tilt of the panels throughout the day.

The PV plant as modelled gives a fair representation of the appearance of the proposed installation in the landscape rather than depicting a detailed, highly-accurate model. The dimensions and scaling of the PV plant is as described on the elevation drawings and is appropriate for this LVIA work.

The back-plate image was obtained with a full frame DSLR with a 50mm lens mounted on a level tripod at 1.6m height. The 75 degree field of view back-plate image was stitched in cylindrical projection using PtGUI.

The underlying terrain model is built from OS Terrain 5 data.

The PV model was matched to the back-plate image using reference points such as pylons and other built features, and by matching the horizon line from the terrain model. Minimal adjustments were made to camera pan, tilt, rotation and field of view to achieve good alignment

of reference points. Rendering was undertaken with lighting settings adjusted to reflect the date and time that the back-plate photograph was taken.

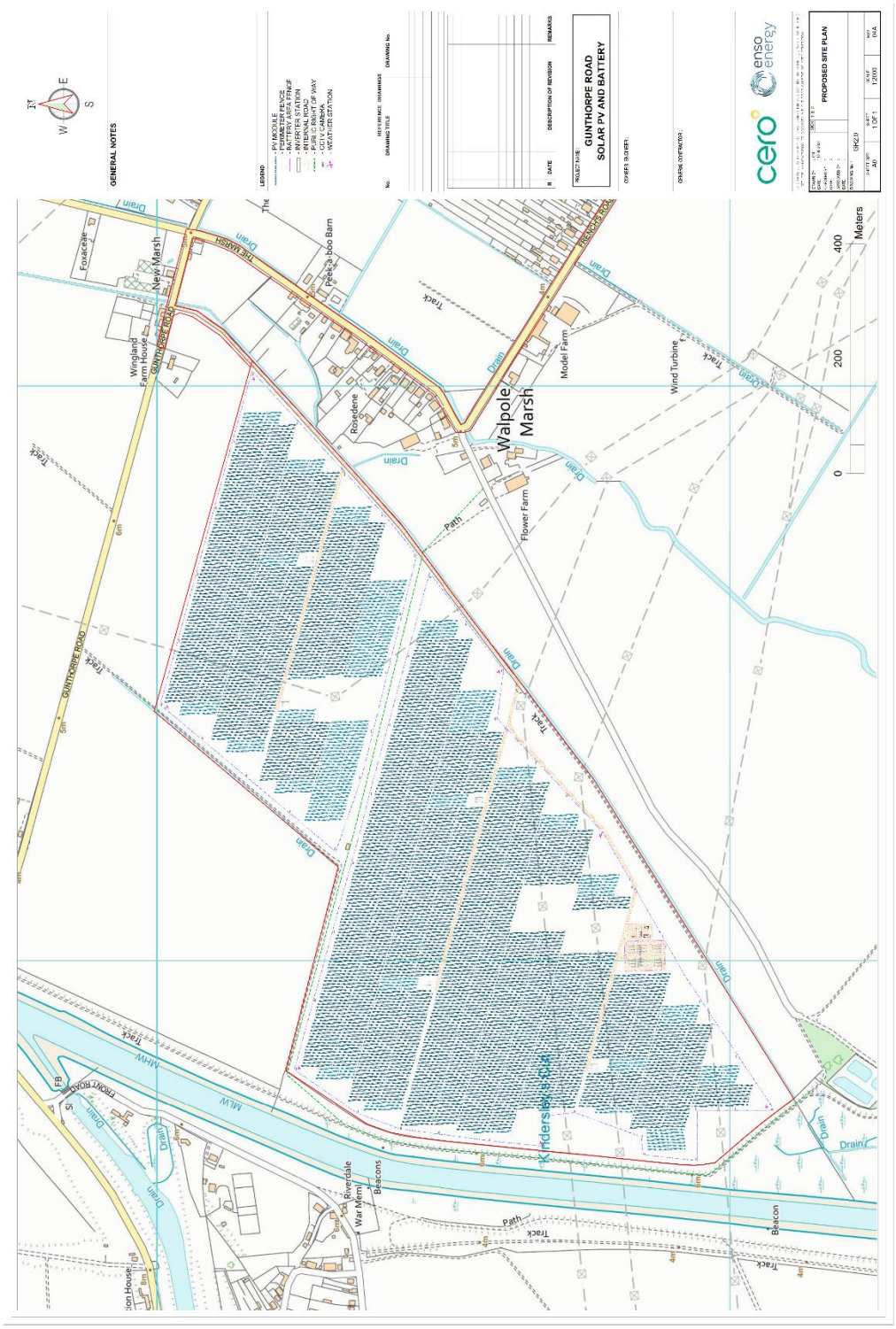
The methods used comply with type 3 visualisations (Landscape Institute, 2019. *Visual Representation of Development Proposals Technical Guidance Note 06/19*). The enlargement factor is 100 per cent.

The images illustrate rows of solar photovoltaic panels laid out to the designed specification as shown in **Appendix 2** and the other application drawings.

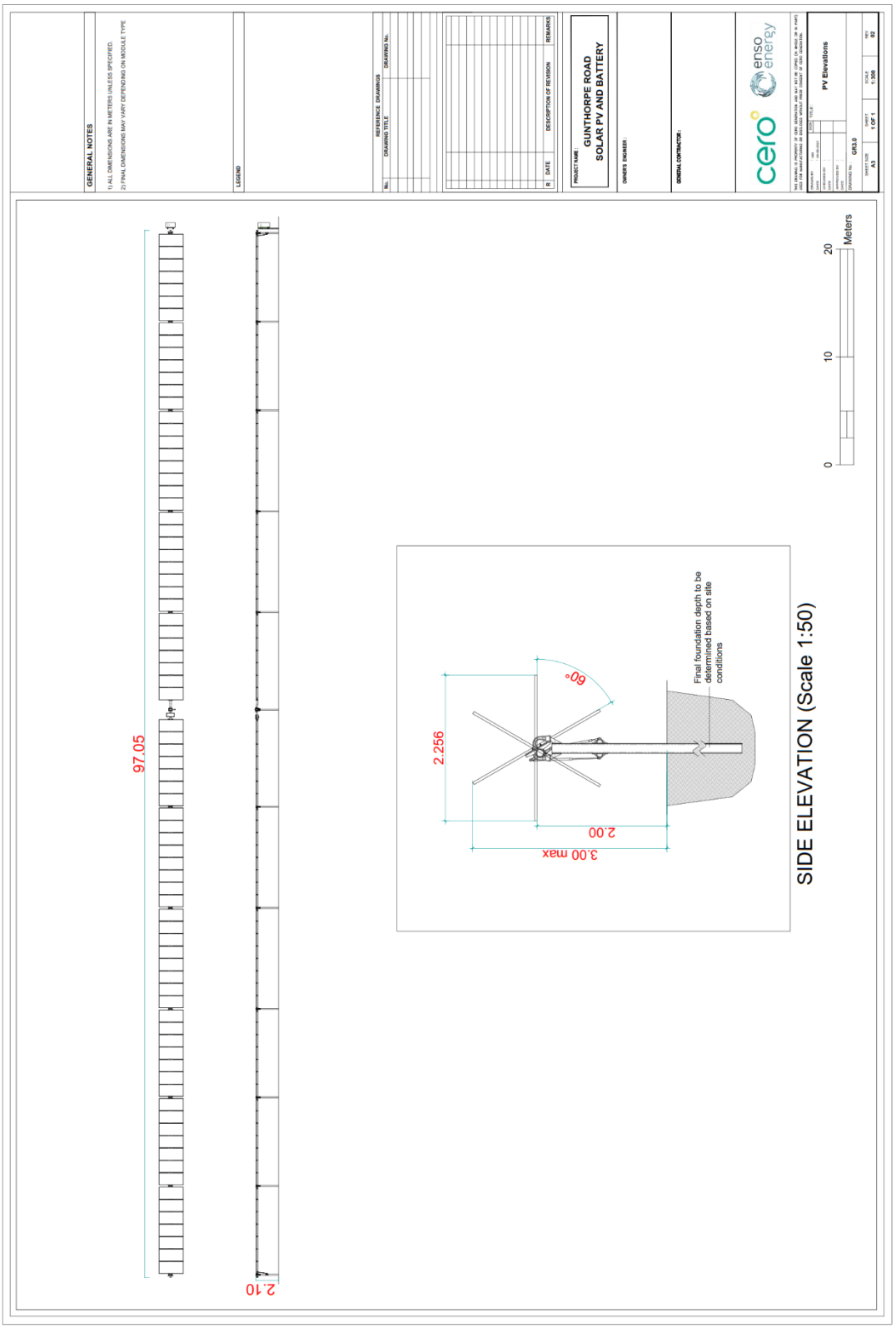
Substations, battery storage areas, inverter plant, fencing and CCTV cameras and any other elements which may form part of the Proposed Development are not shown. Proposed landscaping or biodiversity measures which may form part of the scheme is not shown.

Appendix 2: Proposed Development

Layout (Figure GR2.0 Rev 04A, received 21st June 2021)



PV Elevations (Figure GR3.0 Rev 02, received 21st June 2021)



Appendix 3: Figures

Figure 1284/1a: Location Plan (OS base 1:40,000)

Figure 1284/1b: Location Plan (OS base 1:20,000)

Figure 1284/1c: Location Plan (Aerial photo base 1:20,000)

Figure 1284/2: Topography

Figure 1284/3a: Access (Aerial photo base 1:15,000)

Figure 1284/3b: Access (OS base 1:15,000)

Figure 1284/4: Listed Buildings

Figure 1284/5a: Zone of Theoretical Visibility of 3 m solar array (bareground) to 5 km

Figure 1284/5b: Zone of Theoretical Visibility of 3 m solar array (bareground) to 2 km

Figure 1284/5c: Zone of Theoretical Visibility of 3 m solar array (screened) to 5 km

Figure 1284/5d: Zone of Theoretical Visibility of 3 m solar array (screened) to 2 km

Figure 1284/6a: Viewpoint locations (Aerial photo base)

Figure 1284/6b: Viewpoint locations (OS base)

Figures 1284/7.1 to 7.8: Representative viewpoints (existing views)

Figure 1284/8: Site and context photos

Figure 1284/9: Photomontages

Figure 1284/10: Landscape and Ecological Mitigation

Figure 1284/11: Cumulative Assessment Schemes

Figure 1284/12a: Zone of Theoretical Visibility of the EDF Sutton Bridge scheme

Figure 1284/12b: Cumulative ZTV of the Proposed Development with EDF Sutton Bridge scheme

Figure 1284/13a: Zone of Theoretical Visibility of the Walpole Bank scheme

Figure 1284/13b: Cumulative ZTV of the Proposed Development with the Walpole Bank scheme

Appendix 4: Abbreviations

AOD	Above Ordnance Datum
AONB	Area of Outstanding Natural Beauty
BESS	Battery Energy Storage System
BRE	Building Research Establishment
CCTV	Closed Circuit Television
DNO	Distribution Network Operator
EIA	Environmental Impact Assessment
ELC	European Landscape Convention
FDC	Fenland District Council
GIS	Geographical Information System
HMSR	High to medium sensitivity receptor
IEMA	Institute of Environmental Management and Assessment
KLLCA	King's Lynn and West Norfolk Landscape Character Assessment
KLWN	King's Lynn and West Norfolk
LCA	Landscape Character Area
LCT	Landscape Character Type
LMSR	Low to medium sensitivity receptor
LI	Landscape Institute
LVIA	Landscape and Visual Impact Assessment
NCA	National Character Area
NHLE	National Heritage List for England
NPPF	National Planning Policy Framework
OS	Ordnance Survey
PROW	Public Right of Way
PV	Photovoltaic
RCSF	Rose and Crown Farm Solar Farm
RPG	Registered Park and Garden
SADMP	Site Allocations and Site Development Management Policies
SBSF	Sutton Bridge Solar Farm

SH	South Holland
SNH	Scottish Natural Heritage
SSSI	Site of Special Scientific Interest
WBSF	Walpole Bank Solar Farm
ZTV	Zone of Theoretical Visibility

Appendix 5: References

[i] Landscape Institute and Institute of Environmental Management and Assessment (2013), *Guidelines for Landscape and Visual Impact Assessment: Third Edition.*

[ii] Natural England (2014), *An Approach to Landscape Character Assessment.*

[iii] The Building Research Establishment (2013), *Planning guidance for the development of large scale ground mounted solar PV systems.* (Available at: https://www.bre.co.uk/filelibrary/pdf/other_pdfs/KN5524_Planning_Guidance_reduced.pdf, accessed November 2019).

[iv] Ministry of Housing, Communities and Local Government (2019), *National Planning Policy Framework.* (Available at https://www.gov.uk/government/publications/national-planning-policy-framework--2, accessed November 2019).

[v] Department of Energy and Climate Change (DECC) (2011), *National Policy Statement for Renewable Energy Infrastructure.* (Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47856/1940-nps-renewable-energy-en3.pdf, accessed November 2019).

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[vii] King's Lynn & West Norfolk Borough Council, (July 2011). *Local Development Framework - Core Strategy Adopted Version.*

[viii] King's Lynn and West Norfolk Borough Council (2016), *King's Lynn and West Norfolk Local Plan - Site Allocations & Development Management Policies (SADMP) Plan.* (Available at https://www.west-norfolk.gov.uk/info/20220/site_allocations_and_development_management_policies_plan/514/adopted_plan, accessed November 2019).

[ix] South East Lincolnshire Joint Strategic Planning Committee (2019), *South East Lincolnshire Local Plan 2011-2036 (adopted March 2019).*

[x] Natural England (2013), *National Character Area (NCA) Profile 46: The Fens.* (Available at: http://publications.naturalengland.org.uk/publication/6229624?category=587130, accessed November 2019).

[xi] Landscape East (2009), *East of England Regional Landscape Framework*. Available at: http://landscape-east.org.uk/lct/settled-marsh, accessed November 2019).

[xii] King's Lynn and West Norfolk Borough Council (2007), *King's Lynn and West Norfolk Borough Landscape Character Assessment*. (Available at https://www.west-norfolk.gov.uk/downloads/download/77/landscape_character_assessment, accessed November 2019).

[xiii] South Holland District Council (2003), *South Holland Landscape Capacity Study*. Available at http://www.southeastlincslocalplan.org/wp-content/uploads/2012/01/SHDC-Strategic-Landscape-Capacity-Study.pdf, accessed November 2019).